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BASALT IONIC CAPITALS FROM ROMAN PERIOD, JORDAN: A COMPARATIVE STUDY

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ABSTRACT

The study of the decorative of architectural elements is considered one of the most important studies contributing to an understanding of the extent of the cultural and technical development of the Roman society. The Jordan is one of the sites that contain the architecture and the arts through the ages, especially the classical era. The article includes a study of the Basalt Ionic Capitals during the Roman period. Ionic capitals has been selected as a case study because one of the most important architectural elements that have spread through the Greek era and evolved in the Roman era. The ionic basalt capitals spread in some of the Province of Arabia especially in southern Syria (Gadara and Bosra). This article provides a study of Basalt ionic capitals from one main site in Jordan (Gadara); we compare them with other sites in Jordan (Gerasa); Syria (Bosra); Lebanon (Baalbek); Egypt (Alexandria); Italy (Rome); and Libya (Lepcis Magna). In studying ionic capitals, we find two types the first, ionic capitals decorated with the ionic cyma (ovolo), and the second, ionic capitals without the ionic cyma. They study provides a description and a comparative study regarding the first type, wherein those found on the Roman at Gadara and other Roman sites. In studying ionic capitals, appeared the design of the ionic capitals carved of basalt stone resample. it seem from the same school especially in the southern Syria (Gadara and Bosra) it's clear through of the decorative motif of ionic capitals. In general, the Gadara and Bosra artists (the sculptor of the architectural elements) showed great ability and technical skill in producing these decorative elements, using only locally available basalt stone as a raw material.

KEYWORDS: Roman; Decapolis, Gadara, Bosra, Basalt Ionic Capitals, Description and Comparative Study, architectural

1. INTRODUCTION

The study selected Basalt ionic capitals as a case study because the basalt stone is very hard carved so is rare used in the field of the art and architectural elements. We find one main site included basalt ionic capitals at Gadara in northern Jordan. The study of the ionic basalt capitals from Gadara describes them, while also comparing or 'contrasting' them with other ionic capitals from the Roman period, ionic capitals where the exterior and interior influences are known. This research includes a study of ionic capitals on architectural during the Roman period. The remains at the Roman of Gadara (Hoffmann and Kerner 2002; Weber 2002; Bol et al 1990) are compared with capitals from Gerasa (Hoffmann and Kerner 2002; Parapetti 1993; Ball 1986; Watson 1986; Browing 1982; Fisher 1938; Kraling 1938), Bosra (Segal 1997; Butler 1914), Palmyra (Al-As'ad and Schmidt-Colinet 2005; Degeorge 2002; Alzinger 1974; Wiegand 1932; Anderson and Phene 1905), and other locations throughout Asia Minor, among them, Pergamon (de luca 1984; Bingöl 1980; Winter 1908) and Ephesus (Bingöl 1980; Alzinger 1974; Bammer 1973), as well as locations in North Africa, such as Leptis Magna (de Robles 1999: 74; Willeiter und Dollhopf: 1998: 215) and Sabratha (Kenrick 1986). The study of the ionic capitals from the Roman of Gadara shows two main types the first, normal ionic capitals and the second, ionic capitals without decoration. The study includes a basic description, while comparing the normal ionic capitals found at the Roman of Gadara with those from other Roman sites.

I. Description and Typology of the basalt ionic capitals from Gadara

The basalt ionic capitals' undecorated abacuses[1] from the Roman of Gadara are consists of two main parts, the lower part, made up of the echinus and pulvinus, and the upper part, which includes the abacus. A detailed study of the basalt ionic capitals at Gadara shows that there are two main types of ionic capitals that can be identified: the first, with volutes, an ionic cyma (ovolo), and a pulvinus (side baluster); and the second, without such decorations as volutes, an ionic cyma, and a pulvinus. In both

cases, we find the abacus to be undecorated. The following is a detailed description of the first type.

I. 1 Normal ionic capital (Figures 1, 2; Plate I)

This type of ionic capital consists of two main parts[2]. The lower part consists of two sections. The first of these is the echinus (**Figure I**), which is flanked by volutes with four involutions. The front and back faces of the capital usually have the same decoration; we find a wide shallow concave edged by small moldings, located between the echinus and the abacus and grooved like a canal, the canal curls round into the spirals of the volutes, which have button-like eyes at the centers. Usually the area under the lower part of the capital is decorated with an astragal, though some of the ionic capitals are decorated with a motif-like cord[3] (**Plate I.1**)

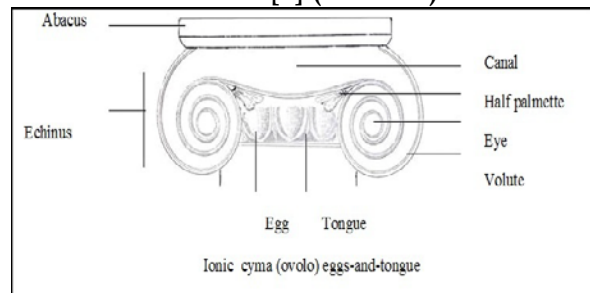


Fig. I: Details of ionic capital at Gadara

The echinus on this type of capital is curved, with egg-and-tongues composed of three eggs and two tongues; the eggs are rounded at the top with two tips or joints at the lower and upper ends fixing the respective eggs. The grooves between the eggs and shells are deep and narrow, and the shells are rounded and thick, and are untouched by the tongues. The tongues are longer and lie wide. The angle palmette is composed of three leaves, with sprouts coming from a calyx. On the second part of the lower section (**Figure II**), we find the pulvinus, which is seamed on one side in its shape and decoration. It is usually the case that most of the pulvinus and balteus are decorated with laurel leaves, though here we find the pluvinus decorated with acanthus leaves, while the balteus is decorated with one bound in the center. The upper part of the capital is composed of the abacus, which consists of a cavetto, and is topped by double fillets. The abacus is usually decorated

with a motif, such as an astragal motif or a cyma reversa motif (leaf-and-dart), but here we find it undecorated.

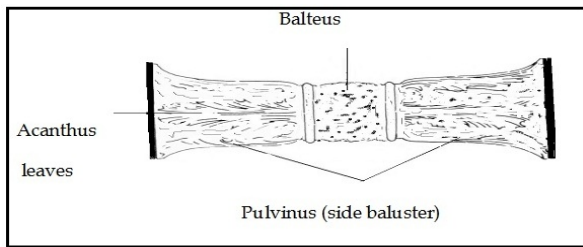


Fig. II: Details of the pulvinus (side baluster) of ionic capital

II. DISCUSSION

We can compare this type with other examples dating from the Roman period, both in the Near East and elsewhere. The methodology of our comparative study with respect to the normal capitals centres on the form and decoration of the echinus and pulvinus. We consider first the echinus.

I. The echinus

Generally, ionic capitals have several forms of echinus, though here we will only discuss those forms dating from the Roman period. The capitals of the Forum (the Oval Plaza) at Gerasa (**Plate I.3**) (Hoffmann and Kerner 2002; Weber 2002; Bol et al 1990) are similar to those found in Gadara (Hoffmann and Kerner 2002; Ball 1986; Watson 1986; Browning 1982; Kraling 1938) (**Plate I.1, 2**), though there is a characteristic difference. On the former, the volutes have two spirals and button-like eyes, whereas those from Gadara are each composed of three spirals and button-like eyes.

Additionally, with the former, the echini are curved, and have egg-and-darts composed of five eggs and four tongues; the egg-and-darts found at Gadara are each composed of three eggs and two tongues. At both sites, the abaci each consist of a cavetto, topped by a double fillet and undecorated; usually the abaci are each decorated with a motif, such as an astragal motif or a cyma reversa (leaf-and-dart) motif.

This type of capital was found at a number of sites. For example, we find that some of the capitals at Bosra (**Plate I.4**) (Segal 1997: 22-27, Fig. 24) strongly resemble those found at Gadara from the same period. We find another

example from Caesarea similar to those found at Gadara. Some of the capitals from the Temple of Bel at Palmyra (**Plate I.5**) (Al-As'ad and Schmidt-Colinet 2005; Degeorge 2002: 130; Wiegand 1932: Pl. 85; Alzinger 1974: Fig. 23; Anderson and Phene 1905) are similar to those at Gadara, though here the volutes have two spirals; some like these have been found on capitals of the Oval Plaza at Gerasa. The rims of the outside volutes are flanked by deep grooves, like pulleys, while the outside volutes at the basalt ionic capital at Gadara are closed. The capitals here have palmettes clearly comparable to examples from Gadara, while the leaflets resemble those found on the capitals of the Oval Plaza at Gerasa. Here we find that the abaci are decorated with leaf-and-dart motifs, while those at the Roman Gadara are undecorated, each having only a plain fillet. At some locations in Asia Minor dating from the Roman Empire, ionic capitals appear earlier than in the Empire's Arab Provinces. The ionic capitals from the Excavation House at Pergamon located in Turkey (**Plate I.6**), for example, which dates back to the first century B.C (Winter 1908: 387, Pl. 49), resemble those at Gadara, though here the volutes are composed of only two spirals. Some capitals like this have been found on the Oval Plaza at Gerasa and on the Temple Bel at Palmyra. Additionally, the rims of the volutes are decorated with grove-like canals; the same design was also found on those from the Temple Bel in Palmyra. Additionally, we find that the abaci are decorated with leaf-and-dart motifs, a motif found on capitals from the Temple Bel at Palmyra; conversely, the abaci on the capitals of the basalt ionic capital at Gadara are plain. Finally, the eggs of the echini are not longish, as is the case at Gadara, but rather are round and are decorated with five eggs, such as those from the Oval Plaza at Gerasa and the Temple Bal at Palmyra. We can compare these with some ionic capitals with undecorated abaci from Asia Minor, also dating from the first century B.C., for example, those from the Terrace House at Ephesus (**Plate II.1**) (Jenwein 2003; Auginger 1996; Bammer 1973: 219, 223, Pl. 91.1). These too are similar to those used on the basalt ionic capital at Gadara, though we find that the decorations are different on the volutes

resembling those found on the Excavation House at Pergamon, especially the shape of and decoration on the echini, though here the echini are composed of three spirals, much like those found on the basalt ionic capital at Gadara. Another example comes from Ephesus, and dates back to the Augustus period; these were found on the Clivus Sacer (**Plate II.2**) (Bingöl 1980: Pl.12. 123; Alzinger 1974: 84b) and are similar to those from the basalt ionic capital at Gadara, though here the volutes are composed of two spirals, compared with those found on the ionic capital at Gadara, which each consist of three spirals. It seems this form is similar to that found on the volutes from the Oval Plaza at Gerasa. We also find here that the echinus consists of five eggs, whereas the echinus from the basalt ionic capital at Gadara consists of three eggs. Additionally, the eggs on the echinus are not longish, as is the case at Gadara, but rather are round, as with those from the Oval Plaza at Gerasa and the Temple Bal at Palmyra. Comparable with the ionic capitals with undecorated abaci as found at Gadara are like capitals found at several locations in Asia Minor. These date back to the middle first century A.D. Among these are the ionic capitals of the North East Portico of the Colonnaded Street at Aizanoi (**Plate II.3**) (Vandeput 1997: Pl. 74; Rheidt 1993: 519), which resemble those of the basalt ionic capital at Gadara, though here the echini are curved with eggs-and-tongues composed of five eggs, whereas that on the echini from the ionic capital each consist of three eggs. Additionally, the abaci are plain, and are each only divided into one fillet, whereas those at Gadara each consist of a cavetto, and are topped by double fillets. We also find that the capitals here each have a palmette clearly comparable to examples from the basalt ionic capital at Gadara, while the leaflets resemble those found on the capitals of the Oval Plaza at Gerasa. In general, the ionic capitals used in Asia Minor have undecorated abaci, and it would seem that these were more widely used in Asia Minor than at other sites during the Roman period.

In general many examples of ionic capitals with undecorated abaci can be found in Asia Minor dating back to the second century A.D. Considering Pergamon again, we can compare

the basalt ionic capital at Gadara to the Excavation House (**Plate II.4**), which dates from the second century A.D (Bingöl 1980: Pl. 9. 223) and also has like ionic capitals at Gadara, though here the echini are curved and have eggs-and-tongues composed of five eggs, whereas those from the ionic capital at Gadara consist of three eggs. Finally, each abacus is only divided into one fillet, whereas at Gadara, each consists of a cavetto, and is topped by double fillets. Other examples also dating from the second century A.D. can be found at Aksehir (Akçakoca), for example, the ionic capitals used on the Colonnades Street (**Plate II.5**) (Bingöl 1980: Pl. 17. 11) are similar to those at Gadara, though here also the volutes are composed of two spirals and are button-like, while those at Gadara are composed of three eggs. Finally each abacus is divided into one fillet, whereas at Gadara, each consists of a cavetto, and is topped by double fillets. Another example, from Pergamon, dating back to the Hadrian period, are the capitals used on the Colonnades Street (**Plate II.6**) (Abbasoglu 2003: 6,7: Pl.5; Bingöl 1980: Pl. 13.234). These are similar to those at Gadara, though here the design of the volutes and abaci are similar to those found on the Clivus Sacer at Ephesus.

Moreover, the ionic capitals with undecorated abaci are spread out among several sites in Africa dating from the Roman period; however, it seems that some capitals from Alexandria found in the Greco-Roman Museum are older than those found at other locations in Northern Africa, which date back to the third century B.C (Tkaczow 1993: 218-219, objects 80-87). We can compare our capitals with those from several sites in Northern Africa, yet which date back to the second and third centuries A.D., for example, from Lepcis Magna (**Plate III.1**), which dates back to the second century A.D (Mahler 2006: 154, Pl. 18. 67 IK; de Robles 1999: 74; Willeiter und Dollhopf: 1998: 215; Vilimkova 1964: 34, Pl.81) though in these cases, the spirals on the volutes are wide compared with those from Gadara, as well as other locations from the Roman period. We can compare Gadara's capitals with those from another structure, also from Lepcis Magna, but dating to the third century A.D, those found on the North-East Forum Portico (**Plate III.2**),

which dates back to 212 A.D (Ward-Perking 1993: 1, Pl. 16b), are similar to those found on the Roman Bath, though here the volutes are composed of two spirals, whereas those at Gadara are composed of three spirals. We also find other locations from Libya that have ionic capitals with undecorated abaci, though some of them are broken, such as those found on the Ionic Colonnade Street at Sabratha (**Plate III.3**), which dates back to the third century A.D (Kenrik 1986: 57, Pl.15.a). We also find some sites in Asia Minor that have ionic capitals with undecorated abaci similar to those at Gadara, though dating from the third century A.D. The capitals from the Theatre at Hierapolis in Turkey (**Plate III.4**), which date back to Severus (Bingoel 1980: 198, Pl. 10.148, Akurgal 1978: 177), are similar to those at Gadara, though here the echini are curved, with eggs-and-tongues composed of five eggs, whereas those on the echini at the Gadara each consist of three eggs. Also, the each abacus appears to be divided into one fillet, whereas at Gadara, each consists of a cavetto, and is topped by double fillets. Finally, we find that the volutes each consist of two spirals, while those found on the basalt ionic capital at Gadara each consist of three spirals. We also find another example from Turkey, found at the Side Museum (**Plate III.5**), and dating back to the third century A.D (Bingöl 1980: 232, Pl. 19.288). The ionic capitals here are very similar to those found on the Theatre at Hierapolis, though here the echini are each composed of five eggs, such as those found at Gadara. Many other examples exist from Asia Minor; two examples can be found in the Museum of Burdur (**Plate III.6**) (Bingöl 1980: 177, Pl.10.82) and the Museum of Yalavc (**Plate IV.1**) (Bingoel 1980: 241, Pl.10.311), both of which date to the third century A.D., though in both cases, the echini are each composed of five eggs, whereas the echini on the basal ionic at Gadara each consist of three eggs. Additionally, the volutes here each consist of two spirals. Finally, each abacus is only divided into one fillet, whereas that at Gadara, the abaci each consist of a cavetto, topped by double fillets. It seems that in the Western Provinces of the Roman Empire, ionic capitals without decorated abaci are rare compared to in Asia Minor, the Eastern Provinces and Northern Africa.

II. The Pulvini (baluster sides) [4]

In studying this element, we find two forms, with a balteus (**Plate IV.2**) and without a balteus (**Plate IV.3**). In both cases, the pulvini are decorated with acanthus leaves, though we find in the first case that the acanthus leaves are horizontal in shape, while in the second case, they appear to be vertical. We can compare this type with other examples dating from the Roman period, both in the Near East and elsewhere. Nearly, all the examples of pulvini decorated with acanthus leaves from Asia Minor date back to the Roman Empire, For example, the acanthus leaves on the pulvini from the Oval Plaza and the Cardo Maximus at Gerasa (**Plate IV.4**), which date back to the second century A.D (Parapetti 1993: 500; Fisher 1938: 157), are similar to those found at Gadara. Also we find that some of the basalt ionic capitals at Bosra (**Plate IV.5**) (Segal 1997: 22-27, Fig. 24) strongly resemble those found at Gadara from the same period. Many examples of pulvini decorated with acanthus leaves from Asia Minor are similar to those found at Gadara, for example, those on the Temple of Aphrodite at Aphrodisias (**Plate IV.6**), which dates back to the period of Augustus (Simith 1996: 41; Rumscheid 1994: Pl. 9. 1 (16.3); Reynolds 1990: 37-39). Their leaves are similar in form, though there is a little difference in the eye shape, which is more circular, and the fingers are shorter than those at Gadara. Finally, the balteuses here each decorated with laurel leaves, while those from Gadara are undecorated. Another example from the same period can be found on the portico of the Basilica at Ephesus (**Plate V.1**) (Alzinger 1974: Pl. 100.131), though here we find the acanthus leaves to be unclear compared with those found at Gadara; additionally, the balteuses here are decorated with laurel leaves, like those found on the Temple of Aphrodite at Aphrodisias. We find another example of balteuses dating to the period of Augustus, on the Garden of the Volks School in Denizli-Provinz (**Plate V.2**) (Bingöl 1980: Pl.29. 86; Leon 1971: Pl. 61). These are similar to those found at Gadara, though there is a little difference in the eye shape, which is more circular, and the fingers are shorter than those on form two at Gadara; here, the form resembles

that found on the balteuses from the Basilica at Ephesus. Finally, the balteuses here are decorated with laurel leaves and their sides of the balteus are decorated with bands that look like cords, whereas those at Gadara are undecorated. Another example similar to that found on the basalt ionic capital at Gadara can be found on the north-east portico of the Colonnaded Street at Aizanoi (**Plate V.3**), which dates back to the middle of the first century A.D (Vandepuit 1997: Pl.68.2; Rheidt 1993: 519). It seems here that the acanthus leaves resemble those found on the Roman Bath at Gadara, though the balteuses, which at Gadara are undecorated, are here decorated with laurel leaves and have sides decorated with cords, like those found on the Garden of the Volks school in Denizli. The rope motif is also found on the ionic capitals, but is located under the ionic cyma (ovolo), as in the case of the ionic capitals at Gadara, likewise those of the peristyle on the Cathedral at Ephesus, (though these only date back to 370-420 AD) (Lang-Auinger 1996: 97, Pl. 69, 16/ 24; Jenewein 2003: 89, Pl. 39. A86). The number of pulvini on this particular model became more prevalent from the first century A.D. onward that is, from the time of the Gadara site. This is particularly true for Asia Minor, and the Near East. We compare some of the numerous examples of acanthus pulvini, with similar acanthus leaves designs at Gadara. The acanthus leaves found on the pulvini of the ionic capitals on the Portico of Tiberius at Aphrodisias (**Plate V.4**), which dates back to the second century A.D (Bingöl 1980: 171, Pl.31. 51), resemble those at Gadara, though here the balteuses are decorated with flowers and have sides decorated with a cord motif. The number of pulvini of this particular model increases from the first century A.D. onward that is, from the time of the Gadara site. This is particularly the case in Asia Minor and the Near East. Among the numerous examples of acanthus pulvini, we compare some of them and especially, which very similar acanthus leaves. Looking again at Aphrodisias, we find examples from the Hadrian period, on the Agora (**Plate V.5**) (Eirm 1990; Bingöl 1980: Pl. 9. 41; Akurgal 1978:171-175); the acanthus leaves are similar in design to those at Gadara, though here, the balteuses are decorated with scroll leaves, a in the last example, and their

sides are decorated with bands resembling ropes, like those found on the North East Portico of the Colonnaded Street at Aizanoi and on the Garden of the Volks School in Denizli-Provinz. Some examples from this period can also be found in Asia Minor, for example, on the north portico of the Asklepieion (Asclepieum) at Pergamon (**Plate V.6**) (Bingöl 1980: Pl.33. 59), the acanthus leaves of the pulvini resemble those at Gadara. Here, the pulvini are decorated with acanthus leaves and the sides of the balteuses with a rope motif that has a spiral shape. We can also compare this with another example from Pergamon, in Turkey, found on the Kaiser Hall (**Plate V.7**) (Bingöl 1980: Pl.30.220), though this one dates back to the Antoine period. Here the form resembles that found at Gadara, though the sides of each pulvini are decorated with two acanthus leaves, which are clearer than those found at Gadara. Finally, we can compare another example from the same period that also comes from Asia Minor, from the Theatre at Hierapolis (Pamukkale) (**Plate V.8**) (Bingöl 1980: Pl. 31:148; Akurgal 1978: 177) here, the acanthus leaves on the pulvini are similar to those Gadara, though the leaves are shorter compared to those found at Gadara.

III. CONCLUSIONS

This study shows that Jordan is an important point of reference with respect to the study of the decoration of the architectural elements made in the Greek and Roman periods, especially those dating to the first and second century AD. In general, the Gadara and Bosra artists (the sculptor of the architectural elements) showed great ability and technical skill in producing these decorative elements, using only locally available basalt stone as a raw material.

An analysis of the above decorative elements of the basalt ionic capitals shows a high level of skill with respect to their manufacture. This can be inferred from the level of refinement of the final products, which demonstrates a quality of technique as measured by its repetition and the similarity across sites. This is the case with all of the architectural elements in Roman Jordan sites (Decapolis).

A comparative study of the decorative of the basalt ionic capitals elements increases our understanding of the relationship between Gadara and other Roman sites. It also allows us to compare the artistic level of the artists at Gadara with those working at other sites. Similar elements have been found elsewhere in Jordan, as

well as further afield in what was the Roman Empire. Of particular interest are the similarities between the decorative elements found at Gadara and those found at several other places in the eastern Mediterranean, from both the Greek and Roman periods.

FOOTNOTES

[1] It seems that early ionic capitals, without decorated abacus, appear in Italy, for example, those found on the Athena Temple, which dating back to 510 B.C. (Schmidt-Colinet and Plattner, 2004: 40, Figure 38), while we find another example from Asia Minor later than the Italy, it was found on the Excavation House at Pergamum, date to back the 1st Century B.C. (Bingöl, 1980: Pl.2. 215; Winter, 1908: 387, Pl. 49).

[2] The ionic capitals appeared during the Greek period, the oldest example is found in the Acropolis at Athens, dating back to the 6th Century B.C (Robertson, 1964: 325; Puchstein, 1907: 42, Pl. 52; 1887: 10, figs. 3-8).

[3] It appears that the cord motif was decorated under the ionic cyma appeared in Ephesus during the late Hellenistic period (Lang-Auinger, 1996: 42, Pl. 69)

[4] In general most of the pulvinus (baluster side) (Schmidt-Colinet and Plattner, 2004: 129) of the ionic capitals during the Roman period are decorated with several motif, such as laurel leaves, Palmette leaves, scroll leaves and acanthus leaves, usually the leaves of pulvinus are decorated as horizontal or vertical shape, we find both are used on the ionic capitals at Gadara.

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PLATE I



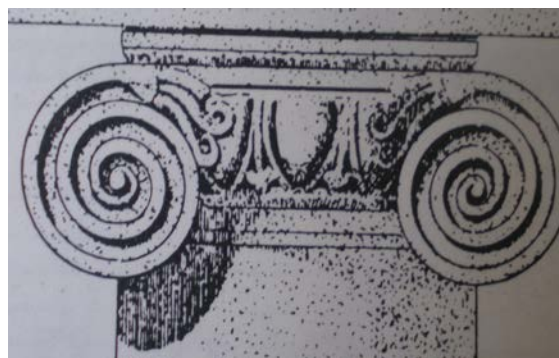
1. Gadara



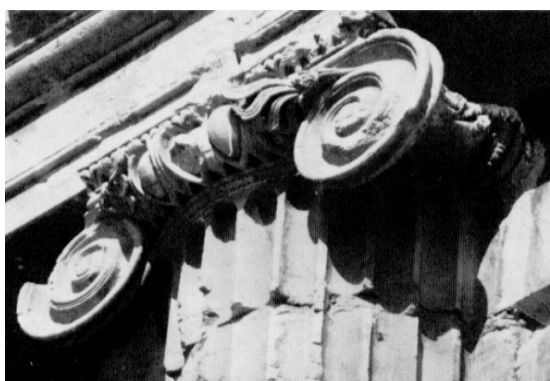
2. Gadara



3. Gearsa, Oval Plaza



4. Bosra, Decumanus Maximus

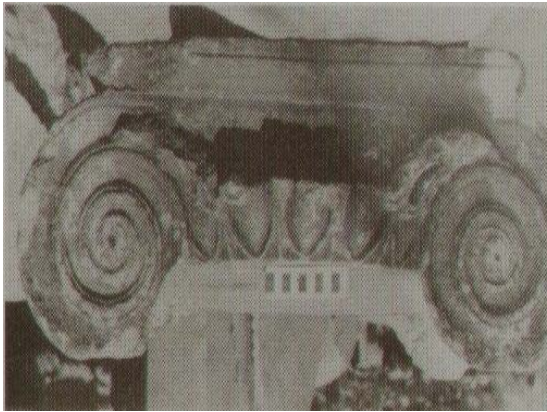


5. Palmyra, Temple Bel

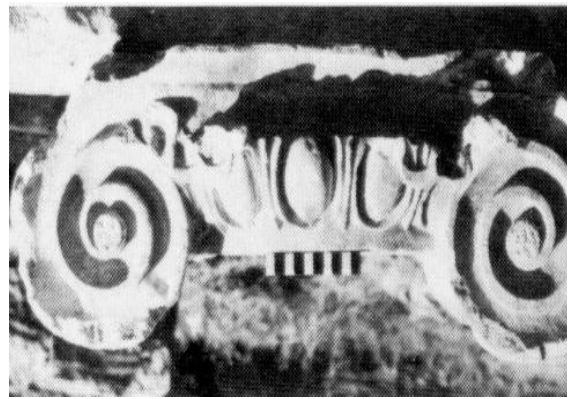


6. Pergamon, Excavation House

PLATE II



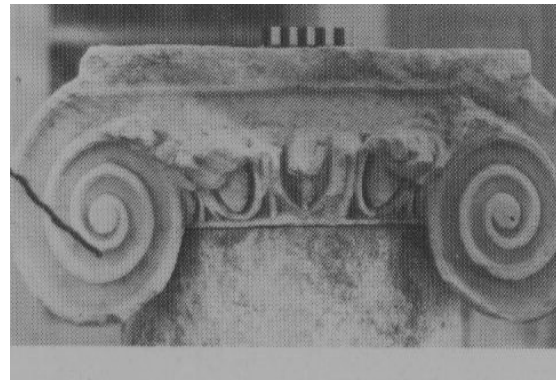
1. Ephesus , Terrace House



2. Ephesus, Clivus Sacer



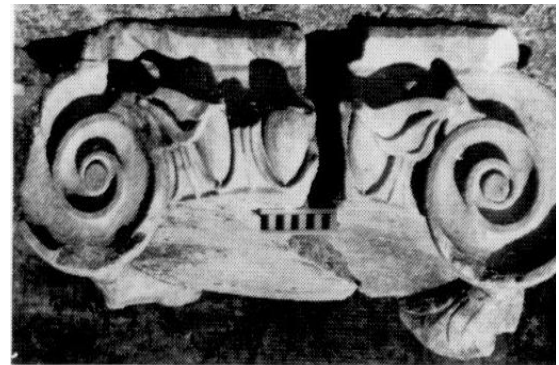
3. Aizanoi, Colonnaded Street



4. Pergamon, Excavation House



5. Aksehir- Akcakoca, Colonnades Street



6. Pergamon, Colonnades Street

PLATE III



1. Lepcis Magna, Marche



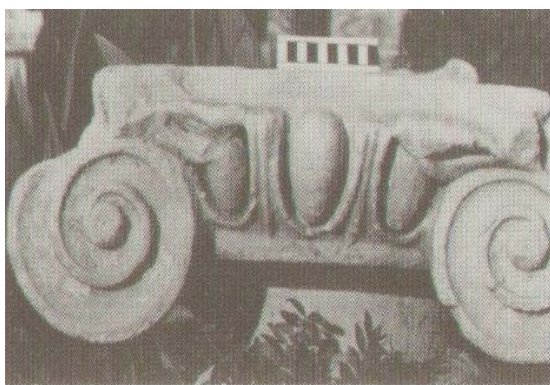
2. Lepcis Magna, N.E. Forum Portico



3. Sabratha, Colonnade Street



4. Hieropolis, Theatre

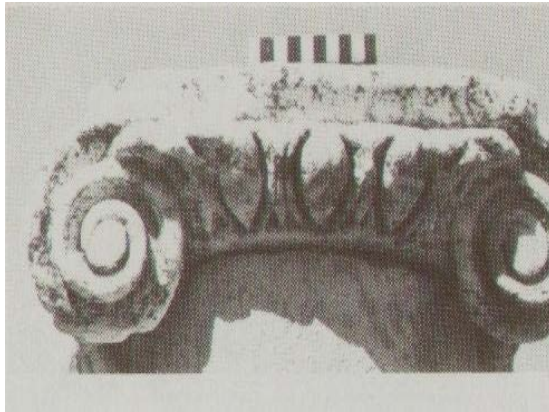


5. Side, Museum



6. Burdur, Museum

PLATE IV



1. Yalavc, Musum



2. Gadara



3. Gadara



4. Gerasa, Cardo Maximus

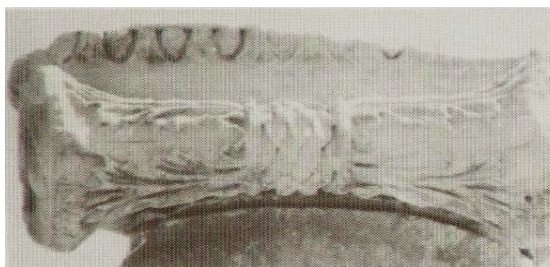


5. Bosra, Decumanus Maximus



6. Aphrodisias, Aphrodite Temple

PLATE V



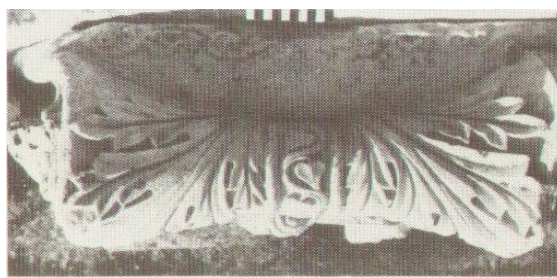
1. Ephesus, Portico of Basilica



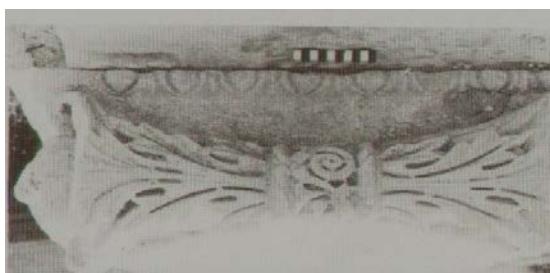
2. Denizli, Garden of Volks School



3. Aizanoi, N.E. Portico/ colonnaded Street



4. Aphrodisias, Portico of Tiberius



5. Aphrodisias, Agora



6. Pergamon, N. Portico of the Asklepieion



7. Pergamon, Kaiser Hall



8. Hierapolis, Theatre