

# **SOMA 2014**

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on Mediterranean Archaeology  
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**Edited by**

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# Contents

<b>Preface</b> .....	<b>vii</b>
Błażej STANISŁAWSKI, Hakan ÖNİZ	
<b>Reconstruction of the Lost Temples of Palmyra</b> .....	<b>1</b>
Ahmet DENKER, Hakan ÖNİZ	
<b>Circulation of Christian Relics through the Mediterranean Sea</b> .....	<b>7</b>
Alessandro LUCIANO	
<b>The Wooden Medieval Ports</b> .....	<b>17</b>
Alessandro LUCIANO	
<b>Archaeometrical Studies of Ancient Window Glass Finds from Olba (Silifke, Mersin)</b>	
<b>Excavations in Turkey</b> .....	<b>27</b>
Ali Akın AKYOL, Ayşe Emel ERTEN	
<b>The Conservation Project of the Mosaics in Metropolis</b> .....	<b>35</b>
Ali Kazım ÖZ	
<b>An Ostothek with Mythological Scene From Avsar</b> .....	<b>41</b>
Asuman BALDIRAN	
<b>An Ostothek with Mythological Scene From Avsar Aims, Sources and Objectives of the Project: ‘Constantinople/ İstanbul-Küçükçekmece – The Port of Destination of the Varangian Way: “Byzantinization” of a Rus Community Centre</b> .....	
<b>47</b>	
Błażej STANISŁAWSKI, Sengül AYDINGÜN, Hakan ÖNİZ	
<b>Northwest Anatolia from the Perspective of Travellers: Social, Cultural Life and Archaeological Remains</b> .....	<b>57</b>
Güngör KARAUĞUZ	
<b>Submerged Prehistoric Sites in Turkey: Dam Constructions</b> .....	<b>65</b>
Hakan ÖNİZ	
<b>The Coastal Quarries of Lebanon: Case Studies of Enfeh, Batroun and Byblos</b> .....	<b>73</b>
Jeanine Abdul MASSIH	
<b>Private Architecture from Ptolemais (Libya)</b> .....	<b>81</b>
Julia MIKOCCA	
<b>Expeditions to Turkey – First Attempts at Heritage Recognition</b> .....	<b>95</b>
Katarzyna JELEŃ	
<b>Some Oil Lamp Ship Scenes from the Roman Period</b> .....	<b>99</b>
Koray ALPER, Eda Güngör ALPER	
<b>The Lion as a Symbol in Mesopotamian and Greek Civilizations: Archaeological Remarks and Historical Evidence</b> .....	<b>107</b>
Krzysztof ULANOWSKI	
<b>Architectural and Artistic Changes and Developments in Transjordanian Churches under Islamic Rule</b> .....	<b>115</b>
Lihi HABAS	

<b>Examining Aspects of History, Religion and Trading Contacts of Ionian Colonies of the Western Shores of ‘Euxinus Pontus’: The Case of Tomi and Orgame .....</b>	<b>137</b>
Maria GIRTZI	
<b>Amphorae Ceramic Stoppers From Risan, Montenegro (Seasons 2001-2013).....</b>	<b>143</b>
Marta BAJTLER	
<b>Applied Methodology for the Terrestrial Survey of the Coastal Town of Anfeh, Lebanon.....</b>	<b>151</b>
Nadine PANAYOT HAROUN	
<b>Spatial Planning of the Narlıca Baths, Antakya .....</b>	<b>159</b>
Nizam ABAY	
<b>Spolia in Seljuk Buildings .....</b>	<b>167</b>
Osman ERAVŞAR	
<b>Everyday Life of a Medieval Ship Crew – Ceramic Materials from a Shipwreck near Novyi Svit.....</b>	<b>183</b>
Veiber ALINA	

## Preface

The 18th annual meeting of the Symposium on Mediterranean Archaeology (SOMA) was held in Wrocław-Poland, 24th to 26th April 2014. As with previous event, this symposium continues to provide an important opportunity for scholars and researchers to come together and discuss their work in a friendly and supportive atmosphere. Our reach grows steadily wider as a result of the increased importance and knowledge of interdisciplinary work in today's scientific era.

Since prehistoric times the Mediterranean has acted as a stage for intense interactions between groups inhabiting regions that are now studied mainly within various sub-fields of ancient studies. In recent years, however, the development of research techniques and analytical models of archaeological evidence have identified similar historical paths that are similar, if not, in some cases, common to these disparate areas of the ancient world from West (Iberian peninsula) to East (Anatolia and Levant), from North (Europe, Black Sea Coast) to South (Maghreb and Egypt).

The 18th SOMA provided a forum for presentations related to the above-mentioned topics, as well as general themes such as the role of the sea, trade, colonization, even piracy, using archaeological data collected within contexts associated with the Mediterranean Basin and the area referred to as the Ancient Near East, ranging chronologically from the Prehistoric to Medieval periods. Five opening speeches launched the symposium, including Gościwit Malinowski on 'The Representation of the Winged Ibex in Ancient Art', Koksal Ozkoklu on 'Excavations and Research in Turkey', and Tadeusz Baranowski on 'The Difficult Beginnings of Archaeological Research in the Middle Ages in the Mediterranean: The Experience of Polish Archaeologists and Collaborations from Italy, France and Spain'.

This current volume contains 22 papers selected from the 90 presented to the delegates in the buildings of the 'Centre for Late Antique and Early Medieval Studies' in the Institute of Archaeology and Ethnology, Polish Academy of Sciences, and the 'Institute of Classical, Mediterranean and Oriental Studies' of the University of Wrocław, with the kind support of the General Association of Mediterranean Archaeology, the City Museum of Wrocław, the Institute of History, University of Wrocław and the Polish Academy of Sciences.

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# Reconstruction of the Lost Temples of Palmyra

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Palmyra once contained well-preserved temples dedicated to ancient Arab gods. They had long been considered among the most evocative and important ruins of the ancient world, and, as such, the city was listed as a UNESCO world heritage site.

As a result of the recent looting and destruction of the vestiges of Palmyra, irreplaceable evidence of ancient life and societies are lost forever. The aim of this paper is twofold. First, it sets out to bring a formal and unified approach to these great temples, and, second, it attempts to reconstruct them as if they are standing undamaged and in

their original state. In showing vividly how leveled buildings once looked, reconstruction work can be equally instructive in clarifying how such buildings could *not* have looked. With this work 'Virtual Palmyra' has been created as a new addition to our digital cultural heritage.

## Introduction

The magnificent ruins of the temples of Palmyra have fallen victims to vandalism and wanton destruction. As an 'oasis in the Syrian desert', the city first captured public attention through Robert Wood's book 'The ruins of Palmyra, otherwise Tedmor, in the desert' (1857). A short while later the popular account of Constantine Francois de Volney, 'The Ruins' or Meditations on the Revolutions of Empires', served to increase this attention. These books were the source of inspiration for poets such as Thomas Love Peacock, who wrote his 'Palmyra' in 1806. In an address to the spirit of ancient times he dedicated the following words to the ruined magnificence of Palmyra:

'Amid the wrecks of ancient time,  
More sad, more solemn more sublime,  
Where half-sunk in seas of sand  
Tedmor's marble wastes expand.'

'Tedmor's marble wastes' (Tedmor and Palmyra are Syrian and Greek names for the same site), had been left intact to a great measure until their demolition as a result of the recent dissent and conflicts in Syria. Palmyra's memory was preserved by these relics and they told the city's own story.

As the latest act in the dark history of vandalism, 'Isis' assaulted the Temple of Baalshamin, which was built in the time of Zenobia. This was followed by the destruction of the Temple of Bel. These were both unique monuments of a hybrid

architectural style which blended Greco-Roman canons with ancient Middle-Eastern architecture. With their destruction, two more irreplaceable treasures belonging to the world's cultural heritage have been lost to posterity.

## **The Warrior Queen Zenobia and Palmyra's Temples**

The only description we have of Palmyra from ancient sources is a brief depiction by Pliny the Elder:

‘Palmyra is remarkable for its situation, rich soil and pleasant streams; it is surrounded on all sides by a vast sandy desert which totally separates it from the rest of the world, and has preserved its independence between the two great empires of Rome and Persia.’

Surprisingly, Strabo, the geographer and guide to the Mediterranean, never mentions its name.

Palmyrenes flourished in the centre of great civilizations: Greece, Rome, Egypt and Persia, and as a result they adopted many of their customs, culture, arts and architecture.

The city rose to prominence some 2000 years ago during the reign of ‘the warrior queen’, Zenobia. In its glory, Palmyra well merited the praise of Pliny the Elder. Its situation was ‘fine’ under a ridge of hills which commanded an extensive plain. The site was distinguished by a number of monumental buildings, several of which had remained almost complete. Two, in particular, were outstanding in appearance – the temple buildings dedicated to the two most important gods of the region: Bel and Baalshamin.

The short and confused accounts of these temples only serve to raise than satisfy our curiosity about the structures. We learn from Roman accounts that they were damaged during the war between the Roman general Aurelian and Zenobia, and they were repaired at the command of the Roman Emperor. There are uncertainties about the life of Zenobia. She is little mentioned by the authors who wrote about Palmyra. Whatever uncertainties there may be about her life, we know she was a ‘warrior queen’, very much like Cleopatra. For all other information we must rely on Trebellius Pollio, the biographer of the emperors Gallineus and Aurelian, who refers to the queen and her husband, Odenathus. According to his account she liked to associate herself as a descendant of Cleopatra. She was a woman of beauty and political acumen, and if we include her military skills she reminds us more of Athena than Aphrodite. During her reign Palmyra achieved its greatest glory – a relatively small city in the desert that extended its conquests over many rich and powerful states, including Egypt.

Zenobia, who sought to resemble Cleopatra and in many ways ruled like her, was, like her heroine, ultimately defeated by the Romans. In the ensuing war the Roman emperor Aurelian reconquered all her territory and took her prisoner in 271, taking her as a trophy to Rome. Unlike Cleopatra, however, she was not to return to her country.

The temples of Bel and Baalshmin damaged in 271 by Roman soldiers were repaired by the order of the Roman emperor: 150kg of gold found in Zenobia's coffers were spent on this project.

Unlike other major cities of the Eastern provinces of Rome where one single monumental temple to a patron god dominated the landscape (e.g. Temple of Artemis at Ephesus), there were numerous temples in Palmyra. The reason for this lies in the sophisticated religious structure of the city. Although from their outward appearance they looked Greco-Roman, the deities they honoured were not.

Due to its semi-nomadic social structure, which was composed of individual branches developing from an original root, there was no real Pantheon in Palmyra, that is to say no generally accepted hierarchy of the gods. According to the ancient written sources, there were four constituent tribes, each settled in a different part of the city. Each tribe, as well as its own local deities, worshipped gods of various origins. In addition to indigenous Arab deities, they worshipped gods whose origins can be traced back to regions of northern or southern Syria, Arabia or Mesopotamia (Schmidt-Colinet 1995).

Palmyra had four main temples, which corresponded to these four constituent tribes: the Temple of Baalshamir (the ‘Lord of Heaven’); the Temple of Arsu (protector of caravans and camels); The temple of the old Syrian god Atargatis (representing the ‘divine brothers’ Aglibol (‘Moon’) and Melakbel (‘Sun’). Above all these was the great Temple of Bel, the common chief sanctuary for all four tribes. The temple was almost a national cult centre and represented all of Palmyra (Schlumberger 1971).

Originating from Mesopotamia, Bel was identified as the ‘Father God’ of the universe – like Zeus of the Greeks and Jupiter of the Romans. The cosmic nature of the Palmyrian gods is expressed in the co-existence of a cultic trinity with Yarhibol, an old God associated with the sun, and Aglibol, a lunar deity. Baalshamin, as God of heaven, fertility, lightning and rain, was also equated with the Greco-Roman Dionysus/Bacchus. Bel was often portrayed together with Yarhibol and Aglibol representing the Sun and the Moon: the three gods formed a triad. A 1st century AD relief in the Louvre Museum shows Bel between Aglibol and Yarhibol. Unlike the Greco-Roman deities who were constantly in conflict, cooperation was a feature of Palmyra’s gods.

The cult of the individual gods featured organized processions of priests. These cult processions included the requisite liturgical activities, such as sacrifice and prayer. The most important sacrificial rites featured the burning of incense on small fire-altars, or making offerings of fruit, etc. Palmyra’s temples were remarkable examples of monumental construction that blended Greco-Roman and Oriental architecture. The hybrid elements of these temples demonstrated the numerous cultures that frequently overlapped and intermixed in the city.

In an exhibition at the Smithsonian’s Freer and Sackler Galleries in 2015, the main theme was that the temples of Palmyra were a primary inspiration for the neoclassical architectural style that developed in Britain and North America. The exhibition claimed that they have had a direct influence on American architecture, including buildings such as the Capitol, White House and Monticello – the Virginia home of Thomas Jefferson (O’ Brien 2015).

### **Digital Reconstruction of the Temples**

The project aims at reaching the following goals:

- \* The reconstruction of each of the lost edifices of Palmyra in a form as close to their original as possible.
- \* The placement of the individual models within a re-contextualized 3D environment.
- \* Piecing together the individual 3D models and 3D environment to establish a comprehensive virtual representation of the whole of Palmyra.

Reaching these goals requires the availability and accessibility of the following:

- \* Graphical and photographic data.
- \* Archaeological survey data
- \* Topographical data.

When the data are missing and the architectural elements have been lost, other sources are sought to provide the missing information. In the case of Palmyra, it is possible to assemble a large collection of information. Textual and graphic descriptions on the ancient architecture of Palmyra exist in the literature (e.g. Wiegand 1933). Each demolished temple, and the other landmarks of the city, colonnaded road, amphitheatre, etc., were, to a great extent, recorded.

Recognition of the splendour of the ruins of Palmyra by travellers in the 17th and 18th centuries contributed greatly to the subsequent revival of classical architectural styles and urban design in

the West. The work (1753) of British explorer Robert Wood may be used as an example. This volume appeared subsequent to Wood's visit to Palmyra in the course of a voyage he undertook with 'two gentlemen whose curiosity had carried them more than once to the continent, particularly to Italy. They thought that a voyage, properly conducted, to the most remarkable places of antiquity, on the coast of the Mediterranean, might produce amusement and improvement to themselves, as well as some advantage to the public', as he stated in his preface. The success of the book is primarily due to the drawings of Giovanni Battista Borra: the first accurate records of the monumental ruins of Palmyra.

In his book, Wood tells how the artist joined the travel party: 'a fourth person in Italy, whose abilities as an architect and draftsman we were acquainted with, would be absolutely necessary. We accordingly wrote to him [Borra], and fixed him for the voyage. The drawings he made, have convinced all those who have seen them, that we could not have employed anybody more fit for our purpose.'

With the help of Borra's drawings, engraved in 1753, the monograph by Wood has become the main repository of information relating to graphical data.

Another important source of graphical data are the drawings of Louis Francois Cassas (1900). Cassas travelled to Palmyra in 1785 and made several drawings of the ruins.

Transferring this graphical information into digital models has parallels with may be compared with Robin Evans' procedure involved in the 'translation from drawings to buildings' (1995). His proposition that 'there is only one communicant, and that is the drawing', invokes a process that results in the evolution of a digital construction through a series of geometric projections of drawings. However the drawings of Borra and Cassas have some intrinsic limitations and not everything can be deduced from them, i.e. texture, colour and light. Digital constructions of virtual representations based on our two artists call for supplementary data.

Photographs taken between 1867 and 1876 by Felix Bonfils, which provide the most complete visual record of Palmyra from the 19th century, provided further invaluable information for the realization of this digital attempt to project views of what the monumental remains of Palmyra looked like in ancient times. We have tried to reconstruct their ancient state rather than their pre-demolition state.

## Results and Conclusions

3D digital reconstruction images of the temples of Bel and Baalshamin are presented in Figures 1-4.

The Temple of Bel was the paramount and most impressive sanctuary in Palmyra, being dedicated to the most important of the Palmyrene gods: the equivalent of the Greek Zeus and Roman Jupiter. Its remains were remarkably well preserved and constituted the most impressive area of the ruins. At its peak it demonstrated a perfect synthesis of Greco-Roman and ancient Near Eastern architecture. The temple building was in the centre of an almost square temenos (205 x 210m). The cella was a rectangular building surrounded by a single row of columns. The order was Corinthian. In its outward appearance the temple appears derived from the canon of Hellenistic architecture. The entrance to the inner court was through a monumental propylaeum, 35m wide. Visitors were led to the gate through a majestic staircase. The construction required the visitor to turn 90° before entering the temple in order to view the cult area.

As with the Bel monument, the Temple of Baalshamin also exhibited a certain hybridity in terms of design. The Greco-Roman traits were demonstrated by its colonnaded precinct, prostyle façade and tetra style structure (Collart 1970).

The four free-standing columns in the façade were finished in Corinthian order. Along with its overall classical Greco-Roman appearance, the edifice also featured prominent Near Eastern motifs, most noticeably the cella windows. These windows, which do not exist in the Greco-Roman tradition, signified the presence of the deity inside.

It has been possible to reconstruct these buildings as if they are still stand, unharmed and in their original state, showing vividly how the ruins once looked. Reconstruction work can be equally instructive in clarifying how such buildings could *not* have looked. 3D computer graphics offer the ability to ‘reconstruct the past’ in ways never originally imagined. Considering that the disappearance of these temples represents a measure of impoverishment of the intellectual wealth of all nations, the use 3D computer graphics to reconstruct and help us re-experience them merits careful and serious consideration.

3D computer graphics and virtual reality seem, to date, to be the only means of providing some solace for our collective and irreversible loss. Through our project we have had attempted to rebuild the lost reality of the temples of Palmyra by digitally reconstructing their ‘ghost images’. This project offers a glimpse of the grandeur and beauty of the temples of Bel and Baalshamin, nothing of which any longer remains.

Figures



FIG. 1: RECONSTRUCTED FACADE OF THE TEMPLE OF BEL



FIG. 2: TEMPLE OF BELL AND THE 3D ENVIRONMENT



FIG. 3: RECONSTRUCTED OUTER-VIEW OF THE TEMPLE OF BAALSHAMIN AND ITS ENVIRONMENT

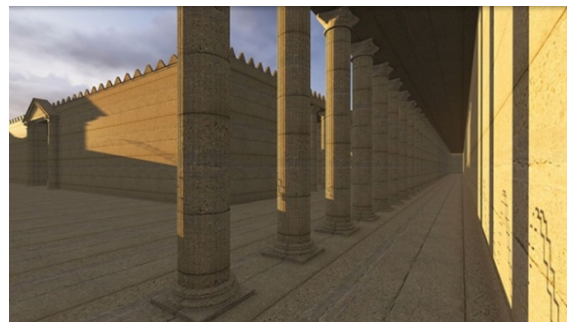


FIG. 4: RECONSTRUCTED VIEW OF THE TEMENOS OF TEMPLE OF BAALSHAMIN