

SOMA 2014

Proceedings of the 18th Symposium
on Mediterranean Archaeology
Wrocław - Poland, 24-26 April 2014

Edited by

Blazej Stanislawski
Hakan Öviz

SOMA

WROCLAW
24-26 April 2014

18th SYMPOSIUM
**on Mediterranean
Archaeology**

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General Association of Mediterranean Archaeology
Centre for Late Antique and Early Medieval Studies of the Institute of Archaeology and Ethnology
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ARCHAEOPRESS PUBLISHING LTD

Gordon House
276 Banbury Road
Oxford OX2 7ED

www.archaeopress.com

ISBN 978 1 78491 494 3
ISBN 978 1 78491 495 0 (e-Pdf)

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ORGANIZED BY:

Centre for Late Antique and Early Medieval Studies of the Institute of Archaeology and Ethnology Polish Academy of Sciences

General Association of Mediterranean Archaeology

Institute of Classical, Mediterranean and Oriental Studies University of Wrocław

The City Museum of Wrocław

Institute of History University of Wrocław

Supported by Polish Academy of Sciences

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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.

Dr Blazej Stanislawski
Dr Hakan Öniz

Reconstruction of the Lost Temples of Palmyra

Ahmet DENKER*, Hakan ÖNİZ**

*Faculty of Engineering and Natural Sciences, Istanbul Bilgi University, Istanbul - Turkey, ahmet.denker@bilgi.edu.tr

**Department of Archaeology, Faculty of Literature, Selcuk University, Konya- Turkey, hakan.oniz@gmail.com

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 Gallienus 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

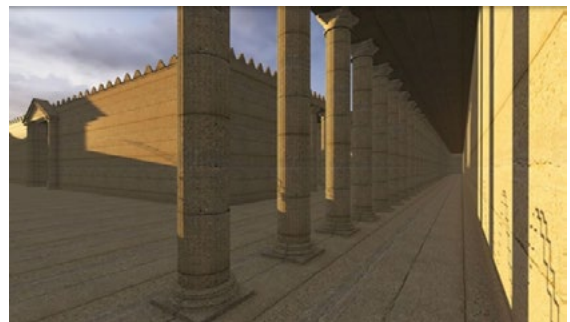


FIG. 4: RECONSTRUCTED VIEW OF THE TEMENOS OF TEMPLE OF BAALSHAMIN

Circulation of Christian Relics through the Mediterranean Sea

Alessandro LUCIANO

University of Naples, Italy, sasandro80@yahoo.it

The circulation of relics from the Eastern Mediterranean and North Africa towards Italy, particularly to Rome, affected not only the Carolingian period, as the texts of *traslationes* lead us to believe. In spite of the obstinacy of the Roman Church to preserve its venerated graves, during the 5th century AD, many relics reached Italy from everywhere.

Holy relics, especially North-African ones carried by exiles escaping Vandal persecution, arrived in the southern regions and islands.¹ The cities of Annonarian Italy, connected to the Adriatic trade and to Constantinople, however, imported mostly Eastern relics. Those of the apostles and St Stephen were very appreciated. Even Helene, mother of Constantine, brought to Rome some fragments of the Holy Cross, which she deposited in the church of Santa Croce in Gerusalemme, in the Lateran Palace.² The phenomenon was soon to involve North-African relics and, more rarely, other ones arriving from Central Europe. For example the body of St Severinus of Noricum was moved to Naples at the end of the 5th century, as mentioned by Eugippus (Sev. 20, 1).

Like *inventiones*, the *translationes* were managed by the bishops. In this way they could show their influence. The arrival of holy fragments was considered as a miraculous event and celebrated as an Imperial *adventus*. Of particular interest is the scene represented on an ivory tablet from the Treasure of Trevisi dating back to the 5th century (Fig. 1).³ A reliquary is carried by two bishops standing on a cart preceded by a procession. In the first row are the emperor and his wife while many rejoicing people attend all around. The procession is heading for a church under construction, as translated relics were usually used to consecrate the altars.

Roman Sanctuaries

The foreign relics venerated in Rome during Late Antiquity included: The Greek Martyrs at Via Ardeatina; African Panfilus in the homonymous catacomb; Pannonian Pollio in The Pontian Cemetery; The Forty Martyrs of Sebastia at Duos Lauros; Siscia's bishop Quirinus at St. Sebastian; and the protomartyr Stephen on via Latina (Fig. 2).⁴ The martyrs who died far away from Rome were considered foreign. As recalled by Damasus, the non-Italic saints executed in Urbs automatically acquired its citizenship (ED, 188-189, n. 46, 3, 195, n. 48, 142-143, n. 20, 4 -6). The Persians Abdon, Sennen and Milix, buried in Pontian's cemetery belonged to this group.

¹ Some saints, known as Italic in *Martyrologium Hieronymianum*, are considered Oriental and African by the late historical sources. In this way, the hagiographic tradition tried to give importance to local saints. In some cases, however, the duplication of the cults was the result of a homonymy.

² Margherita Cecchelli, Santa Croce in Gerusalemme, in: Lidia Paroli, Laura Vendittelli, eds., Roma dall'antichità al Medioevo II. Contesti tardoantichi e altomedievali, Milano 2004, pp. 344-348.

³ Alexandra Chavarria Arnau, Placchetta con processione di reliquie, in: Gian Pietro Brogiolo, Alexandra Chavarria Arnau, eds., I Longobardi. Dalla caduta dell'Impero all'alba dell'Italia, Milano 2007, p. 101.

⁴ Anna Maria Nieddu, Note sul culto dei martiri stranieri nei santuari paleocristiani del suburbio romano, in: Sofia Boesch Gajano, Francesco Scorza Barcellona, eds., Lo spazio del santuario. Un osservatorio per la storia di Roma e del Lazio. Convegno, Roma 2008, pp. 351-376.

The sanctuaries of foreign martyrs were even more numerous. Collective and anonymous cults attested in Medieval Itineraries, in fact, were probably related to non-Roman saints. The sanctuary of the Thirty Martyrs in the catacomb of Marcellinus and Peter was probably located in a cubicle occupied by a masonry structure equipped with a funnel-shaped hole (Fig. 3).⁵

The *Depositiones*

The foreign relics were usually placed in catacombs, in cubicles or galleries, but those of Quirinus and Stephen occupied, respectively, a mausoleum (the so-called Platonica) (Fig. 4) and a basilica. In all cases, however, the *locus depositionis* was a small reliquary, since the relics were usually *ex contactu* or fragmented. The confessional spaces instead were preexisting, since the cults were probably promoted by private individuals, as shown by Quirinus' memorial inscription (ICUR V 13276). The three-nave basilica of St Stephen, for example, was built by the patrician Demetrias on her own property, but overseen by the presbyter Tigrinus, as attested by the marble slab dedication (ICUR VI 15765). The church, equipped with a baptistery, probably belonged to a rural settlement and had martyrial, funerary and pastoral functions.⁶ The relics were arranged in the presbytery in an unknown way. The cult of St Stephen became very popular. According to the Itineraries (VZ II, 108-109), one stone of his martyrdom stood on the altar of a chapel in front of St. Paul's basilica.

The relics of the other foreign saints were arranged in a different way. Those of Panfilus were deposited inside a preexisting arcosolium, in a double cubicle (Fig. 5);⁷ Pollio's at the end of a gallery;⁸ The Greek Martyrs inside an elaborate multiple burial in the main ambulatory of the catacomb (Fig. 6);⁹ The Forty Martyrs in a small case opened in the wall of a gallery. In the floor of Quirinus' sanctuary the holy fragments were arranged into two boxes walled-in near a small funerary room, probably belonging to the mausoleum's founders (Fig. 7).¹⁰ The *loculi* or *arcosolia* of Abdon and Sennen, martyred under Emperor Decius (AD 251), according to the *Passio*, and the grave of Milix were instead in two different cubicles.

The Development of the Sanctuaries

The *depositiones* were usually followed by embellishments to the buildings: sculptural furnishings, paintings representing the saints, enlargement of the burial spaces, arrangement of *itineraria*, placement of memorial inscriptions.

The sanctuaries often became suitable for liturgical celebrations. A masonry altar with *fenestella confessionis* featuring a funerary pagan slab was leaned against Panfilus' arcosolium, while some marble slabs decorated the pavement of his *cubiculum*. On Via Ardeatina, the *ad corpus* basilica of The Greek Martyrs was a rectangular semi-hypogeal building with apse (Fig. 8). The venerated tomb, in the centre of the space, was transformed into an altar by the addition of a marble *mensa*. It was highlighted by a commemorative inscription and covered by a *ciborium* supported by four columns.

The renovations, during the age of Pope Damasus (AD 366-384), were often promoted by ecclesiastical hierarchies. On the *transenna* marking the grave of Abdon and Sennen, for example, an inscription recalled the works of an unknown priest.

⁵ Jean Guyon, *Duas Lauros* (inter), *coemeterium*, in: LTUR-S, II, Roma 2004, pp. 133-134.

⁶ Donatella Nuzzo, *Reliquie ed edifici rurali nel V-VII secolo*, in: Adele Coscarella, Paolo De Santis, eds., *Martiri, santi, patroni. Per un'archeologia della devozione*, Rossano 2012, pp. 332-333.

⁷ Antongiulio Granelli, *Pamphili coemeterium*, in: LTUR-S, IV, Roma 2006, pp. 157-162.

⁸ Monica Ricciardi, *Pontiani coemeterium*, LTUR-S, IV, Roma 2006, pp. 213-219.

⁹ Vincenzo Focchi Nicolai, *La nuova Basilica Circiforme della via Ardeatina*, Città del Vaticano 1996.

¹⁰ Anna Maria Nieddu, *Quirini ecclesia*, LTUR-S, IV, Roma 2006, pp. 294-297.

In other cases, the confessional spaces were decorated by frescoes, usually dated to the 6th century. See, for example, the painted wall with *fenestella confessionis* that closes Pollio's sanctuary, with the martyr flanked by Marcellinus and Peter, or the decoration drawn on the wall of The Forty Martyrs, where Marcellinus and Peter welcomed the arrival of the new Armenian saints (Fig. 9). In this painting, the reliquary was highlighted with the word 'scrinium' (Fig. 10).¹¹ In the same hypogeal necropolis, a painting represented Milix and Pumenio flanking

a gemmated cross. The underlying *fenestella confessionis* was opened on the hypothetical funerary room of Milix. The sanctuary of Saints Abdon and Sennen, which became a baptistery after a flood, was also decorated by frescos. They were probably commissioned by Gaudiosus, who was remembered by two inscriptions (ICUR II 4532a, 4532c). On the southern wall, Christ offers the martyrdom crown to Abdon and Sennen, between Milix and Bicentius. The baptistery was accessible by a stair coming from a funerary enclosure. Inside it there was a mausoleum with apse dated to the end of 4th, beginning of 5th century, probably just the 'ecclesia magna' of Abdon and Sennen remembered by Medieval Itineraries (VZ II, 92).¹² The church was probably built to house the relics that were translated from the catacomb after the flooding. The obstruction of Pollio's *confessio* through the frescoed wall perhaps coincided with the erection of the basilica mentioned in Medieval Itineraries (VZ II, 91-92). The saint's relics were moved inside the building between 6th and 7th centuries, perhaps after the same natural flooding.

In the tomb near Quirinus's reliquary, the martyr is shown crowned by Christ with the commemorative inscription occupying the mausoleum's walls.

The cult of foreign saints is also attested by many high-status tombs and devotional graffiti, some of which, dating back to the end of the early Middle Ages, allowed the identification of the sanctuaries. See, for example, that of 's(an)c(tu)s Panfilu' (ICVR X 26317), the signatures of priests on the mensa of The Greek Martyrs, or those drawn on the wall of the Pontian. Regarding the high-status burials, in the mausoleum of Quirinus, some large funerary niches were built along the inner walls and were decorated with plastered apostles/philosophers.

Until the 6th and 7th centuries, many suburban churches were dedicated to non-Roman saints and probably consecrated with their relics, e.g. Aristo, Agatha, Christina, Victoria, Cyrus, Apollinaris, Euplius, Menas, Menna, and Cyprian.¹³ Sometimes these buildings were located near the sanctuaries of St. Peter in the Vatican, St. Paul on the Via Ostiense and St. Lawrence on the Via Tiburtina, or along the porticus that connected them with the city. Along the porticus Sancti Pauli was the basilica of St Menna, remembered by Gregory the Great (In eveng. 2, 35) and perhaps founded by Pelagius II (AD 570-590).¹⁴

It is likely that the basilicas built far away from the walls had parish functions, such as that of Sts Nicander, Eleuterio and Andrea, built by Gelasius I (AD 492-496) on the Via Labicana (Lib. Pont. I, 255).¹⁵ Also the basilica of St Cyprian on Labicana, known through a funerary inscription of AD 577 (ICUR I 1122), was probably used for *cura animarum*.¹⁶

¹¹ Raffaella Giuliani, Le nuove pitture delle catacombe dei ss. Marcellino e Pietro: alcune precisazioni, in: Coscarella, De Santis, eds., Martiri, santi, patroni..., pp. 399-412.

¹² Palmira Maria Barbini, SS. Abdon et Sennes, basilica, in: LTUR-S, I, Roma 2001, pp. 9-10.

¹³ Lucrezia Spera, Luoghi di culto di carattere 'rievocativo' nel suburbio, in: Ecclesiae, Città del Vaticano, 2002, pp. 691-712.

¹⁴ Lucrezia Spera, S. Mennae basilica, in: LTUR-S, IV, Roma, 2006, pp. 63-64.

¹⁵ Vincenzo Fiocchi Nicolai, SS. Nicandri, Eleutherii et Andreae basilica, in: LTUR-S, IV, Roma 2006, pp. 93-94.

¹⁶ Vincenzo Fiocchi Nicolai, S. Cypriani ecclesia, in: LTUR-S, II, Roma 2004, pp. 175-176.

The Other Sanctuaries in Italy

From the early 5th century, along all the Italian Peninsula, churches were being consecrated with translated relics deposited in niches under their altars. These were even to include the arrival from The Holy Land of the relics of the apostles and St Stephen himself.¹⁷ This phenomenon is also remarked on in the historical sources. According to Augustine of Hippo (*Sermones ad populum. De sanctis CCCXIV-CCCXX*), for example, a stone associated with the martyrdom of St Stephen was brought to Ancona by a sailor: a church in his honour was soon built there.

Basilicae Apostolorum and churches dedicated to St Stephen, grouped with the preexisting shrines dedicated to bishops and martyrs, led to the setting up of sacred zones in suburban areas.¹⁸ This model of urban planning, typical of Rome and attested in Milan too, became widespread in Northern Italy due to the influence of bishop Ambrose (374-397) and to the presence of ports connected to the Eastern Mediterranean, such as Aquileia and Ravenna.¹⁹ The *Basilicae Apostolorum*, like those of Constantinople, usually had cruciform plan, to recall the Passion of Christ, as attested by the commemorative inscription of Ambrose (ILCV 1800) (Fig. 11).

The richly decorated apostolic reliquaries, such as the Milanese *arculam argenteam* (of the so-called St Nazzarus) (Fig. 12), were deposited in floor boxes, in the centre of the buildings, such as in Milan and Aosta (Fig. 13), or in the presbytery, as in Concordia Sagittaria (Fig. 14).²⁰ Paulinus of Nola (AD 354-431), referring to the Basilica Nova at Cimitile, mentioned the apostolic remains ‘in abside trichora sub altaria’.

Some bishops had their final resting places close to the relics, as shown by the letter of Ambrose to his sister Marcellina (77, 12-13) and the fenced-in masonry tombs of Aosta (Fig. 15). The spread of basilicas dedicated to St Stephen was due to the discovering of his relics at Caphar Gamala in AD 415. Even these buildings were sometimes cruciform but their confessional spaces are less well known. The building at Aquileia is poorly investigated, like that of Milan; it was founded by bishop Martinianus who was buried inside it. The cruciform basilica of Verona (first half of the 5th century), and that of Aosta (beginning of the 5th), with a double apse, are better known. Also St Stephen in Arce, a small building on the hill of Cidneo in Brescia, had two *exedrae* that delimited an ambulatory. It was attended by pilgrims, who would see the relics through some openings in the inner wall.²¹ St Stephen in Rimini, probably situated on via Flaminia, was built by Galla Placidia (AD 392-450), according to the historical sources.²² The empress, who was born in Constantinople, was very close to the Oriental cults. In Ravenna she built the basilica of the Holy Cross (AD 425-430), consecrated with the wooden fragments, and while in Rome restored the site of Santa Croce in Gerusalemme.²³ Other memorials to St Stephen were in Campania. The Medieval

¹⁷ Rossana Martorelli, La circolazione dei culti e delle reliquie in età tardoantica ed altomedievale, in: Coscarella, De Santis, eds., *Martiri, santi, patroni...*, pp. 231-264.

¹⁸ Alessandro Luciano, *Santuari paleocristiani in Italia*, Unpublished PhD thesis, University of Udine 2014.

¹⁹ Enrico Morini, *Santi orientali a Ravenna*, in: Antonio Carile, ed., *Storia di Ravenna. Dall'età bizantina all'età ottoniana. Ecclesiologia, cultura e arte II* (2), Venezia 1992, pp. 283-303.

²⁰ Chiara Bonetti, *San Nazaro. La basilica Apostolorum: l'edificio*, in: Silvia Lusuardi Siena, Maria Pia Rossignani, Marco Sannazaro eds., *La città e la sua memoria. Milano e la tradizione di sant'Ambrogio*, Milano 1997, pp. 70-73. About the sanctuaries of Northern Italy, Alberto Crosato, *Alle origini dei cimiteri cristiani: chiese e sepolture nell'Italia transpadana tra IV e IX secolo*, Unpublished PhD thesis, University of Padova 2008.

²¹ Lucrezia Spera, *Le forme del culto e della devozione negli spazi intramuranei*, in: Coscarella, De Santis, eds., *Martiri, santi, patroni...*, pp. 280-281.

²² Claudio Negrèlli, *Rimini capitale. Strutture insediative, sociali ed economiche tra V e VIII secolo*, Firenze 2008, pp. 21-25.

²³ Massimiliano David, *Da Gerusalemme a Ravenna, Il culto della croce e la corte imperiale a Ravenna*, in: Coscarella, De Santis, eds., *Martiri, santi, patroni...*, pp. 687-696.

Martyrologium of Beda recalled the basilica of Puteoli (Pozzuoli), inside which were the remains of Proculus, Acuzio and Eutiche, executed with St Iuanuarius. The building is hypothetically recognized in a structure standing in the Roman cemetery on the Via Celle, used also by Christians.²⁴ The Sancti Stephani mentioned in the biography of bishop Victor (AD 485-498) in the sanctuary of St Iuanuarius at Capodimonte (Naples) is perhaps recognizable in the building commonly known as *Basilica Maior*.

The church of Stephen in St Felix' sanctuary at Cimitile dates to the beginning of the 6th century. The church had one nave while two side structures gave it a cruciform plan.

Many basilicas jointly dedicated to the proto-martyr and other native saints are found in southern Italy, usually in country areas, i.e. the church of Sts Stephen, Pancratius and Euplo in Messina, mentioned by Gregory the Great (Epist. 2.6). The basilica dedicated to the proto-martyr and Agata at Siponto was founded by bishop Lawrence, as attested by his Vita. It was a building with three naves and a fenced presbytery, dated to the end of 4th, beginning of 5th century.²⁵ If the cruciform martyrium of Vaste (5th century) was really dedicated to Stephen, his relics should have been arranged by an altar as a section of the presbytery was carefully fenced.²⁶ The rocky cemetery behind the church was occupied by some high-status burials.

In addition to the apostolic relics, the remains of John the Baptist and other common martyrs arrived in Italy between the 5th and 6th centuries, sometimes carried by North-African clerics escaping from Vandal persecution.²⁷ The cult of St Eufemia, for example, had a wide following since the martyr was considered a champion of Orthodoxy after the Council of Calcedonia (AD 451). It was attested at first in Aquileia and Milan, and later, probably on Ambrose's initiative, and also in southern Italy. At the beginning of the 5th century, her relics were to be found at Cimitile, according to Paulinus of Nola (Carm. 27.430-431).

The remains of The Forty Martyrs of Sebaste were venerated in the basilica *Ad coetum sanctorum* in Brescia, founded by bishop Gaudentius. The ossuary of the Armenian saints was divided by bishop Basilius (370-379) and many relics were sent as a gifts to all Greek churches (In quaDr mart. 8).

In the three-naved building of St Phocas in Priolo, near the catacombs of Manomozza, the relics of the martyr, arrived in Sicily in the early 5th century and were later discovered under the altar.²⁸ The funerary church of St Restituta in Ischia, mentioned by Gregory the Great, was dedicated to the martyr of Carthage just after the arrival of her relics. They were deposited in the presbytery, occupied by a bench and four graves, and enhanced by some barriers and columns. In the apse of St Giovanni al Timavo (5th century), the supposed relics of John the Baptist and John the Evangelist were placed in a real masonry tomb.²⁹

Finally, a sarcophagus in Ancona preserved the relics of Dasios, carried by Durostorum, as shown by the inscription on the top (IGCVO 455), dating back to the second half of 6th century.

²⁴ About Naples and the sanctuaries of its territory, Paul Arthur, Naples, from roman town to city-state: An Archaeological Perspective, London 2002, pp. 76-77.

²⁵ Ada Campione, Donatella Nuzzo, La Daunia alle origini cristiane, Bari 1999, pp. 113-116.

²⁶ Donatella Nuzzo, Reliquie ed edifici rurali nel V-VII secolo, in: Coscarella, De Santis, eds., Martiri, santi, patroni..., pp. 339.

²⁷ Marcella Forlin Patrucco, Santi orientali nell'Italia tardoantica, in: Salvatore Pricoco, Francesca Rizzo Nervo, Teresa Sardella, eds., Sicilia e Italia suburbicaria tra IV e VIII secolo, Soveria Mannelli 1991, pp. 199-203.

²⁸ Mariarita Sgarlata, L'architettura sacra e funeraria tra città e territorio nella Sicilia sud-orientale, in: Francesco Paolo Rizzo, ed., Di abitato in abitato. In itinere tra le più antiche testimonianze cristiane degli Iblei, Roma 2005, pp. 73-74, 85-92.

²⁹ Donatella Nuzzo, Reliquie ed edifici rurali nel V-VII secolo, in: Coscarella, De Santis, eds., Martiri, santi, patroni..., p. 335.

The Living Foreign Saints in Italy

The diaspora caused by Vandal persecutions led to the flight of many bishops to Italy. After death, they were buried as saints when the conferral was extended to confessors. Of note is the decorated *arcosolia* of Quodvultdeus (AD 434-454) and Gaudiosus in the Neapolitan catacombs. The tomb of the first was in the so-called Crypt of the Bishops in the cemetery of St Ianuarius at Capodimonte (figure 16). As with other episcopal tombs, the memorial was decorated with the portrait of the dead man. Quodvultdeus came from North Africa and he is represented as a black man. The *arcosolium* of Gaudiosus was on the back wall of a cubicle. The mosaic portrait of the bishop stands between naturalistic decorations and is recognizable by the funerary inscription: Hic requiescit in pace s(an)c(t)us Gaudiosus | episc(opus) qui vixit annis LXX (desposit)us die IV Kal. Novembres co(ns.....in) dic. VI (CIL X/1 1538).

Conclusions

In conclusion, the well-known phenomenon of *traslationes* that involved entire corpses in Medieval Europe, mentioned in historical sources, was preceded by the large circulation of real or representative holy fragments across the Mediterranean Sea. During Late Antiquity the inviolability of the tombs was still respected near Rome but often broken in the Eastern Mediterranean. For this reason, many relics arrived in Italy around the beginning of the 5th century. They were spread by important bishops such as Ambrose of Milan or Paulinus of Nola. Through the consecration of new churches and the sanctification of suburban areas these relics increased the importance of the Roman Church. Indeed, already in the time of Constantine, Eastern relics of the Holy Cross were to reach Rome. Since these were not corporal fragments they were deposited between the walls of the city.

It is likely that the foreign relics, in particular of apostles and the proto-martyr Stephen, were sometimes not corporal but *ex contactu* and small in size. For this reason, they were usually enshrined in metal reliquaries arranged in square masonry boxes. In Rome the *confessiones* were often in catacombs. Over time, these spaces lost their funerary functions and become real sanctuaries. In the other parts of Italy, where hypogeal cemeteries were not so common, the relics were usually deposited by the altars. In both cases, at the end of Late Antiquity, the foreign relics, such as the Italic ones, were not just associated with funerary spaces but also with ecclesiastical buildings so as to give importance to the Eucharistic liturgy.

At the beginning of the Christian Age, since the Roman Church had no need to increase its sanctoral cycle, the *depositiones* of new relics in suburban cemeteries was probably related to the presence of foreign communities. Unfortunately, the graffiti in the Pontian catacomb are quite later and dedicated in a special way to St Pollio. However, we may refer, by way of comparison, to the case of Quirinus, martyr and bishop of Pannonia. Quirinius' sanctuary was mostly frequented by Pannonians, as shown by the inscription of Maximilla and Numita on their sarcophagus (ICUR V 13355). The building of the sanctuary was preexisting, since the cult was probably promoted by private individuals of faith.

The movements of soldiers, as well as of merchants, led to the penetration of many foreign cults within Roman Empire in Late Antiquity. It is no coincidence, for example, that the *mihraea* (the sanctuaries of the Iranian god Mithra) were particularly widespread in port cities, or in military contexts, such as *Castra Peregrina*. In the niche of *Mithraeum Barberini*, the dedication of the early 3rd century is associated with a Persian individual: 'Yperanthes offered as a gift a base to invictus god Mithra'.

Even the cult of Persian martyrs developed in suburban areas easily accessible by foreign communities. The Pontian catacomb, in fact, sanctified by the relics of Abdon, Sennen and Milix, was to be found on the second mile of *Via Portuensis*, just on the road to *Portus*, the harbour of Rome.

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Figures

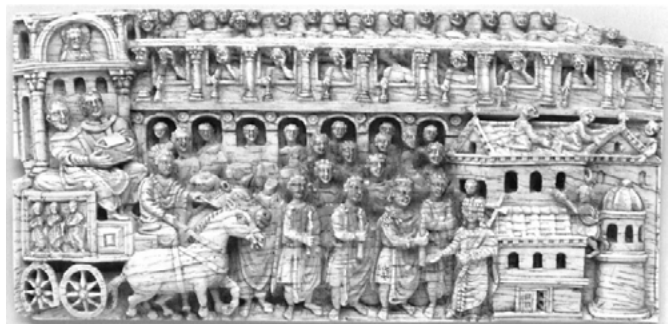


FIG. 1

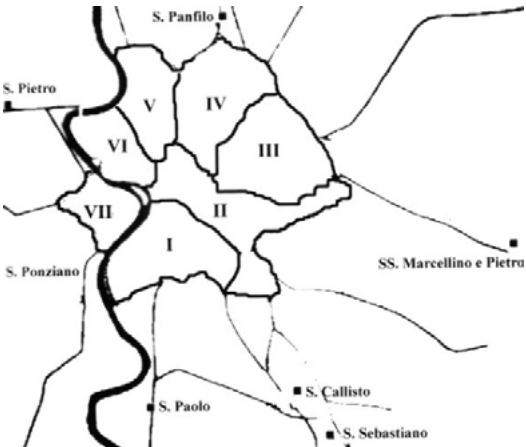


FIG. 2



FIG. 3



FIG. 4



FIG. 5



FIG. 6

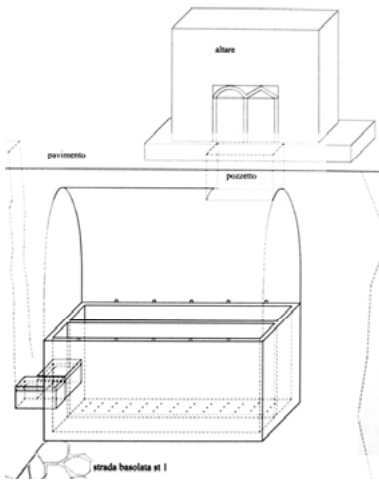


FIG. 7

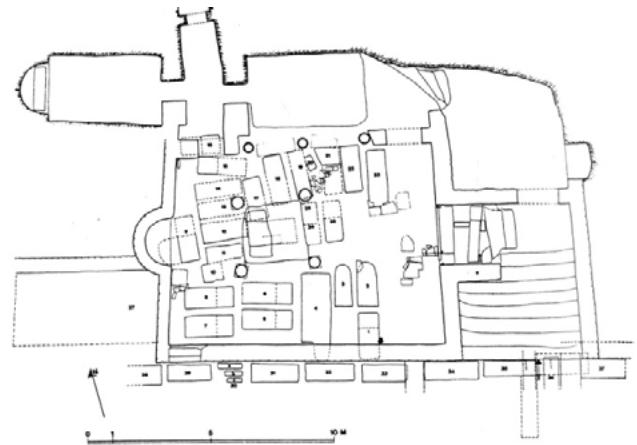


FIG. 8



FIG. 9



FIG. 10

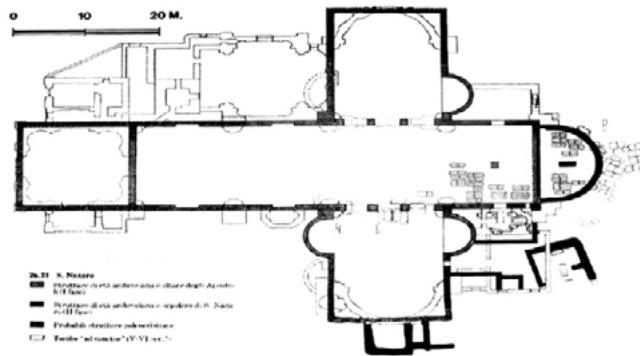


FIG. 11



FIG. 12



FIG. 13



FIG. 14

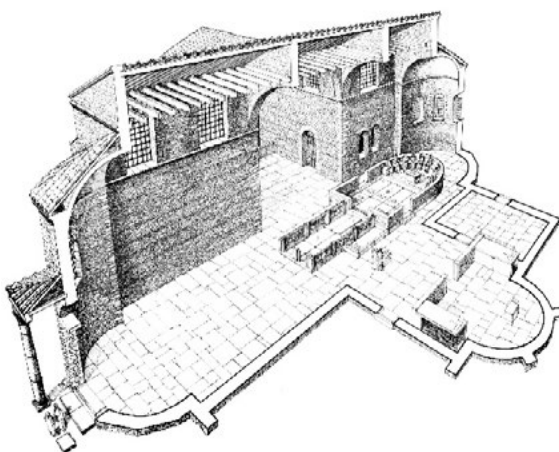


FIG. 15



FIG. 16

The Wooden Medieval Ports

Alessandro LUCIANO

University of Napoli Italy, sasandro80@yahoo.it

The availability of pozzolan in the 1st century BC led to the creation of a number of major ports in the Roman Mediterranean. The quays and the *pilae* that protected them were usually built in *opus caementicium*, using the system of wooden *arcae* described by Vitruvius (*De arch.* V, 12). In Late Antiquity, the trades governed by the *annona* in the Mediterranean involved new ports, notably those of Carthage between the 3rd and 4th centuries AD and Constantinople from the 5th century.¹

In the Early Middle Ages, the contraction of long-established (Roman) Mediterranean trades and their displacement towards Northern Europe led to the progressive downsizing of Italian seaports and to the development of river and lagoonal ones for more localized trade.² Whereas Roman trade had fostered large commercial boats and ports had harbored *onerariae* ships, early medieval ports were reached/navigated by much smaller boats. In Tuscan historical sources, for instance, the boats on the River Arno were called '*scafe*' or '*navicelli*'. The latter, equipped with sails, also had some short seafaring capacity. Navigability on rivers was assured by the lack of a fixed rudder under the stern until the Middle Ages.

The North-European *emporia*

In connection with new or extended trade lines in the North and Baltic Seas, several *emporia* were created on coasts and on rivers (Fig. 1). Known in historical sources as '*mercimonia*' and '*wics*', the best known of these northern and north-western European trade bases are those of Dorestad on the River Rhine, London on the Thames, Wolin on the Odra, Puck at the Vistula estuary, Hedeby and Kaupang at the Schlei and Oslo fjords.³ Important excavations have also occurred at the sites of Resen and Grob Stromkendorf in Germany, Quentovic in France, Ipswich, Eoforwic and Hamwic in England, Ribe and Bjorko in Scandinavia, and Gdansk in Poland to give a strong idea of roots, contacts and scale.

It is likely that the first such wic settlements began as beach landing places to trade both utilitarian and more high value goods. They were seasonally occupied, probably by merchants living in tents. The real *emporia* were usually founded by civil authorities in (often previously) uninhabited territories, at river estuaries. The trades were often managed by royal officials or ecclesiastical bodies, such as monasteries. The first foundations took place in Friesland (Netherlands), Neustria (France) and England in the first half of the 7th century, while the Scandinavian sites date from the 8th century. The abandonment of *emporia* between the 9th and 11th centuries was not all down to raids by Vikings, to the disappearance of centralized institutions, or to lack of cultural and religious identity of the settlements; indeed, in this

¹ Carlo Beltrame, *Archeologia marittima del Mediterraneo. Navi, merci e porti dall'antichità all'età moderna*, Roma 2012.

² Michael McCormick, *Origins of the European Economy. Communications and commerce A.D. 300-900*, New York 2001.

³ Stéphane Lebecq, *The new wicks or emporia and the development of a maritime economy in the Northern Seas (7th-9th centuries)*, in: Sauro Gelichi, Richard Hodges, eds., *From one sea to another. Trading places in the European and Mediterranean Early Middle Ages*, Turnhout 2012, pp. 11-22; Tim Pestell, Katharina Ulmschneider, eds., *Markets in Early Medieval Europe: Trading and 'productive' sites, 650-850*, Bollington 2003.

otherwise turbulent period, some new ports were established in Pomerania (Poland) at rivers Odra, Parseta and Vistula, probably by Vikings themselves to trade with local Slavic populations.⁴

Many of the emporia were real urban centres, being a number of hectares in extent, perhaps with a few thousand inhabitants and regular plans: long lots bordered by ditches or fences were usually placed along the streets (Fig. 2). Many were protected and/or delimited by ditches and palisades, which might be replaced by ramparts after the 9th/10th century; the cemeteries lay outside these. The wooden docks, usually flanked by warehouses, provided the connection between water and land. In lagoon sites, in fact, low draughts and bathymetric variations of tidal levels are quite common. Wood was the sole or dominant building medium, used not just for dock structures, but also to pave the streets and to build houses and workshops.⁵

The trades of emporia were managed by expert merchants, such as the Frisians. Towards Southern Europe were exported furs, amber, wax, honey and manufactured goods like textiles, barrels, swords, basalt millstones, glass and ceramics, various of which were even produced at the trade sites. Wine, wheat and salt were the main imported goods. In order to facilitate the trades, silver coins ('pennies' or 'sceattas') were minted from the end of the 8th century, often at the emporia. If they represented the nodal points of a wide-ranging trade, the inland centers produced agricultural goods and supported a regional commerce.

The Ports of Italy

Late Antiquity

In the 'post-classical' period, i.e. after the 3rd century AD, the number of Italian ports gradually declined. In Latium the most important ones, linked to the trades of Rome, were restored, such as those of Emperors Claudius and Trajan at *Portus* and those of Astura and Civitavecchia (Fig. 3).⁶ Also the port of *Hadria*, at the mouth of River Vomano, saw continued use until the Early Middle Ages, with two harbor installations attested in historical sources. In this period coastal navigation was very common, as shown in the record of a western Italian port-hopping journey by Rutilius Namatianus (*De Reditu suo*), who visited or noted various sites when sailing from Rome to Gaul in the early 5th century.

As under Rome, ports and harbors at lagoons saw ongoing use in late Roman times: the one seeing the most substantial development was the late antique port of Ravenna, built around the Roman canal, and centered on the *Civitas Classis* (Classe) and accommodating part of the Imperial Navy.⁷ The masonry piers identified in excavations at the Podere Chiavichetta were built on deep wooden pile-foundations and equipped with mooring poles and stairs leading down to the water (Fig. 4). Some warehouses and a road (with broken amphorae as its make-up) flanked by porticoes connected to the canal; in addition, both residences and workshops as well as paved open spaces are known. Wood was also employed to line the drains carrying dirty water to discharge into the canal and sea; environmental conditions meanwhile have preserved everyday objects from Classe's port area such as shoes and sandals, ropes, combs, boxes, stoppers, spoons and pegs.

⁴ Mateusz Bogucki, On Wulfstan's right hand. The Viking Age emporia in West Slav Lands, in: Sauro Gelichi, Richard Hodges, eds., *From one sea to another...*, pp. 81-110.

⁵ Andrea Augenti, *Città e porti dall'Antichità al Medioevo*, Roma 2010.

⁶ The river docks along the Tiber, the so-called *Emporium* at Monte Testaccio, was abandoned between the 6th and 7th centuries, as well as the port of San Rossore (Pisa), at Arno river.

⁷ Andrea Augenti, Maria Grazia Maioli, Luigi Malnati, Giuseppe Sassatelli, Nuovi scavi archeologici a Classe: campagne 2004-2005, in: Andrea Augenti, Carlo Bertelli, eds., *Felix Ravenna. La croce, la spada, la vela: l'alto Adriatico fra V e VI secolo*, Ravenna 2007, pp. 33-38.

Some warehouses have been identified at the ports of *Metapontum*, at zona Mele (dating to the end of the 4th century) and at Naples, at each of which were excavated high numbers of North-African and Eastern amphorae and sigillata vessels. The recent archaeology for the metro station at Piazza Bovio in Naples revealed remains of mid-6th century Byzantine workshops and some warehouses of the early 7th century. These belonged to the new port, which developed after the silting-up of the Roman one (located at the Municipio square) in the course of the 5th century.⁸ The post-Roman warehouses built near the Ducal Palace and the Arsenal consisted of eight rooms built around a big hall connected to an open area. Glass and metal workshops formed part of an artisanal quarter, as shown by production scraps, small wells, pits, basins, fireplaces, and a likely kiln.

At both *Metapontum* and Naples, new roads connected ports and warehouses to the cities. Under Naples' Municipio street ran a *fistula* belonging to the Serino aqueduct and bearing an inscription of the late 6th, or early 7th century citing repairs: *Catuli Agapitus ex cons pat reparavit*.

Early Middle Ages

In late antique and early medieval Italy, new ports emerged along the Adriatic Sea, which formed the connection to Constantinople.⁹ The control of Adriatic trade slowly transferred from Aquileia in Late Antiquity to Ravenna, the new Imperial capital, with its city-port of Classe, thence, probably, to Comacchio between the 8th and 9th centuries and finally to Venice, after the Venetians set fire to Comacchio itself in AD 932.

Inland, river landings assured the connection of lesser settlements to maritime trade lines; our documentary sources indicate that, increasingly, such river ports might be managed by ecclesiastical bodies. This phenomenon was particularly common under the Lombards and Carolingians. The Lombard ports, in particular, are registered in a Capitulary of Liutprand (AD 715). Between the 9th and 11th centuries, a landing place was sited near the monastery of *Sanctae Mariae in Maurinis* in Abruzzo (AD 874), although excavations have so far only revealed Roman imperial-period structures.

Real emporia become widespread in Italy in the 9th century. One of the best known looked to the Adriatic Sea and was sited at Comacchio (late 7th century), whose name derives from *Commeatus* (*Conventus navium*) (Fig. 5). The settlement traded in salt, oil, *garum*, pepper and Eastern goods. Excavations at Villaggio San Francesco revealed a sizeable lagoon settlement at the Po delta, with warehouses and three types of wooden port structures: large platforms for the loading of heavy goods, piers for the mooring of vessels, and waterfronts made of wooden pilings.¹⁰ Vertical poles of different sizes were used to anchor the ships and to facilitate their movements or were part of lifting machines.

The island port of Torcello remains very poorly understood, although Constantine Porphyrogenitus in the 10th century considered it an '*emporion mega*'. However, it was surely a production site, as indicated by the glass workshop of the 7th century found during 1970s excavations.

⁸ Vittoria Carsana, Daniela Giampaola, Stefania Febbraro, Beatrice Roncella, Napoli: trasformazioni edilizie e funzionali della fascia costiera, in: Giovanni Vitolo, ed., *Le città campane fra tarda antichità e alto medioevo*, Salerno 2005, pp. 218-244.

⁹ Sauro Gelichi, Tra Comacchio e Venezia. Economia, società e insediamenti nell'arco nord adriatico durante l'Alto Medioevo, in: Fede Berti, Oriana Orsi, Laura Ruffoni, eds., *Genti nel Delta, da Spina a Comacchio. Uomini, territorio e culto dall'Antichità all'Alto Medioevo*, Ferrara 2007, pp. 365-386.

¹⁰ Sauro Gelichi, Diego Calzaon, Elena Grandi, Claudio Negrelli, History of a forgotten town: Comacchio and its archaeology, in: Sauro Gelichi, Richard Hodges, eds., *From one sea to another...*, pp. 196-206.

The Building Techniques

The decline of Roman building techniques, the spread of North-European ones, and the lack of economic and technological resources led to the loss of use of *opus caementicium* and to the preference for employing timber-piered structures resting on poles.¹¹

The Wooden Docks and Waterfronts

Wooden docks were also used in Roman times but they were less common than the masonry ones. Vitruvius advised against their use to prevent fires (V, 12, 7). Wooden jetties of the Imperial Age, coupled with stone structures, were found along the Thames (London) and at the sea ports of Naples and Marseille. During the digs at Municipio square (Naples), in particular, c. 200 poles dated to the 4th century supported small piers or were used for fishing.

The wooden docks, used for the mooring of boats and the unloading of goods, are well attested in the *emporia* of Northern Europe. The lagoon port of Hedeby in Germany was arranged around two landings and one pier dated to the middle of the 9th century. Other piers were built at the end of the century.

Many docks and platforms were found along the Rhine at the Dutch settlement of Dorestad (first half of the 7th, middle of the 9th century). This wooden surface could be 200 m wide, employed 150,000-200,000 poles, and supported some buildings. The docks were renovated and enlarged several times, in relation to the formation of fluvial deposits and the moving of the riverbed. Large quays were also built in German Resen between the 11th and 12th centuries.

As in Dorestad and Hedeby, the wooden docks of Kaupang in Norway were lined with the streets and blocks of the *emporium*.

A wooden quay dating to the second half of the 7th century was also found in Lundenwic, near Londinium, along the Thames. The landings of Queenhithe and Billingsgate, in Saxon times, were instead made up of stone chippings and wood. The combination of wood and stone was quite common. In the estuary of the Vistula, the sunken port of Puck was built with both materials in the Viking era (first half of the 10th, mid 14th century). The most ancient dock was made up of wooden cassions 4 m wide and 5 m long. Smaller cassions (2 x 2 m) were filled with bark, branches, straw and stones. In some cases, they were also covered by stones.

Parts of wrecked ships were sometimes reused in port yards, as in Marseille (uncertain datation) and Wolin.

The wooden platforms of Comacchio were supported by oak piles with a diameter of 30-40 cm and could be up to 80 m long and 40 m wide. The smaller piers were between 1.5 and 3 m wide and held up by rows of small poles, about 20 cm wide. 9th to 10th century wooden piers have, however, been identified at Nogara, on the River Tartaro.

The early medieval wooden docks were built in a simple way, the trilithic system (Fig. 6). Here square joists stood on supporting poles and sustained the floorboards made of planks. This technique, however, didn't allow the building of free-standing docks longer than 6 meters. Medieval architects used to triangulate wooden elements to tighten these structures, as shown at the northern ports of Puck and

¹¹ Giovanni Coppola, *Ponti medievali in legno*, Bari 1996. The pilings of timber structures, constantly submerged, were usually made of larch or elms wood.

Jelling. The timber elements were fixed together in different ways.¹² Joints and pegs were the usual means, but ropes made of leather twine, or resin extracted from linen, vegetable fibres and flexible branches were also used. Ropes and leather bands used in this way are often represented in medieval iconographic sources. The ropes were tied with the type of knots usually employed by sailors and strengthened by wooden wedges, called *warrokis* or *warrokes* in English historical sources.

Close-set vertical poles used for land reclamation or to strengthen river banks were quite common. Wood-built waterfronts were found in the Venetian Lagoon between the 5th and 6th centuries, as traced at Torcello, San Pietro di Castello and San Francesco del Deserto:¹³ these mark both land reclamation and a first stage of colonization of the islands.

The waterfronts of Comacchio were made up of two parallel rows of poles (Fig. 7). The internal one was tightened and strengthened by a lattice of wicker. The structure was filled by some soil which supported a walk floor, in some points constituted by wooden floorboards.

In London, during the 12th century, someone tried to extend his own lands into the water, using wooden pilings of different types.¹⁴ Since the lifespan of these waterfronts was around 20-25 years, it was more convenient to build new ones rather than repair them. This is the reason why the archaeologists found different rows of waterfronts not aligned. In St. Magnus House and Billingsgate, the pilings (end of 10th, middle of 11th century) supported perhaps a dock and were also used for land reclamation.

Building Machines and the Roman Techniques in Post-Classical Age

As in the Roman Age, some mechanical devices were used in port yards. See the lifting structures known as *caprae* in medieval historical sources or the mechanical saw used to cut submerged poles, represented in a drawing of thirteenth-century architect Villard de Hannecourt (Fig. 8).¹⁵

The *capra*, still represented in the Encyclopédie of Diderot et D'Alembert (1751), was made up of three or four legs tied at the top, and its rope could be activated by winches (Fig. 9). If equipped with tie rods fixed to the ground, the machine could also lift vertical loads. However, for the heavier ones the *capra* required several pulleys. The elements to be lifted were usually hooked up by forceps equipped with a hook. For this reason, some triangular or curved holes were opened on the loads' surfaces. The thick rope was usually used for the fastening. It's quite possible the *capra* was also used to hammer the poles of waterfronts, although some machines were designed on purpose for this function.

During the Early Middle Ages, the Roman techniques were not forgotten, but simplified. Some masonry docks were still built with the Vitruvian system, known in the code 490 of Biblioteca Capitolare di Lucca (end of 8th, beginning of the 9th century). However, the material filling the *arcae* was pseudo-cementitious, that required the perpetual fixing of the wooden elements. In the Roman period, by contrast, such a wooden casing was often removed after the cement had solidified. The technique with pseudo-cementitious filling has been recognised in a dock of Venice; even in the 15th century, the bridge of Cahors was built using the wooden casings.

Pozzolana was still used in some Eastern sites in the 6th century, as attested by Procopius of Caesarea and the excavations at Apollonia and Anthedon.

¹² Giovanni Coppola, *La costruzione nel Medioevo*, Salerno 2006, pp. 167-196.

¹³ Maurizia De Min, *Venezia e il territorio lagunare*, in: *Ritrovare restaurando. Rinvenimenti e scoperte a Venezia e in laguna*, Venezia 2000, pp. 15-25.

¹⁴ Chris Thomas, *London's archeological secrets. A world city revealed*, London 2003, pp. 34-45.

¹⁵ About the building machines, see Coppola 2006 and 1996.

The foundation piles found in the harbour at Genoa and the dock related to Montelupo castle in Tuscany (13th century) show that timber elements remained commonplace in medieval Italy, although masonry structures became common again in the 14th century.

The classical *arcae* system was instead used in Genoa when the medieval port was re-arranged around new masonry structures: Darsena, the Customs, shops and warehouses.¹⁶ The city's wooden docks, labelled as '*Ponti*' (bridges) in contemporary sources, were very long, up to 30 m, and used to deal in different kinds of goods. The best known were found at Piazza Caricamento and Portofranco. In spite of these transformations, smaller boats were still docked or hauled up on the beaches of Ripa, to show that alongside larger merchant ships being accommodated in the main port, small trading and supply ships were equally active. The Genovese *Ponti* were rebuilt in stone in the 15th century.

In addition, the medieval harbour of Ravenna, at the mouths of the Candiano and Naviglio canals, is partially depicted in a sixteenth-century plan. An entrance canal flanked by timber piers led to a circular port basin with a central lighthouse. Around it, a dock is evident, composed of three levels and equipped with mooring bollards.

The Quays of San Vincenzo Al Volturno Abbey

Recent excavations at the site of San Vincenzo al Volturno in central Italy, a very early medieval abbey site, give a fascinating insight into technology, scale and logistics in the construction and use of wooden port structures.¹⁷

Near the abbey, the River Volturno had long been neglected in terms of archaeological research and yet should be seen as a vital component of its life. Archaeologists first discovered the Carolingian-period half-timbered port of the abbey in 2007-2008, located between San Vincenzo Minore and the river itself. The archaeological investigations have shown that the medieval riverbed was much wider than the present one. However, its width cannot be defined since no investigation of the opposite bank has yet been carried out.

The 'port' of San Vincenzo al Volturno comprised a masonry quay flanked by two piers, a large wooden platform and a waterfront made of half-poles (Fig. 10). The wooden piers were built in the trilithic system. Square beams up to 6m long, built into the monastic walls and supported by square poles or stone-built pillars, held up the plank-flooring (Fig. 11). Quite possibly some elements were triangulated to strengthen these structures.

The platform was built near the warehouses of the old South Church and will have been large enough to load/unload heavy building materials as well as any other kind of goods. The stone pillars were composed of parallelepiped travertine blocks, superimposed and mortar-bonded. Probably they were installed by a lifting machine, since one block had a hole on its upper surface.

The square masonry quay was built with the system of wooden *arcae* known in the code of Lucca. In fact, the material filling, which was found inside the best preserved casing, was pseudo-cementitious, composed of

¹⁶ Susanna Bianchi, Piera Melli, Il porto, in: Piera Melli, ed., *La città ritrovata. Archeologia urbana a Genova*, Genova 1996, pp. 57-163.

¹⁷ Federico Marazzi, San Vincenzo al Volturno. Guida agli scavi, Campobasso 2006. The Laboratories of Late-Antique and Medieval Archaeology of Università degli Studi di Napoli Suor Orsola Benincasa (LATEM) began to work at San Vincenzo al Volturno in 1996. Excavations on the site are directed by Professor Federico Marazzi and those on the port spaces have been coordinated by the author and Rosaria Monda. My thanks to Prof Marazzi for permission to use the San Vincenzo data in this paper.

mortar and stones (Fig. 12). The quay was paved with floor tiles and roofed, as signified by a pit-hole; there was likely also a wooden arched-door. A tiled roof also covered the two lateral piers. Along the northern one, three small columns were vertically planted in the ancient river bed. Most probably the two adjacent shafts acted as load peaks while the small column, with its capital, acted as a bollard anchor.

The quay would have allowed the mooring of small vessels carrying lightweight goods and/or persons. In fact, one could then pass through a small entrance to reach the monastic area accessible by guests, comprising a small refectory, an elegant courtyard and a guestroom.

As at Comacchio, isolated vertical poles of different sizes allowed the mooring of vessels, regulated their traffic or were part of *caprae*. The waterfront at San Vincenzo was probably used to realize a dry area for building the monastic walls.

Timber elements were tied to each other in different ways. According to the finds discovered on the river bed of Volturno, the monks used joints and pegs but also some ropes. Many wooden wedges, probably *warrokes*, were recovered in the excavations. Such joints, very common in the Roman period, are attested only by a beam bearing a square hole. As suggested by the finding of wooden pins, the submerged elements were probably tied by a system of mortise and tenon, usually employed in ship-construction. It is likely that the numerous nails recovered in the excavations were used to tie elements that were not in contact with the water.

Iconographic parallels help show that the building programme of wooden platforms of San Vincenzo, and the arrangement of scaffoldings, was fairly typical of the Middle Ages in Italy. Horizontal beams built into the walls were commonplace in these structures and were no longer than 6 m because the trilitic technique was not suitable for longer structures.

The monastic walls connected with the wooden structures were built in *opus quadratum*, using large stone blocks. The walls were not flush but had many nooks or angles to help stem the river flow and thereby to facilitate dockings.

The archaeological context was favourable enough to preserve many perishable finds, such as wooden caps, pieces of leather, faunal and botanical remains (animal and fish bones, eggshells, nutshells, hazelnut shells, almond shells, legumes and pine cones). Some of the food remains will have been from regular dumping of waste in the river by the monks, as indicated by a masonry drain and two tile-lined pipes from the Garden Court, monastic kitchen and refectory. Non-perishable objects included lamps that will have illuminated the piers, glass containers, window glass, bone combs, metal objects, fish hooks, plus ceramics such as red-painted vases. Some of these objects probably fell into the river accidentally; others might even have been thrown out by Saracens during the sack of AD 881, which may well have seen the destruction of the site's port.

Conclusions

In conclusion, the archaeology of post-classical ports covers five main areas: firstly the renewal of older Roman ports (or, in some cases, their loss) in Late Antiquity; secondly the creation of new Italian ports to support the Adriatic trade-routes, as at Aquileia and Classe; thirdly the development of new or extended trade lines in the North and Baltic Seas, and the birth of *emporía*; fourthly, in the Early Middle Ages, on Italy's eastern coast, timber-constructed ports arose at *emporía*, first at Comacchio and later at Venice; and fifthly, other, much more compact timber-built landing places were established inland and were managed (often) by ecclesiastical authorities to control local trades, as exemplified at San Vincenzo al Volturno abbey and as described above.

If in the Roman era wooden elements were usually used in the construction stages, later, in the early Middle Ages they became the norm in harbours, as well as in domestic constructions. Nonetheless, as the excavated data at San Vincenzo show, there was still sophistication in the building process. The case of San Vincenzo al Volturno is so far unique, even if some elements of its port are seen elsewhere: such as the trilithic building system at Comacchio, Dorestad and Kaupang; garbage chutes draining into the water at late antique Classe; and wooden waterfronts in early medieval Comacchio and late Saxon London. Instead, the masonry pillars distinguish the abbey of St. Vincent from other examples. The beams built into walls were common in the Middle Ages, but only in the construction phase. Therefore, one might argue that the majesty of the monastery required the use of stone blocks and masonry piers, built according to Roman techniques.

In the Late Middle Ages, both in inland areas and in maritime cities, masonry-built ports became very common again. Also in this example, the building techniques used for port facilities were the same as those used elsewhere on land. In this period, new ports arose along the Tyrrhenian Sea, in relation to the increase in trade managed by the elites of the medieval cities.

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Figures



FIG. 1

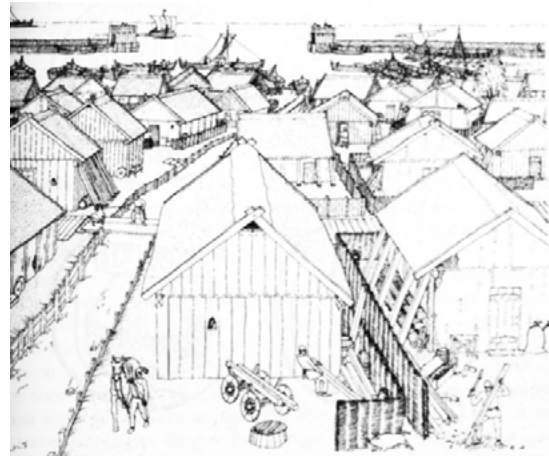


FIG. 2



FIG. 3

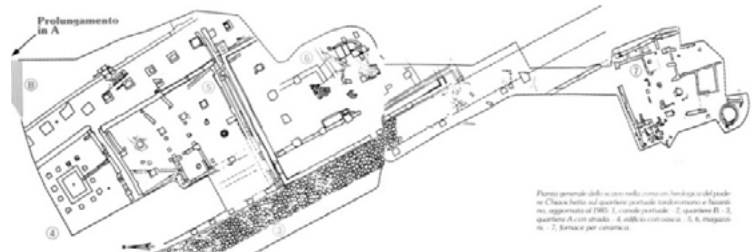


FIG. 4



FIG. 5

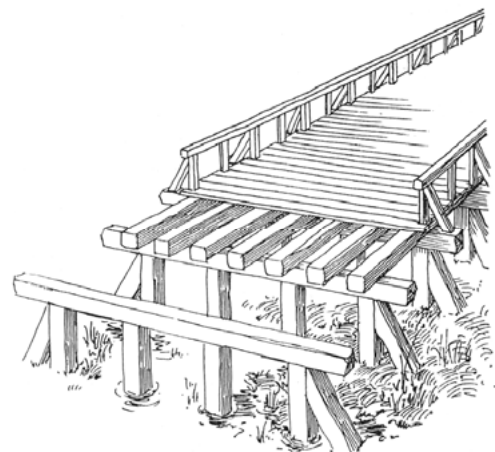


FIG. 6



FIG. 7

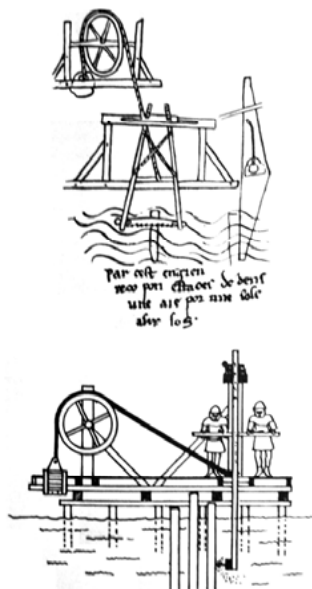


FIG. 8

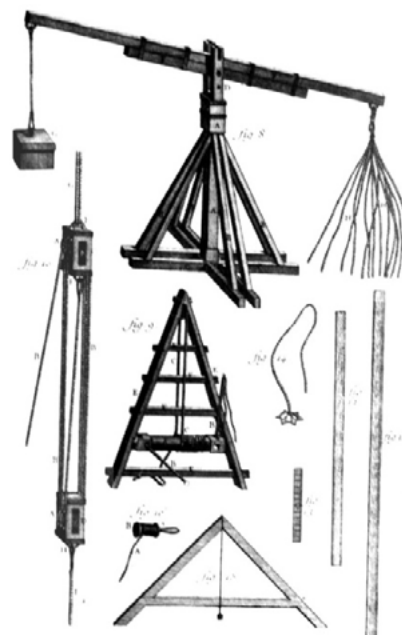


FIG. 9



FIG. 10



FIG. 11



FIG. 12

Archaeometrical Studies of Ancient Window Glass Finds from Olba (Silifke, Mersin) Excavations in Turkey

Ali Akın AKYOL*, Ayşe Emel ERTEN**

*aliakinakyol@gmail.com

**eerten@gazi.edu.tr

The archaeological excavations carried out at Olba in Rough Cilicia since 2010 provided finds that can enable us to evaluate various uses of glass as well as a possible glass working at the site¹ (Fig. 1). The majority of glass finds from Olba came from the excavations at the theater which was constructed in the Roman period and continued to be used until 7th century AD. The rock-cut cultic grounds, the Early Christian Monastery, church, acropolis and Şeytan Deresi Valley at the site were the other locations where the finds of glass were recorded (Fig. 1).

The glass finds from Olba include a few pieces of Late Hellenistic – Early Roman ribbed or plain bowls, some fragments of Roman vessels as well as a considerable number of Late Antique goblets, stemmed or handled lamps designed to be used with metal candlelabra and hangers. In addition to these, many window glass fragments were found. Neither complete, nor large window glass panes that could suggest dimensions were discovered during the excavations. Some specimens of slag found at the site are important for suggesting some kind of glass working at Olba.

The tradition of sealing the windows by glass panes dates back to the 1st century AD, to the Early Roman Imperial period. This can be considered an important discovery in architecture because the use of glass panes not only provided heat and light for the interiors but also enabled one to view the exterior.² This was the way the function and architectural effect of space was combined with visibility.

The present information concerning the use of window glass panes is based either on the archaeological evidence coming from the various Roman sites excavated so far or the literary sources.³ Although the fragments of window glass are not the ‘most valuable’ finds of the archaeological excavations, the recorded examples from the Eastern and Western halves of the Roman Empire suffice to reveal the extensive use of window glass.⁴

The number of window glass fragments found at Olba excavations suggest a wide use of glass panes at the site during the Late Antique period. The archaeological contexts which the fragments of window panes were discovered at Olba can be dated to the period in between 5th and 7th century AD.

There is little known about the history, structural characteristics, and technology of glass production within the time period from the ancient times in Anatolia. In order to understand the production technology, determine the raw material resources, and identify the chemical contents, the glass findings

¹ Erten 2003, 145-154, pl. 20-26.

² Stern 2007, 386, n.134.

³ Trowbridge 1930.

⁴ Boon 1966, 41-45; Harden 1961, 41-43; Engle 1987, 79-95; Whitehouse 2001; Brosh 1988, 247-255; Calvi 1968, 174-175; Wolf and Kessler 2005; Rasmussen 2012.

should be analyzed by archaeometrical methods.⁵ In this context, glass findings obtained from the Olba archaeological area were started to be investigated archaeometrically.

Materials and Methods

A total of 33 samples collected from 6 different locations (theatre, church, monastery, rock cut basin at monastery, acropolis and Şeytan Deresi Valley) of the Olba archaeological area were classified under date of year of finding, and their locations (Figs. 2-3). Before the onset of the analyses, glass samples were visually examined. The samples were documented photographically, and coded (Fig. 2). The thickness of glasses was measured by digital thickness meter (Fig. 3). The colours of glass samples were documented by chromametric analysis (Fig. 2, 3). Colour identification was carried out by using a device (ColorQA PocketSPEC with Pro System III software) (Fig. 2). Colour analyses were made using the standard CIE $L^*a^*b^*$ (Commission Internationale de L'Eclairage) colour system. (L) Value denotes the lightness value of the colour, where (a^+), the intensity of red in the colour; ($-a$), intensity of green in the colour; ($+b$), intensity of yellow in the colour, and ($-b$), intensity of blue.⁶

General information about the production technology of the glass samples can be understood from the glass itself, i.e. from the shape of the air bladders (bubbles) trapped in the frit. For the purpose thereof, the glass samples were examined and photographed under binocular microscope (Fig. 4).

The main and the trace elemental composition of the glasses were determined using the Polarized Energy Dispersive X-Ray Fluorescence Spectroscopy (PED-XRF) method (Fig. 5, 6). For this analysis, the surface impurities must have been removed from the samples primarily. Samples were prepared by grinding the pieces into a fine powder in an agate mortar. They were pressed into thick pellets of 32 mm diameter using wax as blinder. USGS standards, GEOL, GBW-7109, and GBW-7309 sediments were pressed into pellets in a manner similar to the samples for quality assurance. The powdered samples were analyzed using the SPECTRO XLAB 2000 Model PED-XRF device. The device had a liquid nitrogen-cooled Si(Li) detector. The resolution values were <150 eV Mn Ka, 5000 cps.⁷

The chemical composition of the glass samples was determined by the method of X-Ray Fluorescence (Spot Micro-XRF). Micro-XRF analysis views a program for multi-element analysis by a process of successive capable SPECTRO MIDEX-M model XRF was used. The non-destructive feature of the analysis was carried out directly on samples without any preliminary process for the determination of the colorants of the glass samples (Fig. 7).

Results of Analyses

Glass samples from 6 different locations (Theatre, Acropolis, Church, Monastery, Rock cut basin at Monastery, Şeytan Deresi Valley) of the Olba archaeological area were started to be investigated archaeometrically (Fig. 1, 2).

The thickness of the Olba window glass samples varied between 1.29-6.93 mm (ave. 3.19 mm) (Fig. 3).

The visible colours of the glass samples (except for the colourless OLB-G22) were observed to be the primary colours of yellow, blue, brown, black, and green, and the intermediate colours of light green, light blue and dark blue (Fig. 3). The colour values (L), (a) and (b) of the samples (except colourless OLB-G22 and black coloured OLB-G80) varied in the ranges 15.58-83.14, -35.73-9.49 and

⁵ Bakırer 1990; Akyol *et al.* 2009; Beşer *et al.*, 2010.

⁶ Ohno 2007.

⁷ La Tour 1989; Johnson *et al.* 1999; Shackley 2011.

-18.56-49.90 respectively. The variation in colours seemed to be responsible for the colours of the glasses mentioned above.

The bubble shapes in the glass samples provide significant information regarding the production technology (Fig. 4). Especially the window glasses were made by pouring molten glass into a frame (casting technique), then by removing the surface tension elongating by means of a cylinder and making it thinner. During this process the bubbles used to take circular or progressively longer elliptic shapes (Fig. 4).

The chemical content of the Olba window glasses was determined by PED-XRF analysis. A general review of the chemical contents of the samples suggested that they reflected the characteristics of typical silica-soda-lime (SiO_2 - Na_2O - CaO) type glass (Fig. 5).

The sample OLB-G77 differed from the other glass samples by the elemental composition. This sample was considered raw glass with high contents of Fe_2O_3 (2.82%) and its quite low Na_2O (0.10%) and SiO_2 (34.54%) contents (Fig. 5,7).

The fact that SiO_2 content, which is the main constituent of glass, was not high (ave. 55.59%) enough as expected (more than 60%), indicated that both the mechanical resistance and strength, and the melting temperature were not high (Fig. 5).

The Na_2O content, another main constituent, was similarly low in the samples by an average ratio of 9.71%, were not closer to the value as described for typical soda/lime glass with Na_2O contents at an average ratio of about 13%. In the same samples the amount of CaO (ave. 7.39%) found to be higher than the expected value (about 5%) except for OLB-G77 (Fig. 5). In some samples of the Na_2O content, which was expected to be at higher values (13.91%), was about the CaO (5.43%) content (as sample OLB-G22). This phenomenon can be explained by the fact that Na^+ in the glass structure is transferred to soil reservoir and replaced by Ca^{2+} in time.⁸

It was observed upon examination of the glass samples in terms of the main constituents (SiO_2 - Na_2O - CaO +LOI) and the locations/sites of recovery that the majority of Theatre samples as the largest sample group had similar chemical contents. Among the Church samples, OLB-G77 was easily differentiated from the main group based on their different compositions (Fig. 6). The Monastery and Monastery rock cut basin samples differed from each other in their relevant groups. The assessment of all window glass samples from different locations, there were two main groups in terms of their SiO_2 and CaO +LOI suggested that the glass samples recovered from at least two main sources (Fig 6).

The K_2O contents (<1%) found in the glass samples (except OLB-G77) decreased the likelihood that plant ash was not used in the glass production (Fig. 5).⁹

Al_2O_3 used in glass production is generally originated from the raw material used as the silica source. The similarity of Al_2O_3 amounts suggest that the sand and/or quartz (SiO_2) come from mostly the same source.¹⁰ So the similarity in the average values of Al_2O_3 contents found in the Olba glass samples under investigation indicated that the raw materials of the glasses may come from the same or at most two sources (Fig. 5).

The colour of the glass samples can be attributed to the elements of Fe, Mn, Co, Cu, Zn, Sb and Pb. The yellow colour of the samples was due to the presence of Fe^{2+} ions. As the $\text{Fe}^{2+}/\text{Fe}^{3+}$ percentage in the

⁸ Freestone 2002.

⁹ Freestone 2002.

¹⁰ Freestone 2002.

solution decreases, the colour shifts towards green.¹¹ It is questionable if iron was consciously included in glass or existed as an impurity in the raw materials used in the production thereof. It is more likely that iron is present as an impurity (Fig. 7). The green colour of the mainly all samples were most likely due to the presence of copper (Cu) and iron (Fe) silicates.¹² The coexistence of iron (Fe_2O_3) and manganese oxides (MnO) creates brown colour as sample OLB-G71. The blue colour can be attributed to the cobalt (Co) element. The amount of cobalt in blue-coloured samples were found to be homogeneous that of the samples (Fig. 7). The fact that the Zn and Pb contents in the blue coloured OLB-G70 and OLB-G85 samples were significantly higher than the other samples suggested that such elements were added to glass as colouring agents. In addition, the Sb in the colourless sample OLB-G22 might be added as discolorant like Mn (Fig. 7).

As it is with the contemporary glass technology, raw glasses can be re-melted and shaped to produce new glass. The examination of raw glasses suggested that the samples OLB-G77 sample, with lower Na_2O and SiO_2 content and with significantly higher Al_2O_3 and CaO content, were of different chemical structure (Fig. 5). The fact that the sample had a darker colour can be attributed to the coexistence of Fe^{2+} and Fe^{3+} in its composition (Fig. 7).

It is important to determine the Sr and Zr contents of the samples in order to understand the source of raw material. Sr is geochemically similar to Ca, and present in substances containing lime (sea shells, limestone, plant ash, etc.). The fact that Sr amount exceeds 400 ppm, suggests that the sand used in the production of glass is marine-originated.¹³ On the other hand, the Sr amount in the terrigenous sand containing limestone is generally lower than 150 ppm. Furthermore, it is expected that the Zr amount would exceed 160 ppm, if terrigenous sand is used in the production. The average amounts of Sr and Zr in the trace element composition of the majority of the samples under investigation (except OLB-G77) were 513.48 ppm, and 59.21 ppm, respectively (Fig. 5). In the light of above findings, most probably the sea sand was used for the production of glasses.

Conclusion

The glass samples collected from different locations of the Olba archaeological area were archaeometrically investigated, documented, and characterised. The physical (by their thickness, colour, frit bubble shapes) and chemical properties (in terms of main/trace elements in the composition of the glass, and the colouring elements by PED-XRF and Micro-XRF analyses) of the samples were determined.

It was understood that glasses were typical soda/lime glass and had similar elemental composition. The sample OLB-G77 from the Church differed from each other in terms of locations, period, and functional characteristics. It was found that the samples had similar elemental compositions.

The fact that SiO_2 content, which is the main constituent of glass, was a bit lower than the typical soda/lime glasses indicated that both the mechanical resistance and strength were also low.

The fact that certain samples (as OLB-G22) the Na_2O content, which was expected to be at higher values in glass, was lower than the CaO content is most likely because of the fact that Na^+ in the glass structure is transferred to soil reservoir and replaced by Ca^{2+} .

Plant ash (K_2O) was not used in glass samples produced by casting techniques.

¹¹ Bamford 1962.

¹² Caley 1947.

¹³ Freestone *et al.* 2003.

Al_2O_3 used in the glass production provides information about the source of the sand and/or quartz used as the silica source. The similarity in the average values of Al_2O_3 contents (except the sample OLB-G77) indicated that the raw materials of unique glass group came from the same source.

The colour of the glass and raw glass samples can be attributed to the elements of Fe, Mn, Co, Cu, Zn, Sb, and Pb.

Taking into consideration the Sr and Zr values in the trace element contents of all samples, most probably the sea sand was used for the production of glasses.

In spite of the difficulties in provenance, archaeometrical methods, helping to understand the microstructure of glass, are much more informative, reliable, and confidential than the typology based on visual characteristics. The increasing number of probable findings in the next phase of Olba excavations will pave the way for establishment of local and regional glass production database that will provide comprehensive information on Anatolian glass technology in the past.

Acknowledgements

This study was realized in the scope of the 'Archaeological Studies and Material Analyses of the Olba Excavation Glass Finds Research Project (BAP-52/2012-03)' as directed by Prof. Dr A. Emel Erten, with the support of Gazi University. Furthermore, the authors owe a debt of gratitude to Prof. Dr Yusuf Kağan Kadioğlu (Ankara University, Earth Science Application and Research Center-YEBİM) for the XRF analyses and project laboratory assistants Gülşen Albuz (Gazi University) and Kıymet Deniz, (Ankara University) for sample preparations.

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Figures



FIG. 1A



FIG. 1B



FIG. 1C



FIG. 1D



FIG. 1E



FIG. 1F

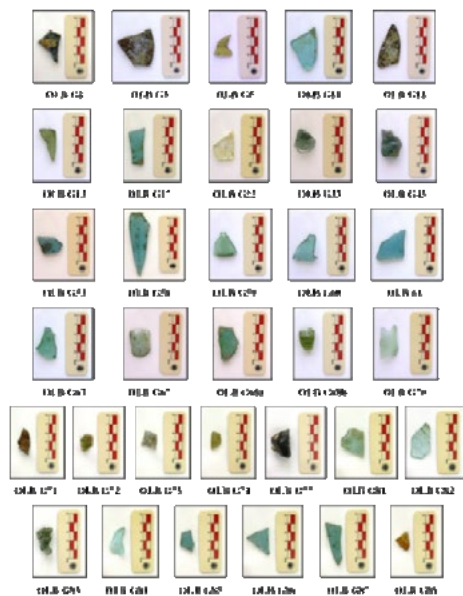


FIG. 2



FIG. 2A

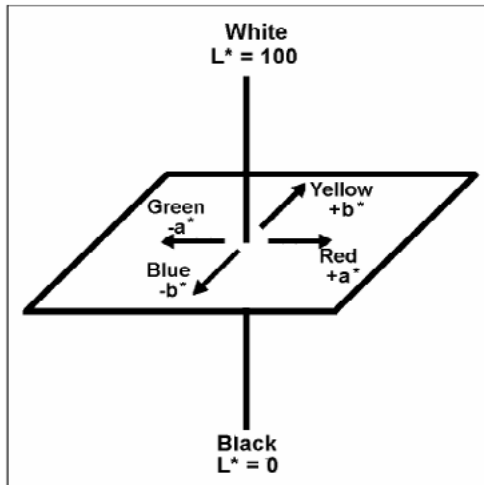


FIG. 2B



FIG. OLB-G58

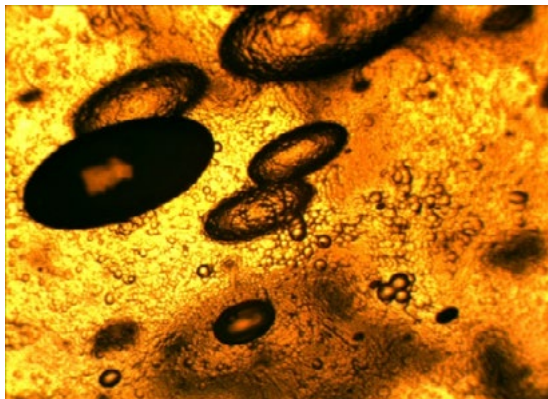


FIG. OLB-G61

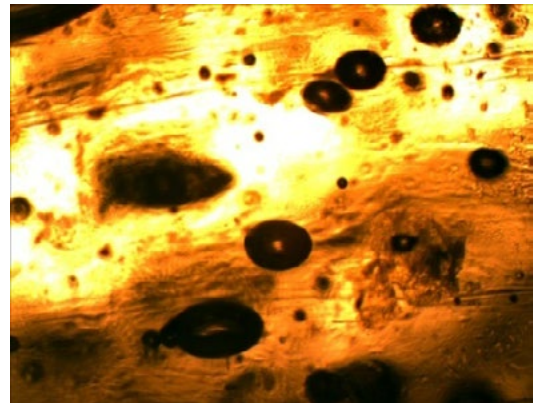


FIG. OLB-G85

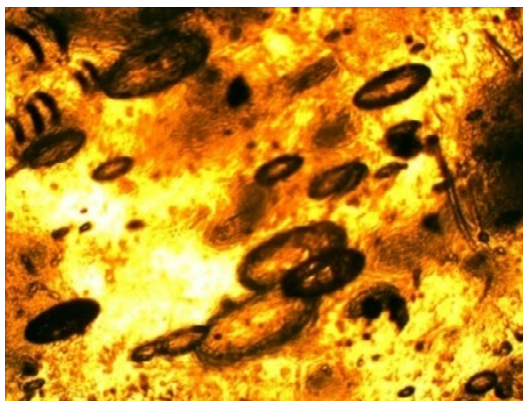


FIG. OLB-G87

The Conservation Project of the Mosaics in Metropolis

Ali Kazım ÖZ

Dokuz Eylul University, Izmir-Turkey, ali.oz@deu.edu.tr

The ancient city of Metropolis shows a significant development in the Roman Imperial period, with the most important buildings being the Hanyikigi Roman Bath and its Palaestra. Apparently, other large cities like Ephesus and Miletus served as a model for planning the bath at Metropolis as seen by the similarities between them. The Roman bath displays several building phases, repairs and modifications as an impressive building. The Roman Bath and the Palaestra of Metropolis have had at least four different phases within nearly five hundred years (Fig. 1). In general, the central part of the bath was built at the end of the 1st century, the remaining parts and the palaestra were added in the middle of the 2nd century, and the mosaic pavements were laid on the porticoes at the end of the 3rd century. The use and function of the building terminated at the end of the 6th century AD.

According to the inscription on the architrave (Aybek 2011, 169), the palaestra was dated to the period of the Roman Emperor Antoninus Pius (AD 138-161). In the following period the building was furnished with marble and mosaic pavements. The geometric mosaics are well preserved in all sections except the east portico, because of slope and agricultural damage. All the mosaics which are found in other buildings at Metropolis show differences in technique and style, recalling different workshops (Öz 2009). But, according to similar examples, renovation activities, as well as the use of mosaics, might have increased by the 3rd and 4th centuries AD. The future studies will aim to clarify, if there was a different phase between the construction period of the palaestra and the laying of the mosaics.

Project Stages

The Research and Conservation Project was established in four stages; Documentation, Evaluation Studies, Conservation, Project Applications.

Documentation

Different methods have been used in the studies of documentation of the mosaics at Metropolis, such as creating an inventory, graphical recording, photography and 3D scanning. A systematic inventory was not created exclusively on the mosaic, although general data were included in the excavation inventory. Therefore, the publication and practical forms of Getty Conservation Institute have been chosen as the best example of documentation. Especially with the Palaestra mosaics, the inventory data is used as a simplified form as recommended by the Institute. The formal recording has been prepared for each mosaic panel separately with descriptions, drawings, details and photographs. The following information is generally located in data form; Definitions, Previous Studies, Condition Assessments and Conservation Programs.

Evaluation

After the excavation season of 2013, all sides of palaestra and northern buildings of the Roman Bath were uncovered. The size was measured as 37.26 m in the southern and as 35.38 m in the western side.

The mosaic pavements of porticoes are around +41.90 m above sea level. There are 13 panels in the south and 10 panels in the west, each displaying a different geometric pattern. The wave motif as a frame band continues along the entire gallery. The widths of the main panels along portico vary between 2.24 to 2.32 m and their lengths are different and irregular. Generally, bichrome patterns of panels have dark blue and white tesserae, some of which were diversified with dark yellow and red. The extent of the mosaics increases to the west and in the south-west corner especially they were almost completely uncovered. The condition of mosaic is increasing to the west and especially south-west corner almost completely uncovered. The portico mosaics of the Metropolis Palaestra are similar to the Large Bath of Anemurium (Campbell 1998, 30, pl. 139, fig. 29) and the Hermaphrodite Colonnades in the House of Psyche at Antioch (Levi 1947, 183, pl. 39). Both examples are formed as a portico with circular rosettes in the middle of lozenges. Otherwise, the Italian black and white style pavements have closer similarities with the mosaics of neighboring city Ephesus (Jobst 1977, 59, Scheibelreiter 2007, 68). In the other hand, lots of figures and patterns show also common features with the most important cities such as Daphne (Levi 1947, 149), Miletus (Knackfuss 1924, 53), Aphrodisias (Campbell 1991, 27) and Narlıkuyu (Budde 1972, 101).

Conservation

Condition of Mosaics

The primary function of the research is to establish the general and detailed condition of the mosaics. The possible causes of deterioration may be impact damage, external stresses such as building load, vibration and thermal movement, dirt, surface abrasion, water ingress causing staining, biological activity, salt crystallization, manufacturing faults and unsuitable past treatments.

The damage and weathering to the mosaic floor covering the area of the south portico are to a great extent the result of physical effects. For this reason, it was decided to preserve the mosaic floor in-situ using the method of consolidation. The bedding layer of the pavement is well preserved, whereas the lacunae happened as a result of later usage and the falling architrave blocks. The rise in the ground water-table and humidity has been a further hindrance due to the lower height of the foundation walls on both sides of the mosaic floor.

We can see that the surface of the mosaic in general is somewhat worn, even though the bedding mortar and layer are in a good condition. Especially, the dark yellow tesserae of sandstone are more eroded and exfoliated. In panels 12 and 13 there is also a layer of calcite occurring due to salt crystallization and calcification. Otherwise, yellow staining appears on the sandstone and white marble tesserae. On the same part of the pavement the light colors of the tesserae have been changed to grey due to fire.

In the later period, two walls were built on the gallery and three marble blocks of the superstructure collapsed onto the mosaic causing some depressions. The rooms belonging to the Late Byzantine or Early Ottoman Period are built in dry wall technique. Despite some cracking and collapses, the pavement is almost entirely preserved under the walls. However no evidence of mosaics was found inside the rooms. Therefore it is assumed that mosaic pavements were not selected for the interior space of the later room. Despite the protective shelter above the mosaic floor, plants have grown in the area around it. The seeds blown by the wind have settled on the mosaic pavement and become deeply rooted. Some measures must be taken to remove these roots which are the most active cause of damage. An easy method would be to remove the roots in early summer. But, if this method is not properly applied, it could be more harmful for the tesserae. Therefore a biological agent to kill the micro-organisms (particularly mosses and algae) must be applied to the areas surrounding the mosaic and surface of the floor. In the context of biological research it was found that solutions of anti-bacterial biocides can be effective (Capriotti 1991, 58).

However, these treatments are only preliminary ones and particularly linked to seasonal variations. A program of periodic maintenance should be developed for the proper conservation of the exposed ruins.

There is no general plan for the conservation and maintenance of the palaestra at Metropolis. A broad conservation program must be prepared to survey, analyze and stabilize all the mosaics. In general, conservation studies are classified in five stages; cleaning and sifting, consolidation, reconstruction or reinstallation, maintenance and aesthetic presentation. Emergency conservation measures were carried out on only 10% of the mosaics in order to clean and consolidate them.

Emergency Conservation Measures

The mosaics of the Metropolis Palaestra have been damaged by physical effects, although the ground remains structurally intact. Cracks, depressions and gaps seen on the floors have occurred due to the demolition of the marble superstructure and to changes occurring in later construction phases. Therefore the first action was to consolidate the borders and undertake simple cleaning as the mosaic floor was uncovered (Fig. 2). Lightly compacted surface soil on the mosaic was removed by using tools such as brush and small spatula. The mosaic surface was gently washed with water and sponge to make the motifs clearly visible.

The mosaic tesserae are lifted, cleaned and filled around the original material as an emergency conservation measure. Lime mortar is laid as a border around the perimeter of each pavement, about 10 cm wide. The mix of mortar was formed of moderately hydraulic lime (30 %), local sand (60 %) and crushed brick powder (10 %). After a carefully dry cleaning the tesserae, the soil remaining between the cracks and lacunae is removed using dental instruments; residues on the surface are cleaned by vacuum. Primal AC 33 solution was applied to consolidate the mosaic pavement where the original mortar was weak. An inclined border is filled to the edges of the original floor mosaic to support the mortar. Calcification and other encrustations on the tesserae were removed using a lancet and soft brush.

A liquid based mortar was used to fill and strengthen the surface over a trial area of approximately 10m². The mortars are then cleaned using wet sponges so that no residues remain on the surface of the floor. Although this method creates a solid ground, it was only applied to a small area due to difficulties at the cleaning stage. These applications will be evaluated again after a general conservation project for all mosaics has been prepared by experts. A simple method of protection is applied using geo-textiles, sand and volcanic tuff so as limit vegetation growth (Fig. 3).

Applications

The best method of protecting a mosaic floor is roofing. Accordingly a scheme was put in place by the Turkish Cultural and Natural Heritage Conservation Board (Figs. 4-5). The shelter project involves a steel roof on concrete pillars in order to minimize any damage to the building's foundation levels and the mosaic floor. The shelter defines an area of about 12 x 42 m, with the pillar column length of 5m. Nine pits were dug out for the pillars on the south side of gallery. The pit width is approximately 1.20 x 1.20 m, with depths of between 0.50 m and 1.40 m because of the sloping terrain. The soil removed for the pits had the characteristics of earth fill, with no traces of any small finds, architectural features, or evidence of earlier mosaic flooring.

The concrete pillars of the steel roof are designed in such a way that they would not cause non-reversible damage to the floors. No pillars were placed on the stylobate or mosaic panels. The size of the concrete

pillars is 0.40 x 0.40 m and they vary in height between 0.80 to 1.20 m. Wooden blocks (0.10 m) and rubber sheeting (0.02 m) were placed under the concrete pillars to protect the original flooring. This method was previously used on a smaller area of the agora in Smyrna (Ersoy 2010, 424) in Turkey, and Building NN4 at Caesarea in Israel (Neguer 2008, 198).

The box-profile steel columns, 2.0 m in length, were erected above the concrete pillars. Triple arc-welding was used to reinforce the anchoring points. The steel beams (NPI 10 profile) on the columns were designed for a cantilevered span of 9.0 m. The welded steel box-profile trusses (40/60 mm) on the hipped-gable roof extend a total of 11.0 m in width and 1.20 m in height. Nine roof trusses were attached to each other by rafters and to increase resistance against horizontal force several counter-braces were placed on the edges of the building. All welded steel materials were coated with anti-corrosion (dark-green) paint.

The upper covering of the shelter is a roofing of a strong, but lightweight, material to cover an area of approximately 1200m². This material, which resembles red roofing tiles, is designed to provide natural light through transparent areas every 5 m. In addition, drainage channels and guttering removes rain water in a controlled manner. The whole area is surrounded by a movable grill fence to protect against external threats. After the shelter was completed, the excavation area was restored by refilling the pits. Thus, the uncovered mosaics are protected from environmental factors and a comfortable working area created.

Open-sided shelters will not fully protect mosaics; certain environmental factors still prevail, such as humidity, rain, wet and dry cycles, aerosols, salt and dust accumulation. Therefore, the roof of the palaestra must be upgraded to a permanent and enclosed shelter as soon as possible. It is known that mosaic pavements in enclosed shelters seem to be remain in better condition and can last more than a 100 years (Neguer 2008, 201). Even if a shelter temporarily protects pavements, in the long term it cannot prevent deterioration to mosaics by factors such as salt florescence, microbiological growth, tesserae flaking, floor subsidence and bulging (Stewart 2008, 182). Accordingly, permanent and enclosed shelters must be built to provide environmental stability, i.e. effective drainage from, and around, the shelter; indirect solar gain; ventilation; and thermal insulation.

By way of conclusion, it can be stated that limited conservation projects can only be of a temporary nature; permanent solutions require adequate funding, interdisciplinary efforts, sustainable maintenance and continuous supervision. After the Roman baths on our site have been fully excavated, a final project of conservation and environmental protection will be presented for approval to the Ministry of Culture and other sponsors.

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Figures

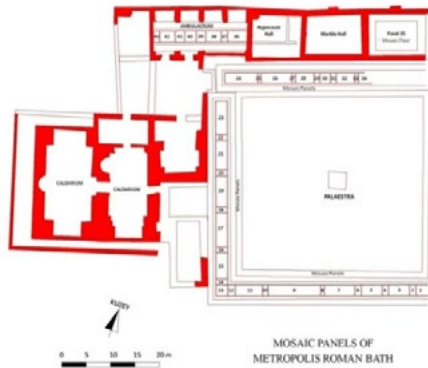


FIG. 1



FIG. 2



FIG. 3

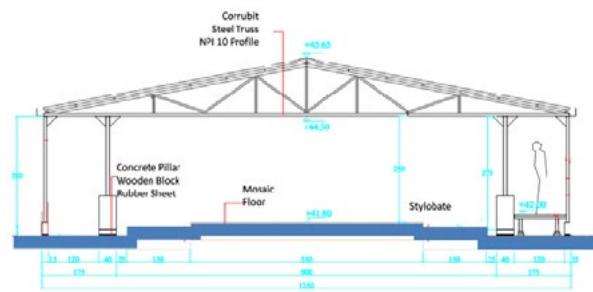


FIG. 4



FIG. 5

An Ostothek with Mythological Scene From Avsar

Asuman BALDIRAN

Selcuk University, Konya-Turkey, abaldiran@gmail.com

This contribution looks at the ostotheks (a small container for human remains) and ostothek lids found in Avsar, near *Taşkent* in the province of Konya, Turkey. *Taşkent* and its vicinity are situated within an area known as Isauria in ancient times.

One of the ostotheks features mythological subjects on three sides. The way the figures have been engraved and the selection of the subjects suggest that these monuments were either ordered by a rich person or built by an itinerant craftsman who worked in the area. Another ostothek presents patterns that were frequently used during ancient times. On the ostothek lids there are figures of lions drawn in a half-sitting position.

It was decided that further investigations should be made first around the site of Kayadibi (Kale) and pits from illegal excavations were found. There were some discarded stones around these excavations and one of these there was a deer carved in relief. Towards the top of the hill there was a structure with two rooms, the walls of which were formed of small rough stones. These two rooms are referred to as castles by the local inhabitants. The plan and construction technique provide no evidence about its date; it is believed that the structure was used as an observation tower. Going over the area, no ceramics were found to provide clues to the date. On the hill opposite Asar Kaya there was an outward facing carved niche.¹ According to Strabon, this area belonged to the region of *Lycaonia*.² As seen, the borders of the city are uncertain as it has constantly changed. The region is mountainous and has deep valleys and the region is celebrated for its vineyards. Some researchers that the copper and lead used at Catalhoyuk were brought from here.³ Bean and Mitford wandered mountainous *Lycaonia* in 1964-1968 and wrote that Avsar was within the boundaries of southern Isauria and produced a particular form of ostothek according to wall inscriptions they observed.⁴

Four of the sculptures from Kale (Kayadibi) are on display and two of them are ostothek lids. The Ostotheks are rectangular and not carved inside. One of them is carved on all four sides and three are carved on three sides. The plain reverse side is the highest. Most probably the ashes of the deceased were placed into an urn and then buried directly into the ground. The ostothek lids are carved in the same way as the stone boxes. They either rest flat on top of the box or have raised triangular lids, as is common in the regional settlements of *Lycaonia* and *Isauria*.

The ostothek in this paper features a mythological scene on all four sides (Figs. 1-4), garlands in particular.⁵ The frieze on the top is framed by two moldings: the lower one is straight, the top one is round with bull-like (?)⁶ (Fig. 1).

¹ Diodoros, XVIII, 21-22.

² Strabon, XII, 569.

³ Mellart, 1964: 114.

⁴ Bean-Mitford, 1970: 136ff.

⁵ Dimensions: length: 156cm, height: 153cm, Depth: 62cm.

⁶ Upper frieze height: 55cm; lower frieze height 47cm.

One side (top front) has a scene showing Hades kidnapping Persephone. This scene is repeatedly used on vases, sculptures and on coins in the Roman and Hellenistic periods.⁷ The figures represented are (from left to right): Nike, Hermes, Eros, Hades and Persephone. Two women figures and Hypnos can also be seen. On the narrow right side Demeter is depicted, and on the narrow left side is Hades (Fig. 7).

Heracles' labours are shown below. The cult of Herakles was widespread in 'Rough Cilicia', as can be seen from the many depictions of the god's club and other symbols on towers and door frames.⁸ Heracles' depictions on coins are significant, typically those of Caracalla (AD 198-217), Geta Caesar (AD 209-212) and Iulia Mamaea (AD 235).⁹

Heracles' twelve labours are categorized in two groups of six. The first group take place in the Peloponnese and the second in various other locations. Some sources vary in terms of their number and order, e.g. Apollodoros says there were ten labours.¹⁰ The depictions on the Avsar ostothek body are different both in subject and in order. On this ostothek body, Antaios, the giant, whose defeat was the god's second task, and eight other labours are described.¹¹ Looking in more detail at the scene (Figs. 9-10) we see the Nemean lion on the front side; Heracles fights the lion as it rears on two feet; Heracles is unarmed, he fights with his fists. He is stands naked, depicted from the front. The lion is on the left and Heracles moves towards right. The head of the hero is broken. Herakles overcomes the lion with his left arm, bringing his right arm to help. Similar scenes are repeated on many sarcophagi.¹²

The second scene represents the struggle between Heracles and multi-headed dragon of Lerna. The hero once more stands naked in a frontal posture; his lion skin coming down over his left arm. He holds the Hydra with his left hand and in his right his club is poised to strike the monster. The Hydra's tail is entangled in his left leg. One of the heads of the beast, probably the middle one, seems like a woman's head and is levelled at Heracles' left knee.¹³ The same scene can be found on ceramics¹⁴ and oil lamp discuses.¹⁵ The Lion fur is hanged down Heracles's left arm.

The third scenes shows the capture of the Eurymanthos boar. Heracles is viewed naked from the front with the boar on his shoulder. A war scene is depicted and fights are common on vases.¹⁶ Several other fight sequels are shown.¹⁷ We see the hero with a short but thick beard. His forehead is covered with thick, wavy hair.¹⁸ His facial expression is reminiscent of portraits from the Hadrian era.

The fourth depiction is the hunting scene on Lake Stymphalos. Heracles stands naked with his lion skin on his left shoulder. He leans towards the left, his left leg slightly bent, his right leg extended backwards. An eagle with open wings, as if it is about to fly, attracts attention in front of the hero's left leg. Heracles has an arrow and a drawn bow in his hand; similar scenes are to be found on ceramics.¹⁹

⁷ LIMC IV, I Hades (N. Yalouris) 382; LIMC IV, 2, fig. III; (LIMC IV, 2, 89).

⁸ Sayar, 1999: 150.

⁹ Karaman Müzesi Yıllığı 2, 1994: 30-31.

¹⁰ Apollodoros, II, 4.12.

¹¹ LIMC V, 1, (Boardman), 114.

¹² Sarcophagi depicting Heracles are in the Konya Archaeological Museum (Museum Inv. No: 928). Also Boysal, 1958:46-47; Özgan, 2003, 16-19. Another example is in the Kayseri Archaeological Museum (Museum Inv. No:92/1). See Cirtıl,-Altuncan, 1993: 26-31. Also see LIMC V, 1, Herakles (Felten), 16-34.

¹³ LIMC V, 1, Bkz. Herakles (Kokkorou-Alewas), 34vd.; LIMC V, 2 (1990-2092).

¹⁴ LIMC V, 2 (2075, 2076, 2082, 2083).

¹⁵ LIMC V, 2 (1992, 1998, 2015, 2016, 2037).

¹⁶ LIMC V, 1, Herakles (Felten), 343-348; LIMC V, 2 (2099, 2098, 2102, 2104).

¹⁷ LIMC V, 2 (2115, 2122).

¹⁸ LIMC V, 2 (2110, 2121, 2143, 2155, 2160, 2163).

¹⁹ LIMC V, 1, Herakles (S. Woodford), 54vd.; LIMC V, 2 (2241-2243, 2245, 2257, 2263, 2264, 2266, 2272, 2273, 2286,

The fifth of the Heracles' labours is the catching of the Ceryneian Hind. Heracles is shown naked with his lion skin over his shoulder. He kneels down, with his head inclined to the right. He stands on the left leg of the deer with his right foot. His left foot is on the back of the animal. The head of the deer is barely shown.²⁰ The hunting scene would most probably appeal to the Isaurians as they were known for their enjoyment of the hunt.²¹

The subject continues on the right, narrow, side. The sixth labour shows the taming of Diomedes' horses (mares) that had a fondness for human flesh. This side of the ostothek body is worn and obscured and, unfortunately, hard to photograph. Heracles appears to hold Diomedes' head as he kneels down looking at the hero.

The other scene on the left, narrow, side shows Hercules taking the magic girdle from the Amazon queen Hippolyta. Heracles stands naked in a frontal position with his cudgel in the left hand; he is holding the amazon queen by her hair. He is not wearing his lion skin.²²

The lower frieze on the body of the Avsar ostothek might relate to the life of the deceased, the descriptions might refer to the life of the young girl's father.²³

The upper frieze has the well-known mythological scene of Hades and Persephone. The scene often appears on red-figure vases from Attica as well as sarcophagi. It is known that these subjects were used on Hellenistic-period Megarian bowls.²⁴

In the scenes, Hades is shown abducting Persephone as she plays with her friends on the Sicilian planes. The figure of Nike is presented clothed in a dress with a belt under her breast; the head is broken. The figure of Nike usually appears on the corner of the sarcophagus.²⁵ The right leg of Hades is at the back extended over the narrow side. The left leg supports the body weight and is placed on the front long side. An inscription can be read on the figure of Psyche. Hermes, with his kerykeion/caduceus in his left hand and a cloak over his shoulder, stands to the left of Nike in a frontal position; he is naked. In the myth Zeus wanted Hermes to serve Persephone from Hades.²⁶ On Hermes' kerykeion, the figure of Eros can be seen. Near this scene, the main subject is in the centre of the frieze. A clothed Persephone attracts our attention as she lies on the back of the carriage pulled by two horses rearing up. Behind her stands Hades in a frontal position wearing a hymation that covers his left shoulder. He is holding Persephone with his left arm and leans forward as is to catch Hermes with his right. Their heads are broken so no facial details survive. There is a basket in the air on the left side of Hades'. This may be Persephone's basket in which she puts her flowers. After these figures two standing women can be seen, both of whom have the same position. They wear ankle-length chitons; each has her head covered with a hymation that veils their hands meeting on their stomach. These women figures may be the relatives of the dead. They turn their heads slightly to the right to watch the abduction of Persephone. They watch the scene with obvious despair. The folds of the hymations can be seen. On the left side we see winged Hypnos almost asleep. She touches the floor with her fingertips, her right arm on her left shoulder and left leg crossed in front of the right. Her hair is long, with some of it combed at the back. An inscription can be read on the figure of Hypnos. All of the figures are short and weighty. The

2290, 2298).

²⁰ LIMC V, 1, Herakles (Feltan), 48-54; LIMC V, 2 (2215, 2220, 2226, 2228, 2229).

²¹ Yilmaz, 1995: Lev. XCV, a; Doğanay, 2003: Lev. 146.

²² Grimal, 1997: 262; for same scene. LIMC V, 2 (2414, 2409, 2404, 2416, 2421, 2449).

²³ LIMC VIII, 1, Persephone (Güntner), 956-978; LIMC VIII, 2 (221, 222, 226, 230, 236, 239, 240).

²⁴ LIMC VIII, 2, (202b).

²⁵ For Hades LIMC IV, 1 (Yalouris), 384. For Nike figure Waelkens, 1982: 10-12, Abb. 8.

²⁶ Grimal, 1997: 286.

horses of Persephone's carriage reflect the characteristics of Persian horses. Similar scenes are found in Phrygia. The same subjects appear in Hierapolis on the theatre reliefs.²⁷ Moreover, a sarcophagus with similar composition is in the Palatine Chapel, Aachen.²⁸ It is dated to AD 220-230.²⁹ On this sarcophagus one figure is on the left, narrow side. Demeter holds a torch in her left hand and her upper body can be seen. On the right, narrow side there is a door design common on all Anatolian sarcophagi.³⁰ The door is the symbol of the underground world and it appears wide open. It is not clear, but inside the place where the door opens a figure can be seen. The figure is probably the guardian Kerberos.³¹

Three sides of the ostothek body from Avsar are carefully designed, the long reverse side is not. Two garland designs are used on this side (Fig. 2). There is an inscription on the front of the ostothek body where the scene of Persephone's abduction is carved:

ΨΥΧΗ ΚΩΡΗCΑΡ ΠΑ ΤΗ ΥΠΝΟC

Ψυχή κόρης Ἀεπαγή υπνος

The inside of the ostothek reveals dowel joints at the top for attaching the lid. The mythological scenes are unique. It is clear from the choice of the scenes and the way the figures are carved that the sarcophagus belonged to a wealthy family. It was probably especially commissioned. No stone workshops have been found in the region.³² The stylistic characteristics and the lettering suggest that the ostothek was made at the end of the 2nd or early 3rd century AD.

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²⁷ Ferrero, 1998: 63.

²⁸ Koch, 2001: 6-13.

²⁹ Ferrero, 1998: 63.

³⁰ Grimal, 1997:374. The guardian of Hades, who prevents the living from entering.

³¹ After the abduction of Persephone, Demeter searches for her daughter with a torch in each hand. Grimal, 1997: 146; See also the article on Demeter, LIMC IV, 1, (Luigi Beschi), 884-892; LIMC IV, 2 (1-436).

³² The bushy beard and hair, and also drilled out eyes, indicate a late Antonine or subsequent date.

Figures



FIG. 1



FIG. 2



FIG. 3



FIG. 4



FIG. 5



FIG. 6



FIG. 7



FIG. 8



FIG. 9



FIG. 10

Aims, Sources and Objectives of the Project: ‘Constantinople/ İstanbul-Küçükçekmece – The Port of Destination of the Varangian Way: “Byzantinization” of a Rus Community Centre

Błażej Stanisławski*, Sengül Aydıngün**, Hakan Ö niz***

*University of Wrocław-Poland st-wski@wp.pl

**Kocaeli University- Turkey, sengul19@gmail.com

***Selcuk University-Konya, Turkey, hakan.oniz@gmail.com

The ‘Way from the Varangians to the Greeks, which takes its name from the author of *Nestor’s Chronicle*,¹ was a great trade and communication artery. The route linked eastern Europe and the Baltic Sea zone with Constantinople (called Miklagård by the Scandinavians and Cerogrod by Rus) (fig. 1). Along this route newcomers from the North (Scandinavians, Vikings, Rhos/Rus,² Varangians) reached the South, and Byzantine goods and ideas reached the North: the ideas which, amongst others, created the foundations of medieval European civilization. The end point of the route from the North was Constantinople – the capital of the Empire; the testimony of these cultural phenomena are runic inscriptions (fig. 2) engraved on the balustrade of Hagia Sophia.³ The inscriptions were until recently the best-known material evidence of the Vikings’ stay in Constantinople. The artery functioned as the result of relations between the Rus/Scandinavians and Byzantines that started in the 9th and continued in the 10th and 11th centuries AD. Their testimony are treaties from AD 907/911 and 944, mentioned in *Nestor’s Chronicle*. Under the agreements the Rus gained the right to stay in the neighbourhood of Constantinople in the area located ‘in’ or ‘next to’ the ‘area’ of St Mama.⁴

The route developed as a result of diplomatic, commercial, military and religious contacts between the Rus and the Byzantines.⁵ A Rus deputation appeared in Constantinople for the first time in AD 83. In 860 there was a Rus assault on the city. In 876 the Rus’ hosted a Greek mission, were converted to Christianity, and became subjects and allies of the Empire. In 907 or 911 the Rus prince Oleg/Helgi organized another expedition, as a result of which Byzantium was forced to pay a tribute. The outcome led to the Rus-Byzantine treaty of 907-911. The next assault on the city occurred in 941. In 944 a Rus deputation arrived in Constantinople and a new treaty was signed. Under both treaties the newcomers were granted rights to reside in an appointed locale, situated in the vicinity of the capital. In 957 Princess Olga/Helge (945-964) visited Constantinople and was baptised there. It is believed that she also stayed with her entourage for a few months in the ‘Rus quarter’. The highpoint of Rus-Byzantine relations was the Christianization of Rus in AD 988.

¹ ‘Повесть временных лет’ / ‘Powieśt’ wriemiennych let’ / ‘Tale of Bygone Years’. *Powieść minionych lat. Powieśt’ wriemiennych let. Charakterystyka historyczno-literacka, przekład i komentarz*, F. Sielecki (ed. and transl.), Wrocław 1968.

² Stang 1996; Urbańczyk 2014, 91-92.

³ Liestøl 1963; Svärdström 1970; Larsson 1988; 1989.

⁴ ‘Приходяще русь да витають у святого Мамы’ (907/911 AD) and ‘И приходящимъ имъ, да витають у святого Мамы’ (944 AD).

⁵ Carlsson 2012; Duczko 2007; Garipzanov and Tolochko (eds.) 2011; Saharow 1980; Shepard 2008, 496-516.

Constantinople was also visited by Vikings from Scandinavia directly.⁶ The most famous of these were Harald Hardråda (1015-1066), who commanded the Imperial Guard; Sigurd, the king of Norway (1093-1103); and Eric, the king of Denmark (1095-1103). Scandinavian-Byzantine relations are mentioned in old Scandinavian literature. The culmination of the fame of the warriors from the North was their ultimate inclusion into the Imperial Guard and 'The Varangian Guard'.⁷

Rus-Byzantine relations, attested to in written sources, *inter alia* 'De administrando imperio' by Constantine VII Porphyrogenetos (913-959),⁸ have repeatedly been the subject of historical studies.⁹ They have also been well attested by archaeological sources¹⁰ and the many monuments to be found in eastern and central Europe and Scandinavia.¹¹

Only occasionally, however, have scholars dealt with following problems: (1) the presence of newcomers from the North in Constantinople, and the attempts to record this phenomenon in the archaeological sources; (2) locating the site/s of Rus settlement in Constantinople; (3) study of the extent of ideas and cultural patterns (Byzantine and foreign) encountered by the Rus population at their place of residence near the gates of the city; (4) determining the impact of Byzantine society and foreigners residing in the port on the Küçükçekmece Lake basin on the culture of the Rus, and this appears in the material culture. These topics are central to our Polish-Turkish Project: 'Constantinople/Istanbul-Küçükçekmece - The Destination Port on the Way from the Varangians to the Greeks: a Rus Community Centre of "Byzantinization".'

Studies based on material sources on the presence of Rus populations in Constantinople have only been undertaken occasionally. Research on the problem of the location of the place/s of residence of newcomers from the North to Constantinople must necessarily focus on *Nestor's Chronicle*, in which texts of two very similar treaties signed in AD 907/911 and 944 AD were alluded to. Based on these, we learn that the Rus arrived at the city by sea and their place of residence was mentioned as being 'in' the area of St Mamas, or 'next to' St Mamas, which was located outside the walls. The newcomers could enter the city only under the supervision of an imperial official.

The Rus 'quarter' is located by the author of the *Tale of Bygone Years* as only 'in' or 'next to' the place called St Mamas. He does not use further determinants, such as: St Mamas church, monastery or district. This place is identified usually with St Mamas church or monastery. A few objects dedicated to St Mamas (churches, monasteries and 'district') were found in Constantinople however.¹² Most of these are mentioned in Byzantine written sources: 'Typikon of Athanasios Philanthropens for the Monastery of St Mamas in Constantinople',¹³ 'Chronographia' by Joannes Malas, 'Ekklesiastiké historía' by Theodorus Anagnostes, 'Chronicon Paschale' by Anonym, 'Chronographia' by Theophanes Confessor, 'Chronographia brevis' by Nicephorus, 'Chronicon' by Georgius Monachus, 'Patria Constantinopoleos' by Pseudo-Codinus, 'Chronicon' by Leon Gramaticus, 'Liber Suda', 'Chronographia' by Theophanes

⁶ Piltz 1987; Ciggaar 1996, 102-128.

⁷ Böhm 2011.

⁸ Constantine Porphyrogenetos. *De administrando imperio*, Gy. Moravcsik (ed.), R.J.H. Jenkins (trans.), *Corpus Fontium Historiae Byzantinae*, 1, Washington 1967.

⁹ E.g. Vasiliev 1946; 1951; Poppe 1967; 1968; 1978; Saharow 1980; Piltz 1987; Ciggaar 1996; Franklin, Shepard 1996; Петросян 1998; Литаврин 1993; 1999; Shepard 2008; Garipzanov, Tolochko (ed.) 2011; Androshchuk 2013.

¹⁰ Duczko 1997; Gladkih (ed.) 2012.

¹¹ Pevny 1997, 281-319.

¹² Chastelain 1709, 863.

¹³ Bandy A. (transl.) 2000. Mamas: Typikon of Athanasios Philanthropens for the Monastery of St Mamas in Constantinople, in J. Thomas and A. Constantinides Hero (eds.), *Byzantine Monastic Foundation Documents: A Complete Translation of the Surviving Founder's Typika and Testaments*, Washington, 973-1041.

Continuatus, 'De ceremoniis aulae Byzantinae' and 'Hósa dej gínesthaj, tu megálu kaj hypselu basiléos ton Romajon méllontos fossateusaj' by Constantine VII Porphyrogennetos, 'On the reigns of the emperors' by Josephus Genesius, 'Chronicon' by Symeon Logothetes, 'Sýnopsis historiké' by Georgius Cedrenus, 'Epitomé tes historías' by Joannes Scylitzes, 'Epitomè historion' by Joannes Zonaras, 'Annales' by Michael Glycas, 'Historia ecclesiastica' by Nicephorus Callistus Xanthopulus, in the untitled text by Ducas, 'Chronicon' by Georgius Monachos Continuatus, 'Chronographia' by Pseudo-Symeon, 'Epistoláj' by Theodorus Studites, 'Vita Simeonis Novi Theologici' by Nicetas Stethatos, 'Historíaj' by Joannes VI Cantacuzenus, 'Adversus Cantacuzenum' by Joannes Cyparissiotis, 'Hstoría romaiké' by Nicephorus Gregoras and in anonymous texts: 'Vitae Anonymae Sancte Irenae', 'De Leone Armenio', 'Acta Monasterii Dionysii', 'Acta Monasterii Lavrae', 'Acta Monasterii Esphigmeni', 'Acta Monasterii Vatopedii', 'Synaxarium Ecclesiae Constantinopoleos', 'Vita Imperatricis Theodoraе' and 'Additamenta ad Georgii Acropolitae'. The monastery of St Mamas is also mentioned in other Russian and Bulgarian written sources.¹⁴

The location of St Mamas monastery/church/district has so far not been identified, although such attempts were undertaken on the basis of Byzantine written sources.¹⁵ The first took place in the late 19th and the early 20th century. These suggested that it was located (1) north of the Golden Horn, on the Bosphorus;¹⁶ other suggestions include (2) near Blachernae, to the north-west of the city;¹⁷ or (3) south-west of the city next to the Xylokerkos Gate;¹⁸ or (4) next to the Studion monastery near Theodosius' harbour.¹⁹

The starting point for this project was the hypothesis that the site allocated to the Rus as their place of residence was located 'in' or 'next to' the area of the River Ayamama (St Mamas) and the neighbouring area of the Küçükçekmece Lake Basin (fig. 3). The River Ayamama (the length of the river is 21km, the length of the river basin 46km) is located between Hebdomon and San Stefano.²⁰

This opinion may be supported by several arguments. The area is located next to the monastery of St Mamas, which is outside the city walls, and the name of the river (Ayamama/ St Mamas) is still in use;²¹ the name appears also on the old Ottoman maps.²² The monastery of St Mamas, or St Mamas and Panteleimon, was located there (on the river-mouth);²³ it is the only edifice dedicated to St Mamas in Constantinople; the area is located next to the great harbour on the basin of Lake Küçükçekmece. During the period in question Lake Küçükçekmece was in fact a bay in the Sea of Marmara. The configuration of the bay made it a very convenient harbour for trading vessels, comparable to the Golden Horn. The remains of the stone quays, which are still visible on land and underwater, prove that it was a port of considerable scale, which, in terms of size, far exceeded the other ports of Constantinople (Theodosius, Kontoskalion, Boukoleon, Neorion);²⁴ it was the largest centre of maritime communications for the

¹⁴ Книга Паломник (Kniga Palomnik) 1899; and Bulgarian: Златарски 1904; Луйчев 1963, s. 112-114.

¹⁵ Успенский 1892; Pergoire 1904; 1908; Литаврин 1993; 1999; Петросян 1998; Андрощук 2012.

¹⁶ Pergoire 1904; 1908; Петросян 1998, 54; Литаврин 1999, 427, 454; Иванов 2013, 565; van Millingen 1912, 106-107.

¹⁷ Between the modern districts of Eyüp and Aivan Serai. Millingen 1912, 106-107; Özaslan 2001, 380.

¹⁸ Millingen 1899, 90-91; A.P. Kazhdan (ed.), *The Oxford Dictionary of Byzantium*, 1278, Oxford 1991.

¹⁹ Андрощук 2012.

²⁰ For more about this area, see Külzer 2010, 440.

²¹ Topographical and administrative maps published in 1823, 1907, 1916, 1933, 1946 and 1972. Delibaş 2012, 133-135, figs. 5.6, 5.7, 5.8.

²² Kubilay 2010, 230-231.

²³ Makridis 1938; Macridy 1939; Külzer 2010.

²⁴ Müller-Weiner 1998.

capital and was connected with it by a stone road – the via Egnatia²⁵. During excavations many Byzantine architectural relics and evidence of Byzantine settlement were found there. This huge harbour was located at a safe distance from the capital and had excellent communications with the city – it was probably selected because of this for foreigners and their ships.

The site of Rhegion²⁶ was also located on the lake estuary; it was the place where the emperor would welcome guests and it is possible that the new arrivals from the North would disembark there as well. Examination of the artefacts found during excavations of the settlement on the western coast of Küçükçekmece seem to support the above hypothesis and the presence of influences from the North. These include an amber, cross, a *hnefatafl* game-piece (characteristic of Viking warrior culture), a ‘ring’ decorated with two dragon heads, and knives typical of the Baltic Sea zone. Furthermore, several items with cultural echoes of Steppe peoples were recorded. These artefacts occur also in the inventory of the material culture of the Rus and Baltic Sea peoples.

The site’s location next to the St Mamas River, and outside the city walls, the presence of the large port and the Byzantine settlement, as well as the presence of the above finds, all support the hypothesis that the settlement complex at Küçükçekmece might well have been the final destination on the *Way from the Varangians to the Greeks*, the place where the Rus population resided, and perhaps the same site mentioned in the treaties. At this site the newcomers from the North came into direct contact with Byzantine civilization and culture, as well as that of other arrivals at the port. There they adopted Byzantine and possibly other foreign cultural patterns and underwent a process of ‘Byzantinization’.

The first traces of settlement on the western shore of Küçükçekmece were discovered in 2007 and excavations began in 2009. Based on their results it was found that the site’s surface covers many hectares and contains traces of settlement from the prehistoric, Bronze Age, early Iron Age, Greek, Hellenistic, Roman, Byzantine and Ottoman periods.

The settlement traces from the Byzantine period are particularly rich.²⁷ These include the remains of two churches, a martyrium, dwellings, workshops, roads, and port constructions (stone piers and quays). In many places the latter are visible both on land and under water (columns, anchors, sarcophagi and ceramic vessels). During excavations large numbers of artefacts were discovered: amphorae dominate (there are vessels from almost all regions of the Mediterranean, and finds include some labelled with marks of pottery workshops), coins (amongst others gold Byzantine *solidi*), glass vessels, and jewellery. Craft workshops were also found, with remains of jewellery, glass, metals and medicines.

The settlement complex is divided into three sites (Nos. 1-3). Site No. 1 includes a church, buildings adjacent to it, cemetery, stone roads, harbour and quay. Site No. 2 includes another, larger, church (?), a martyrium, cemetery, harbour and dwellings. Site No. 3 includes the so-called ‘Great Port’, with its wharves several kilometres long. The Byzantine settlement can be dated from the 5th(?) / 6th to the 13th centuries AD.

The objectives of the project are as follows:

1: To find material traces of the presence of Rus and Scandinavian populations in Constantinople within the settlement complex on the basin of Lake Küçükçekmece.

2: To determine whether the settlement complex studied is the same as the Rus area near St Mamas.

²⁵ Kuelzer 2011, 193-194.

²⁶ Ogan, Mansel 1942.

²⁷ Aydingün and Ö niz 2009; Aydingün 2013; Aydingün *et al.* 2013; Ö niz *et al.* 2014.

3: To investigate any and all cultural patterns (Byzantine and foreign) the Rus population might encounter during they stay at Küçükçekmece.

4: To examine, based on material sources, the impact of Byzantine society and foreign residents at Küçükçekmece on Rus culture of the Rus (in terms of exchange, craft production, navigation, art, symbolism, social organization and religion) and the process of 'Byzantinization' of their society.

5: To find any or all potential determinants of the physical presence at Küçükçekmece of other foreign communities from areas of eastern Europe (i.e. as slaves brought by the Rus to Byzantium).

These above research themes will be developed by implementing the following:

Task 1 – Archaeological research at Küçükçekmece

The source base of the research will be the early Medieval artefacts acquired during previous excavations conducted within the Küçükçekmece Lake settlement, coupled with the results of new excavations at site No. 2. The plan covers three seasons of excavations. The excavations will be carried out on the surface over an area of 5 x 15m in size. This work will include the stratigraphical documentation of sources, their analysis and C-14 dating.

The land excavations will be accompanied by underwater examination of the lake floor in the area directly adjacent to the area of land excavation, aimed at the identification and documentation of submerged remains of the port (i.e. buildings, wrecks, anchorages and artefacts from ships moored in the port).

A non-invasive geomagnetic survey will be carried out on the surface of approximately 6ha, located between the port trench and the where the church remains were discovered. The purpose of the survey will be the documentation of the layout of Byzantine structures in the area around site No. 2.

The architectural remains discovered during land and underwater excavations will be documented by 'Total Station' type measurements. In this way a contour map and 3D model of the land area and the lake bed, along with buildings, will be created. Architecture remains found on land will be additionally documented by photo- and 3D-scanning. A complete 3D model of the area (land and lake bed), and buildings obtained in this way, will be complemented by an integrated 3D documentation of selected artefacts discovered in the study area.

Task 2 – Chronological analysis

To record the chronological parameters of the Byzantine settlement sequences we will undertake an architectural analysis of the structures, using C-14 dating, a qualitative and quantitative analysis of pottery vessel assemblages from individual settlement sequences, as well as an analysis of selected artefacts (coins, stamped bricks, and other artefacts of more specific chronological parameters). In this way – by combining the results of these analyses – we will create a base for stratigraphy of the site in the early Middle Ages.

The next task will be the synchronization of settlement layers from the early Middle Ages, recorded within trenches located at various points in the settlement complex. For this purpose, we will employ qualitative and quantitative analyses of pottery, using chronological parameters of individual assemblages based on results obtained during excavations planned on site No. 2.

Task 3 – Socio-topographical analysis

The next task will be a study of the reconstruction of the space of the Byzantine settlement complex in the early Middle Ages, and the socio-topographical analyses of the settlement complex based on spatial

organization of the site, its buildings and functions, as well as artefacts occurring within individual features. In this way it will be possible to obtain information on the social differentiation of residents.

Task 4 – Elements of Rus culture, and others, at Küçükçekmece

The discovered archaeological sources (both on land and submerged – e.g. anchors) will be further examined for: the possible presence of artefacts of Rus/Norse origins (including specialist analyses – metals, zoological, etc.); determinants of physical residence of other communities from areas of eastern Europe (i.e. slaves); indicators of the presence of other foreign communities whose vessels moored in the port, and whose culture could have impacted on that of the Rus population (i.e. external contacts seem very possible based on amphorae finds with marks of pottery workshops from other regions of the Mediterranean).

Task 5 – Studies on: a) the culture of the local Byzantine community; b) the impact of Byzantine civilization on Rus culture; and c) the possible ‘Byzantinization’ of this community. The next task will be to analyze material sources discovered in the port, so as order to undertake a reconstruction of culture of the local Byzantine community in the economic, symbolic, social, artistic, and religious spheres, as well to create an image of the Byzantine culture encountered by the Rus at Küçükçekmece.

This information will be the basis for the next stage of study, whose aim will be to learn about the impact of Byzantine civilization on Rus culture and any process of ‘Byzantinization’ of this community. The source base will be expanded to include artefacts from Rus and Scandinavian centres in eastern Europe and Scandinavia, in order to register potential influences spreading directly from the centre at Küçükçekmece to the culture(s) of people in northern Europe.

Task 6 – Studies of Greek and Latin written sources

Simultaneously with the archaeological research, historical and philological studies of Greek and Latin written sources will be conducted. The purpose of the analysis of written sources is to verify or not the hypothesis that the settlement complex at Küçükçekmece is identical with the site granted to the Rus arrivals as their place of residence beyond the gates of the capital, as mentioned in the treaties. To verify the above hypothesis, we intend to examine Greek written sources for any information in them on references to St Mamas and possible locations. Latin sources may also contain information on the settlement complex at Küçükçekmece and provide descriptions of crusader visits to Constantinople and the Crusades. It cannot be ruled out that the largest port of Constantinople was used by crusaders during their expeditions. This is indicated by the discoveries of crusader coins.²⁸ It is assumed that crusaders were ultimately responsible for the destruction of the centre in question and ended its Byzantine phase.

Our project integrates the experience and traditions of Polish medieval studies (developed by excavations of urban multi-layered sites), including research on the culture of Norsemen, and the achievements of Turkish research on Byzantium.²⁹ The project also combines the experience and methods of Turkish and Polish research on ports (both inland and open sea), early Medieval sailing and boat-building (much of this based on the researches of joint Polish-Danish teams conducted in Wolin). The project merges the traditional methodology of archaeological research with modern techniques (geomagnetic, methods of documentation, 3D modelling and scanning, aerial photography, etc.) and theoretical archaeology. The study is interdisciplinary. It includes specialists in archaeology, anthropology, architecture, classical philology and history.

²⁸ Tekin 2013, 61-62.

²⁹ Kiliç Yıldız 2011.

The project is a continuation of studies conducted in recent years, aiming to: (a) illustrate the socio-economic background, against which the process of formation of first states in the early Middle Ages occurred, with particular emphasis on the role played by the Norse;³⁰ and (b) to study problems associated with the beginnings of the Medieval European civilization started by L. Leciejewicz (2000). The project also aims to resurrect the tradition of Wrocław Byzantine studies, initiated by George Ostrogorski and the Mediterranean archaeology of the Middle Ages, created by Lech Leciejewicz.

The excavations at Lake Küçükçekmece are, after the completion of works at Yenikapi, related to the construction of a tunnel under the Bosphorus, the largest archaeological research project in the city. Taking into account the wealth of discoveries made at Yenikapi³¹ and the surface of the site at Küçükçekmece, it can be expected that the excavations also will result in equally spectacular discoveries of great significance.

The implementation of the research project requires a creation of a Polish-Turkish team of specialists in archaeology (experts in Scandinavian and Slavic cultures, Byzantine archaeology, harbour excavation, sailing and underwater excavation), architecture (documentation, analysis and interpretation of architectural monuments), philology (Greek and Latin) and history.

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³⁰ Duczko 2007; Stanisławski 2013; Moździoch et al. (eds.) 2013).

³¹ Kocabaş and Özşait Kocabaş 2012.

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Northwest Anatolia from the Perspective of Travellers: Social, Cultural Life and Archaeological Remains

Güngör KARAUĞUZ

Necmettin Erbakan University, Konya-Turkey, karauguz@msn.com

Mama li Turchi!

This idiom was the Italian perception of the Turk¹ in 15th and following centuries. But was it only the perception of Italians?

François Marie Arouet, that is, Voltaire, one of the leading thinkers of 18th-century Europe, and who was very influential in the era of the French Revolution with the Enlightenment movement, exclaimed – ‘I will always hate Turks’, ‘miserable barbarians!’² Also Martin Luther, ‘who regarded Turks as the last enemy of God’ considered them as the ‘whip of God’,³ ready to punish Christians who strayed from the path. Meanwhile, after their presence in eastern Europe, the Turks began moving towards central Europe, via Austria; after the unsuccessful second Vienna Siege (1683), Europeans composed songs deriding them.

Such was the Turkish image in the West. However, during the Renaissance this image was to give way to the image of the invincible ‘Great Turk’. Moreover, for Europeans ‘Turk’ and ‘Muslim’ had the same meaning,⁴ and the East was seen as a realm of ease and idleness, ready for colonization. ‘Orientalism’ and ‘vanguard of colonialism’, therefore, epitomized the understanding of the East.⁵

It may be the case that efforts of Westerners to get to know ‘the superior culture of the East’, to which they were indebted for their present level of development, and named the ‘Graveyard of Civilizations’, began with Herodotus in the 5th century BC.⁶ Later, Xenophon and Strabon followed him in 1st century AD.⁷ Undoubtedly many other travellers in the antic world were interested in ‘the mysteries of the East’. Perhaps the first great traveller was Gilgamesh, the King of Uruk, who came to Mesopotamia in 3000 BC and experienced many adventures in his quest to find eternal life after the death of his close friend Enkidu.

Western Travellers and Travel Books: A General View

The key resources we have to help understand early opinions on the East are provided by travel accounts. These books, written either in the vernacular or French, cover many themes: travellers’ reports,⁸

¹ Karakartal 2013, 270.

² Kinzer 2001, 5.

³ Konrad 2013, 257; Kumrular 2013, 61.

⁴ McLean 2009, 1; Konrad, 2013, 253.

⁵ Meriç 1977.

⁶ Herodotos.

⁷ Xenophon; Strabon.

⁸ Serdar *et al.* 1997, 49.

literature, history,⁹ anthropology, ethnology, law, sociology, philosophy, theology, etc. They were written to introduce Istanbul, Anatolia and the Near East to travellers on their way to visit holy sites, such as Jerusalem, as well as highlight the many archaeological remains and famous monuments along the way. The motives that engendered these travel books, which frequently contained exaggerations and prejudiced narratives, included curiosity for the unknown, adventure, the urge to discover and document for audiences back home. However, ‘with its attempt to document the East, the West was in fact documenting itself.’¹⁰ That is, a West that identifies itself as being against the ‘other’.

Westerners began to stream into the centre of the Ottoman Empire in order to experience the ‘other’ and examine its influence and power. Those who came were mostly governmental officials, or spies, or those who had a desire to discover new places and undertake ‘scientific’ research.¹¹ Some travellers no doubt thought that by trying to introduce Christianity to *others*, those with no idea of God they were enabling them to live ‘a civilized life’ and were thus enriching their lands and faith.¹² To this end many ‘Christian communities’ were established. In fact, by setting these up, ‘through the concept of curiosity and dissembling’,¹³ the Westerner was also determining the methodology of local history, ethnology and anthropology. And in doing this, the *other* represented the unchanging, the static, and the constant.

Even though there have been thousands of travel books, including personal dairies, written to describe the historical events of Asia Minor, and especially Anatolia, there is space here to refer to just a handful of them, and especially those we may consider among the first of them: Schiltberger (1396), Bertrandon del la Broquiere (1432), Benedict Curipeschhitz (1530), Miguel de Cervantes Saavedra (1575), Hans Dernschwam (1600) and G.A. Oliver (1790).¹⁴

Within the scope of the definition of the word ‘traveller’ which can mean ‘messenger/informant/passenger’, Western travellers also often had many professional skills, such as philologist, entomologist, geologist, diplomat, missionary, doctor, naturalist, archaeologist, geographer, cartographer, historian, oceanographer, botanist, etc., etc.

Undoubtedly, not all the travel books written by Westerners were negative towards the Turkish populations they journeyed among, although some turned out to be ‘a foul weather friend’, like the visitor buried on Pierre Loti Hill, which is named after him.¹⁵ Some travellers were generous enough to confess in their accounts that they acquired their knowledge in the East, i.e. medicine and chemistry.¹⁶ Others were full of praise, noting that the Turks were faithful to their word, honest, helpful, religious, respectful towards other religious beliefs, civilized, and content.¹⁷ One traveller even claimed that there were no beggars and no thefts in the area of Turkey in which he stayed for 14 years at the beginning of the 18th century; there were only six incidents of punishing bandits by impalement.¹⁸

In the field of Muslim geography the tradition of writing travel books developed very slowly, although the works that were produced and their authors are justly famous, i.e. İbni Batuda (1304-1369), Kâtip

⁹ Şirin 2012.

¹⁰ Kabbani 1993, 19.

¹¹ Baykara 2013, 35.

¹² Serdar *et al.* 1997, 51.

¹³ Hentsch 2008, 100.

¹⁴ Sağlam 2013.

¹⁵ Işık 2013.

¹⁶ Nerval 1974, 182, 197.

¹⁷ Nerval 1974, 15-16; Stanwood 2006, 52-53; la Motraye 2007, 20, 74, 99, 128, 185-188, 193, 220, 472; Çataloluk 2013, 298.

¹⁸ La Motraye 2007, 185, 193.

Çelebi (1609-1657) and Evliya Çelebi (1611-1682). As Western travellers have emphasized very often, as with other areas of life, has Eastern ‘fatalism, nonchalance and self-indulgence’¹⁹ had a bearing on our slow development of a travel-book tradition? As opposed to the generally accepted ‘Western curiosity’ viewpoint, what was really influential in terms of the travel-book tradition in the West was much more likely to be the spur of religion and impulses to explore and discover sites referred to in their holy books.

Travellers in Northwestern Anatolia

İbrahim Hamdi Efendi and His Atlas

Anatolia has its share of great travellers and travel accounts. One of these was İbrahim Hamdi

Efendi, a man said to have been a descendant from the prophet,²⁰ who travelled widely in Safranbolu, Eflani, Dirgine, Yılanlıca, Mengen, Devrek, Çarşamba/Çaycuma, Banderkli/Ereğli, Amasra, Bartın, and the Ulus regions of northwestern Anatolia. Many of these areas were introduced for the first time through his writings. The author, who was born on a farm in Küçük Endüz/Endüz, Ulus, was only able to complete his work entitled *Atlas-ı İbrahim Hamdi Efendi* in 1750. The work had been known since the last quarter of the 19th century,²¹ but it came to light when it was bought by Ahmet Tevhit from a bookseller and given to Talat Mümtaz Yaman as a present. By the time the work was lost in a fire in his house²² he had already been able to publish it, with additions in 1940.²³

This work, depicting northwestern Anatolia from the mid 18th century, was, in fact, a continuation of the description of the region by the famous 17th-century Turkish travellers Evliya Çelebi and Katip Çelebi’s.²⁴ Its major difference from the other two works is that the author was a child of the region and was introducing his region in detail and with his local knowledge.²⁵ Why did İbrahim Hamdi Efendi put in so much detail? Why does he appear so angry at times? Did he report the gossip around him? Undoubtedly he was selective in his choice of subject, but his work so well depicts the social, cultural and the economic reality of the region that the reader is swept along in his narrative. For example, the writer mentions that the people of 18th-century Safranbolu, with its castle often visited by Westerners,²⁶ became wealthy by harvesting saffron, and refers to delicious grapes that, today as much as then, makes the reader’s mouth water.²⁷

The Eflani region, home to many of the prophet’s descendants, was famous for its delicacies, including *kuyu kebab*, cooked in a pit. The village of Hacıağa was renowned for its Kadiri lodge and its sheiks, and also Çelebiler was a Medine foundation. Cotton was grown in most parts of Eflani. Depe, we learn, was renowned for the manufacture of boots and shoes, but not for its produce,²⁸ unlike Mengen which was famous for its trout and damsons. Devrek had a bazaar/market lasting for fifteen days,²⁹ and only recently, it seems, has this fair (in Turkish panayır/mahya) been discontinued.

¹⁹ Stanwood 2006, 22; La Motraye 2007, 196-197.

²⁰ Yaman 1940, XV/87, 248.

²¹ Ak 2000, 69.

²² Ak 2000, 74-75.

²³ *Ülkü Halkevleri* (Journal), 1940 (XV/85-87, March-May).

²⁴ Kâtip Çelebi 1732, 653-654; Evliya Çelebi 1999, Book 5, 47.

²⁵ Yaman 1940: XV/85, 44, XV/86, 148.

²⁶ Ainsworth 1839, 238.

²⁷ Ainsworth 1839, 240.

²⁸ Yaman 1940, XV/85, 45-46.

²⁹ Yaman 1940, XV/85, 47.

This travel account goes on to mention the features of Benderkli/Ereğli', the castle, the Sultan Orhan mosque, and the construction where Seyyid Nasrullah Efendi, one of the sons of Sultan Orhan's instructor Seyyid Yahya-yı Şîrvânî, is buried – with its doorway, on which there are two life-size human reliefs. The special bread the author mentions – kartalaç – is still consumed in the region, and the stone slabs on which the bread is traditionally cooked also come from the Ereğli district.³⁰

Amasra and its castle, hammam and mosque are evocatively described – as are its limes and egg-sized mulberries. We learn that Ereğli can be reached from here by boat. The Bartın district included 24 villages and two mosques – which burned down later – a hammam, clock tower, and a bazaar on Saturdays, where wood, flax-seed, dried fruits and walnut oil were traded.³¹

Along the borders of Ulus were the great forests of Gökbiç and Uluyayla, which – as a Western traveller mentions³² – seemed large enough to provide timber not only for the Ottoman Empire but for the whole world. After Friday prayers, in front of the Ulus mosque, built between two rivulets, goat kebabs were made and sold under the shade.³³ As W.F. Ainsworth was later to witness, this tradition continued at least until the beginning of 19th century.³⁴

In a report given in 1922 to the Turkish National Parliament it was stated that the interior of the Zonguldak region³⁵ contained some remarkable features (caves, wild trees, etc.) that were the stuff of legend. İbrahim Hamdi Efendi had already referred to similar local in his *Atlas*. A lion statue found in a field near Kastamonu, which is said to have originated in the distant past, was in fact a statue recording a local legend about a lion that had attacked a soldier and was then petrified after a curse by a local holy man.³⁶ Also, near the village of Endüz in Ulus, are the hoof-prints of a mule set in stone; it is said that these appeared after a prophet jumped onto the stone.³⁷ A similar old legend comes from Ereğşi (Devrek). A natural rock formation near Kurdeşe is believed by locals to be the remains of a woman changing her baby's nappy and cleaning him with bread!

Western Travellers

Northwest Anatolia began to cast its spell on western travellers in the 18th century: the naturalist Joseph Piton de Tournefort (1656-1708),³⁸ Aubry de la Motraye (1674-1747)³⁹ and the diplomat Charles de Peyssonel (1727-1790)⁴⁰ were among those who journeyed in the region. These travellers, however, stuck only to the coastal regions and seemed unaware of the interior. Tournefort gives a passing glance to Ereğli and, thanks to his prior knowledge, stops to quickly gather a collection of antiquities.⁴¹ A. de la Motraye defines the architectural attractions of Ereğli but misses the splendid doors on his visit there.⁴²

³⁰ Ainsworth 1839, 228; Yaman, 1940, XV/86, 148.

³¹ Yaman 1940, XV/86, 148.

³² Ainsworth 1839, 217.

³³ Yaman 1940, XV/86, 149-150.

³⁴ Ainsworth 1839, 237.

³⁵ Abdullah Cemal 2011, 397.

³⁶ Yaman 1940, XV/85, 46.

³⁷ Yaman 1940, XV/87, 252.

³⁸ Tournefort 1712.

³⁹ La Motraye 2007.

⁴⁰ de Peyssonel 2005.

⁴¹ Ainsworth 1839, 224.

⁴² la Motraye 2007, 291.

Compared to the previous century, the 19th proves much more illustrative in terms of descriptive visits to the area. The region was about to become heavily visited by travellers and explorers, although they, too, seem to have restricted their interests to coastal regions. These travellers included the church representative P. Minas Bijişkyan (1777-1851),⁴³ the diplomat Pierre Amedée Jaubert (1779-1847),⁴⁴ Colonel Rottiers (1771-1858),⁴⁵ the doctor and geologist William Francis Ainsworth (1807-1896),⁴⁶ the missionary and linguist Eugène Boré (1809-1878),⁴⁷ Walther von Diest (1851-1932),⁴⁸ G. Perrot, E. Guillaume and J. Delbert,⁴⁹ the geographer and engineer Xavier Hommaire de Hell (1812-1848),⁵⁰ the archaeologist and numismatist Alexandre Boutkowski (1827-1896),⁵¹ the architect and archaeologist Charles Texier (1802-1871),⁵² the archaeologist Gustav Hirschfeld (1847-1895),⁵³ and the historian and archaeologist Louis Robert (1904-1985).⁵⁴

These travellers were all equally interested in such archaeological features of the region as the city of Ereğli city, with its ancient fortifications, and the cave at Cehennem.⁵⁵ (These antiquities, of course, did not escape the attention of the local 18-th century geographer İbrahim Hamdi Efendi.)⁵⁶ Other sites of interest frequently recorded include Amasra, where ships were made, with its two famous doors, its fortification walls, the Kuşkayası monument and archaeological remains.⁵⁷

Unfortunately, those travellers making for the interior regions are few in number (in contrast to the many more who sailed along the coastal strip). Among the outstanding ones to the interior, however, A. de le Motraye,⁵⁸ who reached the interior after a journey of two days, passing through magnificent scenery, when going to Ereğli was impossible by the sea. Other explorers included Eugène Boré, who reached Filyos via Çarşamba/Çaycuma, admitting knowing hardly anything about it, and W.F. Ainsworth, who after setting off from Istanbul, goes to Ankara on horseback, via Çorum, Çankırı, Kartal, İzmit, Ereğli, Beycuma, Çaycuma, Filyos, Bartın, Amasra and Safranbolu. Travelling the interior parts of the region on foot, Ainsworth was able to give detailed information about the archaeological remains he encounters and other observations. He mentions a marble pillar in the government house at Alaplı, a sarcophagus at Koçaktaş, near Ereğli, some marble pillars at Çömlekçiler, various churches at Filyos, the plans of which he draws, as well as tombs and architectural remains, such as amphitheatres; at Taşköprü he is interested in ancient pillars and other finds, as well as the plentiful inscriptions on sarcophagi. More more mundane features are also recorded, such as a gigantic sycamore tree in the Zonguldak region.

⁴³ Bijişkyan 1969.

⁴⁴ Jaubert 1821, 408-413.

⁴⁵ Rottiers 1829.

⁴⁶ Ainsworth 1839, 1842.

⁴⁷ Boré 1840.

⁴⁸ Von Diest 1889, 79-81.

⁴⁹ Guillaume-Delbert 1868.

⁵⁰ De Hell 1854, 235, 324-329; Eyice 1963, 66.

⁵¹ Boutkowski 1864.

⁵² Texier 1876.

⁵³ Hirschfeld 1883.

⁵⁴ Robert 1937, 245-291.

⁵⁵ Ainsworth 1839, 223-226; Boré 1840, 211; Texier 1876, 624; Bijişkyan 1969, 22; la Montraye 2007, 291.

⁵⁶ Yaman 1940, XV/85, 48-49.

⁵⁷ Rottiers 1829, 291-294; Ainsworth 1839, 224-225; Boré 1840, 229-235; Hirschfeld 1883, 275; Eyice 1965, 39-58; Bijişkyan 1969, 23; la Montraye 2007, 291.

⁵⁸ La Motraye 2007, 291.

Some other Western travellers recorded all manner of archaeological material – such as epigraphs and sarcophagi – found in the places they travelled through. Some waxed lyrical about the ancient remains they accused the local populations of having destroyed, particular rare and wonderful marbles. The Turks, indeed, did use a great amount of material to build mosques, using undamaged pillars. And the Greeks? They did the same thing to build their churches. But in the accounts it seems the Greeks were not as destructive as the Turks!⁵⁹ (Celebrities such as T.E. Lawrence and Gertrude Bell were not shy in using archaeology as a means of propaganda against the Ottoman Empire.)

Conclusion and Evaluation

We have knowledge of more than 20 Western travellers and three Turkish ones who visited the area defined as northwest Anatolia. Arguably they were to compete with each other to see and convey information about the provinces of Ereğli (Herakleia Pontica), Amastra (Amastris), and Hisarönü/Filyos (Tium/Tios/Tieion). Ibrahim Hamdi Efendi, who was born in Ulus (a town in Bartın), has left much unique and valuable information about regions in his (lost) travel-book. It is not surprising that so few seemed to show any interest or curiosity about the interior of these towns, passing by these places as they did on the sea route, and limiting themselves to the coastal strip. However, whenever they could they were not slow in conveying information on the archeological remains they encountered, even though they may have not set into these towns. There are hundreds of archaeological settlements and remnants recorded⁶⁰ in the province of Zonguldak and its towns between 2004 and 2008, and these have now been added to the archeological literature for the benefit of scholars everywhere.

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Submerged Prehistoric Sites in Turkey: Dam Constructions

Hakan Öñiz

Selcuk University, Konya-Turkey, hakan.oniz@gmail.com

Turkey has 8550km of coastline, and is surrounded by three historically important seas – the Black Sea, the Aegean Sea, and the Mediterranean. There is also the Marmara Sea in between the Black Sea and the Aegean Sea. Recent surveys and thesis projects show that many of the prehistoric sites are submerged by the waters of these seas and covered by the deposits from the rivers of the mainland. Natural factors linked to submerged prehistory are not new, and have been happening for at least 8000 years. However, dam constructions over the last 50 years or so, have created new submerged prehistoric settlements dating from 12,000 BP onwards. Many settlements from the coasts of the Tigris and Euphrates rivers are now under modern dams because of the Southeastern Anatolia Project. In this paper we are going to explain the natural reasons, and dam constructions as the factors of sunken prehistoric sites.

Many studies by different disciplines have shown that the shape of shoreline and coastline borders have changed, and are still changing in Turkey, like all other coasts, as the result of sea level changes (Karul, 2009: 58; Perincek, 2008: 199), tectonic movements (Ivanova, 2012: 339), tsunamis, river and wave deposits (Perincek, 2008: 192; Altinok and Ersoy, 2000: 186), and possible volcanic destructions. Many potential indicators of prehistoric life and settlements from later periods have been covered by seawater, deposits of rivers and seas, or human activities.

A remarkable project between Europe and Asia shows prehistoric coastal difference once more to the science world. During the Marmaray Project – the subterranean tube railway system under the Bosphorus, remains from the Neolithic period, uninterrupted to the present day, have been found by the salvage excavations teams and experts of the Istanbul Archaeological Museum (Kızıltan, 2008: VII), Yenikapi, Istanbul. The stratified marine deposits of this site contain important data and evidence for the changes in the Marmara Sea over 10000 years (Kızıltan, 2008: 11). Studies show that the Neolithic settlement was 6.5–9m below the present level. This site is a good example of the high preservation quality we expect to see at genuinely submerged sites that are surely still waiting to be found in many places around the coast of Turkey, and elsewhere. Systematic surveying of the intertidal zone and the sea floor for remains of early prehistoric date are just at the beginning. The first study was begun on Avsa Island by Prof. Nergis Gunsenin in 1994 and is continuing with thesis studies of Günay Dönmez of Selcuk University. Antalya underwater research projects on Bronze Age harbours (Oniz, 2013a: 111; Oniz, 2013b: 147) and the harbour excavation of Limantepe at Izmir are first steps in the study of earlier periods of underwater cultural heritage. Limantepe harbour use is dated to 5500 BP as an urban trade centre and remains from Bronze Age and Classical periods have been uncovered during the excavation by Ankara University (Sahoglu, 2010: 1571).

One of the well-known effects to the coasts is sea level change from global warming. At the end of the Late Glacial, 14000-10000 BP (Braidwood and Braidwood, 1986: 4) and the beginning of the present warm period, the sea levels of the world's oceans have been rising continuously (Marinova, 2007: 467). For example, from 1924 to 1998 sea level ecstatic rise has been measured as 2.5–2.7 mm/per year by the observations in Bulgaria (Marinova, 2007: 453). OSTM/Jason-2 and Envisat satellite altimetry observations show that sea level changes are today measurable season by season (Volkov and Landerer, 2014: web). There are different arguments on the extent of past sea level rises, and these are still not

clearly explain. Some scholars think that the rise from the beginning of the Holocene is 100m (Dipova and Cangir, 2010: 5071). One of the popular arguments, the 'Noah's Flood Hypothesis' is a catastrophic inundation of the Black Lake/Sea proposed by W.B. Ryan and W.C. Pitman (2000). Many other specialists on sea levels differ widely from this theory (Yanko-Hombach, 2007; Aksu *et al.*, 2002a: 9). Sea level changes of this basin over the past 20000 years have been discussed in many publications (Balabanov, 2006: 711). There is no consensus on flood hypothesis yet, but it is known that the level of the Black Sea rose when the glaciers melted.

There is plenty of evidence from scientific researches and excavations on sea level rises and submerged prehistory around the coasts of the Marmara Sea, the Black Sea, and the Mediterranean. According to the multi-proxy data, and radiocarbon dates from several key cores from the Black Sea, and the Marmara Sea, the Marmara Sea was isolated from both the Black Sea, and the Aegean Sea during glacial periods (Aksu *et al.*, 2002b: 119) (Figure 2). Human occupation is known from around 7500 BP from the coast of this freshwater lake, and these settlements covered by the waters of the Black Sea (Milisauskas, 2002: 191). Studies along the Bulgarian and Israeli coasts have revealed many submerged prehistoric settlements. Archaeological finds dated to 4160-4000 BP have been recovered at a distance of 800-900m from the present coastline in the Karaagac river valley in Bulgaria, at a depth of 2.5m (Marinova, 2007:470). And Atlit-Yam, in Israel, which is dated to 9000-8200 BP, is now 8-12m in depth (Eshed and Galili, 2011: 409; Weinstein-Evron, 1985: 49). The rise in sea level and tectonic movements have played a role in this situation on this coastal area (Sivan *et al.*, 2001: 106). The 1650km coastline of the Turkish Black Sea experiences a situation similar to that of the coast of Bulgaria, and the 1600km coastline of the Turkish Mediterranean shares similarities to the coast of Israel; however no submerged prehistoric site has yet been found, nor any scientific record at all from both coastlines.

Tectonic movements, tsunamis, river and sea deposits, man-made constructions and volcanic eruptions can potentially effect the submerged prehistory of coastal Turkey. During the Bronze Age, Troy had a harbour, but the alluvium of Kara Menderes (Skamander) has completely covered it (Korfmann, 2006: 251). Now, Troy is located 6km from the sea. Istanbul's Yenikapı Neolithic settlement is also an important example of a site covered by river and sea deposits. Tsunamis caused by earthquakes around the Sea of Marmara, and man-made structures during the Ottoman Period on and around the site, also effected this site as secondary factors (Basaran, 2008: 21). Earthquake effects on the Hellenistic-Roman harbour buildings at Beylikduzu in Istanbul have been observed at different layers (Oniz *et al.*, 2014: 179). Volcanic destruction effects on archaeological sites are well known, i.e. Santorini (Thera). There is evidence of volcanic eruption at Santorini during the late Bronze Age, however the eruption type and its effects on Minoan Crete are still under scientific discussion (Lohman, 2006: 293). This eruption also created a tsunami, and its waves effected the Eastern Mediterranean coasts. This tsunami was not the first, nor the last, in the Eastern Mediterranean. Two earthquakes in the west and east of Crete in 365 and 1303 created tsunamis and their effects were felt all the way to Alexandria in Egypt (Altinok and Ersoy, 2000: 186). All these examples effected prehistoric coastal sites. There is no known evidence of volcanic eruption effect along the coast of the Turkish Black Sea and the Mediterranean.

Dam constructions in Turkey since the 1970s have created new submerged prehistoric settlements dating from 12,000 BP onwards. Many settlements on the banks of the Tigris and Euphrates are now under modern dams because of the Southeastern Anatolia Project which started in the 1960s (Yildirim, 2006: 32). The Euphrates is now more like a series of lakes than a river since 1975 (Ozdogan, 2011: 109). Karakaya, Birecik, and Keban Dams are built on the bed of the Euphrates river (Yildirim, 2006: 34). The Dicle and Kralkizi Dams are built on sections of the Tigris river. Based on several cultural heritage action plans, the dams' feasible borders have been researched, and any sites detected have been excavated by salvage operations of national and international archaeological organizations, with the support of the Turkish Government. Moveable remains were sent to the national museums during the excavations,

and these sites were protected by salvage conservations. The banks of the Tigris and Euphrates are archaeologically rich, and it will take perhaps a further 100 years to find the sites undetected so far before the dams reach the end of their useful lives.

As examples of those submerged prehistoric sites (see Figure 1) covered by dam lakes it is important to mention: Hassek Hoyuk-Şanlıurfa (2), dated 3100-2700 BC, was on the banks of the Euphrates and is now under the Ataturk Dam lake (Behm-Blance, 2011: 142); Horum Höyük-Gaziantep (3), located on the west bank of the Euphrates and dated 7400-3000 BP, and now under the Birecik Dam lake (Marro and Tibet, 2011: 182-183); Nevalı Çöri-Şanlıurfa (4), dated to 12000 BP and also under the Ataturk Dam Lake since 1993 (Celik *et al.*, 2011: 225); Tepecik-Elazığ (5), dated 9000-3000 BP has been under the Keban Dam Lake since 1974 (Esin, 2011: 160-161); the fine example of Değirmentepe-Malatya (6), dated 4000-3000 BP and now under the Karaya Dam lake (Frangipane, 2011: 127; Arsebuk, 1986: 131). Lidar Höyük – Şanlıurfa (7) dated to 3000 BP (Hauptman, 2011: 176); Köşkerbaba Höyük-Malatya (8) is below the Karakaya Dam Lake and includes Late Bronze Age (3500 BP) and later period remains (Bilgi, 2011: 181); Hasankeyf-Batman (9), on the banks of the Tigris dates to 9500 BP and will soon be submerged as part of the Ilisu Dam Project. Many other known or unknown sites are below the Ataturk, Birecik, Karakaya, Kargamis, Keban, and other dams, or will be submerged soon.

There are many known coastal prehistoric sites that appear to indicate the potential for localized submerged sites. Some of these coastal sites demonstrate the importance of Stone Age peoples exploiting marine resources and living next to the water's edge, e.g. Fikirtepe, Istanbul. This Neolithic location is at Kadıköy (Istanbul) and the place was connected to the sea by a creek which is named the Kurbagali Dere, located a few kilometers from the modern sea coast. The dating of the remains indicates a period from 6200 BC. According to the archaeozoological remains from many fish bones, the people of Fikirtepe were also fisherman within the integrated economy of this culture (Oksüz, 2011: 77). This location is symbolized by the Fikirtepe Culture, which extended from the Marmara region to the Balkans for about 1000 years. During the first period of the Fikirtepe Culture, the Sea of Marmara was not connected to the sea system; at that time it was still a lake. This can be understood from the freshwater fish remains found during the excavation of Halet Cambel and Kurt Bittel from 1952 to 1954. The Marmara lake was already connected to the Aegean at that period. The changes to sea levels then had extensive ramifications and effected the fishing settlements for some while (Ozdogan, 2011: 92). The site of Gümüşdere in Istanbul (12) extends over a large area on the Black Sea shore. Neighbouring sites at Ağacli and Gümüşdere have revealed further evidence of Black Sea coastal activity. Domalı (13), Ağacli (14), Şile (15), and Ağva (16) are Mesolithic (18000-11000 BP) sites on/under the sand beaches of the Black Sea. Small stone tools mainly resemble Crimean Mesolithic or Black Sea Epi-Gravettien artifacts (Ozdogan, 2011: 51). The Yarımburgaz cave, also near Istanbul (17), is located 1.5km from Lake Küçükçekmece, and 100m from the bed of the Sazlıdere creek. The lake has a connection to the Sea of Marmara – it was one of its bays in the past. Rises in sea level are also measurable by the layers observed in this cave (Ozdogan, 2011a: 31). Kilisetepe, Gallipoli-Çanakkale, (18) is the largest prehistoric mound on the Gallipoli Peninsula. The location has a well-protected harbour at the entrance of the Dardanelles, coming from the Aegean Sea (Ozdogan, 1986: 54). The surface finds indicate uninterrupted activity from the late Neolithic (6000-5100 BP) to the Middle Bronze Age (4050-3900 BP). Yumuktepe, Mersin, (19) contained uninterrupted remains from the early Neolithic until the Middle Ages, with 33 layers. The earliest mining and metallurgy industries so far found in Anatolia, dated 5000-4900 BC, have been seen on this site (Yalcin, 2011: 192). Yumuktepe was also the distribution centre for Cappadocian obsidian eastwards (Sherratt, 2005: web).

With its long coastline, and geographic bridge function between Asia and Europe, Turkey is an extremely important country in terms of its underwater cultural heritage. It is still possible to say that underwater archaeology is a new field, and it is slowly developing in Turkey (and across the globe as a whole). Studies on submerged prehistory remain, however, limited.

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FIG. 1A. MAP OF TURKEY AND SITES MENTIONED IN THE TEXT

The Coastal Quarries of Lebanon: Case Studies of Enfeh, Batroun and Byblos

Jeanine Abdul MASSIH

abdulmassih.j@gmail.com

The coastline of Lebanon develops over 238 km from Akkar to en-Naqurah (North-South). It is composed of sandy and rocky beaches. In this mountainous country, the cliffs, along the coast, are rare and they occasionally exceed 30 m in height, as in Ras Beirut, around the grotte des pigeons, and on both sides of Jbail¹ and Ras Chekka.² In the south, the promontory of Ras en-Naqurah displays its calcareous slopes. 'All the Levantine coast, through, is punctuated by Quaternary sandstone ridges. These aeolianites, often very cemented and steeply dipping towards the sea represent a typical feature of the coastal landscape.'³ The coast is generally rocky but low, carved in clayey limestones, the so-called ramleh, that are actively eroded under a very energetic wave climate.

'Lebanon is on the edge of the hottest part of the Mediterranean: the temperature of the surface waters remains high throughout the year; likewise, the salinity is very high. The sea is often choppy, even in summer, because of the prevailing winds.'⁴ Therefore, the coast is constantly beaten by short, furious waves. Consequently, wherever the sea comes into contact with the limestone, the rock is cut and fractured. And at about the level of the water, appears a flat rock surface, narrow but continuous.⁵ This seashore platform is located a few centimeters above the sea level in high water and is characterized by the presence of many small alveoli (5 cm wide and 5 to 10 cm deep).

The seashore platform grows vertically, over a few meters, displaying layers of sandstones and limestone. The sandstone outcrops are generally a marine sandstone or a dune formation.⁶ The ramleh (sandstone) is a very soft stone, easy to extract and to build with. It was used by human settlement since prehistoric time and extensively quarried later on in order to provide materials to build the cities along the coast.

Major historical cities of Lebanon are implemented along the seashore, facing the sea. They are characterized by the presence of various maritime installations implemented in the rocky formation of the coast. The sandstone was extracted as a priority, along with the exploitation of massive amounts of limestone, to build cities and ports of the Lebanese coast.⁷ Many sites revealed evidence of maritime

¹ Paul Sanlaville, *Etude géomorphologique de la région Littorale du Liban*. Thèse, (1977), p. 7.

² Maurice Févret, Paul Sanlaville, *Contribution à l'étude du littoral libanais*. In: *Méditerranée*, 6 e année, n°2, (1965), p. 119.

³ Stefano Furlani et al., *Rock Coast Geomorphology*. In: *Geological Society Memoir No. 40*, ed. By D.M. Kennedy, W.J. Stephenson and L.A. Naylor, (2014), esp. 89-114s.

⁴ Maurice Févret, Paul Sanlaville, *Contribution à l'étude du littoral libanais*. In: *Méditerranée*, 6 e année, n°2, (1965), p. 119.

⁵ Maurice Févret, Paul Sanlaville, *Contribution à l'étude du littoral libanais*. In: *Méditerranée*, 6 e année, n°2, (1965), p. 120.

⁶ On the seashore, the marine sandstone develops over several meters as a high cliff of dark colour, due to the presence of lichen. The rock is pierced with a multitude of small alveoli.

⁷ Maurice Févret, Paul Sanlaville, *Contribution à l'étude du littoral libanais*. In: *Méditerranée*, 6e année, N°2, (1965), pp. 113-134.

activities. From the north to the south: Cheikh Zennad; near Nahr el-Bared with Oullasa and Ibirta (Orthosia); Tripoli; Enfeh; Chekka; Batroun; Byblos; Beyrouth; Khaldeh; Sidon; Tell el-Bourak; Sarepta; Adloun; Tyr, Palaetyr, Ras el Abiad, Iskendaruna and Umm el Amed⁸ (Fig. 1).

The entire Lebanese coast was affected by this stone exploitation, as it characterizes the entire Levantine coast.⁹ These extraction activities shaped the entire seashore. Today, the traces of quarrying activity have largely been removed by the action of natural agents (wave action and coastal weathering).¹⁰

The Extraction Technique

The extraction technique observed on the entire coastline is a massive exploitation of the sandstone cliff. The extraction at the surface consists of reshaping and regularizing the ridges of the rock. The quarrying in steps completes sometimes the surface extraction. Nevertheless, it is the vertical open cast quarrying that is generalized due to the poor quality of the sandstone rock at the surface. This technique of extraction was used to dig the ditches and channels observed all along the Lebanese seashore. Therefore, the extraction of blocks from the sandstone massif created, starting from aeolianites ridges, impressive rock walls stretching for hundreds of meters along the seaside, which can reach many meters in height.¹¹ Although their chronology is poorly known, available data indicate that they were a long-standing tradition, lasting at least until Roman times, as the age of shells cemented on a quarry face in Zireh Island (Sidon) demonstrates.¹² In some cases, huge massifs of rock are left along the edge of the rocky platform playing a similar role as the rock wall.

The study of the rocky walls, along the Levantine, which can reach many meters in height and stretch for hundreds of meters, led to many interpretations. They are often understood as protective barriers against waves and spray in quarries bordering the sea.¹³ They can also play an important role as protective barriers for coastal settlement: as for cities, harbours¹⁴ or storage area.¹⁵ They are today visible along the Lebanese coast in Tripoli (the Islet of el-Baqar)¹⁶ Enfeh (the northern face of the promontory on

⁸ Nicolas Carayon, *Les ports phéniciens du Liban. Milieux naturels, organisation spatiale et infrastructures*. In: *Archaeology and History in Lebanon*, 36-37, (2012-2013), pp. 1-137; Hassan Badawi, *les carrières littorales de la Phénicie romaine*. In: *Africa romana*, 14, (2000), pp. 305-322; Zeina Haddad, *Etude et documentation de la côte entre En-Naqoura et Tyr; prospection et analyse*, (2012-2013), DES Lebanese University.

⁹ Similar sea quarries and rock-cuts have been observed in Arwad in Syria and in Dor in Palestine. Ernest Renan, *Mission de Phénicie*, (1864), p. 40; Jérémie Viret, *Les 'murs de mer' de la côte Levantine*. In *Environnements littoraux méditerranéens, héritages et mobilité*, Edited by Christophe Morhange, Jean-Philippe Goiran and Nick Marriner, (2005), pp. 15-24.

¹⁰ Stefano Furlani et al., *Rock Coast Geomorphology*, Geological Society Memoir No. 40, ed. By D.M. Kennedy, W.J. Stephenson and L.A. Naylor, (2014), esp. 89-114s.

¹¹ Jérémie Viret, *Les «murs de mer» de la côte Levantine*. In *Environnements littoraux méditerranéens, héritages et mobilité*, Edited by Christophe Morhange, Jean-Philippe Goiran and Nick Marriner, (2005), pp. 15-24.

¹² Christophe Morhange, Paolo Pirazzoli, Nick Marriner, Lucien Montaggioni and Tanios Namour, *Late Holocene relative sea-level changes in Lebanon, Eastern Mediterranean*, *Marine Geology*, 230, (2006), pp. 99-114.

¹³ Jérémie Viret, *Les «murs de mer» de la côte Levantine*, in *Environnements littoraux méditerranéens, héritages et mobilité*, (2005), Edited by Christophe Morhange, Jean-Philippe Goiran and Nick Marriner, p. 1; Hassan Salamé-Sarkis, *Matériaux pour une histoire de Batroun*, *Berytus*, 35, (1987), pp. 113-114.

¹⁴ Jacob Burckhardt, *Travels in Syria and the Holy Land*, London, (1822), p. 178 and Edward Pococke, *Description of the East and Some Other Countries*, vol. II, part 1, London, (1745), p. 99.

¹⁵ Honor Frost, *The Offshore Island hard rock at Sidon and Other Phoenician Sites in the Light of New Dating Evidence*, *International Journal of Nautical Archaeology*, 2, 1, (1973), p. 85; Paul Sanlaville, *Etude géomorphologique de la région Littorale du Liban*, Thèse (1977), p. 418.

¹⁶ The ancient city of Tripoli was located on a triangular peninsula whose port orientated to the north was protected by the Islet of el-Baqar, where a rocky ridge can be seen that forms a dam facing the sea. According to

which the Nephin crusader castle was built), Batroun,¹⁷ Byblos, Sidon (the rocky ridge¹⁸ and the Island of Zireh).¹⁹

In this paper we will focus on three major sites of the northern coast of Lebanon that are under study or in press: Enfeh, Batroun and Byblos.

Enfeh²⁰

Enfeh is located 30 km south of Tripoli. The site is composed, in terms of marine quarrying, of the antique city entirely covered by the modern village and the promontory that develops as a peninsula into the sea (Fig. 2).

The promontory is about 6 m high, carved in both Miocene limestones and steeply dipping to the northwest. Above, there is developed shelly sandstone layer that is likely marine at its base. Just above, it becomes finer and has the characteristic of dune sandstone bedding. In contact with the limestone, the rock is pierced by a large number of recesses and caves fully developed in the sandstone. The limestone is very hard and has a very smooth surface. It is in this stone that the ditch of the Nephin Crusader Castle was cut that occupied the promontory in the medieval period. But it is most probably with sandstone that the major part of the construction was realized because of the properties of the stone. The traces of the medieval occupation can be observed directly on the carved rock. The eastern part of the promontory is separated from the mainland by a ditch that is entirely quarried. Planned for defensive reasons the carving of the ditch was used by the constructor to provide an important part of the stone needed for the fortification walls (Fig. 3). Two other unexcavated trenches were carved in the promontory on the eastern side not far from the ditch of the castle. In one of them traces of extraction and fallen blocks located nearby a constructed wall testifies of the nature of the quarrying activity (Fig. 4).

On the northern face of the promontory a rocky wall was left at a height of 1.50 m, protecting a quarried floor of more than 4 m in width. The observations made on the foot of the wall reveal a level of 1 m above the sea from the northern side, and traces of the location of the stone rampart that has disappeared entirely. It is most probable that the rock cut, approximately 2 m wide, developing against the rocky wall was destined to be the foundation of the northern wall of the castle. Therefore, the rocky wall was most probably left, as a sort of glacis, to protect this construction from the sea waves and natural alterations (Fig. 5).

The second sector of quarrying observed along the shore is the western facade of the modern village. Undertaken on a relatively low sandstone cliff, its edges, facing the sea, were entirely carved and used

Jérémie Viret, *Nouvelles données sur le port de Tripoli*, *Tempora*, *Annales d'histoire et d'archéologie*, 10-11, n. 36, (1999-2000), p. 127. The quarry could have provided the stones for the construction of the medieval Saint-Thomas church.

¹⁷ The site located north of Byblos conserves the most preserved rocky wall along the seashore. It stretches over 220 meters from north to south reaching a maximum height of 5 meters and a width of 1 to 2 meters. The rocky wall is located on the border of the sea in front of the 550-meter long promontory where the old city was established.

¹⁸ Antoine Poidebard, Jean Lauffray, *Sidon, aménagements antiques du port de Saïda. Etude aérienne, au sol et sous-marine, 1946-1950*, Beyrouth, (1951), pp. 59-81; Jérémie Viret, *Les 'murs de mer' de la côte Levantine*, in *Environnements littoraux méditerranéens, héritages et mobilité*, (2005), Edited by Christophe Morhange, Jean-Philippe Goiran and Nick Marriner, pp. 15-24.

¹⁹ Zireh island is the geological prolongation of the rocky ridge. 540 meters long, the surface of the island is covered with important quarrying activities.

²⁰ Study carried out as part of the Archaeological Mission of Enfeh (Balamand University under the direction of Nadine Panayot-Haroun).

as a quarry. At the foot of the cliff there is a seashore platform of more than 40 m wide covered with remains of quarried sandstone layers. On the western edge of the seashore platform massive boulders were left precisely in front of the limits of the site on the narrowest point of the platform. These rocks bear traces of extraction on their faces and very few on their surfaces. The shape of the extraction area and the massive boulder left on the western edge suggest a sort of ditch quarrying using the preserved massive boulder as a protective barrier facing the sea. It is possible that the extraction area between the site and the sea was excavated as a ditch to protect the installation from the sea swell. The extracted stone from this area must have been used in the construction of a nearby installation, most probably the walls of the antique city. Unfortunately, the entire old site was destroyed as well as the medieval castle. The stones were entirely looted and reused for other constructions (Fig. 6).

The use of massive boulders at Enfeh, as a protection from the sea, reminds us of a similar practice observed at the maritime quarries of Byblos. Nevertheless, the most impressive protection wall is the rocky wall of the city of Batroun.

Batroun

Located 30 km north of Byblos, the city of Batroun is built on a small sandy promontory. Between the promontory and the sea, sea walls about 5 m high were carved from the sandstone over 220 m in length, in a north south direction (Fig. 7). The sea walls delimit from the west a quarry of dune and marine sandstone. The location of the sea wall set 15 m back from the edge of the seashore platform and 40 m from the worked face of the cliff, on which several houses of the current village are settled, can have different interpretations. The sea wall was certainly used as a protective dyke from the sea. This barrier had at the beginning the function of protecting the quarrying activities that were undertaken along the sea wall and the cliff. The extractions most probably served for the construction of a nearby installation. The large quarried surface left between the city and the sea wall could have served as a ditch to drain the seawater or, as suggested, was used as a carved passage, or channel, between the two bays that delimit the cape.

The dating of the sea wall cannot be determined with precision. We know from the writings of Pseudo-Denis that the sea walls already existed prior to the 9th century AD. For Salamé-Sarkis,²¹ the quarrying of the maritime facade must have been related to the important phase of improvement of Batroun during the Severian period. The shards trapped in the cement that covers the platform are related to the Hellenistic and Roman periods.²²

Byblos²³

Similar coastal installations were observed on the site of Byblos Jbeil boarding, from the west, the famous archaeological tell and to the north the occidental facade of the medieval port. Known for its commercial exchanges with Egypt since the Bronze Age times, the inhabitants occupied at first a natural promontory overlooking the Mediterranean Sea and protecting two bays located one to the north, the second to the south. The western facade of the site is today very much covered by the remains of ancient excavations.²⁴ Nevertheless, we can observe on the rocky seashore some evidence of human activity, such as the quarrying of the dune sandstone bedrock.

²¹ Hassan Salamé-Sarkis, *Matériaux pour une histoire de Batroun*, Berytus, 35, (1987), pp. 113-114.

²² Paul Sanlaville, *Etude géomorphologique de la région Littorale du Liban*, (1977) Thèse, p. 798. Confirmed by rescue excavations undertaken by DGA.

²³ Study carried out as part of the Archaeological Mission on the Seashore of Byblos (Collège de France under the direction of Martine Francis, Nicolas Grimal).

²⁴ Excavations of Byblos by Maurice Dunand from 1925 for a period of 40 years.

The Western Facade Of The Tell

The rocky formation located on the western side of the tell is composed of the areas known as Chamiyeh Bay, Ras Byblos and the Yasmine Islet (Fig. 8).

Chamiyeh Bay

The northern part of Chamiyeh Bay is characterized by a rock-cut projection towards the sea, corresponding to the extension line of the northern fortification of the city. This rocky massif characterizes the junction angle between the northern and the western ramparts. Its sloppy extension from east to west, some 25 m long and 7-20 m wide, suggests the presence of a circulation system connecting the maritime area to the site (Fig. 9).

The development of this installation on the rocky outcrop left traces of stone quarrying throughout the sector. Extraction trenches, 10 cm wide, delimiting blocks of sandstone have been identified. Their detachment from the substrate seems to have used the natural stratification joints of the rock. Working faces with few traces of peak are still visible at the top of the rock.

The southern area of Chamiyeh Bay develops on the seashore platform extending over an area 57 m long and 43 m wide. It is characterized by an area of extraction, 16 m long and 8 m wide, where extraction trenches 10 cm wide have been observed. Taking these measurements gives us blocks approximately 90 to 135 cm long and 50 to 85 cm wide.

The Area from Ras Byblos to the Yasmine Islet

The rocky prominence of Ras Byblos is cut by a geological fault that was quarried to form a ditch 33 m long, 7-8 m wide and 4-6 m high. The oriental massif, delimiting the ditch, measures 35 m long and 16-17 m wide. Few extraction traces of small blocks were observed on its western facade. The northeast angle of the massif revealed an unfinished sarcophagus (140 x 125 cm) carved in the rock.

On the western massif, seven rectangular tombs carved in the rock were identified. Their dimensions are approximately of 230 cm x 190 cm. Honor Frost attributed them²⁵ to the necropolis occupation phase. Today, only empty eroded holes remain of these tombs. They constitute also the only traces of stone carving on the summit of this rock. Nevertheless, traces of holes and carved installations for lifting machines were observed overlooking the large trench and the quarry located on the western edges of the rock. This quarry is a small exploitation. Extraction activities are identified only on the faces of the rock. It is a vertical open cast quarry that was extracted as far as the seashore platform. The natural stratification was used to delimit and detach the blocks. It is currently impossible to identify traces of quarrying tools on these highly eroded faces attacked by sea salt. However vertical trenches testify to certain quarrying exploitation.

The carving and the quarrying of the ditch were explained as a connecting canal between the two bays or as a protection for some embarkation in bad weather (Fig. 10). Whatever was the use of the ditch, it is certain that this massif was left to protect the western entrance of the city. The occidental massif can play the role of breakwater and the trench as a ditch to evacuate the water. These installations are high enough to hide the gate from people coming from the sea (Fig. 11).

²⁵ Honor Frost, Marine prospection at Byblos, Bulletin d'Archéologie et d'Architecture Libanaises, 3, (1998-1999), pp. 249-259.

The southern extension of this area is a coastal strip illustrated by a significant advance in the sea of the seashore platform where some rocks are preserved in elevation. Traces of holes used by the lifting machines were observed all over, and more particularly on the southern limit, where intensive quarrying activity was noted (Fig. 12). Trenches of extractions of 10 cm are the most common type observed. However, two rocks located on the eastern limit of the southern area revealed wide trenches of extraction testifying to quarrying of blocks of considerable height (more than 80-85 cm). The detachment of these blocks from the bedrock commonly used the natural stratification joint. Only one example using wedges is illustrated by the traces of grooves observed on one block of the so-called Hellenistic 'fish tank' in the same area (Fig. 13).

Similar activities and traces were observed on the islet of Yasmine, where extraction in steps dominates the type of exploitation. The quarrying activities are of small scale and most probably used for a nearby construction (Fig. 14). Then, the extraction area observed on the medieval port of Byblos illustrates a more systematic quarrying exploitation.

The Medieval Port

Traces of stone extraction and exploitation were observed on the seashore platform extending north of the northern tower of the medieval port. This area is delimited to the east by a quarrying face playing the role of protective sea wall. It extends regularly towards the north from the tower and turns to the east (Fig. 15). Its inner face is regular while its outside facade is irregular. The maximum height observed is 2 m. The sea wall must have been used as the foundation of the western rampart of the harbour.²⁶ The entire area inside the sea wall is hidden by the infrastructure of the modern port. It must have been composed of an extensive quarry delimited, to the east, by the extraction faces on which the medieval city is installed.

At the foot of the northern medieval tower, on an area 12 m long and about 8 m wide, a stone platform was identified. It is composed of irregular shaped sandstones about 70 cm high installed directly on the geological seashore formation. This platform was erected on a regular area of extraction of regular blocks (Fig. 16).

In front of the platform, along its south and west sides, a floor of a quarry is visible on which negative traces of a systematic exploitation of blocks ranging from 87-125 cm long and 62-50 cm wide have been identified. We can observe the presence of a large number of blocks measuring 125 x 62 cm.

This exploitation corresponds most probably to the quarrying of marine sandstone blocks used in the construction of the Frankish tower. Unfortunately, the original tower was reconstructed several times and only a few courses of the foundations remain from the original building.

Conclusion

The program for the study of maritime extraction areas is on-going research that tends to demonstrate the relation of coastal exploitation with the development of historical cities along the Lebanese coast. Several characteristics emerge from these observations as to the use of maritime stone formations for building local installations. The extensive extractions of the sandstone formation above the seashore platform are realized for building different constructions and are prepared at the same time to assure the protection of the sea facade of the major cities. These protections can be identified as deliberately left massive rocks or seawalls, or merely a wide surface of the seashore platform.

²⁶ Honor Frost, Christophe Morhange, 2000, Proposition de localisation des ports antiques de Byblos (Liban), Méditerranée, 1, 2, (2000), p. 103.

The technical aspect of the extraction and the study of the built archaeological remains can give us in the future a more accurate chronology of the several installations. Therefore, this study is continuous and develops along with the different researches undertaken by different scholars on multiple sites along the Lebanese coast.

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Private Architecture from Ptolemais (Libya)

Julia MIKOCCA

Ptolemais, located in Cyrenaica, is one of the most unique archaeological sites – a yet not fully discovered metropolis of the Mediterranean world. The size of Ptolemais places it among the greatest ancient cities. Originally the city walls surrounded an area of about 300 hectares, making it four times bigger than Pompeii (Małkowski, Żelazowski 2012, 53). Ptolemais is also a very well preserved city, founded in the Hellenistic period (Kraeling 1962, 6-7; Marquaille 2003, 25-42; Müller 2004, 1-10), with monuments from Greek, Roman and Byzantine times (Fig. 1). Its size, monumental and rich architecture, its function as the capital of province Libya Superior, and its long history reflect the important role of Ptolemais in the Mediterranean world. However, despite several archaeological missions to Ptolemais and plethora of published papers, very few research studies have explored private architecture from Ptolemais.

Excavations of Italian, British and American archaeological missions in Ptolemais

About five percent of the city had been uncovered during the excavations carried out by the Italian, British and American archaeological missions in the years 1935-1942, 1956-1962, 1971, 1978-1980, 1988-1989 (early archaeological research in Ptolemais cf. Mikocki et al. 2006, 24-29, 75). The above mentioned archaeological expeditions excavated, inter alia, ruins of private residences in Ptolemais dated between the Hellenistic and late Roman period.

Palazzo delle Colonne

The most representative and most frequently described building in Ptolemais is Palazzo delle Colonne (Fig. 2). During the study of the Italian archaeological mission in Ptolemais in 1937 the first short-term excavations in Palazzo delle Collone were conducted. The research was directed by E. Paribeni and later in 1941 to 1942 and in 1947 by G. Pesce (Pesce 1950; Stucchi 1975, 142-143, 147, 216-219, 300-304). Palazzo is located in the central part of the city, about 200 m south-west of Via Monumentale. It is assumed that this complex was built between the end of the Hellenistic period and the 1st century AD (Bonacasa 2009, 90). Originally at this site there had been three separate houses: House of Major Peristyle, House of Minor Peristyle and the Central House (Stucchi 1975, 147) (Fig. 3). In the main phase of the development, which occurred in the 3rd century AD, a large complex linking earlier houses was built in this area (Stucchi 1975, 300). On the plan of this new residence (Figs. 4-5), for example an east vestibule and large peristyle, currently with 18 columns in the Ionic order, can be distinguished. In the centre of the peristyle there was a pool. On the south of the peristyle there were representative rooms. In the north of the peristyle, a large columned hall with 16 columns, decorated with mosaics and opus sectile, was built (Pesce 1950, 21-43; Stucchi 1975, 300-304). This was a space that differs from what is typically found in private buildings in Ptolemais.

The House of the Minor Peristyle, the most northern part of the Palazzo, after the connection of three houses, had been replaced with thermal baths with frigidarium, tepidarium and caldarium (Pesce 1950, 49-52; Stucchi 1975, 302). After the connection, in addition to the central part of the house, there were also several smaller complexes. In the north-west there was a series of rooms around the atrium as well as further north around the courtyard. A similar situation can be observed in the eastern part, where a series of rooms around an oblong courtyard and another complex of smaller rooms around the peristyle were discovered (Pesce 1950, 47-48, 53-55, 57-62).

The Palazzo in the main phase of the development occupied the area of the entire insula, it could have had four floors (Pesce 1950, 9-18). It is known for its rich decoration dating from the Hellenistic period to the late Roman period, and some architectural elements of the Palazzo delle Colonne refer to the architecture of Alexandria (Bonacasa 2009). The building had been destroyed, most likely by an earthquake; the last changes to the construction of the Palazzo delle Colonne are dated back to the 4th century AD but traces of a later use of this complex were also discovered (Pesce 1959, 106-109). Its location in the heart of the city, its use for many centuries, its size and decorations are all indications that it was the residence of a high official – a representative of the authority at the time of the Ptolemies, then a representative of Roman power and later, one of the two Byzantine administrators (Pesce 1950, 92-94).

Roman Villa

In 1954 and from 1956 to 1958 the American archaeological mission conducted by the Oriental Institute of Chicago worked in Ptolemais. Excavations were directed, inter alia, by C. Kraeling who has published the only monograph of this ancient city (Kraeling 1962). He presented the results of nearly all studies conducted in Ptolemais since the beginning of the 20th century to the early 1960s by researchers from international archaeological teams. During the three excavation campaigns in 1956-1958, the Oriental Institute of Chicago with C. Kraeling have carried out works, among others, in the building known as the Roman Villa. It is located in the western part of the city (Kraeling 1962, 119). Originally in this area three separate complexes dating back to the 1st century AD had been built (Fig. 6). In the north there was a row of shops. The next buildings are the House of the Four Seasons and the House of the Four Columned Peristyle (Stucchi 1975, 222). The Roman Villa (Fig. 7) is dated back to the 3rd century AD when all three parts were connected (Stucchi 1975, 305) (Fig. 8). This residence occupied the entire width of the insula (Kraeling 1962, 119) and consisted of chambers placed around three sides of the peristyle with portico. The colonnade of the south portico was curved. In the peristyle, traces of plain Ionic columns and an entablature of a Doric frieze were discovered (Kraeling 1962, 124).

Residential rooms were located on the western and southern side of the peristyle. This part had to serve the owner, probably in connection with the business. All these three rooms were elegantly decorated, it seems that over these rooms there was a second story (Kraeling 1962, 126-127). As in the Palazzo delle Colonne one can see separate complexes, six rooms in the south-west corner of the Villa, formed the residential suite of the owner. This part consisted of a group of chambers decorated with mosaics and paintings and a small courtyard with a pool (Kraeling 1962, 128). Along the western portico two of the most elegant rooms of the Villa were situated. They were decorated with floor mosaics and opus sectile, and it is assumed that it was a representative part of the Villa (Kraeling 1962, 132-133). The northern part of the peristyle is interpreted by Kraeling as baths but he was able to identify only the caldarium (Kraeling 1962, 133). This hypothesis is not confirmed.

House of Paulus

This example of private architecture from Ptolemais is located at Via Monumentale, at the Arch of Constantine: it occupied the full width of the insula (Fig. 9). The House of Paulus was studied by C. Kraeling and later by S. Stucchi (determined by Kraeling as a public building, Kraeling 1962, 140-160, 211-212; Stucchi 1976, 147, 220-221, 305, 493). The beginning of the building at this site is dated to the 1st century (Stucchi 1975, 220). In this period there were two houses. On the south there was the House of the Pilaster Courtyard, on the northern side the House of the Columned Hall (Kraeling 1962, 147; Stucchi 1975, 220-221). Probably in the 2nd century the two houses were linked (Stucchi 1975, 304-305). However, only the third phase of building, dating to the 5th century, was called the House of Paulus (Fig. 10). In this house a flagstone with an inscription of the name of the owner of the house, consul Paulus,

was found (Kraeling 1962, 141, 159, 211-212; Stucchi 1975, 304). On the left side of the entrance from Via Monumentale there was a monumental hall, where visitors were admitted. During this late period the baths were rebuilt, the rooms were reduced in size and there were numerous small tubs (Stucchi 1975, 305). The northern part of the house was occupied by the owner. This section was rebuilt into large halls preceded by the vestibule (Kraeling 1962, 140-160; Stucchi 1986, 220-221, 305, 493).

House G

In the 1960s in Ptolemais a British archaeologist R. G. Goodchild excavated several public and private buildings (Goodchild 1964; Goodchild 1965). His works were continued into the 1970s and 80s by the Society for Libyan Studies with J. B. Ward-Perkins and J. H. Little (Ward-Perkins et al. 1986). During this period late antique houses, located near Via Monumentale were discovered. One of them, called House G or House of the Ionian Peristyle (Stucchi 1975, 219), was located on one of the main streets in Ptolemais, the so called East Avenue. The width of the house was equivalent to the full width of the insula and the length must have been about 42 m, so the house had a substantial size (Ward-Perkins et al. 1986, 111). The first phase of building on this site is dated to the 1st century AD. This was a peristyle house, typical for Cirenaica, built around a central, large courtyard, and the rooms were built along three sides of the peristyle. In the courtyard traces of mixed Doric-Ionic portico were discovered. In the corners of the colonnade some heart-shaped columns were found (Ward-Perkins et al. 1986, 111-113). This is a feature typical of Cirenaican peristyle houses. The representative rooms tended to be located on the southern and eastern side of the peristyle, which is also typical of houses of Cyrenaica. The main entrance was located on the east side, from the East Street (Ward-Perkins et al. 1986, 116). This house had been destroyed, perhaps as a result of the earthquake of 365 (about earthquakes in Cirenaica cf., e.g., Goodchild 1968; Jaworski 2008, 47-50; Stiros 2001), all the columns of the peristyle had collapsed. Later settlement of this area occurred after a long period of abandonment, in the Byzantine period. The house was converted into a series of small rooms (Fig. 11), and there was also evidence of industrial activity, which can similarly be observed in other houses in Ptolemais during this late period (Ward-Perkins et al. 1986, 124-126).

House of the Triapsidal Hall

The House of the Triapsidal Hall or House T was also located on the East Avenue (Ward-Perkins et al. 1986, 126-143). The width of the last phase of the house, visible today, is 50 m, larger than the width of the standard insula (Fig. 12). The first phase of this building is likely dated to the 1st century AD (Stucchi 1975, 222). This was a typical cirenaican peristyle house, with rooms built around a peristyle. In the courtyard there was evidence of the Doric-Ionic style (Ward-Perkins et al. 1986, 126-132). In the next phase a long, narrow hall with an apse oriented to the east was added. It seems that the hall was

formed between the first phase and the reconstruction of the villa in the Late Antique period but the exact date is still unknown. Entrance to the room with an apse was through a vestibule connected to the room through a triple entrance. Fragments of the Syrian arch and remains of geometric mosaic and marble slabs were also found (Stucchi 1975, 309-310; Ward-Perkins et al. 1986, 132-134). In the 4th century, further changes had been made (Fig. 13), probably after 365, when the earthquake happened. The peristyle was reused and there was a fish tank (Ward-Perkins et al. 1986, 134-135). In the east part of the house two large halls with one and three apses had been inserted. In the triapsidal hall the main apse was oriented east, two apses were decorated with mosaics, the central part of the room and the northern apse were decorated

with stone slabs. In the next hall with one apse oriented west, opus sectile were discovered. The triapsidal room could be identified as the banqueting hall. The neighbouring hall with one apse and

opus sectile may also be identified as a banquet room, but smaller or more private (Stucchi 1975, 450-451; Ward-Perkins et al. 1986, 134-135, 138-139, 142-143). The long hall with an apse at the south side of the peristyle was perhaps the reception hall, of public character, where the owner welcomed officials: administrators, judges, etc. (Stucchi 1975, 451; Ward-Perkins et al. 1986, 140, 142). At the west end of the southern hall the construction of small baths was undertaken but never completed (Ward-Perkins et al. 1986, 140).

Occupation of House T continued probably until the Arab period (Stucchi 1975, 555; Ward-Perkins et al. 1986, 143). This building was decorated with marble and even with porphyry. The size and the fact that the house occupied the entire width of the insula and the style of the interior design show that an important personage, such as governor, high official, wealthy provincial senator or local magnate, lived there (Gasparini 2009, 173-174; Ward-Perkins et al. 1986, 142-143).

Polish Archaeological Mission in Ptolemais

Insula EXXI

Since 2001 the Institute of Archaeology of Warsaw University has conducted excavations in Ptolemais (about Polish excavation in Ptolemais cf. Mikocki 2006, 78-79; Żelazowski (ed.) 2012). For the first time in Ptolemais, excavation works were carried out in the area of the whole insula (EXXI), in the eastern part of the city, and in the vicinity of the famous Palazzo delle Colonne (Żelazowski 2008, 20). During the ten years of excavations, the Polish mission has most likely uncovered the remains of four houses (Fig. 14). The earliest foundations of the structures date back to the Hellenistic period. The best known phase of the building is dated to the period between the 2nd and 4th century. The last phase of use of certain areas relates to the 5th century and is associated with workshop activities (Żelazowski 2008, 22-23).

In the central part of the insula excavations brought to light the remains of the so-called House of Leukaktios (Fig. 15). The house extended through the entire width of the insula (Żelazowski 2012, 148). In the centre of the western part of this residence a four-columned peristyle (R6) laid out with a dichromatic geometrical mosaic was found. There was also a pool paved with a mosaic inscription with a greeting to Leukaktios (Fig. 16), the house owner (Kubińska 2007; Łajtar 2012, 253-254, no. 1). The largest room of the house, the triclinium, is located on the southern side of the peristyle. A mosaic with a winged Victory (Fig. 17) and a similar inscription with greetings to Leukaktios was discovered there (Łajtar 2012, no. 2; Mikocki 2004, 24, no. 4; Olszewski 2009, 92-93). On the western part of the peristyle there is a room with a very well preserved mosaic with the representation of Ariadne asleep on Naxos at the moment of her discovery by Dionysus (Fig. 18). Above the Dionysiac mosaic fragments of the mosaic which fell from the upper story were found; it had a panel with scenes belonging to the Achilles cycle (Fig. 19). In this room remains of the so-called Syrian arch (Fig. 20) and traces of the painted decoration on the walls were also found. In the eastern part of the peristyle there was a room with damaged mosaics and fragments of wall paintings (Żelazowski 2012, 125-126, 129). Rooms R9 and R14 are interpreted as triclinia (Olszewski 2009, 92-95; Żelazowski 2012, 129).

On the northern and eastern sides of the peristyle there were rooms with mortar floors that are interpreted as private in character despite their painted walls. The entrance to the house was from the western street, through a wide hall (R11) with a geometrical mosaic (Żelazowski 2012, 134).

In the eastern part of the house excavation works have brought to light a large courtyard (R46). On the southern side of the courtyard a room with a mosaic pavement was found. It was the only mosaic found in east part of the House of the Leukaktios. On the basis of the t-shaped remains of the mosaic it is assumed that it was modest triclinium. We also found a small pottery kiln there. Along the eastern

street there was a threshold found from the passageway leading to the courtyard; its size points to the presence of a large gate and even suggests the possibility that carts were brought into the courtyard (Żelazowski 2012, 149-153).

This part of the insula was built up from the Hellenistic period and was rebuilt several times during its occupation period. It is clear that the layout of the House of Leukaktios was different from the house in Hellenistic period (Żelazowski 2012, 146). The central part of insula EXXI was abandoned and later, probably in 365, destroyed. However on the edge of the house rooms, which had been functioning as craft workshops into the 5th century, were found, e.g. in the courtyard (Żelazowski 2008, 22; 2009, 111).

To the north of the House of Leukaktios several rooms belonging to another house and situated at a level over a metre lower than the level of the House of Leukaktios were found. Research on the plan of this house is currently being conducted. It is possible to distinguish a large hall (R25) with a geometrical mosaic and several columns, many neighbouring rooms are walk-through. A part of this house was concealed by the apsidal hall with a monumental entrance from the north and with the passageways to other rooms on the eastern and western sides. Artifacts which were found in situ are dated back to the 5th-6th century (Żelazowski 2012, 130-131).

In 2006 another residence, located in the southern part of the insula was discovered. The building was situated at a level several tens of centimeters higher than the House of Leukaktios (Żelazowski 2012, 138). Not even half of the width of the insula was occupied. This residential building was organized around a courtyard (R51). The entrance to this house was from the western street leading to the courtyard through a small vestibule (R44) with a mouth of a cistern. On its axis there was a chamber (R48), most likely a reception hall, which gave access to a room along the street (R50), probably a kind of cubiculum. From the courtyard one could also enter the largest room of the house on the eastern side, most likely the triclinium (R52). All these rooms had painted decoration. In this complex a small

latrine was also found near the entrance (R49) which was rebuilt in a later period into a metalworking furnace (Żelazowski 2012, 138-139) (Fig. 21). Although this house was smaller, far less luxurious and elegant than the House of Leukaktios, two specific and important findings were made: a hoard consisting of 500 Roman coins, of which the issue ended in the mid-3rd century with the reign of Emperor Trebonianus Gallus (Jaworski 2008, 39-50; 2009, 146-156) and a group of small marble and limestone sculptures discovered in one of the cisterns beneath the courtyard (Muszyńska 2012, 311-317).

The house in the southern part of the insula was used till about the mid-3rd century AD. Similarly, as in the case of the House of Leukaktios, there was a workshop room functioning even after this period. The ruins of the house had a secondary phase of occupation. Workshop production, located on the western border of the insula, included eight rooms, each of them is relatively small in size (Żelazowski 2012, 140-141). In the eastern part of the insula more rooms which are part of a different complex came to the light. The plan of this house is still unclear. There was a large courtyard covered by flagstones (R68), including the pool laid with a mosaic. It is possible to distinguish a large room (R70) with a mosaic, opening on the courtyard (Żelazowski 2012, 143).

Nondestructive methods

Since 2002 (Małkowski, Żelazowski 2012, 35), in addition to the excavation works in Ptolemais, the Polish Archaeological Mission has conducted research with the use of nondestructive methods such as a topographical survey, the analysis of satellite images, geodetic measurements, kite aerial photographs and geophysical prospection (Bogacki 2012, 77-91; Małkowski 2009, 125-132; Misiewicz 2012, 57-75; Misiewicz, Małkowski, Muszyńska 2010, 197-204). The main goal of the ongoing works has been to map

out the detailed city plan, which would include as much data as possible (Małkowski, Żelazowski 2012, 35). Thanks to non-invasive methods it has been possible to test 90 percent of the city. In 2005

members of the Polish Archaeological Mission in Ptolemais started geophysical measurements using two methods, magnetic and electrical resistivity. These methods allow for providing data about location of archaeological features, their plan, possible dimensions, depth, state of preservation and the archaeological context. With the interpretation of the collected material it will be possible to locate remains of the private architecture beneath the earth and to obtain information on their plans, size and the archaeological context.

The collected information can be used to determine the presence and location of residential areas of the city, as well as the changes that have occurred in the location of these areas with the development of the city in a given period of time. These data allow for the completion of work related to the reconstruction of the original plan of the city (Misiewicz 2012, 57-75).

Using these methods, it was possible to locate a number of new, previously unknown public and private buildings which are awaiting further examination.

Conclusions

This preliminary analysis of the material concerning private architecture from Ptolemais, dated between the Hellenistic and Late Roman periods allows scholars to highlight some of the typical features of the private architecture which are also observed in other cities in Cirenaica (cf. Bejor 1998, 35-42; Bonacasa 2009; Gasparini 2009; Gasparini 2010; Lauter 1971, 149-178; Rekowska 2012, 157-181; Rekowska 2012, 171; Stucchi 1975, 321-322; Ward-Perkins 1981, 370; Ward-Perkins et al. 1986, 113). Houses in Cirenaica were centered around the peristyle, the secondary role of atrium was observed. In Cirenaican private architecture a great attachment to the traditions of the Greeks during the Roman period is visible. In architecture of houses from Ptolemais there are seen also analogies to the architecture of Alexandria, especially concerning architectural elements. Reuse of the elements of Hellenistic architecture during the Roman and late Roman periods was common. Typical features observed in private architecture are also heart-shaped columns; connecting orders by the use of Doric entablature and Ionic columns; the presence of a Syrian arch from the 2nd century AD. S. Stucchi suggests (1975, 307 *passim*) that from the 2nd and 3rd century the houses in Cirenaica were bigger and richer than earlier, and typical elements were pools in peristyles; the oecus, which was a representative room, usually located on the southern and eastern sides of a peristyle and could be surrounded by two successive rooms. During the Late Roman period part of the houses in Cirenaica had a prestigious character, and apsidal halls connected with peristyle or triclinium were typical elements. Halls with one or three apses were representative in character. Some parts of houses during the Late Roman and Byzantine periods were converted into a series of small rooms; there was also evidence of industrial activity.

Further research into all these areas will be carried out in the future.

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Figures



FIG. 1



FIG. 2

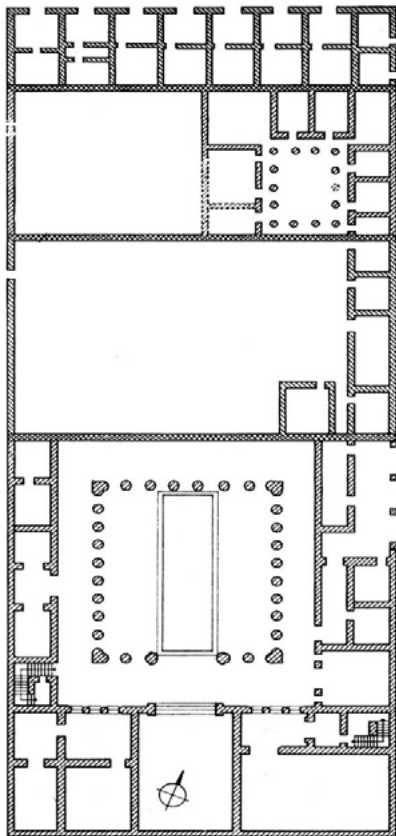


FIG. 3

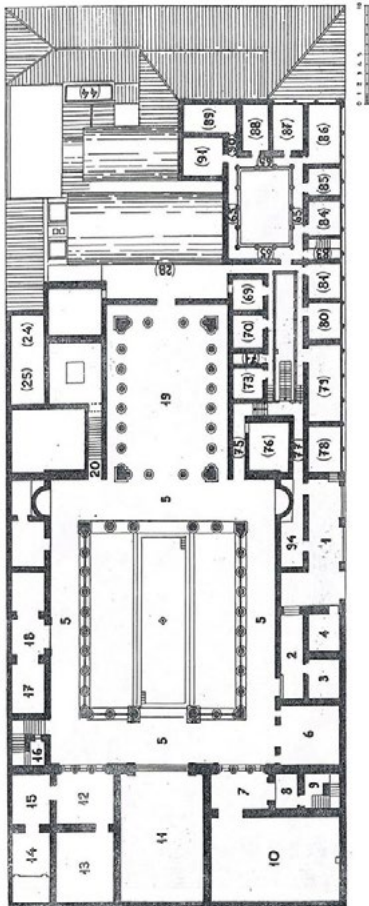


FIG. 4

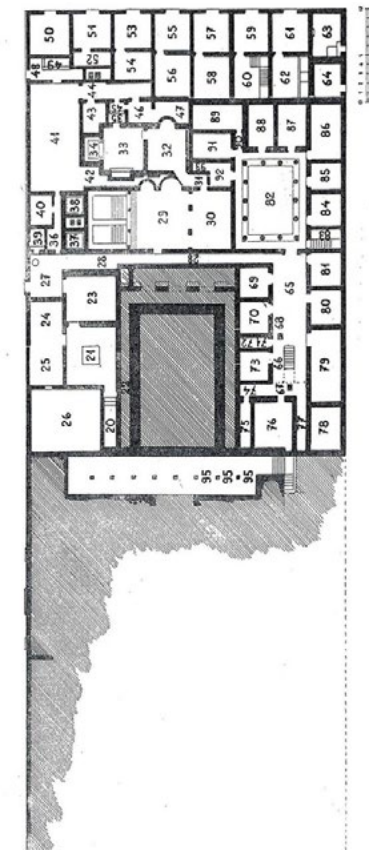


FIG. 5

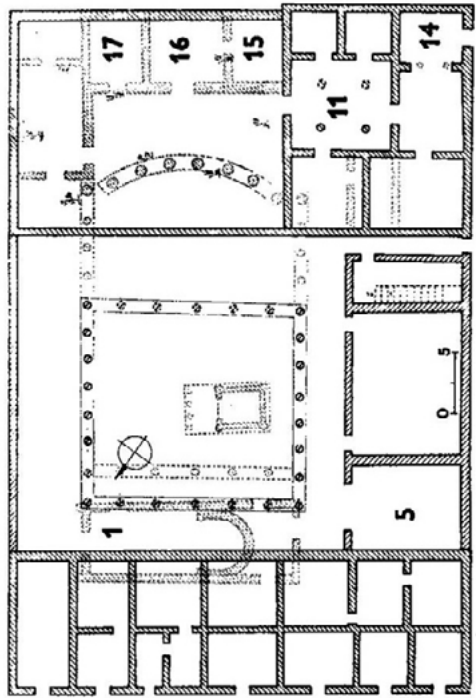


FIG. 6

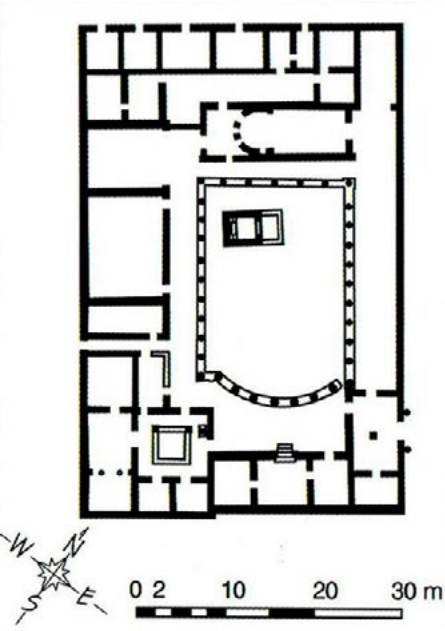


FIG. 7

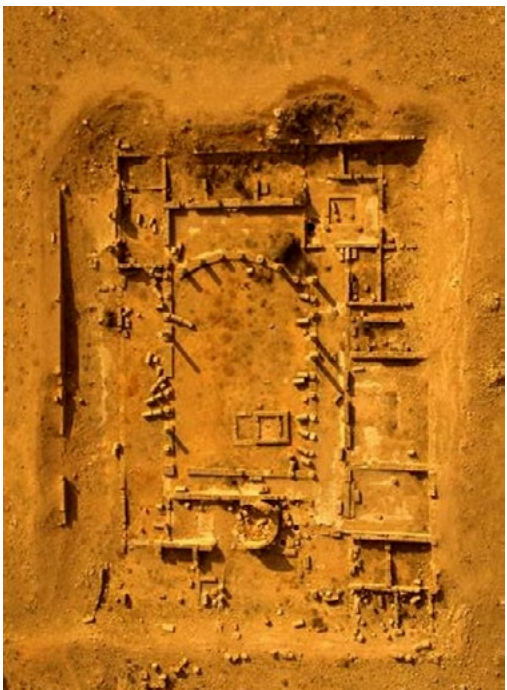


FIG. 8



FIG. 9

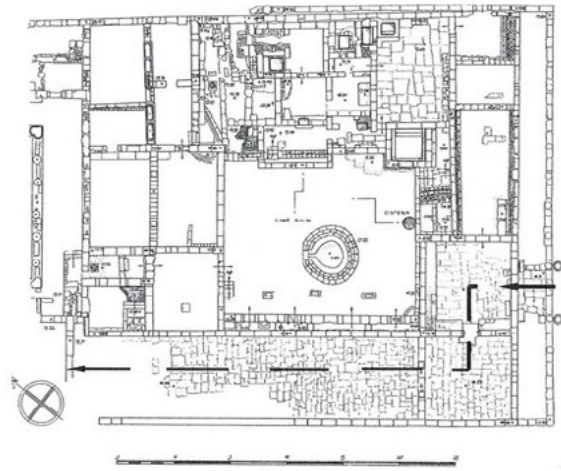


FIG. 10



FIG. 11

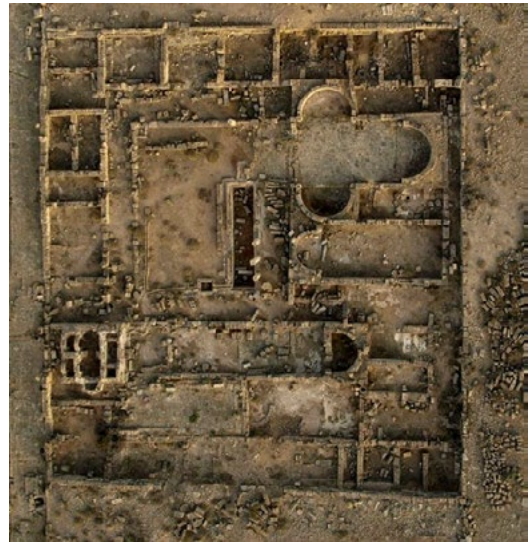


FIG. 12

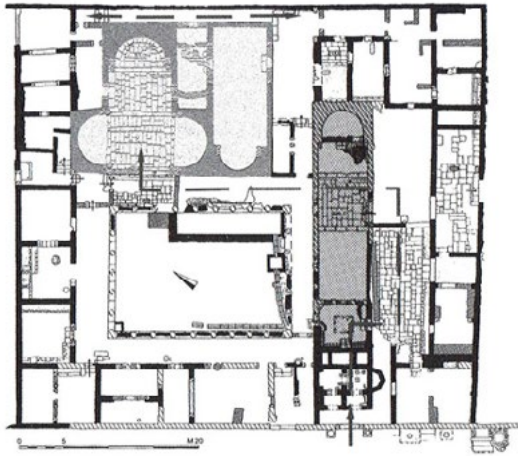


FIG. 13

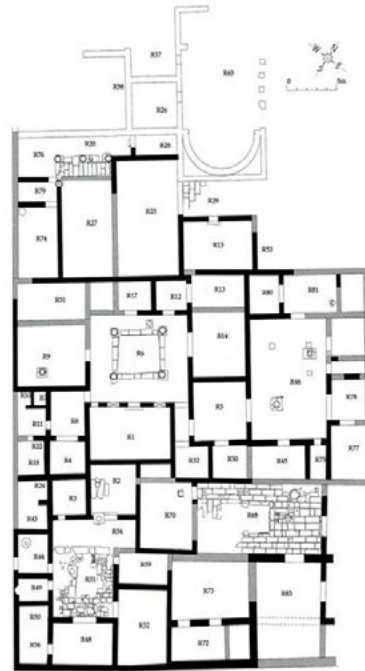


FIG. 14



FIG. 15

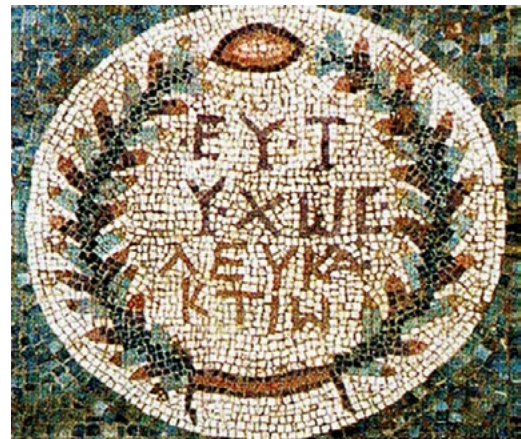


FIG. 16



FIG. 17



FIG. 18

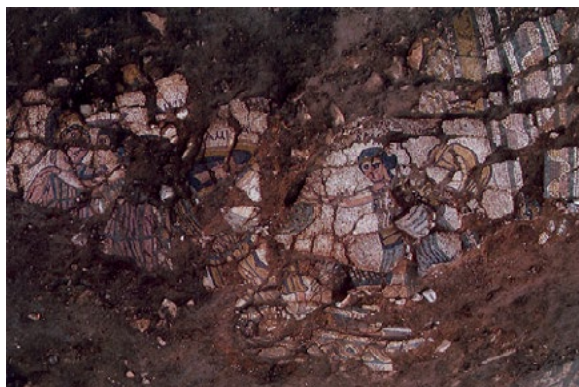


FIG. 19



FIG. 20



FIG. 21

Expeditions to Turkey – First Attempts at Heritage Recognition

Katarzyna JELENÍ

k.jelen.archeo@gmail.com

In the 19th century many travellers, collectors and finally archaeologists made expeditions to different parts of the ancient world. Principally they wanted to check ancient sources and also, as was unfortunately common to take some ancient 'souvenirs' back to their countries to enrich their collections. Mainly their destinations were Egypt, Greece, Italy, but also the Near East and Asia Minor, the land-bridge that has connected Europe and Asia since prehistoric times.

A different approach was taken by the enthusiastic scientist Professor J.R. Sitlington Sterrett, a classical scholar and archaeologist. He was a PhD student at the American School of Classical Archeology in Athens and in 1882/1883 researched inscriptions from Assos and Tralleis. Later he became a professor at Cornell University from 1901, but he is famous mostly because of his two expeditions to Turkey – making attempts to collect and record as many inscriptions and monuments in Asia Minor as possible. Accordingly he made two expeditions, first in 1884 and the second in 1885, called 'The Wolfe Expedition to Asia Minor'. These journeys were made in summer months under the auspices of the School of Athens.

He decided to explore those regions of the country that were blanks, or virtual blanks, on the old maps. Professor Sitlington Sterrett wished, after William M. Ramsay, to be known as an archaeologist who, by systematic research, would throw light on ancient geography, ancient history, legislation, etc. From his planning it is clear that his intention was that every village should be searched for inscriptions and other remains of antiquity (Sterrett 1889, 4). He gathered information about ruins and inscriptions from Turkish villagers – as often as not false or at least erroneous. Many believed that stones with inscriptions had money or other treasures inside or close by, or that the inscriptions themselves contained clues as to where valuable were hidden (Sterrett 1889, 7). Sterrett set himself the task of gathering these scattered historical scraps. His aim was clear – to research the five main provinces: Cappadocia, Lycia, Phrygia, Cilicia and Pamphylia. He thus decided to visit every village, district by district, to collect every Greek, Latin or Hittite inscription he could above the ground. The 'above' should be stressed, as it seems he never planned any excavations at that time. Work done hitherto by American archaeologists was left incomplete, there were always projects which needed to be finished.

In Sterrett's memoirs, and the two titles of his called 'From the Notebook of an Archeological Traveler in Asia Minor' (1889), and 'A plea for research in Asia Minor and Syria' (1911), we can trace how he prepared for such big journeys. Sterrett's expeditions were prepared in a very thorough way. He described everything in the smallest detail and always tried to stick to his schedule and itinerary as much as possible. Every point where the road changed its general direction was noted down, the time of day recorded as well as the new direction. Every thirty minutes he made a note of the surrounding landscapes. In his opinion this was the best way to make a regular scientific survey of the whole country (Sterrett 1889, 5).

Thanks to the Sterrett's notes we also know what kind of equipment was needed during his expeditions: 'a line of narrow-gauge railway track and cars to be drawn by mules, implements of various kinds, tents, moveable cottages, culinary equipment...' He also records that the best season for such research is from 1st May to 1st November (Sterrett 1911, 14).

In his notes we find a simple main division of sites: Hittite, Phrygian, Hellenic, Hellenistic, and Roman. There were also groups of sites he called Early Christian and Byzantine, as well his records of inscriptions and monuments belonging to the Selcuk period (Sterrett 1911, 10).

Often in his writings we can pick up the author's despair that so many antiquities and stones with inscriptions were lost. Many of them were destroyed, broken into pieces in the hunt for a treasure that never existed of course. Many stones were reused to build or repair houses. Sterrett gives an example of how the stone lion from Cheronei was destroyed by a treasure-seeking Greek general (Sterrett 1889, 8-9). Professor Schurman wrote to Sterrett that 'material is rapidly disappearing...', not just in Turkey and the eastern Mediterranean but all over the world (Sterrett 1911, 140).

Although the expeditions' targets were very ambitious, month by month Professor Sterrett made good progress. In his notes we find how he documented his inscriptions, each associated with a story. For example, the inscription from Orcistus was described fifty years before Sterrett's expedition but it was done badly. Sterrett decided to revisit it as it was an inscription of the greatest importance for historical purposes in the *Corpus Inscriptorum Latinorum* (Sterrett 1889, 11-12).

In his 'Plea for Research in Asia Minor and Syria' Sterrett refers to Hittites sites, making the case that they exist all over Asia Minor and that they must be excavated in the future; he names some of them: Ivriz, Fassilar, and Eflatun Pinar. This Hittite legacy was also described by Marian Sokołowski, a Polish art historian, during the expedition in 1884 of Karol Lanckoroński. The aim of this journey was to research Hellenic and Roman ruins in the southern reaches of Asia Minor. Sokołowski described a Hittite inscription he had found Beysehir Lake, which he copied and later published. He was also interested in another Hittite monument – the celebrated stone blocks and their reliefs at Eflaun Pinar. This monument had been recorded in 1835 by W. Hamilton, but Sokołowski, in correspondence with G. Perrot, described it in minute detail. His measurements and drawings later greatly helped a lot in researching this Hittite monument (Śliwa 2005, 304).

Returning to Professor Sterrett's expeditions, we encounter the traveller after coming back from his expeditions disseminating his researches to other universities and archaeologists around the world. He wished his work to continue, to enlarge its scope, and sought assistance from other archaeologists and financial backers. He acquired testimonials from others famous names – Petrie, Maspero, Perrot, Koldewey, Hogarth and many others. His request for help reached Poland, where Professor Piotr Bieńkowski took up the cause on behalf of Polish institutions. There still exists the letter written by Bieńkowski to the Polish scientific community, asserting that a comprehensive and exhaustive study of the antiquities of Asia Minor and Syria is one of the most urgent tasks for archaeology (Bieńkowski 1912, 54).

Professor Sterrett's descriptions of daily life in Turkey in the 19th and early 20th centuries are also of great interest. A glance at his memoirs reveals much of interest, and that can still help shed light on the fascinating region known since ancient times as Asia Minor.

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Some Oil Lamp Ship Scenes from the Roman Period

Koray ALPER*, Eda Güngör ALPER**

* Pamukkale University, Department of Archaeology kalper@pau.edu.tr

** 9 Eylül University, Department of Archaeology eda.gungor@deu.edu.tr

At first boats were used only for economic and transportation purposes. In the following periods, trade and war ships were developed to fulfill ambitions both economic and predatory. Descriptions of these ships can be seen on the mosaics, ceramics, reliefs and steles.

Oil lamps, the other feature of this contribution, had been used as light sources in social life since the Paleolithic period, and, as they developed, they became an indispensable part of everyday life.

By Roman times, as for generations beforehand, oil lamps featured prominently among ceramic forms. There are hundreds of different types and ornamental embellishments, decorations, scenes and, of course, ship scenes are clearly discernible on many Roman oil lamps. These vessels focused on three main classes: boats, merchant ships, and war ships.

Boats

Figures 1.1 and 1.2¹ show discus scenes. There is a boat moving to the left. This type of boat is familiar from Egyptian sources. The stern-post and stem-post of the boat rise in a curved manner. The stem-post resembles the head of a swordfish. There is a ball on the edge of the stern-post. On board, Eros sits, lifting his right hand and holding the side with his left. The oil lamp is from Crete and is dated to the 1st century AD.² Similar scenes are known from Karanis³ and Damanhur.⁴

Figure 1.3⁵ shows the craft moving to the right. The boat has an upward curving prow and bird-headed stem-post. On board, a grotesque dancer, with arm out, holds two staves in each hand; his large phallus swings behind him. He is wearing a hat. The lamp is from Italy and dates to from AD 175 to 225.⁶

Figure 1.4⁷ is dated late 1st century AD to early 2nd century AD.⁸ On the discus a boat floats on the waves and moves to the right. It has a high stem-post and stern-post. There are two monkeys on the boat. One of them is holding steering-oar and the other is sitting on the prow. This type of scene is known from North Africa.⁹

¹ Sapouna 1998, 25, 115, 131, 177, figs. 33.5-34.1, 2.27, 45.27-28.

² Sapouna 1998, 25.

³ Shier 1978, 35-36, fig. 6 (B 2.5, P 3291).

⁴ Bailey 1988, 251, pl. 44, fig. 30, 147, Q 2058.

⁵ Bailey 1980, 356, pl.79, fig. 64, 105, Q 1363.

⁶ Bailey 1980, 356, Q1363.

⁷ Bailey 1980, 195, pl. 24, fig. 80, 104, Q 985; Deneauve 1969, 157, pl. LXIII, 631; Leibundgut 1977, 161-162, fig. 37, 168.

⁸ Bailey 1980, 195, Q 985.

⁹ Brants 1913, 28, pl. IV, 428.

Figure 1.5¹⁰ originates from Egypt and is dated to the 3rd century AD.¹¹ On the discus, a boat moves to the left. The boat has low stem-post. The end of the stem-post is ball-shaped. On board, Harpokrates is seen rowing and carrying some sort of pottery object. The god of silence and secrets wears a hat. Similar scenes are known from Egypt, Karanis¹² and Crete.¹³

Figures 1.6 and 1.7¹⁴ show two fishermen in a harbour on the discus. One of them stands on some rocks and fishes with nets. The other sits in a boat and fishes with a hook and line. The prow of the boat faces left direction. Some commentators claim the background harbour scene is Alexandria,¹⁵ others Carthage.¹⁶ The oil lamp is dated between AD 175 and 250 and was found in Tunisia.¹⁷ These scenes from are known in Tunisia¹⁸ and other locations in North Africa.¹⁹

Figure 1.8²⁰ shows three figures on the discus depicted together. At the top, the bearded figure of King Minos stands amidst the grand buildings of Knossos, and holds out his right hand. The centre of the discus shows Icarus flying to the left over the sea, with his waxen wings fixed to his arms and strapped to his body; drapery falls from behind his right shoulder over his left upper arm; it passes behind his body and he holds a fold of it in his left hand. At the bottom of the scene there is a boat, moving to the left; it has a bulbous bow. On board, a man sits fishing, one hand holding a steering-oar, the other a fishing line, successfully showing a fish. The oil lamp is dated between AD 30 and 70 and was found in Italy.²¹

Figure 1.9²² shows an Italian lamp dated between AD 30 and 70.²³ On the right of the discus there is a boat; it has low prow and stern. On board, Cupid is seen standing on the starboard side, fishing with nets. The oars and steering gear of the boat, and the waves of the sea, can be seen in the scene.

Figure 1.10²⁴ shows a sailing boat on the discus, moving to the right. The sail has a square shape but it has no lower yard. The boat is progressing in full sail. On board there are two figures. To the left a helmsman is holding his steering oar; the other mariner sits on the prow. The lamp is dated between the 3rd and 4th centuries AD.²⁵ The scene is known from Metropolis in İzmir.²⁶

Figure 1.11²⁷ is an Argive scene dated to the 2nd century AD.²⁸ On the discus a sailing boat glides right; the sail is square-shaped, but without lower yard. The craft is in full sail. On board, there is a scene from Homer – Odysseus is lashed to his mast as the vessel avoids Sirens.

¹⁰ Bailey 1980, 195, pl. 24, fig. 80, 104, Q 985; Deneauve 1969, 157, pl. LXIII, 631; Leibundgut 1977, 161-162, taf. 37, 168.

¹¹ Bailey 1988, 251, Q 2058.

¹² Shier 1978, 35-36, pl. 6, B 2.5, P 3291.

¹³ Sapouna 1998, 25, 115, 131, 177, taf. 33.5-34.1, taf. 2.27, taf. 45, nr. 27-28.

¹⁴ Bailey 1988, 46-47, 189, pl. 15, 148, fig. 57, 126, Q 1715; Beauchamp Walters 1914, 79-80, pl. XVI, 527.

¹⁵ Beauchamp Walters 1914, 79, 527.

¹⁶ Bailey 1988, 189, Q 1715.

¹⁷ Bailey 1988, 46-47, 189, pl. 15, 148, fig. 57, 126, Q 1715; Beauchamp Walters 1914, 79-80, pl. XVI, 527.

¹⁸ Mlazowsky 1993, 278-279, pl. 6.8, 289.

¹⁹ Haken 1958, 106-108, pl. XVI, 113.

²⁰ Bailey 1980, 37-38, 160, pl. 10, fig. 35, 109, 112, Q 858; Beauchamp Walters 1914, 99-100, pl. XXII, 656.

²¹ Bailey 1980, 160, Q 858.

²² Bailey 1980, 22-23, 161, pl. 10, fig. 19, Q 863; Beauchamp Walters 1914, 96, pl. XXIII, 634.

²³ Bailey 1980, 161, Q 863.

²⁴ Perlzweig 1961, 132, pl. 21, 1023.

²⁵ Perlzweig 1961, 132, pl. 21, 1023.

²⁶ Güngör 2011, 44, 74, 86, 556, nr. 495.

²⁷ Bovon 1966, 45-47, pl. 6, 251.

²⁸ Bovon 1966, 46, pl. 6, 251.

Merchant Ships

Figure 1.12²⁹ is an Ephesian scene, dated between AD 98 and 192.³⁰ On the discus a sailing ship is moving to the left. The furled sail hangs from the mast and yard; the brace ropes show. The vessel boasts a peaked stern-post, board, and rounded hull. On board a mariner manoeuvres his steering-oar. The ship is dated between the 2nd and 3rd centuries AD.³¹

Figure 1.13³² is from a find in western Greece and is dated between 5th or 6th century AD.³³ On the discus a sailing ship is blown to the right. The furled sail hangs from the mast; there is a yard and probably a lower yard. The craft has high stem- and stern-posts. The stem-post has a lunate shape. The large board and hull are notable features. On board, in an apparently biblical scene, Jonah, watched by a sailor, falls from the ship to be swallowed by the sea-monster.

Figure 2.14³⁴ shows a merchant ship on the discus moving to the left, leaving harbour. The hull is supported by two wales; the super-structure consists of a fo'c'sle and a stern gallery, between which runs a bulwark ending in a projection housing the steering-oar. A goose-head stern-post rises up through the stern gallery. The rigging consists of a main mast with a square mainsail, shown brailed up. The main spar is held by lifts from the top of the mast; it is not certain whether there is a main topsail or whether multiple lifts are shown. Standing up from the fo'c'sle is a bowsprit. Five men are portrayed in the ship; one holds the steering-oar, two haul on shrouds which extend to the ends of the main spar, the fourth works on the halyards running up the mast, while the last unfurls the bowsprit sail. Beyond the bows is a three-tiered light-house with a fire burning on top.³⁵ It is from Italy and is dated between AD 175 and 225.³⁶ The ship is dated between the 2nd and 3rd century AD.³⁷

Figure 2.15³⁸ is from the Athens Agora and is dated between the 3rd and 4th century AD.³⁹ On the discus there is a sailing boat moving to the right. The sail has a square shape and sheets but it has no lower yard; it is under full sail. The vessel has a high stem-post and a stern-post. We can see a large board and hull. The scene is known from an example from Metropolis (İzmir),⁴⁰ the date is between the 2nd and 3rd century AD.⁴¹

War Ships

Figure 2.16⁴² is a scene known from Ephesus and Cyprus. It is dated between AD 40 and 100.⁴³ On the discus a ship is seen moving to the left. The vessel has a high stem-post, a bird's-head stern-post, beaked prow and a ram. The stem has a volute shape. We can see starboard oars. The ship is dated between 6th century BC and 3rd century AD.⁴⁴

²⁹ Bailey 1988, 377, pl. 102, fig. 56, 136, Q 3051; Menzel 1969, 126, abb. 114, 728.

³⁰ Bailey 1988, 377, Q 3051; Beauchamp Walters 1914, 148, 980.

³¹ Özdaş 2000, 323.

³² Bailey 1988, 33-34, 416, pl. 123, fig. 38, 136, Q 3323.

³³ Bailey 1988, 416, Q 3323.

³⁴ Bailey 1980, 46-348, pl. 75, fig. 49, 105, Q 1340; Beauchamp Walters 1914, 172, pl. XXX, 1140.

³⁵ Bailey 1980, 348, Q 1340.

³⁶ Bailey 1980, 46-348, pl. 75, fig. 49, 105, Q 1340; Beauchamp Walters 1914, 172, pl. XXX, 1140.

³⁷ Özdaş 2000, 323.

³⁸ Perlzweig 1961, 132, pl. 21, 1029; Karivieri 1996, 180-181, pl. 32, 59.

³⁹ Perlzweig 1961, 132, 1029.

⁴⁰ Güngör 2011, 44, 74, 86, 557, nr. 496.

⁴¹ Özdaş 2000, 355-356.

⁴² Bailey 1988, 303, 376, pl. 63, fig. 56, 150, Q 2397-Q 2398, pl. 101, fig. 56, 142, Q 3048; Leibundgut 1977, 161, taf. 36, 164.

⁴³ Bailey 1988, 303, 376, Q 2397-Q 2398, Q 3048.

⁴⁴ Özdaş 2000, 325-326.

Figure 2.17⁴⁵ is from Italy and is dated between AD 40 and 75.⁴⁶ On the discus, a ship is moving to the left. The ship has a high stem-post, a bird's-head stern-post, a beaked prow, and a ram. The stem has a volute shape. We can see starboard oars. On board the ship, an over-large figure of Cupid is catching a fish with rod and line. The ship is dated between the 6th century BC and 3rd century AD.⁴⁷

Figure 2.18⁴⁸ is from Egypt and is dated to the first half of the 1st century AD.⁴⁹ On the discus, a war ship is moving to the right. The vessel has a low, volute stem-post and a high tail stern-post. We can see port side and steering oars. In addition, it has an eye and a ram. On board there are two soldiers with armour waiting to attack. The ship is dated between the 5th century BC and 2nd century AD.⁵⁰

Figure 2.19⁵¹ is dated to the period of Tiberius and was found in Vindonissa.⁵² On the discus a war ship is moving to the right; it has a high stern-post and stem-post. The top of the stem-post has a volute shape. The stern-post resembles a horse's tail. The sail is closed and we see sail ropes (brails), mast, yard and six starboard oars. It has a ram and eyes on the prow. The ship is dated between the 4th century BC and 2nd century AD.⁵³

The discus on Figure 2.20⁵⁴ shows a war ship moving to the right; it has a high stern-post and a stem-post. The top of the stem-post has a volute shape. The stern-post looks like a bird's head. The sail is closed and we can see sail ropes (brails), mast, yard and four starboard oars. It has a ram on the prow. It was found in Milet and is dated between the 1st and 2nd century AD.⁵⁵ We are familiar with this kind of scene from Pannonia.⁵⁶

On the handle of Figure 2.21⁵⁷ a war ship is seen moving to the right. The vessel has a high stern-post and stem-post. The top of the stem-post is upright. The stern post resembles a horse's tail. The sail is closed. A ram can be seen on the prow. On board is a scene from Homer: Odysseus and two sailors. The man on the stern grasps the steering-oar, while the other helps to lash Odysseus to the mast as they negotiate the Sirens. It was found in Cyprus⁵⁸ and dates between AD 40 and 100.⁵⁹ We are familiar with such scenes from Italy.⁶⁰

Figure 2.22⁶¹ is a scene from Gaul and is dated between AD 67 and 110.⁶² On the discus a war ship moves to the left. The craft has a high stern-post. The top of the stem-post is volute. The stern-post resembles a goose's head. The sail is closed and we can see mast, yards and six port board oars. It has a ram on the prow. On board there are two men holding up their right hands. Such scenes are known from Vindonisa in the 1st century AD.⁶³ The ship is dated between the late 4th century BC and 2nd century AD.⁶⁴

⁴⁵ Bailey 1980, 22-23, 166, pl. 13, fig. 19, 112, Q 885; Beauchamp Walters 1914, 96, pl. XXIII, 634.

⁴⁶ Bailey 1980, 166, Q 885.

⁴⁷ Özdaş 2000, 325-326.

⁴⁸ Bailey 1988, 234, Q 1902.

⁴⁹ Bailey 1988, 45, 234, pl. 33, fig. 56, Q 1902; Beauchamp Walters 1914, 86, 566.

⁵⁰ Özdaş 2000, 327-328.

⁵¹ Polaschek 1985, 93, 244-245, taf. 36, 377, M. 153; Leibundgut 1977, 161, taf. 36, 165.

⁵² Leibundgut 1977, 161, 165.

⁵³ Özdaş 2000, 322.

⁵⁴ Menzel 1969, 33, 35, abb. 28, 15, 147.

⁵⁵ Menzel 1969, 30, 35, 147.

⁵⁶ Dóra Iványi, *Die Pannonischen Lampen*, Budapest 1935, p. 15, pl. XIII, 5.

⁵⁷ Bailey 1988, 36, 306-307, pl. 66, fig. 40, Q 2450-Q 2453; Beauchamp Walters 1914, 122, 810.

⁵⁸ Bailey 1988, 306-307, Q 2450-Q 2453; Oziol 1977, 172, 174-175, pl. 28, 520, pl. 29, 532.

⁵⁹ Bailey 1988, 36, 306-307, Q 2450-Q 2453; Menzel 1969, 26-27, abb. 25, 5.

⁶⁰ Bailey 1965, 41, pl. VI, 95.

⁶¹ Bailey 1988, 45, 158, pl. 2, fig. 56, Q 1503; Beauchamp Walters 1914, 86, 567.

⁶² Bailey 1988, 158, Q 1503.

⁶³ Leibundgut 1977, 161, taf. 36, 167.

⁶⁴ Özdaş 2000, 322.

Figure 2.23⁶⁵ is from Tunisia (Pozzuoli) and dates between the late 2nd and early 3rd century AD.⁶⁶ On the discus a war ship is seen as it moves right. The vessel has a high stern-post. The top of the stem-post is volute. The stern-post resembles a goose's head. The sail is brailed and we can see mast, yards and six starboard oars. It has a ram on the prow. It is reminiscent of a scene from Carthage.⁶⁷ The ship is dated between the late 4th century BC and 2nd century AD.⁶⁸

Figure 2.24⁶⁹ is from Trier and is dated to the 1st century AD.⁷⁰ On the discus a war ship is seen moving to the right; it has a high stern-post and a stem-post. The sail is brailed and we can see sail ropes (sheets and brails), a mast, a yard, and six starboard oars. It has a ram on the prow. It is similar to the scene from Milet.⁷¹ The ship is dated between the 2nd century BC and 3rd century AD.⁷²

Figure 2.25⁷³ shows on the discus a war ship moving to the right. The ship has a low stern-post resembling a goose's head. The sail is open and sail ropes (sheets), mast, yards, steering oar and three starboard oars are clearly seen. It has a ram and an eye figure on the prow. The oil lamp was found in Gaul (probably Lyon), and is dated between AD 50 and 90.⁷⁴ The same scene is found at Trier.⁷⁵ The ship is dated between the 2nd century BC and 3rd century AD.⁷⁶

Figure 2.26⁷⁷ is from Egypt (Fayum) and is dated between AD 10 and 50.⁷⁸ On the handle a galley is moving to the right. The galley has a beaked prow, a centaur figurehead, and a bank of oars. The ornamental gunwale is decorated with crested helmet and other devices. On the deck stand heavily-armed legionaries; spears and a legionary standard rising up behind them. They are preparing to attack. The ship is dated between 525 BC and the 3rd century AD.⁷⁹

Figure 2.27⁸⁰ is also from Egypt (Fayum) and dates to the 1st century AD.⁸¹ On the handle a galley is moving to the right; it has a high stern-post that resembles a tail. On the deck there are oar-banks and three laughing men. A sail rises up behind the men. In front of the mast there is a centaur. The ship is dated between the 8th century BC and 3rd century AD.⁸²

Conclusions

The descriptions noted above relate to scenes of fishing, trade, war and various mythological subjects. The scenes are located on the discus or on the handle of oil lamps. The scenes on the discus are more common. It is not possible to see all the details of the ships on the lamps because of lack of space.

⁶⁵ Bailey 1988, 45, 188, pl. 14, fig. 56, 150, Q 1708; Bailey 1965, 41, pl. VI, 95. Beauchamp Walters 1914, 173, 1141.

⁶⁶ Bailey 1988, 188, Q 1708.

⁶⁷ Deneauve 1969, 183, 196, pl. LXXVII, 837, pl. LXXXIV, 929, pl. LXXXVI, 947.

⁶⁸ Özdaş 2000, 322.

⁶⁹ Polaschek 1985, 57, 245, taf. 33, 186, M. 154.

⁷⁰ Polaschek 1985, 57, 245, taf. 33, 186, M. 154; Leibundgut 1977, 161, taf. 36, 163.

⁷¹ Menzel 1969, 33, 35, abb. 28, 14.

⁷² Özdaş 2000, 323.

⁷³ Bailey 1988, 45, 157-158, pl. 1, fig. 56, Q 1497.

⁷⁴ Bailey 1988, 157-158, Q 1497; Hübinger 1993, 97, taf. 23, 174.

⁷⁵ Polaschek 1985, 131, 244-245, taf. 64, 562, M.155, taf. 37, 113, M. 155.

⁷⁶ Özdaş 2000, 355-356.

⁷⁷ Bailey 1988, 45, 237, pl. 35, fig. 56, Q 1936.

⁷⁸ Bailey 1988, 237, Q 1936.

⁷⁹ Özdaş 2000, 325-326.

⁸⁰ Bailey 1988, 45, 237, pl. 35, fig. 56, Q 1937.

⁸¹ Bailey 1988, 237, Q 1937.

⁸² Özdaş 2000, 327.

Therefore generally the artists prefer to inscribe only basic scenes. There is a temporal correspondence between some ship designs and oil lamps, however some ship illustrations represent more basic models and belong to earlier periods. The boats are drawn simply.

Egyptian boats were made of straw, with stem and stern on the same level.⁸³ The scenes of fishermen Cupid were meant to represent wealth and bountiful catches.⁸⁴

The shapes of the merchant ships are the same. They have a high freeboard and ovoid hulls. All the merchant ships were drawn without oars. Some war ships have a rower sequence in the direction of bow to prow. The board was raised to head level to protect rowers in battle.⁸⁵ This explains why no mariners are seen on some of the war ships. It is known that some of the ships were used to transport horses. The animals were put in areas where some banks of rowers were removed.⁸⁶ Some lamps feature designs of centaurs, and these may have represented those vessels which transported horses. Soldiers, of course, could also have been transported together with horses.

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⁸³ Casson 2002, 8.

⁸⁴ Aydingün 2002, 19.

⁸⁵ Casson 2002, 55.

⁸⁶ Köyağasioğlu 2006, 348.

Figures

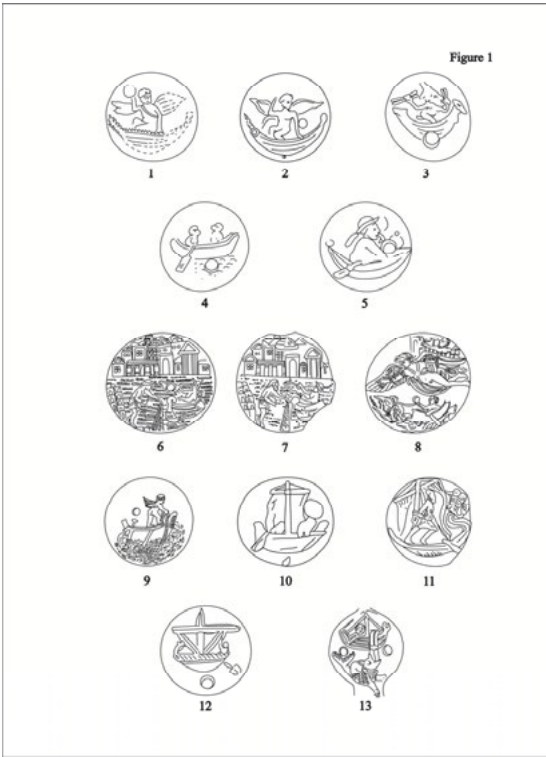


FIG. 1

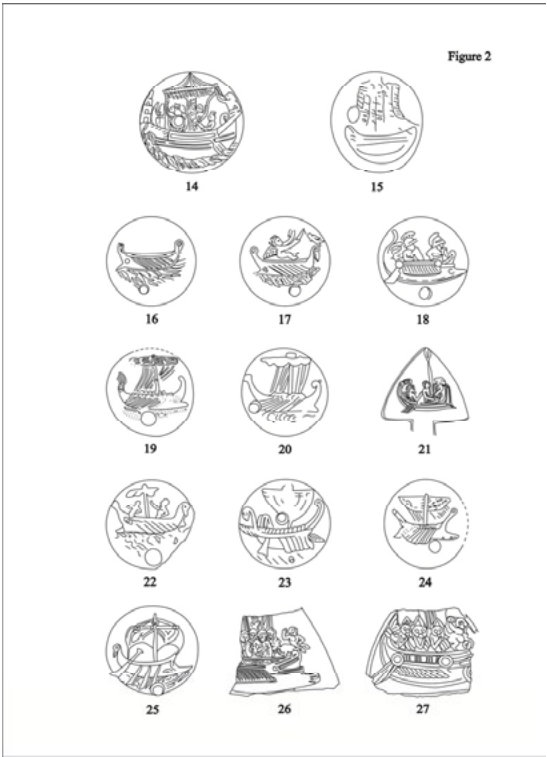


FIG. 2

The Lion as a Symbol in Mesopotamian and Greek Civilizations: Archaeological Remarks and Historical Evidence

Krzysztof ULANOWSKI

University of Gdansk, Poland, wnsuk@univ.gda.pl

This article focuses on the symbol of the lion. The question is how deep the Mesopotamian influence was, and whether it is possible to define the fields and functions, in which it took place. My method for answering these questions in the following subsections is to select specific functions and to demonstrate similarities in their evaluation and operation in the two civilizations.

The lion was a widespread symbol especially in the ancient Near East (ANE). It is worth noting that in Mesopotamia the lion was 'considered a recipient of melam (see Aster 2012, 22 ff; Watanabe 2002, 48), the peculiarly effulgent awesomeness which characterizes its bearer as more than human.' (Strawn 2005, 215). Sumerian sources confirm that Enlil distributed his heavenly aura from his throne and the fourth aura was given to the lion.¹

In the Greek language, besides the old and commonly used loan word for 'lion', *leon*, possibly of Egyptian origin, another word was adopted in some Homeric similes, *lis*, and this word has a Semitic origin (see Burkert 2004a, 47; Burkert 1995, 39; Burkert 2004b, 32, 53; Lonsdale 1990, 131).

Tom Dunbabin observed that certain features of early Greek Orientalizing art, such as scenes of warfare and depictions of lions, had specifically Assyrian antecedents. For the Greeks, however, Assyria distant land and it seems that they borrowed this feature through intermediaries from North Syria and Cyprus (Dunbabin 1957, 41 f, 48 f; Gunter 2009, 2 f).

The Lion as Enemy

The lion was often presented as a symbol for the enemies of civilized life (Strawn 2005, 136). The depiction of a combat between a lion and a ruler/warrior was widespread throughout the ANE and the Mediterranean. There are plenty of archaeological finds from the Akkadian Dynasty (c. 2350-2200 BC), (Steymans 2010, 2 f, pic. 1a-1b) and ivory plaques from Fort Shalmaneser at Nimrud (Herrmann/Coffey/Laidlaw 2004, 80 f, S1015-1022, Room SW37; Whitley 2004, fig. 9.2), as well as from other places in the ANE, such as a cylinder seal from Tripoli (LB II) (Crowley 1989, pl. 179). There are also

many examples related to the pre-Greek civilizations, including a Minoan cylinder seal from Kakovatos (Crowley 1989, 60, pl. 144), a seal from Mycenae (LH I) (Crowley 1989, pl. 353; Thomas 2004, 175, fig. 9.19), an amygdaloid seal from Pylos (Mycenaean period) (Crowley 1989, 172, pl. 439), an ivory mirror handle from Cyprus (Kouklia, Late Bronze Age, 12th century BC) (Crowley 1989, 135 f, pl. 360; Karageorghis 2002, 111, fig. 233). In LM IA Crete, the lion and man are rarely shown in conflict, but in Greek shaft graves they are never shown at peace (Thomas 2004, 174 f). In the Greek/Macedonian tradition Lysimachus distinguished himself by killing a ferocious lion of exceptional size.²

¹ Bilgames and Huwawa: 'The Lord to the Living One's Mountain' and 'Ho, hurrah!', version A, l. 198, in: George 2000, 160 f.

² Lysimachus and the lions: Curt. 8.1.14-17; Plut. Demetr. 27.3; Paus. 1.9.5; Just. 15.3.

A lion symbolized the powers of chaos and was commonly feared. The lion, overcome and subdued by the king, was used as the symbol of the power of the sovereign, and became a royal symbol par excellence (Cornelius 1989, 59). The Assyrian 'royal seal' is a stamp carved with an image of the king subduing a rampant lion (Gunter 2009, 37; Sass/Marzahn 2010, 179, fig. 1020; Dalley 2005, 25). The king repeated the deeds of the gods and Gilgamesh, and such examples of an Assyrian deity killing a lion are known even from Cyprus (c. 725-675 BC) (Karageorghis 2002, 155, fig. 321; Karageorghis 2000, 182, fig. 299).

The image of the attacking lion first occurs in direct juxtaposition to the scenes of heroic combat at the end of the 8th century. A lion attack forms a popular subject on Greek gold bands of the Late Geometric Period and in the succeeding Orientalizing Period, where it can be directly attributed to the influence of North Syrian and Phoenician imports (Markoe 1989, 90, ref. no. 12). The antiquity of the Homeric image of a lion attack is an open question. The lion was probably used in Mycenaean times to symbolize the warrior aspect of kings and nobles, but there is no clear evidence that the lion attack was consciously employed as a pictorial motif for heroic triumph. Many of the similes (including those referring to lions) in Homer³ appear to be late linguistically, which suggests that they do not derive from a Mycenaean literary tradition (Markoe 1989, 92 f, ref. no. 21). The core of Early Mycenaean lion imagery comes from the two grave circles (A and B) at Mycenae (Thomas 2004, 163 f). There are many archaeological finds that depicted hostility between a hero and a lion; one of the best examples is a duel with two lions tearing a man apart on an Attic Geometric kantharos from the late 8th century BC (Boardman 2007, fig. 15).

The Apotropaic Symbol

During military campaigns a king represented an undefeated wild lion (Mayer 2013, 139, l. 420). The lions guard the divine throne: 'Under the throne [of Anu] lions were [c]rou[ching]. As I went in, the lions [sprang at me?]'.⁴ The throne of Inanna is supported by animals, and a lion among them (Braun-Holzinger 2013, 152, 162, seal 10). Decoration in the form of lions is also known from the description of the throne of Solomon's Temple (Braun-Holzinger/Rehm 2005, 122, 135).⁵ Lions are presented as symbols of authority on thrones, at the entrances to temples and palaces (Braun-Holzinger/Rehm 2005, 128, 130; Reade 1999, pics. 14-15, 59; Gunter 2009, 115, fig. 39). Many places, royal residences and fortifications depicted the lion as a magical and protective symbol.⁶ Babylon was the place where this symbol was especially esteemed. The most famous examples are the so-called Ishtar Gate and Processional Way (Ascalone, 2005: 328 ff), but hundreds of other lion depictions were found in this city (Sass/Marzahn 2010). Another name for the Ishtar Gate is 'the entrance of kingship' and passing through it reconfirmed the king's power as it did for Marduk (Van De Mierop 2003, 267). A lion impression on a brick from Babylon was first mentioned in the 18th century. The lion representation replaces royal cuneiform impressions. The king of beasts was associated with the monarch and it seems to be a royal attribute (Sass/Marzahn 2010, 178 f). A lion is engraved also on glass and alabaster vessels from Nimrud next to the inscription 'Palace of Sargon, king of Assyria' (Oates/Oates 2001, 221).

The protective role of the lion in Greek civilization is presented on the shields of gods, heroes and hoplites. On an Attic calyx krater from the 6th century BC, Kyknos or his father Ares holds a shield depicting a lion and the head of a Gorgon (Boardman 2007, fig. 120; Boardman 1998a, fig. 65). An oinochoe by Lydos dating to circa 560-540 BC depicts the same theme, on the bottom level fighting lions are depicted. The artist is called Lydos 'the Lydian', a person who should have been familiar with the Achaemenid

³ References to lion similes in Homer, see Lonsdale 1990, 143 (Appendix D).

⁴ Etana, the King without an Heir, tab. IV, 12-13, in: Foster 1995, 112.

⁵ 1 King. 10, 18-20; 2 Chron. 9, 17-19.

⁶ De Backer 2013: 268 f, the relief depicting North Palace at Nineveh, c. 650 BC, (BM ANE 124938), see Gunter 2009, 115, fig. 39.

topics (Boardman 2003, 52, fig. 68). A hydria which represented the sack of Troy, from early 5th century BC, depicted the Athenian sons of Theseus with shields decorated with lion (Boardman 2007, fig. 121; Boardman 1998a, fig. 135. Probably, see Boardman 2003, fig. 47; Boardman 1998a, figs. 29, 196, 304.2).

A lion which killed a deer appeared on the shield of Achilles (Boardman 1998a, fig. 282.2). Probably what is a lion's head appears on one of the shields depicted on a dinos and kalyx crater of the Polygnotan Group and on the shield of cup by Douris (see respectively, Boardman 1995, figs. 159.1, 161; Boardman 1998a, fig. 283).

The Influence of ANE on Greece

The context of the lion in ANE art in the 6th century is unequivocal: in both Babylonia and Lydia, the lion was employed as a symbol of royalty (Markoe 1989, 103). A clear example may be found in the bronze lion-shaped weights, referred to as mina of the king, which were issued by the Babylonian monarchy as officially guaranteed standards of weight. The Lydian royal house employed both the lion and the lion-bull combat as insignia. This motif was known as early as in the Early Dynastic Period in Mesopotamia (Braun-Holzinger 2013, 49, seal. 15). The lion attack motif finds more explicit representation, in the form of a bull attacked from behind by a lion, on a fine weight stamp from the Lydian capital. Later, the Achaemenids continued to exploit this motif as an imperial emblem (Markoe 1989, 103). The best known lion and bull symplegma originated from Persepolis. The Greeks probably borrowed this symbol from the Persians. The scene may also represent for them the conflict between civilized life and nature, a theme symbolized later by battles between Greeks and Centaurs. Two lions and a bull are depicted on a Tyrrhenian amphora by the Timiades Painter painted c. 565-550 BC (Boardman 2003, fig. 56), and on an Athenian black-figure band cup dating to 540 BC (Boardman 1964, fig. 80). They are presented on the fronton of Athena's temple on the Athenian Acropolis,⁷ and a similar scene showing a lion killing (probably) a bull are depicted on the fronton of Apollo's temple at Delphi (Boardman 1994, fig. 203.1E). The same motif is shown on the fronton of the temple of Athena at Assos (Troad, Asia Minor) dating to c. 540-520 BC (Boardman 1994, fig. 216).

The Athenian adoption of the lion attack motif as an architectural emblem acquires a particular significance in the context of cultural and commercial ties between Athens and East Greece (Markoe 1989, 104). There are many examples from other places, especially from the Greek islands, coming from all the periods: a LM I-II seal impression from Knossos (Crowley 1989, pl. 348), a LH II seal from the tholos tomb at Vaphio Tholos (Crowley 1989, 14, pl. 19), a Wild Goat style Chian lekane dedicated to Aphrodite, found at Naucratis (BM 188.6-1.456) (Lemos 1991, vol. II, pl. 26 (252); Boardman 1998b, fig. 311), an Ionian (Late Wild Goat) cup from Naucratis (Boardman 1998b, fig. 300), chalices from Ayia Paraskevi, Thessaloniki, c. 575-550 BC (Lemos 1991, vol. II, pl. V (952, 971), 127 (952)). Tocra-Delos animal chalices from Delos (Delos Museum) (Lemos 1991, vol. II, pl. 81 (643)), the Berezan animal chalices (the Black Sea, the Lion style) (Lemos 1991, vol. II, pl. 86 (666-667)), a stemmed skyphos crater found at Pitane in Asia Minor (Lemos 1991, vol. II, pl. 164 (1272)), a lekane, the Sphinx and Lion style, from Chios (Lemos 1991, vol. II, pl. 182 (1419), 183 (1419)). There is a lot of evidence showing that Chian fine pottery, bearing the lion motif as well, was exported to Egypt, Cyrenaica, Mainland Greece, the Aegean islands, the Black Sea and Anatolia (Lemos 1991, vol. I, 191 ff). Two types of lions are shown on these vessels. The first one (Lemos 1991, vol. I, 30), with closed mouth, is probably influenced by Egyptian prototypes.⁸ The other one, with

⁷ For a possible reconstruction depicting two lions killing a bull, see Boardman, 1994: fig. 192. For the fronton of Athena's temple on the Athenian Acropolis from c. 570-560 BC (perhaps the first post-Geometric phase) and from c. 550-540 BC, see Boardman, 1994: figs. 190-191. For the marble group showing a lion attacking a bull in The Metropolitan Museum of Art, Rogers Fund, 42.11.35, 525-500 BC, see Richter 1970, 73 ff, figs: 19, 33.

⁸ An Egyptian ivory lion from the votive deposits at the Heraion on Samos, see Gunter 2009, 145, fig. 43.

the mouth wide-open,⁹ is derived from Assyrian prototypes. The lions represented on Greek ivories have strong similarities to those of Nimrud (Braun-Holzinger/Rehm 2005, 130). Many Corinthian lions adopted the pointed-nose of the Assyrian type.¹⁰ The most 'Assyrianized' example is a lion's protome on a Late Geometric clay cup from the Knossian North Cemetery (Matthäus 2009, 325; Braun-Holzinger/Rehm 2005, 91, pic. 22). Two figures of an ivory lion were found in Samos; other recumbent lions were excavated at Thasos. A donation cup was found in the Idaean Cave. All of them were manufactured in 7th century BC in the Assyrian tradition.¹¹ They were not only symbols of power but they also played an apotropaic role (Braun-Holzinger/Rehm, 2005, 129 f, 152, 156 ff, fig. 35, 39; Braun-Holzinger/Andrea 1987: 88 ff; see Safar/Sa'id al-Iraqi 1987, 98, fig. 83, 33, fig. 18).

The Gods

The lion's direct participation in battle on behalf of the gods may thus be understood simply as a more graphic expression of the same concept embodied in the scenes of animal combat: the aggressive lion as the symbol of divine power and triumph (Markoe 1989, 100). It could be also a symbol borrowed from the ANE representing the victory of civilization over chaos, divinized king over his enemies. The juxtaposition of attacking lion and Gigantomachy finds a direct analogy on the depictions from the Archaic temples. The North frieze of Siphnian treasury at Delphi (Gigantomachy) from c. 525 BC depicted the chariot of Dionysos¹² and Themis drawn by lions, and a lion is fighting with a Giant (Osborne 1988, fig. 62; Boardman 1994, fig. 212.1). The subject of the fragmentary West pediment of the Apollo Temple in Delphi from c. 510 BC, a Gigantomachy¹³ with central quadriga bearing the figure of Zeus, is complemented on the East pediment by a central chariot with the patron deity, Apollo flanked by two sculptures of the lions killing (probably) a bull, and a deer (Boardman 1994, fig. 203.1E). The message of the two pediments becomes clear. Just as the gods' ultimate triumph over the forces of earth ensured Zeus' supremacy, so Apollo's divine strength and his victorious stature are affirmed by the lion's triumph, as the Nike acroterion immediately above confirms. As the lion triumphs in the world of nature, so Apollo triumphs in the divine realm. This relationship finds immediate expression in an ivory figurine from Delphi that shows the god actually subduing the beast in ANE fashion (Markoe 1989, 99 f). The lion is also represented on Apollo's temple at Didyma from 540-520 BC (Boardman 1994, fig. 218.1-2).

Was the Hellenic Apollo connected with the lion symbol? A bone plaque coming from Olbia, probably from the 6th century BC, bears the words of an oracle given by lot 'To Apollo Didym[aios] the Milesian', and some other abbreviated expressions: '7: the weak wolf. 70: the terrible lion. 700: the bow-bearer... the healer. 7000: the wise dolphin'. Stoneman states that all these epithets except the one related to a

⁹ Šulgi C 1-2, in: Castellino 1972, 248, 1-2.

¹⁰ Dalley 2005, 99, fig. 47a,b,c; Boardman 1998b, figs. 172-177. A Corinthian olpe (Chigi Vase) MPC 690-650 BC, see Boardman 1998b, fig. 178.3. An early Corinthian lion (Syracuse), c. 625 BC, see Boardman 1998b, fig. 407. The lions, the Corinthian style (found at Perachora and Loutraki), c. 570-550 BC, see Boardman 1994, figs. 267-268. A Corinthian pyxis, head pyxis, conical oinochoe, olpe from the Early and Middle Corinthian, 625-575 BC see Boardman 1998b, figs. 377-380, and a Protattic from the 7th century BC; the Geometric in Early Protoattic (700-675 BC), see Boardman 1998b, 88, figs. 190-192, 4. A lot of 7th century Corinthian aryballos, kotyle, pyxis, olpe vessels depicting lions were painted by the Piraeus painter and the Lion Painter, c. 635-600 BC, for the Athenian Black Figure technique, combination of Athenian tradition and the new Corinthian technique, see Boardman 2003, 16, figs. 9-10. 'Lions' are depicted on vases by the Gorgon Painter, see Boardman 2003, figs. 11-12. Lions as a decorative motif display the huge influence on orientalizing motifs, for example an Attic dinos by Sophilos, c. 575 BC. The scene of the Wedding of Peleus and Thetis, see Boardman 2007: fig. 61.

¹¹ The lolling tongue is a feature of the Neo-Hittite type. Lemos 1991, vol. I, 32; Dunbabin 1957, 46ff; Braun-Holzinger/Rehm 2005, 77; Dalley/Reyes 2005, 99, pic. 47; Mazzoni 2009: 117 f.

¹² Dionysos and a lion, see Boardman 1994, fig. 207a.

¹³ Eur. Ion: 190-223.

lion are well known as titles of Apollo (Stoneman 2011, 143). It is, however, difficult to believe that the author of this oracle would have introduced the symbol of the lion by accident. He probably had some knowledge that Apollo was represented by the lion as a symbol.

If one takes into account the classical animosity between the lion and the serpent/dragon (see Lewis 1996, 28, 34 f; Lambert 2013, 211, 362, 384 f; Forsyth 1987: 60 ff), Apollo's triumph over the beast called Python may perhaps allude to this old concept, and the lion's attributes are symbolically incorporated in the divine Apollo.¹⁴

The correct interpretation of the 'ardent' relationships between deities from different civilizations, their scope of competence, and mutual dependence are extremely difficult tasks. Even if continental Greece knew no lion god, it knew a hero, the slayer of a lion, Heracles. Because of the lack of Lydian historical evidence we can assume two possibilities. First, that the Lydians were led to identify their lion god, not so much with Apollo, but with Heracles. The second eventuality is that the Greeks identified some Lydian deity with Heracles. On a neck amphora created by the Antimenes Painter (c. 530-510 BC) Heracles fights the lion in the 'Assyrian' manner. The author, called Antimenes, was probably a pupil of Lydos, and so under the influence of Lydian tradition as to the role of lion, and Heracles as an ANE hero.¹⁵ Many kings from Cyprus issued coinage with the representation of the bearded head of Heracles (Melqart) wearing a lion's skin, for example Baalmelek I (Kition) on a silver stater dating to ca. 479-449 BC, and Pumiathon, king of Kition on a gold coin (Karageorghis 1976, pl. 94-95; Karageorghis 1998, 153, pl. 103-104).

A very complicated issue can be broached by reference to the scenes presented on the Gold Beaker from Hasanlu (probably 9th century BC) and the recognition that the hero Gilgamesh wore the lion pelt after slaying the lion (Frayne 2010, 175; Barrelet 1984, 105, see also Gunter 2009, 46 ff). There are some passages which mention Gilgamesh killing the lions.¹⁶ In the Gilgamesh Epic, Shamash predicts the future of Gilgamesh: '[clad] in the skin of a lion, he will wander the [wild.]'¹⁷ Barrelet summarized and explained every motif located on the beaker (Barrelet 1984, 43 ff), but one might interpret these motifs as a specific journey of the hero similar to the twelve labours of Heracles; or, rather these twelve labours correspond to the earlier rituals of transition, the journeys of the hero.

The lion god which could be identified with Apollo or Heracles is identical with the Cilician Sandas (Krappe 1945, 144). The Cilician Sandas¹⁸ in turn is the equivalent of the Mesopotamian Erra (Nergal). Erra described himself thus 'I am the lion on earth'.¹⁹ During battle Erra became a lion.²⁰ The name of the Lydian capital, Sardes, is derived from the form Sandas. Sandas was also the protecting deity at Tarsus and a ravaging monster only outside the city (Mastrocinque 2007, 214). The city of Sandas was therefore Tarsus, and Nergal was also worshipped there. The city was conquered and founded again by

¹⁴ HH 3, 357ff.

¹⁵ Boardman, 2003, fig. 189. Later depictions of red-figure style, c. 520 BC, see Boardman 1964, fig. 87; Boardman 1998a, figs. 7, 10, 104; Boardman 1995, fig. 245. Mesopotamian themes on Greek seals, see Dalley 2005, fig. 50.

¹⁶ The Standard Version of the Babylonian Gilgamesh Epic, tab. IX, l.8, X, 34, 39, 131, 231, in: George 2000, 70, 77, 80, 84; Frayne 2010, 180, 207.

¹⁷ The Standard Version of the Babylonian Gilgamesh Epic, tab. VII, l. 147, see also tab. VIII, l. 91, in: George 2000, 59, 66.

¹⁸ The Cilician god Sandas, who was represented as a lion-goat, was identified with Heracles because of his relation with the underworld and his warlike features. He was also the model for the Greek Chimaera, see Mastrocinque 2007, 197. Creatures that are formed from combinations of lions and goats are known from the Early Sumerian Period, see Braun-Holzinger 2013, 72.

¹⁹ How Erra Wrecked the World, tab. I, 110, in: Foster 1995, 138.

²⁰ How Erra Wrecked the World, tab. IV, 21, in: Foster 1995, 154.

Sennacherib in 698 BC (Mastrocinque 2007, 212). Bivar observed a direct association between lion attack scenes on 4th-century coinage of Mazaeus from Tarsus and the underworld deity Nergal of Tarsus (Nrgl Trz), whose legend appears on another issue from that city. The attacking lion on the Mazaeus coinage may have been associated with Nergal as the god of death (Markoe 1989, 111).

Probably Erra was cognate with the Hittite plague god, Irra, an archer whose features are similar to those of Apollo and the West Semitic Reshep (Mastrocinque 2007, 204; Schretter 1974). There is a cylinder seal from Thebes dated to LH IIIB showing the divine figure killing a lion, which has been compared to Cypriote seals (probably of Cypriote manufacture). The dress of the man is of the eastern type like the ones worn by Reshep (Crowley 1989, 258, 262, pl. 536).

Sandas, Heracles, and Nergal were warrior gods, connected to the lion and were worshipped for the sake of protection from plagues. Heracles was called Alexikakos, Kallinikos, Phylax, Soter and his image could be placed at town gates, but could also destroy a city.²¹

Conclusions

It seems that at the time of borrowing certain motifs from Mesopotamia, via the ANE by the Greeks in the 9th-8th century, most of the themes were not understood, but the symbolism of the lion was commonly known. Did the Greeks fully understand the motifs which their Eastern predecessors and neighbors had linked to the symbolism of the lion? In some areas these borrowings were fully understood and deliberate, in others random and intuitive. The study of mutual exchange of symbols between Mesopotamian and Greek civilizations is very demanding because not only the meaning of lion symbolism had in both civilizations is pivotal. No less important are the mode of transmission and possible changes in the meaning of the symbol which influences its understanding in the new cultural milieu.

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²¹ See Il. 16.830, 24.245.

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Architectural and Artistic Changes and Developments in Transjordanian Churches under Islamic Rule

Lihi HABAS

The Hebrew University of Jerusalem, Institute of Archaeology, Israel, habaslihi@gmail.com

Between the fourth and the eighth centuries CE, many churches were founded in Provincia Arabia and neighboring territories, in Provincia Palaestina Prima, Secunda and Tertia (today's Transjordan). 253 religious buildings have been excavated in Transjordan, among them 181 churches, 71 chapels and one synagogue. This impressive number attests to the abundance of settlements in the Byzantine and Muslim periods.

Invasions, conquests and changes of government naturally raise many questions with regard to the relationship that forms between the new rulers and their subjects, and in particular when the religion of the rulers is not the same as that of the local citizens. In this article, I will look at the issues arising as a result of the political and religious changes taking place in Transjordan following the end of Byzantine rule and the establishment of Umayyad Muslim rule in 635/6 CE, the continued existence of the Christian religious institutions under Islam, the organization of the local Christian religious communities, and reciprocal Christian-Muslim cultural and artistic influences during the period of the Umayyad and 'Abbasid caliphate.

Archeological finds in Transjordan provide evidence that the Christian communities continued to prosper under Islamic rule. The churches built in the Byzantine period continued to serve as places of worship in the seventh and eighth centuries CE. Old churches were renovated, and new churches were built and embellished. All these testify of a tolerant approach towards the Christian community on the part of the Umayyad and 'Abbasid rulers. The local population remained overwhelmingly Christian, and church inscriptions indicate that there were organized Christian communities, with bishops, priests, deacons, stewards, believers, donors and artists. These were active communities with the financial ability to build and adorn their churches.¹

Distribution of the churches built during the Umayyad period and the beginning of the 'Abbasid period

Throughout Transjordan, a large number of churches have been found with dated inscriptions that are inlaid in the mosaic floors. These attest to construction and renovation both prior to and after the conquest, and during the Umayyad and 'Abbasid periods (Fig. 1).² Among those dated to the seventh

¹ Illustrations courtesy of Prof. Michele Piccirillo, Studium Biblicum Franciscanum in Jerusalem. My deepest gratitude for pictures and cooperation to the late Prof. Piccirillo. This article is dedicated to his memory.

² Michele Piccirillo, *The Umayyad Churches of Jordan*, in: *Annual of the Department of Antiquities of Jordan* 28 (1984b) (hereafter: Piccirillo, *The Umayyad Churches of Jordan*); *An Epoch of Technical and Artistic Continuity in Jordan between the Byzantine and the Umayyad Periods*, in: *Studies in the History and Archaeology of Jordan* 7 (2001) (hereafter: Piccirillo, *Jordan between the Byzantine and the Umayyad Periods*); Robert Schick, *The Fate of the Christians in Palestine During the Byzantine – Umayyad Transition, A.D. 600-750*, Ph.D. thesis, University of Chicago 1987 (hereafter: Schick, *The Fate of the Christians*); *The Christian Communities of Palestine from Byzantine to Islamic Rule, A Historical and Archaeological Study*, Princeton 1995b (hereafter: Schick, *The Christian Communities*); Lihi Habas, *The Byzantine Churches of Provincia Arabia: Architectural Structure and*

century CE, I will mention the churches in Khirbat al-Samra, Rihab and Tell Rahbia at the time of Archbishop Theodore: the Church of Saint Isaiah (634/5 CE), the Church of Saint Menas (634 CE), and the South City Church at Rihab;³ the Church of Saint George (637 CE) and the Church of John the Baptist (639 CE) among the churches at Khirbat al-Samra;⁴ the Church of Saint Flemius the Martyr (663 CE) and the Church of Saint Sergius (686 CE) at Tell Rahbia;⁵ the North Hall dedicated to Saint Varus (687 CE) at the time of Bishop George at Khilda in the Philadelphia/Amman area;⁶ the late phase of the Church of Saint Lot at Deir 'Ayn 'Abata (Zoara) (691 CE);⁷ and an inscription on a stone in ecclesiastical context that relates to an addition or renovation taking place in the year 687 CE at Areopolis/Rabbat Moab.⁸

From the first half of the eighth century CE, I will mention the Lower Church at al-Quwaysmah (717/18 CE),⁹ and the church on the acropolis at Ma'in (719/20 CE).¹⁰ Also ascribed to this same period are the first church of Khirbat al-Badiyya (710 CE) in area A;¹¹ a monastery in Rihab built after the year 720 CE, and a church in the south of the town (circa 736 CE);¹² and the construction and embellishment of the Church of Saint Stephen (718 CE) at Umm al-Rasas at the time of Bishop Job.¹³

their Relationship with the Compositional Scheme and Iconographic Program of Mosaic Pavements, 2 Vols., Ph.D. thesis, Hebrew University of Jerusalem 2005, I, p.55 (hereafter: Habas, *The Byzantine Churches of Provincia Arabia*).

³ Siegfried Mittmann, *Die Mosaikinschrift der Menas-Kirche in Rihab*, in: *Zeitschrift des deutschen Palästina-Vereins* 83 (1967), pp. 42-45; Michele Piccirillo, *Le antichità di Rihab dei Bene Hasan*, in: *Liber Annuus* 30 (1980a), pp. 329-331, Fig. 21 (hereafter: Piccirillo, *Le antichità di Rihab*).

⁴ Michele Piccirillo, *The Mosaics of Jordan*, Amman 1993, esp. 304, 306, Figs. 598, 600, 602 (hereafter: Piccirillo, *The Mosaics of Jordan*).

⁵ Abed al-Qader al-Husan, *Preliminary Results of the Archaeological Excavations at al-Mafraq, 1991-2001*, in: *Annual of the Department of Antiquities of Jordan* 45 (2001), p.11, Figs. 15-16 (hereafter: al-Husan, *al-Mafraq*); *The New Archaeological Discoveries of the al-Fudayn and Rah'ab—al-Mafraq Excavation Projects, 1991-2001*, in: *Annual of the Department of Antiquities of Jordan* 46 (2002), esp. 82, 89, 91-92, Figs. 16, 21 (hereafter: al-Husan, *al-Fudayn and Rah'ab*).

⁶ Mahmoud Najjar and Fatema Sa'id, *A New Umayyad Church at Khilda – Amman*, in: *Liber Annuus* 44 (1994), p. 551, Figs. 4, 9 (hereafter: Najjar and Sa'id, *Khilda*).

⁷ Konstantinos D. Politis, *Excavations at Deir 'Ain 'Abata 1991*, in: *Annual of the Department of Antiquities of Jordan* 36 (1992), pp. 281-283, Fig. 2 (hereafter: Politis, *Deir 'Ain 'Abata*); *The Monastery of Aghios Lot at Deir 'Ain 'Abata in Jordan*, in: F. Daim und J. Drauschke, hrsg., *Byzanz – das Römerreich im Mittelalter Monographien des RGZM, Teil 2.1: Schauplätze, Band 84.1-3*, 2010, pp. 7-10, 21.

⁸ Fawzi Zayadine, *Deux inscriptions grecques de Rabbat Moab (Areopolis)*, in: *Annual of the Department of Antiquities of Jordan* 16 (1971), pp. 74-76, Fig. 3, Pl. 4.

⁹ Sylvester J. Saller, *An Eighth-Century Christian Inscription at el-Quweismeh, near Amman, Trans-Jordan*, in: *Journal of the Palestine Oriental Society* 21 (1948); Michele Piccirillo, *Le chiese di Quweismeh-Amman*, in: *Liber Annuus* 34 (1984a), pp. 323-333, Fig. 11; Piccirillo, *The Mosaics of Jordan*, pp. 266-267, Figs. 484, 488.

¹⁰ De Vaux dated the mosaic floor to the end of the sixth or first half of the seventh century, and the inscription to the renovation phase, after the iconoclastic destruction that he attributed to the period of Caliph 'Umar. This remains his opinion alone: Roland De Vaux, *Une mosaïque byzantine à Mâ'in (Transjordanie)*, in: *Revue Biblique* 47 (1938), pp. 254-258, Fig. 4 (hereafter: De Vaux, *Mâ'in*); Michele Piccirillo, *Le antichità bizantine di Ma'in e dintorni*, in: *Liber Annuus* 35 (1985), pp. 347-348, Ill. 3, Fig. 8 (hereafter: Piccirillo, *Le antichità bizantine di Ma'in*).

¹¹ Zeidoun al-Muheisen, *Preliminary Report on the Excavations at Khirbat al-Badiyya, 1998*, in: *Annual of the Department of Antiquities of Jordan* 50 (2006), p.86.

¹² al-Husan, *al-Mafraq*, p.11; al-Husan, *al-Fudayn and Rahb*, esp. 82, 89, Figs. 22, 31.

¹³ Robert Schick, *The Patriarchate of Jerusalem during the Early Abbasid Period, A.D. 750-813*, in: *Proceeding of the Fifth International Conference on the History of Bilad es-Sham*, Amman 1991, pp. 75-78; Michele Piccirillo, *I mosaici del complesso di Santo Stefano*, in: Michele Piccirillo and Eugenio Alliata, eds., *Umm al-Rasas Mayfa'ah. I: Gli Scavi del Complesso di Santo Stefano (SBF, Collectio Maior 28)*, Jerusalem 1994b, pp. 136-137, Figs. 24-25 (hereafter: Piccirillo, *I mosaici di Santo Stefano*); *Le iscrizioni di Kastron Mefaa*, in: Michele Piccirillo and Eugenio Alliata, eds., *Umm al-Rasas Mayfa'ah. I: Gli Scavi del Complesso di Santo Stefano (SBF, Collectio Maior 28)*, Jerusalem 1994c, pp. 242-246, Nos. 1a, 2 (hereafter: Piccirillo, *Le iscrizioni di Kastron Mefaa*).

From the second half of the eighth century CE, we have the second phase of the Theotokos chapel (762/3 CE) at 'Ain al-Kanisah in 'Uyun Musa Valley, at the time of the Bishop Job;¹⁴ renovation of the Church of the Virgin Mary (766/67 CE) at Madaba, at the time of Bishop Theophane;¹⁵ and an inscription in a southern room of the church of the monastery at Mar Liyas (775/6 CE).¹⁶ Furthermore, if the reading of the inscription attributed to the renovation of the floor in the Church of the Martyr Saint Nicephorus Constantine (832 CE) at Rihab is correct, this is the latest dating of Christian activity in an ecclesiastical context in the area.¹⁷

It is also possible to trace construction and renovation in the Umayyad period on the basis of stratigraphic analysis, ceramic finds, and liturgical changes.¹⁸ During this period, the Saint Stephen complex at Umm al-Rasas was developed, and the baptistery chapel, the funerary chapel, the Church of the Aedicula, the Courtyard Church and the Chapel of the Column in Room M were constructed.¹⁹ Also, a third phase has been discerned in the Northeastern Church at Umm al-Jimal, where the nave floor was repaved and a chancel screen inserted;²⁰ a second phase in the church at Shunah Nimrin;²¹ in the Cathedral of Pella, changes have been discerned in the *bema* area in the third and fourth phases;²² in the second phase of the Basilica at Hayyan al-Mushref the south side room has been made into a baptistery;²³ new phases have been discerned in Khirbat ad-Duwayr Church/Jinin as-Safa;²⁴ and in the North Church at Massuh,²⁵

¹⁴ Michele Piccirillo, The Mosaics, in: Michele Piccirillo and Eugenio Alliata, eds., *Mount Nebo, New Archaeological Excavations 1967-1997*, Jerusalem 1998a, pp. 359-364, Figs. 227, 232 (hereafter: Piccirillo, The Mosaics of Mount Nebo).

¹⁵ Leah Di Segni, The Date of the Church of the Virgin in Madaba, in: *Liber Annuus* 42 (1992), pp. 256-257 (hereafter: Di Segni, The Date of the Church of the Virgin); Piccirillo, The Mosaics of Jordan, pp. 64-65, Fig. 2.

¹⁶ Leah Di Segni, *Varia Arabia Greek Inscriptions from Jordan*, in: *Liber Annuus* 56 (2006), pp. 579-580, Fig. 3 (hereafter: Di Segni, *Inscriptions from Jordan*).

¹⁷ The church is dated to 623 CE. The mosaic was damaged by iconoclastic destruction, followed by a renovation in which the two letters TM appear in the inscription, with a horizontal line above them. Di Segni suggests identifying the letters as numbers (340), as an abridged date of the Byzantine creation era, and dating the renovation to 832 CE: al-Husan, al-Mafraq, p.9, Fig. 9; al-Husan, al-Fudayn and Rahāb, pp. 82, 88-89, Figs. 15, 29; Di Segni, *Inscriptions from Jordan*, pp. 578-579, Figs. 1-2.

¹⁸ Noel Duval, *L'architecture chrétienne et les pratiques liturgiques en Jordanie en rapport avec la Palestine. Recherches nouvelles*, in: Kennet Painter, ed., 'Churches Built in Ancient Times'. *Recent Studies in Early Christian Archaeology*, London 1994; Michele Piccirillo, *Liturgical Problems Related to the Plans and Liturgical Furnishings of Churches in the Territory of the Province of Arabia (Fourth-Eighth Centuries CE)*, in: Leah Di Segni, Yizhar Hirschfeld, Joseph Patrich and Rina Talgam, eds., *Man near a Roman Arch*, Studies presented to Prof. Yoram Tsafir, Jerusalem 2009, pp. 216-219.

¹⁹ Michele Piccirillo, *Gli scavi del complesso di Santo Stefano*, in: Michele Piccirillo and Eugenio Alliata, eds., *Umm al-Rasas Mayfa'ah. I: Gli Scavi del Complesso di Santo Stefano (SBF, Collectio Maior 28)*, Jerusalem 1994a, pp. 69-110, Plan 1, Figs. 20, 41, 66, 68, 77-79.

²⁰ Howard C. Butler, *Umm idj-Djimal*, in: *Ancient Architecture in Syria*, Div. II, Sect. A, part 3, Leyden 1913, p.186, Fig. 163; Bert De Vries, *The Umm el-Jimal Project, 1981-1992*, in: *Annual of the Department of Antiquities of Jordan* 37 (1993), pp. 447-448, Figs. 1, 13.

²¹ Michele Piccirillo, *A Church at Shunat Nimrin*, in: *Annual of the Department of Antiquities of Jordan* 26 (1982a), esp. 335, 341-342 (hereafter: Piccirillo, *Shunat Nimrin*); Piccirillo, *The Mosaics of Jordan*, p.322, Figs. 664-665.

²² Robert H. Smith and Leslie P. Day, *Pella of the Decapolis II: Final Report on the College of Wooster Excavations in Area IX, The Civic Complex, 1979-1985*, Wooster, Ohio 1989, Fig. 12.

²³ Zeidoun al-Muhsen and Dominique Tarrier, *Les fouilles de Hayyan al-Mushrif*, in: *Liber Annuus* 45 (1995), pp. 519-520, Fig. 3.

²⁴ Ismael Melhim, *The Excavation of the Khirbat ad-Duwayr Church/Jinin as-Safa*, in: *Annual of the Department of Antiquities of Jordan* 42 (1998), pp. 30-31, Fig. 5.

²⁵ Michele Piccirillo, *Una nuova chiesa nel villaggio di Massuh – Madaba*, in: *Liber Annuus* 50 (2000), pp. 494-498 (hereafter: Piccirillo, *chiesa di Massuh*).

while three churches were built at Humeima (Areas B100, F102, B126).²⁶ At Rihab, a renovation has been discerned in the Basilica of Archbishop Theodore, as well as construction of the church in the south of the town,²⁷ and an Umayyad phase has also been found in the northern aisle of the Church of Saint John the Baptist at Khirbat al-Samra.²⁸

From this we may learn that the Christian communities continued to maintain an active and prosperous life under Umayyad rule and at the beginning of the 'Abbasid period, in all the areas that were formerly part of the Byzantine Empire – the territories of Provincia Arabia and Palaestina Secunda and Tertia, as also shown by the research of Michele Piccirillo and Robert Schick.²⁹

The Evidence of the Inscriptions in the Mosaic Floors

The content of the inscriptions testifies to flourishing community life under the leadership of the church clergy. I will mention some of the dated inscriptions indicating the construction and renovation of churches at the time of Job, last bishop of Madaba. One inscription is set in the western panel of the hall of the Theotokos chapel in the monastery at 'Ain al-Kanisah, and also provides the name of the monastery: 'By the providence of God this venerable monastery of the holy Mother of God was rebuilt, in the days of Job, bishop of Madaba, and of George the recluse, for the preservation of all the benefactors, indiction 15, year 6270 [year 762/3 CE – according to the Byzantine era of creation (*annus mundi*)].'³⁰

A second inscription is located in the *bema* (*presbyterium*) of the Church of Saint Stephen at Umm al-Rasas (Fig. 2): 'By the grace of Christ, the mosaic of this holy bema was decorated at the time of our most pious father Bishop Job and of the priest John ... and of Iesse the steward in the month of March, the 9th indiction of the year 650 [756 CE].' Another, earlier inscription was found at the eastern end of the nave and on the front of the *bema* (Fig. 3): 'At the time of the most holy Bishop Sergius the mosaic of the holy and illustrious proto-deacon and proto martyr Stephen was completed by the care of John son of Isaac, most beloved of God, lexou and deacon and leader of Mefaa, econom, and by the care of all the people of Kastron Mefaa who love Christ, in the month of October, the 2nd indiction, of the year of the province of Arabia 680 [718 CE] in memory and for the repose of Fidonus (son) of Aeias, lover of Christ.'³¹

There is another late inscription on the front of the *bema* of the Church of the Virgin Mary at Madaba (Fig. 4): 'At the time of our most pious father, Bishop Theophane, this most beautiful mosaic work was realized in the glorious and venerable house of the holy and immaculate queen ... Mother of God. Thanks to the zeal and ardor of the people who love Christ in this city of Madaba, for the salvation, and assistance, and remission of sins of those who have made offerings, and of those who will make offerings, to this holy place. Amen, O Lord. Finished by the grace of God in the month of February in the

²⁶ Robert Schick, Christianity at Humayma, Jordan, in: *Liber Annus* 45 (1995a), p.338, 340, Ill. 7, Figs. 15-16; John P. Oleson *et al.*, Preliminary Report of the al-Humayma Excavation Project, 1995, 1996, 1998, in: *Annual of the Department of Antiquities of Jordan* 43 (1999), pp. 430-436, Figs. 13, 15.

²⁷ al-Husan, al-Mafraq, p.9, 11, Figs. 9, 14, 17.

²⁸ Jean-Baptiste Humbert, Khirbet es-Samra 1882, in: *Liber Annus* 32 (1982), pp. 499-500.

²⁹ Piccirillo, The Umayyad Churches of Jordan; Schick, The Fate of the Christians; Schick, The Christian Communities.

³⁰ Michele Piccirillo, Le due iscrizioni della cappella della Theotokos nel Wadi 'Ayn al-Kanisah – Monte Nebo, in: *Liber Annus* 44 (1994d); Leah Di Segni, La data della cappella della Theotokos sul monte Nebo: Nota epigrafica, in: *Liber Annus* 44 (1994), pp. 531-533; The Greek Inscriptions, in: Michele Piccirillo and Eugenio Alliata, eds., Mount Nebo, New Archaeological Excavations 1967-1997, Jerusalem 1998, pp. 449-450, No. 56.

³¹ Michele Piccirillo and Taysir 'Attiyat, The Complex of Saint Stephen at Umm er-Rasas-Kastron Mefaa. First Campaign, August 1986, in: *Annual of the Department of Antiquities of Jordan* 30 (1986), p.347, Pl. LXXV:2; Piccirillo, Le iscrizioni di Kastron Mefaa, pp. 242-246, Nos. 1a, 2.

year 74, of the fifth indiction.’ This inscription is dated by Charles Clermont-Ganneau according to the Seleucid era, that is, to the year 662/3 CE, in the Umayyad period. Leah Di Segni dated it according to the Byzantine era of *annus mundi*, to the year 766/7 CE, in the ‘Abbasid period.’³²

A Greek inscription was also found engraved in a lintel in Areopolis (Rabbat Muba): ‘In the time of our most holy Metropolitan Stephen, this building was made, in the 15th indiction of the year 585’, which is the year 687 CE according to the era of Provincia Arabia.³³

Moreover, the conquest of Bostra, the capital of Provincia Arabia and seat of the archbishops and metropolitans, by General Khalid ibn al-Walid in 634 CE did not affect construction in the surrounding villages. Inscriptions on floor mosaics in the churches at Rihab and Khirbat al-Samra testify to building and renovation work taking place at that time, in the days of Archbishop Theodore of Bostra, previously mentioned.³⁴

The construction and/or renovation of churches under Umayyad rule is not unique to the east bank of the River Jordan, and can be found also on the west bank, in the three provinces of Palaestina Prima, Secunda and Tertia, as well as in neighboring territories. Among the finds, I will mention several Greek inscriptions: in the church at Khirbet el-Shubeika in western Galilee, an inscription dates the laying of the mosaic in the second phase to the year 6293, which is 785/6 CE according to the Byzantine creation era, or 801/2 CE according to the Alexandrian creation era;³⁵ at the church at Tamra in Eastern Galilee the inscription belongs to the second phase of the church and is dated according to the Hegira era to 725 CE.³⁶ In the Jerusalem area a number of Christian buildings have been uncovered with inscriptions dated to the Umayyad period: a chapel in Ramot from the time of Theodore, patriarch of Jerusalem, dated to 6254, which is 752 CE according to the Alexandrian creation era;³⁷ the Funerary Chapel at Beit Safafa, possibly from 701 CE according to the Georgian creation era;³⁸ and the third phase in the Kathisma Church, located near Jerusalem, with mosaics dated to the eighth century CE and a partial inscription from this layer that may be dated to the ‘Abbasid

³² Charles Clermont-Ganneau, *La mosaïque de Madaba*, in: *Recueil d'Archéologie Orientale II*, Paris 1898, pp. 52-55; Di Segni, *The Date of the Church of the Virgin*, pp. 256-257.

³³ Piccirillo, *The Umayyad Churches of Jordan*, p. 339.

³⁴ Raffaella Farioli Campanati, *Considerazioni sui pavimenti musivi cristiani della Giordania*, in: Michele Piccirillo, ed., *I Mosaici di Giordania*, Roma 1986, pp. 160-161; Schick, *The Fate of the Christians*, pp. 142-217; Robert Schick, *Jordan on the Eve of the Muslim Conquest A.D. 602-634*, in: Pierre Canivet and Jean-Paul Rey-Coquais, eds., *Syrie de Byzance à l'Islam VII^e-VIII^e siècles*, Damas 1992, pp. 113-114; Schick, *The Christian Communities*, pp. 85-90.

³⁵ Danny Syon, *A Church from the Early Islamic Period at Khirbet el-Shubeika*, in: Giovanni C. Bottini, Leah Di Segni and Laslaw D. Chrupcala, eds., *One Land - Many Cultures, Archaeological Studies in Honour of S. Loffreda OFM (SBF, Collectio Maior 41)*, Jerusalem 2003, pp. 77-87, 81, Fig. 7; Vassilius Tzaferis, *The Greek Inscriptions from the Church at Khirbet el-Shubeika*, in: Giovanni C. Bottini, Leah Di Segni and Laslaw D. Chrupcala, eds., *One Land - Many Cultures, Archaeological Studies in Honour of S. Loffreda OFM (SBF, Collectio Maior 41)*, Jerusalem 2003, pp. 84-85, Figs. on p. 84; Leah Di Segni, *Christian Epigraphy in the Holy Land: New Discoveries*, in: *ARAM 15* (2003b), pp. 256-257, Fig. 7 (hereafter: Di Segni, *Christian Epigraphy*).

³⁶ The use of Hegira era in a Christian context and the creation of a new geometric mosaic is explained by Di Segni and Tepper perhaps against the background of sources indicating Muslim prayer in churches: Leah Di Segni and Yotam Tepper, *A Greek Inscription dated by the Era of Hegira in an Umayyad Church at Tamra in Eastern Galilee*, in: *Liber Annuus 54* (2004), pp. 344-348, Fig. 2; Leah Di Segni, *The use of Chronological Systems in Sixth-Eighth Centuries Palestine*, in: *ARAM 18-19* (2006-2007), p. 122 (hereafter: Di Segni, *The Use of Chronological Systems*).

³⁷ Arav Rami, Leah Di Segni and Amos Kloner, *An Eighth-Century Monastery near Jerusalem*, in: *Liber Annuus 40* (1990), esp. 313, 315-320, Ill. 2, Pls. 43-44, Figs. 5-7.

³⁸ Leah Di Segni, *The Beit Safafa Inscription Reconsidered and the Question of a Local Era in Jerusalem*, in: *Israel Exploration Journal 43* (1993); *The Date of the Beit Safafa Inscription Again*, in: *Israel Exploration Journal 47* (1997), pp. 252; Di Segni, *Christian Epigraphy*, pp. 247-248.

period, between 821 – 839 CE.³⁹ In the southern Judean Hills two inscriptions, dated to 682 CE and 725 CE, were found in the church of the monastery south of Horvath Yattir;⁴⁰ and there is construction of the church at Khirbet Aristobulia, dated to 700/1 CE.⁴¹ The latest inscription in the church complex at Jabaliyah, near Gaza, appears in a church and is dated to 732 CE according to the era of Gaza.⁴²

In addition, a few Greek inscriptions are known from the Umayyad period, testifying to the construction of churches or monasteries in Hauran: the year 641 CE on the lintel of Deir Ayyub monastery; the foundation of the martyrium of Saint George at Kafr in 652 CE, and the addition of an atrium in 665/6 CE; and the church at Salchad-Triacome, which was built in 633/4 CE.⁴³

The rich archeological finds in Transjordan thus indicate that despite the new regime, the political, religious and cultural changes, and their disconnection from the Byzantine Empire and court, the Christian communities continued to flourish under the rule of Islam. The rich epigraphic evidence, exact dates, and stratigraphic and ceramic analysis testify to a continued momentum of construction. Renovations were carried out in existing churches, as well as the construction and embellishment of new churches. All these are evidence of a tolerant approach towards the Christian community on the part of the regime during the Umayyad and the beginning of the 'Abbasid period in the seventh and eighth centuries CE. A large majority of the local population remained Christian, and the inscriptions in the churches indicate the existence of well-organized Christian communities, with bishops, priests, deacons, oikonomos, donors and worshippers – active communities with the financial ability to build and adorn churches. By comparison, building inscriptions in the ninth century CE are rare, and the sparse evidence hints at a process of abandonment.

³⁹ The mosaics are dated to the eighth century CE because of the ceramic and numismatic finds and the similarity to motifs of the Dome of the Rock mosaics (691 CE). Di Segni proposes dating the inscription, and perhaps the entire phase, to the ninth century CE, if the monogram of Basilius at the top of the medallion is identified with Basilius, patriarch of Jerusalem, who held the throne of Jerusalem for 18 years and whose patriarchate coincided with the caliphate of al-Ma'mun. Leah Di Segni, A Greek Inscription in the Kathisma Church, in: Giovanni C. Bottini, Leah Di Segni and Laslaw D. Chrupcala, eds., *One Land - Many Cultures*, Archaeological Studies in Honour of S. Loffreda OFM (SBF, Collectio Maior 41), Jerusalem 2003a, pp. 187-188, Fig. on p.187; Di Segni, *Christian Epigraphy*, pp. 248-250, Fig. 2.

⁴⁰ The inscription in the nave of the church at Horvath Yattir is dated to '...the 6th indiction, in the year of the city 526...' and the inscription in the atrium is dated to '...the 9th indiction, year 483 of the city.' They were first dated by Eshel, Magness, Shenhav, and Di Segni to 631/2 CE and 588/9 CE respectively, according to the era of Provincia Arabia, with the 'era of the city' referring to the city Elusa. Later Di Segni amended this and the dates were determined according to the era of Eleutheropolis, as was usual for southern Judean Hills sites, to 725 CE and 682 CE respectively. Hanan Eshel, Jodi Magness and Eli Shenhav, A Byzantine Monastic Church at Khirbet Yattir, in: Ya'acov Eshel, ed., *Judea and Samaria Research Studies*, 9, Ariel 2000, pp. 230-232, Fig. 5; Iosi Bordowicz, *Christian Settlement in the South Hebron Hills in the Byzantine Period in Light of the Archaeological Findings at Horvath Yattir*. Ph.D. thesis, Bar-Ilan University 2007, pp. 131-135, Figs. 167-168 (hereafter: Bordowicz, *Christian Settlement*); Di Segni, *Christian Epigraphy*, pp. 253-256, Figs. 5-6.

⁴¹ Bordowicz, *Christian Settlement*, pp. 258-259; Di Segni, *Christian Epigraphy*, pp. 252-253, Fig. 4; Leah Di Segni, Greek Inscriptions from the Church at Khirbet Istanbul (Aristobulias), in: *Christians and Christianity, IV: Churches and Monasteries in Judea (JSP 16)*, Jerusalem 2012, pp. 327-330; Yuval Peleg and Shahr Batz, Khirbet Aristobulia, in: E. Stern, ed., *The New Encyclopedia of Archaeological Excavations in the Holy Land*, 5, Jerusalem 2008, pp. 1572-1573, Figs. on pp. 1572-1573; A Byzantine Church at Khirbet Istanbul (Aristobulias), in: *Christians and Christianity, IV: Churches and Monasteries in Judea (JSP 16)*, Jerusalem 2012, pp. 303-312, 315, 319, Fig. 16.

⁴² Jean-Baptiste Humbert *et al.*, Mukheitim à Jabaliyah, un site byzantine, in: Jean-Baptiste Humbert, ed., *Gaza méditerranéenne, Histoire et archéologie en Palestine*, Paris 2000, p.122; Catherine Saliou, Gaza dans l'antiquité tardive: nouveaux documents épigraphiques, in: *Revue Biblique* 107 (2000), pp. 405-406, Fig. 7b, No. 15.

⁴³ Yiannis E. Meimaris, in collaboration with K. Kritikakou and P. Bougia, *Chronological Systems in Roman-Byzantine Palestine and Arabia*, Athens 1992, esp. 292, 295, 299, Nos. 491, 500, 513; Di Segni, *The Use of Chronological Systems*, pp. 113-114.

The Iconography of the Mosaic Floors: Continuity and New Trends

The Figurative Trend

A study of the churches in Transjordan reveals continuity, on the one hand, while on the other hand, architectural, artistic and liturgical changes and developments under Islamic rule. Among these, I will focus on the iconography of the church mosaics made or renovated during the Umayyad and 'Abbasid periods, and the development of geometric patterns in the later mosaic floors.

An analysis of the mosaic church floors shows that at the same time, and sometimes at the same site, there were two parallel trends – a figurative trend, and a geometric or aniconic trend. The figurative trend continues with the usual depictions of genre scenes, showing episodes from the vintage, pasture, animal hunts and pursuits, and depictions of donors, in vegetal, geometric and other nets.⁴⁴ In both figurative and aniconic mosaics, there is a continuity of trends already existing in the Byzantine period. Figurative floors were laid under Umayyad rule, among them the mosaic floor of the *bema* of the Church of Saint Lot at Deir 'Ayn 'Abata (Zoara) (691 CE) (Fig. 5), which is embellished with a carpet of vine scrolls populated by peacocks, sheep and birds, facing a cross and chalice.⁴⁵ This floor continues the Byzantine tradition of populated vine scrolls, such as at the Church of the Deacon Thomas (first half of the sixth century CE) (Fig. 6) in 'Uyun Musa Valley.⁴⁶ There are also registerial compositions, such as in the North Hall dedicated to Saint Varus at Khilda (687 CE) in the Philadelphia-Amman area, which has a register-based layout of facing pairs of animals and Γη – the personification of Earth, in a medallion that has been damaged by iconoclasts.⁴⁷ This scheme continues the tradition of earlier registerial compositions, such as in the Old Diakonikon – Baptistry (530/1 CE) at Mount Nebo.⁴⁸ Other compositions are geometric carpets populated by a rich variety of motifs, such as the interlaced *scuta* composition⁴⁹ in the nave of the church on the acropolis at Ma'in (719/20 CE) (Fig. 7), which follows on from an identical one appearing earlier in the Chapel of the Martyr Theodore (562 CE) at Madaba (Fig. 8).⁵⁰ In the wake of the iconoclastic movement, the original figurative motifs were replaced by neutral motifs in the floor of the nave of the church at Ma'in. A rabbit was replaced by flowers, but its long ears remain. In the same way, the tail of an animal and a peacock's tail have survived. Among the decorations of the frame, the tiger in the hunting scene was covered by a white lily and two buds, and it is still possible to see the tiger's head and lolling red tongue, its two front paws, and the spear striking it. In the north-west chapel annexed to the church (Figs. 7, 9), the philia (Φιλία) scene depicting the bull dwelling with the lion at the end of days has been replaced by a small tree and amphora. Despite the severe iconoclastic destruction and replacement of the original figurative motifs by neutral motifs, the destruction was careless and the fact that it is still possible to identify the figurative motifs indicates that the destruction and renovation work was carried out by the local Christian community, adopting the iconoclastic trend but making do with only partial damage to the figurative mosaics.⁵¹

⁴⁴ Many floors were destroyed by iconoclasts and immediately renovated, defacing the images or replacing them by neutral patterns: Michele Piccirillo, *Les mosaïques d'époque omeyyade des églises de la Jordanie*, in: *Syria 75* (1998b) (hereafter: Piccirillo, *Les mosaïques d'époque omeyyade*).

⁴⁵ Konstantinos D. Politis, *Excavations at the Monastery of Saint Lot at Deir 'Ain 'Abata*, in: *Liber Annus 41* (1991), p. 517, Figs. 2-3; Politis, *Deir 'Ain 'Abata*, pp. 281-283, Ill. 2, Figs. 2a, 3c; Piccirillo, *The Mosaics of Jordan*, p. 336, Figs. 723, 725-726.

⁴⁶ Piccirillo, *The Mosaics of Jordan*, p. 187, Figs. 252-256, 263, 269.

⁴⁷ Najjar and Sa'id, *Khilda*, pp. 550-556, Ill. 1, Figs. 2-4, 7.

⁴⁸ Piccirillo, *The Mosaics of Jordan*, p. 146, Figs. 166, 182.

⁴⁹ Interlace of concave hexagonal shields.

⁵⁰ Piccirillo, *The Mosaics of Jordan*, esp. 117, 200, Figs. 109, 111, 304.

⁵¹ De Vaux, *Ma'in*, pp. 229-258, Figs. 11a, 12; Piccirillo, *Le antichità bizantine di Ma'in*, pp. 340-346, Ill. 2, Figs. 11-13; Piccirillo, *The Mosaics of Jordan*, pp. 200-201, Figs. 301-302, 305, 307, 312.

The same picture emerges from an analysis of the mosaics in a secular Umayyad context. The same mixed trend can be seen. On the one hand, there is continuity of Byzantine figurative compositions, while on the other hand the geometric borders and carpets point to a new trend.

Byzantine iconographic and compositional influences, and/or the hand of Byzantine mosaic artists can be seen in mosaic floors in a clearly Umayyad context. The motif of the lion facing the zebu in the Umayyad palace at Qasr al-Hallabat (Fig. 10), which also appears in relief on the door in Mshattā and on the basalt tile in Qasr al-‘Araq,⁵² has many parallels in Byzantine church mosaics, and among them I will mention the early floor of the Lower Baptistery Chapel – Older Chapel (first decade of the sixth century CE) in the Cathedral complex in Madaba,⁵³ and the Church of the Deacon Thomas (first half of the sixth century CE) in ‘Uyun Musa Valley (Fig. 11).⁵⁴ Whether the motif is seen as a scene of pursuit or given the symbolic meaning of peace at the end of days, the Byzantine influence is clear.⁵⁵

In another mosaic floor in the palace at Qasr al-Hallabat (Fig. 12) we can see continuity of the Byzantine net and figurative composition. The preparatory lines on the plaster bed of the damaged floor at Qasr al-Hallabat, and parallels in the vicinity, enable us to reconstruct the figurative geometric grid at Qasr al-Hallabat as interlaced circles and ellipses containing squares formed by borders of meanders, with concave polygons between them, populated by figurative and vegetal motifs, including a deer, a pouncing wolf and leopard, an antelope and a rabbit eating a bunch of grapes, and a running rabbit with laid-back ears.⁵⁶ The same net appears in churches in our area. The similarity is seen in the form of the interlace, but in each floor, the components and choice of motifs are different, both in the design of the pattern making up the net or the interlace, and in the choice of motifs populating the geometric units. Among these I will mention the carpet of the Church of Saint Paul (second half of the sixth century CE) at Umm al-Rasas (Fig. 13),⁵⁷ and the Theotokos Chapel in the Memorial Church of Moses at Mount Nebo (last decade of sixth century and first decade of seventh century CE)⁵⁸ in Transjordan, and from Israel, the Funerary Chapel of Artavan at Mount of Olives,⁵⁹ the monastery chapel in the Kidron Valley in Jerusalem,⁶⁰ and the Western Church at Horvat Keriot.⁶¹

⁵² Ghazi Bisheh, *Pavimentazioni musive omniadi di Qasr el-Hallabat in Giordania*, in: Michele Piccirillo, ed., *I Mosaici di Giordania*, Roma 1986, p.131, Fig. 98 (hereafter: Bisheh, Qasr el-Hallabat); Piccirillo, *The Mosaics of Jordan*, p.350, Figs. 774-776.

⁵³ Michele Piccirillo, *La ‘Cattedrale’ di Madaba*, in: *Liber Annuus* 31 (1981), pp. 313-315, Figs. 47, 49 (hereafter: Piccirillo, *La ‘Cattedrale’ di Madaba*); Piccirillo, *The Mosaics of Jordan*, p.119, Figs. 121-122.

⁵⁴ Michele Piccirillo, *Il Dayr del Diacono Tommaso alle ‘Uyun Musa – Monte Nebo*, in: *Liber Annuus* 40 (1990), pp. 232-240, 244-246, Fig. 11; Piccirillo, *The Mosaics of Jordan*, p.187, Figs. 266, 269; Piccirillo, *The Mosaics of Mount Nebo*, pp. 331-332, 342-344, Figs. 151-152.

⁵⁵ For a detailed discussion with a list of sites and bibliography, see: Habas, *The Byzantine Churches of Provincia Arabia*, I, esp. 381, 402-403, 447-453, II, Figs. 126a, 178, 180b, 195, 335, 367, 386.

⁵⁶ Ghazi Bisheh, *The Second Season of Excavations at Hallabat*, 1980, in: *Annual of the Department of Antiquities of Jordan* 26 (1982), pp. 136-137, Figs. 39b-42 (hereafter: Bisheh, Hallabat); Bisheh, *Qasr el-Hallabat*, pp. 129-130, Fig. 97; Piccirillo, *The Mosaics of Jordan*, p.350, Figs. 761-763, 767, 769, 772-773.

⁵⁷ Michele Piccirillo, *La chiesa di San Paolo a Umm al-Rasas – Kastron Mefaa*, in: *Liber Annuus* 47 (1997), pp. 382-292, Ill. 5, Plan 1, Figs. 25, 27.

⁵⁸ Sylvester J. Saller, *The Memorial of Moses on Mount Nebo*, Jerusalem 1941, pp. 233-241, Fig. 109b; Piccirillo, *The Mosaics of Mount Nebo*, pp. 300-304, Figs. 73-76.

⁵⁹ Bezalel Narkiss, *The Armenian Treasures of Jerusalem: Mosaic Pavements*, in: Bezalel Narkiss, ed., *Armenian Art Treasures of Jerusalem*, New York 1979, pp. 21-22, Figs. 32-34.

⁶⁰ The monastery was excavated by Yehiel Zelinger on behalf of the Israel Antiquities Authority. Habas forthcoming; Zelinger forthcoming.

⁶¹ Yehuda Govrin, *The Excavations of the Western Church at Kh. Kerioth*, MA thesis, Hebrew University of Jerusalem 2006, p.117, Fig. 33.

The figurative motifs found in Umayyad palaces also originate in Byzantine iconography, for example the motif of the rabbit eating a bunch of grapes that is seen in the mosaic floor of Qasr al-Hallabat (Fig. 12), and in a wall painting in the Umayyad baths at Qusayr 'Amra.⁶² The motif of the rabbit or fox eating bunches of grapes from a vine or a basket has a long tradition, and the scene derives from the grape harvest cycle,⁶³ such as in the depictions in the Church of the Deacon Thomas (first half of the sixth century CE) in 'Uyun Musa Valley as mentioned (Fig. 6), and in the Church of Saint George (535/6 CE) at Khirbat al-Mukhayyat,⁶⁴ in the Chapel of Elias, Maria and Soreg at Gerasa,⁶⁵ and in the church near the Temple of the Winged Lions at Petra.⁶⁶

In the same way, earlier influences can be seen in animal pursuit scenes appearing in the mosaics of the Umayyad palace at Qastal, depicting a lion attacking a zebu, which is collapsing under the weight of its attacker, a leopard hunting a doe,⁶⁷ and a lion hunting gazelles at the foot of a tree in the mosaic floor of the reception room (*diwan*) of the bath house at Khirbat al Mafjar (Fig. 14).⁶⁸ Animal pursuit scenes are taken from the Roman – Byzantine hunting cycles that are common in the region, and appear in both secular and religious contexts. Among the Transjordanian mosaics I will mention the Church of Saint John the Baptist (531 CE) at Gerasa,⁶⁹ the Church of Saint Stephen at Umm al-Rasas,⁷⁰ and in Madaba, the mosaics of the 'Hippolytus Hall',⁷¹ the 'Burnt Palace',⁷² the Church of the Map (Saint George),⁷³ the Church of the Prophet Elias (607/8 CE),⁷⁴ and the Chapel of the Martyr Theodore (562 CE) (Fig. 8) previously mentioned.

The same repertoire of compositions and motifs is thus found in churches built in the Byzantine period and under Islamic rule. Moreover, the repertoire is transferred as is from the Christian religious context to the Umayyad secular space, unchanged and without adaptation or new significance for the Muslim patron, a fact that indicates the continued operation of the regional workshops, and it is reasonable to assume that this is a conscious choice on the part of the new patrons.⁷⁵ The style of the images ranges

⁶² Alois Musil *et al.*, *Kusejr Amra*, 2 Vols., Wien 1907, II, Fig. 39.

⁶³ Habas, *The Byzantine Churches of Provincia Arabia*, I, pp. 216-223.

⁶⁴ Piccirillo, *The Mosaics of Mount Nebo*, esp. 327, 340, Figs. 133, 154, 183, 187.

⁶⁵ Sylvester J. Saller and Bellarmino Bagatti, *The Town of Nebo (Khirbet el-Mekhayyat)*, With a Brief Survey of Other Ancient Christian Monuments in Transjordan, Jerusalem 1949, pp. 270-274, Fig. 45 (hereafter: Saller and Bagatti, *The Town of Nebo*); Piccirillo, *The Mosaics of Jordan*, p. 296, Fig. 513.

⁶⁶ Tomasz Waliszewski, *Mosaics*, in: Patricia Maynor Bikai, ed., *The Petra Church*, Amman, Jordan 2001, p. 228, Fig. on p. 311.

⁶⁷ Ghazi Bisheh, *Two Umayyad Mosaic Floors from Qastal*, in: *Liber Annuus 50* (2000), pp. 434-435, Pls. 1, 3, 5, 7 (hereafter: Bisheh, *Qastal*).

⁶⁸ Robert W. Hamilton, *Khirbat al-Mafjar, An Arabian Mansion in the Jordan Valley*, Oxford 1959, pp. 337-339, Figs. 89, 93 and front page (hereafter: Hamilton, *Khirbat al-Mafjar*).

⁶⁹ Franklin M. Biebel, *Mosaics*, in: Carl H. Kraeling, ed., *Gerasa, City of the Decapolis*, New Haven 1938, pp. 242-243, Fig. 69a (hereafter: Biebel, *Mosaics in Gerasa*); Piccirillo, *The Mosaics of Jordan*, p. 288, Fig. 506.

⁷⁰ Piccirillo, *I mosaici di Santo Stefano*, pp. 144-148, Fig. 35.

⁷¹ Michele Piccirillo, *La Chiesa della Vergine a Madaba*, in: *Liber Annuus 32* (1982b), pp. 386-393, Pianta IV, Fotos 36, 38-40 (hereafter: Piccirillo, *La Chiesa della Vergine a Madaba*); Piccirillo, *The Mosaics of Jordan*, p. 66, Figs. 3, 28.

⁷² Michele Piccirillo, *Il palazzo bruciato di Madaba*, in: *Liber Annuus 36* (1986a), pp. 317-322, Fig. 3, Fotos 1-2, 4-5; *The Burnt Palace of Madaba*, in: *Annual of the Department of Antiquities of Jordan 30* (1986b), pp. 333-339, Fig. 2, Pl. LXVII:1-2; Piccirillo, *The Mosaics of Jordan*, p. 78, Figs. 37-38, 49-50, 52-53.

⁷³ Piccirillo, *The Mosaics of Jordan*, p. 94, Figs. 73, 76.

⁷⁴ Michele Piccirillo, *La chiesa del Profeta Elia a Madaba*, *Nuove scoperte*, in: *Liber Annuus 44* (1994e), pp. 384-390, Pianta I, Fotos 1, 16; Michele Piccirillo and Branwen Denton, *Archaeological Remains*, in: Patricia Maynor Bikai and Thomas Dailey, eds., *Madaba, Cultural Heritage*, Amman, Jordan 1996, p. 33, Fig. on p. 33.

⁷⁵ It is hard to accept the iconographic interpretation of Bisheh, and he too eventually comes to the same conclusion: Bisheh, *Qasr el-Hallabat*, pp. 132-133.

from highly schematic and formal, such as Qasr al-Hallabat, to highly realistic and naturalistic, as in Qastal and Khirbat al Mafjar, a range of styles that is also known in the church mosaics in the region, indicating different workshops and mosaic artists, different influences and traditions.

The geometric trend: Development of complex interlaces

As noted, geometric nets decorated the floors of churches in Transjordan during the Byzantine period, at the same time as vegetal compositions and figurative depictions. However, it is notable that there is a clear regional preference for geometric compositions in the northern part of Transjordan, as compared with the Diocese of Madaba, where the vegetal grid is preferred.⁷⁶

In parallel to the figurative compositions, in the Umayyad and 'Abbasid periods there is a clear tendency and preference for complex and extremely elaborate intricate geometric interlaces, some of them aniconic. At the same time, mosaic floors found in a secular Umayyad context show a mixed trend – alongside simple geometric carpets whose origin lies in the Byzantine repertoire, there are highly complex and developed geometric interlaces.

The change that began to occur in the geometric interlaces in the Umayyad and 'Abbasid periods can be understood against the background of the character of Byzantine geometric grids. Repertoire of simple and complex grids exists side by side. Simple grids composed of diamonds, circles that cross and are crossed, octagons and squares, and octagons and diamonds, such as in the Bishop Marianus Chapel (570 CE) at Gerasa (Fig. 15)⁷⁷ and in the Egumen Church at Khirbat al-Samra,⁷⁸ and complex grids, richly populated with a variety of motifs, such as the mosaics in the Synagogue Church (530/1 CE), the Church of Saints Cosmas and Damianus (533 CE), and the Church of Bishop Isaiah (559 CE) (Fig. 16) at Gerasa.⁷⁹ Despite the complexity of the design, it is possible to trace the geometric shapes that make up the carpet.

From the repertoire of Byzantine interlaces, I will mention the *scuta* interlace of concave hexagonal shields, with richly populated circles and diamonds formed in the spaces between them creating a *trompe l'œil* effect, such as in the northwest chapel of the Church of Procopius (526/7 CE) at Gerasa,⁸⁰ in the Chapel of the Martyr Saint Theodore (562 CE) (Fig. 8) mentioned above and the crypt of Saint Elianus (595/96 CE) in Madaba,⁸¹ the church at Ya'mūn (seventh century CE)⁸² and the church on the Acropolis (719/720 CE) at Ma'in (Fig. 7) previously mentioned.⁸³ Towards the end of the Byzantine period, complex and elaborate interlaces developed, populated with figurative motifs, such as in the Chapel of Elias,

⁷⁶ Habas, *The Byzantine Churches of Provincia Arabia*, I, pp. 113-114.

⁷⁷ Michael Gawlikowski and Ali Musa, *The Church of Bishop Marianos*, in: Fawzi Zayadine, ed., *Jerash Archaeological Project 1981-1983*, I, Amman 1986, pp. 141-143, Ill. 2, Fig. 1b; Piccirillo, *The Mosaics of Jordan*, p.298, Figs. 579, 581.

⁷⁸ Alain Desreumaux et Jean-Baptiste Humbert, *La première campagne de fouilles à Kh. Es-Samra* (1981), in: *Annual of the Department of Antiquities of Jordan* 26 (1982), p.177, Fig. 52a; Piccirillo, *The Mosaics of Jordan*, p.308, Figs. 611, 614.

⁷⁹ Biebel, *Mosaics in Gerasa*, pp. 322-324, Figs. 66a, 73; Vincent A. Clark, *The Church of Bishop Isaiah at Jerash*, in: Fawzi Zayadine, ed., *Jerash Archaeological Project 1981-1983 I*, Amman 1986, pp. 303-307, Fig. 4; Piccirillo, *The Mosaics of Jordan*, p.288-289, 291, 294, Figs. 535, 539, 553, 556.

⁸⁰ Biebel, *Mosaics in Gerasa*, p.340, Fig. 83d; Piccirillo, *The Mosaics of Jordan*, p.292, Fig. 560.

⁸¹ Hussain Qandil, *Excavation of Mosaic Floor in Madaba, Hūsh al-Sārwah*, in: *Annual of the Department of Antiquities of Jordan* 14 (1969), pp. 64-66; Piccirillo, *La 'Cattedrale' di Madaba*, pp. 304-305, Fig. 10; Piccirillo, *The Mosaics of Jordan*, esp.117, 124-125, Figs. 109, 124, 132.

⁸² Mahmoud el-Najjar *et al.*, *First Season of Excavation at Ya'mūn* (1999), in: *Annual of the Department of Antiquities of Jordan* 45 (2001), p.414, Figs. 3-4.

⁸³ Piccirillo, *Le antichità bizantine di Ma'in*, pp. 340-342, 344-348, Plan 1a; Piccirillo, *The Mosaics of Jordan*, pp. 200-201, Fig. 304.

Maria and Soreg at Gerasa,⁸⁴ and at Rihab in the Church of Saint Mary (533; 582/3 CE), the Church of Saint Paul (595 CE), the Church of Saint Sophia (604/5 CE), the Church of Saint Peter (623/4 CE) (Fig. 17), and the Church of the Martyr Saint Nicephorus Constantine (623 CE).⁸⁵

Interlaces made during the Umayyad and 'Abbasid periods are more complex and intricate than those of the Byzantine period. There is a developing tendency towards interlaces designed as a complex lattice or highly complicated lace. These interlaces and complex motifs create a crowded atmosphere and a sense of *horror vacui*,⁸⁶ such as in the mosaic floor of the center part of the *bema* of the Church of Saint Stephen (756 CE) at Umm al-Rasas (Figs. 2-3) previously mentioned.⁸⁷ The complex and twisting lattice makes it hard for the viewer to identify the components of the interlace and the movement flowing through it, and only a deeper look reveals the squares, trefoils, circles and diamonds that form the interlace, and the same is true in the floor of the hall of the Church of the Virgin Mary (766/67 CE) at Madaba mentioned above, which is surrounded by a complex 'knitted' border (Fig. 4).⁸⁸

When comparing interlaced medallions from the Byzantine period with those of the Umayyad and 'Abbasid periods, another innovation comes to light. In the interlaced medallions of the Upper Church at Massuh (beginning of the sixth century CE)⁸⁹ and the south chapel of the monastery at Wadi Rajib (Mar Liyas area) (Fig. 18),⁹⁰ the interlaces are composed of circles, squares and diamonds, with each of the elements retaining its identity. On the other hand, in the interlacing medallions of the south part of the *bema* of the Church of Saint Stephen (756 CE) at Umm al-Rasas (Fig. 3),⁹¹ in addition to the circles, there are shapes made up of lines that break and vary from a straight line to a circle or twisting line, thus creating a complex and intricate interlace and forming complex polygons in the background, all these creating endless *trompe l'œil* games. The same complexity also exists in an Umayyad context: in the mosaic border of the Umayyad palace at Qasr al-Hallabat (Figs. 12, 19);⁹² in the palace at Qastal,⁹³ and in the baths at Qusayr 'Amra.⁹⁴

⁸⁴ Saller and Bagatti, *The Town of Nebo*, pp. 269-289, Figs. 46-48; Piccirillo, *The Mosaics of Jordan*, p.117, 296, Figs. 109, 571.

⁸⁵ Piccirillo, *Le antichità di Rihab*, pp. 322-324, 332, 335-337, Figs. 3-5, 22-23, 29, 37; *The Antiquities of Rihab of the Bene Hasan*, in: *Annual of the Department of Antiquities of Jordan* 24 (1980b), p.154, Figs. 94a, 97a; Piccirillo, *The Mosaics of Jordan*, pp. 311-312, Figs. 622-623, 627, 633; al-Husan, al-Mafraq, p.9, Fig. 9.

⁸⁶ Piccirillo, *Les mosaïques d'époque omeyyade*, p.269; Piccirillo, *Jordan between the Byzantine and the Umayyad Periods*, p.632.

⁸⁷ Piccirillo, *I mosaici di Santo Stefano*, p.136, Figs. 24-25.

⁸⁸ Piccirillo, *La Chiesa della Vergine a Madaba*, pp. 376-384, Plan 3, Fig. 11; Piccirillo, *The Mosaics of Jordan*, pp. 64-65, Figs. 2, 21-23.

⁸⁹ Michele Piccirillo, *La chiesa di Massuh e il territorio della diocesi di Esbous*, in: *Liber Annuus* 33 (1983), pp. 336-338, Fig. 23; Piccirillo, *The Mosaics of Jordan*, pp. 252-253, Fig. 437.

⁹⁰ Emile Puech, *L'inscription christo-palestinienne du Quadi Rajib-Ajloun et de nouvelles inscriptions christo-palestiniennes de Jordanie*, in: Giovanni C. Bottini, Leah Di Segni and Laslaw D. Chrupcala, eds., *One Land - Many Cultures, Archaeological Studies in Honour of S. Loffreda OFM (SBF, Collectio Maior 41)*, Jerusalem 2003, Fig. 1; Michele Piccirillo and Zachariah al-Qudah, *L'eremitaggio nel Wadi Rajib sulla montagna di Ajlum in Giordania*, in: Giovanni C. Bottini, Leah Di Segni and Laslaw D. Chrupcala, eds., *One Land - Many Cultures, Archaeological Studies in Honour of S. Loffreda OFM (SBF, Collectio Maior 41)*, Jerusalem 2003, pp. 309-314, Figs. 2, 7-8.

⁹¹ Piccirillo, *I mosaici di Santo Stefano*, p.136, Figs. 24, 26, 29.

⁹² Bisheh, Hallabat, Figs. 39a, 40a; Bisheh, Qasr el-Hallabat, p.130, Fig. 97; Piccirillo, *The Mosaics of Jordan*, Figs. 759, 768-770.

⁹³ Patricia Carlier and Frédéric Morin, *Archaeological Researches at Qastal. Second Mission, 1985*, in: *Annual of the Department of Antiquities of Jordan* 31 (1987), pp. 224-229, Figs. 4-7, Pls. 39b-42; Piccirillo, *The Mosaics of Jordan*, p.352, Figs. 778-780; Bisheh, Qastal, p.432, Fig. 4, Pls. 3, 5.

⁹⁴ Piccirillo, *The Mosaics of Jordan*, p.353, Figs. 785-786.

In the reception room (*diwan*) and in the bath house of the palace at Khirbat al Mafjar (first half of the eighth century CE), the simple mosaic floors known from the Byzantine repertoire of patterns exist side by side with complex and intricate interlaces, expressing the new trend that is also manifested in the design of the stucco windows and parapets at the same site (Figs. 20-21);⁹⁵ also in the Western Qasr el-Heir;⁹⁶ and in the marble windows of the Great Mosque (beginning of the eighth century CE) in Damascus. Keppel Creswell explains the complexity of the Umayyad interlaces by comparison with those of the Roman-Byzantine periods by tilting the interlace by 60 degrees over the earlier grid background (Fig. 22).⁹⁷

The complex interlaces thus become a chronological criterion. An understanding of the nature of the interlaces in the mosaic floors of the Umayyad and 'Abbasid periods makes it possible to re-examine the mosaic floors of churches, whose relatively late dating is owing to stratigraphic considerations due to renovations, and which can now be dated more accurately, such as the central carpets laid in the second phase in the North Church at Massuh, built in the middle of the sixth century CE and decorated with mosaics, including a pear tree in the apse, peacocks, acanthus wreaths and fruit in the bema, an acanthus wreath border populated with animals and people, and two carpets in the nave. The style is also typical of the period, and the design of the figures makes use of small mosaic tesserae. In the second phase, structural changes were made in the church and walls were built over the earlier floor. Changes were also discerned in the liturgical furniture and the mosaics. A careful study of the nave shows that while the eastern carpet is decorated with the early *scuta* interlace, the western panel is designed as an interlace medallion. The interlaces are made up of circles of different sizes joined by complex knots, and the circles become smaller as they near the center, where a 'knitted' pattern is formed that is so complex it is hard to follow its different elements – like the art of crochet. For stratigraphic reasons, Michele Piccirillo dated the abandonment of the Christian site to the end of the seventh century or beginning of the eighth century CE, and claimed that during the Umayyad and 'Abbasid periods the church was used as a dwelling, evidence of this being found in the northern side room and facade.⁹⁸ An artistic analysis of the interlaces supports the later date, because of their similarity to later-dated mosaics such as the Church of the Virgin Mary at Madaba and the Church of St Stephen at Umm al-Rasas mentioned above, and I propose a later date of the end of the eighth century CE for the abandonment of the site and the church falling into disuse. In the church at Shunah Nimrin too, two phases have been discerned on stratigraphic grounds, the first dated to the second half of the sixth century CE, and the second in general to the Umayyad period. The central carpet and eastern carpet of the nave are decorated with interlaces of a different character to the relatively simple geometric carpets of the western panel of the nave and the aisles, which belong to the first, earlier phase. In the north-eastern corner of the nave it can clearly be seen that the later floor has been laid over the earlier mosaic floor, and there are clear differences in design and color of the guilloche borders decorating the two carpets. On both the eastern and the southern side of the nave, a later mosaic floor can be seen overlaying an earlier mosaic decorated with two rows of flowers, evidence of two phases.⁹⁹ At Shunah Nimrin too, therefore, the design of the interlaces supports the later Umayyad dating of the second phase of the church.

⁹⁵ Robert W. Hamilton, *Plaster Balustrades from Khirbat al-Mafjar*, in: *Quarterly of the Department of Antiquities of Palestine* 13 (1947), Figs. 22-23; Hamilton, *Khirbat al-Mafjar*, pp. 329-337, Figs. 76-88, 90-93, Pl. LIII.1; Rina Talgam, *The stylistic origins of Umayyad sculpture as shown in Khirbat al-Mafjar and Mshatta*, 3 Vols., Ph.D. thesis, Hebrew University of Jerusalem 1996, I, pp. 16-18, II: Figs. 17-24 (hereafter: Talgam, *The stylistic origins of Umayyad sculpture*).

⁹⁶ Daniel Schlumberger, *Qasr el-Heir el Gharbi*, Paris 1986, Pls. 72, 76-79, 81; Talgam, *The stylistic origins of Umayyad sculpture*, I, pp. 104-105, II, Figs. 229-230, 235, 242-243, 244a, 267-268.

⁹⁷ Keppel A.C. Creswell, *A Short Account of Early Muslim Architecture*, Revised and supplemented by James W. Allan, Scholar Press 1989, esp. 55, 69-72, Figs. 32-33, 43, 46.

⁹⁸ Piccirillo, *chiesa di Massuh*, 495-498, Fig. 1.

⁹⁹ Piccirillo, *Shunat Nimrin*, 335-338, Ill. 1, Figs. 103a, 105a-b; Piccirillo, *The Mosaics of Jordan*, p.322, Figs. 664-669.

It is possible that certain communities preferred geometric patterns and an aniconic approach as part of the iconophobic trend that developed at this time in some of the communities, and this may be the case in the later floors uncovered in Israel, such as the church at Tamra (725 CE) and the church at Khirbet Aristobulia (700/1 CE) mentioned above, or the geometric and vegetal patterns at the Kathisma Church in Jerusalem (first half of the eighth century CE).¹⁰⁰ But the picture that emerges from an analysis of all the geometric mosaics in the churches of Transjordan shows that the choice of geometric patterns or the aniconic approach already existed during the Byzantine period, and for the most part characterizes a regional preference, and therefore cannot serve as a chronological yardstick. The new feature in the seventh and eighth centuries CE is the development of highly complex geometric patterns, typical both of the Christian churches and of Muslim secular buildings of the time, and heralding the future of Muslim art.

Conclusion

The Umayyad and 'Abbasid authorities in Transjordan were tolerant in their attitude towards the Christian communities, which continued their rich community life, and built and renovated churches. In church decoration, there are two main trends – figurative and geometric.

The repertoire of figurative compositions and motifs from the Byzantine period continued to adorn the mosaic floors of churches and Umayyad palaces during the seventh-eighth centuries CE, while at the same time a preference can be seen for geometric and aniconic compositions, with the development of complex and intricate interlaces.

The existence of different and parallel trends, in which old and new exist side by side, is typical of transition periods. In the Umayyad period and the beginning of the 'Abbasid period, we see similar processes in many fields – administration, laws, language, currency, and in our context, artistic and architectural influences in palace, church and mosque buildings. Under Islamic rule, there is a continuation of early iconography rooted in the classical Roman and Byzantine world in the Christian communities, and adoption of the Byzantine repertoire by the ruling Umayyad elite. At the same time, changes are taking place in all areas of life, and a new artistic language is developing, whose early signs can be seen in the new motifs and the development of complex geometric grids and interlaces in the floor and wall mosaics, a trend that continues to develop in Islamic art over the generations.

The Christian communities continued to flourish until the fall of the Umayyad Caliphate in 750 CE, and continued to exist in the early 'Abbasid period. Immediately after, there is evidence of abandonment of the sites in Transjordan.

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¹⁰⁰ Rina Avner, *The Recovery of the Kathisma Church and Its Influence on Octagonal Buildings*, in: Giovanni C. Bottini, Leah Di Segni and Laslaw D. Chrupcała, eds., *One Land – Many Cultures, Archaeological Studies in Honour of S. Loffreda OFM* (SBF, Collectio Maior 41), Jerusalem 2003, pp. 181-182, Figs. 3, 14, 16.

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Figures

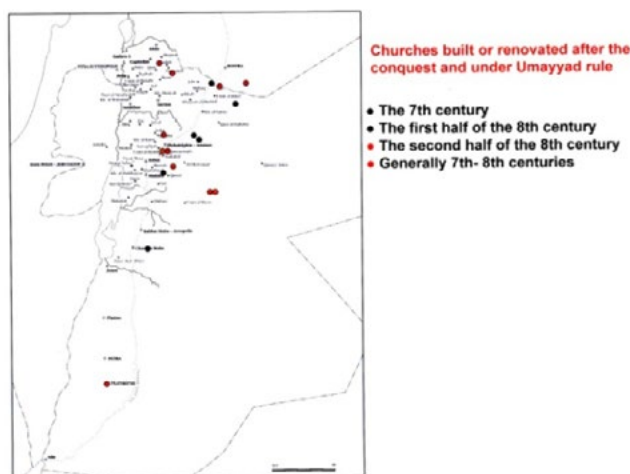


FIG. 1



FIG. 2



FIG. 3



FIG. 4



FIG. 5



FIG. 6

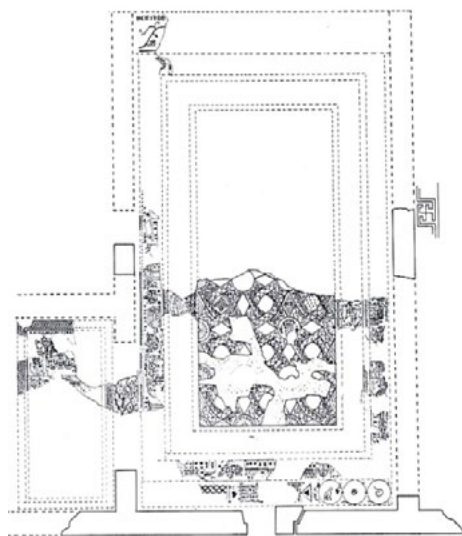


FIG. 7



FIG. 8



FIG. 9



FIG. 10

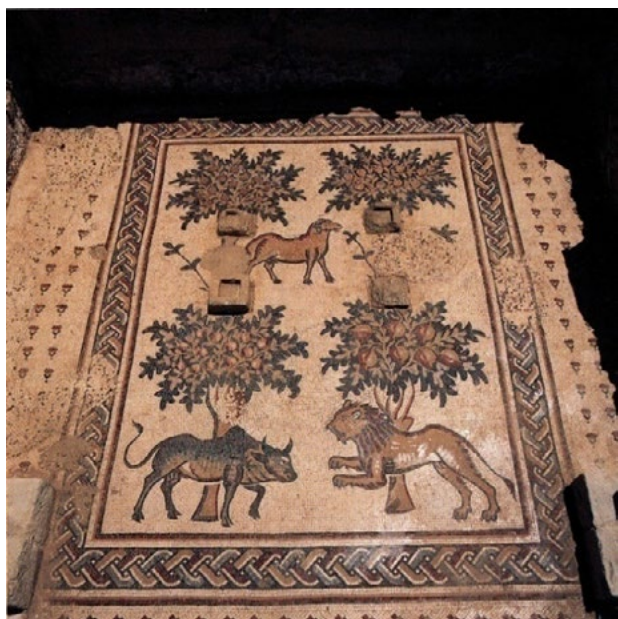


FIG. 11



FIG. 12



FIG. 13



FIG. 14

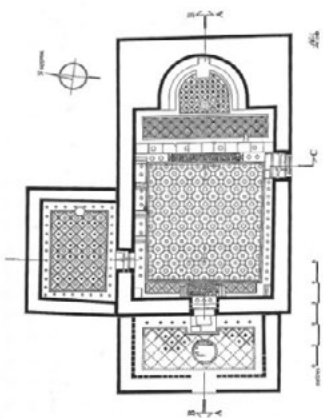


FIG. 15

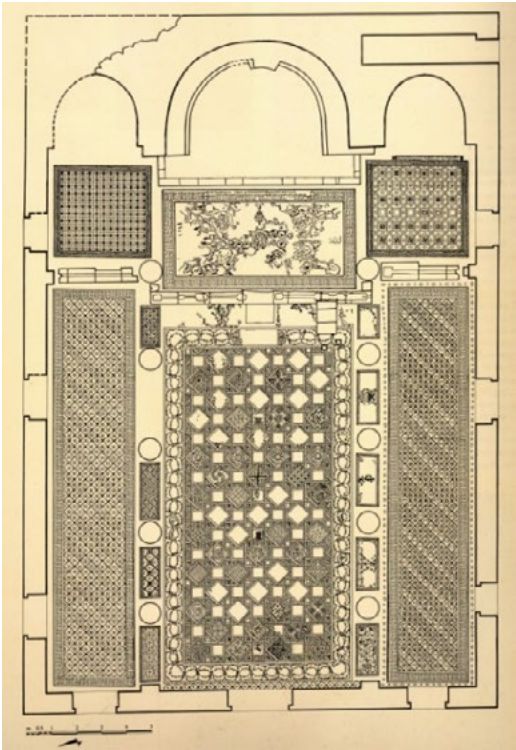


FIG. 16

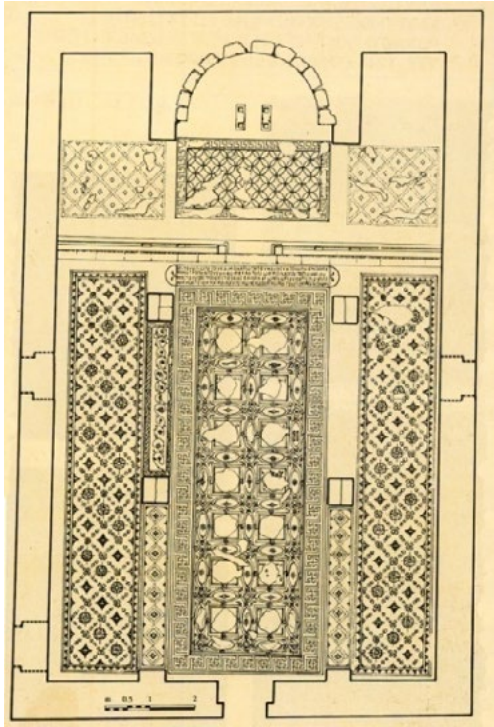




FIG. 19

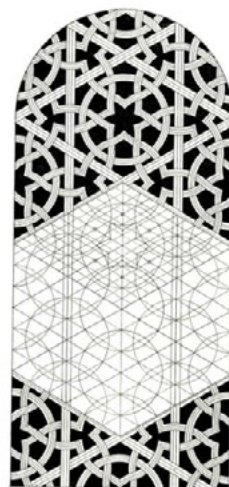


FIG. 20

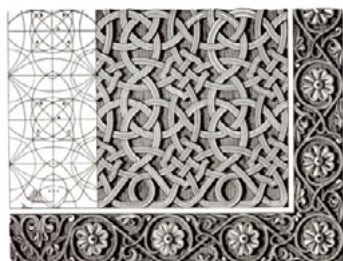


FIG. 21

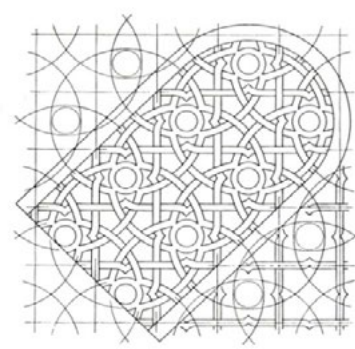
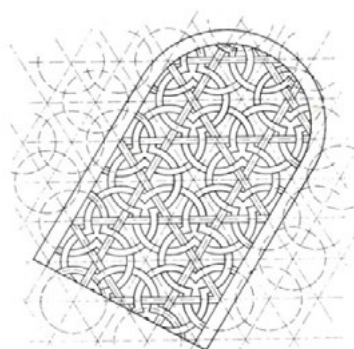


FIG. 22

Examining Aspects of History, Religion and Trading Contacts of Ionian Colonies of the Western Shores of ‘Euxinus Pontus’: The Case of Tomi and Orgame

Maria GIRTZI

Hellenic Open University, Greece, mgirtzi@yahoo.com

The western shores of ‘Euxinus Pontus’ held a key position on the crossroads of East and West and its fertile lands initially attracted Thracians that inhabited it. The uniqueness of the area soon attracted Greeks from the South, the Aegean islands and the shores of Asia Minor that during the Second Colonization (about 7th century BC) started a series of voyages, which in many cases ended up to the foundation of ‘emporia’ or even colonies. The present study deals with Greek colonies, not in the most well studied area of Aegean Thrace, but of the less known western littoral of the Black sea that included Apollonia, Anchialos, Mesambria, Odessos, Dionysopolis, Bisone, Kallatis, Tomi, Histria, Orgame, Nikonion etc.

The selection of Tomi and Orgame is based on the fact that they both constitute representative examples of Ionian colonies of the area. The aim of this paper is to reconstruct various aspects of the pre-Roman history of those sites through the study of the up-to-date preserved literary and archaeological evidence (i.e. ancient authors’ texts, inscriptions, architectural remains and other archaeological finds). The etymology of the name of each site, the criteria and story of its foundation, the worship and religious practices, the relations and trading contacts with Pontic and other Greek cities are some of the topics to be examined. In order to achieve a global approach a variety of literary and archaeological evidence is studied, such as ancient authors’ texts, inscriptions, architectural remains, other archaeological finds etc.

Tomoi

Name and Foundation

The name of Tomi is first traced in Scymnus’ *Periegesis* in plural (‘Τόμοι δ’ ἄποικοι γενόμενοι Μιλησίων’, 765). The site is also recorded by this name in Apollodorus *Bibliotheca* (‘Τόμους’, I.1.9.24) and in Arrian’s *Periplus Ponti Euxini* (‘Ἐνθένδε ἐς Τομέας πόλιν’, 36), while in Stephanus Byzantius’ *Ethnica* (‘Τομεύς’)

and in Pliny’s *Naturalis Historia* (‘Tomos, Callatim’, IV.11[18].4) it is cited in singular as ‘Tomeus’ or ‘Tomos’. Both Apollodorus (‘συναθροίζον δέ Αἰήτης τὰ τοῦ παιδὸς μέλη τῆς διώξεως ὑστέρησε. Διόπερ ὑποστρέψας, καὶ τὰ σωθέντα τοῦ παιδὸς μέλη θάψας, τὸν τόπον προσηγόρευσε Τόμους’, *Bibliotheca* I.1.9.24) and Stephanus Byzantius (‘Τομεύς, πόλις πρὸς τῇ Ὀδησσῷ. Στράβων ἐβδόμη. ὠνομάσθη δέ οὕτως διὰ τὸ Ἀψυρτον τὸν Αἰήτου υἱὸν ὑπὸ Μηδείας καὶ Ἰάσωνος ἐν τῇ φυγῇ ἐκεῖ κατατμηθῆναι’, *Ethnica*) imply that the city was named after Apsyrtos’, son of Aites, tragic death, who was cut into pieces (the Greek verb is ‘τέμνω’ or ‘τομεύω’=cut and the noun is ‘τομεύς’=knife) by Mideia and Jason during their escape. Another suggestion for the etymology of the name of the site is recorded by Iordannes in *Getica* (‘tunc Tomyris regina ... in Ponto Moesiaco litore Tomes civitatem suo de nomine aedificavit’, II.10.62), who mentions that Queen Tomyris built in Pontus of Moesia, a city and named it after herself Tomes. However, the discovery of coins of 1st century BC depicting a young male bearing the name ‘ΤΟΜΟΣ

ΚΤΙΣΤΗΣ', offers another alternative, implying indirectly the existence of a mythical founder called Tomos. Eventually, there is another suggestion that the name could derive from the Thracian word *tum* (=elevation of the ground). Coins of the Hellenistic – issued by the city – that preserve either the three letters 'TOM' or four 'TOMI', along with coins of the imperial period that bear the whole name 'TOMEQN', serve as an indirect evidence for the name of city.

The modern name of the site is Costanza and is located in modern Romania (Buzoianu & Barbulescu 2007; Κορομηλά 2001, 157; Πετρόπουλος 2008).

Tomi is considered by Scymnus ('Τόμοι δ' ἄποικοι γενόμενοι Μιλησίων', *Periegesis* 765) as an Ionian colony of Milesians. Nevertheless, modern scholars based on indirect evidence (such as Histrian coins of 3rd BC, the existence of the cult of ΔΙΟΣΚΟΥΡΟΙ ΚΤΙΣΤΕΣ the mythical founders of Histria, etc.) suggest that it could be a secondary settlement or resettlement of the adjacent Milesian colony, Histros.

The information regarding the date of the foundation of Tomi is also not secure. Scholars, based on fragmentary archaeological remains, point to a first phase in early 6th or early 5th century BC and a second phase – that could coincide with Histrian resettlement – sometime in the mid-3rd century BC (Buzoianu & Barbulescu 2007; Πετρόπουλος 2008).

The colony is located by Arrian in *Periplus Ponti Euxini* ('Ενθένδε ἐς Τομέας πόλιν στάδιοι τριακόσιοι· ἀπὸ δὲ Τομέως ἐς Κάλλατιν πόλιν ἄλλοι τριακόσιοι', 36) at a distance of 300 stadia from both Histria and Kallatis, while Strabo (<ὁσί οὐίᾱ+ῆ ḡāñāēḡáí Ἰστρος πολίχνιον ἐν πεντακοσίοις σταδίοις, Μιλησίων κτίσμα· ἁῖδᾱ Ὀυῖέδ, ἔδᾱñīī ḡñēḡ+íēīī ἐν διακοσίοις πεντήκοντα σταδίοις ἁῖδᾱ Κάλλατις ἐν διακοσίοις ὀγδοήκοντα>, *Geographica*, VII.6.1), being more precise, places it at a distance of 250 stadia from Histria and 280 from Kallatis. Additionally, Ptolemy (<μετὰ τό ἰᾱñūī ὁδῦιᾱ ὀῦ Ἰστροῦ ποταμίῳ, ḡḡᾱñūī ἄκρον 56°20'-46°, Ἰστρος πόλις 55°40'-46°, Τόμοι 55°-45°50', Κάλλατις ἢ Καλλατία 54°40'-45°30'>, *Geographia*, X.3) records its exact longitude and latitude as 55° and 45°50'.

Religion

Tomi offers a quite scanty literary and archaeological record for the worship of different deities and the religious practices of pre-Roman era (Gotcheva 2007, 60-75; Buzoianu, Barbulescu 2007; Κορομηλά 2001, 159; Πετρόπουλος 2008). In fact, there are only few fragmentary archaeological finds of the 4th, 3rd and 2nd century BC. Namely, in first place a 4th/3rd century BC head of a statue, identified as Aphrodite, implies that Aphrodite was worshipped in Tomi, and could possibly have a shrine or temple there. Secondly, 3rd century BC coins, issued by the city, depicting the Great God could imply indirectly the existence of his cult. Moreover, it should have survived through the imperial era since there are a number of 2nd/1st century BC coins with the Great God. Thirdly, the cult of Dioscouroi, that actually relates Tomi with the tradition of its suggested colonist, Histria, is recorded in a 3rd century BC inscription ('ΔΙΟΣΚΟΡΟΥΣ ΚΤΙΣΤΑΣ ΤΗΣ ΠΟΛΕΩΣ', IScM II 122) and another one of 1st century BC ('ΔΙΟΣΚΟΡΟΙΣ', IScM II 2).

Fourthly, the worship of Apollo, the patron god of Ionians that should have been worshiped in any Ionian colony, is attested by a 2nd century BC inscription ('ΑΠΟΛΛΩΝΙ', IScM II 392) and 2nd/1st century coins of Tomi bearing his head. In addition, the existence of a sanctuary of Apollo – at least in imperial period – is testified by the reference to a 'temenos' and a priest of Apollo in inscriptions of 1st century BC ('ΙΕΡΩ ΤΟΥ ΑΠΟΛΛΩΝΟΣ', IScM II 6 / 'ΕΠΙ ΙΕΡΕΩ ΑΠΟΛΛΩΝΟΣ', IScM II 5). Finally, the cult of the Gods of Samothrace is evidenced by a 2nd / 1st century inscription ('Ο ΠΡΙΑΜΕΝΟΣ ΤΗΝ ΙΕΡΩ[ΣΥΝΗΝ ΤΩ]Ν ΜΥΣΤΩΝ ΘΕΩΝ ΤΩΝ ΕΝ [ΣΑΜΟΘΡΑ]ΚΗ', IScM II 1) referring to a priest of the mysteries of the Gods.

For the Roman period, on the other hand, there is enough information for various cults that could serve as indirect evidence for their existence in the site in an earlier period. Namely, firstly Demeter seems to have a sanctuary in Tomi, according to the 1st century BC epigraphic testimony (‘ΙΕΡΩΜΕΝΗΣ ΔΗΜΗΤΡΟΣ’, IScM II 36) mentioning the existence of a priestess of hers. 1st century BC coins issued by Tomi that depict Demeter also serve as indirect evidence. Secondly, Serapis and Isis appear also to have a sanctuary in Tomi as it is attested by 1st century BC inscriptions (‘ΑΝΑΤΕΘΗΝΑΙ ΕΙΣ Τ[Ο] ΙΕΡΟΝ ΤΟΥ ΣΑΡΑΠΙΔΟΣ’, IScM II 7 / ‘ΣΑΡΑΠΙΔ[Ι]’, IScM II 152 / ‘ΣΑΡΑΠΙΔΙ ΚΑΙ ΙΣΙΔΙ’, IScM II 154). Thirdly, the cult of the Mother of the Gods, Cybele, is implied by a 100 BC inscription (‘ΜΗΤΡΙ ΘΕΩΝ’, IScM II 2) and 1st century BC coins depicting her. Finally, the presence in Tomi’s pantheon of many other deities (such as Athena, Hermes, Zeus, Asclepius, Hygeia), at least in Roman era, is implied by a great number of Roman coins issued by the city.

Relations with Pontic and other Greek cities

According to Memnon (‘Οὐ πολλῶ δέ χρόνῳ πόλεμος ἀνερράγη Βυζαντίοις πρὸς Καλλατιανούς καὶ πρὸς Ἱστριανούς περὶ Τόμεως τοῦ ἐμπορίου», Fr.Gr.Hist. 434 B F 13[21]) Histria fights together with Kallatis against Byzantion for the control of Tomi. The event is dated in late 3rd century BC (Avram 2003, 289-90; Buzoianu & Barbulescu 2007, 294). The friendly relations between Tomi and Histria are also confirmed in a 2nd/1st BC inscription recording that a citizen of Tomi is honored by the Assembly of Histria (‘ΕΠΗΝΗΣΘΑΙ ΕΠΙ ΤΟΥΤΟΙΣ ΕΥΗΝΩΡΠΙΔΗΝ ΦΙΛΟΛΑΟΥ ΤΟΜΙΤΗΝ’, IScM I 48).

Moreover, Tomi seems to have established good relations with Odessos, Messambria and Tyras since in 1st century inscriptions a citizen of Tomi is honored by the neighboring Odessos (‘ΕΔΟΞΕ ΤΩ ΔΗΜΩ... ΧΑΙΡΙΩΝΟΣ ΤΟΜΕΙΤΗΣ ΚΑΙ ΕΚ ΠΑΤΡΙΔΟΣ ΩΝ ΑΣΤΥΓΕΙΤΟΝΟΣ’, IScM I 43(2)), a citizen of Messambria is honored by Tomi (‘ΥΠΟ ΤΟΥ ΔΗΜΟΥ ΤΩΝ ΤΟΜΙΤΩΝ ΧΡΥΣΩΙ ΣΤΕΦΑΝΩΙ ΚΑΙ ΕΙΚΟΝΙ ΧΑΛΚΗ ΚΑΙ ΠΑΡΑΣΤΕΜΑΤΙ ΔΗΜΟΥ ΣΤΕΦΑΝΟΥΝΤΙ ΑΥΤΟΥ ΤΗΝ ΕΙΚΟΝΑ», IGB I 2 320), while the city of Tyras offers honors and privileges to the whole city of Tomi (‘ΓΡΑΦΕΝ ΔΕ ΑΣ ΠΟΤΕ ΤΟΙΣ ΤΥΡΑΝΟΙΣ ΕΔΟΞΕ ΝΕΜΕΙΝ ΤΑΣ ΑΥΤΑΣ ΤΙΜΑΣ ΤΟΙΣ ΤΟΜΙΤΑΙΣ ΔΙΔΟΣΘΑΙ’, IScM II 5). Eventually, pottery finds of the 5th-3rd century BC, especially of amphorae, imply indirectly that Tomi had at least commercial transactions, if not more intimate relations with important Pontic cities, such as Sinope and Heraclea of Pontus at the Southern coast, or other Greek cities, as for instance Chios, Lesbos, Thasos and Rhodes (Buzoianu, Barbulescu 2007; Lungu 2007, 351-356).

Orgame

The case of Orgame presents several problems since the archaeological and literary sources that are relevant to our study are fragmentary, almost nonexistent. As a result, the below information regarding the name, foundation, location, religion and relations of Orgame should be considered with certain reservations.

Name and Foundation

The earliest mention of the name of Orgame must have been recorded in Hecataios’ of Milet Ges Periegesis according to Stephanus Byzantius’ testimony in Ethnica (‘Ὀργάμη πόλις ἐπὶ τῷ Ἰστρῷ. Ἐκαταῖος Εὐρώπῃ). The same author records the site with a similar name (‘Ὀργάλημα, πόλις ἐπὶ τῷ Ἰστρῷ), that is to say Orgalema. On the other hand, the Byzantine writer Procopius of Caesarea in De aedificiis (‘Τὰ Θράκης λειπόμενα, παρὰ τε τὸν Εὐξείνῳ Πόντον καὶ ποταμὸν Ἰστρὸν, κἄν τῇ μεσογείᾳ, οὕτως... Ἀργαμῶ», IV.11) uses the name Argamo and includes it among the castles in Thrace, by Euxinus Pontus and river Istros, on the inland. Finally, in a Roman inscription of 2nd AD it is listed as (‘ARGAMENSIUM’, IScM I 68) Argamum. As far as the etymology of the name is concerned there is neither direct evidence

nor any suggestion. The present name of the site is Jurilovca and is situated in cape Dolojman in modern Romania.

As far as the foundation of the site is concerned there are modern theories (Manucu-Adamesteanu 2003; Κορομηλά 2001, 101; Ρομποτή 2008) that it is either a colony of Miletus or of Histria. There is no direct evidence for the date of foundation of the site, only fragmentary archaeological finds that go back to the mid-7th century BC, implying thus that Orgame was among the initial Milesian settlements. Stephanus Byzantius (‘Ὀργάμη πόλις ἐπὶ τῷ Ἰστρῳ’, *Ethnica*) locates it by the river Istros (mod. Danube), while a 2nd AD inscription (‘FINES HISTRIANORUM HOS ESSE CONUCEM LACCUM HALMYRIDEM A DO ARGAMENSIUM’, IScM I 68) places it at the borders of Histria by the lake Halmyridem.

Religion

The only evidence that could be related to the cults of Orgame consists of some architectural remains of a building (temple?) dating from 4th to 2nd century BC, a few terracotta figurines depicting Demeter (?) and ‘kernoi’ (pottery related with Demeter’s worship) of 4th century BC found in it; all the above imply indirectly that the citizens of Orgame should have worshiped Demeter.

Relations with Pontic and other Greek cities

Many pottery finds – mostly 6th to 1st century BC amphorae – from Milet, Attica, Corinth (mid 6th BC), Samos, Chios, Lesbos, Thasos, Mende, Acanthus, Clazomenes (6th-4th BC), Rhodes, Cnidus, Chersonesus, Sinope, Heraclea of Pontus (3rd-2nd BC) serve as indirect evidence that Orgame was involved in trading transactions with a number of Aegean islands or ports of the Greek mainland, Chersonesus at the Northern Black Sea littoral, Sinope and Heraclea of Pontus at the Southern coast (Lungu 2007, 337; Manucu-Adamesteanu 2003; Ρομποτή 2008).

Conclusions

Taking into account all the above-mentioned information deriving simply from the study of the literary and archaeological evidence, there are some conclusions to be drawn. In first place, the common feature of those sites is that they are both of Ionian origin, either Milesian foundations or Histrian sub-settlements.

Then, they both share a common cult that of Demeter. Eventually, they both retain trading transactions with major pontic cities (such as Heraclea of Pontus and Sinope), along with Aegean islands (e.g. Chios, Lesbos, Rhodes and Thasos). Certainly, the researcher must be cautious with any assumption since the

literary and archaeological record is still terribly fragmentary. Future excavations could hopefully shed more light in the history and organization of those colonies of the Western Black Sea littoral.

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- IGB I² (Mihailov G., 1970, *Inscriptiones Graecae in Bulgaria repertae*, vol. I², *Inscriptiones Orae Ponti Euxini*, (Sofia)
- IGB I² 320 Mesambria (Nesebar) early 1st century BC
- IScM I (Pippidi D., 1983, *Inscriptiones Daciae et Scythiae Minoris antiquae. Series altera: Inscriptiones Scythiae Minoris graecae et latinae*. Vol. 1. 'Inscriptiones Histriae et vicinia'. (Bucharest)
- IScM I 43(2) Odessos 1st BC
- IScM I 48 Istros-Histria 2nd/1st BC?
- IScM I 68 Istros-Histria 2nd AD
- IScM II (Stoian I., 1987, *Inscriptiones Daciae et Scythiae Minoris antiquae. Series altera: Inscriptiones Scythiae Minoris graecae et latinae*. Vol. 2. *Tomis et territorium*, (Bucharest)
- IScM II 1 Tomis 2nd/1st BC
- IScM II 2 Tomis 100BC
- IScM II 5 Tomis early 1st BC
- IScM II 6 Tomis 1st BC
- IScM II 7 Tomis late 1st BC
- IScM II 36 Tomis 1st BC
- IScM II 122 Tomis 3rd BC
- IScM II 152 Tomis 1st BC
- IScM II 154 Tomis 1st BC
- IScM II 392 Tomis 2nd/1st BC
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Amphorae Ceramic Stoppers From Risan, Montenegro (Seasons 2001-2013)

Marta BAJTLER

Warsaw University, Poland, mbajtler@wp.pl

Since 2001 Archaeologists from the Center for Research on the Antiquity of Southeastern Europe, University of Warsaw, have been conducting joint Polish-Montenegrin research in Risan (gr. Rhizon, lat. Risinium) in Montenegro.¹

Risan is a small town in today's Montenegro which lies on a narrow coastline on the northern coast of Kotor Bay (known as Risan Bay), 11 km northeast from Kotor. The site occupies a natural bay surrounded by hills.

The ancient sites lie at the foot of the Gradine hill, on an extensive plateau called Carine (from Turkish times); it is encircled by the sea on the west, the Spila river on the east and south and mountains on the north. The Illyrian and Greek settlement was limited to this area of about 6 ha. The Romans spread out beyond the fortifications and occupied the entire area of the bay (more than 100 ha).

Excavations have focused mainly on Carine. One of the most widely discovered artifacts are ceramic stoppers, with a very distinctive shape of a disk with a centrally located knob (usually in the form of a raised bump) used for air-tight closure of amphorae.

Between the years 2001-2013, 1074 stoppers were discovered during the excavations, with ceramic discs found practically in every location where digging was done. Most of them came from excavations in Carine itself (where – as it is now known – Hellenistic and probably earlier settlements existed (Dyczek *et al.* 2007, 129-131).

The work was taking place on two sections: Carine VI and Carine VII. In 2004, work begun at Carine VII and it is still continue to the present. In addition to stoppers found in Carine, also more than a dozen artifacts were discovered during the rescue excavations (Dyczek *et al.* 2007, 133), on the Gradine Hill (Dyczek *et al.* 2007, 135) (over the ancient city) and during the underwater survey in Risan Bay (Dyczek *et al.* 2007, 137-138; Karpiński 2010).

Most of the stoppers were found in well set archaeological contexts (amphorae storehouses and insides taverns), although some could not be attributed to a specific settlement phase or other contextas. The stoppers often occurred together with amphorae remains. The majority were Greek-Italic amphorae, to be more specific – variety of forms MGS VI/HA 6 (Dyczek 2012, 78-79).

¹ I would like to thank Prof. Piotr Dyczek, who is the Director of the excavations and who provided me material for analysis.

Condition of preservation

The general state of preservation of stoppers from Risan is good. The most damage occurs at the edges. These are individual losses or jagged edges around the artifacts. Occasionally bigger parts of the disks were damaged, or even the entire handle lost. There is less damage on the surface of the plugs. Small areas of ware on the edges may arise during the usage of the stoppers, namely when the amphora was being opened and closed. More serious damage and breakages could be the effects of storeroom collapse or during earlier investigations.

Morphology

Classifying the stoppers according to morphological characteristics is not easy as each item was individually shaped. However, we can identify a general division, based on production method: stoppers formed molds (918 copies); produced on a potter's wheel (121 copies); and cut from the bodies of larger vessels (17 copies) (Fig. 1). Their sizes are standardized, because probably they closed one type of amphorae. Their diameters are ranging from 6.4 cm to 12 cm.

The largest group are disks with a diameter of 9-10 cm. The thickness of the disks range between 0.45 cm and 3.7 cm, however, almost all plugs are 1-2 cm thick. There is no relationship between the diameter and thickness.

The first group of artifacts include the stoppers that best fit the form of a ceramic disk. They are the dominant majority from those analyzed (918 items). These plugs have a flat or almost flat bottom and a small knob in the center. These are the items made from molds, probably impressed from one side into the clay on a flat surface. A single mold was used for the entire stopper, or a half was used twice to form a single stopper, which is confirmed by the disks with a distinctive strap passing through the center, which was the result of the way the clay join was formed.

Often these disks also have irregularly fixed handles or are irregular halves glued together (Fig. 2). Decoration and handle typically were also made from molds. However it is possible that the stoppers could have had handmade decorations or even could have been created manually.

Among the many different versions of handles the circular form stands out: small and large. Others are rectangular/square, oval, or irregular. Some of them also have traces of finger marks. The handle looks as if it was pressed by hand after being formed in the mold purposely was crushed. One of them has fingers marks on the entire surface of the disk (Fig. 3).

To the second group of artifacts include stoppers made on the potter's wheel. They have a characteristic wavy surface, sometimes they have concave bases to the central part of the disk, and a large and irregular handle, often with traces of the potter's fingers (Fig. 4). The handles are large and hand-molded, sometimes resembling twisted cones, taking up most of the disk's surface. These plugs very often have distinctive traces of the potter's wheel.

The third, less numerous group of artifacts are plugs cut from the bodies of larger vessels (17 copies). The interpretation of artifacts of this group is uncertain and difficult, because of secondary use (having often been cut from amphorae sections). It is likely that these artifacts were plugs for storage vessels, since they were discovered in the context of amphorae and other stoppers, which have approximately the same diameter.

Fabric

The stoppers have not yet undergone detailed ceramic examination; only macro-analysis has been carried out. The fabric is very fine and well levigated and is characterized by buff shades of yellow, orange, and orange-yellow. It also appears grey, pink, brown, and brick red. The main admixture is limestone and broken ceramic stone (with very characteristic red inclusions), also pyroxene and mica. The stoppers often have a delicate, powder surface.

Inscriptions and Decorations

The stoppers produced in molds are very distinctive and are not easily confused with other plugs. They also have very typical decorations and inscriptions – convex, thick molded reliefs which were impressed on the surface of the disk.

Almost half the stoppers found (458 copies) have rosettes, bumps, linear and solar motifs, inscriptions, individual letter or signs on their surfaces. Only one disk cut from the bodies of larger vessels had a solar motive (Fig. 5). The rest of the stoppers had no decoration.

Decorations

There are 319 stoppers which have ornamentation; only a few have more than one style of decoration. The range of motifs can be mixed, creating a variety of ornaments, which are also accompanied by inscriptions and letters. Probably all the decorations, such as inscriptions, were impressed from the mold, with only two exceptions, where the decoration was carved. The main groups of different decorative motifs are: bumps (small rectangular or irregular dots), solar motifs (rosettes and the sun and the star ornaments, simple geometric patterns, consisting of circles and lines) (Fig. 6), linear motifs (single lines spreading radially or irregularly from the handle, multiple straight or wavy lines, lines running around the handle and a single line passing through the center of the entire disk) (Fig. 7), geometric motifs (more complex geometric motifs, 'stretched Z', 'antlers' and ornaments, which are combined by lines and bumps), crosses, and various others (anthropomorphic motifs, anchors).

Inscriptions

Of the 1074 disks included in the study, 458 have some form of decoration or signature. 139 have inscriptions or just a single letter. This represents 12.9% of all stoppers, and 30.3% of those that have decorations or signatures. Inscriptions were probably made in the same way as the decorations, i.e. formed in the mold during the process of creating the disk. However, there is a possibility that certain of the elements could have been made by hand.

The preservation conditions vary. Some are clear and readable but others, because of the poor state of preservation or careless manufacture, are practically unreadable. Sometimes it is impossible to decipher if the character is a letter or symbol. Inscriptions are written in both Greek and Latin, but the languages are never mixed. Some Greek words were Latinized (e.g. PHILESPOTUS).

There are rather more Latin than Greek inscriptions. Three disks probably conserve an entire combination of Latin names (of which two are the same), but no complete Greek one. A few letters which are not combined as one word could perhaps be an abbreviation. Two other discs have two letters, which could be initials, and some others have only a single letter.

Two plugs have the same inscription: PHILESPOTUS (Fig. 8) which is a Greek name written in Latin. On each disk we can see a small variation, which could be the result of being badly stored or careless realization by the creator. In both cases, there is also the same mistake, which is the form of inscription in mirror reflection. The name Philespotus is not known, however, it is possible, that we are dealing with the shortened form of the name of Phil(od)espotus. For this form there are analogies in the Lexicon of Greek Personal Names, III A² (Fraser and Matthews 1997). A disk inscribed in a similar way was discovered during the excavations in Risan in 1987-1988. From the publication by Vilma Kovačević we have only a redrawn example, which seems to be incorrectly read as PHILESIOUS. The plug also has a similar shape and pale yellow color (Kovačević 2002, 337-338). For this stamp we have more analogies. From the Stanići Æelina wreck near the island of Omš in Croatia, which carried a shipment of Lamboglia 2 and Dressel 6A amphorae, a stamp was found inscribed PHIL.F, which was accompanied by a stamp of the KANI (Cambi 1989, 317). Also the stamp PHIL was found on a few amphorae (probably Lamboglia 2) found in Fos bay (at the mouth of the Rhone, France) (Lindhagen 2009, 95). The last one came from Narona, where we know of the stopper inscription PHILODA (Abramija 1926-1927, 135).

A complete version of a name also appears in the Latin inscription SABAIS (Fig. 9). A very close analogy is found in LGPN, IV³ (Fraser, Matthews 2005).

Among the abbreviated Latin examples, two inscriptions appear on more than one disk. The most common is the abbreviated form CVE (13 examples) (Fig. 10). It can be a form of typical inscriptions of Roman names, consisting of three parts: *praenomen*, *nomen gentile* and *cognomen*. However, we do not know the parallels for this form of shortening. All disks are similar in terms of morphology, the same color and handle and identical lettering (thick letter, twisted 'C' and a cross), it is likely therefore that all were produced from the same mold.

Another common inscription (five examples) is DIO (Fig. 11) – probably the first three letters of a Greek name. In the Greek world creating names from the names of the gods was very popular (in this case from Dionysus, the god of wine). The disks are similar to each other. The nearest analogy comes from Narona, where the term DION appears on a amphora (probably Lamboglia 2). C. Patsch refers to an amphora stamp DIONIS.OB from Aquileia and DIONIS from Ateste (both sites are in Italy) (Patsch 1908, 93). Also from Fos bay (France) Lindhagen cites DIO, DION and DEMETRI, DIO.I (Lindhagen 2009, 95).

Other Analogies

We can also find other analogies for decorative motifs and inscriptions. From Risan and Narona (Croatia) we have practically the same decorative motif of two anchors – larger and smaller. They are well shaped, with stock, fluke and eye. It appears as if these two stoppers were made from the same mold. The same applies also for another two stoppers from Risan and Narona, with decorations of some solar motif (Fig. 12). An analogy for the inscription with 'E' and symbol comes from Resnik (Croatia).

Conclusions

Inscriptions written in Latin are slightly more common than those in Greek. All the disks are dated 3rd-2nd century BC, due to a contextual find of the amphorae MGS VI/HA 6 and other artifacts, similarly dated (Dyczek *et al.* 2004, 114; Dyczek *et al.* 2007, 130-131).

² Lexicon of Greek Personal Names, III A, includes names from the Peloponnese, eastern Greece, Magna Grecia and Sicilia, and also from southern Illyria and the central Dalmatian islands.

³ Óááááò (Fraser, Matthews 2005). However, this is not a name of Greek origin, and at this stage of research we can say nothing more about it.

If we assume that all disks come from local production areas (east of the Adriatic), it is rather surprising that the Latin types appeared extremely early when we consider the very strong Greek influence in this area.⁴ At this stage of research on ceramic stoppers is not easy to give a satisfying answer to the question as to why this occurred.

We can only wonder if the Italic influence played a greater role than we previously believed, in the production of, and trade in wine from the eastern Adriatic.

The stoppers from Risan had been found mainly in the context of late Greek-Italic amphorae (Dyczek 2012, 70; Dyczek *et al.* 2007, 130). This is, we believe, the only location east of the Adriatic where the ceramic disks are dated so early (3rd-2nd century BC) (Dyczek *et al.* 2007, 130). At other locations the most common is within contexts of Lamboglia 2⁵ and later Dressel 3 *Lexicon of Greek Personal Names*, IV, includes names from Macedonia, Thrace and the northern coast of the Black Sea.)

6A⁶ amphorae. Thanks to the many discoveries made, a revised picture of the use of ceramic disks over several centuries as plugs for amphorae has appeared. Based on the discoveries we can provide a sequence of amphorae types sealed in this way: the Greek-Italic late type (MGS/HA VI 6), a type between the Greek-Italic and Lamboglia 2, Lamboglia 2, a type between Lamboglia 2 and Dressel 6A, Dr 6A and Dressel 6B. The amphorae remains of these types are also found at Risan. Apart from the last, all were used to carry wine and they well represent their typological and chronological continuity (and they also show the existence of transitional types). Amphorae Dressel 6B were produced locally in Istria, where they were used to transport olive oil, and were sealed in the same way as mentioned above. This may have ensued by the continuation of existing local patterns.

In several cases on the stoppers, the same, or very similar, inscriptions to those found on the amphorae also appear. This allows us to closely combine the production of these stoppers with the production of associated amphorae. We can also perhaps suggest that the inscriptions on the stoppers were owned by either the manufacturers of the amphorae, or by wine producers. In any case, they must have related to those involved in the production and distribution of wine.

Based on these observations, and thanks to (limited as yet) chemical and macroscopic analyses of the amphorae and stoppers from the different sites,⁷ we may hypothesize that the amphorae and ceramic disks were produced locally, somewhere on the east coast of the Adriatic. In support of this thesis we need a further series of analyses on the stoppers as well as the amphorae (within their find contexts). These further results should provide the answer to questions on the locations of the production centers and trade relationships. This will involve a wider look at regions around Kotor. Comparing these new results with data from firmly dated archaeological contexts, and with material from other locations along the eastern Adriatic, will give us a much enhanced picture of trade in this region of the Mediterranean Sea.

⁴ Personal communication from Professor Adam Łajtar.

⁵ Naron (Croatia): Patsch 1908, 93, fig. 7; Lindhagen 2013, 232; Pola (Croatia): Starac 2009, 388-389; Sermin (Slovenia): Horvat 1997, 77-82; Desilo (Hutovo Blato lake, Bosnia and Herzegovina): Vogt (2008); wreck from Siæenicu Bay (Croatia): Zmaiæ 2010, 237, fig. 12; Boka kotorska II wreck (Montenegro): Royal 2009, 51; Tre Senghe wreck (Italy): Volpe 1989, fig. 2; AB10-AB, Sason 1 Wreck (Albania): RPM Nautical Foundation (2011).

⁶ Pola (Croatia): Buliæ 2011, 44-51; Tre Senghe weck (Italy): Volpe 1989, fig. 2.

⁷ Chemical analyses: for Lamboglia 2 amphorae from Croatian wrecks: Sondi, Slovenec 2003; tests of Greek-Italic and Lamboglia 2 amphorae and stoppers from Sermin (Slovenia): Zupanèiè, Horvat, Bole 1998, 354; Greek-Italic amphorae (different types), Dressel 1, Lamboglia 2, Rhodian 1 and Gnathia: Daszkiewicz *et al.* 2007, 86, 92.

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Figures

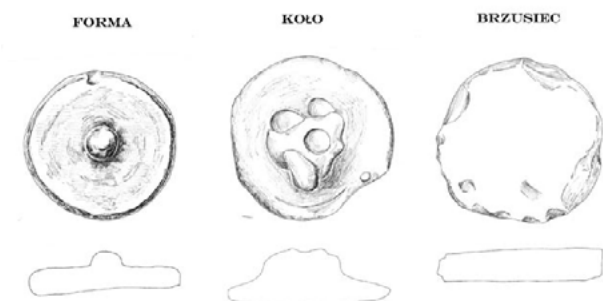


FIG. 1



FIG. 2



FIG. 3



FIG. 4



FIG. 5



FIG. 6



FIG. 7

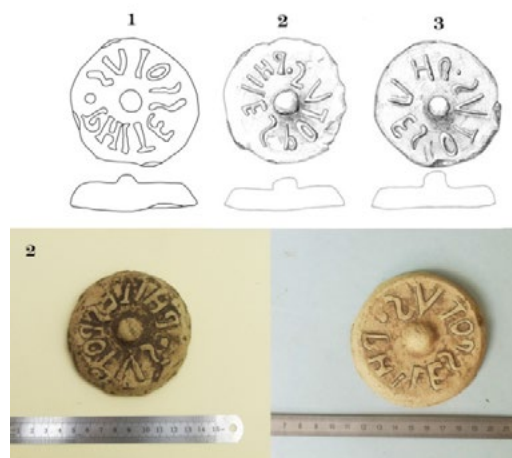


FIG. 8



FIG. 9



FIG. 10



FIG. 11



FIG. 12

Applied Methodology for the Terrestrial Survey of the Coastal Town of Anfeh, Lebanon

Nadine PANAYOT HAROUN

University of Balamand, Lebanon, nadine.haroun@balamand.edu.lb

Surveys are a necessary step prior to the study of any archaeological site.

The Lebanese Directorate General of Antiquities has given the Department of Archaeology and Museology at the University of Balamand, a permit to conduct a dual survey, both terrestrial and maritime of the coastal site of Anfeh and its surrounding region. The current presentation aims at describing the methodology applied for the terrestrial survey which took place between May 7 and October 30th, 2013.

The study consisted of three main phases:

- 1 - A pedestrian survey: a campaign of systematic exploration was conducted in the region to identify and inventory all evidences of human activities (housing, burials, military camps, chapels and monasteries, etc.).
- 2 - Mapping: The production of an appropriate digital map based on ancient and modern literature as well as mapping techniques and satellite imagery.
- 3 - Chronology assessment: The study of the material collected was conducted during and after the end of the season by ceramologists and revealed a complex timeline from the Early Bronze Age to the Ottoman period. However, each one of these phases has encountered a number of difficulties and a review of the methodology used and the way these issues have been resolved seems necessary.

Geographic Location and Site Description

Anfeh is located on the coast of Lebanon, 15km south of Tripoli and 71km north of Beirut. The coastal village is extended by a nose-shaped promontory, 400m long with a maximum width of 120 and oriented on an east-west axis (Figure 1). It is about fourteen meters above sea level.¹

Pre-medieval and medieval remains are visible everywhere on the site such as presses,² basins, vaults, tanks and quarries (Figure 2). Remains of mosaic pavements have been observed on top of the promontory (Figure 3). Moreover, local villagers say that several mosaics have been uncovered in various constructions underneath the actual village which extends further south of the promontory. All these vestiges present evidence of several occupation levels as well as continuous human activity. They are protected by salt marshes, now abandoned, which used to be highly productive between the 1940s and the 1990s (Figure 4).

¹ Paul Sanlaville 1977, 356.

² Bettina Fisher-Genz, Levon Nordigian 2010, 79-87.

Threatened by a port expansion project, Anfeh was included in the World Monuments Watch List in 1998. Although that project has been suspended, the site is still in a precarious state.

The current presentation only reflects on the methodology applied in the terrestrial survey which took place in the region of Anfeh between May 7 and October 30, 2013.

Terrestrial Survey:

I- General Objectives:

The general objectives of the terrestrial survey are inherent to the applied methodology and are listed below:

1- To relocate the site of Anfeh in its spatial and chronological dynamics between the Bronze Age and the Medieval period. The celebrity of Anfeh as a coastal fortress³ site should not lead us to ignore the existence and the vital role of its territory in the hinterland.

2- While enumerating all the coastal cities of the Levant, starting with Sidon and going up north, Essarhaddon⁴ mentions two sites which are still unidentified and which could be within the limits of our survey: Bît-Gisimeîa has been identified with Qasmiyeh by Campbell -Thompson⁵ and with Bishmizzine according to Forrer⁶ and Lipinski.⁷ However, Bishmizzine is located 9km east of the coast in the Kurah district. One of the reasons why Sassine⁸ proposes to identify it with Arabet Ej-Jemmaizi, a hill not too far from Anfeh and which could indeed be identified with Bît-Gisimeîa. The second site which remains unidentified is Birgi located between Anfeh and Qalamun according to Lipinski and which is identified with El Braij, another hill, by Sassine. It would be highly interesting if we could confirm or infirm all these identification attempts.

3- The hills around the promontory certainly carry remains of control towers or army settlements because of their strategic positions, allowing a clear view of Anfeh. All these issues need to be verified and eventually confirmed.

4- To make a physical assessment of the state of conservation or destruction of all the monuments on the promontory and its surroundings, including several churches and monasteries which are abandoned and left to ruins. They are all within the boundaries that we have set. However, one site has been added deliberately; it is the chapel of Saint Barbara in the village of Barghoun which is in ruins but still carries wall paintings in the apse (Figure 5).

Limits of Survey: (Fig. 6)

The territory of Anfeh is clearly defined in geographical terms between the coastline and the foothills of Jabal Jawz east including the hills of El Braiji, Arabet El Jemmaizi, Missaiki and Tallet El Ghir, (Arabes Fraoui). It is bound on the south by the line of perennial rivers, more specifically the Barghoun River that runs north of the town of Sheka, and to the north by the promontory of Ras Al Natour. This is an area

³ Burchard of Mount Sion 1868, 27-28.

⁴ Edward Lipinski 1994, 158.

⁵ Reginald Campbell Thompson 1931, 14.

⁶ Emil Forrer 1920, 65.

⁷ Edward Lipinski 1994, 160.

⁸ Gladys Sassine 1996, 40.

that stretches 5.3 km from north to south and less than 2 km from east to west, a total of approximately 13 km². The space to be prospected is mainly occupied by olive groves, but major disruptions in data acquisition were expected in highly urbanized areas on the outskirts of the town of Anfeh and along the highway.

2013 Objectives

1- The most urgent objective for the first mission was to locate and identify all archaeological remains found on the promontory and to develop an archaeological map of the area in order to honor the agreement signed with the President of the Municipal Council who expressed the desire to create an archaeological promenade on the site of the promontory.

2- The second objective was imposed by a real estate project threatening the region surrounding the monastery of Deir El Natour.

3- The third objective of the 2013 campaign is to survey the chapel site known as Saydet El Kharayeb.

4- The fourth objective of the 2013 campaign is the chapel site of Mar Edna which is also threatened by a real estate project.

Methodology

The systematic survey consisted of four main phases:

1- Collection of archaeological data and maps including the ones from the period of the French mandate from the following institutions:

University libraries, Ministries of Tourism and Culture, the Directorate General of Antiquities (DGA), Municipalities for the cadastral maps, the Lebanese Army and more specifically the Directorate of Geographical Services, a necessary source to obtain ancient aerial photographs from the 1950s and 1960s.

Nevertheless, one of the most revealing sources of information turned out to be the recording of oral traditions from the local population.

2 - A foot survey: a campaign of systematic exploration was conducted in the region to identify and inventory all evidence of occupation and human activity (housing, burials, military camps, chapels and monasteries, etc.). Recording and description of vestiges have been used to create graphic and photographic documents.

3- Mapping: The production of an appropriate digital map based on ancient and modern literature as well as ancient maps, aerial photography and satellite imagery. This document served as a basis for the integration of archaeological data.

4 - Evaluation of the chronology: The study of the material collected was conducted during and after the campaign by ceramologists. The material, dating back to different periods of occupation, has enabled us to establish a ceramic sampling for each occupation level and to create different maps showing the distribution of the material per chronological periods. However, each one of these phases presented a number of difficulties and obstacles. Therefore, an assessment of the encountered obstacles seems necessary.

Difficulties Encountered

- 1 - The extent of the area covered by the survey, which is about 13 km² and which includes several sites on the coastal plain of Anfeh, up to an altitude of about 100 m.
- 2 - The dispersion of the different sites and their representation on a single map which required a single coordinate system.
- 3 - The map of Lebanon with a scale of 1 to 20,000 that we received from the Directorate of Geographical Services was established back in 1965, at a time when there were no Global Positioning Systems. In addition, the map had no grid which limited its use.
- 4 - To be able to go from the current positioning system derived from a GPS to the map of Lebanon which is based on a scale of 1 to 20,000, one needed to use a grid conversion. This grid could only be established by the Geographical Services of Lebanon, after re-measuring using a GPS, and a number of old geodetic points distributed throughout the national territory.

Surveys and Preliminary Results

Promontory:

- 1- A map of the promontory has been achieved by overlapping:

A contemporary geo-referenced satellite image.

A 1930 map of the promontory which shows clearly the layout of the coast and the rocky escarpments, when the headland was not yet fully occupied by salt marches.

An aerial photograph from the 1960s.

- 2- A grid of 10 x 10 m was established all over the promontory. (Figure 7)
- 3- Remains and vestiges have been geo-referenced and drawn systematically onto the same map: wind mills pillars, scattered masonry blocks, vestiges cut or excavated in the rock, etc. (Figure 8)
- 4- Collection of ceramics and objects was referenced mainly by squares.

Results: The Ceramics picked up on the promontory have delivered a total: 28,456 sherds, of which 2,600 were clearly identified and dated back to the Early Bronze Age, and all the way up to the Ottoman period. This allowed us to create maps that show the concentration of Bronze Age, Persian, Classical, Medieval and Ottoman material on the promontory. This in turn, has guided us when choosing areas for conducting our soundings the following year.

Deir el- Natour: (Fig. 9)

- 1- This time we had to adapt to a new topography and a new field reality. Because of the large number of salt marches surrounding the monastery, the grid was improvised according to the plots created by the salt ponds.
- 2- A map was made by overlaying satellite images and plots delineating the exploration areas. On these maps were also reported the topographic and geodetic landmarks.

3- A systematic collection of surface material has been achieved, but it was not highly revealing because of the density of the salt marches.

Results: The collected samples are far from being exhaustive: only 84 perfectly datable sherds were identified, in a rather large area. They date back to two distinctive periods: The Late Byzantine, and the Ottoman period.

Saydet el- Kharayeb: (Fig. 10)

The Church of El Saydet El Kharayeb is about 40 years old. It is located in the middle of olive groves. However, the owner of the plot has rebuilt the church on the ruins of an ancient chapel of larger dimensions. The remains of the old chapel preserved over one to two courses of well cut blocks can still be seen on the ground around the chapel.

The grid and the map were created by overlaying satellite images and plots delineated by rows of olive trees which in turn delineated the areas of exploration. An exceptional large amount of sherds and mosaic tesserae was collected. We had to call in for volunteers to help with the collection. 2,624 sherds were finally selected from a total of over 30,000 sherds picked up.

Results: The collected material is highly representative of the different periods of occupation of the site: From the Roman period up till the Ottoman period. This highly suggests that the chapel dates back to the early Byzantine era and was probably built on top of some roman vestiges. This needs to be verified by an excavation campaign.

March Edna

A pre-prospecting visit to the site took place back in December 2013, due to the oral traditions which claims that the site has been known for decades as the church of March Edna, the 'Saint Tarachus', a martyr executed at the beginning of the 4th century. The poor state of conservation of the site, led us to include it in the survey area. In May 2013, we installed survey points that allowed us to link the site to the topographic map of the region (Fig. 11). However, two points were uprooted by the recent owner. In addition, some of the vestiges were demolished (Fig. 12). This act of vandalism was reported to the DGA, which managed to stop these acts and asked us to continue the survey. The survey of this 10,000 m² site was divided into eight zones based on the topography of the terrain. The collection of surface material and weeding was done systematically in all areas. Over 20,000 sherds have been collected. Moreover, the examination of the clandestine pit holes, has delivered some valuable information.

Results: Not only has the analysis of the clandestine pit holes, confirmed the dating of the vestiges back to the 5th and 6th centuries CE, but it also revealed the existence of an older building underneath, dating back to the 2nd century CE.

Conclusion

The surveys undertaken in Anfeh and the maps that were generated have provided guidelines for future exploration work.

The choice of a data processing system is a major step in the process of exploration and data collection: This is one of the few times when quantity prevails over quality. A 'horizontal stratigraphy' delineates itself progressively as we approach any vestige or monument and this is only tangible when one leaves nothing behind.

The work undertaken has revealed the existence of several sites that need further exploration and which confirm that Anfeh is a rich and promising site.

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Figures

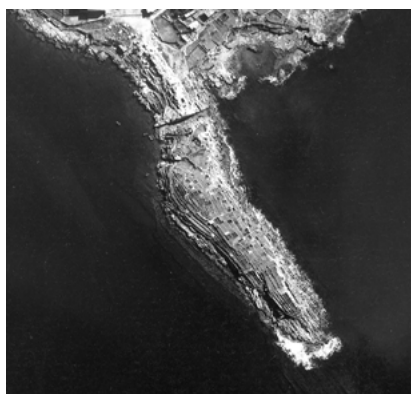


FIG.1 THE PROMONTORY OF ANFEH, AERIAL © DIRECTORATE OF GEOGRAPHICAL SERVICES, 1962



FIG. 2 ABANDONED PRESS ON THE PROMONTORY OF ANFEH © NADINE PANAYOT HAROUN



FIG. 3 MOSAIC PAVEMENT ON THE PROMONTORY © NADINE PANAYOT HAROUN



FIG. 4 SALT MARCHES IN ANFEH, 1940 © ANONYMOUS, ARCHIVES OF THE PARISH OF ANFEH



FIG. 5 BARGHOUN CHAPEL WITH WALL PAINTINGS IN THE APSE © NADINE PANAYOT HAROUN



FIG. 6 LIMITS OF SURVEY © LEBANESE ARMY, MINISTRY OF DEFENSE, 1965



FIG. 7 GRID OF 10 X 10 M OVER THE PROMONTORY © MARTIN SAUVAGE



FIG. 8 VESTIGES DRAWN ON THE MAP OF THE PROMONTORY © MARTIN SAUVAGE



FIG. 9 MONASTERY OF DEIR EL NATOUR SURROUNDED BY SALT MARCHES © RITA KALINDJIAN



FIG. 10 CHAPEL OF SAYDET EL KHARAYEB © RITA KALINDJIAN



FIG. 11 CHAPEL OF MAR EDNA BEFORE DESTRUCTION
© GEORGES SASSINE



FIG. 12 CHAPEL OF MAR EDNA AFTER DESTRUCTION
© SAMER AMHAZ

Spatial Planning of the Narlıca Baths, Antakya

Nizam ABAY

Selcuk University, Turkey, nizamabay21@gmail.com

The city of Antakya is one of the earliest settlements and has a very long history. It was established on an intersection of roads linking the Euphrates valley to Mediterranean and from Syria to Anatolia. The city has many public buildings and spaces that allow connections and gatherings between people in the city. One of these buildings is the old bath complex. In ancient times, at the time of the Romans in Antakya, the baths had a very important place in daily life. Although these buildings saw many changes over the years, in terms of either design or function, they always maintained their significance in the life of the city.

Although many bath complex foundations, of various sizes, were revealed after the excavation work done in the late of 1930s, no bath buildings as such are found in the written sources. One of these baths is the Narlıca complex located within the inner circle of Antakya, the central district of Hatay.

The Narlıca site was a public bath, established over an area of 500m², with a portico entrance and wide inner spaces, including *vestibulum*, dressing and bathing areas (*apodyterium*), cold room (*frigidarium*), warm room (*tepidarium*), hot room (*caldarium*), meeting and sports spaces, service units and *basilica thermarum*. The Narlıca bath, which stands on a north-south axis with these spatial buildings, has a form that expands through a roughly square area and is aligned according to a bench-type plan. The complex, which has similarities with other baths in Syria and Anatolia, but its own unique architectural structure and typology also greatly add to what we know about Antakya and its social life in that period.

Introduction

Antiochia, an artistic and cultural capital in close relationship with other western cities, was more easily accessible than Roman Constantinople, and acted as natural hub within Cilicia, southeast Anatolia and northern Syria. It provides an effective model, therefore in respect of many of its features, including the formation and development of its baths in the surrounding area of Antiochia. Because it was an important centre for both Christianity and the rising cultural sphere of Islam that developed from Damascus, Antiochia held a position that witnessed and contributed to the transformation of baths from a pagan feature of the late archaic period, to a Christian and then early Islamic institution.

The ruins of the Narlıca bath complex in Antakya, which is being examined in this study, are now buried a little below ground level in this active earthquake zone that runs through the region. After the excavation work done in the 1930s some of its floor mosaics have been removed for safety reasons to various museums. The scope of this study is generated from collecting excavation reports and plans that have been examined with the intention of comparing the present remains with the data available from the five-volume monograph *Antioch on the Orontes*, which was published after the excavation work of the 1930s.

The Narlica baths

The building seems to have begun in the second half of the 4th century; it is located in the south of the Amik plain, about 9km northeast of Antakya. It is sheltered on the edge of a valley at the end of the Hac massif and has its own water source nearby. The excavation work began after local villagers reported finding some floor mosaics, and in the late 1930s the structure was revealed and classified as a bath with nine specific rooms or spaces (Stillwell 1941a: 19-23). Today, the location of the building which has no remains above ground, is a site labelled as AS 227 (Ilica farm), in the municipality of Narlica, Antakya, according to the findings of the Amik Plain Regional Survey, undertaken between 1995 and 2002, and with the data from previous excavation reports.

The rooms/spaces

a. Space 1 (*frigidarium 1*)

Space 1 is located to the south of the complex; it has a square plan and cuts the north-south axis perpendicularly (Stillwell 1941a, plans redrawn by N. Abay) (Fig. 1). The south part of the space consists of four columns and a facade with square half-pillars adjacent to two side-walls (Pamir 2008: 949). The floor of the area is covered with limestone plates; there is a front entrance with a portico divided into five aisles. The floor stones in these wide spaces are placed in a single layer, 61cm above the columned entrance. There are stairs for passing easily from one side to the other. The floor stones here are earlier than those in the columned entrance. The room that opened east of the columned entrance appears to have been arranged as a dwelling space.

b. Space 2 (*ambulacrum or apodyterium*)

Space 2 is entered through a door on the west side of space 1. It has a square plan and is on an east-west axis. The floor in this area is covered with opus sectile, which just survives. Cement, brick and marble were used on the walls. Considering the connection of this area with the portico and its position inside the bath complex, the space is defined as a dressing room (*apodyterium*) (Stillwell 1941a: 19).

c. Space 3 (*vestibulum 1*)

Space 3 is to the north of the *frigidarium*, which has a small square plan. While its walls are poorly protected, its floor is covered with mosaics (Campbell – Stillwell 1941, 182-183 no. 123, lev. 57-58) (Fig. 2). There are geometric patterns on the panels found on the edges of the mosaic floor, which were separated from each other by a wide border and various animal figures (e.g. partridge, a rabbit eating grapes, and a woodpecker) on the round bordered medallion on the middle three square panels. The border around the panels is made of squares and triangles. The refined tones of the geometric borders of the panels are white, grey, dark grey and black or white, pink, black, red and dark pink. Yellow is used on the panels and the angles of the frames. The leaves are dark green; the legs of the birds are red; the feathers of the birds are grey, dark yellow, brown and grey green. The rabbits are yellow and brown; the grapes are white, pink and red. The space opens to a space in the west, whose function is not yet defined, and to space 4 to the north. Regarding its function and location within the bath, the area is defined as a corridor of some kind (*vestibulum*).

d. Space 4 (*frigidarium 2*)

Space 4 is in the centre of the building and has an external square plan and an interior octagon plan with four semicircle niches at its edges. The space has a central location that provides a linking space within the complex, with doors opening through to all sides of the bath (Stillwell 1941a, lev. 57) (Fig. 3).

The niche on the southeast side of the space is covered with a mosaic base and was transformed into a circular pool; it was later covered with a second mosaic base. The floor of the area features a scene of a woman in a circular frame on the centre (4th century) and a figured mosaic with an inscription in a variant of the word σωτηρία (*soteria*). 'Soteria' has the meaning of *salus* in Latin, and has been used here as a personalized form to mean health and good luck (Liddell – Scott 1901: 521).

e. Space 5 (*frigidarium* 3)

The west end of space 5 abuts the west of space 4; it forms an apsis, on an east-west axis. It is lower than space 4 and is a cold bathing pool. The floor of the pool is covered with figured mosaics consisting of two sections; the section on the apsis side is in the form of a ray motif that opens like a fan from the centre to the sides, and a square section with geometric motifs and female figures (Campbell – Stillwell 1941, no. 124, lev. 58) (Fig. 4). The mosaic floor that covers the square section by the entrance consists of angled geometric motifs and in the centre there is a female figure with a fragile, slim face and a thin veil covering on her head; the inscription is a variant of ἀπόλαυσις (*Apolausis*), meaning joy and happiness (Liddell – Scott 1901: 185). The figure faces east, being visible, therefore, from the west; the door opening and spaces 4 and 5 constitute the *frigidarium* of the bath as a whole.

f. Space 6 (*vestibulum* 2)

Space 6 appears to be a linking zone with a small and narrow square plan. The entrance here is by a door located on the east of space 4. The floor level of the complex is 0.37m and is higher than the octagonal room. The space is linked on the north to a space that is used as a store and has a small irregular plan with a passage, and on the east to space 7, with its narrow door, and the passage to this space, which is a link (*vestibulum*) before entering space 7. The floor of the space is covered with marble and opus sectile (Pamir 2008: 950).

g. Space 7 (*tepidarium*)

There is a hemispherical apsis on the east of space 7. The walls of the space are well protected and they are built as *opus mixtum*, using brick and rubble stone on the outer surface, and as *opus latericium*, using only brick on the inner surface. The space has no *suspensurae* flooring. The *pilae* that form part of the underground heating system lay perpendicular on the brick floor. Some of these are square, some rectangular, and some round. The *hypocaust* of space 7 opens to the outer, east, side of the building with a channel (Stillwell 1941a, 22, fig. 22) (Fig. 5). The exit of the passage that goes to the outside under the apsis on the east side of space 7 is partially blocked with mortar and tile. This passageway opens onto a small square area. In this square area the surface of the rubble wall is covered with brick (Pamir 2008: 951). From the remains we can see that the area is about 0.80cm high and there are vestiges perhaps of door fittings. The space seems also to have been used as another *praefumium*.

h. Space 8 (*caldarium*)

Space 8 is a smaller area north of, and parallel to space 7. There are east and west hemispherical niches to the space, which is reached from a door opening from space 7, and semicircular pools with floors covered with mosaics (using mortar and white *tesserae*). To the north, near the thickly cut stone wall, there is massive brick foundation. The *suspensurae* floor of the space has not been protected, however, on the floor, there are *pilae* remains of six heating systems built of rectangular, square, and round tiles. North of this room is the heating room of the bath. It is connected to the *hypocaust* of space 8, via a narrow hall, from the east of the area, with arched entrances and then runs north through a passage (Stillwell 1941a, fig. 23) (Fig. 6).

1. Space 9 (*basilica thermarum*)

Space 9, north of space 4, has a mortar-covered floor. It is arranged with two deep porticoes with two columns on its east and west wings; the central open area is arranged as a courtyard. The west portico is linked by a door to a small room that had service function. There are remains of a *prae-furnium* in the east portico. On the north of space 9 there is a small square space, a latrine, on the axis of the open area. The deep, water channel that goes through west, north and south walls of the space connects to the baths' waste-water channel coming from the south, exiting from northwest wall.

Planning

Basically, the cold rooms were located on the west side of the building and the hot rooms on the east. The portico that cuts the north-south axis of the building perpendicularly is placed on the east-west axis, with the *vestibulum*, *basilica thermarum* (with its courtyard with open centre), and the two porticoes on its two sides run parallel to each other (Abay 2014, Levha IIIb) (Fig. 7). The octagonal *frigidarium* that forms the centre of the plan stands on the north-south and east-west axes with its square plan. At the east and west wings of the *frigidarium* the axis loses its alignment as a result of the areas that run perpendicular (Nielsen 1990: 114, 237).

Space 5 (west) and space 7 (east) indicate the symmetry of the plan. However, space 8 breaks the symmetry with its two apses. Baths of this category are classified by Daniel Krencker as the 'rowed small bath type' (1929: 178-180). Spaces in these baths are arranged in a row as *apodyterium-frigidarium-tepidarium-caldarium*. In this arrangement, the visitor to the baths first goes into the *apodyterium* and after bathing leaves via the *apodyterium*, and then returning the way he or she came from. More commonly this type of bath is known as the 'Pompei' type (Yegül 1992:130). When the plans of baths located in areas under Roman influence (primarily Italy and Greece) are examined, none is exactly the same as the Narlica complex. In the Roman era the following show similarities in terms of spatial arrangement: the agora baths at Side (Yegül 1992: fig. 288), the late Roman example at Didim (Yegül 1992: fig. 351), the great baths at Aspendos (Yegül 1992: Fig. 284), and the complex at Amorium (Biçer 2010: figure 4.4).

Space 1, to the south of the complex (*frigidarium* 1) is square in plan and has a facade arrangement that consists of four columns and square half-pillars adjacent to two side-walls. This type of facade arrangement at the entrance of the complex shows a close relation to the baths in southern Bosra (Yegül 2006: fig. 327). Space 2 at Narlica (*apodyterium*), with its square plan, has similarities to the baths in the agora at Side and the large complex at Aspendos. However, the baths at Narlica, by their location, can be compared spatially (consolidation, small and vaulted apsis sections of the heated partitions being on an axis) to such baths such as Duro Europos (E3, M7, C3) in Syria (3rd-4th century).

Another remarkable space at the Narlica complex is space 4 (*frigidarium* 2), with its octagonal plan and four semicircular niches at its edges. The octagonal *frigidarium* is generally seen employed at Imperial baths. The *frigidarium* at the Imperial baths in Antakya (Bath C), (Fisher 1934c: 19-31) shows close similarities with the architecture of the southern bath *apodyterium* at Bosra (Yegül 2006, fig. 327).

The small square-planned area in the north of the Narlica complex, space 8 (*caldarium*), is reached via a 0.85m-wide passage connected to space 8, with a narrow hall. This space was used as a *prae-furnium*. Therefore the *caldarium* plan of Narlica shows some common features with the *caldarium* of Bath M7 at Dura Euopos, in terms of its size and architectural position (Yegül 2006: 313: fig. 313).

Space 9 at Narlica features long, rectangular walking area and leisure rooms (*basilica Thermarum*). These long, rectangular spaces usually create the core of the social complex. Similar spaces appear in buildings

of late antiquity, the early Byzantine period, and Islamic baths in Syria (i.e Serdijilia ve Kasr el Amra) (Yegül 2006: 310: fig 329; Yegül 2006: 317: fig. 339).

Conclusion

Although the subject of this paper, the Narlica bath complex, shows similarities with baths in northern Syria, especially Dura Europos and Bosra (which seem to have followed the plans and architectural styles common in regions under Roman rule) it seems that Narlica itself was not copied and its plan remains, thus far, unique.

A large hoard of coins was found under the mosaic floor of space 1 (*frigidarium* 1) dating to Constans I or Constantius II (345-361), Valens (364-378) and Valentinus I/Valens or Gratianus. According to Doro Levi, the technique and style of the bath mosaics points to the second half of the 4th century (Levi 1946: 304).

The spaces are arranged according to the 'bench- type' plan and the focus of the movement in the bath is located at the *frigidarium*. This space gives the central focus to the Narlica complex, and is the area most emphasized – being both the first and last room in the baths (Pamir 2008: 955). The semicircular niches at the edges of the *frigidarium* provide more private pools for visitors to bathe in. The simple symmetrical order of the Narlica complex seems to try and emulate the Imperial baths with their octagonal *frigidarium* form. It is clear that there has been an attempt at local monumentality and grandeur by means of the columned entrance to the baths. Its extrovert design would no doubt have attracted visitors from far and wide. Although this style of symmetrical and monumental planning developed in the West, the development of octagonal spaces is characteristic also of the East.

The *Basilica thermarum* (space 9) at Narlica functioned as a gathering place and public centre. It clearly reflected the political and cultural values inherent in places of meeting and entertainment in small yet successful trading cities with cosmopolitan populations; it demonstrates the prestige and ambition of late-Roman Antakya.

Our information on the roof of the baths is limited. The octagonal floor of space 4 (*frigidarium*) suggests that it had a low, single dome, or eight semi-domes, based on the low, vaulted roof of the octagonal room of the southern baths at Basra, Syria. The walls of the Narlica complex were made using *opus mixtum* and *opus latericium*.

In ornamentation, while inscriptions to Soteria, Apolausis, and animal figures are seen in the most notable spaces, geometric motifs are also relatively common interior decorations. Among the female figures, two women are seen holding flowers to their noses; among the deities, the lesser ones had powers to protect. As often seen in late antiquity, baths were not only places for physical health, but they were also visited for relaxation and general well-being.

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Figures

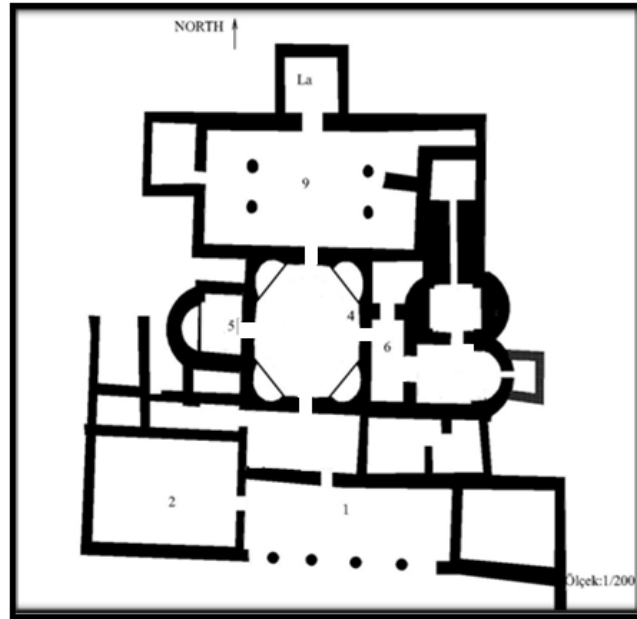


FIG. 1. PLANNING OF NARLICA BATH.

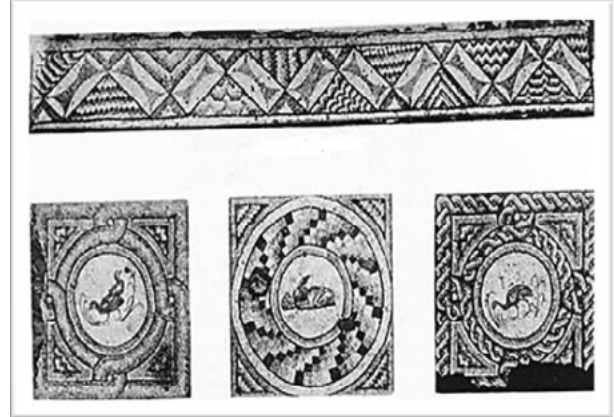


FIG. 2 . IN NARLICA BATH I. VESTIBULUM OVERVIEW AND MOSAIC PANELS.



FIG. 3. NARLICA BATH II. FRIGIDARIUM.



FIG. 4. NARLICA BATH, III. FRIGIDARIUM FROM APOLAUSIS MOSAIC DETAIL.



FIG. 5. NARLICA BATH, TEPIDARIUM.



FIG. 6. *NARLICA BATH, CALDARIUM.*



FIG. 7. *AXONOMETRIC VIEW OF NARLICA BATH.*

Spolia in Seljuk Buildings

Osman ERAVŞAR

Selcuk University, Turkey, eravsar@yahoo.com

The use of spolia is of great importance in the architecture of the Seljuk period.¹ The Seljuks, upon first entering Anatolia, encountered many works of art made by earlier civilizations on this peninsula. At first, in part at least, they kept using these remaining buildings of former civilizations as they were. In the following periods, they began to use the Antique and the Byzantine Period materials, which were found in the ruins located around the settlements, in different ways to construct their own buildings. When incorporating these materials into their structures, the Seljuk's did not change anything on the spolia material in some applications. In some other constructions they selected to change the artistic composition or form of the material either partly or as a whole.

The aim of this paper is to examine and introduce the methods and functions of spolia in the Seljuk architectural works in Anatolia. Since the subject is quite broad, it is not possible to cover all the buildings related to spolia material here. Instead, the scope of this study is limited to samples which are rich in spolia but less popular in the previous Seljuk studies. This paper will constitute the first step of an inclusive project in the near future. The geographic coordinates of spolia examples in this study belong to the Central Anatolia region where the construction material was scarce in those times. Another purpose of this contribution is to determine why spolia was used so much in Seljuk buildings and in which sections it was commonly used in these buildings.

Various studies on the use of spolia in Seljuk buildings have been carried out; however, these do not have an integrated approach either in quality or content. The subject of spolia in caravanserais was first taken up by K. Erdmann.² After Erdmann, G. Öney carried out a study. These are the only two researches that have been conducted into the use of spolia used in caravanserais,³ although research has been done on other Seljuk buildings.⁴ S. Redford published a research paper in which he explained the rationale behind spolia use in Seljuk buildings. His study has a different view on the use of gathered materials.

The use of spolia material is defined as the use of building materials from previous periods, whether reworked or not, in construction of a new building. However, the methods of spolia in the Seljuk buildings are not limited to this definition as it can be seen in the following examples.

The use of spolia in the Seljuk buildings can be categorized into four distinct groups.

1. The Reuse of Some or All of Pre-Seljuk Building with Some Modification

Buildings in this group were constructed by the former cultures in Anatolia. These buildings are the oldest Seljuk buildings. When they arrived in Anatolia, the Seljuks initially met their facility needs by reusing some or all of a Pre-Seljuk building with some modification. The original plans of these buildings were

¹ This paper was first presented in a Berlin Spolia Colloquium in 2004, but the proceedings were never published.

² K. Erdmann, *Das Anatolische Karavansaray Des 13 Jahrhunderts*, Berlin 1961.

³ Öney 1968, 17.

⁴ Redford 1993, 148.

sometimes used without any change and other times with minor modifications. The outer fortification walls of Kayseri, Konya, Alanya and Alara are good examples of this. In some cases, these buildings were transferred to other locations and rebuilt partly similar to the original plan. Another example is the Battal Masjid in Kayseri which was converted from a 5th-century Byzantine building into a Masjid.

The Öresun caravanserai is the most important example of moving a building from its original location to somewhere else and reconstructing it for a new function.

It can be observed that new features were added to the plan when the function of a building was changed. The Kayseri Ulu Mosque built on a Byzantine structure⁵ is a good example to illustrate this aspect of spolia.

Kayseri Fortress

The initial construction of the Kayseri Fortress dates back to Roman times (2nd century). It is known that the plan of the old fortress was developed during the ruling period of Justinianus. Its enlargement plan decided already in the Byzantium period, the fortress and the city walls were used by the Seljuks with some minor modifications and restorations (Figure 1). It was during the ruling periods of İzzeddin Keykavus I and Alaeddin Keykubad I when new sections were added in the north and south parts of the fortress.

Spolia material was also used in the construction of the west and the north parts of the fortress. (Figure 2) Although most of the north part was destroyed, the Ok Tower (Okburcu) in the east provides surviving evidence of the Seljuk construction. In addition, a triangular tower in the inner fortress (Ic kale) which belongs to the Byzantine period was also incorporated into a square one. Spolia was used in construction of this tower.

Konya Fortress

As with the Kayseri Fortress, the Konya Fortress is also believed to have been constructed in the Roman period. However, due to the restorations and addition of new sections, the fortress and the city walls, which are believed to have been built in 2nd century AD, have almost lost their original plans and their architectural features. Although they have reinforced it against the anticipated First Crusade, the Seljuks made initially almost no changes to the fortifications when they conquered the city. Today nothing is preserved from the city walls surrounding the Alaeddin Tepesi (Alaeddin Hill). (Figure 3, Figure 4)

Especially during the period of İzzettin Keykavus I and Alaeddin Keykubat I restorations were made to the Byzantine walls substantially. During these restorations one of the first examples of an 'exhibition' in the history of museology occurred when the spolia and the Antique period materials found near the Alaeddin Hill were displayed on a stand set in front of the walls. (Figure 5) In this way the Sultan synthesized his own culture with the preceding one. Even more, the fact that the materials used in the city walls were contradictory to Islamic philosophy was tolerated. Displaying spolia with erotic figures on the walls was a clear indication of Seljuk tolerance. Another significance is that it displayed iconography on the walls. During Medieval time sultans believed that this could protect their citizens from enemies. There are two kinds of enemy. One of them is the visible enemy – because they are human like them. The other enemies are the invisible ones, and the city could be protected from these by talismans. There are many medieval stories about talisman present in Islamic culture, i.e. Gog and Magog versus Alexander.

⁵ Syrien 1905, 237.

Kayseri Ulu Mosque

The mosque is located within the outer city walls of Kayseri and on the route which leads to the Dervaze-i Zerrin (Golden gate) of the inner fortress of Kayseri. It was built by Melik Mehmet Gazi, the third monarch of the Danishmendids, who made Kayseri his capital city between the years 1134-1143.⁶ According to an inscription, the building was extended by the ruling Seljuk Sultan Gıyasettin Keyhüsrev I in 1205. Despite ambiguities in its layout, the building, which features depth-oriented architectural planning, is the earliest example of this type in Anatolia.

There are different approaches to the original construction of the building. Michael Syrian presents the most notable explanation.⁷ The Ulu Mosque was built in the ruling years of Mehmet Gazi in Kayseri. In his account Syrian also states that Mehmet Gazi made use of and repaired the Byzantine buildings in the city after its capture by Danismendides. Another suggestion concerning the Kayseri Ulu Mosque is that the building stands on the foundation of a Byzantine building.⁸ This claim was only a hypothesis waiting to be tested until 1992, but excavations around the mosque in that year provided significant information which proved this hypothesis to be true. The foundations of the Ulu Mosque were originally supporting another form of building. Furthermore, the columns and the capitals of the former building were also used in the section constructed by Mehmet Gazi. (Figure 6) These are the traces of the building which was reported by Michael Syrian.

The inner section of the mosque which was constructed by Danishmend Sultan Mehmet Gazi includes many spolien parts. (Figure 7) These materials are generally part of the structural system supporting the top layer: column capitals and columns belonging to late Antique and Byzantine periods. There are examples of Ionic and Corinthian column capitals among them.

Kayseri Battal Mosque

This mosque is located in the southern part of Kayseri Centrum. This mosque which rises on the outer walls of old Kayseri Centrum, which is also known as Mazaka, was converted from a Byzantium tower into a Seljuk Masjid. (Figure 8, Figure 9) Although its initial construction date is not known exactly, it is thought that it belongs to the Byzantine period both in terms of its plan and building materials. The first information about the building was given by Procopius in the 8th century.⁹ Procopius reports that the area was within the city walls during the reign of Justinianus.

The complete building was converted into a mosque after the city was captured by the Turks. A chronicle of the period covers information about the use of the building in the Seljuk period. During the Seljuk period, a mosaic tile apse was added into the southern part of the tower. The building was damaged by an earthquake in 1752 and the apse was destroyed as well. A new apse with Baroque characteristics was built and the surface of the old apse was plastered in an attempt to restore the damage caused by the earthquake.

2. The Use Of Spolia As Structural Elements In The Construction Of New Buildings

There are many examples in this group. Buildings in this group are located generally in areas where construction material was scarce in those times. Spolia materials were used in almost every form of

⁶ Syrien 1905, 237; Eldem 1982, 45; Efendi 1987, 14; Gabriel 1931, 39; O. Eravşar, Ortaçağda Kayseri Kent Dokusunun Gelişimi 1998, 226; Syrien 1905, 237.

⁷ Syrien 1905, 237.

⁸ Berchem 1912, 89; Rice 1961, 137; Gabriel 1931, 41.

⁹ Prokopios 1954, 4.

building in the Seljuk period. However, the most common use was in the construction of caravanserais. Spolia became attractive since it was the most inexpensive and the easiest material to obtain.

Due to their quantity, functions and widespread use caravanserais were the most frequent structures where the spolia material was used. Scarce construction resources in caravanserai locations led the contractors to use spolia material to this extent in the construction of caravanserais. There were no limitations in regards to the quality of spolia materials used in caravanserais. Moreover in some cases they were integrated into the buildings in such a way as to be a part of its ornamental program.

The spolia material sometimes led to changes both in portal arrangements and the plan of caravanserais. This may suggest that the construction of the buildings was carried out in some haste. Perhaps the contractors had not enough time to process the spolia materials before integrating them into their buildings.

The Obruk, Zazadin, Kadınhanı and Kuruçeşme caravanserais are the best examples of this group. Indeed, it would not be an exaggeration to say that the first two buildings could be described as spolia museums! Other examples are Akşehir Taş Madrasah, Konya Alaeddin mosque, Konya Sahip Ata mosque, Bolvadin Kırkgöz bridge, Afyon Altı Göz bridge.

Akşehir Taş Madrasah

Only the madrasah remains from a complex which includes a madrasah, masjid, tomb, HANKAH and alms house in the centre of Akşehir. This building, now used as an archaeological museum, belongs to the group of open-atrium madrasahs. As can be seen from its inscription, it was built in H.648/M.1250.¹⁰(Figure 10)

The arcade structure of the madrasah is made entirely of spolia materials. Although the source of the spolia is not known for certain, museum records refer to a nearby church which no longer exists. The spolia are generally a part of the structural system in this building. (Figure 11) In particular, the columns and column capitals used in the arcades around the atrium are all spolia and all of them are of different types. There are other sections in the madrasah in which the spolia there are column capitals in the museum garden and store, which are similar to the columns in the arcades. (Figure 12) Two columns and capitals facing the *iwan* in the northern part of the atrium are similar to each other in form. In addition to these, the one at the west end is a capital with distinctive cubic acanthus leaves. The column just by the main *iwan* at the east end is a Corinthian capital in a different form from the others.

Three different capitals can be seen in the arcades in the eastern wings of the atrium. The same type of capital located just by the entrance can also be seen in the western part of the madrasah. Acanthus leave figures have been engraved on this capital too. The second one in the entrance is a composite type capital. The volute curves in the corners of the capital are combined with acanthus and its leaves beginning from the lower part. The capital in the last part of the arcade in the western wing is significantly different from the others in form. The curves engraved on this capital, which has a more plastic quality, are more relieved than others.

Besides the arcades, spolia materials can also be seen in the other parts of the madrasah. The inscription part just under the *mukarna* row in the portal was made by scraping off the surface of a column.

There is a door made of templon architrave fragments in the eastern part of the front facade of the madrasah. The lintel and the frame of the door are basic and even.

¹⁰ Demiralp 1996, 64.

Afyon Bolvadin Kirkgöz Bridge

This structure is on the segment of Anatolian caravanserai route which passes through Eskisehir (Dorylaion), Sayitgazi-Ishaklı-Aksehir (Philomelion) and Ilgın-Konya. The bridge was constructed on the Akarcay river which has springs close to Afyon and flows into Lake Eber. The town of Bolvadin is located to the north of the bridge. (Figure 13) Although its first construction was dated to the Roman period, additions and restorations were made during the Seljuk and Ottoman periods.¹¹ The famous Ottoman architect Sinan made restorations and additions to this bridge during the Ottoman period.¹²

It is possible to see the traces of three different civilizations on the bridge. Each civilization is differentiated not only by building techniques but also by materials they used in constructing. The bridge, which is about 1km long in total, has 15 span sections built in Roman times. The part built by the Seljuks holds the section which is the richest segment in terms of spoliens material. (Figure 14) Spolia is used structurally in columns as well as in the span of the bridge.

Obruk Caravanserai

This caravanserai, situated on the road between Konya and Aksaray and connecting Konya with the East, was used actively in the Byzantine period as well.¹³ The caravanserai is named after the karst lake formation called Obruk (concave), which is right behind the caravanserai. The caravanserai is classified as being in the group of caravanserais having open and closed parts. While the building construction date is not known clearly, it has been dated to the 13th century solely based on the events mentioned in the historical sources of the period. The facade with embrasure characterizes the building. (Figure 15)

The spolia material used in the Obruk caravanserai is the richest of all the Anatolian Seljukian caravanserais in terms of variety and where and how it is used. The spolia have been used almost in every part of the construction of the caravanserai. The main reason why Byzantine spolia was used so extensively in this caravanserai was because there was no stone quarry in the vicinity. It is not known exactly where the spolia was obtained from.

However, a recent survey found traces of a settlement belonging to the Byzantine city of Perta on the slopes of the Balık Mountains to the west. The spolia used in the construction of the caravanserai must have been brought from this city. Similar examples of spolia to those in the Obruk caravanserai can be seen in the Zazadin caravanserai, which is situated on Konya-Aksaray road, and also in Zıvırık caravanserai in Altınekin.

The spolia materials used in this building can be classified into the following groups: architectural elements such as column, capital, architrave, and panels; liturgical church elements such as ambons, altars, templons and its parts, and various grave steles. (Figure 16) Parts such as columns, capitals and architraves were used as the structural elements of this building due to their load-bearing capabilities and qualities (Figure 17). Columns and capitals are usually used as a support system in the arches and vaults of the buildings. Architrave fragments were again placed in the lintels and on the frames of the windows in the front facade. The elements in the second and third groups were used mostly as bricks in the walls of building and in the main walls where stresses were minimal and in the masonry inside the building.

¹¹ Eravşar ve H.Mert 2003, 583

¹² Çulpan 1973, 133; Çeçen 1988, 435.

¹³ Erdmann 1961, 126; Sarre 1896, 71; Bektaş 1999, 94; Belke ve Restle 1984, 210.

The entrance facade of the caravanserai has a different design from those of other Seljuk caravanserais. The two-storey entrance facade was covered with a multi-layered cradle barrel vault on Byzantine-era columns. There is an altar base buried half into the ground in the western foundation. Slots to hold the legs of an altar table can clearly be seen on the altar base. The column capitals which are positioned at the corners of the access door are profiled-architraves with a circle bordering a cross figure at the centre. The lintel and frame used in the windows of the masjid which is behind the west section of entrance, are partly made out of broken fragments of a templon architrave. There are circular motifs on these fragments which are engraved on right and left side but there is also one at the top and the other at the bottom of the main figure. (Figure 18) The diamond-shaped main figure is formed by a circle in the centre, which also features a representation of St Catherine and her wheel. The centres of the circular motifs at the borders were bored by a drill. This material reflects the mid Byzantine period style.

There is another altar base facing the facade and placed next to the buttress which is outside the facade at the corner of the western part. There used to be a cross figured right into the centre of the marble base but the surface has been worn off now.

There are many spolia materials in the eastern facade of the caravanserai too. The spolias in this facade are generally plain architraves without any decoration on them. Beside these spolias, a few architectural pieces in this facade have been dated to the late antique era.

The basalt window lintel in the eastern facade, in the part between the second buttress and the closed section, is made of a different material from the other spolia used in this building. There are a few pieces of architraves belonging to the late antique era at the top and bottom part of this section. There are mouldings and 'rows of eggs' decorations on these pieces.

Grave steles had also been used in some parts of the eastern facade. Crosses and the original inscriptions on these materials have not been concealed and these materials were set in the best feasible place by the architect.

The number of the spolia increases in the north-eastern corner of the facade. The spolias used here are generally architrave pieces which have simple geometric motifs on them. Cross motifs in the circles placed between profiled moldings attracts the attention on these architraves. Despite the fact that there is no ornamental element that can shed light on their age, considering the construction date of the Obruk caravanserai the spolia may be dated to the middle Byzantine period or before. The northern facade is another section where a large amount of spolia is apparent. The spolias here are either architrave pieces with simple geometric figures on them or simple plain stones used as bricks, as in the Zazadin Caravansarie; there is deterioration on the western facade of the caravansarie due to moss and micro-organism formation. Therefore, it is difficult to discriminate the spolia used here.

As for the interior of the caravansarie, the spolia is seen generally on the surfaces of the side walls and in the piers supporting the roof in the middle atrium. Right after passing the portal in the entrance there is an architrave piece next to the foundation of the portal's columns. It is made of marble showing skillful manufacture but no ornamentation at all. There are two marble pieces placed on the side walls of the passage to the closed section. The first one is in the shape of an arched transition element having a relief liturgical element on its surface. The other one is a window frame. It is likely that these elements are mid Byzantine period.

The majority of the stones used in the open court section of the caravanserai are Byzantine Period

spolia materials. However, these pieces are generally window lintels or regular architraves without any decoration. Columns and piers which used to be load bearing elements are intentionally placed in the front part of the piers in the middle atrium of the closed section of the caravanserai for the same function. These piers are made of grey marble. There are surface relief geometric motifs on them. Two types of piers are used in the middle atrium: piers whose corners have a vertical cross-section and those with an oval cross-section. The piers usually come with their own capitals. In 1996 the piers that had been buried up to their capitals, and another vertical cross-sectioned white marble pier, which was totally buried in the atrium, were uncovered by the excavations carried out by the Department of Art History of Seljuk University.¹⁴ The arches supporting the roof dome in the middle of the closed section of the caravanserai were placed on these piers. These piers facing each other still exist just in front of the *iwan* in the closed section under these two arches. Beside these, while the capitals and bases of the piers, which are just in front of the other five piers in the middle atrium, have been partially protected, the pier bodies are no longer to be seen. It is possible that they might have been used in the construction of buildings in the nearby village.

The spolia materials used in the *iwan* walls of the caravanserai are interesting in terms of their use, arrangement and quantity. The spolia used in the walls and arch imposts of the *iwan* are placed with an eye for harmony. The stones used in the arch imposts of the northern side wall of the *iwan* are Byzantine pediment and window lintel stones, and are placed in the same row. There is a window frame on the same side wall in the lower part of the profiled stones, a similar example of which can also be seen in the southern facade. Right next to this, two diamond-shaped stones are placed side by side and each adorned with an ambon piece with rosettes which are made by drilling.

Among the other architectural elements used in this wall, there are two circled cross figures placed next to inner short borders of rectangular profiled moulding.

On the southern side of the *iwan* the beginning of the arch impost was built with more roughly profiled stones than those on the western side. The closest window lintel to the corner part of the *iwan*, which is the same size and placed symmetrically with the one on the southern side, is recognizable. A marble grave stele different from the one on the eastern facade is placed in a relief arch on the same side.

The eastern wall of the *iwan* has the most spolia in the caravanserai. Here it is noticed that a window frame, which is similar to the ones on the southern and the northern side walls, is placed at the centre of the wall. There is another window frame on top of this window frame. The upper part of this window frame is partly broken and destroyed. An access to the lake behind has been gained by making a hole in lower part of the wall. There are two decorated spolia made of grey marble on either side of the hole. The one in the southern part has the characteristics of a balustrade. This piece is rectangular and it has two decorated areas defined by profiled borders in the middle. The first one is a composition made of two squares overlapping diagonally and there is a circular motif in relief in the middle. In the other decorated area next to this, there is a single relief square placed diagonally with a circular figure in the middle. However, the relief arched motif composition, starting from the ends of the diagonal square and extending towards the sides, is different in arrangement from the other panel. A rectangular cross-sectioned pier is placed horizontally on the other side of the hole. A cross motif bordered by a semi-circle embellishes this pier.

¹⁴ Karpuz ve Baş 2002, 191.

Öresun Han (Tepesidelik Han)

This caravanserai is constructed next to the road between the towns of Aksaray and Kayseri.¹⁵ Although the beginning of the 12th century has been suggested the construction date is not clearly known. The caravanserai is entirely in ruins today. It features different characteristics from other caravansaries in its use of spolia. (Figure 19)

A rare construction plan was applied to the caravanserai in comparison to those used in the other Anatolian Seljuk caravanserais. The closed part of the caravanserai was built in a cruciform shape.¹⁶ All of the arches and vaults in the closed part are round, which cannot be found in other Anatolian Seljuk caravanserais. Furthermore, the deformation of the construction materials indicates that they were brought from other buildings. M. Akok and T. Özgüç, who produced the first detailed research on the building, noted a spolia stone with a cross motif on it.¹⁷ The stone is no longer present at the site. Probably this was either destroyed or removed by treasure seekers.

The spolia can possibly explain the differences in arches and plan of the Öresun caravanserai. The whole building was constructed from the stones transferred here from a nearby Byzantine building and were adapted to the plan of the caravanserai. Due to their round shapes, the forms of the arches and vaults of the building are different from Seljuk designs. The piers of the building are thin and tall. The design proportions in Seljuk buildings were not practised in the Öresun caravanserai. The scarcity of stone quarries in the vicinity obliged the Seljuks to use these materials in construction.

Altınapa Han

This caravanserai, 21km along the road between Konya and Beyşehir, now finds itself under the lake of the Altınapa Dam.¹⁸ In terms of typology, the Altınapa caravanserai can be classified into the Seljuk group, with both open and closed parts. It was built in 1201.

Spolia can be observed in various parts of the caravanserai. Especially in the outer facades of the building, there are materials used as eave stones. Atrium piers and inner parts of the arches are other segments where spolia materials were used. The arch support system in the portal is also spolia.

Spolia can be observed in the support system of the arches in the middle atrium of the building in the closed part of the caravanserai. There are window frames generally belonging to the mid Byzantine period in the piers of the arches. These are made of tufa stone. The capitals, with the same width as the frames, are also noticeable on top of the window frames. In photographs taken in the years before it was under water, the spolia bases can also be seen where the frames are located.

The gathered materials used in the the Altınapa caravanserai have some different characteristics from those used at Konya Centrum. For this reason, it is possible that the gathered materials used in the caravanserai were brought from a nearby location.

3 - Decorative Use Of Spolia

The spolia materials are integral parts of the decorative program. This type of use is very common in Seljuk architecture. The places where the spolia material features rarely seems arbitrary, rather it

¹⁵ Erdmann 1961, 168; Özgüç ve Akok 1957, 81-139; Bektaş 1999, 106.

¹⁶ As suggested by Prof. Dr Ayşıl Tükel Yavuz.

¹⁷ Özgüç ve Akok 1957, 81-139.

¹⁸ Erdmann 1961, 29.

appears intentional and planned in advance. Well-known examples are: the Konya Alaeddin mosque, Sultandağı İshaklı caravanserai, Afyon Şuhut Savcı bridge.

Sultandağı İshaklı Han

This is located in the town of Sultandağı where the road between Konya and Afyon¹⁹ passes through. It is the first town after Akşehir. The whole caravansaerai was built by the famous Seljukian vizier Sahip Ata Fahrettin Ali in 1251. Tufa stone was the primary constructional material however the spoliien material was delicately used in some important parts of the building. Nevertheless, the use of spolia material in this building is limited when compared to others.

Spolia materials were used in the kiosk *maşjid* which stands in the middle of the caravanserai court. There are some spolia in the portal and on the walls of the caravanserai. (Figure 21)

The entrance, which is on northern facade of the kiosk *maşjid*, has a unique and remarkable use of spolia. A marble architrave piece was placed on top of the door span as a lintel. On the front surface of the architrave there are relief palmettes with circular hobnails in the background. A church border piece with relief figures on it is placed below the lintel part of the architrave. The architrave has been put here on purpose in the planning phases of the construction. The integrity of this spoliien material has been maintained and apparently it became an important part of the decoration in the portal's composition. Considering the style of this piece and the technique in its decoration, it is possible to date it to the beginning of the middle Byzantine period. (Figure 22)

On the southeast side of the kiosk *maşjid*, there is a marble sarcophagus lid which is almost level with the eaves. This is the short side surface of the lid with Classical period characteristics. There are palmette motifs in the corners of the very top of the sarcophagus lid. It is estimated that this lid could belong to the 2nd century AD. It is possible that the architect had the intention of placing this lid here as a feature and the arrangement of the rest of the wall masonry seems to support this. As with the elaborate architrave piece in the entrance of the *maşjid*, the intention was to bring a sense of motion into the massive facade of the building. The spolia and some of the masonries used in the southern facade of the building have collapsed as a result of an earthquake and are buried under debris.

A spolia piece taken from a sarcophagus is placed in the marble inscription panel just below the row of *muqarnas* on the caravanserai portal. The plain inner surface of the sarcophagus is used as an inscription surface in the facade of the portal. (Figure. 22) The rear side of the spolia has been preserved as it faces the inner part of the portal. This piece and the one used in the kiosk *maşjid* may belong to the same sarcophagus.

4 – Religious or sacred Usage

There is a further use of spolia which does not come under any of the previous headings: the use of spolia as gravestones. The spolia was generally converted into gravestones with some changes, namely the addition of epitaphs. A new synthesis was introduced when the classical gravestone tradition of the Seljuks and Ottomans was combined with the spoliien material from the Byzantine period. The taboo of using material belonging to another religion in cemeteries, which are sacred places for Muslims and respected as very special to Islamic tradition, was not absolute. That there was no restriction in the use of materials from different religions for this purpose is explicit proof of Seljuk tolerance in terms of the use of spolia. The best example of this kind of usage is the Obruk Han cemetery. There are more examples in the village of Altınekin-Dedeler.

¹⁹ Erdmann 1961, 143; H. Karpuz 1989, 82.

Obruk Cemetery

The cemetery is located in the village of Obruk, to the east of Konya. Spolien materials from the antique city of Pertta were processed for use as gravestones in the cemetery. (Figure 23) A great many spolien parts were converted as gravestones irrespective of their quality. Epitaphs were written in relief on some of the surfaces. (Figure 24, Figure 25)

Spolia in the cemetery at Obruk are generally window frames, columns, window lintels, architraves and altars. The window frames are generally in the style of the middle Byzantine period. These are usually made of grey marble. The columns are either the thick body type or cylindrical in form.

While the surfaces of some of the Byzantine spolia used in the cemetery show no indications of reprocessing, some had epitaphs in Arabic. Generally, the original form of the stones is preserved and epitaphs were placed only in empty areas on the stone surfaces. While the epitaphs take the form of lines on some stones, they were turned into panels on others. Using some spolia adorned with crosses suggests a degree of tolerance in the Seljuk period.

Conclusion

Anatolian Seljuk architecture features spolia frequently. When the Turks arrived in Anatolia, they did not reject the construction inventory built by the civilizations before them and used the available buildings just as they were. Initially only spolia were used in construction of new buildings. Later the ruins of old buildings began to be used.

Spolia was used more in caravanserais than in any other building category. The reason for this is that caravansaries have social content. No restrictions were present in spolia use in these buildings. The spolia was used in almost every part of caravansaries. The fact that Christian symbols, such as the cross, were not erased is a clear indication that the use of these materials was unrestricted. The Seljuks had two reasons for using these construction materials. The first one was their availability. The second was to conserve the art and culture of the local people when using these building materials. Spolien construction materials served their original functions when they were being used as available resources for constructions as sometimes as masonry elements or as structural features. Generally columns and piers were used as structural elements, and even window lintels were used as part of the load bearing system. Almost each piece was used carefully in wall laying. The surfaces of the spolien materials were not changed in some applications. On some others the surface was altered but the form of the material was preserved.

The Öresun Caravanserai constitutes a unique example of spolia since all the material of a Byzantine building was used in the construction of a new building. The layout, including arches, of an available building was transferred and had a bearing on the final layout of the caravanserai. It may be concluded that the use of spolia was common especially in the areas where there was a scarcity of building material. Since there were not enough stone quarries in Konya and its surroundings, this spolia use was inevitably the method of constructing the new building to meet some of its design objectives.

Sometimes spolia was used for decorative purposes. The architrave included in the portal of the kiosk *masjid* of the İshaklı Caravanserai became an integral piece of the portal. In spite of their ornaments the templon architraves in the portal of the Kadın Caravanserai brought a sense of motion into the homogeneous portal facade. Even the cross on the centre of the architrave was shown in the portal as it is.

Another reason for using spolia so extensively was a feeling of respect for local civilizations and history

when artefacts such as fragments of writing, relief and sculpture were used. This respect in a sense has preserved so much material until today. There are many examples of this aspect of spolia use in other Seljuk buildings. The intention to display spolia in the facade of the towers of Konya city walls is a convincing example. Thus, the Seljuks adopted a wide tradition of synthesizing the material cultures of other regional civilizations – in particular through their art.

It is known that the same tradition continued with the Ottomans – preserving frescoes underneath plaster layers when converting churches into mosques is a clear proof of this attitude, as in Hagia Sophia in Istanbul. Not only in mosques but also in other buildings, such as caravanserais and baths, both spolia and Byzantine masonry techniques were also used when required.

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Figures

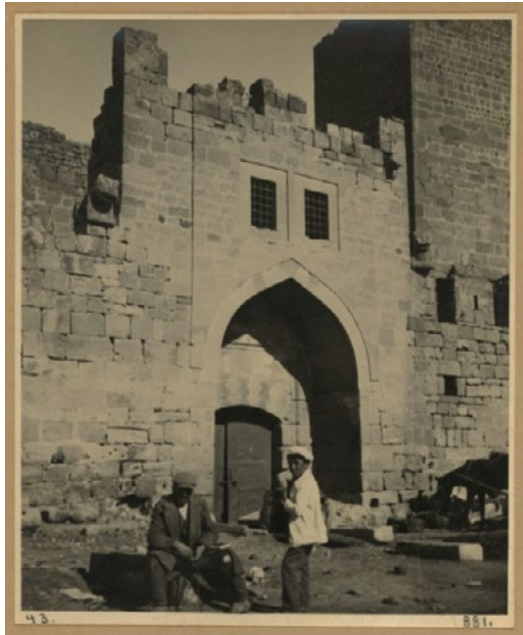


FIGURE 1 CITADEL OF KAYSERI IN XIX CENTURY

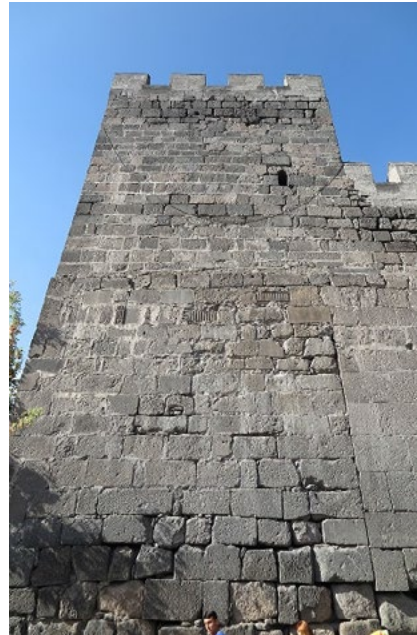


FIGURE 2 SPOLIA MATERIAL ON THE KAYSERI CITADEL WALL.

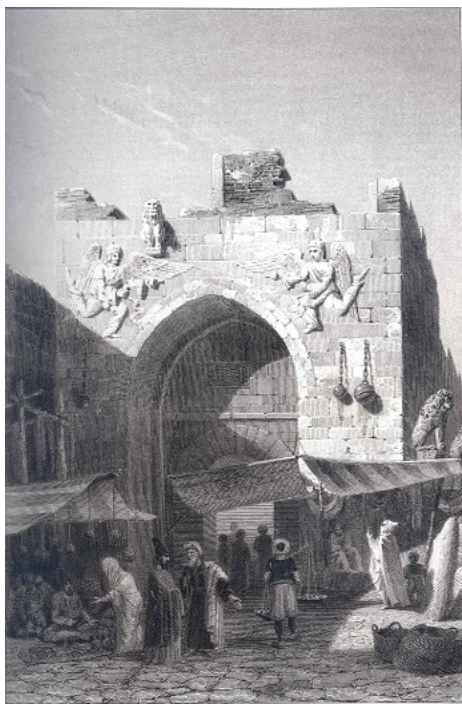


FIGURE 3 INNER CASTLE OF KONYA CITADEL.
(FROM LABORDE)



FIGURE 4 PORTAL OF INNER CASTLE IN KONYA CITADEL. (FROM TEXIER)



FIGURE 5 SPOLIA USAGE ON KONYA WALLS. (FROM L.LABORDE)



FIGURE 6 SPOLIA OF KAYSERİ ULU CAMII INNER PART.



FIGURE 7 ION COLUM AND CAPITAL SPOLIA OF KAYSERİ ULU CAMII INNER PART.



FIGURE 8 KAYSERİ BATTAL MOSQUE FROM NORTH FAÇADE.



FIGURE 9 KAYSERİ BATTAL MOSQUE FROM EAST FAÇADE



FIGURE 10 AKŞEHİR TAŞ MEDRESE ENTRANCE PORTAL.



FIGURE 11 THE COLUMNS AND COLUMN CAPITALS USED IN THE ARCADES AROUND THE ATRIUM ARE ALL SPOLIA IN AKŞEHİR TAŞ MEDRESE.



FIGURE 12 AKŞEHİR TAŞ MEDRESE SPOLIA MATERIAL IN THE RIGHT REVAQ.



FIGURE 13 BOLVADIN KIRKGÖZKÖPRÜ OF PART OF SELJUK PERIOD.



FIGURE 14 SPOLIA FROM BOLVADIN KIRKGÖZKÖPRÜ.



FIGURE 15 OBRUK CARAVANSERAI ENTRANCE FAÇADE.



FIGURE 16 SPOLIA IN CLOSED PART FROM OBRUK CARAVANSERAI



FIGURE 17 SPOLIA IN CLOSED PART FROM OBRUK CARAVANSERAI



FIGURE 18 IVAN OF OBRUK CARAVANSERAI.



FIGURE 19 ÖRESUN CARAVANSERAI.



FIGURE 20 ALTINAPA CARAVANSERAI.



FIGURE 21 SULTANDAGI İSHAKLI CARAVANSERAI



FIGURE 22 THE ENTRANCE OF THE KIOSK MASJID IN THE MIDDLE OF THE NORTHERN FAÇADE IS SPOLIA USE FROM İSHAKLI CARAVANSERAI.



FIGURE 23 SPOLIA IN OBRUK CEMETERY.



FIGURE 24 EPITAPHS WERE WRITTEN IN RELIEF ON SOME OF THE SURFACES TO GRAVESTONE IN OBRUK CEMETERY.



FIGURE 25 WINDOW LINTEL IN OBRUK CEMETERY.



FIGURE 26



FIGURE 27



FIGURE 28

Everyday Life of a Medieval Ship Crew – Ceramic Materials from a Shipwreck near Novyi Svit

Veiber ALINA

Kyiv National Taras Shevchenko University, Ukraine, Lady_Aly@i.ua

The study of the history of everyday life and the home started to become popular in the 1930s in Europe, with the beginning of the researches incorporated in the French school of modern history. In addition, the tradition of the study of domestic behaviour and history is entrenched in Soviet historiography. Mainly the researches of these historians touch upon the main features of household and spiritual culture from the Middle Ages, primarily based on written sources and from time to time complementing the overall picture with appreciation of art, architecture, and archeology.¹ In this paper we also take a glimpse into everyday life – but we take to the seas, and into the lives of the crew of a Medieval ship. Our source is an archaeological landmark – the remains of the sunken merchant Pisan ship, located near the resort of Novyi Svit, near the town of Sudak, in the Crimea.

Information about the site of a potential shipwreck came through in the 1960s and since that time the site has unfortunately been destroyed as a result of plundering by local residents and tourists: and this part of the collection has been lost forever. Since 1996, however, an expedition led by the underwater archaeology unit of the Taras Shevchenko National University of Kyiv has been engaged in researching and protecting the site. To aid them, this team has been using underwater video and photography, and a range of underwater equipment. The data obtained has been processed by computer software and other modern methods of investigating the material.²

Thanks to the long-term scientific activity of the expedition, headed by the unit director, Sergii Selenko, the site continues to be researched and the results are promptly released to the scientific community by means of articles, presentations, etc. by the university.

A written source, which was found and translated, has helped us to better understand the causes and consequences of the shipwreck. This source provides information about the conflict between Genoan and Pisan trading crews, which developed into armed confrontations. As a result of one of these our ship was attacked and, we presume, was consumed by fire. The source allows us to date the site exactly: 14th August 1276. In addition, the typological characteristics of the material confirm the dating – the end of the 13th century. Byzantine coins, found on site, help to establish the precise dating.

The research topic of the daily life of the crew of the ship is a broad one: it includes both general information about the structure of the ship, as well as the number and details of her crew. Archaeology can provide only partial answers to these questions, of course, and to describe the overall picture we will turn to the work of historians.

In the 13th century, sea voyages were already common. They met the needs not only of traders, but also the pilgrim market, centred on the Holy Land, and a variety of other travelers. Through this expansion

¹ Тош 2000, 189-193.

² Веленко 2008, 126-143.

in sea travel a type of infrastructure was developed to assist all these travellers and provide them with conditions of relative safety and comfort, as much as was possible for the times.

Special maritime routes sprang up for traders and pilgrim ships. Hospitable accommodation was provided for the voyagers, where they could stay, and markets developed to provide them with necessities.³ Major port cities functioned as centres for trade and business development, featuring large markets where merchants could buy, sell or exchange their goods. By the end of the 13th century these centres witnessed a qualitative change in the ideological attitudes of the relevant religious institutions, and the societal attitudes of those engaged in commerce. Suspicion of trade, in that it had to do with the material, not the spiritual welfare of the community, gradually lifted and there began a general recognition of merchants, and their bankers, as one of the more important strata of urban life. The major developments in maritime trade stemmed from the Italian city-states. And it was in these centres, from the end of the Middle Ages, that merchants saw a rise in their social status and became influential local figures and patricians, contributing greatly to the success of the community.⁴ By the end of the 13th century numerous outposts of these states were flourishing in the Mediterranean. One of these was the city of Sudak, which periodically passed from the dominion of Venice to Genoa. It was listed among the famous ports of the time, and Novosvitskaya Bay, where our annual survey expedition takes place, was one of the auxiliary city-ports.⁵

We may consider our site within the context of the development of maritime trade and travel. And the finds we make will be considered as part of the study of the everyday life of the crew. As it is our main source, our attention will focus on the crew's mundane activities. As for the ship, the remains of the hull have now almost entirely disappeared: wood deteriorates after long stays in sea water, and metals quickly corrode. Written sources also give us clues as to exactly what type of vessel our wreck was. Our main parallel must be with the traditional galley model, the main type of rowing vessel at the time. The crew would mainly have consisted of oarsmen, and the others common seafarers and merchants.⁶ We can only imagine how much gear was necessary to ensure all needs when travelling, but unfortunately time has preserved only a handful of items.

The ship was a trading vessel and its principal cargo likely to be oil, wine, containers with fresh water, and other items intended specifically for resale. Only a very small amount of organic compounds remain, from which we are able accurately to determine the contents of the packaging and containers found. Water pressure has shattered almost all the amphorae. For a more accurate view of the contents we were obliged to turn to chemical analyses, and indirect sources that relate to the merchandise popular in maritime trade in the high Middle Ages. All the finds from the site can be classified by their function: packaging, kitchen, and dining. Most of the ceramics would have been intended for resale, i.e. the large jars/amphorae (with their contents), some coarse kitchen ware, fine tableware (plates, bowls and cups). Clues to other items intended for resale are the larger quantities of utensils of similar type and quality.

Packaging ware is represented by amphorae and pithoi of different types, selected to meet the demands of the various local markets and consumers. These containers were often marked with their contents, the name of the owner, or other relevant notes concerning ownership or details of transportation methods. Ceramics and their contents represented the majority of the cargo. Such amphorae finds are common at other wreck sites in the Mediterranean in the Middle Ages; they have been well studied and their typology well understood by the modern scientific community.

³ Ришар 2002, 27-32.

⁴ Гуревич 1990, 67-70.

⁵ Скрижинская 2006, 45-47.

⁶ Монфельд 2000, 17-19.

Among the finds of mass tableware, pots are particularly evident, being present in great numbers on the site.

Glazed tableware represents an important group, especially jars and pots, which were clearly intended for resale. These sets of glazed items displayed common techniques, ornamentation, clay colour, etc. There were other items of quality tableware which were being transported in large volume for resale; complete sets were easily identifiable of several similar bowls and plates. In addition, we have indirect information about the merchandise, for example its place of production (taken from the analysis of its type and decoration). As the ship was a trading vessel, the sets of glazed utensils aboard and intended for resale had different places of origin and production. All ceramic and other items found in the wreck are the subjects of further scientific research. From these investigations we may learn when and where they were manufactured and how they were distributed.

One of the tasks of our work is to differentiate those personal items that belonged to the crew and those that would have been items of the ship's basic gear and equipment. A number of features help us to select such items from the total quantity of finds made. Items of personal use are often represented by individual finds; these may also show signs of wear or repair. Such items can include simple tableware, bowls, plates, etc. Items linked to general use in the galley and other areas, can also be identified (kitchen utensils, lamps, etc.). On the kitchen pots there were traces of multiple use. Among the total number of finds, pots with resin traces are especially noticeable – these would have been used for minor repairs all over the ship.

From the above groups of ceramic items, we can highlight some samples of kitchen and tableware with many of the characteristics mentioned. Among these is a group of pithoi that could potentially have served as receptacles for the storage and conservation of food/drink, i.e. the water tanks and grain/cereal containers. One pot excavated from the sea floor is unique, with its distinct traces of resin and wood (perhaps a brush) inside, which might have been used for making minor repairs on the ship.

The obvious primary use for utensils is for the preparation and consumption of food; kitchenware and tableware providing the best examples. During our researches on the wreck we found many examples of kitchenware and tableware with traces of long-term use. Pots and cooking pans belonging to the galley were obvious finds, many with traces of fire use and burning, and pot finds provide the best means for reaching an idea of the number of such vessels on board, and thus the extent of crew and passengers. Few of these vessels were found complete however, and there was also some evidence of use overall among the total number of sherds found to date. Such material is not included in the category of ceramic products intended for resale. Among these finds are NS 2012, No 381 and NS 11. No 694 (Appendix 1 to 2). Traces of fire damage are clearly visible on them (external vessel surface). Because of the particular conditions of the cooking arrangements on board we can assume that the kitchenware was the common property of the members of the crew. It should be noted that the finds of kitchen utensils were comparatively limited, and not suggestive of mass meals for the entire ship's company. Perhaps in the course of further investigations other examples of kitchenware will be found which will give us more information.

The tableware finds are quite diverse – bowls, plates and cups. Indications of items of personal use include occasional graffiti, which may indicate the owner. Some of the tableware show signs of repair. Two fine examples of such finds are bowls NS 2007, No 465 and NS 2005. No 116 (appendix 3 to 4), which at first sight repeat a little the forms and decorations typical of the ship's tableware; both feature individual graffiti, possibly an heraldic symbol; the ornamental design is also original – unequal circles, engraved by hand. The mug number NS 2008, No 385 (appendix 5) is unique. Only a few of the most significant examples of tableware of individual use are illustrated, although the collection contains

significantly more finds. Individual ceramic finds can potentially reveal the where crew members came from, or may indicate the where the product was bought; this can also help establish the route of the ship. Traces of pottery repair may suggest the monetary value of a product and be an expression of the personal preferences of individual crew members. Traces of repair are seen on some bowls and plates. The repair methods included additions and fixings to join the damaged parts. As a result a bowl might no longer hold liquids but could still be used to contain solid food. The walls of glazed plate NS 2013, No 982 (appendix 6) and the walls of glazed bowl NS 2013, No 983 (appendix 7) serve as examples of such ceramic repairs. On both examples there are traces of previous connections. At our wreck site the signs of fixing were mainly restricted to tableware rather than amphorae. Repairs to pithoi are known but none were present on our site.⁷

Other items of personal use include lamps NS 2013, No 808 and NS 2013, No 931 (appendix 8-9). A ceramic cross, which points to the religious affiliation of a crew member, was also found during the previous archaeological field season. Even though our work focuses on the ceramic component among the finds of the crew's daily lives, the overall picture is completed by the finds of other mundane articles made of glass, wood or metal.

There were also finds of everyday objects used for maintaining the vessel as part of the ship's routine equipments. These included, as mentioned above, pots with resin residues; these may have been objects for undertaking minor repairs during the voyage. Pithoi could also be used for routine purposes, and about 20 such vessels have been found to date. These could be suitable for the long-term storage of water or bulk substances, such as grain or cereals.

Our finds of pottery vessels with indications of being for everyday use on board are well-represented on the studied site. They can provide us with both direct and indirect information on the context of their place of manufacture, the route of the ship, and the ethnic and religious identities of members of the ship's crew. The analyses of these archaeological materials provides us with valuable data on some aspects of the lives of the crew. The descriptions and interpretations of the utensils, and the clues they reveal, investigated in this report give us an idea about one of the aspects of everyday life for crews on board a Medieval ships. We also emphasize the importance of the written sources and historic investigations when it comes to trying to piece together a fuller picture of life on board a merchant ship in this era.

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⁷ Якобсон 1979, 23-25.

Figures

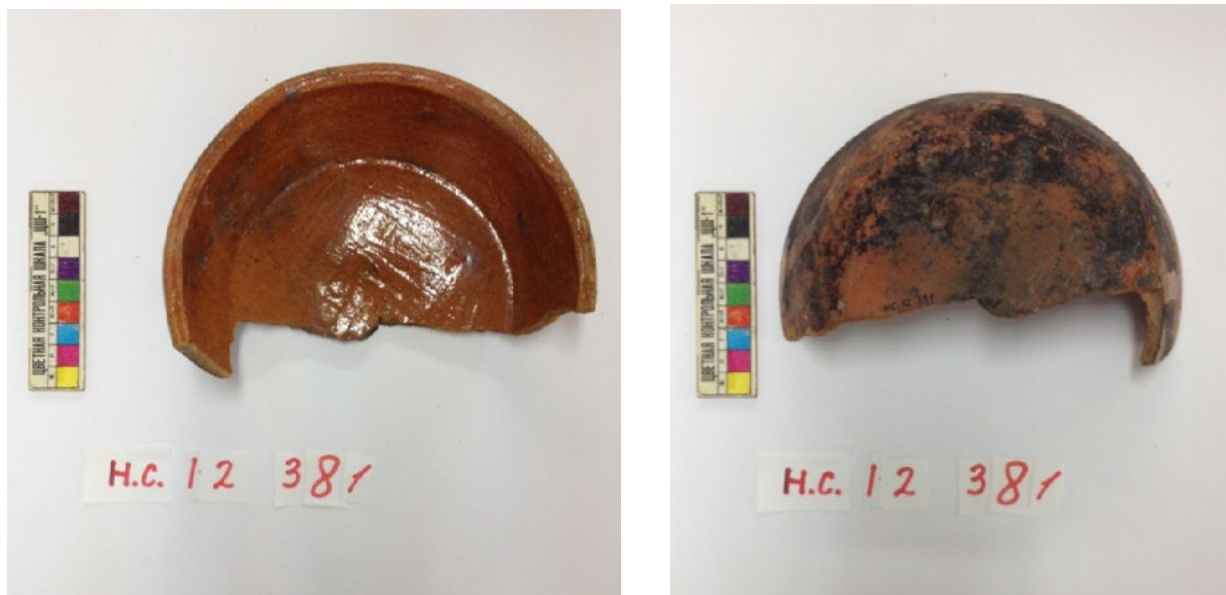


FIG. 1: N.S. 2012. №381



FIG. 2: N.S 11. № 694



FIG. 3: N.S. 11. № 694



FIG. 4: N.S. 2012. №381



FIG. 5: N.S. 2008 № 385



FIG. 6: N.S. 2013 № 982

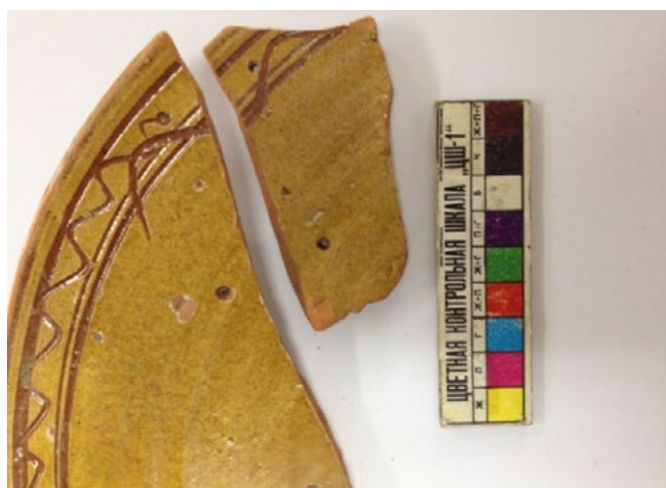


FIG. 7: N.S. 2013 №989



FIG. 8: N.S. 2013 №983



FIG. 9: N.S. 2013 №808



FIG. 10: N.S. 2013 № 931

