Studies on the Nabataean Culture I

Refereed Proceedings of the International Conference on the Nabataean Culture

Editors
Nabil I. Khairy & Thomas M. Weber

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Preface

The first two years of this decade of the 2000s set many countries in the Middle East and North Africa in turmoil through the so-called "Arab Spring". Unfortunately, this mass movement based on a revolt of the younger generation and supported by religious, political and intellectual circles, resulted not only in an increased awareness of democratic rights, but also in brutal casualties and humanitarian catastrophes. The Hashemite Kingdom of Jordan, God be praised, was spared from this dramatic turbulence. In our opinion, this is due to three main reasons. First, the Hashemite Royal House is guided by great political wisdom and a humanitarian policy, as well as having a dynastic religious aura which traces its genealogical roots back to the family of the Holy Prophet. Second, the people living in modern Jordan embrace the challenge of necessary changes with a deeply-rooted devotion to peace in accordance with their religious and moral principles. Third, the youth of this country has the possibility to pursue their individual curricula in a highly developed system of Higher Education, offered by more than 38 public and private Universities and Colleges. This high standard and ratio of public education is without any parallel compared to other countries in the Arab World.

In modern Jordan, an ancient legacy persists in many aspects of daily life. The people of this state inherited admirable virtues from their forefathers, such as love of religion, hospitality, endurance in the hard circumstances of life and wisdom of survival. These aspects of the national Jordanian identity attract the archaeological sciences to deal with the history and culture of their most renowned Arab ancestors, the Nabataeans. Since the early 19th century AD, research on our ancient ancestors was predominantly promoted by European travelers and scholars. It is, however, the moral right and responsibility of each nation, to put research on its history on its own agenda for the benefit of the education of its younger generations. Consequently, under the benevolent aegis of the Department of Antiquities of Jordan, The University of Jordan resumed archaeological activities at Petra on the site of al-Katunteh. This excavation was initiated in 1981 by the co-editor of the present conference proceedings, Nabil Khairy. This project was continued in 2012 by a co-financed Jordanian-German campaign at the same site under the co-directorship of the earlier excavator Detlev Krieger and represented by his cooperators Karl-Uwe Mahler and Mustafa Koçak. The present volume contains two preliminary reports on this important, most recent Jordanian-German investigation of the archaeology of the Nabataean metropolis of Petra.

In this respect, the First International Conference on the Nabataean Culture, which was held under the patronage of His Majesty King Abdullah II bin Al-Hussein at Petra between May 5th and 8th, 2012, and organized by the Kingdom’s oldest and biggest acade-

Participants of the First International Conference on the Nabataean Culture which was held in Petra, 5-8 May 2012 (Photo: M. Ader).
The University of Jordan, thus marks a milestone in the history of relevant re-
search.

This event paid tribute to two important anniversaries of the year 2012: JOHANN LUDWIG BURCKHARDT was the first European traveler to visit the rock cut monuments of Petra, the most important center of the Nabataeans. Writing a best seller report on his journey, he did not only open the gate to archaeological research which continues until today, but awoke the desire in many individuals to become enchanted by the unique natural charm of the rose-red city. Being declared as one of the Wonders of the World by international organizations such as UNESCO, Petra in the present days is a destination for thousands of visitors with a considerable positive economic side-effect for the stakeholders in local tourism initiatives.

The second anniversary to be commemorated by this volume is the 50th jubilee of the foundation of The University of Jordan. Installed in 1962 on the premises of a former British military base, subsequently transformed into a Jordanian school for agricultural training, the vast campus is distin-
guished in the eyes of the world by its cypress-lined pathways and its natural beauty. Today, this picturesque terrain houses 19 Faculties and Colleges of different disciplines, one of the Kingdom’s few “full” Universities, offering education in all disciplines for about 39,000 national and international students. In addition, the Aqaba-branch of The University of Jordan contributes with further five faculties and colleges. All together, there are 78 undergraduate and 143 postgraduate academic programs, an indicator of the choice available only at Jordan’s spearhead University.

The proceedings of First International Conference on the Nabataean Culture published herewith aim to reflect the vivid academic life maintained by this public institution in Amman. It is also a proof of prospering scholarly cooperation with the international community. We, as the two scientific editors of this volume hope to respond to the demand by the president to sharpen the profile of The University of Jordan as an international academic research institution.

The present Proceedings of the First International Conference on the Nabataean Culture have been evaluated and refereed anonymously by a number of distinguished and independent international scholars on the basis of the intellectual contents and linguistic level of each article. The editors have tried their best to arrange the contributions in a sequence which allows the reader a rapid introduction to the sphere of Nabataean culture, and gave of its best to produce a well illustrated book of scholarly gravity. Each article is furnished with an abstract in Arabic language.

The two scientific co-editors divided the specific duties of this publication as follows: NABIL I. KHAIRY, together with the Deanship of Scientific Research of The University of Jordan took care of the liaison with the contributing authors and the review of their incoming manuscripts by international anonymous referees. For each approved contribution, THOMAS M. WEBER, supported by his assistant, MS. KHAIRYEH KHOUKUN, undertook the typesetting and styling and he was also responsible for the layout of the book. Both teams oversaw the subsequent pre-printing processes in the correction phase and in final quality control.

Our deep gratitude is due to His Majesty King ABDULLAH II IBN AL-HUSSEIN for initiating the idea of an international triennial conference on the Nabataean culture. We also express many thanks to H.E. the Representative of His Majesty in this conference, Mr. NAIF AL-FAYEZ, Minister of Tourism.

We wish to express our appreciation to Professor ADEL AL-TWAISIS, former President of The University of Jordan for translating the noble suggestion of His Majesty into reality by dedicating full financial and moral support to this international gathering.

We especially want to express our indebtedness to Professor EKLEIF AL-TARAWNEH, President of The University of Jordan, for his continuous support and excellent help for both the conference arrangements and also for the publication of this volume.

A special thanks should be paid to Professor KHALED AL-FAWARES, Dean of Scientific Research, The University of Jordan, for his friendly and productive scientific support in kindly taking the responsibility for the confidential evaluation of each submitted article by two reviewers well-known in Nabatean studies through his very energetic assistant, Miss OLA MUSMAR, who worked hard for the promotion of this mission with much care and great accuracy.

Many thanks also to the Organizing Committee of the Conference who supported our administrative activities of the conference.

Our gratitude is also extended to Dr. RULA AL-HROOB, former Director of the Media, Public and Cultural Relation Department of The University of Jordan, and her team, since she was not only behind the detailed arrangement of the conference but also worked very hard in pressing for financial donations to support our academic activity.

We also want to express our appreciation of the tremendous efforts of MOHAMAD AL-TANTAWI, who was behind the follow-up to our successful scientific efforts. Furthermore, especial thanks should be paid to NAWAL S’ADEH, MUJED QASEM, BASMA HAMMOUDH, RASHA AL-MAMMOUD, and MOHAMAD KHAIDER ADEE who worked very hard for the success of both the conference and it’s academic outcome. We would like to
thank the Petra Development and Tourism Region Authority for facilitating the “Petra by night” excursion for the participants of the conference. And finally, we want to express our appreciation of the generous financial support for our conference, which came from both the Aqaba Development Corporation and Unity of Mobile.

Amman, 2013

The Editors

Nabil I. Khairy

Thomas M. Weber
Aspects of the Particularity and Creativity of the Nabataean Architecture During the Late Hellenistic and Roman Periods

NAIF A. HADDAD
Hashemite University, Zarqa,
Jordan

Abstract
This paper attempts to clarify some architectural and urban architectural aspects of the Nabataean during the Late Hellenistic and Roman periods, in Petra of Jordan, in terms of its stylistic and aesthetic reflected in the formation of the façades, and of its arrangement and organization of the plan layout and planning reflected in the function and liturgy in both of the funeral and religious architecture. It argues that, while western Hellenistic influences reflected clearly on the formation of the façades, they had limited impact on the functional and liturgical issues reflected in the general layout of the plans. This can be explained, because of the strength of the local cultural heritage and its particularity, in both of the funeral and religious practices. This supposition will be discussed by the examination and evaluation of the general urban city planning and in the plan layout mainly of tombs and temples, and the perception and the approach of the formation of the façades in Nabataean architecture. Examples from grand Macedonia, to Hellenized Eastern centers, in Ptolemic Alexandria, and of the Late Hellenistic period in Great Syria, in addition to tombs at Medain Saleh will be used and analyzed in order to understand the particularity and creativity of the Nabataean architecture in Petra.

Keywords: Pictorial and scenographic conception, religious and funeral architecture, particularity, function and liturgy, Macedonian and Alexandrian tombs, Nabataean Petra, façade formation, urban landscape and city planning.

1. Introduction
Basically, the greater part of ancient Petra is still unexcavated. However, each structure that has been excavated has added to our knowledge of the city organization, architecture and planning. The main remains of the influence of Greco-Hellenistic and Roman planning and architecture are mainly the theatres, nymphaea and baths with their installation systems, colonnaded street and triple-arched entrance gate, market, tombs, and temples (Figs. 1, 9).

Recent discoveries and literary sources, however, have pointed and suggested that the advanced state of Nabataean must be dated a generation earlier than was previously thought (mainly in the Augustan era). These sources suggest already a well organized state in the early Hellenistic era centuries earlier (GRAF 2006: 68, idem 2009: 73). GRAF (2009:73) even suggests that the Nabataean had a well established urban state at Petra before the hypothesized dramatic transition in the first century BC. However, till now the archaeological records still offer only minimal support for this literary and epigraphic finds of the Hellenistic era.

As the capital of a mercantile kingdom, Petra itself was an exceptional phenomenon combining as it did both of the functions of the Nabataean capital with its famous trades and national necropolis (SEGAL 1997:80). Interestingly enough, the water supply by the aqueducts crossed the necropolis (funerary complexes), before reaching the houses of the city centre. This actually reflects how the Nabataean inhabitants of the Petra chaise to design their city. In fact, religion was a major component of Nabataean life. The dead were worshiped as a main part of Nabataean religious ceremonies. The sepulchre was of great importance to the Nabataeans and they conceived it as a “house of eternity” (NEGEV 1971:52). However, the lack of Nabataean text of religious nature prevents us from reconstructing the beliefs of their society in detail, especially those concerning death, but archaeological remains do provide us with some clues (SACHET 2009:98).

2. Particularity of the Urban Landscape of Nabataean Petra
One can detect the harmonious relationship between urban architecture and the landscape that
stemmed from the embodiment of necropolis and the gods/goddesses make it presence in the imposing majestic gateway entrance to the city, through a narrow high gorge, the Siq. However, beside the site selection for fortification factors, the spirit and character of the terrain was divine and symbolized the major ritual and religious factors that affected the choice of this location, starting from the Djin blocks at the main entrance of the city, the Siq, until the characteristic Nabataean temple of Qasr el-Bint.

The city monumental organization and architectural complexes, including the terraced buildings, the individual elements, were deliberately played down so as to accentuate the organic unity of the whole. The Nabataeans, actually, were working in perfect harmony with their environment and local materials. In Petra, one can suppose that, there was enigmatical harmony between man, nature, and the divine rather than one of an "organic design."

This is clearly noticeable in the development and expansion of the centre of Petra archaeological site, where the hillsides lie on either side of the main city axis, the colonnaded street, which ran through the heart of Petra form west to east. The sitting of temples and the majestic feature of the settlement, in relation to city main axis, was calculated to impress a complex and sophisticated urban landscape civilization.

Due to varying geography and the topography, in some ancient cities the decumanus became the main street and the cardo is secondary. This is the case of Petra, which is one of the oldest well organized urban cities in the Middle East. This main city axis actually creates a series of rectangular courtyards, dedicated for the entire public meeting place where both of funeral ceremonies and commercial activities and various other festive occasions were held.

3. Particularity of City Planning and Urban Architecture of Nabataean Petra

Petra, actually, is the model of our knowledge of how the Nabataeans designed and built their urban settlement. In approaching the city, one immediately notices how the Nabataeans planned the city to
maximize and take advantage of the accessible majestic topography of the landscape. The Nabataeans were master planners in the way they laid out their metropolis according to the most rudimentary of technology available to them; because the city is built in a valley they chiseled canals through the hills to control and take the rain water away from the main settlement.

The particularity of their city planning had its implications on the location of their monuments. The main city theatre location, set at the foot of which runs the main colonnaded street (decumanus maximus) is remarkable. Meanwhile the theatre structure was like many other facilities within the community, it is also carved out from the sandstone rock on an entirely rocky slope where the bend of this slope was appropriate.

The vital contribution of Petra colonnaded street to the urban landscape is also of significance. The Petra colonnaded street works as border rather than an ordinary street. Meanwhile it runs a straight, uninterrupted line across the length of the city, connecting the different urban units within the saved length of 240m of this dynamic urban space (Fig 1).

Probably it was continued eastward to the small theatre, about 250m east of the nymphaeum (SEGAL 1997: 165). Essentially, it marks the transition from the more scattering of the landscape, whose components reveal an obvious hierarchy through the dramatic emphasis of their created location. This only one colonnaded street that has been found in Petra is a "processional road" and can be defined mainly, as "via sacra" (SEGAL 1997: 44-45), which formed this urban crucial city section. The façades of the buildings which surrounded the colonnaded street appear to have been ornamented with free standing columns with architraves and / or engaged orders. However, statues may have been added here, though there is no real evidence for this.

Upon leaving the theatre and along both sides of the colonnaded paved street are the nymphaeum, public buildings, market and shops. The nymphaeum (2nd century AD) location, at the end of the city's eastern edge on the south bank of wadi Musa, closely to the beginning of the colonnaded street is characteristic, actually, is the first grand and street decorative free standing structure that greeted the way-farers on the way to Petra and heralded their entrance in to the main energetic component of the city, inviting the citizens and visitors to continue their walk after having the needed rest and relaxation. This decorative massive construction (21m in length, with a semi-circular niche (6.5m) at its centre), with its continuous of water pouring in arid Petra, was certainly an impressive attractive feature in the city design. Its location provided the city landscape with an aesthetic focus of an exceptionally pleasant and satisfying nature.

Extraordinary is the relatively large area that is dedicated to market in the center of the city. In fact, this confirms the special status of commerce of Petra (HAMMOND 1973: 80, SEGAL 1997: 80). Because of the topography the Nabataeans designed the market in three rectangular terraces, the upper (64 x 70m), the middle and the lower market (65x92m). The three level public plaza / market of Petra, according to their urban spatial planning and organization, reflects the original local architectural and planning creative solutions. Their urban and architectural treatment, are totally different in their shape and manner of design from the Roman approach as in macella, as for example in the case of the ancient city of Jerash, nor do they resemble the Hellenistic permanent markets as of the examples of Asia Minor. Actually, they are examples of originality and uniqueness of Nabataean architecture (SEGAL 1997: 79), where at least the square peristylo area of the Upper Market (69.5m x 76.5m) was the main site open-air meeting place that performed an important role of the city socio-economic life (Fig. 1).

However, the unexpected discovery in 1998, of a monumental swimming pool complex, with an island pavilion in the area known as the a Lower Market, since 1921, make caution necessary when referring to the unexplored Middle and Upper Markets' (KANELLOPOULOS 2002: 307). In association with the swimming pool are remains of an elaborate hydraulic system channel, pipelines, and a diversion tank (castellum) – that transported water to the pool and irrigated the large garden terrace to the north of the pool. This Grand Garden, located in the heart of the city centre, on an artificial terrace overlooking the Colonned Street, between the so-called Middle Market and the Great Temple, represents the only example of a Nabataean garden in the archaeological record of the region (REDAI 2001: 381). In fact, the Upper Market including its monumental staircase (width of 14.80m), is the largest of its kind in Petra (FIEMA 1998: 416-417). Indeed, it is 2.5 times wider than the staircase leading to the enormous complex of the Great Temple. According to KANELLOPOULOS (2002: 307), the two piers of the so-called Trajanic Arch, in front of this monumental staircase at the Colonned Street, could belong to a conjectural tetrapylon spanning across the street. Unfortunately, the material evidence is inconclusive due to the poor preservation of this city area, and this argument for a city tetrapylon is still weak.

1 KANELLOPOULOS 2002: p.307, the size of the Upper Market-staircase can be compared to the monumental staircase of the Artemis and Zeus sanctuaries at Jerash (ca. 15 and 20m wide respectively).
On the whole, the key commercial junction of the large area of the market, together with the shops and stores, and the Nymphaeum along the Colonnaded Street in Petra, hints at the fact that Petra daily commercial life and conducted activities was permanent and of large scale.

However, due to the limited investigations, excavations in this part of the city carried out from 1917 onward by a German team of the Deutsch-Türkisches Denkmalschutzkommando under the directorate of Theodor Wiegand, the accurate identification of these three terraces is yet not finalized.

4. The Stylistic and Aesthetic Nabataean Particularity as Reflected in the Formation of the Façades

4.1 Understanding the Architectural Treatments of the Hellenistic Façade Formation

During the Hellenistic period architects, sculptors and painters were experimenting with forms, materials and techniques and themes. However, due to the close connections of the architecture with painting and sculpture, the most important aspect in Hellenistic architecture was the conception of producing “pictorial effects” (Martin 1988:166, Haddad 1999: 161–162). In fact, the Hellenistic architectural treatments for producing “pictorial effects” open a new vision of understanding the perception of Hellenistic architecture. In this process new architectural treatment, as “scenographic and theatrical” were established. These treatments emphasize the stylistic and aesthetic aspect rather than the classical functional/structural approach.

The awareness of space that characterized architecture also began to emerge in sculpture and painting. Landscapes and interiors appeared in both reliefs and painted panels. Actually, the wall painting of the era of Alexander and beyond of tomb painting and grave stelai in Macedonia, propose that a whole history of ancient painting is in the making, just as the standard conceptions of Greek painting, based on Roman sources, both written and pictorial, must be set aside in favor of an assessment of original works (Miller 1999: 75).

Meanwhile, early Hellenistic architecture was forced to continue developing the use of the classical orders, the use of “non-tectonic” structural elements as surface decoration – which originated in Greece by the 5th century BC (Lyttleton 1974: 38; McKenzie 1990: 88) – starts to form a school in the Hellenistic Macedonia. This trend is clear in the early Hellenistic Macedonian tomb of Philip II (336 BC), in Vergina (Fig. 2). The impressive façade of the “Philipp II tomb” with its famous hunt painting on the frieze, this depicts a multi-figure composition and landscape scene extending over a surface 5.56 m and 1.16 m in height (Andronikos 1993: 98-100; Haddad 1999: 163), shows clearly the integration between art and architecture in early and impressive Hellenistic Macedonian funeral architecture. Actually, the excellent arrangements of all these elements, the architectural, the decorative and pictorial make up this composition welded into thoughtfully architectural and artistic considerations.

Nevertheless, the façade formation using false doors and windows at the Eurydice tomb, at the second floor in both of the early hellenistic palace in Vergina, and at the Macedonian “Great tomb” at Lefkadia (Fig. 3 b), which actually imitate a façade of an hellenistic palace, are some of the many examples of this pictorial approach (Haddad 1999: 163–165, idem 1995: 33, 42, 273). Actually, the beginning of the spread application of a barrel vaulted functional construction and the treatments of the problem of the connection of the functional vault (Miller 1982:154–155), with the symbolic basic façade in the Macedonian tombs, led to a purely stylistic formed façade, as can seen in Philip II in Vergina (Fig. 2), and the “Great tomb” at Lefkadia (Fig. 3b). In fact, the funeral early Hellenistic façade formation attempts to achieve a scenographic effect, while the façades are conceived as an independent screen set in the front of the building rather than organic and logical elements of the structure as a whole.

The enormous use of the engaged orders, false doorways and windows, alternatively, empowers the central doorway role in development of these façades. As the doorway become the main func-

Fig. 2. Façade of the Macedonian tomb of Philipp II in Vergina with the famous painting of the hunt on the frieze (Andronikos 1993: 101, Fig. 57).
tional element of the façade, later on, it becomes a symbol of the whole tomb structure (Fig. 4 a). This gives the idea of lowering of the upper architectural elements towards the doorway (Fig. 4 b), as it is evident in many Macedonian tombs (cf. Kastri II in Amphipolis, Dion IV, “Bella Tumulus” III in Palatitsia and of Lyson and Kallikles). The result was creating the first examples of the pedimental doorway in Greek and Hellenistic architecture, dated by the end of the 3rd and beginning of the 2nd century BC (HADDAD 1995: 33, 42, 273; 1999: 163).

Thereafter, they reflected clearly on the façade formation of eastern Mediterranean architecture. This Macedonian façade formation was assimilated into the underground tomb architecture of Ptolemaic Alexandria, with parallel application in wall painting as can seen at the tomb of Shatby in chamber “e” “of underground A.” This is illustrated by means of the addition of the triangular Macedonian Pedimental doorway on the façade (Fig. 5 a). Actually, Alexandria as a cultural leader was a creative centre of the new architectural and artistic forms that played a major role in the development of the formal and stylistic aspect of eastern architecture, as also in the development of the structural stucco decoration and techniques (MILLER 1982: 170–172; HADDAD 1999: 168). However, Alexandrian Hellenistic architecture added a new dimension to the Macedonian decorative structural discourse by the use of other structural elements as surface decoration. This involves not only the use engaged columns, pilasters, triangular pedimental doorways, but also the formation and application of new forms of pediments and entablatures, such as the segmental pediments (Fig. 5 b), curved entablatures, and broken pediments. These new baroque forms of pediments and entablatures involve the use of curves, as an indication of the inspiration to break away from the classical post, and lintel system – which employed straight, rigid beams – have been created and developed in Alexandria during the Ptolemaic period, after the creation of the Macedonian triangular Pedimental doorway. These characteristic features of Ptolemaic classical architecture continued in Egypt into the Roman and Byzantine periods (MCKENZIE 1996: 128).

However, these architectural stylistic components of the façade formation acted as cultural links between the peoples of the okoumens. The result was the creation of a new expression and direction of the architectural concept, which was later fully adopted by the architects of eastern Hellenized region, especially the application of “pictorial and scenographic” treatment in major monuments, as can be seen in most of the rock-cut façades of the Nabataean Petra (HADDAD 1995: 70–71; Iadem 1999: 168–170). This may indicate that this specific tomb façade formation flourished already in the 2nd century BC at Petra, and during the course of the 1st century BC, as these architectural treatments reflected clearly in the Nabataean architecture.

4.2 The Architectural Approaches and Treatments of the Nabataean-Hellenistic façade Formation

In fact, during the Roman rule there were changes in patterns in architecture that allowed greater circulation and more freedom of interaction. The Roman Empire successfully invaded the Hellenistic kingdom and since 146 BC, the artists and archi-
tects of the Eastern region were never forced or maybe convinced to move towards the West. This is the date that can be considered as the turning point of Eastern Hellenistic influence on the Roman architecture (Seay 1982: 232).

Indeed, through the variety and richness of the decorative architectural elements of the Nabataean façades, the architecture of Petra reflects perfectly the spirit of the late Hellenistic architecture, where architects moved among different cultures creating high artistic architectural formations. This is clear, through the variety of the rock-cut façade formation. From the Pylon Tombs or rectilinear Step Tombs or Cavetto Type, Arch Tombs, Proto-Hegr or Double Cornice, Hegr or Double Cornice, Rectilinear; Assyrian-Type, Assyrian and Cavetto Type, Cavetto and Hegr and Double Cornice (Fig. 6), to the Classical Nabataean and Baroque. However, the baroque nature of the rock-cut sandstone façades is immediately obvious in most of the façades. McKenzie (1990: 100–101) concluded that, the baroque architecture of Ptolemaic Alexandria as depicted in the second style Pompeian wall-painting and reflected in the classical architecture of Nabataean Petra, while many architectural details such as the capitals and cornices of Petra are closely related to the examples in Alexandria. In fact, several scholars have noted that the architectural façade formation images of the main monuments of Petra are shared with other Hellenistic and Roman architecture (Lyttleton 1974: 70–83; Wright 1962: 33–36; Haddad 1999: 169–171, Rababeh 2005: 161). They have tended to accept Alexandria as the source of those influences, since there is no support for direct cultural influence between Pompeii and Petra.

By this means, Ball (2000: 71–72) divided the rock-cut façades into two main categories, the first of which forms the rock cut monuments in Petra and Mada’in Saleh, and is labeled the Assyrian style. The second is classical, but also includes crow-steps. However, Schmid (2001: 383–384) also divided the façades roughly into two groups “more oriental” and more “Hellenistic.” He emphasizes that there is no good reason to believe that “the simpler façades, showing stronger oriental influence, would be older than the richly decorated ones like al-Khazneh.” (Schmid 2001: 382; Wenning 2003: 137–41; Rababeh 2005: 153). Although the architectural composition of el-Khazneh is found in wall-paintings of the so-called “second Pompeian style”, it is now generally accepted that the form of it and other buildings in Petra was influenced by the architecture of Alexandria. Fragments of this architecture survive in Alexandria and they are from freestanding buildings. This may indicate that the form of the Khazneh was influenced by freestanding buildings (Rababeh 2005: 179–180), yet many scholars (Wenning 2003: 14, Schmid 2001: 386–387, Haddad 1999: 164, McKenzie 1990: 75–77, 169. Lyttle-
Ton 1974: 53–60, Lauter 1971: 149–78), have connected the architectural façade formation of el-Khazneh with that of Palazzo delle Colonne in Ptolemais, Cyrenaica (Fig. 7).

Though, the independent perspective screen (façade) was the main concept of Petra Hellenized façade formation, meanwhile there was clear treatments to achieve mainly a “dramatic scenographic effect” through emphasizing the central part and the above elements in the rhythmic columnar façade as can be seen in of the rock-cut façade of the Palace tomb at Petra (Fig. 3 a), which actually imitates a Hellenistic palace façade, as in the case of the “Great tomb” at Lefkadia (Fig. 3 b) and the early Hellenistic Macedonian palace in Vergina. This is apparent by the colossal use of engaged columns and pilasters with Alexandrian forms of pediments and entablatures such as segmental pediments, curved and tablatures, even sometimes broken pediments coated with decorative stucco. The use of decorative stucco and wall paintings in rock-cut façades, in temples, even in private houses in Petra was very rich (Kolb 2003: 234–235. Kühnthal - Fischer 2000: 120. Haddad 1999: 169. Zayadine 1987: 131–142). In addition, Zayadine (1987: 140), suggests that paintings in Wadi es-Siyyagh in Petra are linked to the Hellenistic tradition of Ptolemaic Egypt.

4.3 The Architectural Façade Formation: Images and Brands of Nabataean Petra

The architectural treatments applied at the rock-cut Nabataean façade are maintaining the particularity of the late eastern Hellenistic stylistic architecture. What we see in Petra (Fig. 6) and Meda'in Salih, are some of the best preserved samples of late Hellenistic façade formation often in an appealing combination of oriental, and western stylistic elements. This artistic expression makes it a unique school of the late Hellenistic façades formation approach and brings a brand to the architecture of Petra according to the availability of sandstone, the local landscape and the regional architectural traditions.

Moving away from the limitations that were imposed by the nature of the underground Macedonian and Alexandrian tombs, the architects were forced to develop some new architecturally borrowed elements, suitable for their own use as the local materials required. By applying at the same façade previous simple oriental historical architectural elements and the re-use of the western Hellenistic elements in a new approach, yet with new expressions, they add a new dimension on the perspective treatments, thus achieving sense of “movement.”

By using different historical architectural elements as layers at the same façade, the architects of
Petra according to the particularities of the Nabataean, executed new architectural treatments. Thus Assyrian crow steps at the top of the monument, followed by the Egyptian cavetto, then Hellenistic attic and in the central part of the same façade, a Macedonian or Alexandrian pedimental doorway, creating new and unique architectural style of the late Eastern Hellenistic façade formation. However, to create this new stylistic aspect, the Nabataeans used here three different historical architectural layers, making a quite sharp break with previous Greek architectural practices and focusing more on the eastern traditions, while following the Hellenistic Macedonian and the later Ptolemaic Alexandrian façade formation approach.

Previous studies, however, have generally sug-
suggested that the crowsteps motif was probably the earliest architectural feature of the Nabataean. In fact, the use of crowsteps and Egyptian cavetto should not be considered as an indication of homeland and as chronological criterion, but the same as the use of Doric, Ionic or Corinthian elements on the same façade, following the Hellenistic façade formation and morphological approach. Certainly these different three historical architectural layers were not only decorative structures but they indicate how families wanted to be seen for eternity. It is also possible; therefore, that this architectural concept may come from that direction. Meanwhile, the simpler rock-cut façades show stronger oriental influences than the more complicated ones which show more western influences; the larger and more richly decorated façades are more complicated and show stronger classical Hellenistic influences. In the simple rock-cut façades they used more oriental architectural elements, and thus, the carving techniques for these elements were developed locally (RABAH 2005: 226).

The integration of the formal artistic elements and the socio-religious selected layers made Petra a model of a metropolis during the late Hellenistic and Roman period. Actually, the architecture of the rock-cut façades of Petra represents the final artistic model of the evolution of concept façades formation of the Macedonian and Alexandrian tombs, while the tombs at Međa'in Saleh were later imitations of the architecture of the rock-cut façades of Petra. However, it is probable that the shift from crow stepped and Egyptian cavetto façades represents the shift of the Nabataean cultural orientation from East to West, as it is evident in Alexandrian architecture as VENT (2001: 71-73, 79, 80-83, 91-95, 107, 124, 146, 190) recently clarified.


While the Macedonian Hellenistic influence can be observed clearly on the façades formation in eastern Hellenistic architecture, as discussed above, it did not affect the arrangement of the layout of these tombs, related to the functional and liturgical aspect. Plans of the characteristic underground tombs of Alexandria were basically designed around a courtyard with loculus structures, as the core of a group of tombs, following the old tradition of ancient Egyptian tombs. This is in contrast with the "dromos" concept.

\footnote{In addressing the debate about the origins of the loculus structure of the Alexandrian funeral architecture, VENT 2002: 80-83, points out that this typical feature of tombs in Alexandria and areas under Ptolemaic control first appears not in Phoenicia as is often suggested but rather in pre-Ptolemaic Egypt, where it is attested in tombs of the Memphite necropolis.}
of the Mycenaean and later on Macedonian tombs.

This can be observed clearly at the well known complex of "Moustapha Pasha" tomb (3rd century BC) (Fig. 8a), the Shahtbi necropolis and the Sidi Gaber tomb. Similar treatments, courtyard with loculi, also applied at most of the later rock-cut tombs of Naba
teaen Petra; peristyle courtyards can be seen in many Naba
teian rock-cut monuments (Fig. 8b), such as the Urn Tomb and the structure between the Roman Soldier Tomb and the triclinium opposite (Schmid 2001: 374, 399; Rabah 2005: 178).

5.1 Particularity of the Layout Arrangement
of Nabatean Temple Architecture

Meanwhile in the private houses of Petra there are clear features indicating that the Nabateans were inspired by the current type of late Hellenistic house and palace, as similar examples to both features can be seen in the houses of Mampsis and De
os. The appearance, however, of huge courtyards with porticoes in front of some temples, like the Qasr el-Bint, the "Great Temple", and the Temple of the Winged Lions reflect clearly Egyptian influence. This feature can be seen in every Egyptian temple before and from the Ptolemaic period, as in case of the Pto
elmaic Edfu temple.

In fact, the characteristic golden triangle of the three main city freestanding temples ("Great Temple
", Temple of the Winged Lions and Qasr el-Bint) was extraordinary (Fig. 1). The expansion of the city, actually, in the late 1st century BC, including the construction of the "Great Temple", located in southwest central Petra, just before the Temenos Gate, provide a turning point for the creation of free standing colossal monumental architecture. This grand structure stands on a different axis but is roughly parallel to Qasr el-Bint. The huge area dedicated to the "Great Temple" (7560m² = 59m x 128m) is a clear indication of its prime symbol to the city's identity, and shows the position of the precinct in central Petra, which has transformed the urban landscape of the city. This essentially led to an incentive for planning for municipal / urban sophisticated water systems integrated to this great project, before any monumental building took place.

According to Joukowsky (2009: 292) such Nab
teian environmental consciousness is astounding and both the innovation and the execution of these systems found at the Petra "Great Temple" are remarkable. The temple complex consists of a Propylaiaeum, lower Temenos, and upper Temenos, the sacred enclosure for the temple proper. The tetrastyle in antis temple structure (42.5m x 35.5m x 19m), with its rich ornamental vocabulary of the classical / Helle
nistic influences, is the largest freestanding structure in Petra (Fig. 9), serving as a place of worship and seat of the government (Joukowsky 2009: 299). However, the discovery of the later small theatre (2nd century AD) within the temple cella walls, has brought considerable debate and speculation about the character of the "Great Temple" and whether it was a sacred place or an administrative entity. M. Joukowsky now believes that it served dual purposes and with the addition of the theatre, it would seem that there may have been a shift to the secular concerns and the temple become a civic building to be used for more public purposes (Joukowsky 2009: 303). This hypothesis is of importance, not only to the temple site area, but for the whole city centre, even for the religious and socio-economic perception of the Nabatean metropolis. This may indicate the transformation of the city from Hellenistic Nab
teian settlement into Roman urban centre.

This while the restored three arched entrance gate (1st-2nd centuries AD), giving the access to the main temple of Petra, Qasr el-Bint, actually is resem
ded of a Roman "triumphal" arch. The central doorway entrance is about 4m wide with the side ones each about 2.40m in width. It is not free stand
ning as the usual "triumphal" arch but, rather, placed between buildings that are located north and south of it. The gate's rich architecture and decoration suggests an excellent and unique integration of Roman and Nabatean architectural elements and decoration (integration of free standing and engaged order with Corinthian and Nabatean capitals).

However, P. Park's excavation has confirmed that this gate was built upon the site of an earlier gate which was dismantled in order to make room for the new, monumental structure (Park 1965: 131-32; Segal 1997: 106, note 60). It is certainly possible that this street was constructed first when Qasr el-Bint was erected, and thus confirm it as the guide of the master plan for the city's future develop
ment and expansion. Similar colonnaded street approach can be found in Susita (Hippos), which crosses the entire city on a southern-north
west axis. A comparable three-arched entrance gate approach can be found in Sebta (Si) in the Hauran, at the Nabatean sanctuary, in the Roman Gate (Seg
al 1997: 115-16 Fig. 130).

Nonetheless, the abundant marble finds (4669 fragments) of the free standing small temple com-

Joukowsky assumes that at this point they may have been an emerging secularized civic identity and a consciousness that defined the community in political as well as religious terms, after which it is enlarged with theatre in the 1st century AD.
4 Its length is about 549m, but its width is unclear, see Segal, 1997: 15 Figs. 7, 8, 9.
plex (75.6m x 31.1m, Fig. 9), can be approached as
an indicator of Petra’s role in trade and commerce
during Roman occupation (Reid 2002: 378). This
temple lies within the religious core of the city,
located between Qasr el-Bint to the west and the Great
Temple to the east (Fig. 9). It is situated on flat plain
and aligned on the axis slightly east of north, and
itself incorporates two main levels: the amphiprose-
style building (13.6m x 13.8m) located on the rise in
the south, and slopes down to a courtyard to the
north.

On the other hand, some scholars (Wright 1962:
29; Netzer 2003: 110; McKenzie 2004: 8), divided the
Nabataean temples into typological groups, accord-
ing to the form of their architectural plans. Mean-
while, Netzer (2003: 114–115) focuses on the main
features of the same layout design rather than on
the typology. He defined the main characteristics
of Nabataean temples: a plan in the form of a square
within a square, an ambulatory, a broad naiskos, a temenos
with an external altar, a forecourt with benches and a tripartite adyton, which is the triple
organization of the chambers layout (two side spaces flank the central chamber space) and is usually located in the back part of the temple’s hall, opposite

the main entrance, enclosed within a massive straight – sided rear wall, or solid hollowed by hidden recesses. In fact, liturgy provides the particular-
ality of Nabataean architecture. This particularity of liturgy can be followed by the study of the arrange-
ment of the layout in Nabataean temples, in
which the liturgical tradition is reflected.

This can be traced especially in the use of the
“triptite adyton” and the free-standing adyton,
which consist the most widespread characteristics of the Nabataean temples. If we trace the suc-
cessive ancient historical eras in religious architecture and related rituals, we can affirm that the tripartite

\[Netzer points out that all Nabataean temples have a kernel or nucleus which was the adyton for the representation of the cult image or an alter and suggests that the origins of these nuclei were portable shrines, idols or altars that gradually replaced by permanent structures. These were later sur-

The site seems to belong essentially to between the late 3rd and early 1st cent. BC. Other scholars attributed the source of the square form to Parthian architecture, such as the temples at Kuhl Khwala, Hatra and Ai Khanum (c. 300-250 BC), Rabaei 2005: 176.

Fig. 8.a. Plans of “Moustafa Pasha” tomb 1 and 2 (3rd century BC) at Alexandria (McKenzie 1990: plates 176a, 180a). Fig. 8.b. Plans of rock cut tomb at Petra. McKenzie 1990: plates 93.a, 140.)
adyton arrangement started from the East as it is evident in Mesopotamian temples (Sear 1982: 250). These features can be seen, for instance, in Temple of Bar' an at Marib and Saba (Rababeh 2005: 202–203; Schmid 2001: 379). Although these examples are earlier than the Nabataean ones, they remained in use until the 4th century BC or later. Meanwhile the square plan and the tripartite aytion can be seen in the temple of Jebel Khalid on the Euphrates. However, the triple chamber organization within the periphery of the wall is evident in the temple architecture built in the Late Hellenistic and beginning of the Roman era, in the East under the influence of the Nabataean Kingdom where the local population, especially the Semitic inhabitants of the southern Syrian Hauran maintained close cultural and trade relations with the Nabataeans.

It seems that the Nabataeans inherited this tradition from Mesopotamia and it could have been brought to Syria by Assyrians as Frank Sear pointed out (1982: 250). This rooted arrangement in the internal organization is reflected in the main geometry of the spaces, which was closer to square in temple architecture. Actually, the square plan with the "triptite aytion" organization is evidently part of the eastern local tradition of late Hellenistic and Roman Syria. This arrangement appears in Qasr el-Bint Fira'un (Fig. 10 a), Khirbet adh-Dharih, Qasr el Rabba, Dhibon, temple of Artemis / Jerash, the so-called precetorium in Phainia / Mismiye, southern Syria (a temple dedicated to the local Zeus Phane-
6. Summary and Concluding Remarks

The urban architecture and city planning, and the general layout and organization of funeral and religious Nabataean architecture were dictated by the particularity of eastern local and regional liturgy. Though, the general organization, the lay out reflected in the plans of Nabataean architecture maintained the particularity of its local and regional society, and was not penetrated by either the Western Hellenistic or the later Roman tradition. The tripartite adyton, the additional shrine, the inner courtyard and the square plan as main characteristics of the eastern Hellenistic/Nabataean temples reflect clearly this particularity.

In contrast the influence of the western Hellenistic tradition was reflected clearly on the eastern architectural façades formation. The "pictorial and scenographic" approach of the early Hellenistic period was actually the beginning of separation and disconnection from the grand and orthodox classical spirit and tradition, breaking the rules with a deliberate effect in mind. This signaled the form becoming independent from function, phenomenon which was reflected in the Macedonian, Alexandrian and later on in the Nabataean architectural conception, of the façade formation in relation to their aesthetic constitution and artistic experience, and sense as an architectural experience and as a cultural symbol.

The components of the Macedonian superstructure as in the case of the Macedonian tombs, acted as cultural links between the peoples of the oikoumene. However, the architecture of the Macedonian tombs, Alexandria and Petra, provide a record for the original evolution of the Hellenistic architectural façade formation reflected in the gradual lowering of the upper architectural elements mainly towards doorways. Meanwhile, the Macedonian doorway treatments and its definition played a major role in the development of the façade formation, where the central doorway symbolized the whole
structure. The result of these treatments – the creation of a new expression / direction of the façade architectural concept – was fully adopted and developed by the architects of Alexandria and Petra, achieving a “dramatic scenographic effect” in major rock-cut tombs and other monuments. In fact, the impact of these stylistic forms inherent in the development of the sense of “movement” and the variety and richness of decorations, revealed the most evident characteristic of the local tradition, which we can, calls as the “stylistic particularity” of Nabataean architecture.

This “stylistic particularity”, however, must not be regarded as just a result which has been accepted almost “to simplify the classical buildings”, but as the new trend searching for artistic sub-traction and exaggeration of the classical prototypical types, in order to create a new approach to Hellenistic façades concept formation, making a quite sharp break with previous Greek architectural practices, following the spirit of Hellenistic Macedonian architecture.

Actually, the Hellenistic architectural façade conception can serve as a model for understanding the architectural aspects of ancient cultural interactions. Meanwhile, the process of Hellenization in architecture, can serve as a comparative model for understanding the Nabataean architectural forms of the cultural interaction existing at Petra. This can open a new vision for the problematic Petra façade chronology, what we see in Nabataean Petra are some of the best preserved samples of the late Hellenistic morphology often in an appealing combination of oriental stylistic elements, such as the Egyptian cavetto or the Assyrian crow steps and western stylistic elements, such as the Pedimental doorways. This synthesis of these architectural elements (cavetto, crow steps, and pedimental doorways) is unique in history of architecture. The result was a new stylistic façade formation of Greek culture integrated perfectly with the old oriental cultures of Egypt and the Near East, shaped with the oikoumene Hellenistic conceptual approach.

Bibliography


