



CORINTHIAN CAPITALS WITH INTERLOCKED HELICES FROM ROMAN PERIOD, JORDAN: A COMPARATIVE STUDY

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ABSTRACT

This article provides a study of Corinthian capitals with interlocked helices from four main locations: Jordan (Jerash (Gerasa), Petra); Lebanon (Baalbek); Egypt (Alexandria); Italy (Rome); and Libya (Lepcis Magna). A typological study of Corinthian capitals with interlocked helices show two main types, the first, interlocked normal helices, the second, interlocked flowered helices. Those types were used on in general on temples during the Roman period. The study included is descriptions of the capitals, which are then compared with one another. It has been noted that capitals with interlocked helices were rare compared to Corinthian capitals having normal helices, such as those that were generally used during the Roman period.

This would suggest that the scheme was a new one in the East; likewise, that it was introduced from the Western provinces. Interestingly enough, those found in the Eastern provinces are more developed than those found in the Western ones, especially with respect to the first type. Furthermore, we can also say that this architecture developed during the First and Second Centuries, and thus reflect the new architectural elements and decorations such as those that were not used before. This preliminary comparative study serves as an introduction to the study of architectural elements and decorations in Jordan used during the Roman Period.

KEYWORDS: Corinthian capitals, interlocked helices, Roman, Jerash, Petra, Baalbek, Rome, Alexandria and Lepcis Magna, Description, Typology, Comparative study

1. INTRODUCTION

The study selected Corinthian capitals with interlocked helices as a case study because the helices constitute one of the most important carved architectural elements. Our study of Corinthian capitals with interlocked helices aims to describe them, as well as compare them with capitals from locations other than those considered here from the Roman period; unlike what is the case with the locations being considered here, in the latter cases, the exterior and interior influences are known. The remains of the Corinthian capitals at six locations namely, Jerash (the Temple Artemis, the Northern Theatre and the *Cardo Maximus*), (Bowsheer 1986; Stewart 1986; Pierobon 1983-84; Browning 1982; Fisher 1938; Kraeling 1938; Schumacher 1902) Petra (Kasneh) (Schmid 2002; McKenzie 1990; Wright 1973; Robertson 1964; Ronczewski 1932) and Baalbek (Temple Bacchus) (Ess 1999; Schlumberger 1933; Weigand 1914; Puchstein 1905) from the east; we find other examples from the Western Roman Province as well, such as those found on the Temple of Castor, and other structures in Rome (Strong 1994; Maurer 1909; Anderson and Phene 1905). Finally, we find other examples from North Africa, especially from Alexandria (McKenzie 1990; Meurer 1909; Mauch 1875) and Lepcis Magna (Mahler 2006; Hesberg 1978; Caputo 1968). The Corinthian capitals with interlocked helices are one of the types used during the Hellenistic and Roman periods. A study of Corinthian capitals shows two types: the first, with coiled or helical interlocked helices; and a second, made up of interlocked helices with flower motifs. Both types date back to the Roman period.

In general, the original Corinthian capital (Fig. 1)¹ during the Roman period

consists of eight acanthus leaves. Each leaf has four to five fingers, and is divided into five to seven leaflets. In between the leaflets, eyelets are visible. The calculi are vertically or twisted in shape, and are surmounted by a single or double-convex rim. The calices emanate from a point between two of the leaves in the second row; sometimes, the calices are touching the helices and volutes. The helices generally run underneath the kalathos lip; sometimes above it or above the abacus.

The shapes of the helices are coiled or helical

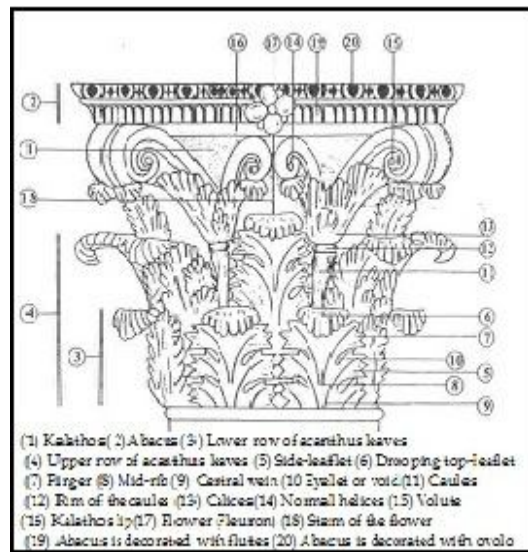


Fig. 1. Details of original Corinthian capital
(Drawing by M. Nassar)

The Corinthian capital with interlocked helices (Fig. 2) is one of the types used during the Roman period. It is the same with the normal helices, though here, there is a difference in the form of the helices, and here the helices came as interlocked shape. It seems this type of capitals appeared in the western provinces of the Roman Empire earlier than in the east in the Temple of Castor at Rome), which date back to the Augustan period (Schlumberger 1933, Pl. 29.1). A detailed study was made of the Corinthian capitals with interlocked helices used at the seven locations both types of interlocked helices

¹ The Corinthian capitals were described by Vitruvius in his book (Ten Books on Architecture). The earlier known Corinthian capital is that from the interior colonnade of the Temple of Apollo Epikourios at Bassae (later fifth or early fourth century

were identified at Jerash, Petra, Baalbek, Alexandria, Lepisc Magna and Rome.

1.1. Type I Interlocked normal helices (coiled or helical)

The first type included interlocked normal helices (coiled or helical). We begin by providing a general description of the Corinthian capital with interlocked helices (coiled or helical). Usually, the Corinthian capital consists of two main parts (Fig. 2).

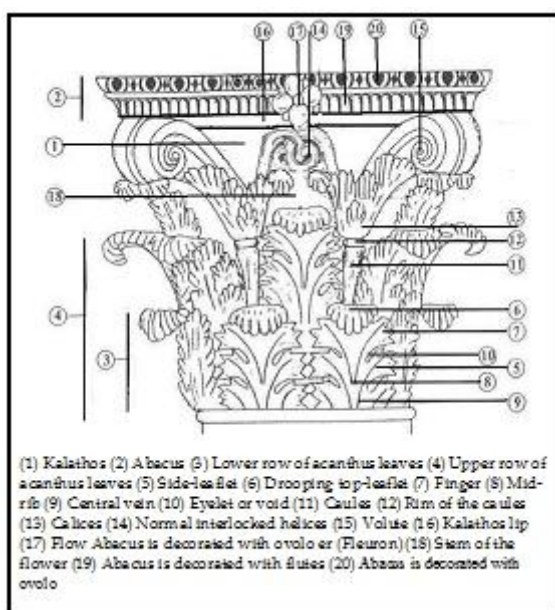


Fig. 2. Details of Corinthian capitals with interlocked helices (coiled or helical) (Drawing by M. Nassar)

1.2 Type II Interlocked Flowered helices

Corinthian capitals with interlocked flowered helices (Fig. 3) are similar to those with coiled or helical interlocked helices, though here, the helices are composed of flower motifs, such as rosettes. Additionally, we find that the kalathos is also decorated with leaves and flower motifs. This scheme seems less widespread compared to capitals with normal interlocked helices; it was only used in some Roman provinces (Gans 1992: 151, 152, Fig. 83).

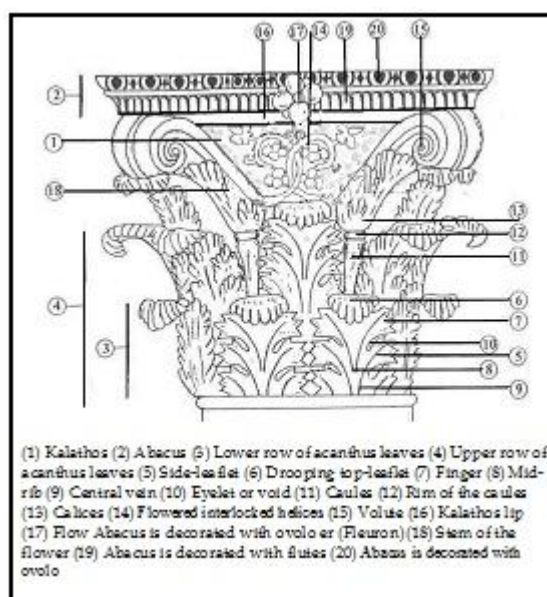


Fig. 3. Details of Corinthian capitals with flowered interlocked helices (Drawing by M. Nassar)

2. DISCUSSION

A comparison of the Corinthian capitals with interlocked helices with other examples dating from the Roman period, both in the Near East and elsewhere is made. The method of comparative study depends on the form of and decorations used on the capitals; and thus comparison of the first type is made, following the second type. The two forms of the first type have appeared in the eastern and western provinces during the Roman period in the eastern provinces, this type was used at the two locations of Jerash and Baalbek. With respect to the first form, the right helix interlocks with the left helix.

The First form of the type I (Pl. I: 1-4)

This form was used on some of the capitals on the Temple of Artemis at Jerash (Pl. 1.1), dating from between 150 and 180 A.D. (Kraeling 1938). This form has been found on the capitals on the Temple of Jupiter at Baalbek (Pl. 1.2), which dates back to the Second Century A.D. (Schlumberger 1933: Pl.29.1; Weigand 1921: Fig. 46, Pl.65). These capitals resemble

those on the Temple of Artemis, though here the acanthus leaves are longer, and the midribs are ridged and flanked by deep grooves extending from the lower edge of the kalathos to the upper leaflets. Additionally, the caules are spirally fluted and are surmounted by a broad convex rim decorated with palm-leaves. Finally, the abaci are decorated with ovoli (egg-and-dart's) and palm-leaves, whereas the abaci from the Temple of Artemis are decorated with ovoli ('egg-and-dart's) and flutes. With the second form, it was found that the left helix interlocks with the right helix.

This form was also used on some of the capitals from the *Cardo Maximus* as well as on those from the Northern Theatre at Gerasa, which dates back to the Second Century A.D. (Kraeling 1938). In the Roman Empire's western provinces, capitals with interlocked helices appear earlier than in the east. For example, the capitals of the Temple of Castor at Rome (Pl. 1.3), which date back to the Augustan period (Strong 1994: 121, 157, Pl. 11; Maurer 1909: 529, Pl. 5; Anderson and Phene 1905: Fig. 95), resemble those from the Temple of Artemis, though here the acanthus leaves are shorter, and the top-leaflets extend further to the front. Additionally, the caules are decorated with spiral flutes, whereas those on the capitals from the Temple of Artemis are plain. We also find here that the helices take the second form, and are similar to those found on the North Theatre and *Cardo Maximus* at Jerash. Finally, the abaci are decorated with ovoli (egg-and-dart) and palm-leaves. At some locations in African Roman Province, the capitals are decorated with interlocked helices similar to those found on the buildings at Jerash and at other locations in the eastern and western Roman provinces one example are the capitals found in the Greco-Roman Museum at Alexandria in Egypt (Plate 1.4), which seem to date back to the Second Century A.D. (Mckenzie 1990: 71, Pl.203b; Meurer 1909: 529, Pl.5; Mauch 1875:62,63, Pl.46). The helices are similar to those found on the capitals from the Castor at Rome,

though, here, the each abaci consists of a rosette with four petals and have no volutes.

The Second form of the type I(Pl. II: 1-4;

Pl. III: -3) (Back-to-back helices)

It was also find a group of Corinthian capitals with interlocked helices at African locations, though in such cases, we find that the helices are back-to-back¹. We find this scheme at two locations. The first is in Alexandria on the Greco-Roman Museum (Pl. 2.1), which seems to date back to the Second Century A.D. (Mckenzie 1990:72, Pl.206a), and is similar to those found at Gerasa and other locations, though here we find that the helices are back-to-back, while those at Jerash and other locations in the eastern and western provinces of the Roman Empire have a face-to-face scheme. The second consists of certain buildings also found in the African provinces, for example, the helices found on the capitals of the Chalcidicum Sacellum at Lepcis Magna (Pl. 2.2 resembles those found in Alexandria, and date back to the middle of the First Century B.C. or the First Century A.D. (Mahler 2006: 151, Pl.12.41kk; Hesberg 1978: Anm. 21; Caputo 1968: 69, Pl. XLIXa).

Many examples can be found in Lepcis Magna; this form was used on several buildings from the same period, for example, they are found on the Modern Street (Pl. 2.3) (Mahler 2006: 151, Pl. 11.40kk). The helices on these capitals are similar to those in Alexandria, though here, we find that the volutes are omitted. We can compare these to another example from Lepcis, that is, the helices on the capitals found in the Magana Museum (Pl. 2.4) (Ibid: 150, Pl.10.35kk), though here, the helices are each composed of one spiral and the edge of each helix consists of a button, in contrast to the helices found at Alexandria, which each consist of two

¹ It seems this scheme appear in Africans locations, we known in this case of the Corinthian capitals with interlocked helices, its face to face helices.

spirals and a button. The left volute is omitted while the other is coiled as a helical and is closed, much as the helices from the Eastern Province. One example of the latter is found on the Southern Decammas at Jerash, which dates back to the Second Century A.D (Kraeling 1938). Another consists of the capitals from the Hippodrome at Caesarea, which dates back to the period beginning with Antoninus Pius and running through Marc Aurel (Fischer 1990: 45, 55, Pl. 23. No. 127).

In the latter case, the capitals each consist of one row of acanthus leaves, whereas those found at Jerash, Baalbek and Rome each consist of two rows of acanthus leaves. On the capitals from Caesarea in Israel, the leaves are like palms and the top of each leaf has three fingers or lobes; additionally, on each capital, the fleuron is depicted in the centre of the abacus. On another example from Lepcis Magana, found on the *Cardo Maximus* (Pl. 3.1), and dating back to the First Century A.D. (Mahler 2006: 150, Pl.9.31kk), we find helices similar to those found at Alexandria. Another example, also from Lepcis Magna, is different in some respects from those found on the Modern Street (Pl. 3.2). These date from between the First Century B.C. and the First Century A.D. (ibid: Pl.13. 44k). Here, the capitals each have interlocked helices and volutes; the helices and volutes do not spring separately from the collar of acanthus leaves as with the normal Corinthian capitals; rather, the helices come into direct contact with the volutes. Each capital has one row of acanthus leaves, while most samples have two rows of acanthus leaves. This form was also used on another building from Lepcis Magna, the East Bath (Pl. 3.3), which dates back to between the First Century B.C and First Century A.D (ibid: 152, Pl. 13. 48kk). Here, the helices are undecorated, whereas those from the Modern Street each consist of two spirals and a button. The right volute is omitted, while the left is a helical and choked; we find that the helices from the Modern Street are helical.

The Second type Interlocked Flowered Helices(Pls. III. 4; IV.1-4; V.1-4)

We can also compare these to samples of the second type, that is, the Corinthian capitals with interlocked flowered helices. At first, it appears that this type is not so widespread relative to the first type. We find it at some locations in the Western provinces, such as in Rome and Berlin, though also in the Eastern provinces, such as at Petra. Consequently, we can compare the examples found in the Western provinces with those found in the Eastern ones. There are some locations in Rome, dating from the First and Second Centuries A.D., where capitals with interlocked flowered helices can be found. One example was found on the capitals of the *Antiquario Palatino* at Rome (Pl. 3.4), which dates to the Augustus period (Gans 1992: 10, 13, Fig.4; Maurer 1909: 528, Abb.9).

These resemble the capitals from the Temple of Artemis, though here they each have a single row of acanthus leaves, with each leaf consisting of five leaflets. Here, each leaflet consists of three sub-leaflets made up of five fingers or lobes. By contrast, the capitals on the Artemis Temple at Jerash each consist of two rows of acanthus leaves, with each leaf consisting of seven leaflets, and each leaflet consisting of five drilled fingers or lobes. Additionally, here the volutes feature rosette motifs consisting of five petals; the volutes at Jerash, by contrast, appear as paired helical spirals. The shape of the helices here are different compared to those found in type one they resemble the stems of flowers, wherein the leaves of the stems make contact with the abacus fleuron, thus resembling acacia flowers. Additionally, here, each helix features two rosettes in the centre; each rosette has seven petals.

Furthermore, we find paired rosettes in the centers of the kalathoses and under the helices; these make contact with the abacus fleuron through the stems. These were also used in some buildings in Rome, though dating back to the Hadrian period, for example, the capitals on the Forum

Romanum in Rome (Pl. 4.1) (Gans 1992: 151, 152, Fig. 83) resemble those found on the Antiquario Palatino, though in this case, we find only two rosettes, each with five petals, depicted in the helix centers. Finally, we find that the capitals each consist of two rows of leaves; the lower row consists of acanthus leaves, and the upper row, of Palme leaves; by contrast, those on the Antiquario Palatino each have only one row of acanthus leaves longer than those on the Forum Romanum. We might also consider another example from Rome, contemporaneous with the Forum Romanum, the capitals on the Via Appia (Pl. 4.2). Here, the capitals each have only one row of acanthus leaves, and the rosettes contact the leaves of bracts through the stems. Added to that, the helices emanate from the stems of the fleuron; usually the helices emanate from the cauliculus, as in the case of the capitals from Jerash, as well as other locations. Another example comes from Schloss Klein-Gliencke in Berlin (Pl. 4.3), which also dates from the Hadrian period (Gans 1992: 153, Pl.85. no. 299; Goethert 1972: Pl. 86, no. 244). These capitals resemble those from the Forum Romanum, though here, they each have only one row of acanthus leaves. The volutes are small compared to those at Gerasa and other locations, and touch the kalathos lip. Additionally, the abacuses are decorated with astragals and flutes, like those found on the Temple of Atriums at Jerash. Looking back at Rome, we have the example of the National Museum (Pl. 4.4), which dates back to the Augustus period (Gans 1992: 26, 27,32, Pl. 20. No. 32; Hesberg 1981-82: 64, Pl. 26), its capitals are similar to those on the Forum Romanum, though here, the helices resemble half Palme leaves, while at the other locations, they consist of rosette flowers with five or seven petals. The acanthus leaves here are clearer and longer compared with the latter.

In the Eastern provinces of the Roman Empire, capitals with interlocked flowered helices have been found dating back to the same period, for example, those from the

Khasneh at Petra (Pl. 5.1) (McKenzie 1990: Pl.43a). Some differences are noted in the shape of the helices relative to those at locations in the Western provinces. The capitals on the lower order of the Khasneh are similar to those on the Antiquario Palatino at Rome, though here, each capital has two rows of acanthus leaves, like those found in Jerash, Baalbek and on the Temple Castor in Rome. Additionally, we find that the volutes are similar to those found on the Temple of Artemis at Jerash, though here, the volutes each consist of two helical spirals, while those on the capitals at Jerash each have only one spiral. The acanthus leaves each have seven leaflets as is also the case at Jerash, though here, the fingers or lobes of the leaves are not drilled, unlike those at Jerash. Furthermore, we find that these interlocked helices each consist of a complex of scroll leaves and flowers, while those from the Forum Romanum and other locations at Rome each consist of rosette motifs. Likewise, those found on the lower order of the Khasneh (Pl. 5.2) (McKenzie 1990: Pl.43b; ; Ronczewski 1932: Pl. 7) strongly resemble those from the last example, though here, the volutes each consist of two spirals while those from the last example each consist of three spirals. Additionally, we find two other examples from Petra from the same period. These can be seen on the upper order of the Khasneh (Pl. 5.3,4) (McKenzie 1990: Pl.44a,b); the capitals here are similar to those found on lower order, though here each has two rows of acanthus leaves. Furthermore, we find here that the helices and volutes do not spring separately from the collar of the acanthus leaves as with the normal Corinthian capitals. Here, the helices make direct contact with the volutes, a scheme that appears also on the capitals from the Modern Street and from the Eastern Hall at Lepsic Magna in Libya, both of which date to an earlier period.

3. CONCLUSION

The focus of this study has been on capitals with interlocked helices, such as were used at some Roman locations. It has

been noted that capitals with interlocked helices were rare compared to Corinthian capitals having normal helices, such as those that were generally used during the Roman period.

This would suggest that the scheme was a new one in the East; likewise, that it was introduced from the Western provinces. Interestingly enough, those found in the Eastern provinces are more developed than those found in the Western ones, especially with respect to the first type.

Additionally, as it is known from many locations in Asia Minor dating back to the

Roman period, yet lack the same types on Corinthian capitals. We do find one location at Dadyma with interlocked helices, but these were used on ionic plaster capitals. Furthermore, we can also say that this architecture developed during the First and Second Centuries, and thus reflect the new architectural elements and decorations such as those that were not used before. This preliminary comparative study serves as an introduction to the study of architectural elements and decorations in Jordan used during the Roman Period.

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PLATE I



1. Gerasa, Temple of Artemis



2. Baalbek, Temple of Jupiter



3. Rome, Temple of Castor



4. Alexandria, Greco-Roman Museum

PLATE II



1. Alexandria, Greco-Roman Museum



2. Lepsic Magna, Chalcidicum, Sacellum,



3. Lepsic Magna, Modern Street



4. Lepsic Magna, Museum

PLATE III



1. Lepsic Magna, Cardo Maximus



2. Lepsic Magna, Modern Street



3. Lepsic Magna, Eastern Bath



4. Rome, Antiquario Palatino

PLATE IV



1. Rome, Forum Romanum



2. Rome, Via Appia



3. Berlin, Schloss Klein - Glienicke



4. Rome, National Museum

PLATE V



1. Petra, the lower order of the Khasneh



2. Petra, the lower order of the Khasneh



3. Petra, The upper order of the Khasneh,



4. Petra, The upper order of the Khasneh