

When seeing Petra the ancient Nabataean capital in Jordan for the first time, visitors are overwhelmed by the monumental red sandstone palace like tomb facades. But imagine this is only a quarter of the Nabataean architectural achievements and now envision that these tomb facades were fully plastered in white with painted multicolor decorations.

Petra Wadi Farasa Garden Tomb

This might be an unreal imagination for most, but this is what Petra looked like in antiquity, just outright

overwhelming and undoubtedly impressive. The second important part of ancient Petra consisted of numerous public buildings, of which little is left today for visitors to see except some ruins. Therefore tourists are less interested in them, but in this article I will tell you a bit more about this and the daily Nabataean life

These public buildings include the partly preserved immense amphitheatre, the once elaborate colonnaded main street with three huge markets and the newly excavated complex of the Great Temple precinct, for more details please see my previous article about the Great Temple excavations

Plus the important Lion Temple on the valley's opposite side and the Tenemos Gate leading to Petra's holy district with the main temple for Nabataean prime deity Dhu Shara, today called Qasr al Bint Faroun. The palace building unfortunately has been swept away over time by regular winter flash floods and little is known about which king actually built

it and who lived there.

There are still some discussions between experts about the possibility that some of the king tombs or even the treasury actually served as royal palaces, because we do know that they were not used as tombs.

The third Nabataean architectural achievement consist of the sophisticated Nabataean hydrologic systems once supplying Petra residents and their lush farms throughout the year with ample water. So much so, that every merchant family home had running water and a courtyard fountain.

But let me first take you inside a typical merchant family home and give you some insight no tourist guide in Petra will ever tell you.

How did Nabataeans Live?

The residential suburb layout followed the natural shape of the Petra or Wadi Musa valley. The slopes were fully covered with clusters of terraced homes, all built around the important water sources. There was very little space for the ever growing Petra population and density made living conditions very difficult. Therefore individual rights were defined in detail, no different to a modern

state today. Administrators were appointed to control the set rules and to receive complaints of residents and settle them. If need be any disagreements could be brought in front of the existing courts of law operating in Petra.

Petra's wealthy inhabitants lived in luxury stone houses with one or two floors with interior court yards and wide staircases leading to the upper floors. Balconies were running around the courtyard on three or all four sides. The walls of these houses were extensively stuccoed and colorfully painted in Hellenistic style. All these homes had running water with sophisticated plumbing using lead piping. The court yards could be rather large and had landscaped gardens and running water fountains to cool the air during hot summer days.

Those houses had two parts consisting of a number of public rooms for visitors and receptions with bright paintings on walls plus stucco moldings. The private family and bed rooms were decorated in a much simpler way and had a more Arabic style. Roofs of houses were flat with no roof tiles as were more typically used for major public buildings. Floors were paved with either large flagstones or with elaborate colored mosaics depicting landscapes, animals

and humans.

use of furniture was minimal, but all houses were equipped with stone benches for Roman style dining, which was done in a lying position and not sitting at a table. This is why the many Nabataean banquet halls found in Petra and Mada'in Saleh are called triclinium, as they had stone benches on three sides for dining.

The cooking and baking for the many opulent meals and feasts was done in separate buildings away from the dense residential areas, because of the danger of quick fire spreading. So each suburb or residential area had a central kitchen building, where family meals were prepared by the staff and carried back to the homes for consumption.

The Comfort of Cave Dwellings

Many families lived in the various caves cut into the soft sandstone cliffs in Petra. This was possibly the coolest and safest place to live in, but certainly needed some adaptation.

These residential caves consisted of a combination of chambers with windows, but without any facade decorations similar to the Petra tombs. Many cave dwellings also spread across various floors. A good example is the so-called Dorotheos House in Petra, which you find in Wadi el-Metaha about 500m after the Sextius Florentinus Tomb commonly marked on all visitor maps. This residential structure consisted of around twenty









over two floors with many small windows, staircases cut into rock and even some small terraces in front.

At the end of Wadi Farasa when the valley becomes very narrow and after climbing various steps, visitors will find the rather hidden Garden Tomb. Actually this was not a tomb, nor was it a triclinium or banquet hall. Archeologists found out, that in fact it served as a residence for a wealthy family with all the necessary installations like running water, own cistern and ablutions.

Other residential caves in Petra were extended with brick built structures in front converting them into multi storey housing units called "cliff dwellings" and these were found close to el-Habis mountain terrace behind the Qasr al Bint Faroun temple.

Additionally, a whole street of cliff dwellings was created in the el-Me'esara area opposite the Dorotheos House in Wadi el-Metaha.

been done so far at the different residential areas of Petra, which covered most of the open spaces in the valley between the various cliffs lined with monumental tomb facades. Today we can see few houses on the upper slopes of Katute Hill above the Great Temple facing Wadi Musa.

New excavations were concluded on the other side facing Wadi Farasa. The only detailed residential excavations documented so far are those of five houses situated on the slope below the Urn Tomb, which is part of the famous King Tomb Row.

residential These houses including a cave complex were dated 100AD more or less late in Nabataean history, when Petra fell under permanent Roman control. The residential cave featured a roofed forecourt with stairs leading to the roof, where also part of the family life happened. Here archeologists found a wine amorph and glass bottles dated around 400AD, which falls in the Byzantine period, when Romans converted from pagans

Christianity.

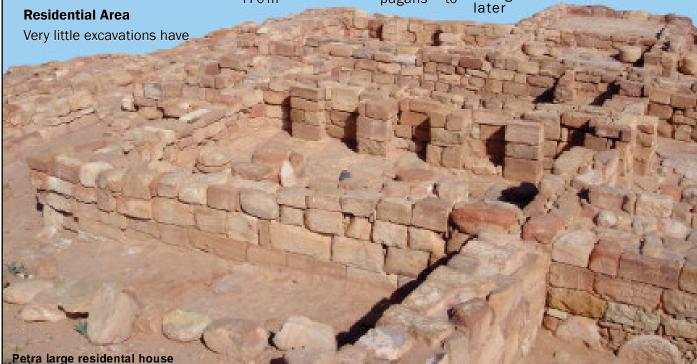
A rectangular house was built on the rock ledge over looking Wadi Musa and is part of the oldest dwellings, which were rather small. Later it was rebuilt in a much bigger layout giving proof of increased wealth.

During the excavations of these residences, archeologists unearthed ceramic water piping, many cooking utensils and painted ceramics classified to belong to a distinctive Nabataean pottery style produced between 150-25BC.

Further discoveries in this area netted over 100 Nabataean silver and bronze coins and around 170 oil lamps plus some jewelry. The many oil lamps are evidence of a very active social life after sunset, experts established.

What was their Social Life like?

At the beginning our Arab origin Nabataeans were very simply dressed people with an equality driven community system. But this changed







with increasing wealth. The simple dress of these Arab traders was also a trick to make their business partners believe they were poor and not making enough profit to achieve higher selling prices.

So Egyptian, Greek and later Roman clients really believed Nabataean traders, that the Yemeni kingdoms as producers of the sought after frankincense demanded high prices and this helped to raise the final selling price, so that incense became more extensive than gold at the time. Doesn't this prove that the Arabian traders of today still have the same blood in their veins?

Now this is rather interesting, imagine women had equal rights in those days and family trees with female names were found and even noted on Mada'in Saleh tombs as owners. What we also know is that Nabataeans did not trust anybody and therefore they had few slaves, unlike most of the ancient kingdoms in the region. Therefore Nabataeans did most of the building, farming and mining work themselves.

Why did they admire the Hellenistic Culture?

Nabataeans used more and more Greek names and therefore historians took them as Greeks and not Nabataeans. This is why so little has been reported about the Nabataean culture compared to the historical importance it played for over 500 years.

The key questions have not been answered yet by any expert: "Why did simple Arabian Peninsula nomads admire and choose a rather sophisticated culture such as the Hellenic to build their temple like tombs? Was it for the simple reason that they liked what they saw, when they started to sell their wares such as incense to the Greeks? Why were the Nabataean tombs larger and more elaborately erected than their houses? What role did the death cult play and the importance given to their tombs, which is different to the Greek burial customs?". All

these questions are not fully answered yet and are to be tackled by a future generation of archeologists.

A Love for Theatre

Following the Greek example, Nabataeans in Petra were frequent visitors to regular theatre performances. These performances were mainly Greek comedies with actors wearing costumes and masks and being accompanied by musicians and singers. But tragedies were also part of the extensive play schedule, written by famous Greeks such as Aischylos, Sophokles, Euripides and comedies by Aristophanes for example.

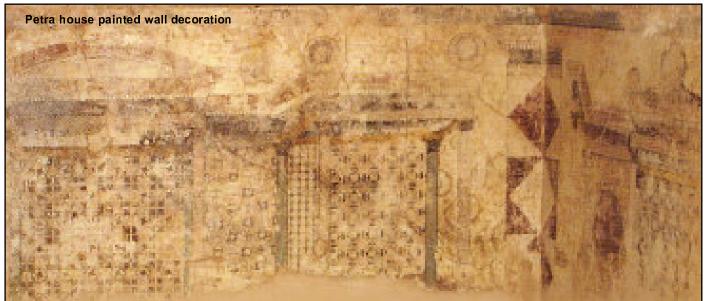
Music instruments used included various types of flutes, harp, lyre and tambourines. Petra's amphitheatre was huge and had 45 rows cut into the mountain slope and a seating capacity for 8,000 persons. The stage measured 40m and had a palace like facade with three columned portals and was between two to three storey's high.

But Nabataeans were also playful and used games for entertainment. At various places in Petra these game boards were carved into stone and still can be seen today. We also can assume that the same games existed as wooden game boards and were played by families and visitors in their homes. These game boards consisted of various rows of holes with four by twelve or four by fourteen holes. We have to assume that stones or seeds were used for this game, but we have no clue at all about the rules of this game or indeed what it was called.

Household Items

The typical Nabataean pottery household inventory consisted of many cups, juglets, plates, wide bowls for serving and large covered vessels for food and drink storage. Regularly consumed wine was drunk form bowls with a rounded foot, which fitted nicely **into** the hand. But their content had to be finished, as only





empty bowls stood straight, when placed down. Filled bowls would fall over. Sounds very Irish and might tell us something about Nabataean drinking habits?

The fact that Nabataean upper class used golden drinking cups was a bit against their equality and the Hellenistic democratic system they introduced. But more of that later when we come to explain their governance.

Ceramic lamps often were decorated with motives and were used as gifts of good wishes for the new year, which was one of the most important annual festivities. This important Dhu Shara festival was celebrated each year on the 25th December in Petra and was the city's main attraction to mark the birthday of the sun and lasted several days.

Next to Greek and Roman pieces of art, Nabataeans **also** used rather exotic pottery originating from India, Africa and even China, all countries with whom they traded.

2,000 years ago Reqem, the old Nabataean name of Petra was recorded in China's silk producing center.

A recent discovery in Wadi Farasa excavations brought to light a full house hold set of Nabataean pottery with several dozen of complete ceramic vessels. Most were dated between 75-100AD, some earlier around 25-75AD. This is the biggest find in Petra of undamaged pottery and no reason was established yet why a huge and complete house hold was deposited in a cistern next to a major residential unit. Was it washed away by one of the winter flash floods, which occurred quite often? Or was it hidden when Romans attacked and finally took control of Petra?

Water and Agriculture

Already 10,000 years ago in pre-Nabataean times, we have evidence of the first water management using dams in Ba'ja north of Wadi Musa. After finally settling down in Petra, Nabataeans became expert hydrologists and intensive farmers.

Ancient sources describe their extensive sown fields and rich orchards including huge vineyards, as well as wheat plantations, fruit and olive tree groves. All this was achieved with the limited rain fall of fifteen centimeters per annum, which was used to fill over 200 cisterns in Petra.

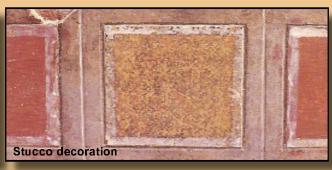
But to ensure fair distribution, they developed detailed rules for water allocation to govern its consumption. In addition dams were built including water retention walls, tunnels, canals, drainages to manage winter flash floods to store and use run off waters for agricultural purposes.

This development and sophistication allowed to Nabataeans later even build pressure pipes with excellent water harvesting and management results. They knew how to use the gravity feeds, such as siphons and reverse siphons. For this purpose three long ceramic pipelines were built to supply water to Petra from three different natural springs in the area situated several kilometers away.

Petra's tombs must have been seen as sacred places, but nevertheless when it came to water supply, this had absolutely preference. In the outer Siq after the Treasury, visitors can see a water canal running first above tomb facades and later even right through them. In one case there is even a water canal running through a tomb chamber.

The main pipeline supplied water from Ain Musa to Petra with a length of over 10km and an altitude difference of 300m indicating a rather slow flow. This canal had a minimum diameter of thirty centimeters and featured two arched aqueducts crossing gorges supplying the





many cisterns with an average 300m³ and a total holding capacity of one and a half million liters.

One of the pipelines ended at a large cistern next to the Palace Tomb just behind city wall. The Petra pipelines could deliver 40 million liters of water per day, which could sustain a city of up to 100,000 inhabitants at the time. Today experts assume that Petra had between 20,000 to 50,000 inhabitants, not included Sabra and el Beidha the so-called little Petra, both some eight kilometers away in opposite direction.

A further transformation in the way of life came with the new agricultural focus and the development of new planting techniques and

sophisticated water engineering resulting in a new economic system and cultural change.

This created an even wider divide between city dwellers and caravan leaders and their troupes of helpers, who were actually leading a Bedouin life on a permanent desert trip sleeping under the stars. Therefore they did not worship Petra's main deity Dhu Shara, but their desert god Shi'a al-Qaum an ancient god of war, night and guardian of nomads and caravans.

This cult was developed by the moving caravan tribes and stood in contrast to the city based Nabataeans, who worshiped their main god Dhu Shara, who could be equated with Greek and Roman gods Aries and Mars.

Empire and Government

Please remember that the Nabataean kingdom, different to many other kingdoms in the region, had really no clearly defined borders, as indicated on many maps. Nor were they the only power in these indicated territories and nor did they represent the majority population therein.

They allowed others to live close to them, as long as they did not pose any threat. But they certainly were the dominant force in the area and defended their secret trade routes with vigor.

Nabataeans were a well governed community with an appointed king based in Petra and governors controlling other major cities and trading centers, such as Mada'in Saleh.

Some experts are of the opinion that the

king was supported by a kind of cabinet or senate. They believe that an egalitarian king ruled by popular approval and he acted more as a chairman, serving his people, rather then being served at

Elephant capitel,

festivities. Ancient Greek writer Strabo, who visited Petra, mentioned a thirteen member symposia which was possibly a council of Sheikhs or heads of the most important trading families.

Reports from other empires mention that Nabataeans were good diplomats and also used marriage diplomacy to achieve peace, which the Egyptians invented 2,000 years earlier.

Breeding another important Income

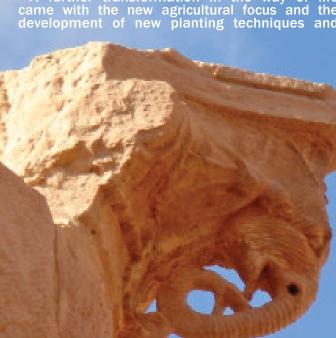
The Nabataean inhabitants of Petra and other cities did not only live of the trading profits and taxes raised from caravans and their goods. Next to farming and export of agricultural goods such as

wine, there was also the important activity of animal breeding, which ge sizable profits. generated

Breeding camels was one of the most important activities to supply the numbers for their enormous camel herds needed to transport the permanent flow of goods from the southern part of the Arabian Peninsula. Please remember that a caravan could consist of 200 to 300



Residence,Petra



Rare elephant capitel at the Great Temple in Petra

camels and a trip from Yemen to Petra took two months. We can with certainty assume today that Nabataeans controlled 25% of total Roman trade just to give you the big picture of their role and influence at the time.

Second if not first came the breeding and trading of Arabian horses. After 100BC horses overtook camels in popularity for human transport and military cavalry. When Nabataean King Aretas III attacked and was able to take control of Damascus, the change in his cavalry from camels to horses was perfected and was the real reason for his success.

Horse breeding was big business when in 47BC King Malichus I provided Julius Caesar with 2,000 horses for his march on Egyptian Alexandria.

And again 23 years later Malichus II sent Roman Emperor Titus 1,000 head strong cavalry plus 5,000 infantry soldiers to assist to destroy Jerusalem. Arabian horses were not used in the Roman army, because they preferred the bigger and stronger European horse breeds, but Romans loved to use them in their races in the Circus Maximus.

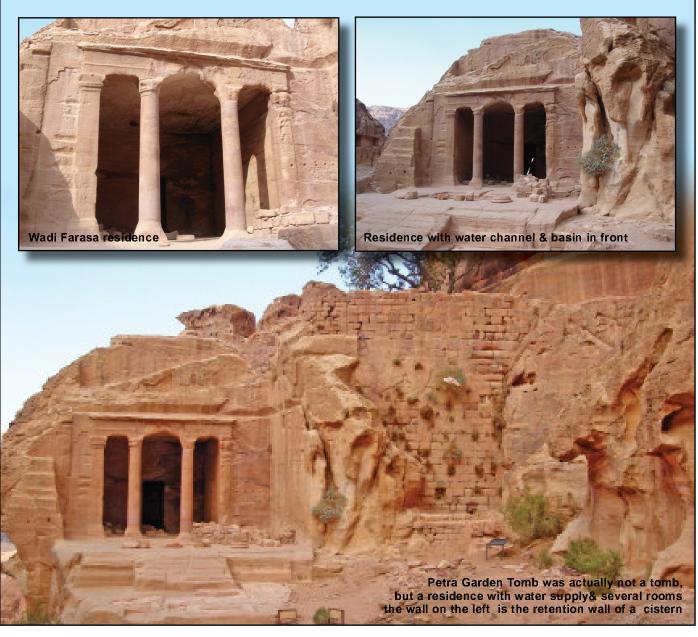
The last Nabataean King Rabbel II extended Petra's agricultural activities and horse breeding

by regularly selling horses to Rome. The Arabian breed was famous for being small, light weight, faster than others, swift in turning and very intelligent and nevertheless gentle in character.

Other breeding and trading activities included sheep for meat and wool production. Nabataeans might even have been involved in the transport of elephants for the Egyptian Ptolemy army.

Just think about the big surprise archeologists had some years back, when they discovered in their excavations elephant headed column capitals at the Great Temple in Petra. These were Asian elephants and not African, so the source of the famous war elephants is now known. But we also know that Egyptian pharaohs went elephant hunting in the Orontes river valley in Syria. In recent excavations in Qatna close to Homs, 4,000 year old elephant bones from this today extinct elephant breed were discovered.

A lot of visitors to ancient cultural sites are not aware of the richness in flora and fauna the historic inhabitants had at their disposal. Over 240 plant species were recorded in and around Petra, including fruit trees, berry bushes, flowers and grasses for animals to feed on.



Dress and Jewelry

In the beginning Nabataeans dressed rather in the beginning Nabataeans dressed rather simply, but with increasing wealth their dressing style changed to display their fortunes. But traveling merchants always dressed simply to give the impression that they were not making a lot of profit margin and to be able to achieve higher selling prices. The depicted dresses of statutes and figurines can be assumed to be the typical Nabataean dress at the time.

Next to the Incense Road, Nabataeans also controlled the end portion of the famous Silk Road. They even introduced two new forms of silk weaving techniques, the damask and gauze silk produced in Damascus and Gaza giving those new silk products their name.

When it came to jewelry, rich Nabataean ladies donned gold and silver bracelets, anklets, necklaces with amulets, rings, earrings as well as pendulum earrings. Other materials for jewelry was bronze, copper, various semi precious stones and ivory. Scorpion and cowry shells were used as protective

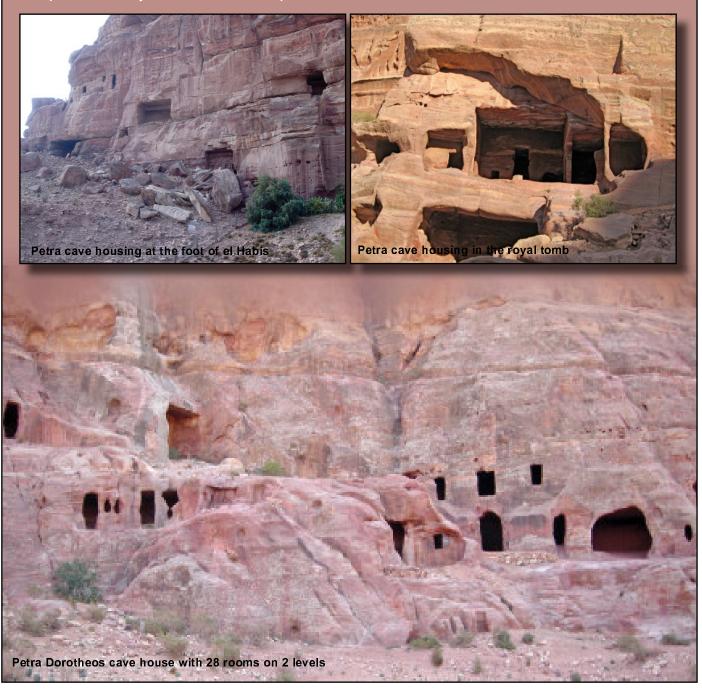
amulets, including various forms of lunar shapes. Metal and animal bone needles were used to hold together textile cloths wrapped around bodies.

Important Mining and Smelting Activities

How did Arabian traders become miners and involved in heavy labor, when trading profits generated already secured sufficient live support? The answer is simple if you are a trader. Why pay a high price to gold and silver manufacturing kingdoms when you have the resources in front of your door step?

This is why mining and smelting was, like the bitumen harvest on the Dead Sea, an important part of the economic activities undertaken by Nabataeans. Extensive mining and smelting activities are proven at an early stage in the Nabataean history in Sabra, a small town eight kilometers south of Petra.

Heaps of copper ore slag were found on top of the river embankment, plus cupriferous sandstone deposits, with iron ore and copper found along the





river bed.

Important copper mining and smelting was also done at Timna in Wadi Arabah, an area known from the famous King Solomon mines, as well as at Khirbet Nahas near the town of Selah. Copper was needed to produce bronze for the ever rising needs of weapons during the Bronze Age.

And Wadi Arabah was the only place in the Middle East with easily accessible surface iron ore and copper deposits. I have visited the area and you have to see it to believe it. It is a rather dangerous drive on a narrow and steep winding mountain road, but you will be rewarded with superb views and multi-colored mountains.

For iron smelting Nabataeans needed tall furnaces and a permanent high temperature, which is evidenced through discoveries again in Sabra.

Further copper mining was done at Feinan, Wadi Abu Khusheiba and Wadi Qurdiya south of Petra.

Metal work shops were found in Petra near the Lion Temple, which were destroyed around 100AD possibly during Roman attacks to finally take control of Petra.

Archaeologists discovered moulds and small portable ovens with around thirty plaster casts and moulds to prepare wax models to cast bronze objects such as daggers and swords in the lost wax method.

The moulds show god Eros sculptures with features of Egyptian god Harpocrates. Found plaster casts show a couple on a divan in relief, which is identical to another plaster cast found in Memphis, the ancient capital of Egypt. This shows that the artisans in Petra either came from Memphis, or the cast mould was imported from Egypt.

Summary

In summary we can say that these Arab nomads originating from the Saudi Arabian desert areas, developed rather quickly, once they moved to Petra, into a sophisticated and cosmopolitan dynasty controlling all trade on the famousIncense as well as Silk Road.

They became one of the richest empires at the time through hard work in mines, extensive horse and camel breeding, as well as agricultural exports such as wine, as they were excellent hydrologists and the inventors of watertight cement.

Let's remember that at the beginning these Arab nomads started off with strict Bedouin rules, which did not allow them to settle down permanently, and the building of houses or drinking of wine was punished with the death penalty.



