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The History and Architecture of Petra

Abstract

Petra was a city of wealth, prosperity, and enormous ingenuity that allowed the Nabataean people to settle and even thrive in one of the harshest environments on earth. The city became the center of trade between the Middle East and the Roman Empire, which brought both wealth and power to its people. It also provided the resources for the construction of staggering tombs, monuments, and cities that turned the desert into an oasis. In addition, the confluence of cultures created the unique Nabataean art style, which incorporated some of the greatest elements of architecture from all over the ancient world and has left an unmistakable mark on the harsh desert landscape.

Faculty mentor: Dr. Allison Smith

The ancient city of Petra was at the center of the great Nabataean trade empire, which was a hub for not only the exchange of goods, but ideas and culture as well. This confluence of culture would lead to the unique style of art and architecture seen in Petra.

The Nabataeans were a prosperous and powerful civilization of traders that rose to power between the 4th century BC and the 2nd century AD.¹ At the height of their power the Nabataeans controlled vast expanses of desert located in present-day Jordan. This region “was highly strategic, was varied in terms of natural resources, had a few zones that were very fertile and cultivated, and most importantly was located in a position that controlled the caravan routes that crossed the Arabian Peninsula from the ports of both the Persian Gulf and the Red Sea”.²

The control of these caravan routes made the previously nomadic Nabataeans quite wealthy and powerful allowing larger, more permanent settlements to be built and a more complex government to be established. Caravans that travelled across the Nabataean empire, “were well known for selling incense, spices, oils, perfumes, and other luxury goods”.³ The wide variety of goods that the Nabataeans offered meant that many different empires had an interest in trading with them. This trade included not only goods but also ideas and art trends which would be reflected in the Nabataean art form.

Due to their economic and cultural prosperity many people began settling in fertile areas along the all-important trade routes spanning the empire. One of these settlements, the city of Petra, was selected to be the new Nabataean capital and would grow to become a city of legendary status.

¹ Francesca A. Ossorio, *Petra: Splendors of the Nabataean Civilization* (Vercelli: White Star, 2009), 32.

² *Ibid.*

³ *Ibid.*

While it would become a great city, the first settlements in Petra were simple structures of rough stones and clay, which may have been built so travelers could store items until they returned to the city.⁴ This style of living continued for a long period until people began to permanently settle the areas in and around Petra. Even after settlement began, “their domestic architecture remained simple, and stone built single story houses covered the undulating slopes of Petra”.⁵

Although their dwellings remained simple, the inhabitants began incorporating the ideas and styles of their trading partners into their tombs and monumental architecture. The architectural style of the Nabataeans was a blend of Assyrian, Egyptian, Hellenistic, and Roman influences that were incorporated into the unique architecture of Petra.⁶ The first monumental constructions were the numerous tombs surrounding the outer limits of the city, much like the cities of the Greek and Roman Empires. One of the first large tombs to be constructed was the Pyramid Tomb named for the four pyramids or memorial stele which, “stand across the top of its façade. The design of the tomb is unique in Petra, or any other Nabataean site”.⁷ Such a tomb is a perfect example of the combination of architectural characteristics that create the unique Nabataean artform.

The height of this tomb building came with the construction of the Khazreh or Treasury where the Nabataean King Aretas III (85-62 BC) was buried.⁸ This enormous tomb, rising more than a hundred feet from the canyon floor, incorporates Corinthian and Nabataean columns as well as enormous temple friezes, which are carved from solid

⁴ Jane Taylor, *Petra and the Lost Kingdom of the Nabataeans* (Cambridge: Harvard University Press, 2002), 82.

⁵ *Ibid.*

⁶ *Ibid.*

⁷ *Ibid.*, 88.

⁸ Taylor, *Petra and the Lost Kingdom*, 91.

rock. In addition several figures adorn the monument, including both Nabataean and Greek deities as well as characters from Greek mythology.⁹ The construction of this tomb shows that not only were the Nabataeans willing to combine art styles, they were also willing to combine facets of different religions.

Another enormous tomb was The Deir or Monastery, produced for the Nabataean King Obodas III who died around 85 BC but continued to have a cult following long after, which is why many excavators believe his tomb was completed around the mid-first century AD.¹⁰ This monumental construction dwarfs all of its visitors with several enormous niches to hold statues that now stand empty. Its simple doric frieze is comprised of alternating circular metopes and triglyphs and all of the engaged columns on the face of the monument are in the Nabataean style. What makes this tomb unique, in addition to its size, is that it lacks the intricate carvings and symbolism of the Treasury, indicating that “most Nabataean architectural forms have developed from the elaborate to the simple, from the figurative to the aniconic – from the Khazneh to the Deir – a reversal of what is generally assumed”.¹¹

A much later tomb worth noting is that of Sextius Florentinus, the Roman governor of Arabia who died around AD 129 and was buried in Petra at his own request.¹² While his tomb was much smaller than those of the Nabataean Kings it is one of the most elaborately ornamented in Petra. This ornamentation included the carving of several mythological and Roman symbols, such as a Medusa head below an arched

⁹ Ibid.

¹⁰ Ibid. 99.

¹¹ Ibid. 98.

¹² Taylor, *Petra and the Lost Kingdom*, 99.

pediment with a large eagle above, together with several Nabataean columns and a Latin inscription dedicating the tomb to Titus Aninius Sextius Florentinus.¹³

When carving these tombs and the building materials for Petra's other monuments, workers used four main stone-working tools. First was the simple pickaxe, which is documented on "an incised rock drawing by an ancient Nabataean, presumably a mason identifying his trade".¹⁴ The other three tools were chisels and included a pointed version for making rough cuts to be smoothed over, a toothed chisel which creates the parallel lines found in Nabataean art, and finally a flat chisel for smoothing and dressing the cut stone.¹⁵ If any mistake was made when carving or the base rock was of a low quality, the masons would simply cut the inferior stone from the monument, replace it with new stone and apply plaster to cover the patch. In addition to plaster many of Petra's monuments were covered in vibrant paint similar in color to the temples of Greece.¹⁶

As the wealth and population of Petra continued to grow, King Aretas IV (9 BC – AD 40) took the throne. Described in inscriptions as "he who loved his people" Aretas IV would begin the monumentalization of Petra and many other cities in the Nabataean Kingdom.¹⁷ This process began with the construction of Petra's colonnaded street, which travels parallel to a stream where water diverted from the surrounding canyons would pass. The street was 18 meters wide and bordered with columns, porticos, and various buildings that were laid out in a Hippodamian grid pattern.¹⁸ The greatest of these

¹³ *Ibid.*

¹⁴ *Ibid.*

¹⁵ *Ibid.*

¹⁶ *Ibid.* 104.

¹⁷ Ossorio, *Splendors of the Nabataean Civilization*, 44.

¹⁸ Taylor, *Petra and the Lost Kingdom*, 101.

buildings was the Petra Great Temple, which was also begun during the reign of Aretas IV.

To construct the first stage of the temple stonemasons carved an enormous multi-level terrace into the surrounding cliffs, measuring 7,560 square meters.¹⁹ This enormous space located south of the colonnaded street is divided into “Propylaeum (monumental gateway), a Lower Temenos, and monumental east and west stair ways, which in turn lead to the Upper Temenos, the sacred enclosure for the temple proper”.²⁰ From the street level one passes by a series of small buildings that may have been shops or homes of Petra’s wealthier residents. The Propylaeum is a wide set of stairs leading to the Lower Temenos, a large open-air plaza paved with hexagonal stones that overlaid an extensive system of canals.²¹ Flanking the open plaza were two sets of triple colonnades with a total of 120 columns and tiled roofs, even more amazing is the fact that the columns were capped with elephant heads rather than the common curved volutes. These unusual capitals were, “elaborately carved to show the wrinkled skin and small ears of the Indian elephant”.²² This is just another example of how the Nabataeans embraced the artistic style of their trading partners that by now would have included India. At this time the Greeks had been incorporating elephants into their sculpture and coins since Alexander the Great fought the Persians in 331 BC²³ and became aware of the use of elephants in military battles.

¹⁹ Martha S. Joukowsky and Joseph J. Basile, “More Pieces in the Petra Great Temple Puzzle,” *Bulletin of the American Schools of Oriental Research* 324. (2001): 43.

²⁰ *Ibid.*

²¹ *Ibid.* 47.

²² Taylor, *Petra and the Lost Kingdom*, 109.

²³ Taylor, *Petra and the Lost Kingdom*, 110.

On each side of the Lower Temenos visitors would pass a large staircase and exedra, each with two entrance columns on their way up towards the main temple. The Great Temple measures 35.5 meters by 42.5 meters, making it 1508.75 square meters, the largest freestanding building yet excavated in Petra.²⁴ The columns and walls of this temple were plastered and painted in various reds, yellows, and white, similar to the temples of ancient Greece. The actual temple was a minimum of 19 to 20 meters in height, its porch is tetrastyle in antis with widely spaced central columns and a pair of interior columns 5 meters beyond those of the porch.²⁵ An engaged column supports each corner of the cella and four smaller columns span the rear while eight columns flank the cella walls.

To the east of the Great Temple was a lower terrace long thought to be Petra's Agora but recent excavations have revealed that it was a large pool and garden complex. To create this enormous garden complex a "large shelf (65 x 32m) was carved into the rocky slope east of the Great Temple, leaving vertical escarpments 16m high on the south and east, requiring the removal of up to 33,280 cubic meters of stone".²⁶ At the center of this rock terrace was a pool measuring 43 x 23 meters and was 2.5 meters deep; it also included an island pavilion that was 11.5 x 14.5 meters.²⁷ When this pavilion was uncovered, excavators found an abundance of worked marble and limestone, some of foreign origin, which is yet another testament to the wealth and extravagance of Petra. For the pools and gardens to function the Nabataeans devised an elaborate system of aqua-ducts, piping, and even shallow basins placed so that sand and silt would be filtered

²⁴ Joukowsky, "Petra Great Temple Puzzle," 48.

²⁵ Ibid

²⁶ Patricia Maynor Bikai, "A Pool Complex in Petra's City Center," *Bulletin of the American Schools of Oriental Research* 324, (2001): 24.

²⁷ Beadal, "Pool complex," 43.

from the flowing water. The construction involved a huge amount of cement to waterproof the pool, island, and basins, much like the water constructions of the Roman Empire. The purpose of this extravagant complex was to establish Petra as a thriving political, religious, and cultural center within the greater Hellenistic world.²⁸ In addition to adding to Petra's prestige, these gardens would also have provided the Nabataean King a refreshing retreat from the searing desert. While located in an arid climate, the brilliant Nabataeans engineered many systems to provide the residents of Petra with all the water they needed while protecting citizens from the violent winter floods that often devastated the surrounding canyons. The Nabataeans made sure to waste none of the water that nature provided to them by constructing an intricate network of terraces, canals, piping, and cisterns that made a garden of the desert.²⁹ To control flooding and ensure a steady supply of water was available year-round, the people of Petra constructed numerous dams, levees, and even aqueducts to transport water from springs located miles away from the city.³⁰

As this monumentalization continued, the citizens of Petra decided they needed a proper Greek theater. It was to be an enormous construction located on the edge of the city's necropolis in such a way that to build it required the destruction of numerous tomb facades. The tombs that were destroyed most likely were old enough to avoid upsetting the inhabitants of the city.³¹ The theater complex was built during the reign of Aretas IV who was responsible for most of Petra's other monuments and may have been influenced

²⁸ Ibid. 39.

²⁹ Taylor, *Petra and the Lost Kingdom*, 89.

³⁰ Ibid. 86.

³¹ Taylor, *Petra and the Lost Kingdom*, 112.

by the theaters built by Herod The Great who died early in the reign of the Nabataean king.

The great theater was built to the Roman's standards for the shape, proportions, orientation and stage design, and had a seating capacity of 5000. To prevent its flooding during the desert winters, several channels were cut above and around the structure to divert water into cisterns, it did however flood in 1991 after the rain channels became blocked by silt but similar events have been prevented by clearing the drains of accumulated debris.³²

After these architectural marvels had been completed Petra continued to enjoy its golden age, but this was not to last. As time went on, many caravans began to favor routes which passed far north of Petra, and the thriving Nabataean ports began to fall into decline. It was during this period that the last king of the Nabataeans would come to power. This new king, Rabbel II (AD 70 – 106) moved the capital of Petra to the northern city of Bosra where he made efforts to boost the agricultural development of this fertile and productive land.³³

Following the death of Rabbel II in AD 106, the kingdom of Nabataea lost its independence and became part of the Roman Empire. This would mean extensive changes for the cities and settlements of Nabataea, including Petra. Around the time of Roman annexation, huge renovations were made to the city, converting many of its private monuments and temples into civic areas for public and government use, much like the Roman cities of the day. The largest of these renovations were made to the Great Temple, which culminated in the conversion of the temple's cella into a 600-seat theatron

³² Ibid. 113.

³³ Ossorio, *Splendors of the Nabataean Civilization*, 48.

thus transforming the sacred temple into a civic space.³⁴ Petra's pool complex also underwent a conversion from a private palace retreat into a public garden that was an essential element of Roman cities and now offered a relaxing oasis to all of Petra's citizens.³⁵

After this conversion, Petra continued to enjoy a relative popularity as a stop on the road from the new capital of Bosra to the western Ports.³⁶ It is during this time that Petra gained official metropolis status, which was inscribed near the colonnaded street after the 130 AD visit of Emperor Hadrian that gave the city the new title of Petra Hadrania.³⁷ Following this, Petra remained nearly unchanged until a major earthquake that destroyed most of the city's monuments occurred in May of 363 AD.³⁸ This would begin the decline of this once-imposing city but the actual abandonment of the area would not come until much later. Following the great earthquake a majority of the population left Petra and the toppled Nabataean monuments were never rebuilt. Some activity did occur though and a few shops were rebuilt; however the downtown area of Byzantine Petra was only a fraction of the city's former glory. A few new constructions did occur but were much smaller than the monuments of the city's golden age and were often built by scavenging materials from the city's fallen monuments. The first major construction attempted after the earthquake was the building of the ridge church, so named for its position on a large ridge opposite of the Great Temple. This Byzantine church had side aisles that were separated from the nave by five columns on each side. The ridge church had a simple stone floor except for the altar area which may have been

³⁴ Joukowsky, "Petra Great Temple Puzzle," 39.

³⁵ Ibid.

³⁶ Ossorio, *Splendors of the Nabataean Civilization*, 49.

³⁷ Ibid.

³⁸ Ibid.

marble; it also lacked a pulpit and benches along its walls, which are both features of Petra's later churches.³⁹ This church was also simple in ornamentation but still included a large cistern fed by downspouts from the roof of the church, displaying the inhabitant's continued resourcefulness.⁴⁰

The second and largest church to be constructed was the Petra Church. This church had a single apse with a large nave paved with sandstone and two wide side aisles that were covered in large mosaics.⁴¹ Attached to this was a three-room baptistery. The main room contained a cross-shaped font under a canopy supported by four columns... it is the best-preserved baptistery in the Near East".⁴² The surviving mosaics from this church are most likely from the mid sixth century and show that even though most of Petra had been destroyed, its remaining citizens were still creating art. These mosaics had "a geometric background against which are portrayed animals, birds, and fish on each side. Down the center are personifications of the four seasons - wisdom, earth, and the ocean; there are also two fishermen, a fowler, and a vase with birds".⁴³ The mosaics of the Petra church also bear a significant resemblance to many of the mosaic works found in the Roman Empire, which is most likely a result of the continued status of Petra as a Roman colony.

After the completion of the Petra Church only one other Christian building was constructed; this was the Blue Chapel Complex. The Blue Chapel was so named for the "four Egyptian blue granite columns that were moved there, presumably from a nearby

³⁹Patricia Maynor Bikai, "The Churches of Byzantine Petra," *Near Eastern Archeology* 65, (2002): 272.

⁴⁰*Ibid.* 271.

⁴¹*Ibid.* 272.

⁴²*Ibid.*

⁴³Bikai, "Churches of Byzantine Petra," 274.

ruined Nabataean monument”.⁴⁴ This chapel complex is thought to have been private because it can only be reached via a narrow staircase from the upper part of the building – not a likely public access.⁴⁵ The private nature of the blue chapel is also indicated by its small stature, the interior area excluding the apse is only 111 square meters, as opposed to the 158 of the ridge church and the 358 of the Petra church.⁴⁶

After the construction of the Byzantine churches the remaining population of Petra began to dwindle. This may have been brought on by a lack of maintenance to the infrastructure that brought the all-important water to the city’s citizens and held back the devastating winter floods. After the water systems collapse the city had to rely on the rainwater collected from the rooftops and the single spring, which was located within the city. Accounting for the amount of water produced by the spring today, “there were probably no more than a few hundred persons”.⁴⁷

In AD 636 Petra came under the control of the Umayyad Caliphate, which put an end to the Byzantine era of the city and signaled the rapid decline of the remainder of Petra.⁴⁸ At the end of the Byzantine era the area surrounding Petra was experiencing numerous quakes and following the construction of a few crusader fortifications, the city was abandoned.⁴⁹

Petra was a city of wealth, prosperity, and enormous ingenuity that allowed the Nabataean people to settle and even thrive in one of the harshest environments on earth. The city became the center of trade between the Middle East and the Roman Empire,

⁴⁴ Ibid. 272.

⁴⁵ Ibid.

⁴⁶ Ibid.

⁴⁷ Ibid. 276.

⁴⁸ Ossorio, *Splendors of the Nabataean Civilization*, 49.

⁴⁹ Ibid.

which brought both wealth and power to its people. It also provided the resources for the construction of staggering tombs, monuments, and cities that turned the desert into an oasis. In addition, the confluence of cultures created the unique Nabataean art style, which incorporated some of the greatest elements of architecture from all over the ancient world and has left an unmistakable mark on the harsh desert landscape.

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