

ORNAMENTAL AND PLASTICITY STRUCTURE OF CORNICES OF PETRA ARCHITECTURE AND GRAPHIC RECONSTRUCTION

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Abstract

The plastic expressiveness of the restrictive form synthesizes the aggregate sum of its artistic, structural-tectonic, rhythmic or spatial-deep concepts and is divided into structural and ornamental plasticity, plasticity of volume and surface, and plasticity of the parts of the order system.

Plasticity of volume, surface and shapes with spatial elements are consistent with the concepts of the types of space, frontal and deep-spatial compositions; the plastic expressiveness of a volume is associated with the perception of its parts from all possible directions. Plastic expressiveness of the surface is associated with the perception of the frontal composition, *i.e.* from the front side of the surface. The plastic expressiveness of the form depends on the complexity of deep perception of forms and spaces.

The facades of Petra, carved from solid rock massifs and constituting the processed part of the natural mountain landscape, are called rock carvings in the presented work. Rock carvings in their majority are defined by the concepts of surface plastics, which relate them to the texture level of the landscape structure of Petra.

The individual uniqueness of each rock carvings is different in proportions to the main structural plastic elements and the character of their details cornices, capitals and ornaments of relief images.

Each rock facade is perceived in the context of a general landscape-architectural ensemble, the components of which are facade compositions of neighboring structures and the surrounding array of natural mountain landscapes.

Key Words

Petra rock facades, Nabataean tombs, Nabataeans cornices, Nabataean portals, Nabatean porticoes.

Introduction

Structural Plasticity

Structural plasticity is a concept that denotes a clear separation of boundaries of the various structural elements that are different in function. In architectural order, the entablature consists of horizontal blocks of architrave, frieze and cornice. The cornice lines restrict the plane of the tympanum, the vertical lines delineate the dimensions of antae, pilasters and columns. Structural plastics also include micro Structural plastics, which denote the miniature details of large plastic elements, such as triglyphs and metopes in friezes of the Doric order, echinus and abaca of Doric capitals, echinus, volutes and balusters of Ionic capitals, figured abaca, twin bundles of volutes and tiers of acanthus leaves in Corinthian capitals. The complexity of such details qualitatively enriches the elements of the general structural plasticity.

Ornamental Plasticity

Ornamental plasticity is an architectural decor, which includes cornice details, echinus and balusters, curly details of Ionic and Corinthian capitals, as well as thematic decor such as sculptures of people and animals.

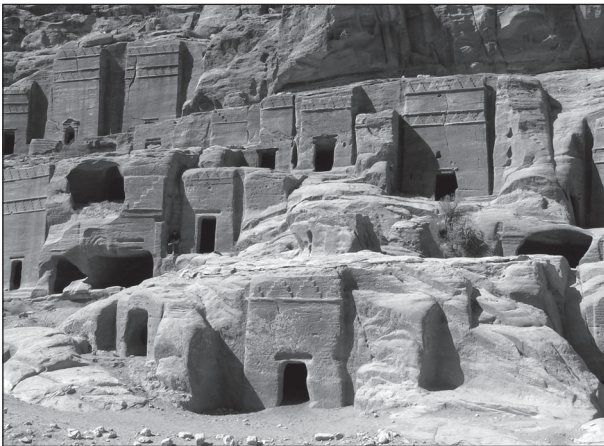
Typology of Petra Rock Carved Facades

The structural and micro-structural plasticity of the facades of Petra varies depending on the

types of cultures of different regions, under the influence of which the Nabataean kingdom was in that period. Many structures of the Facades Street are named tomb-pylons, which researchers refer to during the conquest period of the region of Petra by Assyria. It is quite possible, that the trade relations of the Nabataeans with the Arab states of North Africa, in particular Egypt, led to the fact that on pylon tombs Appears the details of Egyptian plastics. The influence of cultures of ancient Greece and Rome on the Petra region strongly affected the Nabatean architecture; the facades of pylon tombs eventually evolved into whole order compositions. The structures acquired new forms of Nabataean portals and Nabataean classic porticos.

The earlier tomb-pylons of Petra refer to the earliest type of architectural facades of Petra, approximately dating from the 7th-4th centuries BC. These facades have a flat surface, the upper part of which is occupied by a primitive cornice with a torus and an attic with a strip of flat pyramid-stepped ornament or “crow’s steps” and an entrance opening to the tomb in the lower part of the facade, with a cornice board above. In later portals of the Assyrian type, the cornice traction becomes more complicated, representing an ovolo and a wide fillet above it. The metric series of stepped pyramids becomes six and seven-part with semi-pyramid at the beginning and end of the series. Structural plasticity of the Assyrian-type facades is built on the contrast between the plane wall and relief edges of cornices and rows of ornaments (**Fig. 1**).

The “Egyptian” tomb-pylons of Petra is referred back to the period c. the 3rd century BC. and 1st century AD, and are characterized by the



1. *The earlier tomb pylons of Petra.*

appearance of a cornice with an Egyptian fillet or the *Cavetto*. The facade has a cornice in the form of a cavetto and a flat fillet while an attic has a relief of two stepped semi-pyramids diverging in the center. The Egyptian cavetto with fillet plays the role of a cornice, which supports the attic with relief of two stepped semi-pyramids. A flat high fillet is part of an architrave beam supported by a pair of pilasters with The Nabataean Reverse-frustum Capital Type I and II. The framing of the entrance apertures mostly has a pair of pilasters with Nabataean Doric Capitals and an entablature with one or two profiled cornices. The Egyptian type of rock facades is characterized not only by the cornice with the cavetto, but primarily by the appearance of the classic order (**Fig. 2**).

The Nabataean tomb-portals with a double cornice is referred back to the period from the 2nd century BC to the 1st century AD. The order composition of the facades ends as an attic with “crow’s steps” pyramids, supported by an entablature consisting of a cornice with a fillet, a smooth strip of frieze, and an architrave. The architrave is divided into one or more complex detailed cornices. The lower cornice with a large number of classical profiled details is supported by two pilasters with Nabataean Reverse-frustum Capital Type I and II. The lower part of the facade between the pilasters has a profiled entrance portal with complex order compositions, pediment with acroteria, and an attic with classical order details (**Fig. 3**).

Nabataean tomb-portals consist of double entablatures on its surface. The upper one has a cornice with a cavetto, and an attic above it. The lower one has a profiled cornice, resting on two pilasters and other cornices above, which consists of a flat strip of stone and four Nabataean Corinthian capitals. Two external capitals continue the axis of pilasters with Nabataean Corinthian capitals, while the two middle capitals are located at the same distance from the main axis of whole facade. The composition of the two entrance portals occupies almost the whole plane of the facade between the pilasters.

The other composition of facades has an entablature Which is supported by four pilasters with scrolls in between, and an image of Atargatis, the deity of Fertility. The axis of lower

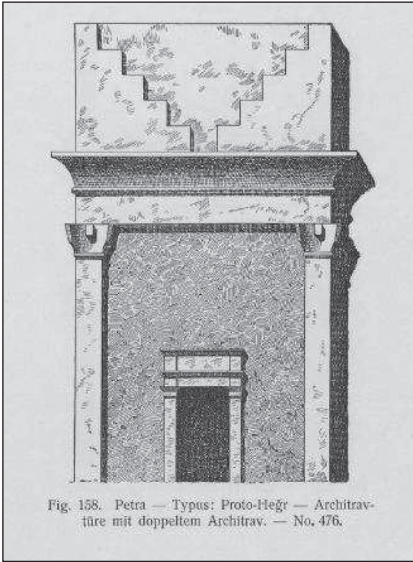
tier pilasters match with capitals of dwarf pilasters on the upper entablature (Fig. 4).

Nabataean classic type of portals and porticos of Petra, which include twelve objects with the most expressive order compositions, can be conditionally divided into three groups:

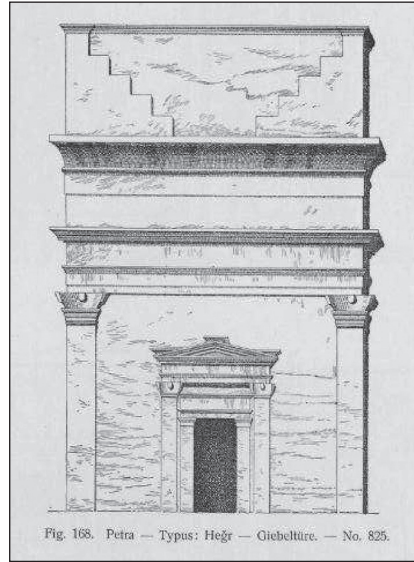
The first group includes portals built during 1st century BC. and 1st century AD such as the Broken Pediment Tomb, Roman Soldier Tomb, Lion Triclinium (FIG. 5) and Renaissance Tomb.

The second group consists of rock carved façades, erected during 1st century BC. and 1st century AD such as The Sextius Florentinus, Silk and Urn Tombs (Fig. 6).

The third group includes five façades, which magnitude and plastic personality puts them in the most significant rock carved façades of Petra: Bāb as-Sīq Triclinium (Fig. 7), Palace Tomb, Corinthian Tomb (Fig. 8), ad-Dayr (Fig. 9) and al-Khaznah (Fig. 10) These structures date back to 1st century AD (Fig. 11).



2. The Tomb No 476 with Cavetto cornice (Brünnow and von Domaszewski I. 1904, fig. 158).



3. The Tomb No 825 with Double cornice (Brünnow and von Domaszewski I. 1904, fig. 168).



4. The Tomb No 649 with Double entablature (Brünnow and von Domaszewski I. 1904, fig. 170).



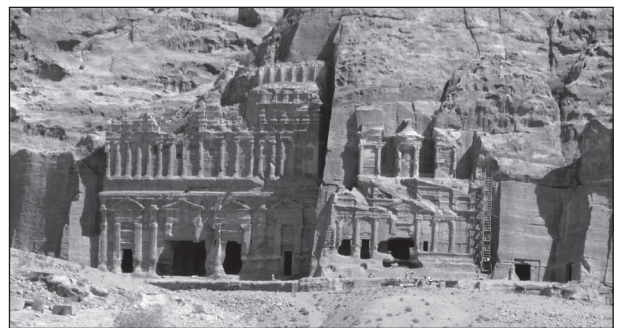
5. The Lion Triclinium.



6. The Urn Tomb and Silk Tomb.



7. Bāb as-Sīq Triclinium.



8. The Palace Tomb and Corinthian Tomb.

The Cornices of Petra Facades

In the architectural order, the cornice is the crowning part of the entablature, located above the frieze and architrave. The ordered cornice sharply comes forward and hangs over the remaining parts of the entablature, protecting them from precipitation. The cornices are the most beautiful and significant detail of the facades of Petra. The cornice in classical architecture is the crown part of the horizontal beam in a structure. On the facades of Petra, the cornice is a horizontal ornamental detail of plastic décor in the rock order system.

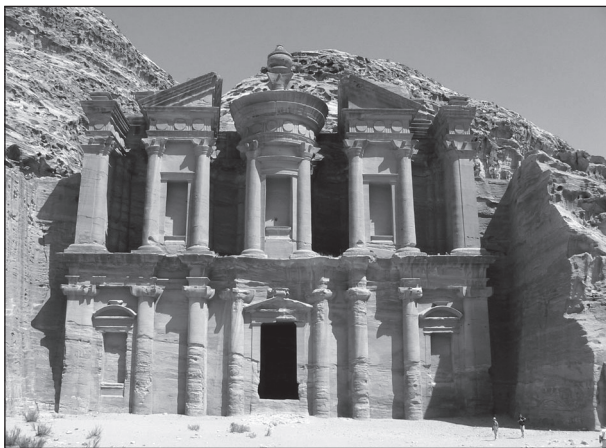
The Cornice of the Broken Pediment Tomb

The composition of the facade consists of a flat portal with four pilasters, the entablature and the pediment with a clear division of the central segment and the two entablatures (Fig. 12).

The cornice of the broken pediment itself consists of the following ornamental plastic details starting from top to bottom: Top fillet, cyma recta, fillet and fascia. The Broken Pediment is supported by two leveled cornices and an architrave with the following elements in between: fillet, cyma recta, fascia, architrave, taenia, cyma reversa, fillet and fascia. Nabataean “pyramidal” capitals supports the composition of the cornice (Figs. 13, 14).

The Cornice of the Roman Soldier Tomb

The façade composition consists of two portals, a small portal with an entrance framed by a larger portal. The outer portal represents a composition of four pilasters with an entablature and a pediment based at the attic. Each “double”



9. *ad-Dayr.*

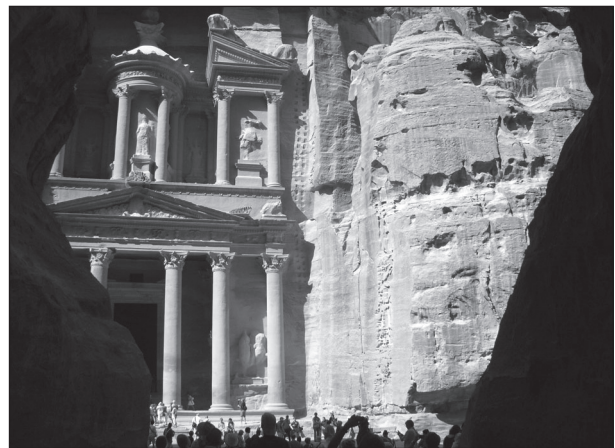
column with a rectangular section from the outside and a quarter of the circle section from the inside, crowns the Nabataean Reverse-frustum Capital Type II. The upper parts of the Inter-columniation occupy three niches with a high relief figures of Hellenistic armors (Fig. 15).

The cornice of the upper part of the attic consists of four fillets of different heights. The pediment cornice has a fillet, a cavetto and five fillets of different heights in its structure. The lower part of the attic, which plays the role of the architrave, consists of the following ornamental detail from top to bottom: fillet, cyma recta, two fillets of different heights, cyma recta and a fillet. The height of taenia divides the fascia into two parts (Fig. 16a). The cornice of the entrance portal consists of ornamental details of classical Doric. Five fillets of different heights define the plane tympanum. The cornice has the following details in its structure from top to bottom: three fillets, an entablature with triglyphes and round metopes, three fillets and two fascias (Fig. 16b).

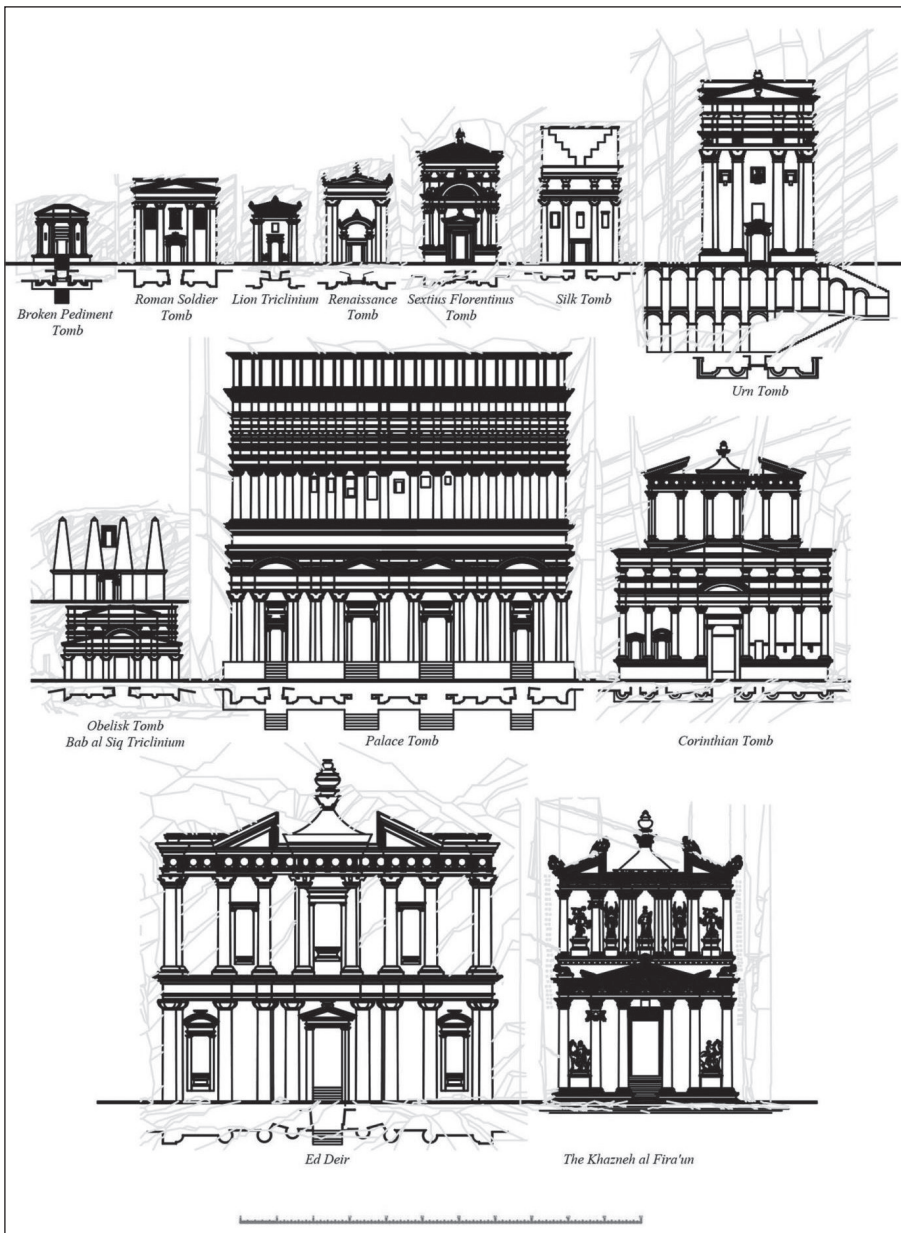
The Cornices of the Lion Triclinium

The facade composition consists of a portal with expressive structural and ornamental plasticity. Two “twin” pilasters with a rectangular cross-section from the outside and a quarter of a circle section on the inside, supports a triangular pediment, and are crowned by Nabataean plant capitals. The entrance portal in the center of the façade composition has a triangular pediment at the top and two reliefs of lions on the sides (Fig. 17).

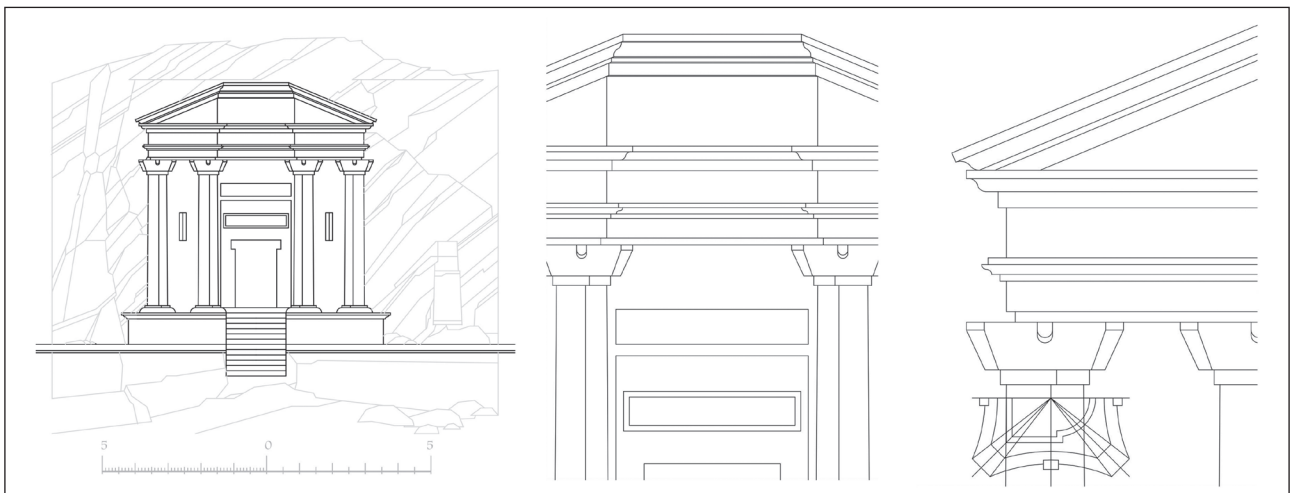
The pediment cornice consists of a fillet, cyma recta, two fillets of different heights and



10. *al-Khaznah.*



11. The 12 most significant facades of Petra.



12-14. The Broken Peiment Tomb and its details.

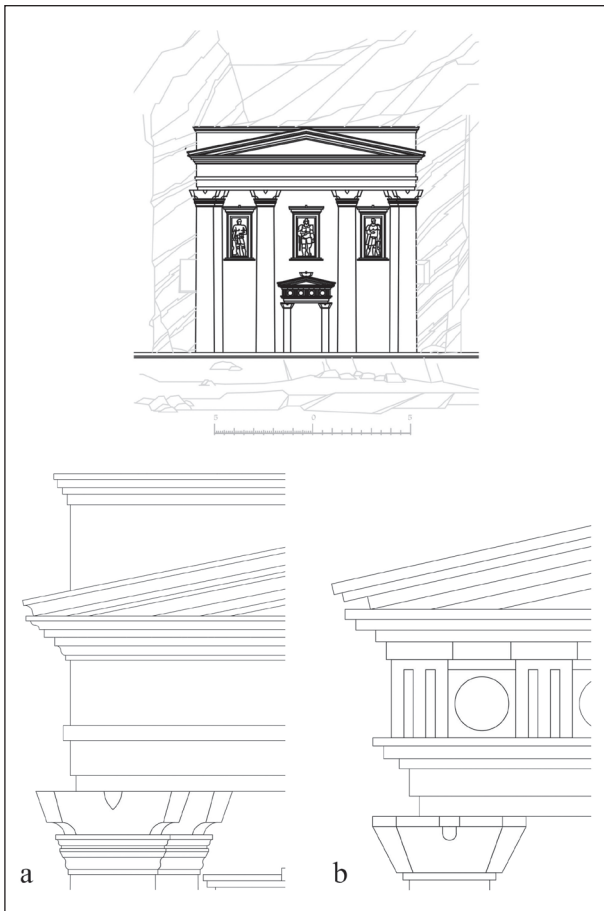
a fascia. The tympanum of the pediment is adorned by relief ornaments of local plants. The entablature of the façade has Ornamental details of classical Doric order such as triglyphes, and round shape metopes. Two Theatre masks are based on the entablature directly above the Nabataean Corinthian Capital, Type I, which supports the whole composition above. The upper cornice, which crowns the entablature, consists of fillet, ovolo, fillet, cyma recta, fillet,

ovolo and a fillet. The middle cornice, above the architrave, consists of fillet, cyma recta and two fillets of different heights (Fig. 18).

The entrance portal consists of double cornice ornamental structures at the top and includes the following details from top to bottom: fillet, cyma recta, two fillets, upper architrave, fillet, cyma reversa, fillet and a lower architrave. Two pilasters with Nabataean Doric capitals support the whole composition (Figs. 19, 20).

The Cornices of the Renaissance Tomb

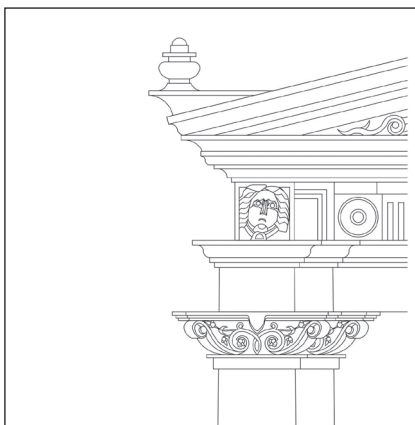
The portal with its massive pilasters and an architrave is completed by a pediment with three acroterias in the corners and reliefs of urns. Each “twin” pilaster is completed by a Nabataean Corinthian Capital, Type III. The central portal of the façade consists of round shape arch with acroterias on the top and sides. The acroterias are adorned by reliefs of urns. The arch is supported by dwarf pilaster with double cornices and a pilaster with the Nabataean Corinthian Capital, Type III. Two cornices



15, 16. The Roman Soldiers Tomb and its details.



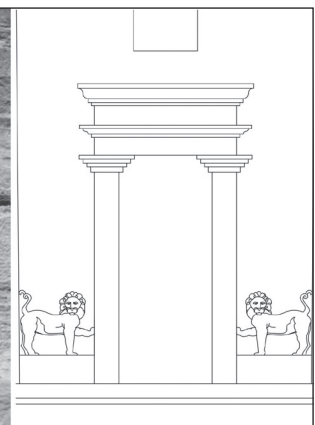
17. The Lion Triclinium pediment and entablature.



18. The Lion Triclinium left side detail.



19, 20. The Lion Triclinium main entrance.



without an architrave and two simple pilasters represent the entrance (Fig. 21).

The main pediment cornice consists of the following: 2 fillets, cavetto, fascia and fillet. The entablature cornice is similar to the cornice of the Broken Pediment Tomb in Structure and has the following details from top to bottom: 2 beveled ovolos, fillet, a beveled ovolo, fascia, architrave, three fillets of different heights and a fascia (Fig. 22).

The round shape arch of the central portal consists of the following ornamental details from top to bottom: 4 fillets of different heights, small cavetto, fascia and a fillet. The cornice of the dwarf pilaster consists of a fillet, cyma reversa, two fillets of different heights, architrave, 2 fillets of different heights and a fascia.

The entrance portal cornice is divided into two parts and it is inserted directly to the wall, without structural details such as architraves and fascia. The upper part of the entrance portal consists of: a fillet, cyma reversa and 2 fillets of different heights. In the lower part are 3 fillets of different heights (Fig. 23).

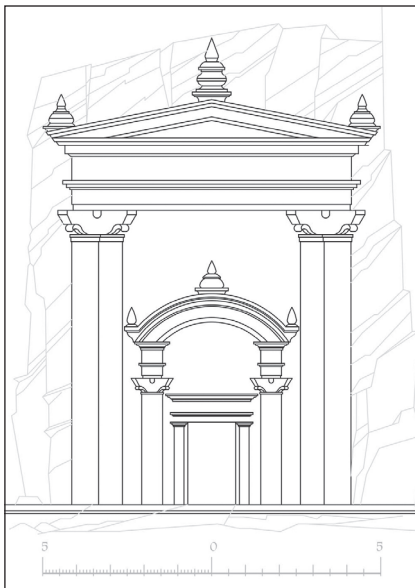
The Cornices of the Sextius Florentinus Tomb

The composition of the facade is a two-level portal, based on a high plinth. The four pilasters at the first level, the last two from each side of which are “twin” pilasters with different section profiles, are crowned by the Nabataean Reverse-frustum Capital Type II. The pilasters

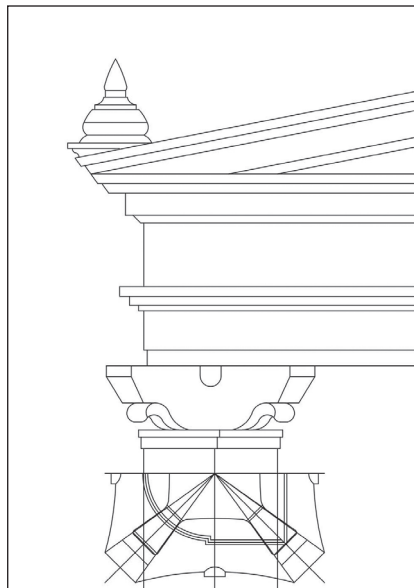
are based on a high pedestal with a detailed cornice, and supports the semicircular pediment with Atargatis, the deity of Fertility, with scrolls in the center and a relief plant ornament. Three acroterias with eagles are at the top of the first level façade composition. The central part of the entablature has a semicircular pediment with a tympanum filled with relief plant ornaments. The central portal composition consist of a triangular pediment and Nabataean pyramidal capitals on top, supported by two pilasters with the Nabataean Reverse-frustum Capital Type III and a rectangular entrance portal with a cornice. The upper level of the portal has four dwarf pilasters and an attic, crowned by the Nabataean Reverse-frustum Capital Type I, and a triangular pediment with reliefs of local vegetation in the tympanum and acroteria, with an urn based at the top (Fig. 24).

The main pediment cornice consists of: a fillet, cyma recta, three fillets of different heights and dentils (Fig. 25). The cornice of the upper entablature consists of The following ornamental plastic details, from top to bottom: a fillet, cyma recta, five fillets of different heights, fascia, fillet, cyma reversa, fillet and a fascia, upper architrave with dwarf pilasters, a fillet, cyma recta, a fillet and a lower architrave with plain pilasters.

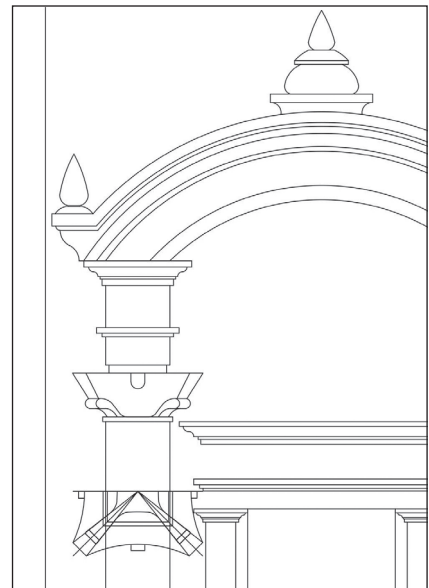
The cornice of the round shape arch consists of: a fillet, cyma reversa, fillet, dentils, fillet, fascia and a fillet.



21. The Renaissance Tomb.



22. The Renaissance Tomb left side detail.



23. The Renaissance Tomb main entrance left side detail.

The cornice of the lower entablature consists of the following details, from top to bottom: a fillet, cyma reversa, three fillets of different heights, cyma recta, dentils, fillet, fascia, fillet, cyma reversa, fillet and a fascia (Fig. 26).

The entrance pediment cornice consists of: a fillet, cyma recta, two fillets of different heights, dentils and a fillet. The plastic structure of the entrance entablature consists of three fillets of different heights, dentils, fillet, fascia,



24. *Sextius Florentinus Tomb.*

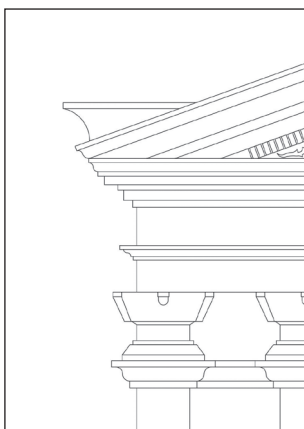
fillet, cyma reversa, fillet and a fascia. The entrance frame consists of a fillet, cyma recta and 2 fillets (Fig. 27).

The cornice of the pedestal has the following details from top to bottom: a fillet, cyma reversa, three fillets of different heights, fascia, fillet, cyma reversa, and a fillet (Fig. 28).

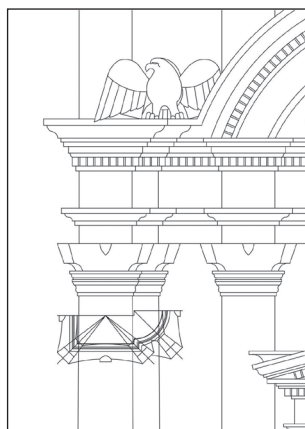
The Cornices of the Silk Tomb

The composition of the facade is typical for portals with a double entablature, but the size and location gives it a special significance in the range of Royal Tombs of Petra (Fig. 29). It is divided into three structural parts. In the first level, four semicircular pilasters with The Nabataean Reverse-frustum Capital Type III support an entablature with a double cornice and an attic. The main entrance has a simple cornice and an architrave, which is supported by two simple pilasters with Nabataean Doric capitals. The second level consists of four dwarf pilaster with the Nabataean Reverse-frustum Capital Type I. The Nabataean Reverse-frustum Capital Type III supports a massive cornice, which refers to the Egyptian style of tombs-pylons. The third upper level consists of a huge attic with Assyrian “crow’s steps” and a simple cornice on the top of the portal (Fig. 30).

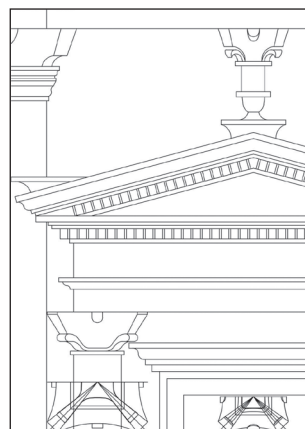
The cornice of the attic consists of the following ornamental details from top to bottom: an ovolo, cavetto, torus, two fascias of different heights, architrave with the dwarf pilaster, fillet, cyma recta, three fillets of different height, fascia, fillet, cyma reversa, fillet and a fascia. (Figs. 31, 32).



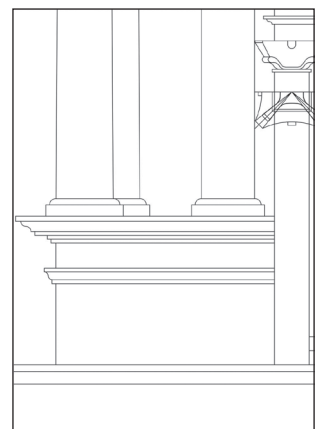
25. *Sextius Florentinus Tomb pediment and upper entablature cornices.*



26. *Sextius Florentinus Tomb lower entablature cornices.*



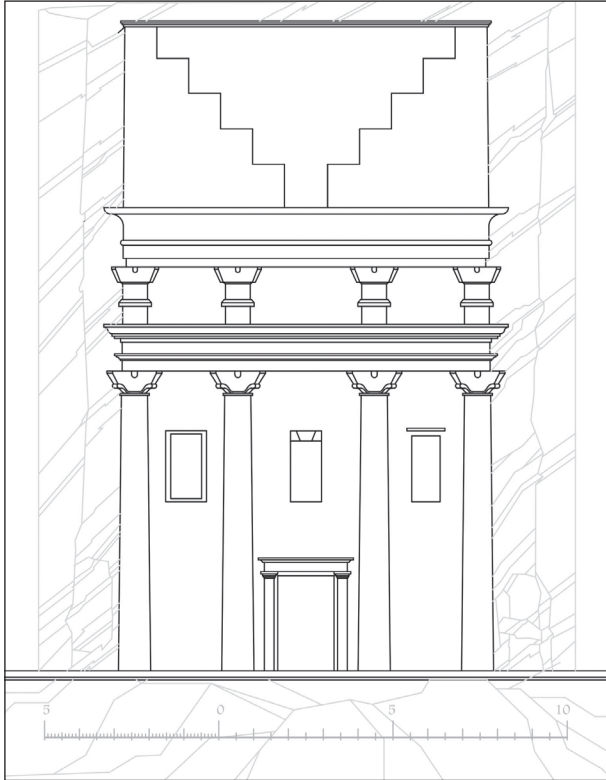
27. *Sextius Florentinus Tomb entrance pediment cornices.*



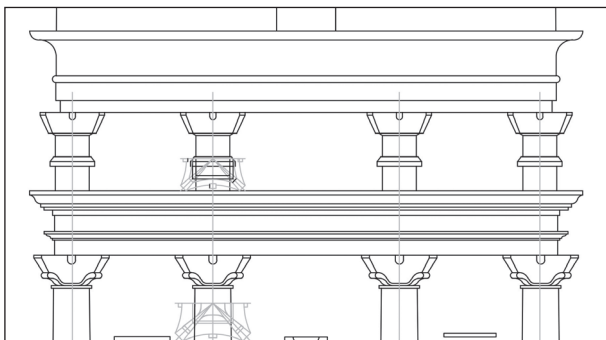
28. *Sextius Florentinus Tomb pedestal cornice.*

The Cornices of the Urn Tomb

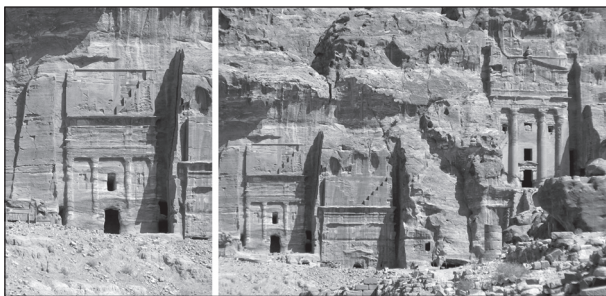
The composition of the facade is a two-level portal on a high plinth. The first order level consists of a pair of “twin” pilasters with a rectangular outer section and a quarter of a circle inner section, with pairs of medium half-



29. The Silk Tomb. Architectural graphic reconstruction.



30. The Silk Tomb double entablature cornices.

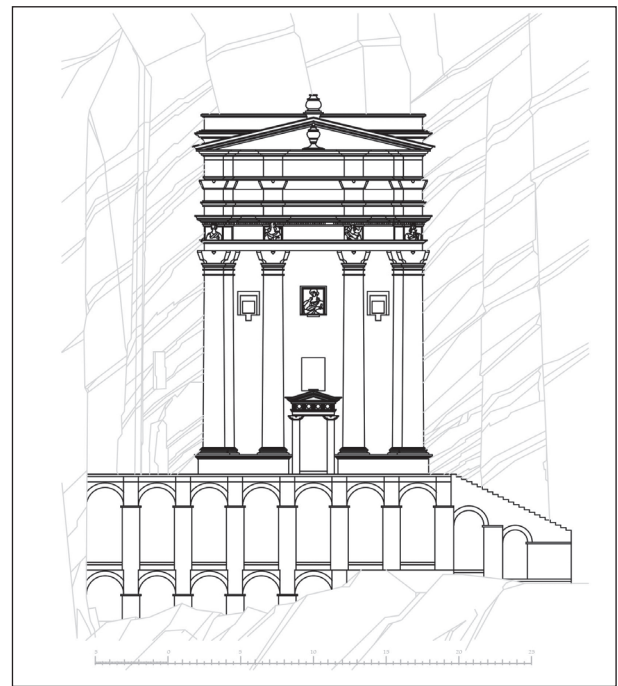


31, 32. The Silk Tomb and Urn Tomb.

columns, crowned by the Nabataean Reverse-frustum Capital Type II, which are supporting the entablature, and divided in four parts by ornamental cornices and an attic with a triangular pediment. Four pilasters are based on a high plinth. The lower frieze of the entablature has, coaxially with the main pilasters, four dwarf pilasters, adorned by reliefs of draped figures. The third level of entablature consists of four dwarf pilasters, crowned by the Nabataean Reverse-frustum Capital Type I. The attic with triangular pediment on top of the portal is adorned by two urns in the center of a tympanum. The main entrance represents a small portal with two pilasters, crowned by the Nabataean Reverse-frustum Capital Type III, an entablature and a triangular pediment. The base of the tomb is located on an arcade construction, according to many scholars, dating to the period of the Byzantine Empire 446-447AD. (Fig. 33).

The cornice of the attic in the upper level has the following ornamental details in its structure: four fillets of different heights, fascia, three taenias of different heights, fillet, cyma reversa, two fillets and a cavetto. The pediment consists of a fillet, cyma recta and four fillets (Figs. 34, 35).

The cornice of the entablature presents multi leveled ornamental structure. The upper level consists of a fillet, cyma recta, two fillets



33. Urn Tomb. Architectural graphic reconstruction.

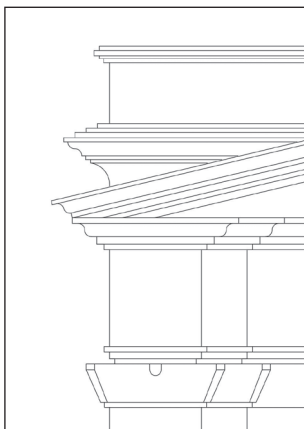
and a fascia. The third level consists of three fillets, an attic with dwarf capitals, taenia, fillet, cyma recta, fillet and a fascia. The second level contains a fillet, cyma recta, two fillets, cyma reversa, fillet, dentils fillet and attic with reliefs of draped figures. And the lower level is made up of a fillet, cyma reversa, fillet and a fascia (Figs. 36, 37). The cornice of the pedestal has only five fillets of different heights. The cornice at the entrance pediment has ornamental composition of following details: a fillet, cyma recta, three fillets of different heights, cyma reversa and a fillet. The entablature consist of a fillet, cyma reversa, two fillets of different heights, frieze with triglyphes and round metopes, fillet, cyma recta, fillet and two fascias of different heights (Fig. 38).

The Cornices of the Bāb as-Sīq Triclinium

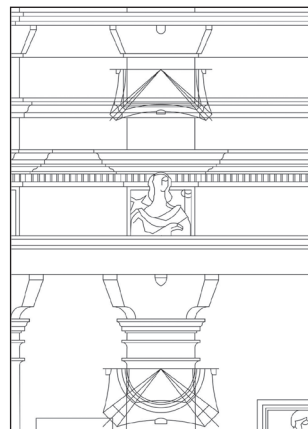
The composition of the portal has two



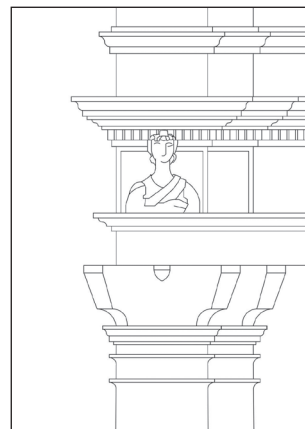
34. Urn Tomb upper tier.



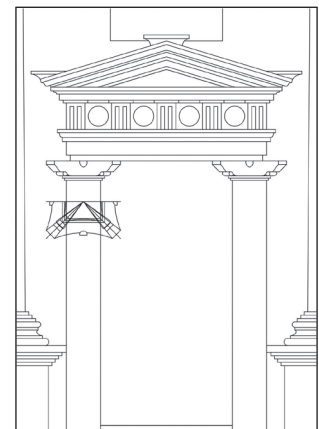
35. Urn Tomb upper storey left detail.



36. Urn Tomb entablature detail.



37. Urn Tomb entablature left detail.



38. Urn Tomb main entrance.

“broken” pediments. Six pilasters with the Nabataean Reverse-frustum Capital Type III support an entablature, large “broken” pediment and an arch in the first level. The top cornice of the “broken” pediment represents a border between lower and upper parts of the portal. The attic of the upper level could be divided in two parts. The lower entablature with six pilasters, crowned by the Nabataean Reverse-frustum Capital Type III, supports an upper entablature with small “broken” pediment and an attic with two pilasters. Each vertical segment of the façade is divided by ornamental detailed cornices (Figs. 39, 40).

The cornice of an attic consists following ornamental detail from top to bottom: a fillet, ovolo, fillet, fascia and attic with a pilaster, fillet, cyma recta, fillet, fascia, fillet, cyma recta, fillet and two fascias of different heights, attic with the dwarf pilasters, four fillets, beveled ovolo, fascia, fillet, cyma recta, fillet and a fascia (Fig. 41).

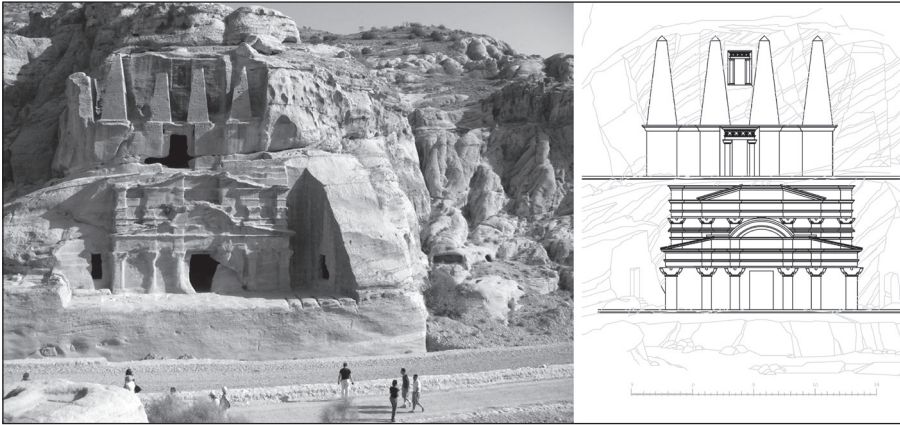
The cornice of the arch shape pediment consists of two fillets of different heights, fascia, fillet and a fascia. The cornice of the “broken” pediment at the upper level has four different heights in its structure. The lower “broken” pediment consists of following details: a fillet, cyma recta, two fillets, beveled ovolo, fascia, fillet, cyma recta, fillet and two fascias of different heights (Fig. 42).

The cornice of the “broken” pediment of the upper level contains two fillets of different heights, cyma reversa, fillet and a fascia (Fig. 43).

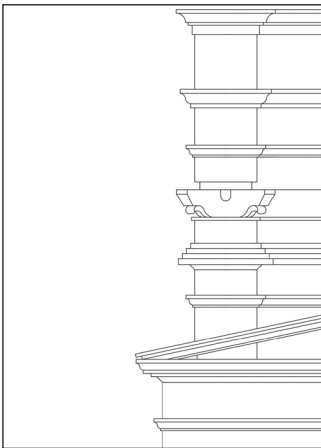
The Cornices of the Palace Tomb

Three-part composition of the Palace Tomb portico consists of two order levels and a huge multi-profile attic (Fig. 44). Twelve pilasters based on high pedestals in the lower level, are crowned by the Nabataean Reverse-frustum Capital Type IV, and support high entablature

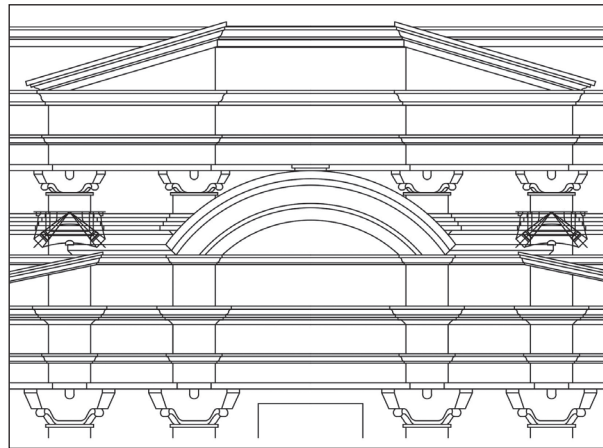
with triangular pediments in the middle and round shape pediments on the sides. The pediments are on top of the four entrance portals. The entrance portals have their own complex structural and ornamental compositions. The central portals with triangular pediments are broader than the external portals and consist of



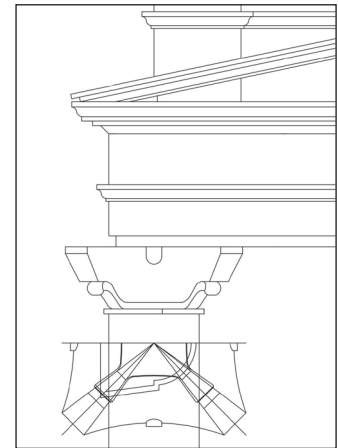
39, 40. Obelisk Tomb (left) and Bāb as-Sīq Triclinium (right).



41. Bāb as-Sīq Triclinium left detail.



42. Bāb as-Sīq Triclinium arch shape pediment.



43. Bāb as-Sīq Triclinium lower storey detail.



44. The Panorama of Royal Tombs from left to right: Palace Tomb, Corinthian Tomb, Silk Tomb, Urn Tomb.

the Nabataean Reverse-frustum Capital Type II. On top of two pilasters with Nabataean pyramidal capitals and an entablature above it. The external round shape portals are narrower than the triangle in the middle, have two pilasters with the Nabataean Reverse-frustum Capital Type I and a double entablature above it. The attic in the middle of the composition is adorned by dwarf pilasters with Nabataean Reverse-frustum Capital Type I.

The second level of the portico has twelve pilasters with half a circle in its cross section, crowned by Nabataean Cupped Capitals, Type I. Each pair of pilasters support one six-leveled entablature with dwarf pilasters on each level. The dwarf pilasters with the Nabataean Reverse-frustum Capital Type I in the attic are coaxial with the higher pilasters. Each horizontal level is bordered by complex ornamentally detailed cornice. The upper third level of the portico consists of seventeen pilasters in the huge attic at the top (Figs. 45, 52).

The top cornice on the third level of the Palace Tomb consists of the following ornamental details from top to bottom: a fillet, cyma reversa, fillet, fascia, two fillets, cyma recta, fillet, and the attic with seventeen plane pilasters.

The composition of the entablature of the upper level consists of four fillets of different heights, cyma recta, four fillets of different height, cyma recta, five fillets of different height, the attic with plain pilasters, taenia, two fillets of different heights, cyma reversa, three fillets, cyma reversa, fillet, fascia, fillet, cyma reversa, fillet and two fascias of different heights.

The next lower cornice composition on the third level of the portico has the following details from top to bottom: the attic with dwarf pilasters, crowned by the Nabataean Reverse-frustum Capital Type I, taenia, three fillets, fascia, fillet, cyma recta, two fillets, cyma, reversa, fillet, fascia and the attic with plane pilasters (Fig. 46).

The cornices of the second level entablature consists of the following ornamental details: a fillet, cyma recta, four fillets of different heights, fascia, fillet, cyma recta, two fillets, two fascias and the attic with pilasters, crowned by Nabatean Cupped Capitals (Fig. 47).

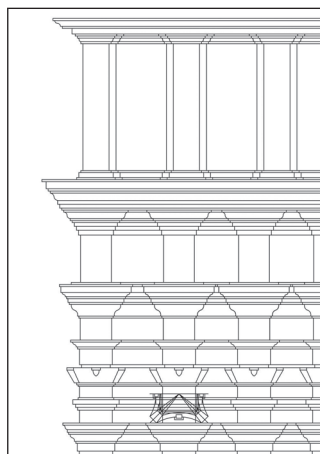
The cornice of the first level entablature consists of a taenia, fillet, cyma recta, fillet, cyma reversa, three fillets of different heights, dentils, fillet, attic, fillet, cyma recta, two fillets, and two fascias. The cornice of the round shape pediment contains the following ornamental details: a fillet, cyma recta, fillet, cyma reversa, fillet, dentils and a fascia (Fig. 48).

The composition of the external entrance portals has a very complex ornamental structure; fillet, cavetto, cyma recta, four fillets of different heights, beveled ovolo, the upper attic, fillet, cyma recta, fillet, the attic with dwarf pilasters, fillet, cyma recta, three fillets of different heights, beveled ovolo, fascia, fillet, cavetto, cyma reversa and two fascias (Fig. 49).

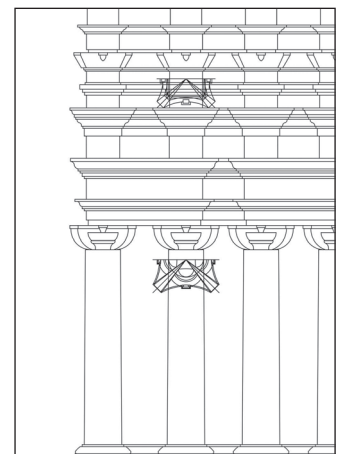
The cornice of the triangular pediment has the following details: a fillet, cyma recta, three fillets, dentils and a fascia (Fig. 50). The portals of central entrances consist of the following details in their structure: a fillet, cavetto,



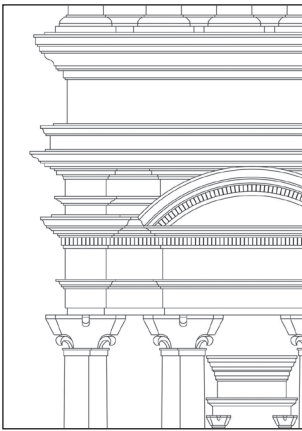
45. Palace Tomb.



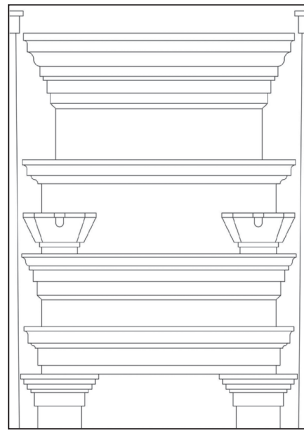
46. Palace Tomb cornices of the attic, upper, third and second entablatures.



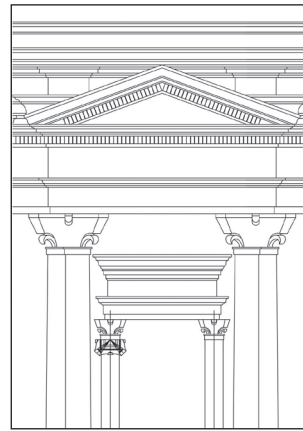
47. Palace Tomb cornices of the third and second entablatures.



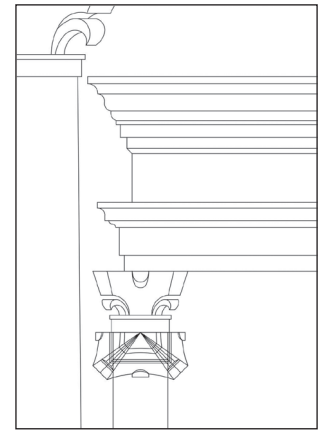
48. Palace Tomb first level cornice.



49. Palace Tomb external left portal cornice.

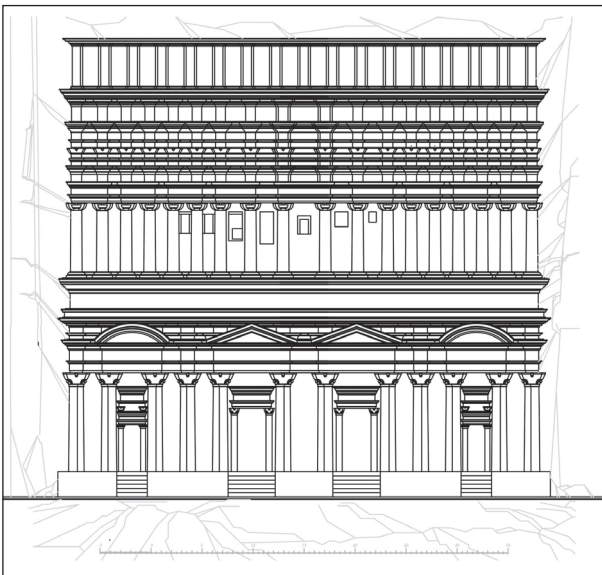


50. Palace Tomb central pediment cornice.

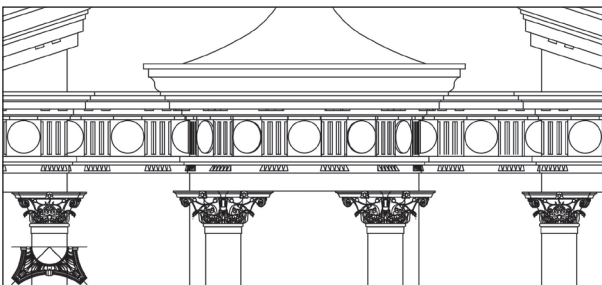


51. Palace Tomb central portal cornice.

cyma recta, ovolo, three fillets of different heights, beveled ovolo, fascia, fillet, cavetto, cyma reversa and two fascias (Fig. 51). The next three porticoes are part of the Corinthian Tomb, ad-Dayr and the Khazneh al Fir'un, and have a unique structural and ornamental composition in their facades that is not only rare in Petra, but in the whole world of rock carved architecture (Fig. 54).



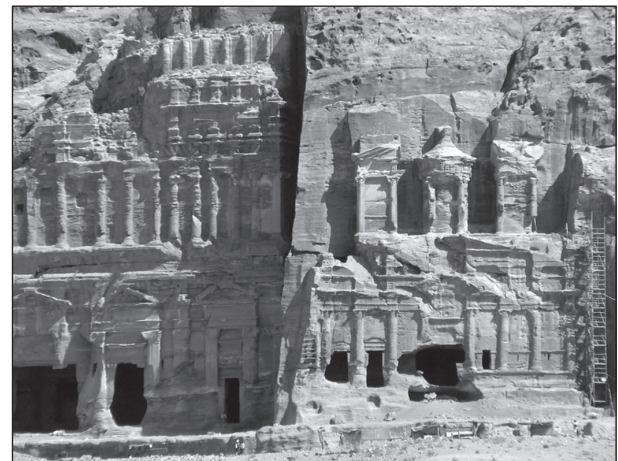
52. Palace Tomb. Architectural and graphic reconstruction.



53. Corinthian Tomb frieze of "broken" pediment and tholos.

The Cornices of the Corinthian Tomb

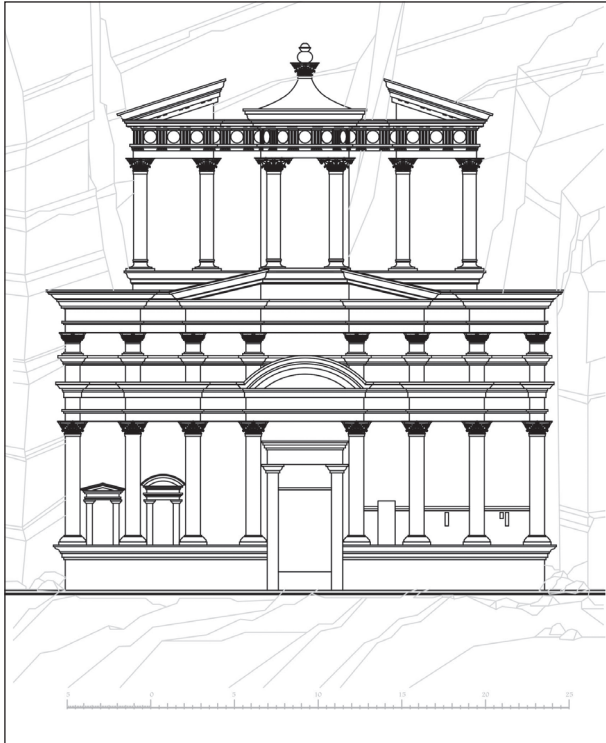
The portico of the Two-part composition of the Corinthian Tomb consists of a lower order level with six pilasters and an entablature with a "broken" pediment on top, and an upper order level with two pilasters and a "broken" pediment on the sides and around the tholos in the center (Fig. 53). Eight pilasters of the lower level have a cross section of a semicircle, crowned by the Nabataean Corinthian Capitals, Type II, which are based on a high pedestal and support a three-part entablature. The external pilasters have coaxial dwarf pilasters on the upper attic. The two inner pilasters support one entablature and the two central pilasters support another entablature with a round shaped pediment on top. The middle level attic consist of eight dwarf pilasters with the Nabataean Corinthian Capitals, Type I, of which the central four support a "broken" pediment, and external pairs support one attic with an ornamentally detailed cornice. Two niches from the left sides have triangular



54. Palace Tomb and Corinthian Tomb.

and round shaped pediments, based on pilasters with the Nabataean Doric capitals. The main entrance portal has a composition of two pilasters with the Nabataean Doric capitals and an entablature with a cornice in its structure.

The two pilasters with the Nabataean Corinthian Capitals, Type II of the second order level support an entablature with triglyphs and metopes on the frieze and a “broken” pediment



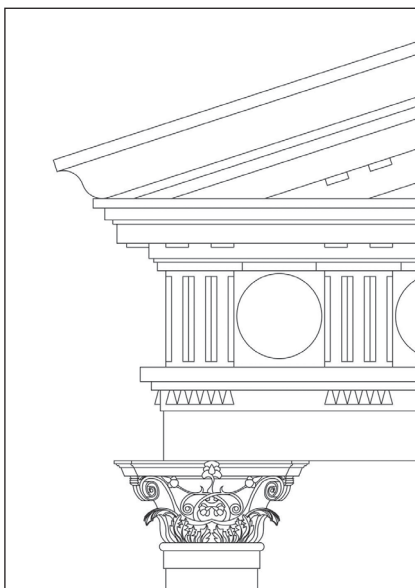
55. Corinthian Tomb. Architectural and graphic reconstruction.

from both sides of the portico. The four pilasters of the round tholos consist of Nabataean Corinthian Capitals, Type II, Support an entablature, similar to the external ones. The single Nabataean Corinthian Capitals, Type II with the urn on top, crowns the round roof of rotunda (Figs. 55, 61).

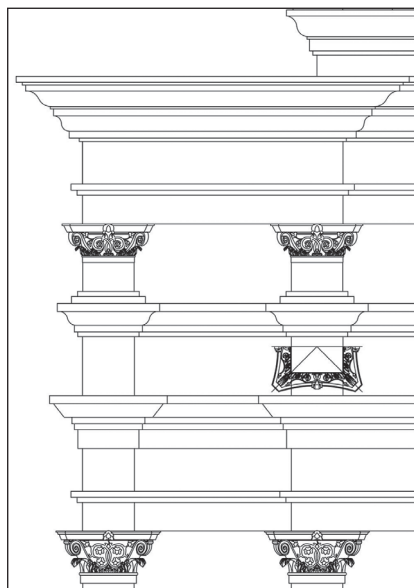
The cornice of the upper “broken” pediment consists of the following details: a fillet, cyma recta, two fillets of different heights, fascia with mutules and a fascia. The composition of the entablature on the upper level has the following ornamental details in its structure: three fillets of different heights, fascia with mutules, fillet, frieze with triglyphes and round metopes, taenia, regula with guttae and a fascia (Fig. 56).

The cornice of the attic on the lower level consists of a fillet, cyma recta and three fillets of different heights. The composition of cornices at the lower level has the following ornamental details from top to bottom: three fillets of different heights, cyma recta, two fillets, cyma recta, two fillets, fascia, two fillets, fascia, an attic, with dwarf pilasters, crowned by Nabataean plant capitals, two taenias, fillet, cyma recta, two fillets, fascia, fillet, beveled ovolo, three fillets of different heights, fascia, two fillets and a fascia (Fig. 57).

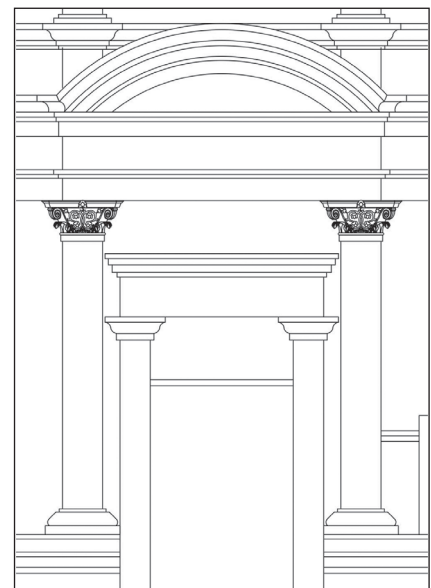
The cornice of the arch shaped pediment is made up of a fillet, cavetto, fillet, cyma reversa, fillet and a fascia. The entablature of the main entrance portal composition consists of four



56. Corinthian Tomb “broken” pediment cornices.



57. Corinthian Tomb lower tier cornices.



58. Corinthian Tomb main entrance.

fillets of different heights and an attic (Fig. 58).

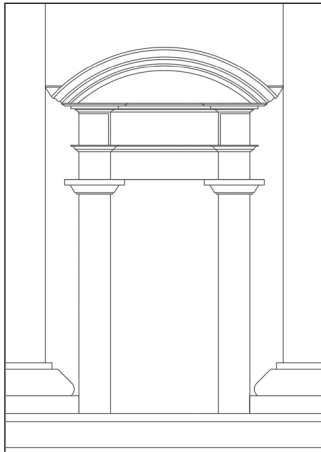
The cornice of the pedestal has a fillet, cyma reversa and three fillet of different heights in its structure. The triangular pediment cornice of the external niche portal composition consist of a fillet, cyma recta and four fillets of different heights (Fig. 59).

The entablature is divided into the following ornamental details from top to bottom: a fillet, cyma reversa, fillet, syma reversa, fillet, attic, fillet, ovolo, cyma reversa and a fascia (Fig. 60).

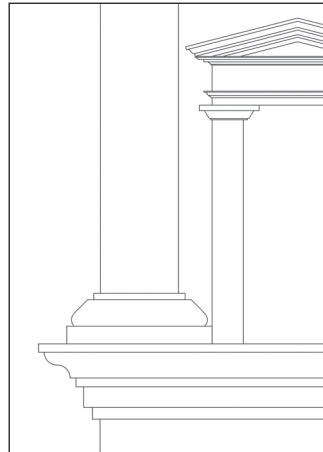
The Cornices of ad-Dayr

The Two-part composition of ad-Dayr portico is similar to the Corinthian Tomb façade. The lower order level has eight pilasters and an entablature. The upper order level has three pilasters and “broken” pediment on the sides and

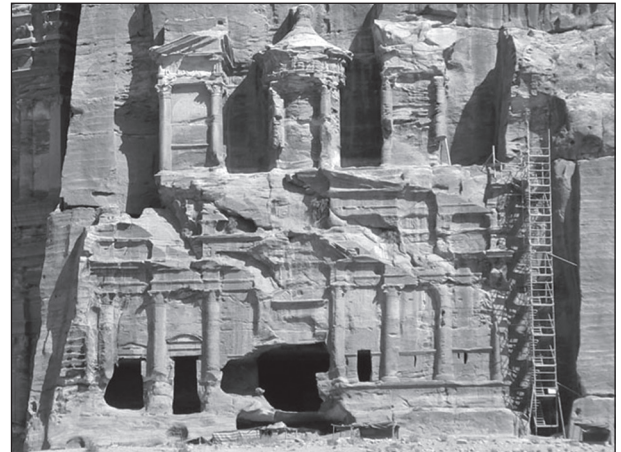
a round tholos in the center. In the lower level, the first and third pilasters from the sides have a rectangular outer section and an inner section in the form of a quarter of a circle and crowned by Nabataean twin Cupped Capitals, however the second and forth pilasters are semicircular in cross section and crowned by a single Nabataean Cupped Capital (Figs. 62, 63). The external two pilasters and two pilasters in the middle support one entablature. The other two single pilasters have coaxial dwarf pilasters and together with the entablatures are crowned by one detailed cornice. There are niches with pairs of pilasters crowned by Nabataean Doric capitals, which support the round shape pediments between two external pilasters of the first level. The main entrance portal consists of two pilasters with Nabataean Doric capitals, entablature and a triangular pediment with an urn on top.



59. Corinthian Tomb arch pediment entrance.



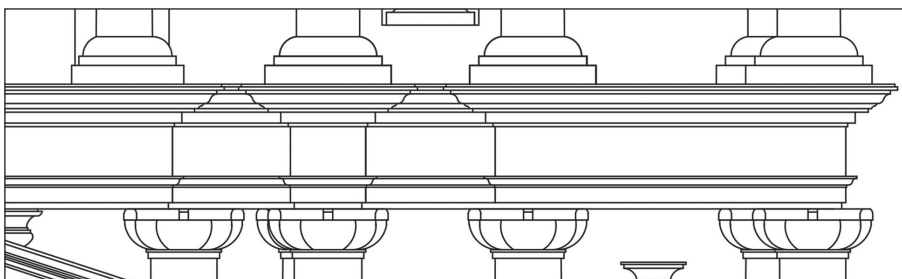
60. Corinthian Tomb pedestal cornice.



61. Corinthian Tomb.



62. ad-Dayr lower tier cornice.



63. ad-Dayr lower tier cornice. Architectural graphic reconstruction.

In the upper level of the external single pilaster, crowned by the Nabataean Reverse-frustum Capital Type II, sits coaxial dwarf pilasters with an attic and a cornice on top. The next two pilasters support an entablature and a “broken” pediment. A round tholos is based in the center of the composition, crowned by single Nabataean Reverse-frustum Capital Type IV with an urn on top. The frieze of the dwarf pilasters, entablature of the “broken” pediments, and the tholos, are adorned by trygliphs and round metopes. The two external niches of the upper level consist of pilasters with Nabataean Doric capitals and a cornice. The two pilasters of the central niche support an entablature with double cornices (Figs. 64, 65).

The cornice of the “broken” pediment of the Deir portico consists of a fillet, cyma recta, three fillets of different heights, fascia and a fillet. The cornice of the attic has the following details: two fillets, cyma recta, three fillets, cavetto and a taenia. The entablature of the upper level consists of the following ornamental details from top to bottom: a fillet, cyma recta, cyma reversa, two fillets of different heights, fascia, frieze with triglyphes and round metopes, fillet, cyma reversa, regula with guttae, an architrave

and a fascia (Figs. 66, 69).

The central niche cornice of the upper order contains a fillet, cyma recta, two fillets of different heights, fascia, fillet, cyma recta and a fascia (Figs. 67, 70).

The cornice of the lower level consists of the following ornamental details from top to bottom: three fillets, cyma recta, cyma reversa, three fillets of Different heights, architrave, fillet, cyma recta, fillet and two fascias (Fig. 71).

The external niche cornice of the round shape pediment consists of a fillet, cyma recta and five fillets of different heights. The entablature consists of two fillets, cyma recta, two fillets, architrave, fillet, cyma recta, fillet and two fascias. The cornice of the triangular pediment of the main entrance contains a fillet, cyma recta and five fillets of different heights.

The entablature consists of the following ornamental details: a fillet, cyma recta, two fillets, architrave, fillet, cyma recta, fillet and two fascias (Figs. 68, 72).

The Cornices of al-Khaznah

The lower part of the two-part composition of al-Khaznah portico is similar to the classical Greek order structure of the Hexastyle. The



64, 65. ad-Dayr. Site view and architectural and graphic reconstruction.



66. ad-Dayr upper detail.



67. ad-Dayr upper part.



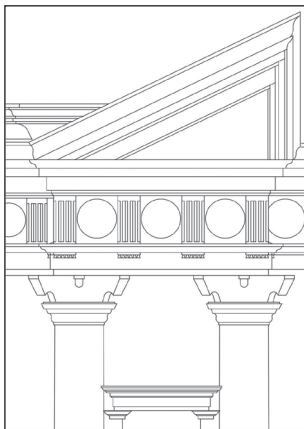
68. ad-Dayr main entrance.

space between the two round external pilasters, crowned by the Nabataean Corinthian Capitals, Type III, is filled by bridles of horses (Castor and Pollux). The two central columns with the Nabataean Corinthian Capitals, Type III denote the entrance to the tomb. Both, the pilasters and the columns, are based on a pedestal with a cornice and supports an entablature with triangular pediment on top. The frieze of the first level is decorated with sirens, local Fig tree plants and calyxes portrayed as examples of ornamental plastic details. The side pilasters are coaxial to the main pilasters and portrays a head of a Gorgon in the attic, crowned by acroterias with lions. The tympanum of the pediment has a relief of an eagle in the center and Iris flowers around it. The pediment has an acroterias with a plant relief on the sides and the symbol of the Goddess Isis on top.

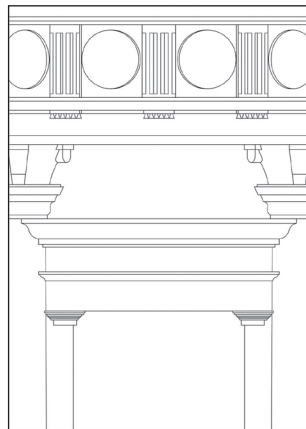
The upper order level consists of a “broken”

pediment on the sides and a tholos in the center, supported by pilasters with Nabataean Corinthian Capitals, Type II. The two external pilasters of the upper level are crowned by Nabataean plant capitals and support an entablature and “broken” pediments. The six round pilasters in the center support the round roof of the tholos with Nabataean Corinthian Capitals, Type II with an urn on top. The frieze of the “broken” pediments and tholos consists of a relief of local oak acorns, grapes and figs. Six sculptures of Amazons between the pilasters and acroterias, with eagles on the “broken” pediment edges, complete the whole ornamental and plasticity composition of the portico (Figs. 73, 74).

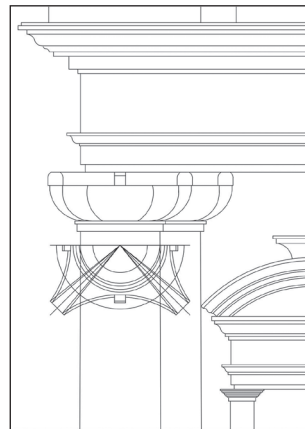
The cornice of the “broken” pediment consists of two fillets, cyma recta, seven fillets of different heights, dentils and a fillet (Figs. 75, 76). The entablature of the “broken” pediment and tholos consists of the following ornamental



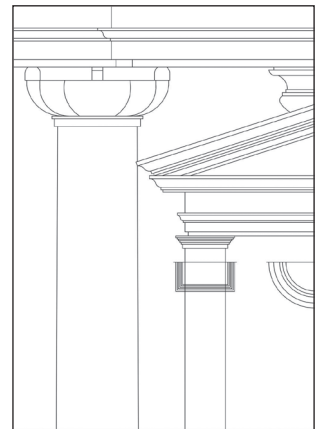
69. *ad-Dayr* “broken” pediment cornice.



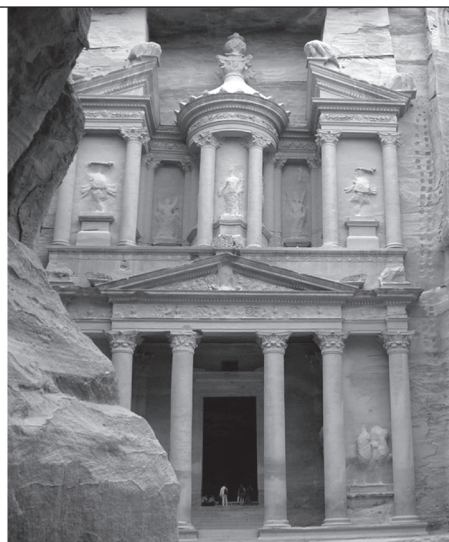
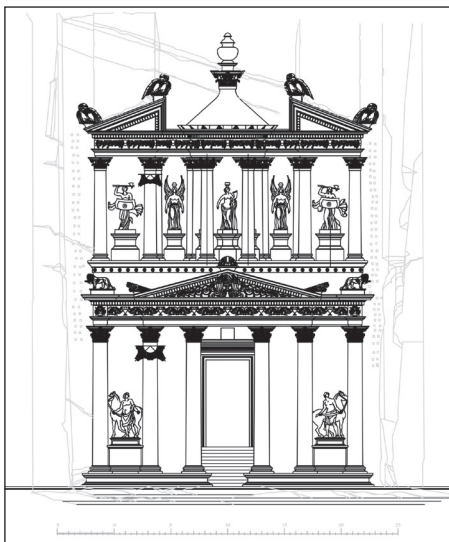
70. *ad-Dayr* upper tier central niche cornice.



71. *ad-Dayr* lower tier cornice.



72. *ad-Dayr* main entrance.



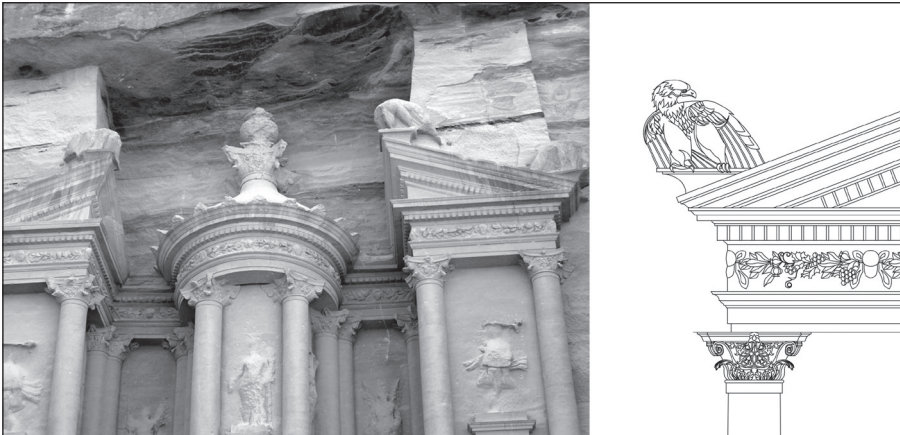
73, 74. *al-Khaznah*.

details from top to bottom: a Fillet, syma recta, fillet, ovolo, fillet, dentils, beveled ovolo, frieze with local plant ornaments, fillet, cavetto, cyma recta, fillet and two fascias (Figs. 77-79).

The entablature of the lower level has the following ornamental details from top to bottom: a fillet, cyma recta, four fillets of different

heights, cyma reversa, fillet, dentils, fillet frieze with Gorgon heads, griffins and figs, fillet, cyma recta, fillet, cyma reversa, an architrave and a fascia.

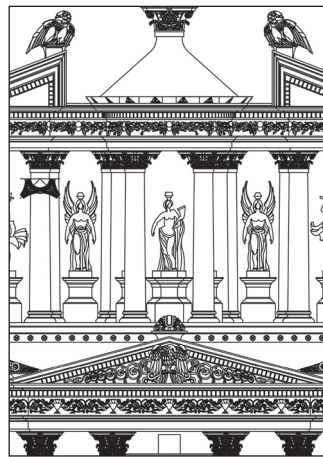
The cornice of the main triangular pediment consists of a fillet, cyma recta, three fillets of different heights, dentils and a fillet (Figs. 80, 81).



75, 76. al-Khaznah. The “broken pediment” cornice and upper level entablature.



77. al-Khaznah. Upper entablature.



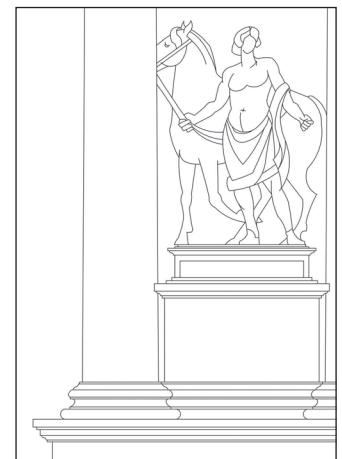
78. al-Khaznah. Upper level detail.



79. al-Khaznah. Tholos and lower pediment cornices.



80, 81. al-Khaznah. Lower tier entablature.



82. al-Khaznah. Pedestal cornice.

The cornice of the pedestal consists of three fillets of different heights, cyma reversa and a fillet (**Fig. 82**).

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Bibliography

- Auer, B., Bartel, S. *et al.*
1994 *Jordan. Report of a Zoological and Botanical Field Trip*: Vienna.
- Bennett, C.M.
1983 *Petra* - Art International.
- Bourbon, F.
1999 *Art, History and Itineraries in the Nabataean Capital*: Vercelly.
- Browning, I.
1989 *Petra*. London.
- Brünnov, R.E. and von Domaszewski, A.
1904 *Die Provincia Arabia, Vol 1: Die Römerstrasse von Mâdebâ über Petra und Odruh bis El-'Akaba*, Strassburg.
- Burckhardt, J.L.
1822 *Travels in Syria and the Holy Land*: London.
- Kennedy, A.
1925 *Petra, its History and Monuments*. London.
- Khoury, R.G.
1992 *Petra. A Brief Guide to the Antiquities*. Amman.
1986 *Petra. A Guide to the Capital of the Nabataeans*. London, New York.
- Mc Kenzie, J.
1990 *The Architecture of Petra*: New York - Oxford.
- Parr, P., Atkinson, K.B. and Wickens, E.N.
1975 Photogrammetric Work at Petra, 1965-68. An Interim Report: *ADAJ* 20: 31-45.
- Petra
2010 *Petra. Amman*: al-Balka Foundation for Arts.
- Roberts, D.
1848 *From an Antique Land. Travels in Egypt and the Holy Land*, Reprint (1989). New York.
- Ruben I., and Disi, A.
2006 *Field Gyde to the Plants and Animals of Petra*: Jordan National Trust.
- Summerson, J.
1988 *The Classical Language of Architecture*. London.
- Taylor, J.
1989 *High above Jordan*. London
1993 *Petra*. London.
- Welling, J.D.
1935 *Petra: Ancient Caravan Stronghold, National Geographic*. Washington DC.
- Zayadine, F.
1982 Recent Excavations at Petra, *ADAJ* 26:365-393.