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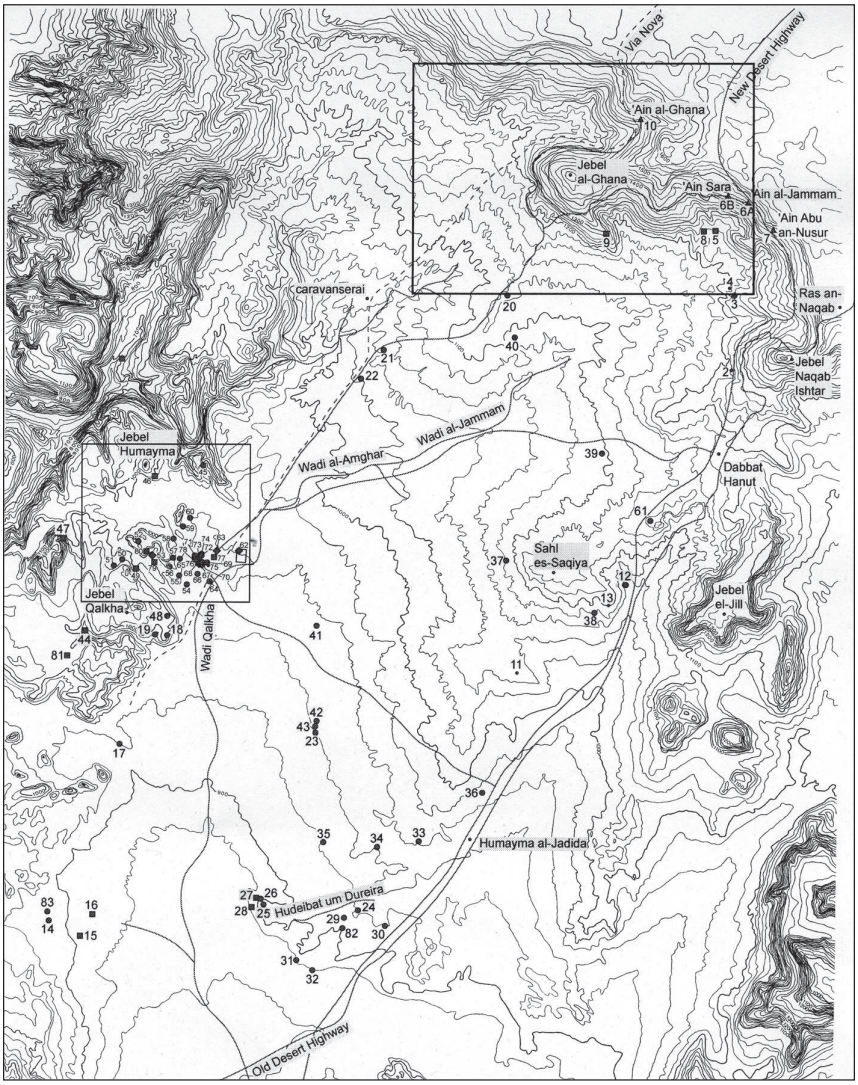
The Nabataean and Roman Towns at al-Ḥumayma: an Urban Design Perspective

In the first century AD a Nabataean prince founded a town at al-Ḥumayma (Nabataean Ḥawara, Roman Ḥauarra) in the desert 45 km south of Petra. The new town was strategically situated so that it was on a major pre-existing trans-regional trade route (the King's Highway) and also, by virtue of the sandstone hills that bordered its western side, at a location that provided lookouts over that trade route and could draw on a major rainwater catchment (FIG. 1). The Nabataeans further enhanced their town's water resources by connecting the town with springs more than 13 km away via an aqueduct. Both the town's water supply and its suitability for monitoring the trans-regional route must have been major factors in the Romans' subsequent decision to build a 500 person fort at al-Ḥumayma soon after their conversion of the Nabataean Kingdom into their Province of Arabia in the early second century AD (FIG. 2). The new fort, built adjacent to the Nabataean town, controlled access to the settlement, its water supply, and the important trans-regional route, now transformed into their province's primary north-south artery, the *Via Nova Traiana*. For the next three centuries, until the fort's abandonment in the early fifth century, al-Ḥumayma's military garrison and townsfolk co-existed and together contributed to the settlement's Roman character as a garrisoned community.

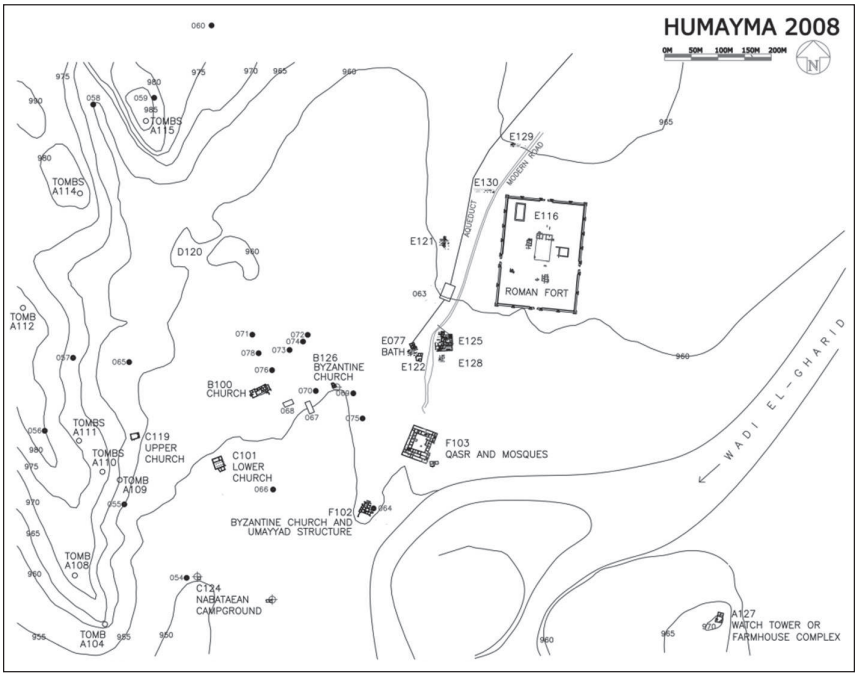
The archaeological site of al-Ḥumayma has been the subject of intensive archaeological survey and excavation since the 1980s. Research projects with particular relevance to the Nabataean and Roman period communities have focused on the ancient water-supply system (Oleson 2010), the Nabataean and Roman towns (Oleson 2013a; 2013c; Oleson and Somogyi-Csizmazia 2013; Oleson *et al.* 1999: 421-27, 2003: 47-50, 2008: 309-18, 332-34; Reeves 2009, 2015, 2016; Reeves *et al.* 2009, 2017), the Roman fort (Oleson 2009, this volume; Oleson *et al.* 1995: 321-30, 1999: 414-21, 2003: 37-47, 50-54, 2008: 318-34; Reeves *et al.* 2017), quarries (Reeves *et al.* in 2018), inscriptions (Bevan and Reeves 2010; Graf 1992; Oleson *et al.* 2002; Reeves 2015; Reeves *et al.* in 2018; Schick *et al.* 2013); and petroglyphs (Reeves 2015, 2016; Reeves *et al.* in 2018). This archaeological work has revealed a great deal about the structures, activity areas, and



1. Map of al-Ḥumayma (center left) and associated hydraulic features in the Ḥismā Desert's northwest corner (Courtesy J.P. Oleson).

objects belonging to the Nabataean and Roman communities. After excavating and analyzing structures in the Nabataean and Roman towns since 1995 as a researcher, assistant director, and associate director with the al-Ḥumayma Excavation Project, I took over as its director in 2008. Over the past two decades, my primary research goals have been to investigate the character and extent of al-Ḥumayma's Nabataean and Roman period civilian communities and to explore the nature of the interactions between the site's civilian and military populations (*e.g.* Reeves 2009, 2015, 2016; Bevan and Reeves 2010). In the course of this research, I have been directing excavations in the areas adjacent to the Roman fort (*i.e.* E077, E121, E125, E128, E129, E130), surveying petroglyphs and activity areas in the hills, and reviewing the data collected by other al-Ḥumayma archaeologists. The goal of this paper is to demonstrate how these data can be utilized to examine the physical layout and character of al-Ḥumayma's Nabataean and Roman communities from an urban design perspective.

For the purposes of this paper, urban design is simply taken to mean the archaeological remnants of the design decisions which contributed over time to the evolving physical appearance and character of al-Ḥumayma's settlements (*cf.* Cuthbert 2006: 1-2). These settlements existed within cultural and natural contexts so a range of both cultural and natural



2. Surveyed and excavated structures in al-Ḥumayma's main settlement area. (S. Fraser and D. Skinner).

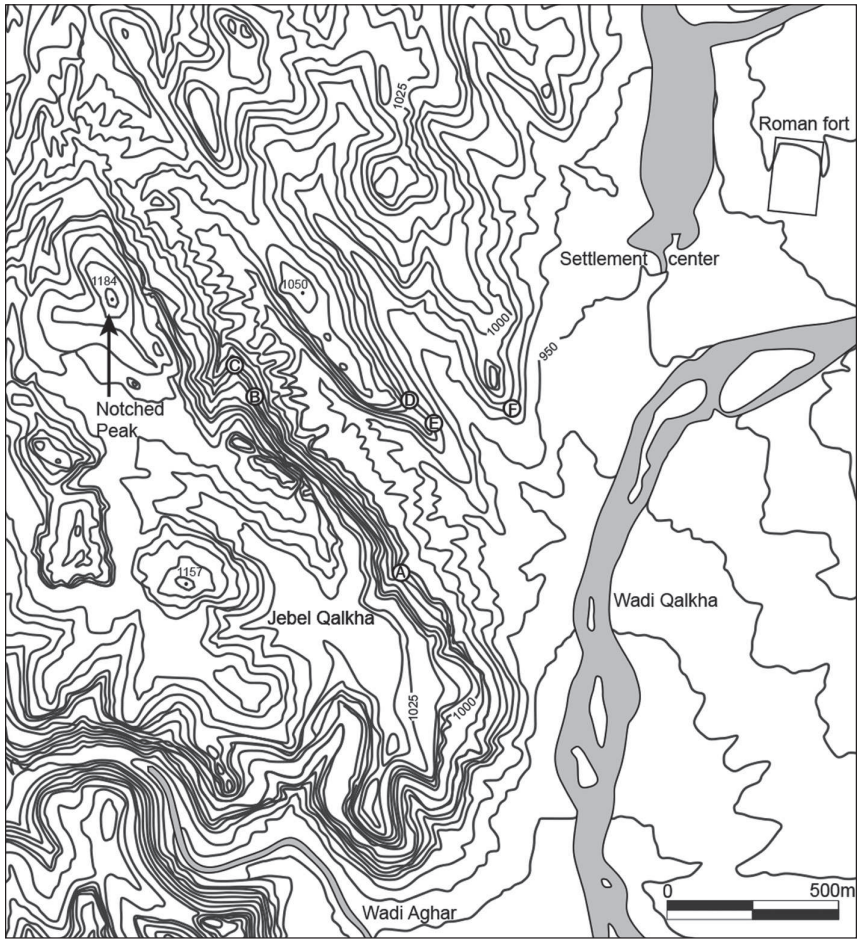
factors could have influenced particular design decisions. The archaeological remnants of such decisions provide us with a means for elucidating those influences and their role in shaping al-Ḥumayma's communities.

Although numerous factors likely influenced the overall design of the settlements at al-Ḥumayma, three factors specifically linked to this site stand out as being particularly influential. All three also influenced the original decision to found a town at this location. These factors are the combination of hills and plain, the rain-fed versus aqueduct-dependent water zones, and the pre-existing trans-regional route. Each of these will be discussed in turn.

Hills and Plain

al-Ḥumayma, located at the western edge of the Ḥismā Desert, straddles the boundary between hills and plain, or more precisely raised landmasses and plain (FIG. 3). On the west the site is bordered by Jabal Kalkhah, a sandstone hill whose highest peak, featuring a distinctive notch, rises more than 200 meters above the settlement center on the plain. Between Jabal Kalkhah and the settlement center are two sandstone dendritic ridges that descend down into the desert floor near the center of this image. Ridge 2, the narrow ridge running parallel to the western flanks of Jabal Kalkhah has runoff wadi's along each of its long sides. Ridge 1, with a wider triangular shape, has one side running parallel to Ridge 2 and one side bordering the settlement area on the plain. The settlement center took advantage of the raised landmasses on its west and north which funneled rainwater onto to the plain. The main area where that rainwater pooled is shown just north of the settlement and west of the Roman fort. In addition, a major collector of runoff from the region northeast of the site, the Wādī Kalkhah/ Wādī al-Gharīd, ran past the eastern and southern edges of the settlement. This wadi, which was impossible to cross while in flood and difficult to cross at other times (especially with wheeled vehicles), provided a natural boundary to the ancient settlement and its primary activity areas.

The Nabataean and Roman inhabitants of al-Ḥumayma took advantage of the benefits of the local topography in choosing locations for their activities and structures. Civic structures, houses, a Nabataean campground, the Roman fort, and the trans-regional road and aqueduct



3. Sites on Jabal Kalkhah and the two ridges in relation to the settlement center, Roman fort, and Wādī Kalkhah. (A: site with cistern, betyls and rock carvings; B-C: Cascading Plateau Site; D: Commemoration Cliff; E: Flat Top Activity Area; F: Tomb Complex A104). (A. Walsh, J.P. Oleson, M.B. Reeves).

were all located together on the desert plain where there was ample space available. Agricultural fields were probably concentrated, just as they have been for the past century, within a 5km radius of the ancient settlement where there was a combination of good soil, run-off water, and easy access (Oleson 2010: 35). The cultivated areas likely extended over the northwest corner of the site plan, where there are no known structures and grain is still cultivated today (FIGS. 2, 6). In addition to planting where the run-off naturally pooled (Oleson 2010: 33), the ancient inhabitants also built cisterns and reservoirs on the plain to collect and store the meager rainwater for year round use. These water storage devices were distributed throughout the western side of the settlement (indicated by solid dots on FIG. 2). Oleson suggests that the two large rectangular reservoirs at the center of the settlement (067, 068) were built together at the town's foundation and intended for public use, whereas the smaller cisterns were built by families for private use (2010: 408-9).

Although most of the raised landmasses, where the runoff originated, also featured rock-cut cisterns, Ridge 2 did not. That suggests that humans were choosing where to locate specific structures and activity areas based on particular preferences. That impression is maintained when looking at individual sites on the elevated landmasses. Although there is not enough space here to discuss the specific character of each elevated site, a few general observations give a sense of this important area adjacent to the ancient town. The elevated landmasses west of the town contained sites which can be fit into the broad categories of resource management (*e.g.* cisterns, dams, quarries, and storage areas), funerary sites (tombs and associated

structures), cultic and commemorative sites (featuring betyls, inscriptions, petroglyphs and associated activity areas), and lookouts or way stations (places with a good view from which people could monitor other humans and animals). Views, obviously important for lookouts and way stations, were important for many other categories of sites as well. Thus the placement of funerary complexes on the top and east side of Ridge 1 suggests they were intended to be seen on a daily basis by the inhabitants the town. Conversely, quarries were placed where they were hidden or difficult to see from the town (on the west and south sides of Ridge 1, on both sides of Ridge 2, and on the eastern side of Jabal Kalkhah; FIG. 4). And many cultic and commemorative sites (FIG. 5) provided views of Jabal Kalkhah's highest notched peak, which I have argued previously was a source of veneration and civic identity for al-Ḥumayma's Nabataean and Roman inhabitants (Reeves 2016).

Rain-Fed Versus Aqueduct-Depended Water Zones

Moving beyond basic topography, there is a major consequence of the cisterns' placement on the plain that warrants further explanation. As can be seen in Figures 2 and 6, cisterns were only located on the western side of the plain. That means that the structures on the eastern side of the settlement (including the bathhouse and the Roman fort) depended on piped water coming from the aqueduct. The aqueduct water was not necessary for the town's existence like the cistern water was, but rather served to increase the town's water supply and its prestige. But once structures were built on the aqueduct-fed eastern side of the community, they could only easily remain in use while the aqueduct was in operation. It is thus possible to make a functional division between the rain-fed western half of the community and the aqueduct-dependent eastern half.

The division in water supply on al-Ḥumayma's plain can provide insights into design decisions related to the ancient settlement's phasing. The site in Nabataean and Roman times was naturally arid. There were no local springs, groundwater was too deep to be tapped by wells, and all of the meager precipitation, which fell during a few winter storms, would have bounced off of the dry landmasses and sunk into the desert plain (Oleson 2010: 31-34). Humans could only establish a permanent settlement here if they trapped enough rainwater to last through the year (Oleson 2010: 398). The Nabataeans who settled here did exactly that. They built an elaborate hydraulic system to control the local run-off and direct it into their strategically placed cisterns and reservoirs. The Nabataean and later settlements depended on the trapped rainwater for their existence. In contrast, the spring water which flowed year round into the settlement through more than 26 km of aqueduct conduit represented a luxury. This aqueduct

4. Eastern quarries on Ridge 2 and Jabal Kalkhah that are hidden from the settlement center by Ridge 1. (M.B. Reeves).

5. The Cascading Plateau Site, a cultic and commemorative site beneath Jabal Kalkhah's notched peak. (M.B. Reeves).

water was not necessary for the town's survival, but provided it with a perennial abundance of flowing spring water. The location of the aqueduct and the pipelines it fed also allowed structures to be located beyond the cistern zone on the eastern side of the settlement.

Given that the town only needed stored rainwater to exist and that the long aqueduct would have required considerable time and effort to build, it is likely that the aqueduct represents an expansion phase in the Nabataean town. John Oleson suggests that these two Nabataean phases may have resulted from the patronage of two different royals:

Although the precise date of the original foundation of Ḥawara remains a puzzle, it is nevertheless possible that the foundation of the town and concomitant construction of Reservoirs 67 and 68 were the accomplishments of Aretas III, while the water-supply system was enhanced with a prestigious aqueduct system and pool/reservoir only during the reign of Aretas IV. (Oleson 2010: 383)

Although the archaeological data cannot confirm the proposed expansion, Oleson's alternative proposal, that Aretas IV was responsible for founding the town and building its two public runoff reservoirs, aqueduct and pool all at the same time (Oleson 2010: 398) seems less likely in terms of time and expense.

Following the two patrons' theory, the town would have begun to develop in the first century BC around reservoirs 67 and 68 and then expanded with the construction of the aqueduct, whose first phase was constructed in the late first century BC or early first century AD (Oleson 2010: 398). The main line of this aqueduct ran for 18.888 km and connected Ḥawara to the spring(s) of 'Ayn Janā. The date at which the 7.620 km branch line to the spring of 'Ayn Jamman was added is uncertain. Oleson (2010: 75; 388) proposes, based on a variety of design considerations, dates ranging from 10 to 20 years after the main branch to up to a century later to more than two centuries later (*i.e.* the late third century). There were presumably also phases associated with the aqueduct's functioning, ranging from standard maintenance (*e.g.* the periodic removal of the calcium carbonate deposit that built up within the water channel, Oleson 2010: 390-93) to the cessation or lessening of the flow following a natural disaster or human intervention. Evidence and phasing for such phases is currently poor. As for the end of their functional timeline, whereas many of the cisterns are still in use today, the aqueduct eventually ceased to flow sometime in the early Islamic period (Oleson 2010: 187).

The construction of the aqueduct had a huge impact on the town's character. So too did its subsequent operation. Because the eastern structures were dependent on aqueduct water, whenever in subsequent periods the aqueduct was not flowing, structures that absolutely depended on it (*e.g.* the pool and the bathhouse) could not have functioned. Other structures might have continued to be used, but only if their occupants were willing to transport water from cisterns in the western half of town more than 100 m distant. In the case of the Roman fort and elite residences (*e.g.* the E125 house, the F103 *qaṣr*), this seems unlikely.

If the eastern structures' dependence of the aqueduct is considered in relation to the Nabataean through early Islamic phasing of structures on al-Ḥumayma's plain, some interesting possibilities emerge. The first is the Jammam branch was possibly added after an earthquake or human event that caused damage to al-Ḥumayma's settlement and thus likely also to its aqueduct or to the spring(s) that fed it. Damage to al-Ḥumayma's eastern structures has been documented for phases corresponding to the late first or early second century AD, the late third century, and the 363 and 749 earthquakes (Oleson 2010: 57, 59; this volume, Oleson *et al.* 1999: 427, 2008: 313; Reeves 2009: 330; Reeves *et al.* 2009: 237-38; Reeves *et al.* 2017). The 7.620km Jammam expansion was a major construction project so it should

have been done at a time when the settlement had the resources to build it. The fact that the Jammam branch included *ca.* 18,000 inverted roof tiles in its construction narrows done the likely possibilities. Oleson notes that the most likely source of these roof tiles was the fort and thus suggests that they were recycled after its temporary abandonment in the late third century (Oleson 2010: 388) or after the 363 earthquake (Oleson in press). Although the third century is possible, I believe a better possibility is that they were recycled after the fort was damaged in the 363 earthquake. I further suggest that the renovation may date to the Umayyad period. There are several pieces of evidence for this beginning with the abandonment of the fort and other eastern structures by the early fifth century (E121, E122, E125, E128; Oleson *et al*. 1999: 427, 2008: 314; Reeves *et al*. 2009: 238, 244) followed by the decision to build five churches in the rain-fed section of the town in the fifth to seventh centuries (B100, C101, F102, B126, C119; Oleson 2013a: 551-53). Taken together, the abandonment of eastern structures followed by monumental constructions in the west may mean that from the late fourth into the seventh century the aqueduct was out of use. It is not until the Umayyad period that we have evidence for renewed occupation in the aqueduct-dependent part of town: activity around the pool fed by the aqueduct (Oleson 2010: 187), renovation of the aqueduct-dependent bathhouse (Reeves and Harvey 2016: 471; Reeves *et al.* 2017), renovation of the E122 house (Oleson *et al.* 1999: 427), and construction of the Abbasid family's *qaṣr* (F103, Foote 2007).

The Trans-Regional Route

The other factor to be discussed here that influenced the development of al-Ḥumayma's Nabataean and Roman communities was the major trans-regional route, the Nabataean King's Highway which became the Roman *Via Nova Traiana*. The importance of this route for the foundation of the Nabataean town and later conversion of that town into a Roman garrisoned community has already been noted. Although there were presumably routes leading to the east and west of al-Ḥumayma in the Nabataean and Roman periods (Oleson 2010: 30-31; Graf 1995: 257), the north-south King's Highway/ *Via Nova Traiana* was the most important in terms of Roman provincial design. It is the road celebrated in Roman milestone inscriptions as crossing from "the limits of Syria to the Red Sea" (*a finibus Syriae usque ad mare rubrum*) a region "reduced into the form of a province" (*redacta in formam provincae)* (Graf 1995: 241). It is also believed to be the road shown on the ancient route map known as the Peutinger Table as linking Roman Hauarra directly with Zadagatta (modern Ṣadaqa, 20 Roman miles to the northeast) and Praesidio (modern Khirbat al-Khāldy, 24 Roman miles to the south) (Graf 1995: 244; Oleson 2010: 54-55). Based on all of this evidence, it is clear that the north-south trans-regional route through al-Ḥumayma was very important in terms of regional organization. As I will argue, it also had a significant impact on the design of al-Ḥumayma's Nabataean and Roman communities.

Before discussing the significance of the major trans-regional route as a design influence, it is important to note first the lack of a settlement-wide orthogonal grid plan and directional orientation for al-Ḥumayma's Nabataean and Roman structures (*e.g.* E077, E116, E125, 063, and 068 in Figure 2). For some scholars of ancient urban design, the lack of an orthogonal layout means that an urban center's design should be classified as "unplanned" as opposed to "planned" (Smith 2007: 3, 5). Michael Smith (among others) takes exception to this "false dichotomy", noting that "Ancient kings and builders were clearly involved in 'urban planning,' and their cities were 'planned' settlements, following common sense notions of planning." (Smith 2007: 3). An alternative (non-grid based) approach to discussing ancient urban design is the urban armature approach

proposed by William MacDonald in his 1986 analysis of Roman imperial urban centers, including those in the Roman Near East.

In MacDonald's model "Armatures consist of main streets, squares, and essential public buildings linked together across cities and towns from gate to gate, with junctions and entranceways prominently articulated." (1986: 5) In terms of organization and development, "The path or road leading inward from the periphery of a primitive town to an open space used as a market and meeting place was the ultimate source of the armature" (MacDonald 1986: 17). When such a route also crossed the countryside and linked communities together at major entrances, the familiar pattern of an urban armature also served to demarcate the transition between urban and country life (*cf.* MacDonald 1986: 18). Finally, MacDonald argues that "Armatures were not created consciously and all at once within the controlling requirements of comprehensive city plans….Instead, they evolved over time through gradual elaboration and, quite often, extension." (1986: 17-18).

The value in employing MacDonald's urban armature model to discuss the design and character of al-Ḥumayma's Nabataean and Roman communities is readily apparent. The Nabataean town was founded on a pre-existing trans-regional trade route which became the major north-south road spanning the Roman Province of Arabia and linking it to the rest of the Roman Empire. This major route spanned al-Ḥumayma's Nabataean and Roman communities and linked them to other Nabataean, Roman, and foreign communities across the countryside.

The theorized course of this trans-regional route through al-Ḥumayma is shown in Figure 1. The theorized route takes into account both archaeological discoveries (*e.g.* the route of the *Via Nova Traiana* to the north and south of the site, the route of the Nabataean aqueduct, the presence of a road just outside E125, the presence of a hard natural surface outside the west side of the fort) and topographic constraints (*e.g.* the difficulty in crossing the Wādī Kalkhah) (*cf.* Reeves *et al.* 2009: 246-48). Given these discoveries and constraints, the route's entrance and exit points to the northeast and southwest are proposed with more confidence than its path through the town.

From an urban armature perspective, a major cross-country route, linking one town to the next, transformed into an urban thoroughfare once it entered the civic zone through a major gateway in the town's wall (MacDonald 1986: 18). As a Nabataean foundation, rather than a Roman or Greek one, the ancient town at al-Ḥumayma was not enclosed by walls (Strabo 16.4.26). Instead, the Nabataeans here demarked the beginning of their civic zone on the north with a monumental construction symbolizing the community's mastery over nature and their ability to be wasteful of water in a water-poor region (FIG. 7). This structure was a large uncovered pool similar in appearance and symbolism to the contemporary monumental pool at the center of Petra and to those in Jericho, Caesarea, Mas'ada, and Herodium in the neighboring Jewish kingdom (Bedal and Schryver 2007; Oleson 2010: 381-83). For travelers on the King's Highway who had first seen al-Ḥumayma and its aqueduct *ca.* 13km to the north on the escarpment, the symbolism of the townsfolks' willingness to allow the carefully harnessed spring water to evaporate in an uncovered pool would have been extremely impactful. This symbolism would have been enhanced by the agricultural fields and gardens made possible by the desert community's mastery of water.

The Nabataean pool made a bold statement regarding the town's identity, but that statement was eclipsed in both size and location by the construction of the Roman fort. The fort was the largest building at the site in all subsequent time periods and served as a new monumental entranceway to the community. Its massive walls paralleling the *Via Nova Traiana* and

manned by soldiers with bows and spears left no ambiguity about who was in charge of both the settlement and the trans-regional route. Travelers on the road were under official scrutiny and might have been required to stop to register and pay duties on shipments. Those passing through might have paused here at the northern edge of town and rested themselves and their animals under the protective watch of the fort's garrison. A very hard natural surface running through E129 and E130 to the northwest of the fort is posited to have formed part of an ancient parking area and the garrison's parade ground (*campus*) (Reeves *et al.* 2009: 250-51). The sight of Roman soldiers, mounted and on foot, practicing with weapons on a daily basis would have sent another strong message of control and protection to travelers and townsfolk alike.

The trans-regional route turned thoroughfare probably ran under the modern dirt road between the Nabataean pool and the Roman fort. After that, based on the expectations of an urban armature model and comparanda from other Roman and Nabataean sites, it is likely that the thoroughfare headed for a major public space that served as the town's symbolic center. That symbolic center is most likely the area surrounding the two rectangular public cisterns (067, 068) dating from the town's foundation. Unfortunately the Nabataean and Roman character of this area has been obfuscated by subsequent construction and agricultural activity (see FIG. 6), although there is some evidence for a temple under the B100 church (Oleson 2013b: 214). As for the thoroughfare's route from Pool 063 to the center of town, it is not yet clear. Evidence for roads, some of which may be the thoroughfare and some which will be minor, have been found outside the northwest corner of the E125 insula (Reeves *et al.* 2009: 247), along the northwest side/front entrance to the E077 bathhouse (Reeves *et al.* 2017), and between the E077 bathhouse and the E122 house (Reeves *et al.* 2017). Other roads likely existed between the E125 insula and the E128 structure and outside the shrine in the southeast corner of the E125 insula. Since a thoroughfare should be lined with important public buildings, a route past the entrance to the E125 shrine or, alternatively, past the front of the bathhouse would make the most sense given our current knowledge.

From the center of town, the north-south thoroughfare would have continued on to the southern edge of the urban center and then southwards towards the next settlement. Once again, an urban armature approach suggests that the route should have been lined with important public buildings. This cannot yet be confirmed. Although walls associated with a Late Nabataean/Roman period structure were found under Church C101, there is not enough

6. Aerial photo of al-Ḥumayma's plain, facing east with Church C101 at bottom right and the Roman fort at upper left. The rain-fed zone comprises the bottom two-thirds of the image with the aqueduct-dependent zone above. (Photo by David Kennedy, APAAME_20160919_DLK-0075 al-Ḥumayma.)

7. Nabataean pool 063, Roman fort and northeastern structures E077, E121, E122, E125, and E128 (and the modern visitors center). (Photo by David Kennedy, APAAME_20160919_DLK-0076 al-Ḥumayma.)

evidence to identify the building they came from (Schick 2013: 294) and other buildings in the surrounding area, visible in aerial photos (*e.g.* FIG. 6), have not yet been excavated.

As for the town's southern entrance, there is presently no evidence for monumental structures/activity areas associated with it unless they were located on raised landmasses. Tomb Complex A104 (Oleson and Somogyi-Csizmazia 2013: 54-58) is one possibility (see FIGS. 3.F, 8). Its shaft tomb, cut into the top of an isolated knoll at the southern tip of Ridge 1, was one of the largest tombs associated with the Nabataean and Roman settlement. The tomb complex was clearly visible from the urban zone, fort, and the trans-regional road, as well as from prominent sites on that road which will be discussed below. One set of rock-cut stairs led from the desert up to the tomb and another set led from the desert to a flat activity area at the knoll's southern tip. This activity area was just below the tomb and separated from it by a vertical quarried cliff. A betyl approximately half the size of a human was carved into this cliff face and a large rectangular block left from the quarrying served as a platform. The activity area with betyl and platform was probably associated with the commemorative ceremonies for the family buried in this prominent location. There might also have been freestanding structures here (*e.g.* over the tomb) but, if so, they have subsequently disappeared. 150 m to the southeast of this tomb complex was another set of rock-cut tombs (A105; Oleson and Somogyi-Csizmazia 2013: 58-59). It is possible that the route out of town passes between these two tomb complexes, just as the dirt road does today.

The road heading south from the settlement was constrained by the raised landmasses on one side and Wādī Kalkhah on the other. Its exact route between those two topographic constraints can only be speculated on. In Figure 1, reprinted from the first volume of the al-Ḥumayma Excavation Project's final reports, Oleson showed the road travelling out of town through the southern outskirts of the settlement, *i.e.* from F102, where there was a cistern, cemetery and possibly tent dwellers ('Amr and Oleson 2013: 153-54) and then through or beside the Nabataean campground (C124). After leaving the urban zone, the road is shown running beside the bank of the Wādī Kalkhah until near Cistern 18 where it shifted to running beside Jabal Kalkhah.

I propose a slightly different route, which in accordance with an urban armature approach, would include urban structures and important activity areas and vistas along the side of the road. I suggest that this route took in one or more of the Nabataean and Roman structures to the southwest of public reservoirs 67 and 68. It then passed between the Nabataean campground and Ridge 1, providing close views of several tomb complexes associated with the town's prominent families, before rounding Ridge 1 below Tomb Complex A104 and heading through or around the southern tip of Ridge 2. This route would pass below two prominent activity areas on Ridge 2 (FIGS. 9 and 10). The "Flat Top Activity Area" consisted of a *ca.* 115m long by up to 35m wide flat horizontal sandstone surface at the end of a section of the ridge elevated *ca.* 50 meters above the desert (FIG. 3.E; Reeves 2016: 167; Reeves *et al.* 2018). A footprint carved into the surface faced the southern tip of the ridge and road beneath. Behind the flat activity area on its northeast was a "Commemoration Cliff" into

8. Tomb Complex A104 viewed from the northeast with Tomb Complex A105 across the dirt road in the upper left. (Courtesy J.P. Oleson).

9. Flat Top Activity Area near southern end of Ridge 2 with desert varnish covered Commemoration Cliff at right rear. (M.B. Reeves).

10. Flat Top Activity Area from below on Ridge 2. (C.A. Harvey).

which Nabataean and Greek inscriptions and petroglyphs had been carved (FIG. 3.D; Reeves *et al.* 2018). One petroglyph at the center of the cliff depicted a Roman officer conducting a religious ceremony and reproduced the local topography, including Jabal Kalkhah's notched peak (Reeves 2015; 2016). That peak would also have been visible to people passing to the south on the trans-regional route.

The route from Ridge 2 to Jabal Kalkhah would have passed within sight of another important activity area containing a cistern, carvings of betyls and altars, petroglyphs, and inscriptions in Nabataean and Thamudic (FIG 3.A; Oleson 2010: 144-47). One the inscriptions here includes the name of the Nabataean town (Graf 1992; Oleson 2010: 53; Reeves 2016: 172). This site, although outside the main urban zone, probably still felt like part of the Nabataean and Roman town as it is prominently visible from the settlement as a patch of green vegetation against Jabal Kalkhah's beige sandstone slopes. The site's elevated position also provided excellent views of the settlement. This site, at the southern visual limit of the town, served as a way station within al-Ḥumayma's urban armature, a place "made for pausing or resting…the activity of the pavement" (MacDonald 1986: 99), but also a place to contemplate the appearance, water resources, and character of the adjacent Nabataean and Roman communities.

Concluding Thoughts

Throughout this paper I have argued that the design of al-Ḥumayma's Nabataean and Roman communities was influenced by both natural and cultural factors. al-Ḥumayma's hills and plain, its rain-fed versus aqueduct-dependent water zones, and the trans-regional route provided a context into which the site's Nabataean and Roman inhabitants inserted their own design decisions. This site was inherently desirable for human settlement but the decisions of al-Ḥumayma's settlers subsequently shaped its character both as a Nabataean town and as a Roman garrisoned community.

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