ISSN 2159-9904 (print)
ISSN 2159-9912 (online)

Cover image:
Late Roman vase, 250-300 C.E.
Made in La Guierce, Charente, France
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Fletcher Fund, 1947(47.100.5)

Printed in Buffalo, New York by Complemar
First published in New York in 2020

Funding for Chronika is provided by:

The Graduate Student Association
The Institute for European and Mediterranean Archaeology
The Department of Anthropology
The Anthropology Graduate Student Association
The Classics Graduate Student Association

Chronika, Volume X
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Letter from the Editor

We are proud to present the tenth volume of the Institute for European and Mediterranean Archaeology's Graduate Student Journal, *Chronika*. It has been my honor to take over the position of editor this year, and I hope I have lived up to the high standards set by my predecessors. This transition has been greatly facilitated by the help provided to me by the former Editor-in-Chief, Heather Rosch, and by the fact that she, as well as Valerie Long and Tabitha Rose, all agreed to remain on the editorial team. Throughout the past years, we have learned to work efficiently together and have managed to turn the challenging process of producing this journal into a smooth and gratifying one.

Chronika has come far within the past ten years. One of our recent aims has been to modernize the journal by providing online versions of each article while still producing a print version of high quality. This year, we continued this trend by publishing the raw data of two authors on our website and developing our online social media presence. This last move has allowed us to expand our readership and pool of potential authors, while the first decision falls in line with a desire within archaeology to use new technologies to create a more open discipline, receptive to data sharing.

As always, *Chronika* would not exist without the continued support of people and organizations within the University at Buffalo and beyond. We thank all of these supporters, including peer reviewers, past editors, and cosponsors.

Mélanie Lacan

Editor-in-Chief

Cremation and Mortuary Variability in Ancient Armenia

Salpi Bocchieriyan

Though the region that is modern day Armenia has always been part of the Classical world, this is rarely apparent in English language scholarship. Maps of the Classical world almost always relegate Armenia to an adjacent, featureless blob, and data from the region is virtually never included in regional or chronological syntheses. Yet, in Armenian and Russian language scholarship, there is ample data that is the product of decades of dedicated research and regular excavations. This article employs just a fragment of this available data to investigate the variability present in mortuary practices in Ancient Armenia from 330 B.C.E. to 330 C.E. and focuses specifically on treatment of the body. It is frequently noted that variability is characteristic of Classical mortuary practice in Ancient Armenia; however, the social differences that produce this variability have yet to be interrogated. By reconsidering legacy data from the sites of Artashat, Dvin, and Beniamin located in modern-day Armenia, this study will lay the groundwork and begin to answer questions of social difference. Ultimately, it underscores the abundant data available and ready for reinterpretation and incorporation in broader regional and chronological syntheses.

Introduction

This article examines variability in cremation practices in ancient Armenia from 330 B.C.E. to 330 C.E.[1] By analyzing legacy data from the sites of Artashat, Dvin, and Beniamin, located in modern-day Armenia, this study begins to assess various social identities the treatment of the dead may reflect. Prevailing approaches to the study of ancient Armenia have obscured variation in practice in favor of continuity and cultural homogeneity; however, mortuary practice has long been regarded as an arena for negotiating and producing social boundaries.[2] This study asks just one of a multitude of questions that could be asked of the dataset about the production of social boundaries. Namely, what factors may explain peoples' divergent choices in treating the bodies of their dead?

The period this study considers roughly coincides with the Hellenistic and Roman periods in the broader region of the Near East.[3] In western scholarship on the classical east, the study of mortuary practice has largely focused on elite and/or monumental structures; this is true both in Anatolia[4] and along the Black Sea coast.[5] While Moorey's[6] compiled salvage excavation records from Deve Hüyük are a notable exception, the Hellenistic period burials have not been well preserved and available data are sparse.[7] The elite focus limits our understanding of socio-economic identities and negotiations of social difference by omitting large portions of ancient populations.

The history of archaeology produced in the Soviet and post-Soviet sphere offers a strikingly different picture. Non-elite burials in Armenia have been excavated and published extensively throughout the 20th century. This separate development included an emphasis on a unified and inherited Armenian culture.[8] However, this emphasis comes at the expense of recognizing social difference as it is manifested in burial practice.

Much variability has been noted in more recent publications[9] dealing with mortuary data from Armenia's Classical period. However, in each case, the existence and range of difference is simply accepted as characteristic of this broad time period without attempting to explain the potential significance of the differences. The early works of Gevorg Tiratsyan[10] and Babken Arakelyan,[11] both prominent Armenian archaeologists, assume a local/foreign dichotomy. When current scholars such as Gyulamiryan and Khudaverdyan[12] cite Tiratsyan and Arakelyan, among others, to establish the nature of the Armenian state at this time,[13] they perpetuate this binary opposition and greatly limit the range of possible interpretations from mortuary data.

Both Armenian scholarship and western Hellenistic scholarship have offered a limited picture of social life during Armenia's classical period; questions of power and inequality, gender, age, and class have largely gone unasked. Wider developments in mortuary archaeology have shown[14] that the study of burial evidence can inform our understanding of socio-political dynamics[15] by examining core aspects of mortuary practice as they relate to individual or group identities. These core aspects include grave architecture, grave orientation, body treatment, body arrangement, grave goods, and cemetery organization; social identities that may come to bear on these aspects include the age, sex and gender, political allegiance or power, economic power, ethnic, religious, and/or linguistic identity of both the deceased individual and those partaking in the funerary practices. In addition to these factors, other considerations such as accessibility and availability of materials and opportunities for individual choice may play a role. As Gregory Areshyan[16] has noted, there is need for greater attention to the non-verbal communication[17] of various identities in ancient Armenian society.

For this study, I selected three case study sites—Artashat, Dvin, and Beniamin—and

created a catalogue, synthesizing the available data on those core aspects of mortuary data considered most useful for accessing the negotiation of socio-economic groups in the past: treatment of physical remains, tomb orientation, grave architecture and type, and associated grave goods. The case studies are restricted to sites within the modern borders of Armenia. This is not an exhaustive list of every excavated burial dating from 330 B.C.E. to 330 C.E. Case study sites were selected based on the following criteria: first, chosen sites must have multiple published burials; second, publications must provide a detailed description of each burial to permit catalogue consistency; third, sites having received little scholarly consideration since their publication were prioritized.

Admittedly, the data are imperfect. Some sites were subject to more systematic recovery methods than others,[18] and some sites that could have been included were omitted due to constraints such as publication language[19] or small sample size.[20] In some cases, entire portions of a cemetery have been destroyed, and the data lost (e.g. Beniamin). In other cases, additional burials are likely present at the cemetery but remain unexcavated (e.g. Artashat). Subsequent excavations and research may bring new information to light. However, a wide-ranging and systematized record of the current data allows for the interrogation of the potential factors creating dissimilitude across this small region. Focus on treatment of the body draws attention to emerging patterns along just one axis of material variation across all three case study sites and evaluates the various potential influences that may have driven individuals to make more common or more unique choices.

Case Studies

Artashat

The site of Artashat sits on the border between modern day Turkey and Armenia.[21] Once the capital of the Artaxiad dynasty founded in the second century B.C.E., it was an extensive, planned urban center, stretching across 13 hills and surrounded by large-scale fortifications. Artashat grew and shrank with changes in the local political landscape until it was destroyed during a late fifth century C.E. Sassanian invasion. Babken Arakelyan directed systematic excavations at Artashat beginning in 1970.[22] However, it was salvage work, conducted between 1971-1977 under Zhores Khachatryan, that recovered 85 burials dating to Classical periods.[23] Each burial was recorded in haste as bulldozers prepared the land for large-scale agricultural activity. Despite best efforts, the quality of the resulting data was seriously compromised by these conditions. Nevertheless, Artashat presents a large sample of relatively contemporaneous burials making it an invaluable case study. Of 85 total burials,[24] a substantial number were recovered and reported intact (n=36 or 42.35 percent of all burials), while remaining burials (n=49 or 57.60 percent) were destroyed (n=36 or 42.35 percent) or seriously disturbed (n=13 or 15.30 percent). Despite varying preservation, each aspect of burial practice is reported in as much detail as the data permit. Consequently, while many tomb inventories are incomplete or missing entirely, data such as tomb architecture and treatment of the body almost always can be reconstructed in some detail.

The most prevalent tomb types are cists, comprising 49.41 percent (n=42) of the burials, and pithos burials, comprising 31.76 percent (n=27). Coffins and sarcophagi[25] are rarer, respectively making up 10.59 (n=9) and 3.53 percent (n=3) of all burials. [26] All burials hold one individual with two exceptions: (1) a cist in soil (No. 40) holds cremated remains of such volume that Khachatryan suggests the tomb may contain up to three individuals; and (2) a stone-lined cist (No. 24), also a cremation burial, may hold the remains of two individuals.[27] The treatment of the body is consistent across all burials of a particular tomb type except the two most prevalent types: pithoi and cists in soil. Accordingly,

where the tomb type was a wooden coffin, cave, rock cut tomb, clay sarcophagus, or an amphora the individual was wholly interred; where the tomb type was a stone-lined cist, cist with stones, cist with pithos, or clay mortar lined cist the body was cremated. However, cists in soil and pithoi both contained wholly interred and cremated individuals. Cists in soil overwhelmingly held cremated remains, with 88.23 percent (n=30) of the burials holding cremated remains and only 11.76 percent (n=4) holding intact skeletal remains. Conversely, pithoi mostly held interred individuals, with 55.55 percent (n=15) of burials holding interred remains, 29.63 percent (n=8) holding cremated remains, and the rest being unreported.

Skeletal size was primarily used to identify burials that reportedly contained the remains of children. While it is possible that children count among the cremated individuals at Artashat, only those who were wholly interred are possible to count. Nine burials were reported containing the remains of children (Nos. 2, 10, 37, 69, 74, 77, 78, 80, 81)[28] and the remaining burials are all presumed to hold adults. Ostensibly, the only biological factor used in age estimation was size, while none of the skeletal remains were sexed using bioarcheological methods.[29]

A small number of the burials have no reported grave goods (Nos. 2, 6, 7, 8, 10, 14, 15, 16, 18, 20, 26, 28, 29, 70, 71, 72), comprising a mere 18.82 percent (n=16) of the total reported burials. The remaining burials have various combinations of materials recovered from both within the burials and in the soil surrounding them. Grave goods include metal objects such as jewelry, other ornaments, and projectile points, stone tools, various glass objects, faunal remains, coins, terracotta figurines, and a wide variety of ceramic vessels.

Faunal remains appear in 20 percent (n=17) of the burials and are always in one of two forms: either knucklebones (Nos. 38, 42, 43, 45, 46, 57, 62, 79, and 85) or all or a portion of the full animal (Nos. 12, 13, 24, 30, 31, 36, 40, 59). Faunal remains are not restricted to a tomb type and frequently, though not always, accompany cremated remains when present, regardless of architecture.[30]

Dvin

The site of Dvin is best known as the early medieval capital of Armenia, but excavations conducted between 1938 and 1981 also exposed activity during the classical period.[31] This included 16 pithos burials from the first century C.E. Kocharyan, in a reexamination of the Dvin Classical tombs, characterized the burials as ordinary, containing a paucity of materials.[32] It is likely that the later occupation of the city disturbed much of ancient Dvin's mortuary landscape. The resulting disorder increases the likelihood of the tomb inventories being incomplete and or lost to possible looting activity; however, there is no direct evidence of such loss. Moreover, Kocharyan, who worked from legacy materials alone, was sometimes forced to rely solely on old photographs, while other times she had access to the recovered materials. Despite these irregularities, Dvin is important to include because the site offers a relatively substantial assemblage of contemporaneous and clustered burials. Furthermore, it includes similar tomb architecture, while suggesting a wide variety of practice through varied grave goods, evidence of mortuary ritual, and human remains.

Every burial in this case study is of pithos type and held wholly interred individuals with no evidence of cremation. Where preserved and reported (37.50 percent of the 16 tombs), all bodies were placed in a flexed position (Nos. 4, 8, 12, 13, 14, 15) and the head was almost always[33] pointing toward the mouth of the vessel. No skeletal remains were sexed using bioarcheological methods. However, based on skeletal size and/or the size of the grave goods, five of the burials were reported containing the remains of children (Nos. 1, 3, 5, 13, and 14).[34] All other skeletons are

presumed to be adults.

Some burials (Nos. 2, 5, 6, 11, 15) do not have reported materials. This could be the product of incomplete recording and reporting; or it may simply suggest that these burials did not have grave goods. Three of these burials (Nos. 2, 5, 6) were excavated at an early date (1947), which may have resulted in lost records by the time of their publication, and one (No. 11) was damaged upon discovery and likely subject to taphonomic processes that may have altered the inventory. All other burials, 68.75 percent, were reported with some combination of grave goods, including metal objects such as bronze or silver jewelry, ceramic vessels, buttons, and beads.

Beniamin

The site of Beniamin extends across a large portion of Armenia's Shirak plain. The site includes fortifications, large scale architecture, domestic structures, and multiple cemeteries.[35] Excavations began at the site in 1989, immediately after the 1988 earthquake, and continued uninterrupted until 2001.[36] During this time, 245 burials were excavated. Eganyan ascribes burials to two distinct periods; the earliest burials at Beniamin date to the period when the site was inhabited (1st c B.C.E. – 1st c C.E.) while the later burials date to the period after the site was destroyed (2nd – 4th c. C.E.).[37] Eganyan reported on 101 burials in detail, including burials from both periods. The rationale for selecting these 101 burials is not clear. It may be tempting to ascribe variation in practice regarding treatment of the body simply to change over time; however, Eganyan[38] reports a row of burials that contains pithoi and stone-lined cists likely dating to the 1st c. B.C.E. at Beniamin. The arrangement of the burials in a row suggests their contemporaneity and supports the conclusion that variation in practice cannot simply be reduced to diachronic developments. The burials were uncovered under unequal circumstances;[39] thus, relative completeness of the data may have also played a role in Eganyan's selection. Furthermore, the large and varied set of data presented, and her research goals of addressing the various represented customs and rituals, suggests that demonstrating the diversity present at Beniamin possibly played a role in her selection.[40]

There are three primary tomb types at Beniamin. Stone-lined cists are the most common, making up 58.41 percent (n=59) of the reported burials. Cist in soil or pithoi[41] burials respectively make up 19.80 (n=20) and 16.83 percent (n=17) of all reported burials. Other reported types appear only once and they are frequently a variation on one of these common types.[42] All three primary burial types held wholly interred remains with the exception of Burial Nos. 28, 40, 198, with no reported treatment of the body, and Burial No. 171, a cenotaph.[43] There is no reported evidence for cremated remains.

Age and sex estimations are available for several of the burials, although the methods used to arrive at these determinations are unclear. Of 101 burials, 45.54 percent (n=46) have no reported age or sex estimations, 24.75 percent (n=25) are child burials with no sex estimations reported, and 29.70 percent (N=30) are burials holding primarily adults with age and sex estimations both reported.[44] Of the 30 burials with both age and sex estimations, 70 percent (n=21) belong to females ages 20 - 60, while 16.67 percent (n=5) belong to males ages 20 - 60.

Eganyan reports grave goods were not common among all excavated burials; only 40 stone-lined cists, 14 pithos burials, and 9 cists in soil held grave goods.[45] Within her sample of 101 burials, 28.71 percent (n=29) hold no grave goods, while the rest all hold some combination of materials. Grave goods include metal objects such as knives, jewelry and other ornaments, as well as various stone objects, glass beads and seal stamps, faunal remains, and a variety of ceramic vessels and terracotta objects.

Discussion

The variation apparent in these three case studies may have been produced by the intersection of understandings of death and mortuary practice with myriad identities including age, sex and gender, economic status, social status, and ethno-religious identity. Due to limitations of the data, it will not be possible to address identities related to sex and gender in this study. Along the Ionian coast, there are instances when, within the same burial site, adults are cremated while children are interred.[46] Thus, in some cases the decision to cremate an individual or wholly inter them may rely on understandings of personhood and age identity. At Artashat, a large number of burials holding cremated individuals exist alongside those holding interred individuals. While it is not possible to determine if children counted among cremated remains, both adults and children count among wholly interred remains. Furthermore, both child and adult burials were also reported at Beniamin and Dvin and both sites reported no cremated remains. Thus, such a division based on age identity seems unlikely. Instead, the emerging pattern is the presence of cremated individuals at Artashat and their absence among the excavated and reported burials[47] at the other two sites. Moreover, this patterning does not seem to be related to specific tomb architecture or a similar deposition of grave goods.[48]

The choice to cremate rather than wholly inter a recently deceased individual may be related to other factors, such as the affordability and accessibility of wood. The act of cremating may suggest high status through expensive resource expenditure. Funeral pyres would require a substantial amount of wood, often a valuable and costly material.[49] Archaeobotanical analysis shows that, in all likelihood, ancient Armenia was mostly steppe;[50] trees were rare and, where they existed, would have been quite small.[51] It follows that the import of a material such as lumber may have been expensive.[52] In addition, lumber may have been in demand for other uses, driving the cost of the material up even more. It is worth noting here that the coffins at Artashat[53] and Beniamin (Burial No. 225) are also made of wood. This may suggest that the use of wood in this context of tomb architecture rather than body treatment also denotes high status through resources expenditure. All of this being said, however, using high resource expenditure as direct evidence for high status in society during life may be problematic[54]. In fact, other factors might make cremation the best choice.

In Prehistoric Britain, research has shown that cremation may be used to destroy the bodies of lower status individuals.[55] At Artashat, the overwhelming absence of grave goods aside from ceramic vessels in many of the cremation burials[56] may support a lower status designation for the individuals interred in this way.[57] However, this seems unlikely when considered alongside the fact that, at Artashat, pithos burials, which frequently held no grave goods,[58] also held fewer cremated remains than wholly interred ones. The lack of materials in pithos burials at Artashat aligns with Kocharyan's characterization of similar burials at Dvin as 'ordinary'. Hovespyan's[59] archaeobotanical findings suggest that burial pithoi were used for practical storage before becoming burial vessels. This also lends support to Kocharyan's claims that these are burials belonging to those with low economic status, as it is likely communities were reusing whatever resource was available to conduct the burial. The lack of cremated remains may now also support Kocharyan's claims. Concurrently, cists in soil at Artashat overwhelmingly held cremated remains and reported remains of funerary feasting nearby, suggesting there was some kind of visible ceremony or ritual conducted near the burial involving fire and wood, faunal resources, and ceramics. This may differentiate those with a low economic status from those with low social status. Those with low economic status may desire and be able to save up to honor the deceased through what is likely ritualized feasting, while it may not be possible or

desirable to perform the same feasting ritual for those interred individuals with low social status. The minimal materials required to construct a cist in soil tomb may allow for more resources to be devoted to cremation and feasting. Moreover, lumber use and high economic and/or social status is also evident in wooden coffin burials, which require lumber to construct and hold grave goods such as bronze mirrors (Artashat Burial No. 67) and possibly imported ceramic vessels like lekythoi (Artashat Burial No. 63). Thus, it may be that the evidence from all three case studies indicates that variability in body treatment, as well as tomb architecture and grave goods can be attributed to a combination of economic status, social status and simple choice. Individuals burying the deceased may have limited resources and be forced to choose between a cremation and feast, substantial burial architecture, and/or grave goods. These choices may be influenced by other factors such as ethno-religious identity or age, however, the data needed to shed light on this matter are unavailable.

Conclusions

A reexamination of the data shows that the practice of cremation was not ubiquitous between 330 B.C.E. and 330 C.E. in Armenia, and that it very likely may have been tied to individual or group economic status. More data is necessary to further elucidate these claims. It is not possible to rectify the map errors that exist for the large dataset at Artashat, however it is likely that archival research would produce additional information to add to existing legacy datasets. Entirely new data from new sites employing current methodologies would also prove invaluable. Useful data to this end would include expanding the dataset through new burial excavations and producing thorough and accurate maps during the course of these excavations. Accurate and holistic maps would facilitate a better spatial understanding of burial fields and allow for the surrounding landscape to be brought into the conversation on mortuary practice and social boundaries. Additionally, bioarchaeological data focused on questions of demographics, diet, and indicators of stress may serve to confirm or contradict the conclusions reached in this study.

With more robust spatial and demographic information, it will become possible to illuminate questions of age identity and sex and gender identity. As Joyce[60] has shown, these factors can bear on nearly every aspect of burial practice, including presence and types of grave goods. Spatial and demographic data will also allow questions that can improve upon the conclusions regarding economic and social status discussed in the analysis above. Grouped burials may reveal kinship ties, ethnoreligious groups, or even divisions in social status. This article demonstrates the range of mortuary data available from ancient Armenia that scholars of the Hellenistic and Roman world have largely neglected to acknowledge. Ultimately, it highlights the need to incorporate this data into broad regional and chronological syntheses in order to ameliorate our understanding of social groups, boundary making, and mortuary practice in the Hellenistic and Roman world.

Endnotes:

1 This period begins with the end of Achaemenid control in the region, encompasses the tumultuous transfer of power after the death of Alexander the Great and the establishment of the first Armenian kingdom under the Artashean dynasty, and ends when the capital of Armenia was moved to the city of Dvin.
2 Hodder 1982, 152; Pearson 1999, 1-20; McHugh 1999, 1-18.
3 Fagan 2015, 1.
4 e.g. Roosevelt 2006; Ahrens 2016; Rice 2016; Scardozzi 2016.
5 e.g. Mordvintseva et al. 2012.
6 Moorey 1980.
7 Moorey 1980, 10.
8 Khatchadourian 2014, 207.
9 Eganyan 2010, 19; Khudaverdyan 2014, 220; Gyulamiryan 2014.
10 Tiratsyan 2003.
11 Arakelyan 1976.
12 Khudaverdyan 2012, 5.
13 Khudaverdyan 2012, 5.
14 McHugh 1999; Parker Pearson 1999, 5-20.
15 e.g. Georganas et al. 2009 and Alexandridou 2016.
16 Gregory Areshyan 2018, 19.
17 While Areshyan (2018, 19) identifies monumental architecture as one element of material evidence that should be considered, this would preserve the blind spot Hellenistic scholarship has for non-elite mortuary evidence in Anatolia and the Caucasus.
18 Beniamin was excavated and reported more recently and with more current and standard methodologies when compared to the haphazard circumstances under which researchers salvaged data from Artashat, or the disparate legacy data from which the Dvin burial reports were collected.
19 Russian-language scholarship was excluded from this study (e.g. Khachatryan 1976).
20 The singular wealthy tomb from Sisian was also excluded (for well-known examples see Khachatryan 2011 and Khachatryan 2013).
21 Khachatryan 1981; Arakelyan 1982.
22 Khatchadourian, 2008, 266.
23 Khachatryan 1981.
24 See Table 1 provided in the online supplemental material at chronikajournal.com.
25 It seems the main difference between coffins and sarcophagi at Artashat is that the former are constructed with wood and nails and the latter are built out of clay.
26 See Table 1 (provided in the online supplemental material) for details on the less commonly occurring tomb types that will not be considered here.
27 Khachatryan 1981, 11 and 14-15.
28 10.59 percent of the 85 burials.
29 See Buikstra and Ubelaker 1994 for standard methods.
30 Thus, 76.47 percent or 13/17 burials with faunal remains held cremated individuals while only four burials with faunal remains held interred individuals (Nos. 62, 59, 79, and 85).
31 See the following for more on Dvin: Kalantarian 1976; Kocharyan 1991; Ghafadaryan and Kalantarian 2002.
32 Kocharyan 2015, 8.
33 Of the five burials where it is possible to identify the position of the head in relation to the pithos, four (Nos. 8, 12, 14, 16) have the head pointing towards the mouth of the vessel while one (No. 4) has the head pointing towards the foot of the vessel.
34 31.25 percent of the 16 burials.
35 Zardarian and Akopian 1995, 185; Eganyan 2010.
36 Excavations were started by a team from the Shirak Regional Museum in 1989 and by 1990 this team was joined by another team from The Institute of Archaeology and Ethnography NAS RA.
37 More burials (n= 197) date to the second phase, than the first phase (n=48). Eganyan points out that all burials belonging to the latter group were conducted in wells, granaries, and room floors (Eganyan 2010, 20).
38 Eganyan 2010, 20.
39 8.91 percent of all reported burials were destroyed, 6.93 percent were disturbed, and 84.16 of the burials were reported intact.
40 See Table 3 provided in the online supplemental material.
41 The presence of holes on the pithoi (e.g. Nos. 43A and 182), which suggest that the pithos once required mending, supports the notion that these vessels were indeed once used in a domestic context before becoming tomb architecture.
42 See Table 3 provided in the online supplemental material.
43 Eganyan 2010, 16 and 30.
44 Among this 29.70 percent are two burials, No. 183, which belongs to an individual aged 10-15-years-old and has been determined to be female, and No. 195 which holds two individuals reported to be a 5-7-year-old male and an 11-15-year-old female. In general, it is accepted that it is not possible to accurately determine the probable sex of an individual who is so young as those sexually dimorphic traits which aid the estimation have not yet had time to develop (Derevenski 1997, 877).
45 Eganyan 2010, 20.
46 Mariaud 2007.
47 Subsequent excavations may yet reveal evidence to contradict this. Nevertheless, this is the pattern among the currently available data.
48 See the discussion of body treatment above in the Artashat Case Study.
49 Parker Pearson 1999, 49.
50 Joannin et al. 2014; Leroyer et al. 2016.
51 Personal communications with Amy Cromartie; Cromartie et al. Forthcoming.
52 Lumber may have been available in what is now Georgia and thus it may have been possible to import it from the north. (Messager et al. 2013).

53 Burial Nos. 59, 60, 62, 63, 64, 65, 66, 67, and 68.
54 McHugh 1999, 54.
55 Bradley 1984.
56 E.g. Burial Nos. 47-55.
57 Note that the burial architecture for these graves is minimal as they are cist is soil type burials.
58 See Table 1 provided in the online supplemental material.
59 Hovsepyan 2019.
60 Joyce 2001.

Works Cited:

Ahrens, S. 2016. "Social status and tomb monuments in Hierapolis and Roman Asia Minor". In *Life and Death in Asia Minor in Hellenistic, Roman and Byzantine Times,* edited by J. Rasmus Brandt, E. Hagelberg, G. Bjørnstad, and S. Ahrens, 131-148. Oxbow Books, Limited.

Alexandridou, A. 2016. "Funerary variability in late eighth-century B.C.E. Attica (Late Geometric II)". *AJA*, 120(3):333-360.

Arakelyan, B. N. 1976. "Outline of the history of ancient Armenian art, 6st century BC–3rd century AD". *Yerevan: National Academy of Science of Armenia*.

Arakelyan, B. N. 1982. "Artashat I: Excavation Results 1970-1977". *Yerevan: National Academy of Science of Armenia*.

Areshyan, G. 2018. "Historical Dynamics of the Endogenous Armenian, i.e. Hayots, Identity: Some General Observations". In *Reflections of Armenian identity in history and historiography*, edited by H. Berberian and T. Daryaee, 15–35. UCI Jordan Center for Persian Studies.

Bradley, R. 1984. *The social foundations of prehistoric Britain: themes and variations in the archaeology of power*. Addison-Wesley Longman Ltd.

Buikstra, J.E., and D.H. Ubelaker. 1994. "Standards for data collection from human skeletal remains". *Arkansas Archaeological Survey Research Series 44*.

Cromartie, A., C. Blanchet, C. Barhoumi, E. Messager, O. Peyron, V. Ollivier, P. Sabatier, D. Etienne, S. Nahapetyan, A. Karakhanyan, A.T. Smith, P. Badalyan, and S. Joannin. Forthcoming. "The Vegetation and Fire History of a Mountain Steppe: A Holocene reconstruction from the South Caucasus, Shenkani, Armenia."

Derevenski, J. S. 1997. "Age and gender at the site of Tiszapolgár-Basatanya, Hungary". *Antiquity*, 71(274):875-889.

Eganyan L. 2010. *The Classical Cemeteries of Shirak*. Yerevan.

Fagan, E. G. 2015. "Narratives in the landscape: Political discourses of authority and identity in the Armenian Highland, ca. 200 B.C.E.-200 CE." Ph.D. Diss. The University of Chicago.

Georganas, I., A. Mazarakis-Ainian, and A. Doulgeri-Intzesiloglou. 2009. "Dying in Early Iron Age Thessaly". *Arxaiologiko Ergo Thessalias kai Stereas Elladas*, *2*:195-205.

Ghafadaryan, K.G. and A. Kalantarian. 2002. *Dvin*. Vol. II. Dvin k'aghak'ě ev nra peghumnerě, 1973-1980 t't'. Haykakan SSH GA Hratarakch'ut'yun.

Gyulamiryan, H. 2014. "Burial Structures and Ceremonies in Ancient Armenia (Based on Evidence from Excavated Cemeteries)". M.A. thesis. Yerevan State University.

Hodder, I. 1982. "The identification and interpretation of ranking in prehistory: a contextual perspective". In *Ranking, resource and exchange: Aspect of the Archaeology of Early European Society*, edited by S. Shennan and C. Renfrew,150-154. Cambridge University Press.

Hovsepyan, R. 2019. "Plant Remains from the Classical Period Jar-Burials in the Mastara-3 Archaeological site (Republic of Armenia)". In *Proceedings of the Institute of Archaeology and Ethnography*, vol. 3, edited by T. Dalalyan, R. Hovsepyan and A. Babajanyan. Yerevan: IAE publication.

Joannin, S., A. A. Ali, V. Ollivier, P. Roiron, O. Peyron, S. Chevaux, S. Nahapetyan, P. Tozalakyan, A. Karakhanyan, and C. Chataigner. 2014. "Vegetation, fire and climate history of the Lesser Caucasus: a new Holocene record from Zarishat fen (Armenia)". *Journal of Quaternary Science*, 29(1):70-82.

Joyce, R. A. 2001. "Burying the dead at Tlatilco: Social memory and social identities." *Archeological Papers of the American Anthropological Association*, 10(1):12-26.

Kalantarian, A. A. 1976. *Dvin*. Vol. I. Kentronakan taghamasi peghumnerě, 1964-1970 t't'. Haykakan SSH GA Hratarakchutyun.

Khachatryan, Z. D. 1976. Garni V. Antichnÿï nekropol'. Rezul'tatÿ raskopok 1956-1972 gg. *Yerevan: Izdatel'stvo Akademiia Nauk Armianskoi SSR*.

Khachatryan, Z. D. 1981. *Artashat II: Antik Dambaranadashter; 1971-1977 T't'. Peghumnerě.* Erevan: Haykakan SSH Gitut'yunneri Akademiayi Hratarakch'ut'yun.

Khachatryan, Z. D. 2011. "The Tomb of Sisian (Second Half of the 1st Century BC)". *Parthica*, 13(13):9-86.

Khachatryan, Z. D. 2013. "The Antique burial of Sotits Gavar". *Journal of Armenian Studies*, 1:61-82.

Khatchadourian, L. 2008. "Making Nations from the Ground up: Traditions of Classical Archaeology in the South Caucasus." *AJA,* 112(2):247–278.

Khudaverdyan, A.Y. 2012. "A bioarchaeological analysis of the population of the Armenian Highland and Transcaucasus in the Antiquity". *The Mankind Quarterly*, 53(1):3-35.

Khudaverdyan, A.Y. 2014. "Burials at a gravesite in Shirak Valley (Armenia): A biological and social approach". Етноантрополошки проблеми, 9(1):219-242.

Kocharyan, G. G. 1991. Dvin III, The Antique Cemetery of Dvin, Yerevan, pp. 25-31.

Kocharyan, G. G. 2015. Archaeological Survey of Dvin of the Classical and Early Medieval Periods. *Fundamental Armenology*, 2:206-223.

Leroyer, C., S. Joannin, D. Aoustin, A. A. Ali, O. Peyron, V. Ollivier, P. Tozalakyan, A. Karakhanyan, and F. Jude. 2016. "Mid Holocene vegetation reconstruction from Vanevan peat (south-eastern shore of Lake Sevan, Armenia)". *Quaternary International*, 395:5-18.

Mariaud, O. 2007. "The Geometric graves of Colophon after the excavations of H. Goldman, 1922. Reflexions on the burial customs of early Iron Age Ionia". In *The Dark Ages Revisited. From the Dark Ages to the Rise of the Polis,* edited by A. Mazarakis Ainian, 785-799. Volos.

McHugh, F. 1999. *Theoretical and Quantitative Approaches to the Study of Mortuary Practice.* Oxford: Archaeopress.

Messager, E., S. Belmecheri, U. Von Grafenstein, S. Nomade, V. Ollivier, P. Voinchet, S. Puaud, A. Courtin-Nomade, H. Guillou, A. Mgeladze, and J. P. Dumoulin. 2013. Late Quaternary record of the vegetation and catchment-related changes from Lake Paravani (Javakheti, South Caucasus). *Quaternary Science Reviews*, 77:125-140.

Moorey, P. R. S. 1980: "Cemeteries of the First Millennium BC at Deve Huyuk, near Carchemish, salvaged by TE Lawrence and CL Woolley in 1913". *BAR International*, 87.

Mordvintseva, V.I., N. F. Shevchenko, and Y. P. Zaïtsev. 2012. "Princely Burial of the Hellenistic Period in the Mezmay Burial-Ground (North-Western Caucasus)". *Ancient Civilizations from Scythia to Siberia*, 18(2):279-337.

Parker Pearson, M. 1999. *The archaeology of death and burial*. Phoenix Mill, UK: Sutton.

Rice, K. E. 2016. "A tomb with a view: Constructing place and identity in the funerary monuments of Hellenistic Anatolia". Ph.D. Diss. The University of North Carolina at Chapel Hill.

Roosevelt, C. H. 2006. “Symbolic door stelae and graveside monuments in western Anatolia”. *AJA,* 65-91.

Scardozzi, G. 2016. “Necropoleis from the territory of Hierapolis in Phrygia”. In *Life and Death in Asia Minor in Hellenistic, Roman and Byzantine Times*, edited by J. Rasmus Brandt, E. Hagelberg, G. Bjørnstad, and S. Ahrens, 19–38. Oxbow Books, Limited.

Tiratsyan, G.A. 1988. “The culture of Ancient Armenian from the 6th century BC to the 3rd Century AD (based on archaeological data)”. *Yerevan National Academy of Science of Armenia SSR.*

Tiratsyan, G. A. 2003. *From Urartu to Armenia: Florilegium Gevork A. Tirats‘yan in Memoriam*. Vol. 4. Civilisations du Proche-Orient: Archéologie et environnement, Recherches et publications. Translated by S. Mardanyan, G. Muradyan, A. T`op`ch`yan.

Zardarian, M. H. and H. P. Akopian. 1995. Archaeological excavations of ancient monuments in Armenia 1985-1990. *Ancient Civilizations from Scythia to Siberia*, 1(2):169-195.

Illusion and Allusion: Pilasters, Portals, and Pictorial Play in Campanian Wall Painting

Amanda K. Chen

Unassuming and seemingly unremarkable, two painted panels decorate the doorway of the fauces in the Casa della Venere in Conchiglia [II.3.3] in Pompeii. The panels are ornamented with a simple geometric design and are notable for both their simplicity, and their ambiguous function within the decorative program of the house. This paper considers these enigmatic panels to investigate their meaning and function within the context of transitional and domestic spaces in the city of Pompeii. Expanding my focus beyond the Casa della Venere in Conchiglia, I examine broad range of comparanda from around the Bay of Naples, including painting and architectural embellishment, to suggest that the panels were intended to represent and enhance the appearance of monumental domestic architecture, while also functioning as a visual game. As a result, these painted doorway panels are a dynamic, if schematic, element of Campanian wall painting that engages viewers visually and physically as a multifaceted symbol.

Introduction

At the end of the *fauces* of the Casa della Venere in Conchiglia [II.3.3], two near-identical painted panels appear on either side of the inner doorway.[1] Consisting of a series of four concentric rectangles and a central vertical line on a monochromatic red background, the panels are simple, yet enigmatic, and have rarely been addressed in extant scholarship (Fig.1).[2] Based on their location at the end of an entryway and independence from the surrounding painted scheme of the *fauces*, conventional wisdom indicates the panels are meant to represent fictive pilasters. Yet, the painted panels also appear remarkably similar to painted and cast representations of ancient Roman door leaves. Rather than championing the identification of the panels in question as either faux supports or fictive door leaves, I suggest both facets exist in conjunction with one another. By appearing as both faux pilaster and fictive door leaf, the panels draw on the charged significance and pictorial qualities of each, while offering viewers a visual game. Considering Roman penchant for pictorial play,[3] I examine the illusive and allusive qualities of the painted panels, as a motif that invites comparisons to grand architecture, while concurrently functioning as a form of visual entertainment.

Fig. 1. Painted panel from the *fauces* of the Casa della Venere in Conchiglia [II.3.3]. Fresco, 1st century C.E. Pompeii, Italy (photograph by author, su concessione del Ministero per i Beni e le Attività Culturali e per il turismo- Parco Archeologico di Pompei).

Painted Doorway Panels in the Casa della Venere in Conchiglia

The first century B.C.E. Casa della Venere in Conchiglia[4] is a private residence in the southeastern sector of the city of Pompeii.[5] Named for the famous painting of the goddess Venus that adorns the rear wall of the garden,[6] the home is decorated throughout with Third and Fourth Style frescoes. The walls of the entryway, or *fauces,* are painted in Third Style and composed of red panels with black vertical bands and central medallions. Notable for their simple and unremarkable design, the painted panels with which this paper is concerned, henceforth called painted doorway panels, decorate the inner doorway between the *fauces* and atrium. The panel motif is repeated on the northwest wall of the atrium, which meets the inner doorway panel at a ninety-degree angle. In the atrium, the walls are faded, yet faint red and yellow fresco panels can still be discerned. Based on the nature of the *fauces* and atrium paintings, it is apparent that the painted doorway panels do not align with the decorative programs of either space. Rather, they represent a break in the otherwise harmonious decorative schemes of the *fauces* and atrium, and thus must serve a specific function.

It is notable that the painted doorway motif is singular neither within the Casa della Venere in Conchiglia, nor in other houses in Pompeii. In fact, the motif appears twice more in the

Casa della Venere in Conchiglia, once within the doorway of the *triclinium,* and again at the rear of the house in the garden (Fig.2).[7] In both examples the pattern ornaments the interior of a doorway in white and yellow on a black background, with vegetation in the lowermost zone. Like the entryway examples, the panels are situated so that they face visitors moving through the doorway and are neither visually nor thematically linked to the Third and Fourth Style frescoes that surround them.[8]

Fig. 2. Painted panel from the rear garden of the Casa della Venere in Conchiglia [II.3.3]. Fresco, 1st century C.E. Pompeii, Italy (photograph by author, su concessione del Ministero per i Beni e le Attività Culturali e per il turismo- Parco Archeologico di Pompei).

Considering all three examples of this motif within the Casa della Venere in Conchiglia, a few key patterns emerge. Most significant is the location of doorway panels as, in every case, the motif is situated within, or surrounding, a doorway, hallway, or other space of passage. This is important not only for identifying the pattern, but also for deciphering the meaning and function of the panels. As these examples demonstrate, the pattern is clearly linked to the space in and around doorways. The regularity of the pattern is also striking. Each of the painted panels is decorated with exactly four rectangles and a central vertical line on a monochrome background. While there is certainly a coherent pattern for the panels within the Casa della Venere in Conchiglia, extant examples from other homes in the city support these observations, and suggest the panels constitute a motif within Pompeian painting.

In addition to the three sets of painted doorway panels from the Casa della Venere in Conchiglia, the motif appears in a handful other houses in Pompeii, all of which adhere to the patterns discussed above. Other known examples come from the Casa dei Ceii [I.6.15], the Casa del Menandro [I.10.4], the Casa di Paquius Proculus [I.7.2], the Casa del Larario Fiorito [II.9.4], the Casa degli Amorini Dorati [VI.16.7, 38], and the Casa dell'Ara Massima [VI.16.15]. Similar to the Casa della Venere in Conchiglia, the panels in these houses appear within doorways and closely follow the pattern of the motif. The appearance of the doorway panel motif within all the aforementioned houses in a more or less standardized manner further indicates that it was a location-specific

decorative element.[9] This association with doorways, as we will see, is a central factor in understanding the painted doorway panels.

ALLUSION: The Case for Faux Pilasters and Aspirational Architecture

The observations just discussed have important implications for the meaning and function of the doorway panels. In particular, the location of the painted panels within and around doorways is significant. Comparisons of the entryway of the Casa della Venere in Conchiglia and those of similar houses in Pompeii reveal that pilasters or other supports appear frequently in and around domestic doorways. It would stand to reason, then, that the motif represents faux supports. Considering the pilaster's long and celebrated associations with monumentalizing and aspirational architecture, this identification seems appropriate.

From Egyptian tombs to monumental Greek temples, columns, pilasters, and other supports served as an important component of post-and-lintel construction throughout the ancient world. Beginning as a strictly structural element, columns themselves soon became a focus of decorative efforts.[10] Embellishments such as flutes, capitals, and bases offered space for decorative detail, and could range from simple to highly ornate. The same is true of pilasters, which William MacDonald observes, "help increase the impression of directionality,"[11] and indeed, pilasters communicate a sense of solidity and monumentality while offering space for decoration. Alone, such columns and pilasters are impressive, but together, rows of columns further enhance the appearance of a structure. As is well known, colonnades were often associated with grand monumental buildings,[12] such as the Stoa of Attalos in Athens or the colonnaded Apadana at ancient Persepolis, and this tradition continued on the Italic peninsula.

In Republican Rome, as a result of close contact with Greece and Etruria, columns grew increasingly popular and ornate.[13] Although not pioneered in Rome, engaged columns became incredibly popular amongst the Romans, nearly always more decorative than functional. Republican temples in the city of Rome, including the well-known Temple of Portunus, incorporated engaged columns as an essential component of the exterior design of the structure. The same is true of private edifices, the owners of which enthusiastically opted to include engaged columns in their architectural schemes.

In the domestic realm, homeowners often aimed to visually align their private residences with elite structures through allusions to monumental supports and colonnades. In

Fig. 3. Detail of pilaster, fresco fragment from Herculaneum, structure VII.6.28. Fresco, 1st century C.E. Now in the Museo Archeologico Nazionale, Naples. Inv. 9733 (photograph by author).

doing so, Roman homeowners could attempt to harness some of the grandeur of imposing architectural supports to lend their homes a sense of monumentality. The famous Casa Sannitica in Herculaneum [V, 1-2], which is decorated with engaged columns on its façade and second story, is an instructive example of this convention. In the case of the Casa Sannitica, specifically, the columns on the façade function as *antae*, a type of column or pilaster that appears on either side of a doorway. Such *antae* delineate the spaces they flank as entrances, function as key markers of spatial transition, and provide extra opportunities for architectural elaboration. Add to this the associations between architectural supports and elite monumental structures, and it is no wonder that *antae*, columns, and pilasters appear frequently in ancient Campanian homes.

Keeping in mind the popularity of columns and colonnades within Roman structures, both domestic and monumental, the painted doorway panels that appear at the end of the *fauces* of the Casa della Venere in Conchiglia naturally recall pilasters or *antae*. Not only does their placement encourage this interpretation, but also the use of stucco-modeled pilasters in houses, such as the Casa di Sallust [VI.2.4], which flank the doorway of the *tablinum*.[14] If indeed representing faux pilasters, the painted doorway panels in the Casa della Venere in Conchiglia incorporate the motif into the interior decoration of the home as part of visual convention, and additionally lend the structure and its entryway a sense of monumentality.

At the same time, the pattern of the painted doorway panel motif does not appear an exact match for extant examples of Campanian architectural supports. Whereas typical pilasters, columns, and *antae* tend to be embellished with a series of vertical lines to give the appearance of a fluted column, the painted doorway panels are defined by a series of concentric rectangles on a monochromatic background. What does this discrepancy mean for our identification of the panels as fictive *antae* or pilasters? In fact, a definitive clue appears in a painting from Herculaneum, currently in the collection of the Museo Archeologico Nazionale di Napoli. On the fresco fragment are depicted a pair of birds and fruit on the left, and a column and pilaster on the right.

Fig. 4. (Left) Detail of pilaster, fresco fragment from Herculaneum. Fresco, 1st century C.E. Now in the Museo Archeologico Nazionale, Naples. Inv. 9183 (photograph by author).
Fig. 5. (Right) Detail of door, Second Style fresco from the Villa of Poppaea. Fresco, 1st century B.C.E. Torre Annunziata, Italy (photograph by author, su concessione del Ministero per i Beni e le Attività Culturali e per il turismo- Parco Archeologico di Pompei).

Fig. 6. Door cast from the Villa of Poppaea. Cast plaster, ca. 1st century C.E. Torre Annunziata, Italy (photograph by author, su concessione del Ministero per i Beni e le Attività Culturali e per il turismo- Parco Archeologico di Pompei).

Significantly, close study of the pilaster reveals a pattern nearly identical to the painted doorway panels (Fig.3). Four rectangles of different colors surround a vertical line on the pilaster, with a central square pattern and decorative base. Although the central square pattern of the pilaster and sloping foot are not represented in the painted doorway panels, this depiction seems a very close match.

A second painting, also in the Museo Archeologico Nazionale, confirms this identification (Fig.4). Much like the first example, a series of four columns decorates the far-right side of the fresco fragment from Herculaneum.[15] Behind these columns, just half of a decorated pilaster is visible. It, too, is decorated with three groupings of concentric rectangles. Although schematized, this image also seems a match for the painted doorway panels we have been examining.

Further inspection of other pilasters that appear within Roman frescoes demonstrate the existence of squared supports decorated with series of recessed or concentric rectangular panels. The illusionistic pilasters with similar recessed panel decorations in the Odyssey Landscape frescoes, now in the Musei Vaticani,[16] are just one example of this element of painted architecture. It is, however, important to note that so far as I am aware such pilasters have no parallel in extant Roman architecture.[17] While it is possible that such decoration could have once embellished now bare supports, it is equally as likely to be a fabrication of Roman painting.[18]

Nevertheless, it would appear that the painted doorway panels under study are indeed intended to represent pilasters and *antae* at critical junctures in the house. In mimicking such supports, the painted doorway panels attempt to aggrandize private homes through their allusion to monumental and large-scale architecture, well known throughout the ancient world for its imposing columns, pilasters, and colonnades. By alluding to both actual architectural elements and the ideologies of grandeur aligned with monumental columns and colonnades, those homeowners who elected to decorate their doorways with painted doorway panels were able to efficiently and schematically augment the splendor of private, and comparatively modest, structures.

Fig. 7. Detail of interior door panel from the Casa degli Amorini Dorati [VI.16.7, 38]. Fresco, ca. 1st century C.E. Pompeii, Italy (Photograph: ©Jackie and Bob Dunn www.pompeiiinpictures.com, su concessione del MiBAC - Parco Archeologico di Pompei).

ILLUSION: Painted Doorway Panels as Fictive Door Leaves

Together, the location of the painted doorway panels, the importance of architectural supports in aspirational architecture, and the comparative fresco fragments in the Naples museum, indicate that the motif was intended to represent fictive pilasters in domestic space. Yet, the appearance and decoration of Roman door leaves complicates the picture. Indeed, when comparing the two, the similarity of the painted panels to Roman door leaves is remarkable. Both representations of doors in ancient Campanian fresco and casts of ancient door leaves find many parallels with the painted panel motif. In painted and cast examples the familiar pattern of recessed rectangles can be augmented with embellishment ranging from bosses and lion's head knockers, to figural panels and inlay of precious materials. However, even the simplest door leaves are decorated with recessed rectangular panels.

The so-called Villa of Poppaea from Oplontis[19] in Campania provides comparative examples of both real door casts and painted images of door leaves. In the atrium of the villa is a large and detailed Second Style fresco, part of which illustrates a closed door with two leaves (Fig.5). The leaves are divided into two panels, with bosses appearing in rows at the top, bottom, and middle sections of the leaf. In the upper panel there are winged Victories, and in the lower a pattern of rectangles. These door leaves are richly embellished, and possibly fanciful, but the recessed rectangles, division into panels, and the central vertical line in the lower panel all recall elements of the painted doorway panel motif.[20]

A set of cast doors, also from the villa, corroborates the basic shape and appearance of door leaves in painted representations. Composed of four leaves, the cast doors are preserved to roughly three-quarters of their original height (Fig.6). Each leaf is divided into two vertical recessed panels, and a large crossbar spans all four leaves to secure the door. As with the frescoed doors from the atrium, the pattern of these door leaves appears quite similar to the painted doorway panel motif. Although they are not an exact match for the pattern, lacking a central vertical line, the many echoes between door leaves and the painted panel motif are notable.

Two panels from the inner doorway of Room I in the Casa degli Amorini Dorati in Pompeii further support the identification of the painted doorway panels as door leaves (Fig.7). The paintings are decorated with three concentric rectangles and a central bar and broad strokes of red and yellow pigment are utilized to mimic the appearance of cast shadows. These paintings are not a precise match for the painted doorway panels, but they do appear strikingly similar to real door panels, and thus may bridge the gap between the motif and real door leaves.

The visual parallels between real and represented door leaves and the painted doorway panels are striking, especially upon first glance. When cursorily observing the painted panels, it almost appears as if two leaves of a door have been opened on either side of a doorway,[21] an illusion heightened by the placement of the panels within doorway openings. These similarities, and the resulting illusion of opened door leaves, I contend, is no accident. Instead, it is an intentional pictorial play that exploits the many parallels between faux pilasters, door leaves, and the painted panels. Rather than invalidating the identification of the painted doorway panels as fictive supports, the appearance of the panels reveals an attempt to intentionally align door leaves and faux pilasters, which share schematic details, shape, and location, to create a play of visual illusion. [22] Appearing as a pilaster in one moment, and a door leaf in the next, it eventually becomes clear that the panels are in fact neither. This moment of visual illusion and confusion, rather than frustrating, would have been amusing to a contemporary

Roman viewer.[23] Such intentional polysemy, as described by Karl Gakinsky, was not uncommon in early Imperial art, the Ara Pacis Augustae being a notable example.[24] The polysemy of the painted doorway panel motif, then, fits nicely within contemporary visual convention.

Visual games and optical illusion are a common feature of Roman domestic decoration,[25] especially in Second Style painting which favors perspectival play and fictive vistas or landscapes.[26] In its attempt to deceive a viewer into thinking a flat surface is three-dimensional,[27] Roman illusionistic painting employs a variety of perspectival techniques[28] including orthogonals,[29] atmospheric perspective, and a play of light and shadow. Ancient texts celebrate pictorial illusion wherein virtuoso artists are commended for their ability to fool humans or animals with painted representations of objects.[30] By engaging with illusionistic imagery, ancient viewers could partake in a visual game in which an onlooker could compare a visual approximation to an actual object.[31] This blurring between reality and artifice could amuse viewers, especially when unexpected.[32] Like the creation of fictive space and vistas in Second Style painting, and even Roman fondness for meta-images,[33] the panels engage viewers physically and visually, changing as one moves, a delightful yet disorienting experience. [34]

A famous scene from Petronius's *Satyricon* is instructive when considering how such illusionistic images may have functioned in a Roman house.[35] When the narrator Enclopius and his companions enter the home of the infamous freedman Trimalchio for a dinner party, the protagonist explains how he is startled by the painting of a dog on the wall of the atrium and accompanied by the warning, "Beware of the Dog."[36] Of course, this encounter is intended to be humorous, made evident when Enclopius's companions laugh at his terror. This brief scene indicates

Fig. 8. Painted and recessed panels flanking the *tablinum* (on either side of room opening), Casa di Marcus Lucretius Fronto [V.4.A, 11]. Fresco and stucco, 1st century C.E. Pompeii, Italy (Photograph: Scala/ Art Resource, NY).

that illusionistic painting could be amusing to both the viewer, when realizing the deceit of the image, as well as to those observing the viewer. Similar to the experience of modern optical illusions, Roman illusionistic painting, real and literary, could create a memorable experience for spectators through visual engagement with the image.

In fact, the illusion of the painted doorway panels may have been more than a pleasing visual game for human visitors. In Roman thought, doors and doorways were considered vulnerable spaces and regarded with some anxiety.[37] Various visual techniques were employed to keep malign forces from crossing the threshold, including decorating hallways with images of animals, various deities, and even inscriptions. Drawing on the illusion of the painted doorway panels, the motif may have been intended to confuse the malignant spirits that might follow a visitor into the house by suggesting a door where there was none.[38] The visual play of the motif would have been just as efficacious on spirits as it was on humans,[39] and the homeowner may have hoped this visual confusion would repel such forces. As a motif that appears as two distinct objects at once, the painted panels offer a visual game to viewers while confusing, and possibly trapping, unwanted forces. Therefore, as both pilaster and door leaf, the painted doorway panels function as a potent yet efficient image, one that simultaneously offers grandeur, visual play, and protection.

Painted Doorway Panels and the Casa di Marcus Lucretius Fronto

A final example both corroborates and complicates our understanding of the painted doorway panels. The Casa di Marcus Lucretius Fronto [V.4.A, 11] in Pompeii is located in the west sector of the city.[40] Visible from the entryway of the home is the front of the *tablinum*.[41] On either side of the doorway of the *tablinum* are tall white panels decorated with a central vertical pattern, recessed concentric panels, and alternating colors

Fig. 9. Detail of painted supports, from the north wall of the *tablinum*, Casa di Marcus Lucretius Fronto [V.4.A, 11]. Fresco and stucco, 1st century C.E. Pompeii, Italy (Photo: akg-images/ De Agostini Picture Lib./ A. Dagli Orti).

(Fig.8). This motif also decorates the space within the doorway of the room, meeting the other panels at ninety-degree angles, and is unmistakably similar to the pattern and location of the painted doorway panels. Two explanations for this feature emerge.[42] On the one hand, they could be meant to represent two sides of faux supports, as Roman *tablina* were often flanked by pilasters.[43] On the other, the panels could represent four leaves of a moveable partition. Portable partitions with sliding or folding doors were commonly placed in front of Campanian *tablina*, as demonstrated by the famous carbonized example from Herculaneum.[44] Such wooden partitions could be set up in front of a *tablinum* to provide temporary and customizable privacy, and thus, the *tablinum* panels from the Casa di Marcus Lucretius Fronto may alternately represent folded leaves of a moveable partition.

Here too, I believe the motif is multivalent. Once again, the panels are pilasters, but the many similarities between the panels and door leaves visually align the pattern of the *tablinum* pilasters with an open partition or door. The reflexivity of the motif, vacillating between fictive support and partition leaves is analogous to that of the painted doorway panels. Key to this visual game is the idea that the panels are at once either pilaster or door leaves, both, and neither. The fact that the artist took time to model the panel in stucco demonstrates a clear intentionality in creating this illusion.

What is more, the multifaceted nature of the *tablinum* panels is reinforced by the paintings that appear within the *tablinum* itself. Flanking the central scene in the middle zone of the painted north wall of the room are two tall pedimented structures supported by thin pilasters. Although it is difficult to tell from far away, these pilasters are decorated with a pattern very similar to both the painted doorway panels, and the panels that decorate the entryway of this *tablinum* (Fig.9). The inclusion of this detail reveals a clear familiarity with this style of pilaster on the part of the artist, and likely also the patron. It also suggests another attempt at pictorial illusion by mimicking an architectural and decorative feature of the space in which it appears.

In the uppermost painted zone of the same wall a second detail is also reminiscent of the *tablinum* panels. On either side of a central scene featuring a tripod are two half-opened folding doors (Fig.10). The concentric rectangles and decorative middle line are visually similar to the *tablinum* panels, again no doubt intentional on the part of the artist.[45] Here too, it seems the artist is drawing a direct parallel between the painted folding doors and the panels decorating the entryway of the room. The appearance of both pilasters and folding doors that mimic the appearance of the *tablinum* panels may indicate another

Fig. 10. Detail of painted folding doors, from the north wall in the *tablinum*, Casa di Marcus Lucretius Fronto [V.4.A, 11]. Fresco and stucco, 1st century C.E. Pompeii, Italy (Photograph: akg-images /Bildarchiv Steffens).

intentional play with visual illusion, an acknowledgement of the many similarities between the pilasters and door leaves.

Consequently, the *tablinum* panels in the Casa di Marcus Lucretius Fronto represent another example of not only visual play, but also visual ambiguity. Such visual uncertainty, a common feature of Roman painting, is fitting within the space of a doorway. In incorporating a motif that carries multiple meanings into the decorative scheme of the home, the artists and homeowners offer guests a visual game. In this way, both the panels from Casa di Marcus Lucretius Fronto and the painted doorway panels are multifaceted, not only in what they represent, but also in how they function within the transitional space of the doorway.

Conclusions

Allusive and illusive, the painted doorway panels from *fauces* of the Casa della Venere in Conchiglia are deceptively simple, yet multivalent in significance, function, and experience. The unassuming design of concentric rectangles on a monochromatic background allow the motif both flexibility and a depth of meaning. Appearing simultaneously as faux pilasters and fictive door leaves as a result of their design and location, the painted panels align the doorways they decorate with the grandeur of monumental architecture and the illusion of pictorial play. By populating a transitional space with a motif that is itself transitional and transformative, homeowners who employed the motif appropriately address spatial ambiguity with its visual counterpart. The *tablinum* panels from the Casa di Marcus Lucretius Fronto reaffirm the multifaceted nature of the motif as both pilaster and folding partition leaves, itself supported by the painted details that decorate the interior of the *tablinum*. Together, the features of allusion and illusion within painted doorway panels create a motif that is at once aggrandizing, amusing, and inextricably tied to the intermediary space of the doorway.

Endnotes:

1 I thank the Soprintendenza Archeologica di Pompei for allowing me to study these painted panels in Pompeii, as well as the editorial team at *Chronika* and three anonymous reviewers for their hard work and valuable comments. A Cosmos Scholars grant from the Cosmos Club Foundation and a University of Maryland Graduate Summer Research Fellowship helped make this research possible, for which I am grateful.

2 When acknowledged, these panels are called a pilaster, or "lesena" (or lesene referring to a shallow pilaster), Caratelli and Baldassarre 1991, 718. While these examples would appear to characterize the panels solely as pilasters, they refer to the architectural element on which the design is painted, not the motif itself. In terms of the painted pattern, Caratelli and Baldassarre describe the motif as a "semplice decorazione" (simple decoration), Caratelli and Baldassarre 1991, 718.

3 Examples of pictorial play abound in Roman wall painting, particularly in Second Style programs, from ancient Campanian cities. For more on visual illusion and perspectival play in Roman painting, see Ling 1991, 61; Leach 2004, 61, 81-89; Leach 1982, 158-64; Wesenberg 2002 477-99; Beyen 1938; Mazzoleni et al. 2005; Scagliarini 1974-76, 3-44; Drerup 1959, 145-174. On the optical game between real and represented gardens, Pappaladro and Mazzoleni 2009, 70; Jashemski 1979, 55-6; Bergmann 2018, 286-93, 315-6.

4 Excavated in 1933-1935 and 1951-1953.

5 For an overview of the Casa della Venere in Conchiglia, also called the House of Marine Venus, see de Carolis et al. 2012, 9-12; Nappo 2007, 364-367; Caratelli and Baldassarre 1991, 112-71; Della Corte 1965, 384-6.

6 On the flora and fauna that populate the garden fresco, see Ciarallo 2012, 25-8; Tammisto 2012, 29-38.

7 The panels in this case decorate the interior of an opening thought to lead to a small *sacellum*, de Carolis et al. 2012, 8.

8 Third Style frescoes decorated the interior of the *triclinium*, while the area around the garden room is embellished with Fourth Style painting.

9 It is further important to note that in seven of the nine examples discussed above, the painted doorway panels appear within Third Style decorative schemes. It is too early to definitively say whether or not the motif is a hitherto unremarked on element of Third Style ensembles, but as far as my research has indicated, it does not appear in conjunction with any First or Second Style painting. These preliminary numbers do seem to suggest that the motif is indeed an element of Third Style decoration, but this will need to be borne out fully through further research. For a discussion of Third Style wall painting see Bastet and De Vos 1979.

10 Boëthius et al. 1978, 185.

11 MacDonald 1986, 185.

12 Thomas 2007, 17-23; Frey 2015, 149, Morvillez 2018, 33.

13 For example, the first recorded porticus was constructed in 193 B.C.E., Burns 2017, 11.

14 In fact, in the Casa dei Ceii, the bottom of one of the painted doorway panel appears to have later been covered in stucco modeled to resemble a fluted pilaster.
15 This fragment comes from structure [VII.6.28] in Herculaneum.
16 *Landscapes with scenes from the Odyssey,* from Rome (Via Cavour). Mid-first century B.C.E. Fresco, in eight panels. Musei Vaticani, Rome, Italy. Inv. 41013, 41016, 41024, 41026.
17 The closest example of which I am aware are the marble pilasters in the courtyard of the *Praedia* of Julia Felix [II. 4. 3-12], which, unlike the panels, are fluted.
18 This is true of many other elements of Roman painting, such as the impossibly tall and thin columns popular in Third Style painting, which are not representative of real Roman objects or architectural practices.
19 Also called Villa A, excavated 1839-1840, and 1960s-1980s. Gazda, 2014, 152-5.
20 A second example of a faux painted door from the Casa del Bracciale d'oro [VI.17.42] displays many of the same characteristics as the Oplontis example, however the pattern of recessed panels in this example is more pronounced and demonstrates the variety within painted representations of door leaves.
21 Evan Proudfoot has demonstrated that secondary doors, screens, curtains, and movable partitions were common within Pompeian houses, especially within the doorway between the *fauces* and atrium. Proudfoot, 2013, 199-200.
22 The "surprise and delight" of visual games was also created by the sculptural decoration of private structures, Bartman, 1988, 224-5.
23 Visual games could be an amusing aspect of wall painting for Roman spectators. On the popularity of visual play, see Gensheimer, 2015, 93; Jones, 2018, 19. In some circumstances, such illusionistic images could be considered dangerous or even a trap, Platt, 2002, 106.
24 Galinksy, 1992, 468-474. I thank Reviewer 2 for this suggestion.
25 Scholars have long debated the nature of Roman illusionistic perspective, some arguing there are errors in Roman perspective (Sinisgalli, 2012, 115), and others that multiple types of perspective were used within Roman painting to achieve the desire effect (Stinson, 2011, 403-5). Panofsky argues that ancient Romans and Greeks were interested in forms of perspectival representation other than linear perspective, such as angles versus distance, Panofsky, 1991, 34-43. On the rejection of Panofsky see Sinisgalli, 2012, 72-4. See also Jones, 2018, 12, 19-21; Bek, 1980, 172-80; Netz and Squire, 2016, 68-84; Gombrich, 2000.
26 Faux architecture and views are widely held to have been inspired by the Roman stage backdrop, or *scaenae frons*. Maiuri, 1953, 49; Leach, 2004, 94-100; Little, 1937, 492-5; Little, 1971; Beyen, 1938. Roger Ling, however, believes references to the theater in Roman painting are indirect, Ling, 1991, 77.
27 Dars, 1979, 7-9.
28 de Santis, 2009, 222.
29 Scholars have rightly observed that while Roman illusionistic painting does include orthogonals, the lines never converge at a single point. Little, 1937, 491-2.
30 See, for instance, the stories about Zeuxis, who painted grapes so naturalistically they fooled birds, or the illusionistic curtain of Parrhasius (Pliny, *Naturalis Historia*, 35.29). See also stories such as the horse of Apelles that looked so real it caused other horses to neigh (Pliny, *Naturalis Historia*, 35. 37), and Myron's cow which fooled other cows (*Anthologia Palatina*, 9.713–42, 793–98). For more on ancient ekphrasis see Elsner, 2007; Garcia, 2018, 325-38; Elsner, 1996; Elsner, 1995, esp. Part I; Koortbojian, 2005; Elsner and Squire, 2016, 180-204. On Roman vision and optics see Bartsch, 2006, 3-4.
31 Gensheimer, 2014, 85-90.
32 Jones, 2018, 10. Jones also observes that visual play could be the result of inner versus outer images, reality versus imagination, animating the work of art. Jones, 2018, 24, 26-9. Eleanor Winsor Leach rightfully points out that such reactions to visual trickery would have been immediate, yet momentary. Leach, 2004, 82. Michael Square characterizes mimetic images as liminal. Squire, 2010, 616.
33 See Gensheimer, 2014, 84-104.
34 Such illusionistic experiences such as fictive vistas could make the space in which the painting appears feel larger. Leach, 2004, 84.
35 While the *Satyricon* is indeed a useful resource, as satire it should be used with caution when reconstructing Roman lived experience. In this case, however, the practice of decorating the entryway of one's home with the image of a ferocious dog is well documented within Pompeii, including the mosaics of the Casa del Poeta Tragico [VI.8.3, 5]; Casa di Paquius Proculus; Casa di Orfeo [VI.14.20]; and Casa di Caecilius Iucundus [V.1.26].
36 Petronius *Satyricon*, 29. "*Ceterum ego dum omnia stupeo, paene resupinatus crura mea fregi. Ad sinistram enim intrantibus non longe ab ostiarii cella canis ingens, catena vinctus, in pariete erat pictus superque quadrata littera scriptum 'Cave canem'. Et collegae quidem mei riserunt, ego autem collecto spiritu non destiti totum parietem persequi*." "I was gazing at all this, when I nearly fell backwards and broke my leg. For on the left hand as you went in, not far from the porter's office, a great dog on a chain was painted on the wall, and over him was written in block capitals 'beware of the dog'. My friends laughed at me, but I plucked up courage and went on to examine the whole wall." Translation Heseltine and Rouse, 1913, 49. In a humorous turn of events, Enclopius and his companions are met by an actual dog in the atrium as they exit the house. Petronius *Satyricon*, 72.
37 Barton, 1992, 172; Swift, 2009, 41.
38 It is also possible the motif is meant to represent an extended, albeit schematized, hallway stretching beyond the space of the wall. I thank Dr. Sarah Glenn for this observation.
39 Ellen Swift discusses how certain mosaic symbols on thresholds were oriented toward those entering the room to protect those within. These symbols, she suggests, were used to keep unwanted forces out of certain spaces,

Swift, 2009, 41-3.
40 For a comprehensive discussion of the Casa di Marcus Lucretius Fronto, see Peters and Moorman, 1993.
41 John Clarke dates the *tablinum* to ca. 40-45 CE. Clarke, 1991, 61.
42 W. J. Peters and Eric M. Moorman call this feature an *antepagamentum*, meaning a door or window frame. While this identification is no doubt accurate, as the panels do frame the doorway of the *tablinum*, it does not explain the meaning or function of the painted motif or recessed panels. Peters and Moorman, 1993, 161, 235. They further state that, "L'imitazione di un tavolato è evidente." Peters and Moorman, 1993, 161.
43 Leach, 2004, 22.
44 Mols, 1999, 105; Dickman, 2007, 426.
45 Significantly, the paintings in the *tablinum* with perfectly within the space of the room, suggesting the decorations were custom-made for the space. The many examples of painted schemes abruptly ending on walls throughout Pompeii, a result of the pattern books used by artists, highlight the custom nature of this painting. Ling, 1991, 217-8.

Works Cited:

Bartman, E. 1988. "Decor Et Duplicatio: Pendants in Roman Sculptural Display." *AJA* 92(2):211–25.

Barton, C. A. 1992. *The Sorrows of the Ancient Romans: The Gladiator and the Monster*. Princeton, N.J.: Princeton University Press.

Bartsch, S. 2006. *The Mirror of the Self: Sexuality, Self-Knowledge, and the Gaze in the Early Roman Empire*. Chicago: University of Chicago Press.

Bastet, F. L, M. De Vos, and Netherlands Ministerie van Cultuur, Recreatie en Maatschappelijk Werk. 1979. *Proposta Per Una Classificazione Del Terzo Stile Pompeiano*. Archeologische Studiën Van Het Nederlands Instituut Te Rome, D. 4. S-Gravenhage: Staatsuitgeverij.

Bek, L. 1980. *Towards Paradise on Earth: Modern Space Conception in Architecture: A Creation of Renaissance Humanism*. Analecta Romana Instituti Danici. Supplementum, Ix. Odense: Odense University Press.

Bergmann, B. 2018. "Frescoes in Roman Gardens." In *Gardens of the Roman Empire,* edited by W. F. Jashemski, 278-316. Cambridge, United Kingdom: Cambridge University Press.

Beyen, H.G. 1938. *Die pompejanische Wanddekoration vom zweiten bis zum vierten Stil*. Haag: M. Nijhoff.

Boëthius, A., R. Ling, and T. Rasmussen. 1978. *Etruscan and Early Roman Architecture*. 2nd Integrated Ed. The Pelican History of Art. Harmondsworth, Eng.: Penguin Books.

Burns, R. 2017. *Origins of the Colonnaded Streets in the Cities of the Roman East*. Oxford: Oxford University Press.

Carratelli, G. P., and I. Baldassarre. 1991. *Pompei: Pitture e Mosaici.* Vols. 3 and 5. Roma: Istituto della enciclopedia italiana.

Ciarallo, A. 2012. "Gli Elementi Vegetali Raffigurati Negli Affreschi Della Casa Della Venere in Conchiglia." *RStPomp* 23:25–8.

Clarke, J. R. 1991. *The Houses of Roman Italy, 100 B.c.-A.d. 250: Ritual, Space, and Decoration*. Berkeley, Calif.: University of California Press.

Dars, C. 1979. *Images of Deception: The Art of Trompe-L'œil*. Oxford: Phaidon.

de Carolis, E., F. Esposito, C. Falcucci, and D. Ferrara. 2012. "Riflessioni sul quadro della 'Venere

in Conchiglia' di Pompei: dal mito al lavoro dei pictores." *RStPomp* 23:7-24.

della Corte, M. 1965. *Case ed Abitanti di Pompei*. 3rd Edition. Curata da Pietro Soprano. Napoli: Faustino Fiorentino.

de Santis, L. 2009. "On the Reconstruction of the Spatial Representations in Certain Roman Wall Paintings." In *The Splendor of Roman Wall Painting*, edited by U. Pappalardo and D. Mazzoleni, 222-31. Los Angeles: J. Paul Getty Museum.

Dickman, J.A. 2007. "Residences in Herculaneum." In *The World of Pompeii*. The Routledge Worlds, edited by J.J. Dobbins and P.W. Foss, 421-34. London: Routledge.

Dobbins, J. J., and P. W. Foss. 2007. *The World of Pompeii*. The Routledge Worlds. London: Routledge.

Drerup, H. 1959. "Bildraum und Realraum in der roemischen Architektur." *Roemische Mitteilungen* 66:145-74.

Elsner, J., and M. Squire. 2016. "Sight and Memory: The Visual Art of Roman Mnemonics." In *Sight and the Ancient Senses*. The Senses in Antiquity, edited by M. Squire, 180-204. London: Routledge, Taylor & Francis Group.

Elsner, J. 2007. "Viewing Ariadne: From Ekphrasis to Wall Painting in the Roman World." *CP* 102(1):20–44.

Elsner, J. 1996. *Art and Text in Roman Culture*. Cambridge Studies in New Art History and Criticism. Cambridge: Cambridge University Press.

Elsner, J. 1995. *Art and the Roman Viewer: The Transformation of Art from the Pagan World to Christianity*. Cambridge Studies in New Art History and Criticism. Cambridge England: Cambridge University Press.

Frey, J.M. 2015. "The Archaic Colonnade at Ancient Corinth: A Case of Early Roman Spolia." *AJA* 119(2):147-75.

Galinsky, K. 1992. "Venus, Polysemy, and the Ara Pacis Augustae." *AJA* 96(3):457-475.

Garcia, T. 2018. "The Limits of Greek Painting: From Mimesis to Abstraction." In *The Many Faces of Mimēsis: Selected Essays from the 2017 Symposium on the Hellenic Heritage of Western Greece*, edited by H. L. Reid and J. C. DeLong, 325-38. The Heritage of Western Greece, 3. Sioux City, Iowa: Parnassos Press.

Gazda, E. 2014. "Villas on the Bay of Naples: The Ancient Setting of Oplontis." In *Oplontis: Villa A ("of Poppaea") at Torre Annunziata, Italy. Vol. 1, the Ancient Setting and Modern Rediscovery*, edited by J.R. Carke, and N.K. Muntasser, 139-302. New York: American Council of Learned Societies.

Gensheimer, M. B. 2015. "Greek and Roman Images of Art and Architecture." In *The Oxford Handbook of Greek and Roman Art and Architecture*, edited by C. Marconi, 84-104. Oxford: Oxford University Press.

Gombrich, E. H. 2000. *Art and Illusion: A Study in the Psychology of Pictorial Representation*. Millennium ed. Bollingen Series, 35. The A.W. Mellon Lectures in the Fine Arts, 5. Princeton: Princeton University Press.

Jashemski, W. F. 1979. *The Gardens of Pompeii: Herculaneum and the Villas Destroyed by Vesuvius*. New Rochelle, N.Y.: Caratzas Bros.

Jones, N. 2018. "Starting from Places: Continuous Narration and Discontinuous Perspectives in Roman Art." *ArtB* 100(1):7–35.

Koortbojian, M. 2005. "Mimesis or Phantasia? Two Representational Modes in Roman Commemorative Art." *ClAnt* 24(2):285–306.

Leach, E. W. 2004. *The Social Life of Painting in Ancient Rome and on the Bay of Naples*. Cambridge: Cambridge University Press.

Leach, E. W. 1982. "Patrons, Painters, and Patterns: The Anonymity of Romano-Campanian Painting and the Transition from the Second to the Third Style." In *Literary and Artistic Patronage in Ancient Rome*, edited by B. Gold, 158-64. Austin: University of Texas Press.

Ling, R. 1991. *Roman Painting*. Cambridge England: Cambridge University Press.

Little, A. M. G. 1971. *Roman Perspective Painting and the Ancient Stage*. Wheaton, Md.

Little, A. M. G. 1937. "Perspective and Scene Painting." *ArtB* 19(3):487–95.

MacDonald, W. L. 1986. *The Architecture of the Roman Empire. Vol. II: An Urban Appraisal.* Yale Publications in the History of Art, 35. New Haven and London: Yale University Press.

Maiuri, A. 1953. *Roman Painting. The Great Centuries of Painting.* Geneva: Skira.

Mazzoleni, D., U. Pappalardo, and L. Romano. 2005. *Pompejanische Wandmalerei: Architektur Und Illusionistische Dekoration*. München: Hirmer Verlag.

Mols, S. T. A. M. 1999. *Wooden Furniture in Herculaneum: Form, Technique and Function*. Circumvesuviana, V. 2. Amsterdam: Gieben.

Morvillez, E. 2018. “The Garden in the Domus.” In *Gardens of the Roman Empire,* edited by W. F. Jashemski, 17-71. Cambridge, United Kingdom: Cambridge University Press.

Nappo, S. C. 2007. “Houses of Regions I and II.” In *The World of Pompeii*. The Routledge Worlds, edited by J.J. Dobbins and P.W. Foss, 347-72. London: Routledge.

Netz, R., and M. Squire. 2016. “Sight and the Perspectives of Mathematics: The Limits of Ancient Optics.” In *Sight and the Ancient Senses*. The Senses in Antiquity, edited by M. Squire, 68-84. London: Routledge, Taylor & Francis Group.

Panofsky, E. 1991. *Perspective As Symbolic Form*. Translated by C. S. Wood. New York: Zone Books.

Pappalardo, U., and D. Mazzoleni. 2009. *The Splendor of Roman Wall Painting*. Los Angeles: J. Paul Getty Museum.

Paton, W. R., and M.A.Tueller, trans. 2014. *The Greek Anthology*. Rev. Loeb Classical Library, 67. Cambridge, MA: Harvard University Press.

Peters, W. J. T., and E. M. Moormann. 1993. *La Casa di Marcus Lucretius Fronto a Pompei e Le Sue Pitture*. Scrinium, 5. Amsterdam: Thesis Publishers.

Petronius, Seneca. 1913. *Satyricon*. *Apocolocyntosis*. Translated by M. Heseltine and W. H. D. Rouse. Revised by E. H. Warmington. Loeb Classical Library 15. Cambridge, MA: Harvard University Press.

Platt, V. 2002. “Viewing, Desiring, Believing: Confronting the Divine in a Pompeian House.” *Art History* 25(1):87–112.

Pliny. 1938. *Natural History*. Translated by H. Rackham. Loeb Classical Library. Cambridge, Mass.: Harvard University Press.

Proudfoot, E. 2013. “Secondary Doors in Entranceways at Pompeii: Reconsidering Access and the ‘View from the Street.’” *Theoretical Roman Archaeology Journal* 2012:91-115.

Scagliarini, D. C. 1974-76. “Spazio e decorazione nella pittura pompeiana.” *Palladio* 23-25:3-44.

Sinisgalli, R. 2012. *Perspective in the Visual Culture of Classical Antiquity*. Cambridge: Cambridge University Press.

Squire, M. 2016. *Sight and the Ancient Senses*. The Senses in Antiquity. London: Routledge, Taylor & Francis Group.

Squire, M. “Making Myron’s Cow Moo? Ecphrastic Epigram and the Poetics of Simulation.” *The American Journal of Philology* 131(4):589–634.

Stinson, P. 2011. “Perspective Systems in Roman Second Style Wall Painting.” *AJA* 115(3):403–26.

Swift, E. 2009. *Style and Function in Roman Decoration: Living with Objects and Interiors*. Burlington, VT: Ashgate.

Tammisto, A. 2012. “Gli Uccelli Nelle Pitture Di Giardino Della Casa Della Venere in Conchiglia*.” RStPomp* 23:29-38.

Thomas, E. 2007. *Monumentality and the Roman Empire: Architecture in the Antonine Age*. Oxford: Oxford University Press.

Wesenberg, B. 2002. “Wand und Illusion im zweiten pompejanischen Stil.” In *Bedeutung in Den Bildern: Festschrift Von Jorg Traeger*, edited by K. Möseneder and G. Schüssler, 477-499. Regensburg: Schnell und Steiner.

Down to the Ground: A Case Study in Predictive Modeling in Scythia Minor

Nathaniel Durant - Keith F. Otterbein Award

During the third to seventh centuries C.E., the Roman province of Scythia Minor, located in modern-day southeastern Romania, was repeatedly overrun by Gothic, Hunnic and other barbarian invasions from the north, which, according to Zosimus, Philostorgios and other historians of the late empire, ravaged the countryside and even led to the capture and destruction of several frontier forts and settlements. Thus, the system of frontier forts that had been established along the Black Sea coast and Danube since the second century C.E. was likely repeatedly modified and developed to combat these persistent threats. Although the fortifications are often separated and categorized by size or function, ranging from smaller towers to larger forts and fortified cities, the purposes of all these constructions ultimately lie rooted in control and defense, and the individual fortifications themselves almost always worked in tandem with other installations. Using two missing sites as case studies, my research takes an interdisciplinary and spatial approach aimed at exploring how these sites can be located, and how their placement affects how people living on this Roman frontier reacted under nearly four centuries of external and internal pressures.

Introduction

In the late Roman Empire, the province of Scythia Minor, located in modern-day southeast Romania, remained one of the most militarily active regions of the empire as repeated invasions by the Goths, Huns, and Slavs from the fourth to sixth century ensured the constant attention of the emperor to this region and the frequent upkeep of forts, towns and roads.[1] Thus, the system of forts that had been established along the Black Sea coast and Danube since the second century C.E. was repeatedly modified and developed to combat these threats (Fig. 1). Although archaeological remains of all of the forts named in ancient sources have not been convincingly located, modern researchers are fortunate enough to possess several registers that describe distance between sites, both known and unknown. In particular, two sites, called *Vallis Domitiana* and *Ad Salices*, are mentioned in a third century register as being located in the province of Scythia Minor. However, due to the vast area in which the sites could potentially exist, these distances alone cannot provide a location for these two missing sites. There is significant evidence from the ancient sources that, in setting up their frontier defenses and cities, the Romans took careful consideration of the surrounding landscape and opted for the most strategically viable locations.[2] This project takes into account topographical factors by creating a predictive model based on the geographic arrangement of known forts in order to effectively determine which locations in the landscape were considered to be most suitable for the placement of forts. In addition, lines of sight between Roman fortifications seem to also have played a large role in their construction elsewhere in the empire. Thus, this project also creates a viewshed analysis of several of the forts in the study area to supplement the predictive model and to further constrain and refine the overall possible locations of the two missing sites.[3] Finally, ground-truthing was conducted at a number of locations in southeast Romania in order to determine the validity of the model and to see if any previously unknown sites could be noted based on its predication.

Study Area and Approach

The fortified installations in Scythia Minor, largely located along the Danube and the coast of the Black Sea, were responsible for the military defense and control of the Roman province. Due to this crucial need for security, the location and placement of the forts must have been a top priority for the Romans in order to ensure the maximum amount of control over the surrounding landscape. Although the fortifications are often separated and categorized by size or function by archaeologists, from smaller towers to larger forts and fortified cities, the purposes of all these constructions

Fig. 1: Fortified sites in Scythia Minor from the 4th-7th century C.E.

ultimately lie rooted in control and defense and the individual fortifications themselves almost always worked in tandem with other installations.[4]

Unfortunately, although a significant number of forts have been located in Scythia Minor, other constructions, only mentioned by name in ancient historical sources, still remain unaccounted for in the archaeological landscape. While often the only evidence of the existence of these locations comes through as a passing mention in an ancient source, occasionally more pertinent details are preserved in the ancient texts. One of the most useful of these texts is the *Antonine Itinerary,* a third century C.E. register that preserved distances in Roman miles between named sites. While many of the named locations in Scythia Minor have already been discovered and their distances confirmed, two sites, called *Vallis Domitiana* and *Ad Salices*, have eluded researchers (Fig. 2). Even though it is possible, based on the distances obtained from the ancient register, to obtain a rough area in which the sites should be located, ultimately the region is too vast to make any clear predications (Fig. 3).

However, it is possible to gain a significant amount of information from the placement of the surviving fortifications in Scythia Minor, which may aid in creating a more precise location for the two missing forts. Although the placement and construction of a Roman fort must have been a complex process which took into account a multitude of circumstances, several of these factors can be predicted and observed based on its location in the landscape. As a fort was ultimately responsible for the control of the surrounding area, its elevation would have played a crucial role. Naturally, a fort on higher ground relative to the surrounding area would be able to survey a much greater expanse than one that was hemmed in by mountains. Even though the builders of a fort could construct lofty towers and walls to create an artificially high viewpoint, such structures would still have had a greater strategic value on ground higher than the surrounding area. This model incorporated two methods for determining the relative elevation that will be discussed in the following section.

The other parameter that seems to have played a large role in the placement of forts in the landscape is the proximity to sources

From	To	Antonine Itinerary (Rom mi.)	Antonine Itinerary (km)	Actual measured distance (km)	Actual measured distance (Rom mi.)
Arrubium	Noviodunum	20	29.59608	30.2	20.4081081
Noviodunum	Aegyssus	24	35.515296	27.03	18.26593252
Aegyssus	Salsovia	17	25.156668	21.97	14.84656076
Salsovia	Halmyris	9	13.318236	13.31	8.994434398
Halmyris	Vallis Domitiana	17	25.156668	?	?
Vallis Domitiana	Ad Salices	26	38.474904	?	?
Ad Salices	Histria	25	36.9951	?	?
Histria	Tomis	36	53.272944	42.84	28.94977984
Tomis	Callatis	30	44.39412	40.03	27.05087971

Fig. 2: Named sites and distances from the third century Antonine Itinerary.

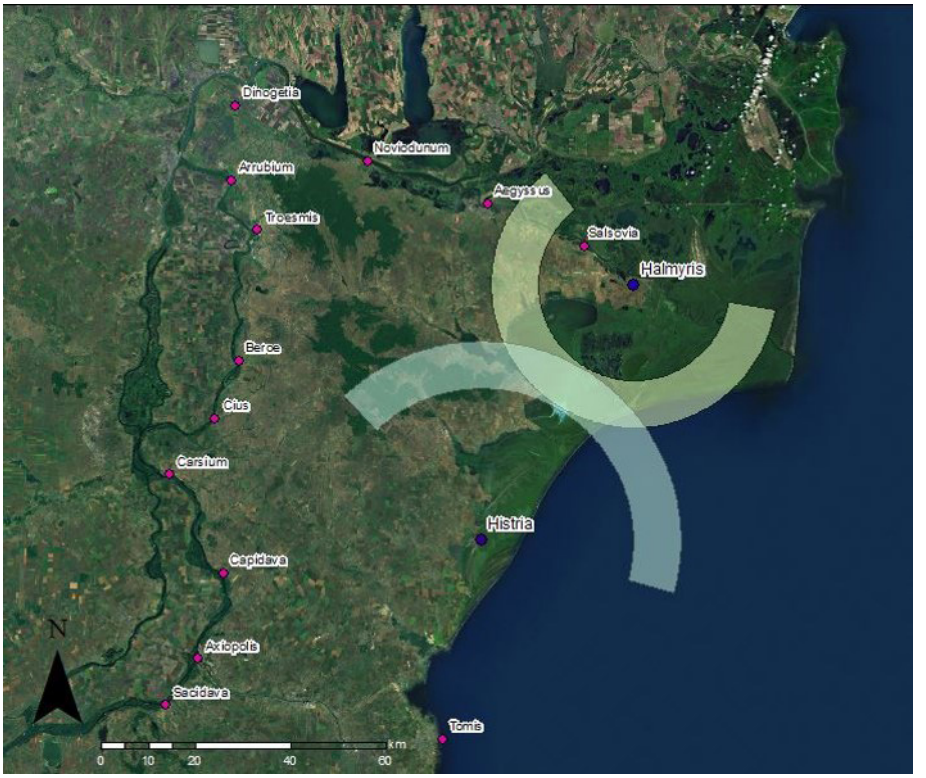

Fig. 3: Five-kilometer buffer for Vallis Domitiana (light green ring in the north) and Ad Salices (dark green ring in the south).

of water. Naturally, the very location of the province of Scythia Minor is governed by two major waterbodies: the Black Sea to the east and the vast Danube River to the north and west. It is clear that the placement of many of the sites is dictated by the rivers and sea as these bodies of water served not only as barriers against external invasions, but also as a rapid means of transport and communication as well as providing a fast means of drainage. There is epigraphic evidence of the existence of a fleet, known as the *Classis Flavia Moesica,* which was based at *Noviodunum* and patrolled the Lower Danube.[5] For fortifications that were not located on the coast or the Danube, placement along tributaries or even smaller rivers would have ensured similar benefits.

In addition to these two factors, it is clear that the Romans placed a great deal of emphasis on lines of sight between frontier fortifications so that information could be quickly and accurately conveyed through signaling. Previous research has already demonstrated that this was most likely practiced in Scythia Minor.[6] Although there are significant gaps in the frontier defenses (consisting of the very forts this project aims to locate), it is possible to determine what areas are visible from the existing sites and which areas would benefit from further surveillance. Thus, the combination of a viewshed model with a predictive model based on the other topographical factors will produce a clearer view of the most likely locations for the two missing forts.

The Model

The base elevation map for this study comes from NASA's worldwide Shuttle Radar Topographic Mission (SRTM) which generated a worldwide digital elevation

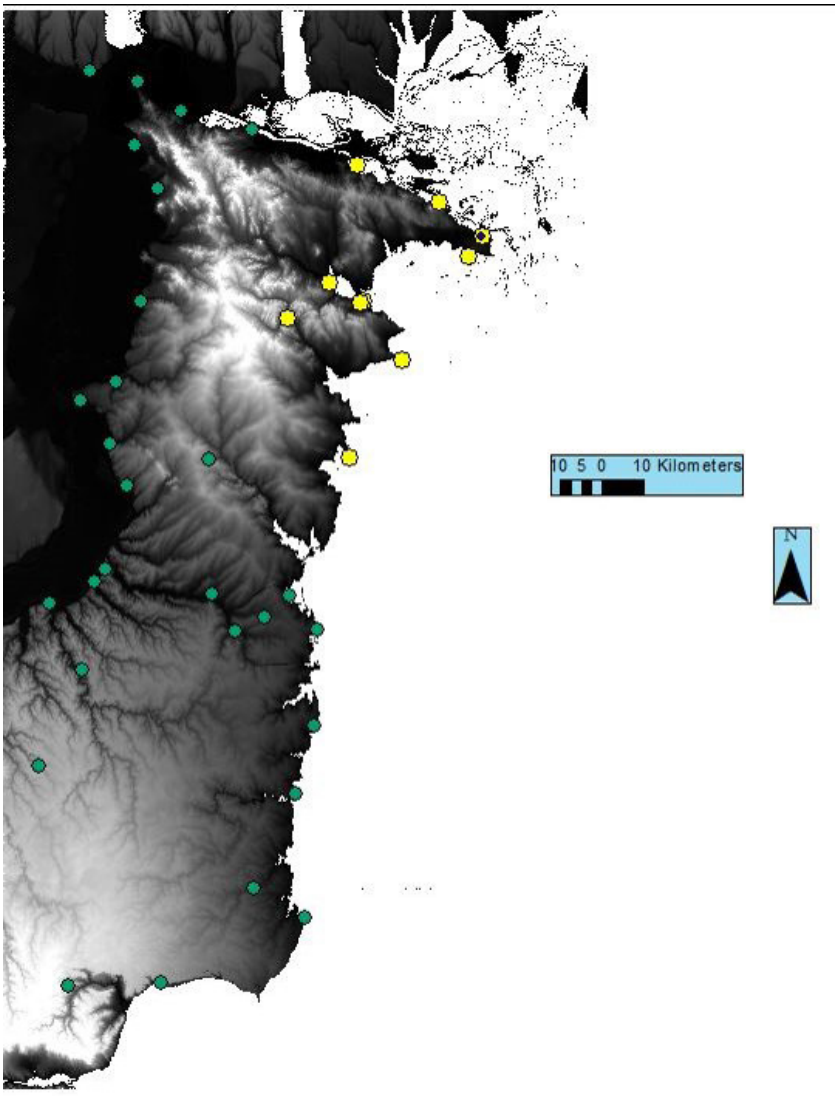

Fig. 4: DEM of Scythia Minor showing locations of chosen sites (yellow dots represent sites likely close to the missing forts).

model (DEM) with a resolution of one arc-second, or approximately 30 m. Although the resolution of this DEM is perhaps not ideal for mapping out detailed ground features, it is largely appropriate for this study as almost none of the fortifications are smaller than 30 m^2. The DEM was reprojected into UTM 35N to ensure the highest degree of accuracy for distances and areas. The locations of 60 fortifications in Scythia Minor, dating from the fourth century to the seventh century C.E. were obtained from archaeological gazetteers (i.e. Zahariade 2006; Bajeanaru 2010) as well as through Cronica, the digital database of the National Archaeological Record of Romania (cronica.cimec.ro) (Fig. 4).

One of the most significant problems that this project encountered was determining the degree to which the landscape had changed since Roman times, especially along the Danube and the Black Sea coast. There has been extensive geomorphological research done in the area of the Danube Delta in the past century that has revealed a complex and changing environment (i.e. Romanescu 2011). In addition to the changing course of the Danube, the past layout of the Black Sea coast differed noticeably from its present day arrangement due to fluctuations in sea level.[7] In order to compensate for all of these complex geomorphological changes, the course of the Danube was modelled after its greatest extent and the sea level on the DEM was changed to 2 m higher than present day, a value that seemed to be an efficient compromise with the sea level values calculated at various archaeological sites.[8] The course of the interior rivers of the Scythia Minor province proved much easier to model, although, due to the available data, it was assumed that their courses remained similar in modern times to their Roman counterparts. In order to determine the influence of major rivers and streams versus those with a more seasonal or temporary nature, four different maps were created based on different minimum amounts of flow accumulation as major streams and rivers will be fed by a considerable amount of runoff while smaller creeks and river valleys might only contain water infrequently.

While the base elevation values were simply extracted from the DEM to the fort points, the relative elevation of each fort was calculated using two different methods. One simply used the neighborhood statistics tool in a rectangular pixel grid (3x3 pixels, 5x5, etc.) to determine the average elevation value of the surrounding area and then subtract this value from the center point. The second method employed a tool popularized in landscape analysis and geomorphology commonly known as TPI (Topographic Position Index). Like with neighborhood statistics, TPI compares the elevation of a point to surrounding values in order to classify the type of landscape (peak, valley, etc.) but does so using a slightly different algorithm and tool developed by Jenness and employed in a number of geological and archaeological papers.[9] The TPI values at various larger distances (i.e. 5x5, 10x10) were created. Finally, as slope may have played a role in the placement and occupation of Roman forts, slope was also added as a parameter into the model.

In all, twelve individual parameters were used within the development of the model. A binary logistic regression curve was selected to be the best model to represent this data, as it is highly sensitive to changes at the 50% margin. As there are only two possible outcomes of this project, either the presence or absence of a fort, the binary logistic regression model served as the best approximation of the real-world data. In order to create location of presumed fort absence, this project generated an equal number of random points using ArcGIS' Create Random Points tool, a common process in statistical analysis. Therefore, 120 points (60 forts, 60 random points) were put into a binary logistic model using IBM SPSS statistical software.

Results and Ground Research

The results from this computation were largely successful, demonstrating the validity of the model (R^2=.617), and multiple parameters were determined to have statistical significance (Fig. 5). Based on the statistical values, proximity to major rivers and/or the Black Sea coast was definitely a factor in fort occupation and placement in Roman times, along with height around the surrounding landscape. Interestingly, for relative elevation within a 150 m radius (5x5 pixels as each pixel is 30 m), the TPI indicated a negative relationship (i.e. preference for a lower placement in the landscape) while my method suggested the opposite association. This is especially odd as all other pertinent parameters of relative elevation suggested a

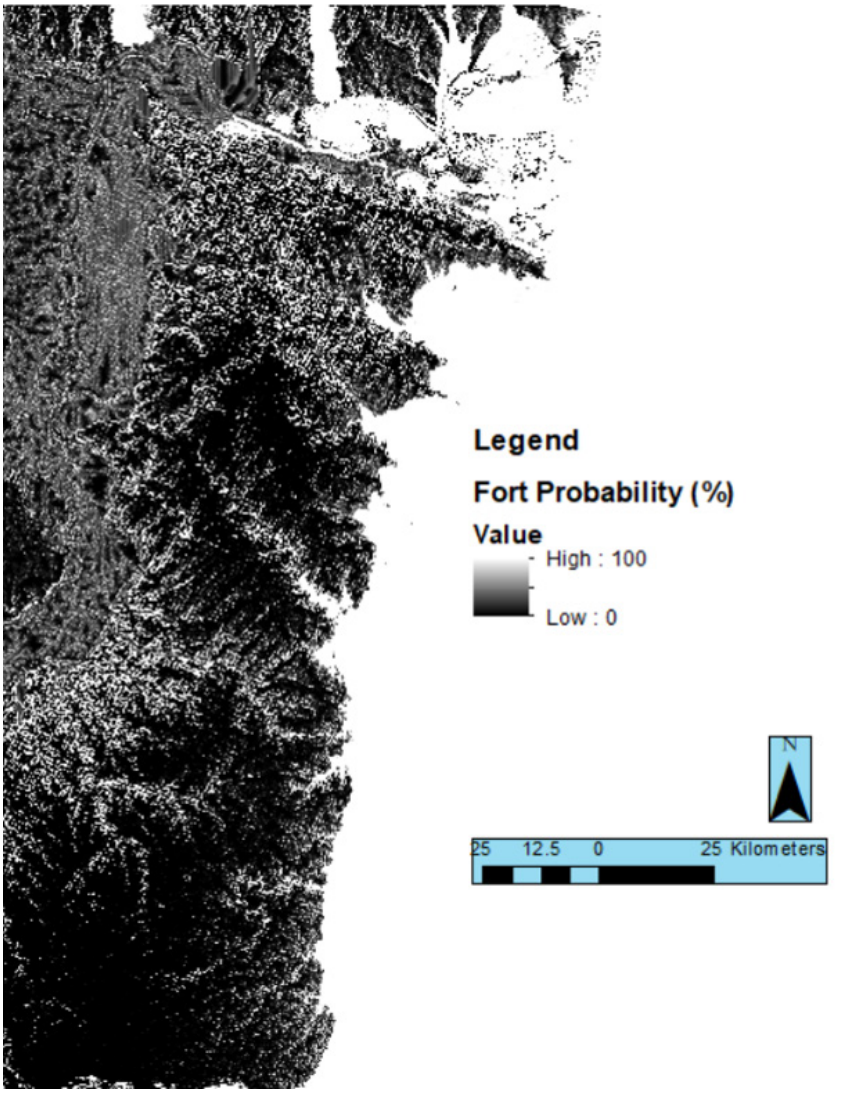

Fig. 5: The final predictive model.

positive relationship and this anomaly will have to be further explored in subsequent research.

A number of high probability sites were chosen for ground research in the summer of 2019 based around the areas of interest for *Vallis Domitiana* (Locations for *Ad Salices* were unfortunately inaccessible (Fig. 6). Field surveys were conducted at a number of these sites and considerable amounts of pottery and ceramic building material (CBM) were processed. The results of these surveys revealed the presence of three previously unknown sites of the Roman period, as well as four other sites that displayed Roman material culture. The absence of any considerable amounts of worked stone and the fact that only one of these sites contained significant levels of CBM suggests that these sites were most likely not forts. However, it is possible that much of the subsurface features had been largely removed by plowing and other modern interventions.

Discussion

While this model did not locate any sites that could be convincingly identified as forts by pedestrian surveys, the fact that Roman material was discovered at multiple locations should be considered a significant victory for the use of predictive modeling in archaeology. The idea that the Romans took careful consideration of the topography when placing their sites is well known from historical sources such as the first century author Vitruvius, but the statistical similarities present between the known sixty forts in the province of Scythia Minor provide further evidence of the importance of the landscape. The rivers and coastal sites within frontier regions, long believed to have aided in the movement of goods and soldiers to and from fortifications, are clearly seen as one of the major reasons in determining a location for a site.[10] The predicted locations for *Vallis Domitiana* are significant as this site likely occupied a region along the southern coast of the Dunavat peninsula allowing surveillance of the major waterways into Lake Razim and ultimately the Black Sea. If either of the Roman sites discovered within the initial study area do represent *Vallis Domitiana*, the location offers considerable visual control over the flat landscape as well as the main access points to Lake Babadag while providing connections between sites on the Danube frontier and those in the interior of the province.

Unfortunately, none of the areas surveyed within the predicted area of *Ad Salices* revealed any considerable amount of material culture, but this may be due to a limited degree of access. While the study area for *Vallis Domitiana* was largely composed of plowed agricultural land, the region for *Ad Salices* contained considerable numbers of low rolling hills currently covered in dense vegetation and largely inaccessible in the modern day. The model suggests that several of the hills that fall within the study area

Fig. 6: Sites with Roman material culture identified from field survey.

represent ideal locations for a military fort, due likely both to their proximity to the coast as well as their considerable elevation over the surrounding region. Therefore, it is the author's opinion that one of these hills represents the most likely location for *Ad Salices* in the province of Scythia Minor as this location would also allow considerable communication between the Roman fort at Enisala and the fortified settlement at Argamum.

There are however a number of improvements that can be made on these existing models to ensure a greater degree of accuracy of measurements and thus foster improved future research. Although a DEM with a higher degree of resolution would result in a more accurate portrayal of the landscape, access to satellite imagery in Romania remains much more constrained than in other countries. Moreover, a higher resolution might not result in any major differences in the model as none of the forts measures less than 20 m on a side and thus corresponds fairly well with the 30x30 m pixels. Indeed, the greatest issue was not due to the resolution of the DEM, but rather with the mapping of the forts themselves, for even though many of the forts were hundreds of meters in area (and thus would have occupied multiple pixels), each known fort was simply represented by a single point. Thus, it would be highly advantageous in future developments of this model to create a polygon for each fort, not only to accurately portray its size, but also to ensure that a correct elevation value was taken for each one.

Another aspect that this initial project neglected to consider was the temporal development of the Roman frontier system as a whole. While all the forts chosen appeared to be occupied in the sixth century C.E., many of the forts had been built as early as the first century C.E. and were subsequently abandoned, destroyed or rebuilt throughout the history of the province. Naturally, the abandonment or destruction of a fort during a given time period would have had significant consequences for the other forts in the network as a whole. Thus, this model could be adapted based on the datable occupation layers at each fort to give an overview of the frontier system at specific periods of time, and to determine if there were any differences in fort placement from one century to the next.

Finally, there are several parameters that these models do not take into account that could be adapted and added in future manifestations. Since the Romans had an extensive road network in the province of Scythia Minor, the location of these roads and their role in connecting the landscape must have had a significant impact on the placement of forts due to the need for effective routes for transporting goods and soldiers.[11] Adding a least cost path aspect to the models to approximate the location of roads would provide much needed insights concerning the way that forts interacted with each other, and also would help determine how effectively the frontier system operated as a whole. While it is fortunate that so many forts have been discovered through excavation, field survey and aerial and satellite photography, it is very likely that there are still hundreds of forts that are still largely unknown, a fact attested by dozens of names from late Roman documents that have yet to be attached to any archaeological remains. Predictive modelling thus can serve as an effective and low-cost method for determining possible locations of Roman forts.

Editorial note: All figures are available in color at www.chronikajournal.com

Endnotes:.

1 Zahariade 2006, 25-6.
2 Johnson 1983, 40.
3 Rodgers 2013, 11-2.
4 Bajenaru 2010, 10.
5 Zahariade 2006, 91.
6 Rodgers 2013, 10.
7 Romanescu 2011, 240.
8 Romanescu 2011, 240.
9 Jenness 2005; Tagil and Jenness 2008; De Reu et. al. 2011.
10 Breeze 2012, 92.
11 Zahariade 2006, 30.

Works Cited:

Bajenaru, C. 2010. *Minor Fortifications in the Balkan-Danubian Area from Diocletian to Justinian.* National Museum of Romanian History: The Center for Roman Military Studies 8, Cluj-Napoca.

Breeze, D. 2012. *The Frontiers of Imperial Rome*. Barnsley: Pen and Sword Books.

De Reu, J., J. Bourgeois, J. De Smedt, A. Zwertvaegher, M. Antrop, M. Bats, P. De Maeyer, P. Finke, M. Van Meirvenne, J. Verniers, and P. Crombé. 2011. "Measuring the relative topographic position of archaeological sites in the landscape, a case study on the Bronze Age barrows in northwest Belgium." *JAS* 38:3435-3446.

Jenness, J. 2005. "Topographic Position Index" (tpi_jen.avx) Extension for ArcView 3.x. *Jenness Enterprises*. http://www.jennessent.com.

Johnson, S. 1983. *Late Roman Fortifications.* London*:* Batsford.

Rodgers, G. 2013. "Fortifying the Landscape: An Experimental Approach to Late Roman Fortification Strategies and Martial Landscapes." MSc. diss., University of Sheffield.

Romanescu, G. 2011. "Geoarchaeology of the ancient and medieval Danube Delta: Modeling environmental and historical changes. A review." *Quaternary International* 293:231-244.

Tagil, S., and J. Jenness. 2008. "GIS-based automated landform classification and topographic, landcover and geologic attributes of landforms around the Yazoren Polje, Turkey." *Journal of Applied Sciences* 8(6):910-921.

Zahariade, M. 2006. *Scythia Minor: A History of a Later Roman Province (284-681).* Amsterdam: Hakkert.

The PC15 Building: a Wood-Built Public Place at the Center of the Oppidum of Bibracte (France)

Juliette Hantrais, Philippe Barral, Pierre Nouvel, Matt hieu Thivet, Martine Joly.

This synthesis proposes to analyze an original wood construction dated to the end of the Iron Age discovered in the heart of the oppidum of Bibracte (Saône-et-Loire, France). Archeological excavations in the area of platforms PC14 and PC15 offer evidence of a new earth and timber architectural complex. It covered an area of 1,900 square meters and was used for half a century, between La Tène D2 and the end of the Augustan period (70/60 B.C.E. – 15 B.C.E./5 C.E.). Four successive revisions can be described accurately: the first three phases were made of wood and earth and the last one was a composite architecture of stone and wood. The characteristics of this monumental construction indicate that it was certainly a public building with original architectural features and techniques. Yet, although this monumental building is very well documented archaeologically, its exact function remains enigmatic. While evidence is lacking for us to draw finite conclusions in that regard, this article proposes to investigate its probable function(s). This is accomplished by comparing the PC15 complex to similar structures found at other archeological sites in France, such as one from Tregueux, the public place of Thésy-Glimont, and the sanctuary of Corent.

Introduction

Bibracte, located on Mont Beuvray (Burgundy, France) was the capital of the Aedui. The oppidum was occupied from the end of the second century B.C.E. to the beginning of the 1st century B.C.E. Considered as one of the most important sites for the study of European protohistory, several areas of the site have been explored since the middle of 19th century. Suspended at the dawn of the First World War, excavations restarted in 1984 and have continued to this day thanks to the creation of a major European research program which includes many universities from all over Europe.

The first excavations in the 'Parc aux Chevaux' were conducted by Jacques-Gabriel Bulliot and later Joseph Dechelette at the end of the 19th century. These investigations revealed stone structures interpreted as vast platforms that were named PC14 and PC15. Bulliot focused on the stone foundations of two enclosures and some features that he regarded as cremated remains.[1]

In 2012, archaeological excavations in the area resumed, led by a team from the Franche-Comté University directed by Philippe Barral, Pierre Nouvel, Matthieu Thivet and Martine Joly. The vast stripping of an approximately 7,400 m^2 area conducted between 2012 and 2017 has made it possible to completely clear an original architectural structure of earth and wood about 44 m wide, built before platforms PC14 and PC15. Despite a complex stratigraphy, four major successive phases are distinguishable. The first three forms were constituted of earth and timber, and the last one was built of combined earth, wood and stone materials.

This construction was significantly different from other earthen and wooden remains excavated over the rest of Bibracte and the form of the building refers in its configuration to a public space. The PC15 enclosure is currently the only representation of Celtic monumental earth and wood architecture in Bibracte, and in fact, this type of building is poorly known within oppida. Therefore, PC 15 is one of the most emblematic structures for the study of public Celtic places.

Finally, the use of stone during the final construction phase of this building also illustrates the spread of Mediterranean influences in the area.

In view of this exceptional discovery, a first synthesis article was published in 2016 in the proceedings of the AFEAF conference in Rennes.[2] The present paper aims to complete it and proposes a new synthesis based on results from the last excavation campaign conducted in 2017 and a master thesis completed that same year.[3] After a summary of the data used for our interpretations, the four-phase evolution of the excavated area will be detailed. We will use the results of a spatial analysis conducted on post holes to complete this second part. Finally, a comparative analysis will conclude this article.

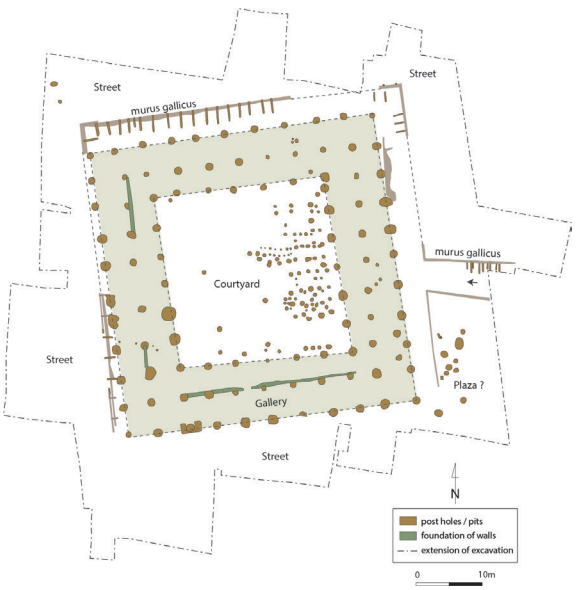

Fig. 1. Plan of phase 1: the double gallery building (70 B.C.E. – 50 B.C.E.)

Data and Methodology

The corpus of data used in this study comes from the six excavation campaigns conducted between 2012 and 2017. It included field documentation and studies of archaeological artifacts.

These six years of collaborative investigations have led to a significant increase of stratigraphic data available for the site. Almost 3000 stratigraphic units have been recorded. Units are linked together according to the stratigraphic observations made in the field. This stratigraphic sequence represents a key feature to understand and analyze the chronological evolution of the building. To refine the temporal framework, the stratigraphic data has been compared to artifact categories functioning as chronological markers (pottery, coins).

Artifacts are represented mainly by amphorae, pottery, coins, nails, and copper alloy objects. All artifactual studies were published in the excavation reports. There were not many objects recovered within PC15 in relation to the area explored, except during the year 2017. This was due to the fact that this last excavation campaign focused on the exteriors of the building and therefore delivered numerous archaeological artifacts, mostly amphorae. However, chronological markers like pottery or coins were not recovered which did not permit the dating of each phase.[4] The poverty of the corpus, which is furthermore very fragmented, limits the chronological, spatial and functional analysis in this study. As a result, this article will only focus on the evolution highlighted by the stratigraphic data.

The excavations conducted have uncovered many structures and allowed researchers to sketch building plans, completed during the different campaigns. The features uncovered are very diverse (post holes, pits, palisade trenches) and carry information, particularly about the architecture of the building itself, such as depths, fills, etc. To better understand and clarify the building's form, a detailed spatial analysis was carried out. All data from the field has been incorporated in a GIS model specific to PC15. The use of GIS allowed for the creation of maps from particular requests. To illustrate the usefulness of using GIS software in such a context, a spatial analysis conducted on the depth of postholes is briefly presented in this article.

Evolution of the Structures

Phase 1 (~ 70 B.C.E.)

The first phase of construction in the area was the installation of an initial layer of

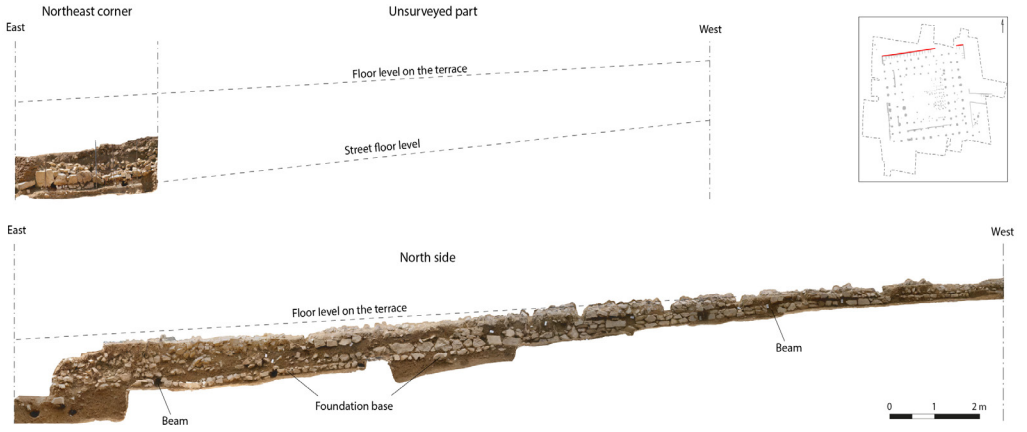

Fig. 2. Remains on the north side of the murus gallicus (Photogrammetry: D. Vurpillot)

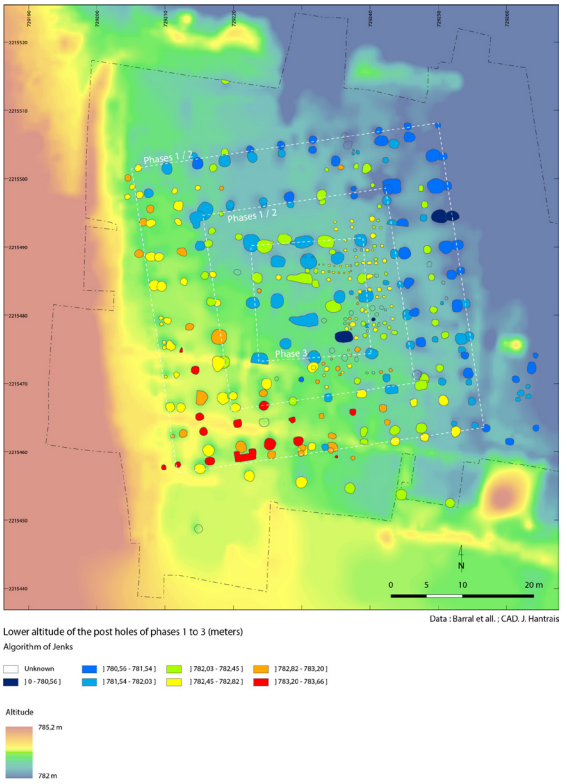

Fig. 3. Depth of post holes in phases 1 to 3.

dirt to create a terrace. It is delimited by a unique wall system using the *murus gallicus* technique, the same one that was typically used for ramparts like the ones of Bibracte. It has been identified on at least three sides (north, east and west) (Fig. 1, Fig. 2). Its northern face is one of the best preserved. The wooden frame, which is one of the characteristics of this type of construction, has been clearly identified. Layers of beams were placed horizontally, perpendicular to the stone facing. The wooden pieces used were between 20 and 25 cm long, and spaced one meter apart. They were fixed together with 20 cm long iron nails. In addition, two layers of beams were separated by a sill that can be deduced from a thin layer of silt in the stone covering. The east side consisted of two sections that joined to create a large entrance. This was the only access route revealed by archaeological excavations for the first phase of construction.

On this terrace, delimited by this *murus gallicus*, a first edifice with 44 m-long sides was built (Fig. 1). It included two galleries of wooden posts, each one being almost 45 cm wide. Both galleries were 4.40 m wide, forming a main gallery of 8.80 m. The post holes in the northeastern corner of these galleries were deeper than the ones opposing them in the southwestern corner, where the slope is the least pronounced (Fig. 3). This analysis shows that the constructions followed a predefined plan, but that the architects faced topographical constraints and adapted the structure to them, as is demonstrated by the increased depth of the postholes towards the slope to the northeast corner.

The inner side of the structure opened onto a central area of 680 m^2. In this space, excavations revealed many small postholes but no clear plan could be distinguished, in spite of some of them being aligned. Most of them are very shallow holes. All circulation layers were covered with a well-maintained floor. The building was surrounded by walkways that continued to be used during the subsequent three phases.

Fig. 4. Plan of the phase 2: the simple gallery building (50 B.C.E. – 30 B.C.E.)

Phase 2 (~ 50 B.C.E.)

A new building with almost the same general form as the first complex arose around 50 B.C.E (Fig. 4). It rested on the same terrace supported by the original *murus gallicus*. The main gallery of the quadriporticus was narrower than the previous one, yet, its postholes were not deeper. As was the case during the first phase, the post holes at the northwest corner were found to be deeper than the opposite ones. Moreover, the postholes constituting the central aisles during the first phase were the only ones systematically shallower than the holes used for supporting posts. This indicates a support function for the overall structure. The building was also enclosed from the outside by a trench. The excavated fill contained yellow clay blocks, which could have resulted from the crumbling of an earth wall. Within the central courtyard, small trenches can be distinguished along the line of postholes. They are currently interpreted as evidence of rainwater leaking from the roof.

Outside, several pits and postholes were found in the southeast circulation area of the building. The post negatives could be excavated finely and showed wooden pieces of 0.40 by 0.50 m. However, no overall building plan is discernible. Large pits were excavated in this space, which yielded numerous artefacts. These outside features were likely trash pits employed when the building was in use.

Phase 3 (~ 30 B.C.E.)

The third phase was characterized by a deep change in the general organization of the complex. The gallery from the previous phases was replaced by a monumental construction encircled by a peripheral palisade (Fig. 5). This stage was also marked by the levelling of the murus gallicus, the remains of which were embedded in a backfill employed to reshape the platform. A thick layer of backfill used to cover the access ramp was formed by the two sections of the murus gallicus to the east. This layer was composed of nearly complete amphorae that helped drain and elevate this part.

The central plan of the building draws a rectangle of 16.5 x 15.2 m and was built on large posts that were sunk into deep holes. The thorough excavation of their fill made it possible to observe the presence of pieces of wood that had decayed. The depth of the postholes was generally homogeneous, with some slightly shallower than the others (Fig. 3). The poles set in these postholes do not appear to have been part of the general structure of the building. It is possible that they instead contributed to the architecture of another building, perhaps an early iteration of the PC15 terrace visible during the next phase. No stratigraphic link confirmed the presence of this structure during the fourth phase, therefore the postholes were assigned to phase three. A trench about 30 cm wide and 40 cm deep forming a square delimited the central area within which this monumental building was constructed. Traces of the wooden palisade were still visible in the backfill of some meticulously excavated sections.

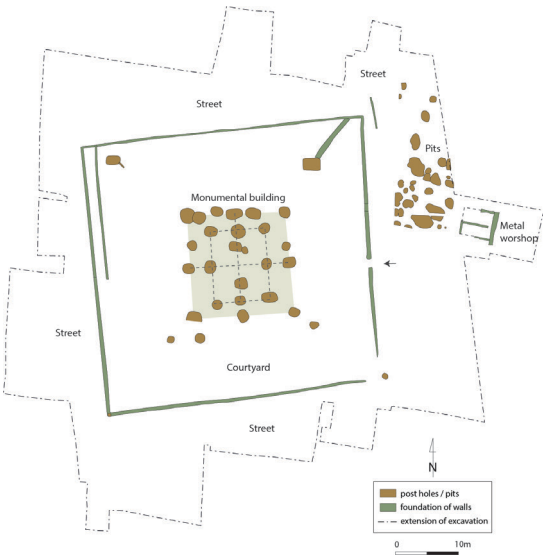

Fig. 5. Plan of the phase 3: the monumental building in the center of a courtyard (30 B.C.E. – 15 B.C.E.)

To the east, just next to the building, remnants of a metal workshop testify to a craft activity that can be associated with the needs and use of the complex. Samples and waste remains recovered showed that ironworking was practiced there. Stratigraphic data revealed that this workshop emerged after phases 1 and 2 and was therefore potentially related to the changes that arose during phase 3.

Phase 4-5 (~ 15 B.C.E.)

During these two phases, the previous building was quickly levelled to make a new terrace on which two vast platforms were built, labelled PC14 and PC15 (Fig. 6). The stratigraphic data allowed us to observe two successive construction stages (PC15 and PC14), probably very close in time, participating in an overall restructuring program visible in this area of the oppidum. This change resulted in the implementation of a new walkway system that surrounded both platforms. It is also during this phase that stone architecture appeared as a construction material used for this complex.

The new PC15 platform was surrounded by stone walls, for which only the foundations were found. The south and west sides were about 0.50 m wide while the foundations of the north and east walls were much more massive, with a width of 1.30 m. The thicker sides were likely meant to contain a significant layer of dirt present in the south-western corner where the slope is the most important. Pilasters were positioned along the wall to adorn the stone façade (Fig. 7).
The entrances of PC15 were located in the same area as the entrances of the previous earth and wood buildings. In the eastern part, a new stone ramp was built in place of the murus gallicus present in phases 1 and 2. The western entrance was materialized on the one hand by the interruption of the western wall, and on the other hand by a series of post holes that could have been supports for a portico.

In the center, the esplanade was occupied by inside installations the nature of which is still difficult to determine. The foundations of a small wall, visible at the heart of this esplanade, took the form of a "U" and seems to have been linked to a line of parallel poles that could have supported an adjacent gallery. A few postholes may indicate the presence of a central building, but no precise plan has been found.

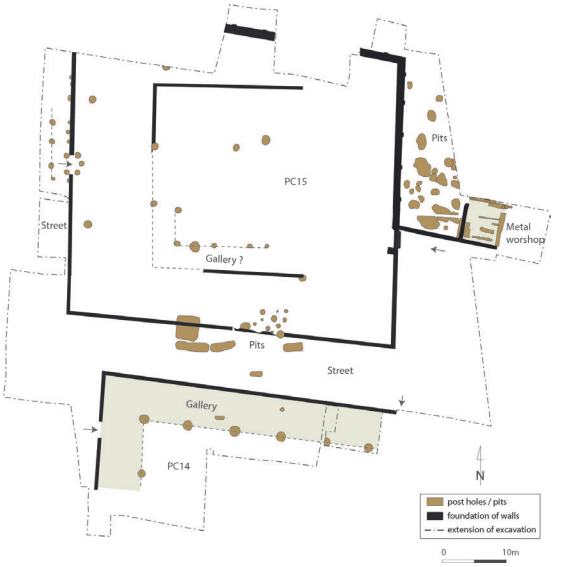

Fig. 6. Plan of the phases 4-5: PC15 and PC14 (15 B.C.E. – 5 C.E.)

The metallurgical workshop continued to be used during this period but was modified several times. The stratigraphy indicates that the last phase of development of this workshop corresponded to the construction of the PC15 platform. However, it is possible that this small workshop building was remodeled several times during phase 3.

The PC 14 platform was built very soon after PC15. This new terrace, also delimited by walls, had a peripheral gallery system, clearly visible on the northern side of the enclosure (the rest has yet to be excavated). The posts forming this gallery were set in large holes that were regularly spaced. Together with the wall, this formed a covered space 6 m wide.

Fig. 7. Remains of the east wall of PC15 (Photogrammetry: D. Vurpillot)

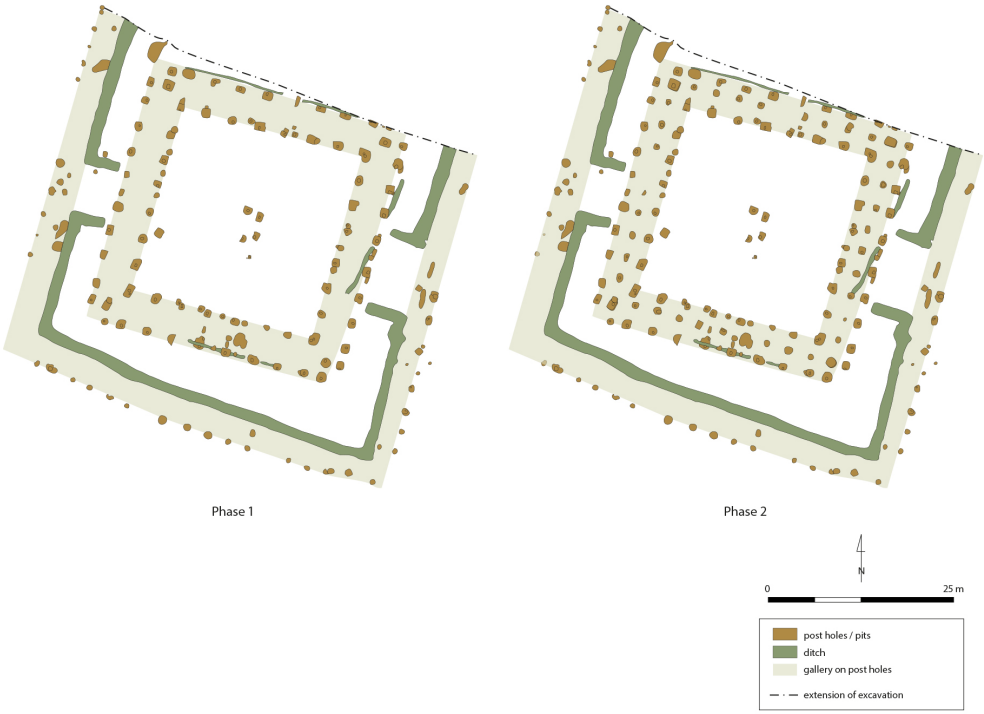

Fig. 8. Plan of the Trégueux building (phases 1 and 2) (after Allen et al. 2012).

The two platforms were quickly abandoned at the same time, marking the end of occupation of this complex. In fact, several layers of abandonment dating from the same period have been excavated throughout the area.

Comparative Study

As will be argued here, there exist a few examples of buildings that are similar to PC 15.

One of the most prominent similar examples can be found within the site of Trégueux in western France. This site contains a square building with sides each measuring 50 m long (Fig. 8). A large ditch enclosed a courtyard in which a series of wooden posts supported a quadrangular gallery. Two 10 m wide entrances have been identified on the eastern and western sides. The spatial organization and the architectural features of this structure are similar to those visible during the first two phases of the PC15 ensemble. The Trégueux complex is currently interpreted as a commercial place, similar to the Roman *macella*.[5] This vast set of structures was part of an agglomeration that included, among other buildings, an elite residence.

Our second point of comparison comes from the sanctuary of Corent (Puy-de-Dôme, France) which is one of the best documented sanctuary found in the context of an *oppidum*.[6] At the end of the second century B.C.E., this wood and earth building was equipped with a monumental gallery of posts lined by a large perimeter ditch. Inside its courtyard, two small enclosures were used for religious practices (Fig. 9). The large entrance, visible on the eastern part of the ditch, was characteristic of religious buildings of this period. The quadrangular plan, the gallery and the entrance to the east were not especially different from the first phase of PC15.

The third and last similar structure was located in Thésy-Glimont (Somme, France) (Fig. 10). Archeological excavations at this site revealed a monumental building composed of

Fig. 9. Plan of the Corent sanctuary (after Poux, Demierre 2015).

a series of postholes which formed a gallery, surrounded by a quasi-quadrangular ditch.[7] Entrances on the eastern and western sides have been documented and were similar to the ones found at Trégueux. In spite of this building being much less rectilinear than the constructions at Bibracte, Trégueux or Corent, several of its architectural features were very similar to the examples described previously.

Conclusion and Discussion

Although the PC15 building visibly occupied an important place within the urban organization of the oppidum of Bibracte, its specific use is still complicated to define precisely despite the quality of the archaeological evidence. The stratigraphy

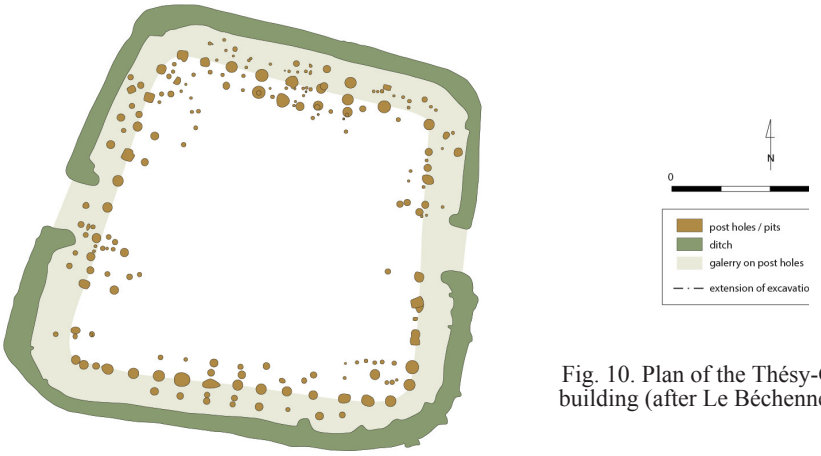

Fig. 10. Plan of the Thésy-Glimont building (after Le Béchennec 2016)

and spatial analysis of the buildings presented here revealed a complex construction sequence that illustrates the engineering power used in public architecture during this period. The construction of PC15 was an ambitious project, carried out in an area of the *oppidum* of Bibracte where topography led architects to innovate by deepening postholes and walls and constructing a *murus gallicus*. Indeed, the latter is one of the few, if not the only, example of this construction technique being used in *intra-muros* civil architecture.[8]

The few datable elements available indicate that the construction of PC15 was contemporary with another exceptional public monument excavated on the oppidum of Bibracte in the area of 'Pature du Couvent'.[9] It is a Roman basilica which was interpreted as the oldest representation of Roman monumental stone architecture in non-Mediterranean Europe. This indicates the coexistence, within the same urban site, of models of public architecture that were very different in their design and materials used. The opposition between Celtic tradition and Mediterranean innovations fully expresses the mutations that occurred within the cities of the first century B.C.E., of which Bibracte is an emblematic example.

PC15 is part of a, so far meager, corpus of public constructions of Latenian inspiration found in an urban context. The comparative analysis between the PC15 example and a few similar cases does not provide a single function for this type of building. Even in the event of a religious purpose emerging first, it cannot be excluded that these community buildings had several functions at the same time. In addition, most of the examples described were part of larger urban frameworks (Bibracte, Trégueux and Corent) and were likely gathering places for their communities.

Editorial note: All figures are available in color at www.chronikajournal.com

Endnotes:

1 Bulliot 1899, 499.
2 Barral et al. 2018.
3 Hantrais 2017.
4 Allen et al. 2012; Menez 2016.
5 Poux and Demierre 2015.
6 Le Béchennec 2016.
7 Estur et al. (forthcoming).
8 Barral and Fichtl 2018.
9 Rieckhoff and Hoppadietz 2019; Szabo et al. 2019.

Works Cited:

Allen T., E. Biddulph, M. Dodd, M. Donnelly, B. Gourlin, and C. Poole. 2012. *Rocade d'agglomération briochine (Trégueux - Côtes-d'Armor - Bretagne). Enclos défensif, bâtiment public et habitat nucléé de La Tène 2, et leurs développements à la période gallo-romaine et à l'époque médiévale. Rapport final d'opération*. 2 vols. Oxford: Oxford Archaeology.

Barral P., and S. Fichtl S. 2018. «De Architectura Celtica : déclinaisons insolites du Murus Gallicus». In *Enclosing Space, Opening New Ground. Iron Age Studies from Scotland to Mainland Europe*, edited by T. Romankiewicz, M. Fernandez-Götz, G. Lock, and O. Buchenschutz, 19-28. Oxbow.

Barral P., M. Joly, J. Hantrais, P. Nouvel, and M. Thivet. 2018. «Un nouveau type d'architecture publique ? Le complexe monumental de PC15 à Bibracte et les enclos quadrangulaire à quadriportique de Gaule interne à la fin de l'âge du Fer». In *Architectures de l'âge du Fer en Europe occidental et centrale. Actes du XLe colloque international de l'AFEAF (Rennes, 4-7 mai 2016)*, edited by A. Villard-le-Tiec, Y. Menez, P. Maguer, 499-508. Rennes: Presses Universitaires de Rennes.

Bulliot J. G. 1899. *Fouilles du Mont-Beuvray (ancienne Bibracte) de 1867 à 1895*. 2 vols. Autun: Dejussieu.

Estur E., J. Dizin, A. Lachambre, J. Hantrais, and J. Soichet. Forthcoming. «La céramique des fouilles de la terrasse de PC15. Quelques nouveaux ensembles de mobilier céramique à Bibracte». *Actes du congrès d'Amiens, SFECAG 9-12 mai 2013*.

Hantrais J. 2017. «L'occupation du secteur des terrasses PC14 et PC15 à Bibracte à la fin de l'âge du Fer. Synthèse et confrontation des données chronologiques, spatiales et fonctionnelles». Mémoire de master 2, Université de Franche-Comté, sous la direction de Philippe Barral.

Le Béchennec, Y. 2016. «Thésy-Glimont (Somme), du site au territoire». In *Évolution des sociétés gauloises du Second âge du Fer, entre mutations internes et influences externes. Actes du XXXVIIIe colloque international de l'AFEAF (Amiens, 29 mai au 1er juin 2014)*, edited by G. Blancquaert, and F. Malrain. Revue Archéologique de Picardie, 30:303-316.

Menez Y. 2016. «Entrepôts et places de marchés». In *Les premières villes de l'Ouest. Agglomérations gauloises de Bretagne et Pays de la Loire*, catalogue d'exposition Jublains. Musée archéologique départemental de Jublains, du 30 avril 2016 au 31 mars 2017, edited by S. Fichtl, E. Le Goff, A. Mathiaut-Legros and Y. Menez, 73-76. Jublains: Musée archéologique départemental de Jublains.

Poux M., and M. Demierre. 2015. *Le sanctuaire de Corent (Puy-de-Dôme, Auvergne): vestiges et rituels*. Paris: CNRS Éditions, Gallia, Supplément 62.

Rieckhoff S., and R. Hoppadietz. 2019. «L'architecture pré-romaine aux abords de la basilique de Bibracte». In *Les modèles italiens dans l'architecture des IIe et Ier siècles avant notre ère en Gaule et dans les régions voisines. Actes du colloque de Toulouse, 2-4 octobre 2013*, edited by V. Guichard, and M. Vaginay. Glux-en-Glenne: Bibracte, Bibracte 30.

Szabo M., L. Timar, and D. Szabo. 2019. «La basilique de Bibracte et son environnement». In *Les modèles italiens dans l'architecture des IIe et Ier siècles avant notre ère en Gaule et dans les régions voisines. Actes du colloque de Toulouse, 2-4 octobre 2013*, edited by V. Guichard, and M. Vaginay. Glux-en-Glenne: Bibracte, Bibracte 30.

Echoes in the Bones: An Osteological Analysis of the Biological Impact of Roman Rule at Corinth, Greece.

Lindsay Ann Petry

The effect colonial regimes have on health has recently emerged as an important focus in bioarchaeological research. This study contributes to our understanding of this phenomenon by assessing the impact Roman colonization had on health in Corinth, Greece. Using previously published bioarchaeological data, frequencies of cribra orbitalia, porotic hyperostosis, linear enamel hypoplasia, and carious lesions were compared between pre-Roman (7th century B.C.E.-146 B.C.E.) and Roman period (44 B.C.E.- 4th century C.E.) populations from three cemeteries in Corinth: the North Cemetery, the Northern Cemetery, and Anaploga Cemetery. Results indicate a statistically significant decrease in the frequency of nonspecific indicators of physiological stress and carious lesions during the Roman period at Corinth, suggesting a change in disease ecology or food security after the onset of Roman imperial rule. This upward trend in health indicators diverges from previous bioarchaeological studies of colonialism in the Roman world and beyond, demonstrating the diversity of colonial experiences and encouraging scholars to question previous assumptions associated with colonizer/colonized models. By integrating multiple lines of bioarchaeological and historical data, this research promotes interdisciplinary explorations of the embodied effects of colonialism.

Introduction

Research on situations of colonial contact has historically operated upon a binary opposition of 'conquering' and 'native' groups, to the exclusion of more nuanced accounts of their interactions and entanglements.[1] Recently, scholars have challenged the colonizer/colonized dichotomy altogether on the grounds that it masks internal diversity in the colony and ignores the potential cross-cutting interests of the multiple social groups entangled in the colonial process.[2] Perhaps nowhere else are the complexities of colonial experiences more salient than in the Roman Empire, where local elites in the *coloniae* could rise to the Senate and colonial populations could earn Roman citizenship.[3] Such fluid political and legal boundaries illustrate how binaries oversimplify the nuances that existed in situations of colonial rule and demonstrate how they fail to address the complexities of people's experiences in imperialist contexts.

Bioarchaeology has also played an important role in the call to revising these binaries by utilizing skeletal analysis of social identity, occupational stress, and disease prevalence to call attention to the varied embodied effects of colonial processes. Building upon these recent theoretical and methodological advances, this study utilizes one of the most archaeologically well-documented examples of imperialism, the Roman Empire, as a model for understanding how people experienced health under colonial regimes. While bioarchaeology has been a methodological cornerstone in studies of colonial rule in other regions, such as the Americas, there is a considerable absence of bioarchaeological data within Roman scholarship which has not gone unnoticed.[4] In order to bring the available osteological data into larger debates regarding "Romanization" and colonial processes, this study synthesizes and reinterprets previously published pathological data from three major cemeteries from Corinth, Greece – the North cemetery, Anaploga cemetery, and the Northern cemetery – analyzing overall changes in health and morbidity prior to (7th century B.C.E. to 146 B.C.E.) and during the period of Roman rule (44 B.C.E. to 4th century C.E.),[5] a time frame that encompasses the rise of ancient Corinth, its conquest by the Macedonians and Romans, the introduction of a Roman settlement on the city's ruins, and its incorporation into the Roman Empire. Doing so will allow us to gain crucial new insight into the embodied experiences of individuals during a time of political and social transformation. Particular attention is paid to the pathological indicators that reflect stress episodes during childhood (cribra orbitalia, porotic hyperostosis, linear enamel hypoplasia) and poor dental health (dental caries), the latter of which is strongly tied to dietary behavior and overall nutritional health. Corinth is particularly well suited to this analysis because its transition from Greek *polis* to Roman *colonia* was marked by the sack of the city, creating a clear destruction layer in the archaeological record and a basis for producing chronological divisions of osteological samples. Such precise chronological separation is crucial for examining the periods prior to and during colonization.[6]

Materials and Methods

Bioarchaeological data were culled from two previous publications from three major cemeteries representative of both the pre-Roman and Roman periods at Corinth: the North cemetery, the Northern cemetery, and Anaploga cemetery.[7] Osteological data from 112 adult individuals that belong to the chronological periods of the present study were then reanalyzed. The pre-Roman sample dates to the 7th century B.C.E. to 146 B.C.E. and contains 55 individuals from three sites: the North cemetery (n=36), Anaploga cemetery (n=12), and skeletons from individual burials discovered in close proximity to these cemeteries (n=7). The Roman period sample dates to the first century B.C.E. to the fourth century C.E. and contains 57 individuals from the

Northern cemetery (n=49) and Anaploga cemetery (n=4). Four additional skeletal individuals from a single grave nearby dating to the Roman period were also analyzed. Demographic information (age and sex) was collected from the samples based on the guidelines established by Buikstra and Ubelaker.[8] Previous investigators estimated sex using the pubis, while age-at-death was estimated using auricular surface changes, cranial suture closure, and dentition.[9] Only adult individuals (greater than 20 years of age) were considered in the present study.[10]

Paleopathological Indicators

In order to adequately evaluate potential changes in health following the Roman colonization of Corinth, the following pathological conditions were assessed: cribra orbitalia (CO), porotic hyperostosis (PH), linear enamel hypoplasia (LEH), and dental caries. These variables were chosen for analysis due to the scholarly consensus that they can function as general health indicators for diachronic comparison.[11] CO, PH, and LEH are thought to register physiological stress during childhood.[12]

The term cribra orbitalia (CO) describes lesions of the orbital roof, while lesions on the skull vault are considered porotic hyperostosis (PH). Paleopathologists suggest a variety of mechanisms that could cause these lesions, including iron deficiency and hemolytic and megaloblastic forms of anemia.[13] Accordingly, CO and PH are classified as non-specific indicators of physiological stress, meaning the etiology cannot always be confirmed.[14]

Similarly, this study uses linear enamel hypoplasia (LEH) as an additional marker for physiological stress during childhood. LEH results from a disturbance in the production of normal enamel (amelogenesis) and presents as macroscopic horizontal lines or pits on adult dentition.[15] Paleopathologists believe the pause in enamel formation is related to prolonged episodes of physiological stress brought on by malnutrition, illness, or even weaning.[16] However, etiologies cannot necessarily be narrowed further, resulting in LEH also being considered a non-specific health indicator.[17] However, indeterminable etiologies do not reduce the usefulness of CO, PH, and LEH for scientific analysis. These specific pathological indicators reflect the body's experiences and recovery from physiological stress during childhood; therefore, a contextualized analysis of these skeletal pathologies may suggest the biological, cultural, and environmental factors shaping their prevalence.

Just as CO, PH, and LEH provide valuable insight into the lived experiences of a population, dental caries can also be used to determine the health status and

	Condition Analyzed	Total number of individuals or teeth examined	Method of Reporting
Pre-Roman			
	CO	38	CPR
	PH	24	CPR
	LEH	28	CPR
	Caries	473	TPR
Roman			
	CO	57	CPR
	PH	57	CPR
	LEH	57	CPR
	Caries	520	TPR

Table 1: Total number of individuals or teeth examined at Corinth, Greece for each pathological condition (adult population only).

dietary behavior of an individual. Caries, commonly known as cavities, are caused by the breakdown of plaque by bacteria and the subsequent demineralization of tooth enamel.[18]

Methodology

CO and PH were identified by previous researchers macroscopically as confined areas of pitting and porosity on the external surface of the orbital roof or cranial vault.[19] LEH and dental caries were also macroscopically diagnosed on adult dentition.[20] However, not all excavated skeletons were analyzed for CO, PH, LEH, or caries due to poor preservation of the remains; the total number of individuals or teeth examined is detailed in Table 1. In the present study, CO, PH, and LEH are reported according to presence or absence using crude prevalence rates (CPR).[21] All permanent adult teeth were assessed for evidence of LEH by Fox and McIlvaine. Dental caries are reported as a true prevalence rate (TPR).[22] In all, 993 permanent teeth were examined, 473 from the pre-Roman period and 520 from the Roman period. CPR and TPR help to facilitate a more equal comparison between chronological periods. Two-tailed Fisher's exact tests were used to compare frequencies of all pathological conditions between the two chronological periods. Fisher's exact test was selected due to small sample sizes.

Results

Demographics

The demographic profile for the two chronological periods, as well as for each site, can be seen in Tables 2 and 3. McIlvaine was able to estimate the sex of 48 skeletons from the pre-Roman period. Of those 48 sexed individuals 40% were female and 60% were male. The Roman period had a similar sex distribution; out of the 36 securely sexed skeletons 44% were female and 56% were male. The age-at-death profile revealed significantly fewer Middle Adults in the Roman period than the pre-Roman period ($p= 0.0001$). However, 63% of individuals in the Roman period were unable to be accurately aged more specifically than adult (Fox 1999). The small percentage of Middle Adults in the Roman period and the discovery of only two subadults in the pre-Roman period could indicate that the samples are not representative of a living population.

Another important component of analysis is the socioeconomic means of an individual, which can affect and their susceptibility to, and severity of, certain diseases. Potential wealth disparities may be reflected in grave style, therefore burial type was evaluated (Fig. 2)[23]. Grave typology for 24 out of 55 Pre-Roman period graves was accessible through excavation notes; 100% of those

		Female % (n)	***Male % (n)***	***Indeterminate % (n)***
Pre-Roman				
	North Cemetery	36 (13)	64 (23)	0 (0)
	Anaploga	33 (4)	33 (4)	34 (4)
	Individual Burial	29 (2)	28 (2)	43 (3)
	Total	34 (19)	53 (29)	13 (7)
Roman				
	Northern Cemetery	24 (12)	39 (19)	37 (18)
	Anaploga	50 (2)	0 (0)	50 (2)
	Individual Burial	50 (2)	25 (1)	25 (1)
	Total	28 (16)	35 (20)	37 (21)

Table 2. Sex distribution for Corinth, Greece

		YA (20-35) % (n)	*MA (35-50) % (n)*	*OA (> 50) % (n)*	*A age indeterminate % (n)*
Pre-Roman					
	North Cemetery	28 (10)	42 (15)	30 (11)	0 (0)
	Anaploga	25 (3)	58 (7)	17 (2)	0 (0)
	Individual Burial	29 (2)	57 (4)	14 (1)	0 (0)
	Total	27 (15)	48 (26)	25 (14)	0 (0)
Roman					
	Northern Cemetery	10 (5)	10 (5)	10 (5)	70 (34)
	Anaploga	50 (2)	25 (1)	0 (0)	25 (1)
	Individual Burial	50 (2)	25 (1)	0 (0)	25 (1)
	Total	16 (9)	12 (7)	9 (5)	63 (36)

Table 3. Age at death distribution for Corinth, Greece.

graves were sarcophagi. The Roman period showed slightly more diversity; of the 57 tombs 2% were rock-cut tombs, 2% were tile graves, 12% were simple inhumations, and 84% were Roman chamber tombs.[24]

Physiological Stress Indicators

CO prevalence decrease from 29% in the pre-Roman period to 7% in the Roman period, a difference that is statistically significant (p= 0.0080). The difference in rates of PH between time periods is also statistically significant (p= 0.0237), decreasing from 13% in the pre-Roman period to 0% in the Roman period. LEH has the largest difference between chronological periods with a decrease from 89% in the pre-Roman period to 21% in the Roman period, which is statistically significant (p= 0.0001). Dental caries frequency also declines in the Roman period, dropping down to 5% from 11% in the pre-Roman period, a result that is also statistically significant (p= 0.0007). Figure 1 presents the comparative data for CO, PH, LEH, and dental caries for both chronological periods. All raw data used in this study is available on the *Chronika* website under "Supplemental Data" (Table 4). Additionally, each chronological period listed in Table 4 was compared for the pre-Roman and Roman periods. Although sample sizes are small, the distribution of frequencies during the pre-Roman period does not suggest significant changes throughout the centuries, though the sample is notably biased toward the Archaic period. Like the pre-Roman period, the Roman period sample size representing each century is small; however, the rates of pathologies appear relatively stable throughout the four centuries.

Discussion

This study found a statistically significant decrease in disease indicators between pre-Roman and Roman period skeletal samples at Corinth suggesting an improvement in overall health. In this section, I will explore two possible explanations for the decrease in disease indicators: (1) Roman rule had an overall positive impact on population health at Corinth; and (2) prior Greco-Macedonian occupation of Corinth may be influencing the results seen during the Roman period. The current evidence points to an improvement in overall health as a result of Roman rule, although social status differences between pre-Roman and Roman samples cannot be ruled out as a factor.[25] Ultimately, I argue that a modification in lifestyle, diet, and/or disease ecology generated by Roman occupation of the site may have been responsible for the marked decrease in physiological stress indicators and the improvement in oral health.

Roman Rule Had an Overall Positive Impact on Health

CO, PH, and LEH are physiological stress indicators that can be the consequence of infectious pathogens or malnutrition. The decrease in CO, PH, and LEH frequencies at Corinth therefore suggests that individuals

sustained less childhood stress during the Roman period compared to the pre-Roman period.[26] It is possible that changes in infrastructure or food security during the Roman period altered disease ecology, resulting in an improvement in overall health. We must look to the archaeological record for evidence of infrastructural changes that could have altered the previous patterns and processes of disease at Corinth.

While many modifications to Corinth's infrastructure occurred during the Roman period, changes to water transportation, storage, and distribution have the strongest connection to CO, PH, and LEH etiologies. Hemolytic and megaloblastic anemias, two of the most prominent etiologies for CO and PH have been linked to malaria and waterborne pathogens.[27] Possible etiologies for LEH also include consequences of waterborne pathogens, such as dysentery. Given Corinth's water rich environment, the cultural importance water held for ancient Corinthians, and the significant changes to water systems during the Roman period, it is possible that infrastructural changes to water management reduced waterborne pathogens and ultimately decreased the frequencies of CO, PH, and LEH.

The standard procedure during the pre-Roman period at Corinth was to construct fountain houses at natural springs to pool and protect water.[28] This design prevented water from flowing and rendered it stagnant, thereby attracting insects which would increase rates of malaria and create unsterile drinking water. During the Roman period engineers began to focus on maintaining higher quality (smell, sight, taste) water and providing greater access to clean water sources for people of all socioeconomic statuses.[29] With new Roman designs, stagnant water became running water and new spouts increased the circulation of springhouses. The priority placed on constant water flow and regular cleaning of the distribution channels may have decreased the rates of malaria and waterborne pathogens by disturbing insect breeding grounds and the incubation of parasites and bacteria, which can provoke dysentery and can lead to nutrient loss, both of which could lead to anemia and subsequent marrow hypertrophy. By improving the city's water management, Roman rule may have subsequently contributed to the 76% decrease in rates of CO and 100% decrease in PH.

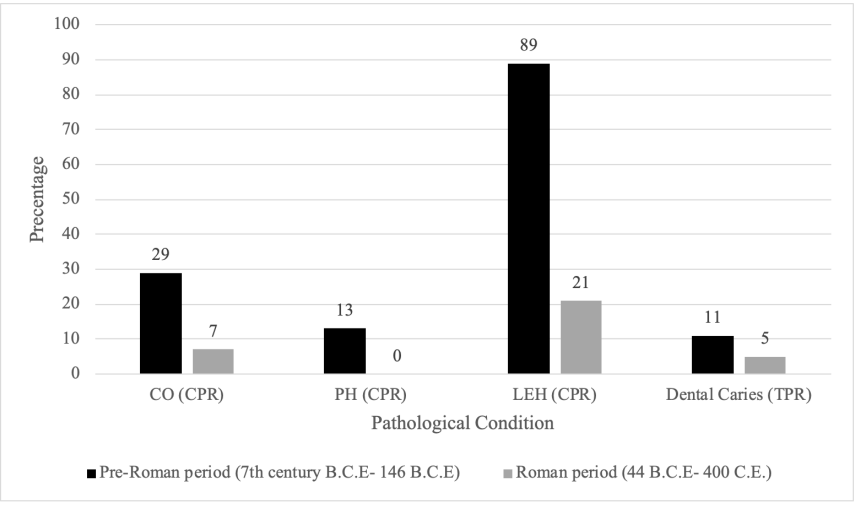

Fig. 1. Frequencies of pathological conditions in adult burial population from Corinth, Greece.

Changes to the infrastructural design of water management at Corinth were not simultaneous but occurred throughout the four centuries of Roman rule in the region. Although the Roman sample in this study has been analyzed as one chronological period, in the course of four centuries, historical, cultural, and environmental circumstances would have evolved. It is therefore important to note that individuals' experiences may have differed greatly throughout the Roman period. However, the paleopathological data suggests that childhood health during the formative years of Roman rule (44 B.C.E. to the end of the 1st century C.E.) was not appreciably better or worse, compared to the later stages of Roman occupation (Table 4). It stands to reason then that infrastructural designs instituted in the early Roman period contributed to improvements in health, with later contributions building upon the healthier foundations previously established.

Progress in water technology and sanitation may have also lowered the rates of LEH, as disease can be an influencing factor; however, malnutrition is among the most common causes of LEH and should not be ignored as a potential factor. It is possible that inhabitants of pre-Roman Corinth experienced greater nutritional stress than their Roman-era counterparts. The archaeological and geological record show strong evidence of severe incident of drought and grain shortages in pre-Roman Corinth.[30] New policies surrounding grain acquisition and distribution implemented during the Roman period may have also contributed to the 76% decrease in frequency of LEH in conjunction with improved water management. For instance, the institution of the *curator annonae*—a prestigious municipal office responsible for procuring adequate food supplies for the city at a reasonable price— likely helped reduce famine and nutritional deficiencies in Roman Corinth.[31] Unlike Pre-Roman Corinth, Roman Corinth had an elected official to raise funds for grain, procure grain supplies for the city, and oversee the distribution of the city's stores.[32] This official designation may have reduced malnutrition within the Roman population. However, the effectiveness of the *curator annonae* is highly debated.[33] Although few epitaphs have been recovered from Corinth, several commemorate *curator annonae* for their contributions to the city.[34] While epitaphs can exaggerate an individual's importance, the repeated reference to the appointment makes it unlikely that the position of *curator annonae* was completely ineffective.

The economic conditions of a city can also impact health, particularly nutritional health. For that reason, another possible factor to consider is the increased prosperity of the Roman city. The increased trade brought by Corinth's status as a Roman *colonia*, and eventually its position as capital of Achaia, likely provided an abundance of goods that would have traveled through ports and trading stations into the region.[35] Increase in trade and access to new resources may have been beneficial for the population at Corinth during the Roman period. Although the inflow of goods would have also brought an increase of merchants and perhaps diseases, the data suggest that the affluence and stability of the city did not negatively impact health; rather, it may have contributed to its improvement.

Additionally, a rise in imported food sources most likely resulted in a more varied diet at Corinth. Not only could well-balanced nutrition decrease rates of LEH within the population, but it would also account for the decrease in dental caries.[36] Less reliance on more cariogenic foods would decrease the frequency and severity of carious lesions. Furthermore, studies have also shown a link between meat consumption and rates of PH; the more meat an individual consumes, the less susceptible they are to PH.[37] The Roman diet relied more heavily on meat than the traditional Greek diet, and Roman expansion resulted in a considerable increase in the meat and livestock trade.[38] It is possible that the influence of Roman dietary customs encouraged Corinthians to consume more meat resulting in a lower frequency of

PH. Although it is conceivable that trade benefited individuals of all social spheres and strata, the degree to which individuals profited was likely unequally distributed within the population.

Multiple Instances of Colonial Rule at Corinth

While aspects of the built landscape under Roman rule may account for changes in CO, PH, LEH, and dental caries, we also need to consider the longer-term colonial history at Corinth. Immediately preceding Roman control of the city, Corinth was under Greco-Macedonian rule which calls into question whether the changes in water management and diet associated with Roman rule directly caused the decrease in disease indicators. It is possible that Antigonid occupation during the Hellenistic period at Corinth caused a considerable increase in disease.[39] The precise relationship between Macedonia and Corinth during the Hellenistic period is obscured by minimal archeological evidence. Nonetheless, the fight for power after Alexander the Great's death (323 B.C.E.) is likely to have negatively affected the city. Perhaps Roman rule was simply less oppressive than Antigonid rule and improved health was not a direct effect of Roman rule, but rather a byproduct of the removal of Greco-Macedonian control over Corinth. Yet, the struggle for control lasted only twenty years, ending in 303 B.C.E. when Demetrios Poliorketes seized power in Corinth. Although the pathological data employed in this study lack the ability to securely separate out Greco-Macedonian remains from those of the late Classical period, the available data do not point toward a uniform increase in disease indicators during the Hellenistic period (Table 4). Nevertheless, observations for childhood stress indicators are limited to three individuals during this time period, underscoring the need for larger, temporally specific samples. Additionally, Michael Dixon's historical account of Hellenistic Corinth has called into question the degree of oppression Corinthians suffered during Antigonid rule.[40] According to Dixon, there is no evidence that Corinthians were taxed or compelled to finance the garrison's presence on Acrocorinth, or that Macedonian rule infringed greatly upon Corinthian autonomy and freedom.[41] In fact, he argues that Greco-Macedonian rule provided Corinth with protection, stability, and security. However, there has been limited work published on Hellenistic Corinth; more evidence may be needed to shed light on the experiences of individuals during the Antigonid occupation. Future bioarchaeological studies should make use of radiocarbon dating, which will grant greater chronological control and allow researchers to investigate the effects of multiple colonial processes at Corinth.[42]

Chronological Representation within the Sample

Another factor related to sample composition that may be driving the observed results concerns uneven chronological representation. The pre-Roman period sample consists of 55 skeletal individuals, and of those, 63% date to the Archaic period. This bias towards the Archaic period in the sample could be affecting the comparative results between the pre-Roman and Roman periods. Although sample sizes in this study are small for the Classical and Hellenistic periods, the paleopathological data do not suggest that childhood health during the Archaic period (7^{th} century-6^{th} century B.C.E.) was better or worse, compared to the Classical and Hellenistic periods at Corinth (Table 4). In fact, from an epidemiological perspective, we might expect childhood health during the Archaic period to have been better than the later Classical era. The majority of local citizens in Archaic Corinth remained subsistence agriculturalists and pastoralists, rather than city dwellers; less densely populated areas would lessen and slow the spread of disease and living conditions may have been more sanitary in less populated spaces.[43]

With regards to dental health, 67% of the teeth

analyzed in the pre-Roman sample belonged to individuals from the Archaic period. There is no statistically significant difference between the rates of carious lesions between the Archaic period and the Classical or Late Classical/ Early Hellenistic periods (Table 4). There is, however, a significant difference between the Archaic period (12%) and the Hellenistic period (38%) ($p= 0.0041$), which might suggest the later adoption of more cariogenic foods. There is also a significant difference between the Late Classical/ Early Hellenistic periods (2%) and the Hellenistic period (38%). Ultimately, these results are based on relatively few individuals recovered from the post-Archaic, pre-Roman period, cautioning against the over-interpretation of these changes as broader social shifts in diet and underscoring the need for larger samples with which to address these questions.

Broader Implications for Studies of Colonial Contact

As the above discussions have suggested, this case study, although examining a bioarchaeological approach to Romanization, has wider implications for studies of colonialization. Bioarchaeological research on colonial processes has predominantly shown an increase in physiological stress indicators and worsening oral health in colonized populations.[44] These results have often unintentionally reinforced the notion of a dominant 'colonizer' and a passive or submissive 'native' population. These findings inadvertently reduce individuals to cultural and political label of either/or, limiting academic interpretations to one over-simplified perspective. In contrast to previous studies examining health in colonial contexts, disease frequencies at Corinth declined.[45] The results of this study demonstrate that health does not respond uniformly to instances of colonial rule. In fact, the low rates of disease indicators at Roman period Corinth suggest that the effects and form of even one colonial regime appear to have varied widely across the Empire.[46] The emerging portrait of health under Roman rule is a mosaic, demonstrating that one model or theory cannot be applied to all Roman sites. The inter-regional comparison between Corinth and other sites of Roman colonization serves as a reminder that colonial experiences are unique to each site and do not conform to previously constructed ideals of colonizer/ native binaries. This paper therefore provides opportunities for future researchers to ask more nuanced questions regarding the diversity of colonial experiences and to rethink problematic assumptions associated with the colonizer and native paradigms used across regional disciplines.

Conclusion

Bioarchaeological data from Corinth indicate that the frequencies of disease indicators decreased in the centuries following Roman colonization of the city. The Roman sample exhibited lower rates of cribra orbitalia, porotic hyperostosis, linear enamel hypoplasia, and dental caries, suggesting a marked change in disease ecology. The overall decrease in physiological stress indicators during the Roman period may be explained by advancements in water storage and distribution, better sanitation, government positions specifically designed to reduce famine, and increased economic opportunities that came with the Roman colonization of Corinth. However, the possibility remains that the large quantity of chamber tombs in the Roman period, a potential indicator of higher socioeconomic standing, may be a factor influencing the frequencies of pathological indicators.[47] By revealing an improvement in overall health after a colonial event, this study exposes the diversity of colonial experiences and invites future research to examine the unique nature of colonial processes.

Endnotes:

1 Haverfield 1915; Millett 1990; Collingwood 1932. Colonialism is defined in this paper as foreign control over a society with an imbalance of power and the process of social and cultural transformation as a result of these interactions (Dietler 2010, 15-17).
2 Versluys 2012; Ferris et al. 2014; Silliman 2016; Van Oyen 2017.
3 Terrenato 2005; Wallace-Hadrill 2008. *Colonia/ Coloniae* is an emic Latin term, referring to a Roman ruled city outside of Rome itself (Romano 2013, 253). The term also has political and legal implications. Roman law was typically instituted at a *colonia,* whereas other designations, such as a *municipium,* retained more of its own law and governing structure (Purcell 2012). Although the English word colony derives from the Latin *colonia*, modern definitions of a colony lack the political and legal distinctions associated with Roman *coloniae*. Therefore, the contemporary term colony will be used in this paper.
4 MacKinnon 2007; Sperduti et al. 2018; Killgrove 2018.
5 Fox 1997; McIlvaine 2012. Recent research suggests occupation of the site did not cease after the sack (Wiseman 1979, 491-96; James 2014). Therefore, it is possible that some graves could date to the period between Mummius' sack and the founding of the *colonia*, despite being recorded as early Roman. More precise chronologies would be necessary to intervene in this debate.
6 For a history of colonization in Corinth see Dixon 2014; For Roman sack and control of the city see Paus 2.1.2; Strabo 8.6.23; Cicero 4.5.4; Wiseman 1979, 450-462; Engels 1990; Alcock 1993; Walbank 1997, 97-98; Romano 2003, 279-280; Romano 2005; Pettegrew 2007; Millis 2010; Robinson 2013; James 2014; Lepinski 2015; Frey 2015.
7 Fox 1997; McIlvaine 2012.
8 1994.
9 Fox 1997; McIlvaine 2012. For an explanation of age estimation techniques, see Nikita 2017, 135-174.
10 While subadult remains were excavated and analyzed for pathological indicators, the sample size for the pre-Roman population (N= 2) was too small for statistical analysis; therefore, subadult populations were excluded from this study.
11 Steckel and Rose, 2002; Roberts and Cox, 2003; Belcastro et al. 2007; Redfern 2007, 2008; Redfern and DeWitte 2011.
12 Larsen 2015, 41; Roberts and Manchester 2005, 75.
13 Angel 1966; Walker et al. 2009.
14 Goodman and Martin 2002.
15 Guatelli-Steinburg and Lukacs 1999.
16 Guatelli-Steinburg and Lukacs 1999.
17 Goodman and Rose 1990; King et al. 2005.
18 Hillson 1998; Erdal and Duyar 1999; Hillson 2001; Hillson 2208; Lukacs 2012.
19 Fox 1997; McIlvaine 2012.
20 Fox 1997; McIlvaine 2012.
21 Crude prevalence rate (CPR) is equal to the number of individuals exhibiting the condition (n) divided by the number of individuals examined (N) X 100.
22 True prevalence rate (TPR) is the number of teeth affected (n) divided by the number of teeth examined (N) x 100.
23 This figure, as well as other supplemental materials, are available on the Chronika website at http://www.chronikajournal.com/.
24 ASCSA; Corinth XIII; Corinth XXI.
25 One alternative explanation for the changes in disease frequencies found at Corinth is the potential unequal distribution of "elite" individuals between the pre-Roman and Roman samples. To test if "wealth" disparities may be driving patterns in the data, pathological frequencies were compared by burial type for a subset of the sample where burial architecture could be identified in excavation notes (see Table 5, online supplemental data). While it remains possible that the changes in disease frequencies at Corinth are the result of sample bias, the data are not unambiguous in this regard. However, the absence of a statistically significant difference in physiological stress indicators between tomb types does not necessarily assure that there is no meaningful difference in health outcomes between individuals of varying social strata.
26 Although subadult frequencies are not discussed in this paper, juvenile frequencies for both the pre-Roman and Roman periods show low rates of CO, PH, and LEH (see Table 4, online supplemental data). During the Roman period, 7% of subadults (2/29) showed evidence of CO. 0% (0/29) of subadults presented with PH and 0% (0/29) of juveniles had LEH. This indicates that rates of childhood stress were quite low during the Roman period.
27 Walker et al. 2009; Zuckerman et al. 2016; 44. Malaria was endemic at Corinth until after World War I (Corinth XXI, 236).
28 Robinson 2013.
29 Landon 2003; Robinson 2013.
30 Camp 1982; Garnsey 1998, 150-164; Montgomery 1986, 463-61; Tracey 1995, 30-36; Dixon 2014, 33-36.
31 Engels 1990.
32 Garnsey and Saller 2014, 214
33 Engels 1990.
34 Ibita 2016, 36.
35 Alcock 1993, 160.
36 LEH may also form on teeth developed prior to weaning. It is possible then, that more varied imports did not *directly* improve childhood diet at Roman Corinth, but perhaps *indirectly* impacted childhood health through the diet of the breastfeeding mother.
37 Stuart-Macadam and Kent 1992.
38 Kron 2002; 2008a; 2008b.
39 The Hellenistic period in Corinth is referring to the time between Alexander's death in 323 B.C.E. and end of Antigonid occupation of Corinth in 196 B.C.E.
40 2014.
41 21-22.
42 Corinth's history of colonial experiences also raises new questions: how do we approach regions which have experienced "nesting doll imperialism"? That

is to say, how might several occurrences of colonial rule, particularly one immediately following the previous, affect how we interpret changes in health? By simplifying regional studies to one colonial process, we ignore how past histories mold the future. Antigonid control over Corinth prior to Roman rule may alter how people were affected by and reacted to the next colonial experience. Resistance may manifest itself differently after repeated experiences of colonial rule, identities may be negotiated unconventionally given the influence of multiple cultural and political systems, and health may be uniquely embodied under the changing social and physical conditions; therefore, we cannot simply examine these colonial rules in isolation, as they did not occur in isolation from one another. We must consider the impact previous imperialist events have had on the experiences of the people we seek to understand. Understanding the data within the context of Corinth's entire history will improve interpretations and allow for a more nuanced discussion of the potential impact colonial processes have on a site and its people.

43 Gwynn 1918, 89 and 93; Angel 1972; Pomeroy et al. 2004.

44 Verano and Ubelaker 1992; Larsen and Milner 1994; Larsen et al. 2001; Littleton 2005; Buzon and Richman 2007; Klaus and Tam 2009; Spielmann et al. 2009; Murphy and Klaus 20017.

45 As this study gives us one piece of the diverse portrait of Roman colonization, it is valuable to compare the results from Corinth in relation to previous studies from other Roman provincial sites. Peck (2009) analyzed skeletons from Rudston, Burton Fleming, Garton Station, and Kirkbur, in the Northeast of Britain; Redfern and DeWitte (2011) published an overall health analysis of Roman Dorset. All three studies produced very distinct results, showcasing the local and regional diversity of colonial experiences and Roman rule (see Figure 3, online supplemental data).

46 See Peck 2009; Redfern and DeWitte 2011.

47 Flamig 2007, 109-110.

Works Cited:

American School of Classical Studies at Athens (ASCSA). n.d. *Corinth Excavations Notebooks 392, 242, 252, 435.* Corinth Excavations: Digital Collections. http://ascsa.net/research?q=collection%3ACorinth.

Alcock, S. 1993. *Graecia Capta*. Cambridge University Press.

Angel, J.L. 1966. "Porotic Hyperostosis, Anemias, Malarias, and Marches in the Prehistoric Eastern Mediterranean." *Science* 153:760-63.

Angel, J.L. n.d. *Corinth data sheets*. Housed in the Archaeological Museum of Ancient Corinth. Ancient Corinth, Greece.

Belcastro, G., E. Rastelli, V. Mariotti, C. Consiglio, F. Facchini, B. Bonfiglioli. 2007. "Continuity or discontinuity of the life-style in central Italy during the Roman imperial age-early middle ages transition: diet, health, and behavior." *American Journal of Physical Anthropology* 132:381-94.

Blegen, C.W., H. Palmer, and R. S. Young. 1964. *Corinth: Results of Excavations Conducted by the American School of Classical Studies at Athens*. Vol. XIII, *The North Cemetery*, Princeton: Princeton University Press.

Buikstra, J. E., and D.H. Ubelaker. 1994. S*tandards for data collection from human skeletal remains*. Arkansas Archaeological Survey Research Series 44.

Buzon, M.R., and R. Richman. 2007. "Traumatic Injuries and Imperialism: The effects of Egyptian colonial strategies at Tombos in Upper Nubia," *American Journal of Physical Anthropology* 133:783-91.

Camp, J. 1982. "Drought and Famine in the Fourth Century B.C." In *Studies in Athenian Architecture, Sculpture, and Topography in Honor of Homer A. Thompson*, edited by H.A. Thompson, *Hesperia* Supplements, American School of Classical Studies at Athens 75:327-56.

Collingwood, R.G. 1932. *Roman Britain*. Oxford: Clarendon Press.

Dietler, M. 2010. *Archaeologies of Colonialism: Consumption, Entanglement, and Violence in Ancient Mediterranean France*. Berkley: University of California Press.

Dixon, M. 2014. *Late Classical and Early Hellenistic Corinth*. Routledge.

Engels, D. 1990. *Roman Corinth: An Alternative Model*

for the Classical City. Chicago: University of Chicago Press.

Erdal, Y. S., and I. Duyar. 1999. "A New Correction Procedure for Calibrating Dental Caries Frequency." *American Journal of Physical Anthropology* 108(2):237–40.

Ferris, N., R. Harrison, and M.V. Wilcox. 2014. *Rethinking Colonial Pasts Through Archaeology*, Oxford: Oxford University Press

Flamig, C. 2007. "Nicopolis and the Grave Architecture in Epirus in Imperial Times." In *Νικόπολις Β': πρακτικά του Δευτέρου Διεθνούς Συμποσίου για τη Νικόπολη (11-15 Σεπτεμβρίου 2002)*, edited by K.A. Zachos, 325-331. Preveza 2007.

Fox, S. 1997. *Comparative Health from Paleopathological Analysis of the Human Skeletal Remains Dating to the Hellenistic and Roman Periods, from Paphos, Cyprus and Corinth, Greece*. Ph.D. diss., University of Arizona.

Frey, J.M. 2015. "The Archaic Colonnade at Ancient Corinth: A Case Study of Early Roman Spolia." *AJA* 119(2):147-75.

Garnsey, P. 1998. *Famine and Food Supply in the Greco-Roman World: Responses to Risk and Crisis*, Cambridge University Press.

Garnsey, P., and R. Saller, R. 2014. *The Roman Empire: Economy, Society, and Culture*, London: Bloomsbury Academic.

Goodman, A. H., and D.L. Martin. 2002. "Reconstructing Health Profiles from Skeletal Remains." In *The Backbone of History: Health and Nutrition in the Western Hemisphere*, edited by R.H Steckel and J.C. Rose, 11-60. Cambridge University Press.

Goodman, A. H., and J. C. Rose. 1990. "Assessment of Systemic Physiological Perturbations from Dental Enamel Hypoplasias and Associated Histological Structures." *Yearbook of Physical Anthropology* 33:59-110.

Guatelli-Steinberg, D. and J. Lukacs. 1999. "Interpreting sex differences in enamel hypoplasia in human and non-human primates: developmental, environmental and cultural considerations." *Yearbook of Physical Anthropology* 42:73-126.

Haverfield, F.J. 1915. *The Romanization of Britain*. BiblioBazaar.

Hillson, S. 1998. *Dental Anthropology*. London: Cambridge University Press.

Hillson, S. 2001. "Recording Dental Caries in Archaeological Human Remains." *International Journal of Osteoarchaeology* 11(4):249–89.

Hillson, S. 2008. "The Current State of Dental Decay." In *Technique and Application in Dental Anthropology,* edited by J. D. Irish and G. C. Nelson, 111-35. Cambridge University Press.

Purcell, N. 2012. "Municipium." In *The Oxford Classical Dictionary*, edited by S. Hornblower, A. Spawforth, and E. Eidinow. http://www.oxfordreference.com/view/10.1093/acref/9780199545568.001.0001/acref-9780199545568-e-4285

Ibita, M.M.S. 2016. "Food Crises in Corinth? Revisiting the Evidence and its Possible Implications in Reading 1 Cor 11:17-34." In *Stones, Bones, and the Sacred*, edited by A.H. Cadwallader, 33-53. SBL Press.

James, S.A. 2014. "The Last of the Corinthians? Society and Settlement from 146 to 44 BCE." In *Corinth in Contrast: Studies in Inequality*, edited by S.J. Friesen, S.A. James, and D.N. Schowalter, 126-42. BRILL.

Killgrove, K. 2018. "Bioarchaeology in the Roman Empire." In *Encyclopedia of Global Archaeology*, edited by C. Smith, 876-82. Springer International Publishing.

King, T., L. T. Humphrey, and S. Ingvarsson-Sundström. 2005. "Linear Enamel Hypoplasias as Indicators of Systemic Physiological Stress: Evidence from Two Known Age-at-Death and Sex Populations from Postmedieval London." *American Journal of Physical Anthropology* 128:547–59.

Klaus, H.D. and M. E. Tam. 2009. "Contact in the Andes: Bioarchaeology of systemic stress in colonial Mórrope, Peru." *American Journal of Physical Anthropology* 138:356-68.

Kron, G.J. 2002. "Archaeozoology and the Productivity of Roman Livestock Farming." *Münstersche Beiträge zur Antiken Handelsgeschichte* 21(2):53-73.

Kron, G.J. 2008a. "The Much Maligned Peasant. Comparative Perspectives on the Productivity of the Small Farmer." In *People, Land and Politics. Demographic Developments and the transformation of Roman Italy 300 BC-AD 14,* edited by L. de Ligt and S. Northwood, 71-119. Mnemosyne, Supplements, Volume: 303. BRILL.

Kron, G.J. 2008b. "Animal Husbandry, Hunting, Fishing and Pisciculture." In *The Oxford Handbook of Engineering and Technology in the Classical World*, edited by J.P. Oleson, 176-222. Oxford University Press.

Landon, M.E. 2003. “Beyond Peirene: Toward a Broader View of the Corinthian Water Supply.” In *Corinth: The Centenary* edited by C.K. Williams and N. Bookidis, 341-84. ASCSA.

Larsen, C.S. 2015. *Bioarchaeology: Interpreting Behavior from the Human Skeleton*, Cambridge University Press.

Larsen. C.S., and G.R. Milner. 1994. *In the Wake of Contact: Biological Responses to Conquest*, New York: Wiley-Liss.

Larsen, C.S., M.C. Griffin, D.L. Hutchinson, V.E. Noble, L. Norr, R.F. Pastor, C.B. Ruff, K.F. Russell, M.J. Schoeninger, M. Schultz, S.W. Simpson, and M.F. Teaford. 2001. “Frontiers of contact: Bioarchaeology of Spanish Florida.” *Journal of World Prehistory* 15:69–123.

Lepinski, S. 2015. “A Diachronic Perspective of Roman Paintings from Ancient Corinth, Greece: Period Styles and Regional Traditions.” In *Antike Malerei zwischen Lokalstil und Zeitstil. XI Internationales Kolloquium der AIPMA 13-17 September 2010 in Ephesos-Selçuk, Türkei*, edited by N. Zimmermann, 185-192. Vienna: Österreichisches Archäologisches Institut.

Littleton J. 2005. “Invisible Impacts but Long-term Consequences: Hypoplasia and Contact in Central Australia.” *American Journal of Physical Anthropology* 126:295–304.

Lukacs, J.R. 2012. “Oral Health in Past Populations: Context, Concepts, and Controversies.” In *A Companion to Paleopathology,* edited by A.L. Grauer, 538-81. Chichester: John Wiley & Sons.

MacKinnon, M. 2007. “Osteological Research in Classical Archaeology.” *AJA* 111(3):473-504.

McIlvaine, B.K. 2012. *Greek Colonization of the Balkans: Bioarchaeological Reconstruction of Behavior and Lifestyle during Corinthian Colonial Expansion into Ancient Apollonia, Albania*. Ph.D. diss., The Ohio State University.

Millett, M. 1990. *The Romanization of Britain: An Essay in Archaeological Interpretation*. Cambridge: Cambridge University Press.

Millis, B.W 2010. “The Social and Ethnic Origins of the Colonists in Early Roman Corinth.” In *Corinth in Context: Comparative Studies on Religion and Society,* edited by S. Friesen, D.N. Schowalter, and J. Walters, 13-35. BRILL.

Montgomery, H. 1986. “Merchants Fond of Corn: Citizens and Foreigners in the Athenian Grain Trade.” *Symbolae Osloenses* 61:43-61.

Murphy, M.S., and H.D. Klaus. 2017. *Colonized Bodies, Worlds Transformed: Toward a Global Bioarchaeology of Contact and Colonialism*. Gainesville: University Press of Florida.

Nikita, E. 2017. *Osteoarcheology; A Guide to the Macroscopic Study of Human Skeletal Remains*, London: Academic Press.

Peck, J. 2009. *The Biological Impact of Culture Contact: A Bioarchaeological Study of Roman Colonialism in Britain*. Ph.D. diss., The Ohio State University.

Pettegrew, D.K. 2007. “The Busy Countryside of Late Roman Corinth: Interpreting Ceramic Data Produced by Regional Archaeological Surveys.” *Hesperia* 76(4):743-84.

Redfern, C.R. 2007. ‘The influence of culture upon childhood: an osteological study of Iron Age and Romano-British Dorset, England.” In *Age and Ageing in the Roman Empire: Approaches to the Roman Life Course*, edited by M. Harlow and R. Laurence, 171–90. Issue 65 of JRA: Supplementary series.

Redfern, C.R. 2008. “Bioarchaeological Investigation of Cultural Change in Dorset, England (mid to late 4th century B.C. and to the end of the 4th century A.D.).” *Britannia* 39:161–91.

Redfern C. R. and S.N. DeWitte. 2011. “A New Approach to the Study of Romanization in Britain: A Regional Perspective of Cultural Change in Late Iron Age and Roman Dorset Using the Siler and Gompertz–Makeham Models of Mortality.” *American Journal of Physical Anthropology* 144:269-85.

Roberts, C.A., and M. Cox. 2003. *Health and Disease in Britain: From Prehistory to the Present Day*, Gloucester: David Brown Book Company.

Roberts, C., and A. Manchester. 2005. *Archaeology of Disease*, Ithaca: Cornell University Press.

Robinson, B. 2011. *Histories of Peirene: A Corinthian Fountain in Three Millennia*, Princeton: The American School of Classical Studies at Athens.

Robinson, B. 2013. “Playing in the Sun. Hydraulic Architecture and Water Displays in Imperial Corinth.” *Hesperia* 82(2):341-84.

Romano, D.G. 2003. “City Planning, Centuriation, and Land Division in Roman Corinth: Colonia Laus Iulia Corinthiensis & Colonia Iulia Flavia Augusta Corinthiensis.” In *Corinth: The Centenary 1896-1996*, edited by C.K. Williams and N. Bookidis, 279-301. The American School of Classical Studies at Athens.

Romano, D.G. 2005. “Urban and Rural Planning in Roman Corinth.” In *Urban Religion in Roman Corinth: Interdisciplinary Approaches*, edited in D.N. Schowalter and S.J. Friesen, 25-59. Harvard Theological Studies, Harvard Divinity School.

Romano, D.G. 2013. “The Orientation of Towns and Centuriation.” In *A Companion to the Archaeology of the Roman Republic*, edited by J.D. Evans, 253-267. Wiley-Blackwell.

Silliman, S.W. 2016. “Disentangling the Archaeology of Colonialism and Indigeneity.” In *Archaeology of Entanglement*, edited by L. Der and F. Fernandini, 31-48. Walnut Creek, California: Left Coast Press.

Slane, K.W. 2017. *Corinth: Results of Excavations Conducted by the American School of Classical Studies at Athens*. Vol. XXI, *Tombs, Burials, and Commemoration in Corinth’s Northern Cemetery*, Princeton: Princeton University Press.

Sperduti, A., L .Bondioli, O.E. Craig, T. Prowse, and P. Garnsey. 2018. “Bones, Teeth, and History.” In *The Science of Roman History Biology, Climate, and the Future of the Past,* edited by W. Scheidel, 123-73.

Spielmann, K.A., T. Clark, D. Hawkey, K. Rainey, and S.K. Fish. 2009. “’Being weary, they had rebelled’: Pueblo subsistence and labor under Spanish colonialism.” *JAnthArch* 28:102–25.

Steckel, R.H., C.S. Larsen, P.W. Sciulli, and P.L. Walker. 2006. “Data collection codebook”. *The Global History of Health Project.*

Steckel, R.H., J.C. and Rose. 2002. *The backbone of history: health and nutrition in the western hemisphere*, Cambridge: Cambridge University Press.

Stuart-Macadam, P., and S. Kent. 1992. *Diet, Demography, and Disease: Changing Perspectives on Anemia*, New York: Transaction Publishers.

Tracey, S.V. 1995. *Athenian Democracy in Transition: Attic Letter-Cutters of 340-290 BC*, Berkley.

Van Oyen, A. 2017. “Material Culture in the Romanization Debate.” In *The Diversity of Classical Archaeology*, edited by A. Lichtenberger and R. Raja, 287-300. Brepols.

Versluys, M.J. 2014. “Understanding Objects in Motion. An Archaeological Dialogue on Romanization,” *Archaeological Dialogues* 21(1):1-20.

Verano, J.W., D.H. Ubelaker.1992. *Disease and Demography in the Americas*. Washington, D.C.: Smithsonian Institution Press.

Walbank, M.E.H. 1997. “The Foundations and Planning of Early Roman Corinth.” *JRA* 139:251-64.

Walker, P.L., R.R. Bathurst, R. Richman, T. Gjerdrum, and V.A. Andrushko. 2009. “The causes of porotic hyperostosis and cribra orbitalia: a reappraisal of the iron- deficiency-anemia hypothesis.” *American Journal of Physical Anthropology* 139:109–25.

Wallace-Hadrill, A. 2008. *Rome’s Cultural Revolution*. Cambridge University Press.

Wiseman, J. 1979. “Corinth and Rome I: 228 b.c.–a.d. 267.” In *ANRW* 2.7.1:438–548.

Zuckerman, M.K., B.L. Turner, and G.J. Armelagos. 2016. “Evolutionary Thought in Paleopathology and the Rise of the Biocultural Approach.” In *A Companion to Paleopathology*, edited by Anne L. Grauer, 35-57. John Wiley & Sons.

Funerary Practice in Roman Crete during the First to Third Centuries C.E.: Three Case Studies

Heidi Senn

The Roman period of Crete is a promising area of archaeological enquiry which offers a unique perspective from which to view the transformative processes of an expanding empire. Much is to be gained from the vast amounts of data that have been collected by the Cretan archaeological service in the form of rescue excavations and large-scale investigations into areas of dense archaeological remains. Focusing on the mortuary evidence from three case studies located on the eastern half of the island, this paper presents primary data on funerary trends that were practiced during the early Roman period. This paper further seeks to place this data into the social and economic contexts of three very different communities interacting with and reacting to contact with Rome. By examining the mortuary landscapes of Hierapytna, Lato pros Kamara, and the Colonia Julia Nobilis Cnosus, discourse is created concerning the interaction of incoming and local customs following the absorption of the island into Rome's 'globalizing' empire.

Introduction

The Roman period of Crete has long been overshadowed by its Minoan big brother, and we have seen generations of archaeologists focus their research on that prominent civilization. Meanwhile, the Greek archaeological authorities have brought to light copious evidence for Roman-period activity, primarily through rescue excavations. These endeavors have produced a body of evidence that promises to enlighten the motivated researcher as to the intricacies of life and death during the Roman period. This material is under-represented in our current understanding of Roman Crete, and demands greater attention. Although Roman activity on Crete extends well into the seventh century C.E., the majority of evidence considered here will be confined to the first through third centuries C.E., a period of island-wide prosperity.[1]

The aim of this paper is to examine the original excavation data and primary evidence of funerary activity during the early Roman period, and to provide a sample of burial trends that took hold in the eastern half of the island. While a panoptic geographical synthesis of burial sites across the entire island is most desirable, for the sake of brevity the mortuary evidence from the eastern half Crete will be the focus of this analysis.[2]

This paper further proposes to isolate mortuary trends in three case studies from the ancient cities of Hierapytna, Lato pros Kamara, and the colony of *Colonia Julia Nobilis Cnosus*, supplemented by the economic and settlement contexts (Fig. 1). Finally, the impact of Roman influence on these disparate cities as reflected in the funerary record will be considered within the theoretical framework of globalization. The theory of globalization suggests that, as new peoples are incorporated into the empire, they begin to participate – consciously or unconsciously – in the networks which connect their social, political, and economic activities with those of other participants. The concept allows for a more gradual interaction with and adoption of Roman practices, and promotes a sense of 'revitalization'[3] of regional culture in combination with imported customs. As will be seen, globalization theory can be most profitably applied to the mortuary record of Roman Crete.

While this analysis will by no means be comprehensive, it will nevertheless take steps to offer fresh insight into what may be considered a hotbed of social and economic

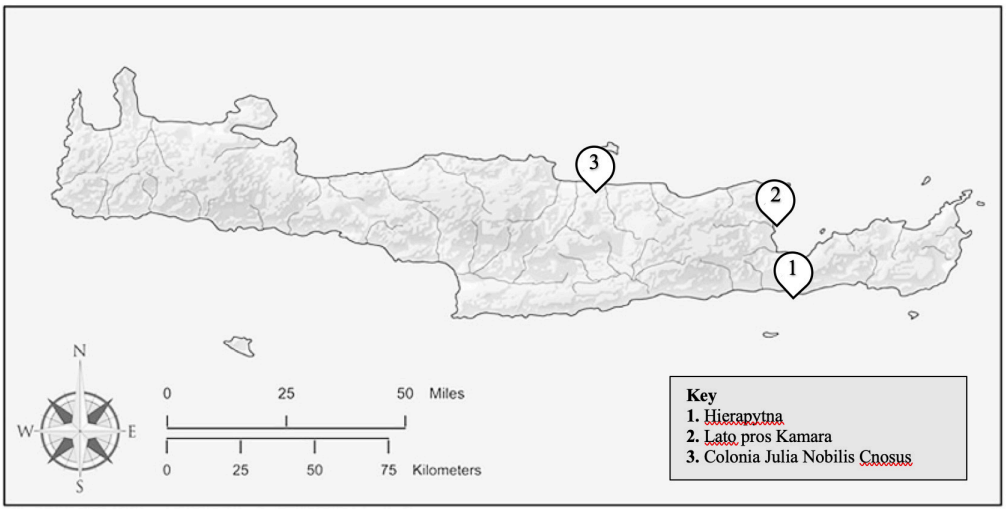

Fig. 1: Eastern half of Crete, location of case studies.

transformations that accompanied Crete's inclusion in the Roman Empire.

Hierapytna

The ancient city of Hierapytna is located on the south coast of east Crete, both underneath and to the west of the modern city of Ierapetra. Hierapytna grew exponentially during the late Hellenistic and early Roman periods in terms of both settlement and economic potential, and thanks to the excavation of several of its cemetery areas, represents a prime case study of the mortuary record.

In the 1990s, a total of 95 burials of primarily pit and tile type were uncovered in the northern district of *Paramythas*,[4] adding to the previous discovery of six pit and tile graves in the western district of *Viglia*.[5] These cemeteries both date to the first through third centuries C.E. It was believed that these burials constituted only a fraction of the early Roman necropolis, and thus, beginning in 2001 under the authority of the ΚΔ' Ephoria of Prehistoric and Classical Antiquities, intensive archaeological excavation was begun in the Dialektaki field slightly west of the city center, in an area known as *Loutres*, with remarkable results.

To date 48 burials have been uncovered in the Dialektaki field, of which 23 were the common type of tile burial, many of which had been greatly disturbed due to both looting and agricultural activity. A *pithos* burial and a cist, and the remains of a *larnax* (limestone sarcophagus) were soon added to the count. The remainder of the tombs were of the subterranean vaulted roof type, and it is these tombs with which we are here concerned (Fig. 2). Unfortunately, all of the tombs appear to have been looted in antiquity, and in most cases the entry point of the grave robbers can be immediately detected through the roof of the chamber. Once the looters had removed the valuable offerings, the chambers silted up over time, helping to preserve the walls to the full height of the arch.

Of the 11 single-chamber tombs, seven (Tombs 3, 9, 23, 24, 25, 27, and 28) were built in the pseudo-ashlar style, with their semi-circular arches carefully constructed of five to seven series of carved limestone or gypsum blocks. Three of the tombs included paved floors, some of which had been removed by looters looking for crypts below. The orientation of the tombs was N-S, with an entrance to the north, except for Tomb 27 (T.27), which had its entrance to the south.

Fig. 2: Vaulted tombs T.24 and 25 from the Dialektaki field, Ierapetra. © Greek Ministry of Culture and Sports, Ephorate of Antiquities, Lasithi. Photograph by C. Papanikolopoulos.

Fig. 3: Internal niche of T.31, Dialektaki field, Ierapetra. © Greek Ministry of Culture and Sports, Ephorate of Antiquities, Lasithi. Photograph by C. Papanikolopoulos.

All entrances had been blocked up with large horizontal or upright slabs. Recesses in the interior walls of the tombs suggest the use of timber frameworks to help with the careful construction of the arch.[6]

The interior dimensions of the tombs range from 2.1 to 3.5 m long by 1.09 to 1.75 m in width. The height of the tombs was recorded as 1.35 to 1.85 m.[7] The remaining four vaulted tombs (T.7, 8, 30, and 31) were constructed of field stones or semi-worked blocks, with arches comprised of an overlapping series of small blocks or cobblestones. The arches were covered on the external surface with a thick layer of cobbles and mortar, forming an upper floor at surface level. This method of construction was perfected in T.30, where the builders used mortar and stones of equal size and included an internal decorative beveled cornice.

Internal niches for the placement of grave goods were identified in T.30, T.31, and T.7 (Fig. 3), while the entrance to each chamber appears to have been through a 'window' feature which was closed from the outside with stone slabs.

The orientation of these last four vaulted chambers was not fixed, and neither was the position of the entry point. Two of the tombs are N-S with entrance from the south, and the remaining two are oriented E-W, with entrance from the east in one and west in the other. The internal dimensions of this tomb type are as follows: 2.65 to 3.75 m in length by 2.08 to 2.3 m in width, and 1.81 to 2.3 m in height.[8]

Although the vaulted tombs of Ierapetra have been looted, enough evidence remained to suggest relatively wealthy patronage of the cemetery. Firstly, worked gypsum blocks of 'exceptional whiteness and shine'[9] were used as marble substitutes, and possibly came from quarries at Myrtos and Tertsa, 15 and 20 km respectively to the west of Ierapetra on the south coast.[10] Secondly, we may infer a general level of wealth and prosperity from the grave offerings that were missed by the looters. These included terracotta masks, items of jewelry (including an engraved ring found in T.9 (Fig. 4) some minor gold objects, bronze vessels, mirrors, and strigils.[11]

Although the chronology of ceramic and glass evidence has not been published in detail, Apostolakou dates the majority of lamps to the late second through early third century C.E.[12] Finally, coins from the reigns of Hadrian (117-138 C.E.), Antonius Pius (138-161 C.E.), and Septimius Severus (193-211 C.E.) enabled the investigators to refine the chronology of the vaulted tombs to the early second through early third centuries C.E.

Fig. 4: Detail of gold engraved ring from T.9, Dialektaki field, Ierapetra. © Greek Ministry of Culture and Sports, Ephorate of Antiquities, Lasithi. Photograph by C. Papanikolopoulos.

Putting this mortuary evidence into the context of ancient Hierapytna, the largest port city on Crete's southern coast, we may be seeing a new form of status display following the incorporation of Crete into the Roman Empire. Moreover, the burial customs represented in the Dialektaki field are a hybrid mixture of 'Greek' and 'Roman' practices. The dead were inhumed according the usual custom in Greece,[13] in a type of tomb that seems to have first appeared during the Roman period on the island. Multiple interments in each tomb are indicated in both the looted and in situ graves, which was practiced more often in Italy at the time, albeit not exclusively. The dead are, however, accompanied by grave goods familiar from previous periods on Crete. Champion has suggested that "local elites above all embraced Roman culture as a means to power and privilege."[14] Perhaps the situation in Hierapytna may be more moderately conceived of as one in which the economic benefits of participation in the empire were increasingly embraced by successive generations.

Additional forms of archaeological evidence discovered in southeastern Crete support this image of a rising entrepreneurial community following the Roman conquest. Architectural remains of theatres,[15] elaborate building complexes,[16] baths,[17] and villas[18] provide a glimpse of the means by which local elites in and around Hierapytna interpreted, and even embraced, the cultural influence of Rome.

Meanwhile, Roman Hierapytna and its surrounds have produced evidence of 'intensive exploitation'[19] of the landscape and increased production which demonstrate the means by which an enterprising community may have gained an advantage within the economic framework of the empire. Amphora production,[20] warehouses,[21] possible murex dye production,[22] fish-tanks,[23] farmsteads,[24] and the remains of aqueducts[25] may be cited as indicative of the increased economic capacity of the region's inhabitants during the first two centuries C.E. Finally,

Fig. 5: Tomb 18, Stavros cemetery, Agios Nikolaos. © Greek Ministry of Culture and Sports, Ephorate of Antiquities, Lasithi. Photography courtesy of Vili Apostolakou.

settlement nucleation around coastal sites in the early Roman period is suggested by survey evidence,[26] and saw the ancient city of Hierapytna swell to approximately 150 ha, a size roughly equivalent to the new Roman capital at Gortyn.[27] Hierapytna had undoubtedly become a force to be reckoned with in the vast network of the Roman Empire in the East. Perhaps more than any other case here discussed, Hierapytna may be said to have become a truly 'globalized city',[28] actively participating in and benefiting from its position in the economic network of the empire.

As for the vaulted tombs themselves, their careful and elaborate construction, their stature in comparison to the simple pit and tile graves excavated elsewhere around the city, and the wealth of their contents - even looted - denote a level of prestige hitherto unseen in the mortuary record of ancient Hierapytna. Through their burial practices, the families of those interred in the vaulted tombs were essentially choosing to conspicuously display their enhanced position in the prospering city.

Lato pros Kamara

The ancient harbor city of Lato pros Kamara lies under modern Agios Nikolaos on the western end of the Mirabello Bay and has to date undergone limited archaeological investigation. We know that here was the harbor town of the Hellenistic city of Lato (located approximately 9 km inland to the east of the harbor town), and that it rose in prominence at the expense of its mother city after the second century B.C.E.[29] Apart from a limited sector of Hellenistic and Roman structures excavated in the center of the modern city in the 1990s,[30] the primary evidence for the prosperous harbor city comes from her *necropoleis.*

A cemetery excavated between 1988 and 1990 in the *Stavros* region to the south and west of the modern city contained a variety of mortuary forms including simple pit graves, tile burials, cists and a single 'plaka'-built burial.[31] The latter is typified by Tomb 18, which was constructed of one to two series of roughly shaped stones arranged in a rectangular outline, and featured large covering 'plaka' stones. (Fig. 5) This grave, along with the 66 others discovered in the *Stavros* cemetery had suffered from various erosive processes which left only five whole skeletons, 33 burials with just a few remaining bones, and 28 that did not contain any bone.[32] The cemetery had also been looted in an extensive and organized manner.

The humble pit and tile graves of the *Potamos* area to the west of the modern city center represent the most common burial type for Hellenistic and Roman Crete. Beginning with excavations by K. Daváras in 1978, and continuing sporadically under the auspices of the 24th Ephoria of Antiquities, by 2004 over 300 such burials had been identified.[33] A cluster of 20 inhumations ranging in date from the third century B.C.E to the second century C.E. excavated in 1978 will be the focus of the following discussion.

A recent geoarchaeological study of the *Potamos* area identified a change in the course of the nearby Xeropotamos stream that occurred during the 'Medieval Warm Period', which lasted from 850 C.E. to 1250 C.E.[34] The river then deposited a thick layer of fluvial sediment over the area of the cemetery, protecting the burials beneath from the rigors of construction and agricultural activity.[35]

Over 20 tombs were excavated, many of them strikingly well-preserved, with their grave goods in situ. All cases except three were oriented from E-W with the head of the deceased towards the east. Four of these tombs were tile graves (T.6, 7, 8, and 17) in which large flat tiles (0.52 by 0.48 m) of the Corinthian type were placed over the body forming an arch, sometimes including a covering tile. (Fig. 6) The remainder of the graves were of the simple pit type, dug into the soil at a shallow depth and with almost no distinguishable borders.[36]

Trends that can be isolated in the cemetery include the position of the hands over the pelvis and the placing of finger rings on the left hand, a custom that has been identified as beginning in the early Roman period on Crete.[37] Another practice observed at the cemetery was the placing of coins in the mouth of the deceased or elsewhere in the

Fig. 6: Tile burial T.6, Potamos cemetery, Agios Nikolaos, courtesy of Dr Costis Davaras.

Fig. 7: Burial Monument T.34, Herakleio, after anastylosis, courtesy of Eva Grammatikáki.

grave. Coins were found in eight different graves, ranging in date from the reign of Caligula, 37-41 C.E. (T.3, 8, and 12), to the second half of the first century C.E.,[38] with a coin of Vespasian (69-79 C.E.) being identified in T.2.

The grave goods gathered during the excavation included gold rings and earrings, bronze mirrors (one found still in the hand of the female interred in T.1),[39] theatre masks, figurines, bronze vessels, and strigils. Undoubtedly the most striking find was that of a crown of 24 intricately decorated gold-foil olive leaves found plastered by the pressure of the river sediment to the skull of the juvenile male buried in T.8.[40]

The general impression presented by the *Potamos* cemetery is one of stability and continuity. Into the early Roman period, the city's dead continued to be interred in known cemeteries to the west of the ancient city, in simple pit or tile inhumations amongst their Hellenistic fellows, re-enacting burial practices that had been in place for generations.[41] Moreover, the dead continued to be buried in single internments,[42] even once the Romans, with their penchant for multiple burials, had solidified their hold on the island and proclaimed it the joint province of *Creta et Cyrenaica*, sometime between 67 and 24 B.C.E.

The influence of Roman funerary practice is thus not readily apparent in the cemeteries of Lato pros Kamara. Significantly, we also find a lack of Roman markers in the town's known road networks, and in the epigraphical record. The Tabula Peutingeriana is an important cartographic record of the road network across the Roman Empire, thought to be a medieval copy of a fourth century C.E. map. A recent study on the Tabula Peutingeriana has demonstrated that neither Lato nor her harbor city were connected to the other important centers of Crete by a main road.[43] In fact, they are not indicated on the map at all.

According to Martha Baldwin Bowsky, the territory of Lato and her harbor remained 'remarkably fixed' after the Hellenistic period, and the seaside city saw a period of relative stability following the tribulations of the Hellenistic period.[44] Indeed, the epigraphic evidence suggests a clear shift of attention towards the prospering city of Hierapytna, where 24 occurrences of Roman *nomina* had been recorded by 1989, in comparison with the single incidence of a Roman name at Lato.[45]Although Baldwin Bowsky stops short of demoting Lato and her harbor city to 'peaceful oblivion'[46] during the Roman period, this relative dearth of inscriptional evidence strongly suggests that Lato pros Kamara did not house a significant Roman presence.[47]

Colonia Julia Nobilis Cnosus

The context of the final case study out of modern Herakleio is of particular interest due to its connection with the only Roman colony established on Crete, the *Colonia Julia Nobilis Cnosus.* Founded under Augustus around 27 B.C.E.,[48] the colony was settled from the Campanian city of Capua and thus allows for a tangible transference of funerary

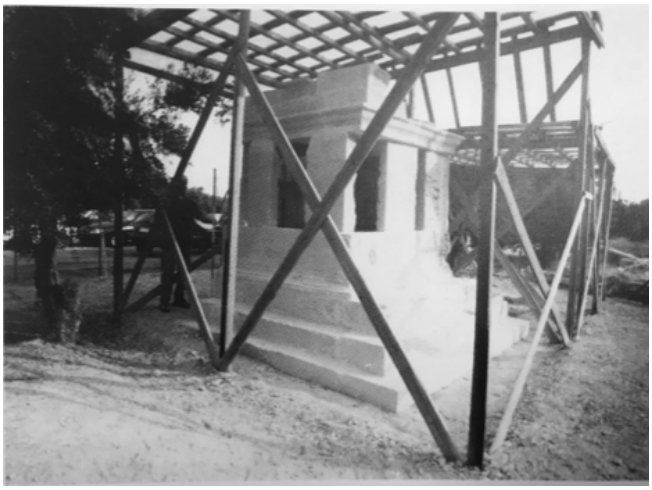

Fig. 8: Altar tomb T.52, Herakleio, courtesy of Eva Grammatikáki.

traditions onto the local landscape. Located between the Monasteriaki Kephala hill and the Kairatos valley, excavations have thus far revealed such elements of the Roman colony as roads, bridges, a theatre, public and private buildings, and also its cemeteries.[49]

A rescue excavation conducted in the 1990s has produced a category of funerary monument of the stepped-platform and altar type which is rare for Crete in the early Roman period. Beginning in 1994, trial trenches dug on the north side of Building A of the Venizeleio General Hospital quickly produced mortuary evidence of the Hellenistic and Roman periods. A diverse array of graves was excavated between 1994 and 1997, including simple tile and pit burials, cists, and rectangular tile-built pits. Of particular interest were the stone-built funerary monuments, here designated as T.34, T.36, and T.52, where presumably members of the wealthier families of Roman Knossos were interred.[50]

Monument T.34 is a stepped platform type, constructed of elongated limestone blocks and measuring 3.4 by 2.1 m at its base. (Fig. 7) Although only three platform steps survive today, Grammatikáki postulates the addition of an upper level and a grave stele or marker such as that which might be seen on the Via Laurentina in Ostia or along the cemetery roads of Pompeii.[51] More specifically, we may be able to reconstruct the missing element as a house-like altar structure similar to those found at Pompeii (discussed below).

A rectangular cavity was discovered inside the monument, and contained a bronze coin of the Roman colony at Knossos, minted during the reign of Claudius (41-48 C.E.). Below the stepped structure were found one cist and one pit burial, both looted. Despite the disturbance, finds have survived to attest to the wealth of those interred. These include a fragment of bronze *fibula*, pieces of gold foil, and a gold ring with an engraved cornelian stone. This type of conspicuous funerary monument is attested to in Greece from the Hellenistic period,[52] though unknown until this find on Crete.[53]

The second funerary monument (T.36) has proven difficult to interpret, due to later disturbance of the monument and looting of the burials on which it rests. The structure is composed of large limestone blocks and takes the form of a large (3.2 by 3.2 m) square cell resting on a stepped platform (3.8 by 3.8 m). The monument is preserved to a maximum height of 1.95 m. A door in the west side of the 'room' was blocked by a rectangular slab and the interior of the

monument contained a bench-like feature on three sides and a rectangular crypt sunk into the middle of the paved floor. As with the previous monument discussed (T.34), the burials belonging to this tomb were dug into the earth below the structure, and consist of two cist graves with an E-W orientation. Although the northernmost cist had been looted, a few gold foil leaves were recovered, as well as two first century C.E. unguentaria. The most remarkable find from this cist was a six-sided steatite curse tablet, engraved on all sides with text pertaining to the separation of one Preimogeni from his wife Daphne.[54]

The second, unlooted cist yielded a wealth of material, including multiple interments, gold foil leaves, five ceramic unguentaria, 23 glass unguentaria, and four lamps dating from the middle of the first century C.E. into the first decades of the second century C.E. Finally, five bronze coins were recovered from the second cist, the earliest belonging to the Roman colony at Knossos under Augustus (27 B.C.E to 2 C.E) and the latest minted during the reign of Nero (55-60 C.E.).

The final funerary monument to be discussed is T.52, a house-shaped tomb standing to an impressive height of 3.3 m and measuring 3.3 by 3.15 m at the base of its stepped platform. (Fig. 8) Above the three-stepped platform a series of rectangular upright stones supported a carved cornice, on which were preserved traces of painted decoration. A carved inscription on the south side of the monument declares its erection to have been made in honor of CLUATIUS and CLUATIUS CONINUS.

Fig. 9: The altar tomb of Gaius Calventius Quietus, Porta di Ercolano, Pompeii.

Once again, the primary burials were found sunk beneath the floor of the stepped platform. Internment took place in an impressive crypt, oriented E-W, and entered from the east with two large horizontal slabs stepping down into the crypt. The walls of the crypt were constructed of unusual convex limestone blocks which corbelled towards the upper height of 1.5 m. The west side included a rectangular niche for offerings. Looters have also visited this entombment, leaving only a few fragments of bone and cranium, bone pins, and two ceramic unguentaria which were dated to the first century C.E. The chronology of the monument was confirmed by the discovery of a bronze coin of Caligula (38-41 C.E.) found between the layers of stones which filled the interior of the platform. Above the crypt in the interior of the altar monument was found a much-disturbed secondary burial which included only a few fragments of bone and three ceramic vessels (two hydrias and a jug) dating to the age of Hadrian (117-138 C.E.). Grammatikáki speculates that the later burial may be evidence of later use of the monument by the descendants of the original honored dead.[55]

These stone-built funerary monuments are unusual for the area and period in several ways. First, they are ostentatious in a manner at odds with the more conservative Hellenistic burial traditions that preceded them.[56] Second, the erection of the monuments over subterranean burials was previously unknown on Crete,[57] further confirmation of the long-held notion of Cretan exceptionalism against social and cultural trends in the rest of the Hellenic world.

Although this sample of funerary monuments does by no means constitute a significant body of evidence,[58] it is tempting to describe a

direct connection to Roman practices present in the Knossian mortuary record. We may be naming actual Roman colonists, such as the Cluatii entombed in T.52, or perhaps be documenting a piecemeal adoption of Roman culture and language by local elites seeking to enhance their position through display. The connection to Roman burial practices must be considered 'piecemeal' due to the fact that unlike the cremation burials of Ostia or Pompeii, inhumation was the primary rite in all cases here considered, and the number of dead interred in each monument was limited.

A useful comparison may here be made with the monumental altar tombs on raised bases found in the Campanian city of Pompeii.[59] T.52 for example has two particularly close parallels to be found in Pompeii's Porta di Ercolano: the Tomb of Naevoleia Tyche (40-60 C.E.) and the Tomb of Gaius Calventius Quietus (30-62 C.E.).[60] Both of these tombs have a three-stepped platform leading to a house-like altar, and are comparable in dimensions[61] (Fig. 9). Interestingly, based on the numismatic evidence, these monuments all date from the early to mid-first century C.E., which suggests the presence of Roman funerary customs at an earlier phase in the life of the colony than has been noted in other forms of material culture. The earliest mosaic evidence at Knossos for example, comes in the form of the black and white 'Western-type' mosaics that have been dated to the late first century C.E.[62] Combined with the Latin inscription and *nomina*, and the documented presence of Campanian pottery at multiple excavations,[63] the existence of these altar tombs at Roman Knossos may represent a very real connection to the Campanian roots of the colonists themselves.

Analysis

Roman Crete flourished in the first and second centuries C.E., and benefited directly from its inclusion in the economic sphere of the empire. The island communities ventured out into maritime trade ever more frequently, protected by the *Pax Romana,* which offered greater security at sea. Crete became a 'critical nexus'[64] along trade routes between the eastern and western halves of the empire, allowing for increasing import and export from the island.

The mortuary data synthesized above describes a complex system of regional diversity, as well as mingling of cultural influences from both East and West. The funerary evidence also suggests a direct correlation between Roman interference in particular regions and the development of funerary practices over the course of the first through third centuries C.E.

In ancient Hierapytna an impression of dynamic economic activity following prolonged involvement with the Roman Empire is particularly vivid in the mortuary and settlement evidence. One is able to detect new-found wealth and display in the burials of an enterprising community, one willing to take advantage of the economic opportunities afforded by participation in expanding trade networks. The vaulted graves however, must be kept in their context of cemeteries also containing tile, pit, and cist graves to the first through third centuries C.E.

In Agios Nikolaos a continuation into the Roman period of earlier mortuary practices is noted, such as the addition of coins in graves, and the use of ceramic types that had been offered as grave goods for centuries past.[65] The mortuary evidence does not reflect the heavy-handedness of Rome at Lato pros Kamara, but rather suggests that the seaside town lay outside of the direct attention of the Romans, who were focusing their influence on regions of greater economic potential, such as Hieraptyna.

Finally, the monumental graves at the Knossian colony suggest a sense of ostentatious memorialization of the dead and may demonstrate exposure to Roman traditions transported to Crete along with the colonists themselves. The tombs however, are a rarity amongst the many pit, tile and cist graves that have thus far been excavated

in and around the city, dating from the Hellenistic period through to the seventh century C.E.[66]

The picture thus painted by the mortuary evidence is one of continuity, diversity, and cultural adaptability in the cities of Roman Crete. This conclusion can come as no surprise when the archaeological record of the Greek East indicates a great deal of diversity under the empire. Provinces, cities, rural, and urban sites all adapted differently to contact with Rome, and Crete was no exception.

Significantly, the funerary data for Hierapytna and Lato pros Kamara does *not* suggest a rapid process of Romanization, but rather adaption to changing conditions over time. In the case of Hierapytna for example, it may have taken several generations of exposure to Roman culture and participation in economic networks for locals to seek status and benefit within the empire. In contrast, the evidence from Herakleio suggests an accelerated transference of Roman customs onto the Knossian landscape, undoubtedly related to the founding of Crete's only Roman colony.

The funerary evidence presented here certainly seems to meet the requirements of globalization theory, demonstrating an intermingling of Roman and local practices. We do not see a "conscious systematic cultural change"[67] but rather a piecemeal adoption of Roman funerary trends over time, mixed with a retention of deeply entrenched local customs.

The case studies discussed represent three different communities and three different reactions to the influence of Rome. The mortuary evidence portrays direct contact at the *Colonia Julia Nobilis Cnosus*, local opportunism and adoption of incoming practices at the developing economic powerhouse of Hierapytna, and continuation of the old ways at the relatively untouched harbor town of Lato pros Kamara. The 'micro-regionalism'[68] evident in the settlement activity of early Roman Crete is thus also reflected in the mortuary record. As the incorporation of Crete into the Roman Empire became ever more complete, each settlement would come to be transformed by its participation in a 'globalizing' empire.

Endnotes:

1 Gallimore 2015, 295.
2 A study of the evidence from western Crete is forthcoming.
3 Gallimore 2019, 600.
4 *ΑΔ* 52, 1997 ; Χρον. Β3, 1047-49.
5 *ΑΔ* 50, 1995, Χρον. Β2, 753.
6 Apostolákou 2011, 342.
7 Apostolákou 2011, 342.
8 Apostolákou 2011, 344.
9 Apostolákou 2011, 348. My translation.
10 Chlouveraki 2002, 25.
11 Apostolákou 2011, 350.
12 Apostolákou 2011, 350.
13 Cremation was the predominant Roman custom in the provinces until the middle of the third century C.E. Toynbee 1971, 40.
14 Champion 2004, 214.
15 Chalikias 2013, 37. One of the theatres of Hierapytna is currently being excavated by the Ephoreia of Lasithi in the Viglia district of Ierapetra (personal observation).
16 An "exceptional and elaborate building program" is mentioned by Chalikias (2013, 39) on the island of Kouphonisi to the east of Ierapetra. See also Sanders 1982, 138.
17 Apostolákou 1990, 455-6.
18 Apostolákou 1990, 453-455. On the villa at Makrygialos see Papadakis 1979, 406-9; Papadakis 1980, 524-5.
19 Chalikias 2013, 38.
20 Marangou 1999, 273.
21 Haggis 1996, 183-209.
22 Although there is rich evidence for murex dye production on Chryssi island (located 7 nautical miles south of modern Ierapetra) during the Bronze Age, its production during the Roman period is as yet unconfirmed by archaeological evidence. See Chalikias 2013, 40.
23 Daváras 1974, 87-93.
24 Apostolákou 1990, 453-455; Gallimore 2011, 365-72.
25 Watrous et al. 2012, 112.
26 Chalikias 2013, 37.
27 Gallimore 2015a, 17.
28 Terminology recommended by Sweetman 2007, 61-

81.
29 Balwin Bowsky 1989a, 116.
30 Apostolákou 2010, 56-7.
31 Apostolákou 1995, 34.
32 Apostolákou 1995, 36.
33 Apostolákou 2004, 477-486.
34 Theodorakopoulou and Bassiakos 2017, 802.
35 Daváras 1985, 213.
36 Daváras 1985, 130.
37 Daváras 1985, 213.
38 Daváras 1985, 210.
39 Daváras 1985, 134.
40 Daváras 1985, 171-190. Daváras notes: "The wreath was found fastened on the skull, owing to the particular circumstances of the action of the constantly humid earth of the river bed pressing around and above it during so many centuries." (1985, 215).
41 Apostolákou notes that the placement of one or two amphorae and an oinochoe at the feet of the deceased is a custom beginning in the third century B.C.E. (typified by the Hellenistic cemetery at Nea Paphos, Cyprus), and continuing in East Crete into the first century C.E. Apostolákou 1995, 36.
42 In the case of Roman Corinth, Kathleen Warner Slane discusses singular burials being a local, 'Greek' custom while multiple burials became the common practice in Corinth's North Cemetery over the course of the Roman period. Slane 2017, 224.
43 Pazarli, Livieratos, and Boutoura 2007, 245-60.
44 Baldwin Bowsky 1989b, 344.
45 Baldwin Bowsky 1989b, 345.
46 Baldwin Bowsky 1989b, 345.
47 It is worth reiterating that the region of Agios Nikolaos has not been subject to intensive excavation or survey, and therefore the theory here presented - that Lato pros Kamara lay outside of the direct focus of Roman activity in East Crete - must remain conjecture.
48 Paton 1994, 143.
49 See Sweetman 2010, 339-79 for a useful catalogue of known sites.
50 Grammatikáki 2004, 465.
51 Grammatikáki 2004, 470.
52 This type of monumental altar tombs has been noted in the Greek East at Rhodes and Halicarnassus as early as the second century B.C.E. Hagen 2016, 37.
53 Although now out of date, it is significant that Sanders' gazetteer does not include another burial monument of the stepped platform and altar type. Sanders 1982, 135-75.
54 Grammatikáki and Litinas 1999, 61-9.
55 Grammatikáki 2004, 470.
56 Chaniotis emphasizes the lack of evidence in Hellenistic Crete for "the display of private wealth which characterizes big and small Hellenistic poleis" including public and private dedications, as well as 'impressive funerary documents.' Chaniotis 2005, 109.
57 Grammatikáki 2004, 471.
58 The *Archaeological Survey of the Knossos Area* catalogue notes similar "monumental built tombs, including vaults below ground" (Hood and Smyth 1981, 24.), as well as "six tombs built of ashlar masonry – two of them with vaults intact and unplundered – were revealed in 1952" during construction at the Venizeleion hospital site. Hood and Smyth 1981, 39. Other instances of 'monumental' built tombs are recorded at *ASKA* catalogued sites 62, 72, 78, 202, 286, and 297.
59 On altar tombs: "The most homogeneous group of Pompeiian funerary structures is that of the tombs that take the form of a monumental altar, generally raised on a base, which varies in height from tomb to tomb, and surrounded by low enclosure walls." Toynbee 1971, 123. It is worth noting that such an enclosure wall surrounding a 'well-built' tomb has been documented at catalogue site 62 according to the *Archaeological Survey of the Knossos Area.*
60 Toynbee 1971, 124-5.
61 The dimension of the Naevoleia Tyche platform at its base are 4.1 by 3.95 m, while the dimensions of the Gaius Calventius Quietus Platform are 3.83 by 3.53 m. Hagen 2016, 38-41.
62 Sweetman 2013, 94.
63 Paton 1994, 143.
64 Gallimore 2019, 601.
65 Apostolákou 1995, 37.
66 Sweetman 2010, 356.
67 Sweetman 2007, 65.
68 Coutsinas 2018, 130.

Works Cited:

Apostolákou, B. 1990. "Ιεράπετρα, θεση Άγιο Πνεύμα, θέση Βιγλιά, θέση Παπα-Λάκκους." *ArchDelt* 45.2:453-6.

Apostolákou, B. 1995. "Ελληνιστκό - πρώιμο Ρωμαϊκό νεκροταφείο Αγ. Νικολάου." *Πεπραγμένα: Ζ' Διεθνούς Κρητολογικού Συνεδρίου (Ρέθυμνο, 1995)* A1:33-40.

Apostolákou, B. 2004. "Άγιος Νικόλαος. Οικόπεδο Κοκολάκη – Ζαχαράκη – Μαυρικάκη – Λουκάκη. Οικόπεδο Ε. Κλώντζα. Οικόπεδο Δήμου Αγίου Νικολάου." *ArchDelt* 56-59(5):477-86.

Apostolákou, B. 2010. "Από την Πρωιμή Εποχή του Σίδηρου εώς το τέλος της Ρωμαϊκής περίοδου." In *Ο Άγιος Νικολάος και Η Περιοχή του,* by B. Αποστολάκου, Μ. Αρακαδάκη, Μ.Δ. Δερμιτζάκης, Γ. Μοσχόβη, and Μ. Σωρού, 53-120. Άγιος Νικόλαος: Πολιτιστικός Οργανισμός Δήμου Άγιου Νικόλαου.

Apostolákou, B. 2011. "Ρωμαϊκοί καμαροσκεπείς τάφοι της Ιεράπυτνας." *Πεπραγμένα: Ι' Διεθνούς Κρητολογικού Συνεδρίου (Χανιά, 1-8 Οκτωβρίου 2006)* A4:337-54.

Baldwin Bowsky, M.W. 1989a. "Epigrams to an Elder Statesman and a Young Noble from Lato pros Kamara." *Hesperia* 58:116-129.

Baldwin Bowsky, M.W. 1989b. "Portrait of a Polis: Lato pros Kamara (Crete) in the Late Second Century B.C." *Hesperia* 58(3):331-47.

Baldwin Bowsky, M.W. 1999. In *From Minoan Farmers to Roman Traders, Sidelights on the Economy of Ancient Crete,* edited by A. Chaniotis, 305-47. Stuttgart: Steiner.

Baldwin Bowsky, M.W. 2004. "Of Two Tongues: Acculturation at Roman Knossos." In *Colonie Romane Nel Mondo Greco. Conference Proceedings, Pisa, November 2000. Minima epigraphica et Papyrologica-Separata III,* edited by G. A. Salmeri, A. Raggi, and A. Baroni, 95-150. Rome.

Baldwin Bowsky, M.W. 2011. "Colonia Iulia Nobilis Cnosus, the first 100 years: the evidence of Italian sigillata stamps." In *Roman Colonies in the First Century of their Foundation,* edited by R. J. Sweetman, 117-34. Oxford: Oxbow Books.

Chalikias, K. 2013. *Living on the Margin: Chryssi Island and the Settlement Patterns of the Ierapetra Area (Crete).* Oxford: Archaeopress.

Chaniotis, A. 2005. "Inscribed Instrumenta Domestica and the Economy of Hellenistic and Roman Crete." In *Making, Moving and Managing: The New World of Ancient Economics, 323-31 BC,* edited by Z.H. Archibald, J. K. Davies, and V. Gabrielsen, 92-116. Oxford: Oxbow Books.

Coutsinas, N. 2018. "A Living Countryside. Changes in the Rural Occupation of Eastern Crete from the Hellenistic to the Late Roman Period." In *What's New in Roman Greece? Recent Work on the Greek Mainland and the Islands in the Roman Period,* edited by V. Di Napoli, F. Camia, V. Evangelidis, D. Grigoropoulos, D. Rogers, and S. Vlizos, 123-133. Athens: National Hellenic Research Foundation/Institute of Historical Research.

Daváras, C. 1974. "Rock-cut Fish Tanks in Eastern Crete." *BSA* 69:87-93.

Daváras, C. 1987. "Ρωμαϊκό νεκροταφείο Άγίου Νικολάου." *ArchEph* 1985:130-216.

Dench, E. 2010. "Roman Identity." In *The Oxford Handbook of Roman Studies,* edited by A. Barchiesi, and W. Scheidel, 266-280. Oxford: Oxford University Press.

Gallimore, S. 2011. *Ierapetra and Crete in the Roman Empire,* Ph.D. diss., University at Buffalo.

Gallimore, S. 2015a. *An Island Economy: Hellenistic and Roman Pottery from Hierapytna, Crete.* New York: Peter Lang Publishing.

Gallimore, S. 2015b. "The Saddest of Ruins": Travellers' Accounts as Evidence for Formation Processes at Hierapytna, Crete." In *Journal of Eastern Mediterranean Archaeology and Heritage Studies* 3.2:105-26.

Gallimore, S. 2016. "Crete's economic transformation in the late Roman Empire." In *Roman Crete: New Perspectives,* edited by J. E. Francis and A. Kouremenos, 175-88. Oxford: Oxbow Books.

Grammatikáki, E. 1994. "Κνωσός. Βενιζέλειο Νοσοκομείο." *ArchDelt* 49(2):698.

Grammatikáki, E. 1996. "Κνωσός. Βενιζέλειο Νοσοκομείο." *ArchDelt* 51(2):624-30.

Grammatikáki, E. 1997. "Κνωσός. Βενιζέλειο Νοσοκομείο." *ArchDelt* 52(2):987-9.

Grammatikáki, E. 2004. "Ταφικά μνημεία Κνωσού." In *Knossos: Palace, City, State,* edited by G. Cadogan, E. Hatzaki, and A. Vasilakis, 465-72. London: The British School at Athens.

Hagen, P.S. 2016. "Pompeii: A Study of Roman Tombs and the Freedmen." MA diss., Bergen University.

Haggis, D.C. 1992. "The Port of Tholos in Eastern Crete and the Role of a Roman Horreum along the Egyptian 'Corn Route'," *OJA* 15.2: 183-209.

Harrison, G.W.M. 1993. *The Romans and Crete.* Amsterdam: Adolf M. Hakkert – Publisher.

Harrison, G.W.M. 1994. "Old (and false) perceptions die

hard." *Cretan Studies* 4:137-48.

Harrison, G.W.M. 1998. "Crete the ordinary." In *Post-Minoan Crete,* edited by W.G. Cavanagh and A.W. Johnston, 129-34. London: The British School at Athens.

Hayden, B. 2004. "The Roman Period in the Vrokastro Area, Eastern Crete." In *Creta Romana e Protobizantina, II.*

Hayden, B. 2005. *Reports on the Vrokastro Area, Eastern Crete, Volume 3: The Vrokastro Regional Survey Project, Sites and Pottery.* Philadelphia: University of Pennsylvania Museum of Archaeology and Anthropology.

Hood, S., and D. Smyth. 1981. *Archaeological Survey of the Knossos Area.* London: The British School at Athens.

Lempési, A. 1971. "Περισυλλογή Αρχαιοτήτων 'εν Κρήτη." *Prakt* 1969:241-49.

Marangou, A. 1999. "Wine in the Cretan Economy." In *From Minoan Farmers to Roman Traders, Sidelights on the Economy of Ancient Crete,* edited by A. Chaniotis, 269-278. Stuttgart: Steiner.

Morris, I. 1992. *Death-Ritual and Social Structure in Classical Antiquity.* Cambridge: Cambridge University Press.

Kurtz, C., and J. Boardman. 1971. *Greek Burial Customs.* Ithaca: Cornell University Press.

Papadákis, N. 1979. "Μακρύς Γιαλός Σητείας." *ArchDelt* 34(2):406-9.

Papadákis, N. 1980. "Μακρύς Γιαλός Σητείας." *ArchDelt* 35(2):524-5.

Parker Pearson, M. 2009. *The Archaeology of Death and Burial.* Stroud: The History Press.

Paterákis, N.O. 2011. "Από το ρωμαϊκό νεκροταφείο της Κισάμου." *Πεπραγμένα: Ι' Διεθνούς Κρητολογικού Συνεδρίου (Χανιά, 1-8 Οκτωβρίου 2006)* A4:355-70.

Paton, S. 1994. "Roman Knossos and the Colonia Julia Nobilis Cnossus." In *Knossos: A Labyrinth of History. Papers in Honour of Sinclair Hood,* edited by D. Evely, H. Hughes-Brock, and N. Momigliano, 141-153. Oxford: The British School at Athens.

Pazarli, M., E. Livieratos, and C. Boutoura. 2007. "Road network of Crete in Tabula Peutingeriana." *e-Perimetron* 2(4):245-60.

Pemberton, E. 1985. "Ten Hellenistic Graves in Ancient Corinth." *Hesperia* 54(3):271-307.

Sanders, I.F. 1982. *Roman Crete: An Archaeological Survey and Gazetteer of Late Hellenistic, Roman and Early Byzantine Crete.* Warminster: Aris & Phillips.

Slane, K., *Corinth XXI: Tombs, Burials, and Commemoration in Corinth's Northern Cemetery.* Princeton: ASCSA.

de Souza, P. 1998. "Late Hellenistic Crete and the Roman Conquest." In *Post-Minoan Crete,* edited by W.G. Cavanagh and A.W. Johnston, 105-11. London: The British School at Athens.

Sweetman, R. J. 2007. "Roman Knossos: The Nature of a Globalized City." *AJA* 111(1):61-81.

Sweetman, R. J. 2010. "Roman Knossos: Discovering the City through the Evidence of Rescue Excavations." *BSA* 105:339-79.

Sweetman, R. J. (ed) 2011. *Roman Colonies in the First Century of their Foundation* (Oxford).

Sweetman, R .J. 2013. *The Mosaics of Roman Crete: Art, Archaeology and Social Change.* Cambridge: Cambridge University Press.

Theodorakopoulou, K., and Y. Bassiakios. 2017. "Geoarchaeological studies at the cemetery of ancient Kamara, assisted by optically stimulated luminescence (OSL) dating: Insights in the post-Roman hydrological record of Eastern Crete." *JAS: Reports* 12:794-804.

Voeikoff-Brogan, N. 2012. "Hellenistic and Roman Periods: Expansion of the Isthmus in an International Era." In *An Archaeological Survey of the Gournia Landscape,* by L.V. Watrous, D. Haggis, K. Nowicki, N. Vogeikoff-Brogan, and M. Schultz, 81-93. Philadelphia: INSTAP Academic Press.

Wardle, K.A. 1972. "Two Notes from Knossos." *BSA* 67:271-84.

Wardle, K.A., and D. Wardle. 2004. "Glimpses of private life: Roman rock cut tombs of the first and second centuries AD at Knossos." In *Knossos: Palace, City, State,* edited by G. Cadogan, E. Hatzaki, and A. Vasilakis, 473-80. London: The British School at Athens.

Watrous, L. V., D. C. Haggis, K. Nowicki, N. Vogeikoff-Brogan, and M. Schultz. 2012. *An Archaeological Survey of the Gournia Landscape: A Regional History of the Mirabello Bay, Crete, in Antiquity.* Philadelphia: INSTAP Academic Press.

Martial Valor of the Roman Emperors as Divinity on the Sebasteion at Aphrodisias

Adam Tabeling

The marble reliefs of the Sebasteion at Aphrodisias celebrate war, victory, and the martial valor of the Julio-Claudian emperors through visual representations of military trophies, martial divinities, and the subjugation of barbarian enemies. However, the Roman goddess of martial valor, Virtus, is conspicuously absent from the visual program of the Sebasteion. Because Virtus played a fundamental role in the political and military rhetoric of the Julio-Claudian emperors' visual narratives in Rome, and because the sculptors of the Sebasteion were likely using recognizable Roman templates for its relief panels, I argue that at least one, if not two, of the four goddesses identified as Roma ought to be identified as Virtus (the Greek goddess Andreia). The appearance of Virtus on the Sebasteion would complete the themes of conquest, victory, and imperial military excellence and would convey to the people of Aphrodisias a political message of safety, protection, and peace in Aphrodisias, visually guaranteed by the virtus of the Julio-Claudian emperors.

The celebration of the emperor as the leader of the world and the guarantor of Augustan peace in Roman art lined not only the streets of Rome, but also the streets of her provincial polities, especially among those like Aphrodisias that looked toward Rome as friend and ally. When Caesar ascended to power, an opportunity for an alliance originated between the city of Aphrodite, Aphrodisias, and the dictator, who claimed divine pedigree from the goddess. Sometime before Caesar's assassination, Aphrodisias secured a treaty with Rome; and Caesar himself sent a golden Eros to Aphrodisias to be housed in the Temple of Aphrodite as an act of good faith.[1] In a letter written in 39/8 B.C.E. to one of his personal agents in Aphrodisias, Octavian personally considered the Aphrodisians to be his allies and guaranteed their safety, likely on account of the city's resistance against the invading Parthians between 41 and 39 B.C.E.[2] Subsequently, Aphrodisias was granted freedom, tax exemptions, and asylum rights, thereby strengthening Aphrodisias' relationship with the future emperor.[3] Sometime in the 30s B.C.E., C. Julius Zoilos, a freedman of Caesar and the Aphrodisian agent of Octavian, dominated the political landscape of Aphrodisias as *stephanephoros* for ten years, priest of Aphrodite and of Eleutheria for life, as well as ambassador to Rome, having likely participated in the resistance against the Parthians.[4] His political and military accomplishments were documented on his self-devised mausoleum constructed in Aphrodisias, the reliefs of which not only celebrated his personal virtues, *andreia* (Latin *virtus*) and *timē* (Latin *honos*) among them, but also his relationship to Rome, attested by the appearance of the enthroned goddess Roma in the monument's frieze. Before his death in the early 20s B.C.E., Zoilos began the construction of a new Temple of Aphrodite, evidenced by a dedicatory inscription on the lintel of the cella.[5] Although Zoilos unfortunately never had the opportunity to consecrate the temple, the people of Aphrodisias continued the project, ultimately dedicating the temple to the emperor Tiberius.[6] Sometime after the death and apotheosis of Augustus, the Aphrodisians resolved to monumentalize the street running east-west in front of the temple, adding two marble porticoes flanking the street, known as the Sebasteion (Latin Augusteum). However, construction on the project continued throughout several principates and was not completed until the reign of Nero. According to the extant inscriptions of the Sebasteion, the complex was dedicated to Aphrodite, to the divine emperors (*Theoi Sebastoi*), and to the people (*demos*).[7] The façades of the north and south buildings were decorated with marble panels carved in high relief on three storeys, each depicting a single figure or a figural group that created a marble tapestry of historical, myth-historical, and mythological narratives. Although the panels do not convey any singular visual program, the themes of war, victory, and the emperors' martial accomplishments make it clear that the iconography of the monument celebrates the *virtus*, or martial excellence, of the Julio-Claudian dynasty. And because the goddess of military valor and glory, Virtus, often appears on public victory monuments erected during the Julio-Claudian period to symbolize

Fig. 1. Panel C2: Augustus and Nike with trophy, eagle, and bound captive. Museum of Aphrodisias.

the *virtus* of the emperors, it is reasonable to posit that, of the four iconographically different deities identified as Roma by Smith on the Sebasteion, one (if not two of them) should be considered Virtus, or rather the Greek Andreia.[8]

The Themes of Victory and *Virtus*

Panel C2 of the south building is representative of the martial themes that constitute the Sebasteion as a monument of victory and *virtus* of the Julio-Claudian emperors (Fig. 1). Augustus, laureate and depicted in heroic nudity, except for a *paludamentum* clasped at the shoulder, clutches a spear in his right hand and a *tropaeum* in his left hand. The *tropaeum* comprises a helmet, cuirass, military tunic with *pteryges*, greaves, and a shield hanging from behind. Nike, winged and dressed in a heavy chiton and himation, positions the helmet on top of the trophy. Sitting below the trophy is a bound barbarian prisoner of war, whose forlorn visage conveys his peril and fate. Perched below Augustus' right hand is an eagle, which gazes up toward the trophy.[9] Although scenes depicting the emperor and Nike/Victoria together are common in the visual repertoire of art throughout the imperial period, the motif of the barbarian captive bound below a towering trophy derives from the iconography created by Caesar and his moneyers in the 40s to commemorate Caesar's *virtus* from his conquest of Gaul.[10] This trophy/prisoner motif was then reprised by Augustus' moneyers in the 20s, documenting Augustus' *virtus* from his Actian victory.[11] Although it is unlikely that the Aphrodisian artists were replicating a pre-existing work in Rome, they were doubtless drawing on Caesarian, or, more directly, Augustan models of victory, likely through the circulation of Augustan coins that featured bound prisoners coupled with a Roman trophy on the reverse of these issues. In any case, the visual language of this relief is clear: the image of Augustus in heroic nudity and accompanied by Jupiter's eagle is evocative of his apotheosis, granted as a result of his martial excellence, his *virtus*. Having conquered and subjugated his enemies, Augustus has stripped the barbarians of their arms and armor, thereby allegorically divesting them of their own *virtus*. Not only does victory belong to the emperor, indicated by the presence of Nike, but so does *virtus*, symbolized by the *tropaeum* he fashioned out of his enemies' spoils. The fettered enemy of Augustus is made to appear non-threatening, reinforcing the visual message that Rome's enemies, and therefore Aphrodisias' enemies, have been subjugated by the *virtus* of the emperor.

Not only did the Sebasteion celebrate the victory and *virtus* of Augustus, but also of the subsequent Julio-Claudian emperors. The victory of the emperors is the subject of Panel C9 from the south building (Fig. 2). A semi-nude Nike majestically flies across the panel, carrying over her left shoulder a robust *tropaeum*. The base of the relief contains the inscription *ΝΕΙΚΗ ΣΕΒΑΣΤΩΝ*, or "the victory of the emperors." Constructed on a knotted tree trunk, the trophy is composed of a plain cuirass with a simple skirt, a sword in its scabbard attached with a ribbon, and a helmet with a plume. That the trophy

Fig. 2. Panel C9: Nike with trophy. Museum of Aphrodisias.

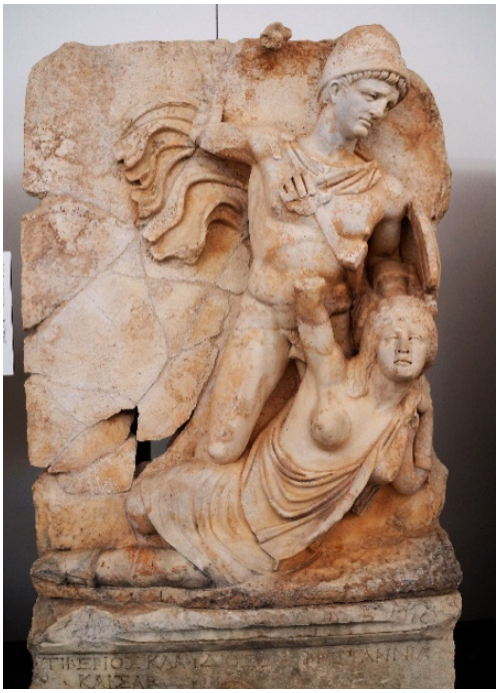

Fig. 3. Panel C10: Claudius vanquishes Britannia. Museum of Aphrodisias.

which Nike carries represents a physical manifestation of *virtus* is certain, as *virtus* was always represented as the product of victory in Roman military scenes. Therefore, we can imagine that the flying Nike is about to establish the *virtus* gained by the emperors in warfare as a physical emblem of Roman hegemony and provincial security. Smith suggests that, contingent upon the position of the relief, "the victory of the emperors" inscribed on the base alludes to its flanking panels, directing the viewer's attention toward the martial prowess of Claudius on one relief and of Nero on the other.[12]

Panel C10 illustrates the *virtus* of the emperor Claudius that led to his victory represented by the appearance of Nike on the previous panel (Fig. 3). Claudius, identified by his name and title inscribed on the base (*ΤΙΒΕΡΙΟΣ ΚΛΑΥΔΙΟΣ ΚΑΙΣΑΡ*), and wearing only a helmet, balteus, and a *paludamentum,* vanquishes Britannia. Britannia, labeled *ΒΡΕΤΤΑΝΙΑ*, is personified by a woman who lies helplessly prostrate on the ground. Her expression demonstrates her anguish and despair. Her drapery, loosely clinging to her body, exposes her breasts, analogizing her vulnerability as a defeated adversary of Rome. The visual language of the emperor's conquest of the "other" is transparent: the *virtus* of Britannia has been expunged by the commanding emperor as he pins Britannia down with his knee. The scene emphasizes his own martial *virtus* displayed on the battlefield against the Britons, whose country was conquered by Claudius in 43 C.E. The conquest of Britannia also gives us a terminus post quem of 43 C.E. for this relief.[13]

Pendant to the Claudius relief and bisected by the Nike relief is Panel C8, which is demonstrative of the *virtus* of the emperor Nero in action (Fig. 4). Nero is named by the partial inscription that suffered an erasure after his *damnatio memoriae* in 68, which reads: "Nero Claudius Drusus Emperor Augustus Germanicus" ([*ΝΕΡΟΝ*[*Ι*]] *ΚΛΑΥΔΙΟΣ ΔΡΟΥΣΟΣ ΚΑΙΣΑΡ ΣΕΒΑΤΟΣ ΓΕΡΜΑΝΙΧΟΣ*). Nero lifts the figure of Armenia (labeled *ΑΡΜΕΝΙΑ*) from the ground with his hands. The emperor is depicted in heroic nudity and wears a *paludamentum*

Fig. 4. Panel C8: Nero vanquishes Armenia. Museum of Aphrodisias.

clasped at his right shoulder, a balteus supporting his sword in a scabbard, and a helmet.[14] The personification of Armenia is depicted as a nude and incapacitated barbarian to underscore her vulnerability and her submission to the emperor. She wears only a Phrygian cap, boots, and a cloak around her neck. Her quiver and bow have been removed and placed next to her lifeless body. The visual message of the relief is clear: Armenia, bereft of her *virtus* that defended her people against the Roman invasion between 58 and 63 C.E., has been conquered and subjugated by the emperor's *virtus*. Nero's *virtus* has secured Roman victory over Armenia, bringing her into the domain of Nero's empire. Subsequently, Nero was hailed as *imperator* by his armies, supplications were held, as well as a triumph, and statues and victory arches were decreed to him in response to his victory over Armenia, the theme of which spills onto Panel C9.[15]

Not only do these panels that depict Augustus, Claudius, and Nero in scenes of military conquest and victory substantiate the visual program of the Sebasteion as a celebration of the martial excellence of the Julio-Claudian emperors, their *virtus Augusta*, but so did seven more extant panels: three featuring Nike with trophy or victory wreath (C14, C20, C21); Tiberius with bound barbarian captive (C16); an unidentified Julio-Claudian emperor with trophy and captive (C18); the god of war Ares (C32); and an unidentified cuirassed emperor wearing a *paludamentum*, ready for battle (C33).[16] Because the iconography of the Sebasteion reliefs commemorate the *virtus* of the Julio-Claudian emperors through their foreign conquests and martial accomplishments, we should expect that the goddess of the emperors' military excellence, Virtus (the Greek Andreia), be present within the programmatic composition of this victory monument. Just as Andreia appears on the Monument of Zoilos, equipped with a shield, a balteus to carry a sword, and a helmet, in order to allegorize the *virtus* of Zoilos as patron and war hero of Aphrodisias (Fig. 5), a similar representation of Andreia would also be appropriate for the Sebasteion in order to represent the *virtus* of the emperors.[17] Two military goddesses do appear on the façade of the south building; however, Smith identifies both as Roma, thereby portraying Roma on the Sebasteion four times and of four different Roma-types. Four representations of Roma would make the goddess the second most depicted figure on the Sebasteion (after Nike, the high number of which is not unusual, especially in the east), outnumbering

Fig. 5. Monument of Zoilos, ca. 30s B.C.E. Andreia carrying a shield on the left. Zoilos, middle, crowned by Timē, right. Museum of Aphrodisias.

Aphrodite and the Julio-Claudian emperors, to whom the Sebasteion was dedicated. The high number of Romae, in conjunction with her four completely disparate appearances, on a single monument is unprecedented in Roman art. Therefore, it is worth considering that at least one (if not two) of these four diverging representations of "Roma" should be ideologically and functionally Virtus/ Andreia. Moreover, the absence of Virtus would be conspicuous on an imperial victory monument memorializing the martial excellence of the Julio-Claudian emperors. And the proximity of the Monument of Zoilos, which features Roma and Andreia together, lends credence to the likelihood that both Roma and Andreia were both represented on the Sebasteion, rather than four Romae in various idiosyncratic guises.

The Panels of Roma

Of the four representations of the goddess of Rome, two are unequivocally Roma, as one is identified by an inscription and the other is represented by the canonical Julio-Claudian seated-Roma type. Next to Panel C8, which depicts Nero and Armenia, are the goddesses Roma (labeled *ΡΩΜΗ*) and Ge (labeled *ΓΗ*)

Fig. 6. Panel C7: Roma and Ge. Museum of Aphrodisias.

Fig. 7. Panel D49: Roma, seated next to a shield. Museum of Aphrodisias. Courtesy of the Aphrodisias Excavations Project.

on Panel C7 (Fig. 6).[18] Roma towers above Ge, the personification of the earth, who reclines below. Roma is dressed according to the Hellenistic city-goddess type with mural crown and scepter in contrast to her military disposition as helmet-wearer in representations of the goddess in Rome and the west. Her mural crown comprises five towers that rests upon her long, parted hair. Her long chiton with sleeves envelopes her entire body and is tied with a belt high on her torso, just below her bosom. Roma carries a scepter in her right hand and stretches her left toward the right arm of Ge, possibly representing a *dextrarum iunctio.* Ge, semi-nude, carries a cornucopia filled with an abundance of fruit onto which a small child clings. Although there are no extant parallels to this scene from Rome, the iconography recalls the Kalenus denarius of 70 B.C.E. that depicts four labeled divinities. This denarius not only features the jugate heads of Honos and Virtus on the obverse, but, on the reverse, a standing Roma and Italia are depicted in a *dextrarum iunctio*.[19] The iconography of Panel C8 is also reminiscent of the Northeast and Southeast Panels of the Ara Pacis, which feature Roma and Tellus Italiae, respectively, both in separate frames, but together within the same visual framework on the eastern wall. However, the Roma from the Northeast Panel of the Ara Pacis is a seated-Roma type,

typical of the Julio-Claudian era.

The seated-Roma type is found on a relief from the Sebasteion; however, the image of the goddess has been almost completely erased, likely for a re-purposing that never occurred. Yet, there exist enough contextual elements within the scene to secure the identity of Roma on Panel D49 (Fig. 7).[20] The contour of the erasure demonstrates a seated figure, doubtless Roma, with her legs turned in three-quarter view toward the viewer. The height and shape of the contour of the head suggests that Roma was wearing a helmet, likely crested. A partial diagonal erasure in the upper right suggests that an attribute of the goddess was also eliminated, most likely the goddess' scepter or a spear. The only ascertainable attribute of Roma is the round shield, only partially erased at the lower right-hand corner of the relief. The shield rests against the contour of the base upon which Roma was seated, thereby substantiating the identity of the figure as the goddess Roma. The seated-Roma type was not unprecedented in Aphrodisias. This type also appears on the Monument of Zoilos in the same programmatic frieze as Andreia (Virtus)

Fig. 8. Monument of Zoilos, ca. 30s B.C.E. Roma, seated next to a shield. Museum of Aphrodisias.

Fig. 9. Panel C24: Virtus/Andreia with barbarian captive. Museum of Aphrodisias.

and Timē (Honos) (Fig. 8). The composition of Roma on the Monument of Zoilos is analogous to the contour of Roma on Panel D49, suggesting that the Monument of Zoilos may have been used as the primary model for the seated-Roma type on the Sebasteion. If the Aphrodisian sculptors of the Sebasteion were drawing on local templates, such as the Roma panel suggests, then the artists would have also been conscious of the allegorical image of Andreia, who stands adjacent to Roma on the monument as the personification of Zoilos' military valor gained during the Parthian incursion that ended in 39 B.C.E. Therefore, creating a monument that recognizes the military victories of the Julio-Claudian emperors from their own foreign wars without acknowledging their *virtus,* or martial excellence, through the image of Virtus/Andreia would be unreasonable. Thus, there remain two military goddesses illustrated on the Sebasteion who Smith suggests are both Roma. However, at least one (if not both) ought to be considered Virtus/Andreia, whose appearance on a Roman monument celebrating the emperors' martial valor in warfare is expected.

The Panels of Virtus/Andreia

Panel C24 depicts an armored goddess with captive slave (Fig. 9).[21] The goddess is dressed as an *imperator*, wearing a helmet, a cuirass with a gorgon flanked by two heraldic griffins, a short tunic with ornamented *pteryges*, and laced boots. An emperor's *paludamentum* is clasped at the shoulder and hangs from the neck in the same fashion as Augustus, Claudius, and Nero above. She wields a spear in her right hand and a shield in her left.[22] To her right kneels a bearded barbarian captive. He wears an animal-skinned cloak, tied around his neck, and gazes up toward the towering military goddess above. As Smith correctly states, there are very few parallels of any kind for cuirassed females in general, and I would add, none from the Julio-Claudian era. Smith suggests that the goddess is Roma, as he argues that a local audience would immediately recognize a goddess wearing Roman imperial armor as Roma.[23] However, I disagree, since this typology of Roma is not the contemporary Julio-Claudian Roma-type, nor is the type which already exists at Aphrodisias. The type with which the Aphrodisians would have been most familiar is the seated-Roma type, corroborated by the representation of the enthroned Roma on the Monument of Zoilos and on Panel D49 of the Sebasteion – a Roma who does not wear a cuirass but rather a long chiton with right breast exposed. And, although Panel C7 substantiates the claim that the Aphrodisians had artistic license to manipulate the contemporary Roman iconography of Roma, Roma as *imperator* and captor is unprecedented in the visual rhetoric of Roman military scenes. Roma is never depicted as a military general as if she has witnessed battle firsthand, nor does she ever wear the traveling imperial *paludamentum* like Virtus occasionally does in victory scenes, namely because Roma never goes to nor comes from battle in Roman iconography. Virtus, however, often returns to Rome from battle with the victorious emperor and is closely associated with the prisoners of war in Roman military scenes,

Fig. 10. Dupondius of Caracalla, 210 CE. Virtus, with helmet and spear, standing next to a trophy and barbarian captive. British Museum.

for example, on the so-called Triumphator Relief from the Arch of Titus and on the Triumph Relief from the Medinaceli group, as well as on several issues of imperial coins.[24] If we consider a dupondius minted by Caracalla that depicts Virtus with spear towering over a fettered captive below, then the composition of the coin can be attributed to a common iconographical source that also influenced the military program of Panel C24 (Fig. 10).[25] On Panel C24, Virtus has manifested herself from the conquest of Rome's foreign enemies and from the victory of the emperor – a motif that became increasingly common in the martial corpus of Roman iconography. The fact that Virtus is often represented with the prisoners of war, whether it be a singular composition such as one depicted on the dupondius or a triumphal scene like on the Medinaceli Reliefs, lends credence to a Virtus/Andreia identification for Panel C24. Admittedly, the iconography of this military goddess is a departure from both the Roma and Virtus types of any period. Her singularity can only be explained by craftsmen of the eastern provinces, who created a Virtus/Andreia type from the martial elements which they knew existed in the visual repertoire of military scenes from Rome, namely a goddess with military experience, theoretically having just come from battle dressed in her cuirass, helmet, and a traveler's *paludamentum*.[26]

Fig. 11. Panel C17: Aphrodite crowned by Virtus/ Andreia. Museum of Aphrodisias.

Panel C17 depicts two goddesses (Fig. 11).[27] The goddess on the right wears a short Amazonian tunic, belted at the waist, that bares her right breast. She does not wear a helmet on her head, despite the fact that every other attribute is martial, including her balteus to support her sword (not depicted), open-toe boots, the spear in her left hand, and a small round shield that rests by her side. With her right hand, she crowns a goddess on the left with a laurel wreath, who wears a heavily draped peplos and himation. The visage of the laureate goddess does not seem to possess any portrait features, but is rather idealized, which would, therefore, eliminate a Julio-Claudian family member as the identification of the figure. Smith suggests that she is an Aphrodite-Venus type, despite the lack of sophistication given to her image as the city's patron deity. As for the Amazon goddess, Smith posits that the type is suitable for Aretē, Andreia, or Roma in the Greek east. However, we can immediately rule out Aretē because the Amazon type with martial characteristics is not suitable for Aretē, who is only depicted as a matronly figure in Greek art and never as an Amazon warrior.[28] Thus, the type is only suitable for Andreia or Roma. The relief was incorporated into the façade of the third storey of the south building, which was completed during the principate of Nero.[29] And even though the goddess possesses every attribute of the Roman goddess Virtus, except for her helmet, a Neronian date of the goddess does present the possibility that Roma is represented here, since Roma co-opted the image of Virtus during Nero's reign, attested by Neronian coinage. However, it is unusual for both Roma and Virtus to be depicted without a helmet. For Roma, there is no comparandum, as she always wears a crown or helmet. However, for Virtus, there is precedent. First, the Andreia from the Monument of Zoilos possesses no evidence that she wore a helmet on her head, despite the destruction of her visage (Fig. 5). Andreia's helmet was once placed on a pedestal next to Zoilos, attested by the extant outline of the helmet, thereby becoming a comparandum for the helmet-less goddess on Panel C17. Moreover, a series of coins minted by Galba depicts Virtus, labeled *VIRTVS*, wearing an Amazonian costume and carrying a parazonium in one hand and a victoriola in the other, without a helmet (Fig. 12).[30] Mattingly states that the Galban Virtus also wears a cuirass; however, the contours of Virtus' outfit suggests a tunic.[31] As for the context of the composition, either Roma or Virtus for the identification of the Amazon goddess would be unusual, at least in Rome, because neither goddess is known to crown anyone other than the emperor, much less another female. Erim suggests that the goddess is a composite Roma-Virtus, who crowns a Julio-Claudian family member.[32] However, it seems unlikely that the Aphrodisians would consciously conflate the two goddesses, as they already possessed discernable prototypes for both goddesses, neither of which was used to create the image of this Amazon divinity. Smith suggests that Aphrodite is crowned by Roma as a general reference to her role as foremother to the emperors, as well as a possible allusion to the Parthian incursion between Aphrodisias and

the Parthians in 40 B.C.E., where a reference to Aphrodite as the Julian ancestress would be appropriate.[33] However, the Amazon goddess as Virtus does not preclude this hypothesis, but, in my opinion, rather amplifies Aphrodisias' role in their resistance of the Parthians made possible by the *virtus*, or rather the *andreia*, of Aphrodisias' brave warriors (Zoilos included), who risked their lives to defend their city from Rome's marauding adversaries. This accords with the fact that this victory-themed monument was also dedicated to the people of Aphrodisias, in conjunction with Aphrodite and the divine emperors. Long, however, suggests that the two goddesses are to be identified as Livia and Roma, respectively, because, as she asserts, the context demands that it is Roma, because Virtus crowning Livia would be inappropriate.[34] However, her argument hinges on the assumption that the left figure is Livia, but the lack of physiognomic features of Livia preclude this identification. Moreover, the crowning of Livia by either Roma or Virtus with the laurels of victory would be contextually illogical. Instead, Aphrodite crowned by Andreia with a laurel wreath symbolizing Aphrodisias' military victory over the Parthians is not inconceivable. Andreia may be understood as conferring her military protection and her gift of *virtus*, or martial valor, on Aphrodite, the patron goddess of the city whose military strength deflected a Parthian invasion between 41 and 39 B.C.E. – the city's greatest military victory. In any case, the iconography of the goddess undoubtedly derives from the typology of the Roman Amazon warrior-woman for Virtus, the prototype of which was originally conceived by Marcus Claudius Marcellus – the founder of the cult of Virtus in the third century B.C.E.[35]

Fig. 12. Aureus of Galba, 69 C.E. Virtus on reverse. British Museum.

Conclusion

Panels C7 and D49 are doubtless images of Roma, the former labeled and the latter represented as the canonical seated-Roma type from the Julio-Claudian period. Because Roma is already represented twice in two disparate forms, it would be unusual and unprecedented to have Roma in Panel C24 and in C17 as two new forms of Roma, totaling four completely incongruent images of Roma without visual consistency or common attributes. Therefore, it is more likely that either Panel C24 and/or Panel C17 represent Virtus/Andreia, whose image would have been familiar to the Aphrodisians, as she was depicted on the Zoilos Monument between Roma and Zoilos. However, the iconography of the goddesses of Panels C24 and C17 does not perfectly correlate with the Julio-Claudian Virtus, nor with the Julio-Claudian seated-Roma type, although many of the physical elements belonging to Virtus are present. The goddess on Panel C24 wears a short tunic underneath her cuirass, which is conventional to the standard iconography of Virtus. Besides her spear and helmet, the prisoner of war at her side alludes to a Virtus (Andreia) identification. As for the goddess on Panel C17, she wears an Amazonian tunic that bares her right breast and carries a spear and balteus to support her sword, suited for Virtus alone. The goddess is also depicted in a *Standmotiv* – the prevailing physical state of Virtus since the creation of her image during the Republic. It is, however,

interesting to note that Timē from the Zoilos Monument is represented bare-breasted and crowning Zoilos with her right hand, analogous to the goddess on Panel C17, who crowns Aphrodite with her right hand. That the artist of Panel C17 used the Monument of Zoilos as a model and conflated the iconography of the two goddesses, Andreia and Timē, is not impossible. In any case, the goddess in question is unlikely Roma and more likely Virtus/Andreia as imagined by a Greek sculptor with limited comparanda, based on the current typologies of Roma and Virtus from the Republic and from the Julio-Claudian era.

The Sebasteion celebrated not only the benevolent relationship between Aphrodisias and Rome, but also the hegemony of the Roman empire under which the Aphrodisians lived. Having been a political and military ally of Rome since the time of Caesar, and most willingly under the principate of Augustus, the Aphrodisians designed the Julio-Claudian panels of the Sebasteion to emphasize the strength of Rome and their approbation of Rome's military success over the course of six decades, giving credit to Augustus, Tiberius, Claudius, and Nero. The sculptors of the Sebasteion panels seem to possess some knowledge of the contemporary martial iconography created in Rome, but also re-conceptualized many Roman elements in order to be comprehensible to a Greek audience. The thematic formulae of war and victory are clear, both to a Greek and a Roman viewer. However, the identity of each individual may not have been so easily recognizable, hence the addition of labels for each figure. Unfortunately, no label of Andreia survives, unlike her labeled image on the Monument of Zoilos. However, a Roman dynastic monument commemorating war, victory, and the *virtus* of four Julio-Claudian emperors in Aphrodisias without an image of Virtus/Andreia would be exceptional, especially since the Aphrodisians were already aware of the goddess' image on the prominent Monument of Zoilos. Therefore, it seems more likely than not that Panel C24 and/or Panel C17 depicts an Aphrodisian adaptation of the Roman Virtus for their representation of the Greek Andreia. The image of Virtus/Andreia would have harmoniously unified the martial themes of the Roman iconography on the Sebasteion, underscoring the martial capacity of the Julio-Claudian emperors on the battlefield against Rome's barbarian adversaries, and symbolizing a new era of security, freedom, and the *pax Romana* in Aphrodisias, under the protection of their *virtus*.

Endnotes:

1 Tac., *Ann*. 3.62; Reynolds 1982, no. 4, Doc. 12; Smith 1993, 5 and 13; 2013, 4.
2 Reynolds 1982, no. 4, Doc. 10; Smith 2013, 4.
3 Reynolds 1982, Docs. 6-13; Smith 2013, 4.
4 Smith 1993, 4-10; 2013, 4-6.
5 Smith 2013, 6-7.
6 Smith 2013, 7, 21.
7 Smith 2013, 5-20.
8 For example, on the Northeast Panel of the Ara Pacis Augustae, on the Julio-Claudian Medinaceli Reliefs, on the Julio-Claudian reliefs represented on the Boscoreale Cups (Augustus Cup), and on the Neronian Jupiter Column from Mainz.
9 See Smith (1987, 101-4 and 2013, 128-31) for a detailed analysis of the relief.
10 For example: *RRC* 452/5 (Crawford 1974, 467).
11 For example: *RIC* I² Aug. 6.
12 Smith 2013, 144.
13 See Smith 1987, 115-7 and 2013, 145-7.
14 Smith 1987, 117-8; 2013, 141-3. The head of Nero survives, but is kept detached from the relief by the museum.
15 Tac. *Ann*. 13.37-41; Dio 57.23.
16 Smith 2013: C14: 149-50; C20: 160-2; C21: 162; C16: 152-5; C18: 156-8; C32: 175-6; C33: 176-7.
17 See Smith 1993.
18 Smith 2013, 139-41.
19 *RRC* 403 (Crawford 1974, 413), Pl. 50.7; *BMCRR* i.3358-63, Pl. 43.5, ii. 68-9, 72.
20 Smith 2013, 271-2.
21 Smith 2013, 165-6.
22 The shield is not unusual for Virtus, for example, the Virtus from Cancelleria Relief A, from the Aurelian Adventus Relief, and many numismatic depictions of Virtus minted by Commodus and later.
23 Smith 2013, 166.
24 For the Medinaceli group, see Montfaucon 1717, IV.1, 164, tav. 105.
25 *RIC* 4 Carac. 456, 458a-b.

26 Virtus only appears in victory scenes after war has been waged and represents the emperors' martial excellence acquired from their victories.
27 Smith 2013, 154-6.
28 See the Aretē from the Library of Celsus at Ephesus, for example. Cf. Strocka 2003.
29 Smith 2013, 123.
30 *RIC* 1² Galba 63; *BMCRE* Galba 193-5.
31 Mattingly 1923, 342 (*BMCRE* Galba 193-5).
32 Erim 1982, 165.
33 Smith 2013, 156.
34 Long 2014, 157-62.
35 Livy 27.25; Val. Max. 1.1.8.

Works Cited:

Crawford, M.H. 1974. *Roman Republican Coinage* (RRC). 2 vols. Cambridge University Press.

Dio Cassius. 1914. *Roman History.* Volume I. Books 1-11. Translated by E. Cary and H. B. Foster. Loeb Classical Library 32. Harvard University Press.

Erim, K.T. 1982. «Récentes Découvertes à Aphrodisias en Carie, 1979-1980." *RA,* 163-169.

Livy. 1943. *History of Rome*. Volume VII: Books 26-27. Translated by F. G. Moore. Loeb Classical Library 367. Harvard University Press.

Long, T. E. 2014. "Great Grand Mothers: The Female Portrait Sculpture of Aphrodisias: Origins and Meaning." Ph.D. diss. University of Nottingham.

Mattingly, H. 1923. *Coins of the Roman Empire in the British Museum Vol. I: Augustus to Vitellius*. (BMCRE). London: Longmans & Co.

Montfaucon, B. de. 1717. *L'antiquité expliquée et répresentée en figures*. Vol.4, *La Guerre, les Voitures, les Grands Chemins, les Ponts, les Aqueducs, la Navigation: Première Partie*. Paris.

Reynolds, J. 1982. *Aphrodisias and Rome*. Society for the Promotion of Roman Studies. Britannia Monographs 2.

Smith, R.R.R. 2013. *The Marble Reliefs from the Julio-Claudian Sebasteion*. New York University. Institute of Fine Arts: Verlag Philipp von Zabern.

Smith, R.R.R. 2011. "Marble Workshops at Aphrodisias." In *Roman Sculpture in Asia Minor: Proceedings of the International Conference to Celebrate the 50th Anniversary of the Italian Excavation at Hierapolis in Phrygia*, *JRA* 80: 62-76. F. D'Andria and I. Romeo, eds.: Portsmouth, R.I.

Smith, R.R.R. 1993. *Aphrodisias I: The Monument of C. Julius Zoilos*. Mainz am Rhein: P. von Zabern.

Smith, R.R.R. 1987. "The Imperial Reliefs from the Sebasteion at Aphrodisias." *JRS* 77:88-138.

Strocka, V.M. 2003. "The Celsus Library of in Ephesus." In *Ancient Libraries in Anatolia: Libraries of Hattusha, Pergamon, Ephesus, Nysa*, 33-43. Ankara: Technical University Library.

Sutherland, C.H.V. 1923. *Roman Imperial Coinage, Vol. I: Augustus – Vitellius.* London, United Kingdom: Spink & Sons.

Tacitus. 1931. *Annals, Books 1-3.* Translated by C.H. Moore. Loeb Classical Library 249. Harvard University Press.

Valerius Maximus. 2000. *Memorable Doings and Sayings, Volume I: Books 1-5.* Edited and translated by D. R. S. Shackleton Bailey. Loeb Classical Library 492. Harvard University Press.

"Ritual" Contexts Revisited. Case studies from the Minoan sites of Pseira, Mochlos and Gournia

Anastasia M. Vergaki

Ritual and cult have interested Aegean prehistoric research since its formation as a sub-field of archaeology in the late 19th century. However, established approaches to ritual are still hindered by theoretical and methodological shortcomings. Most old and traditional research focused on the identification of deities, who are impossible to pin down with certainty. Studies that have alternatively examined the social dimension of ritual usually restrict themselves to its instrumental role in the ideological legitimization of complex power phenomena, such as the Minoan palaces. Methodologically, both approaches concentrate on buildings and artifacts with no obvious daily function, ending up to attribute a ritual character to each and every enigmatic or uninterpretable archaeological find.

The present paper argues that the above research pitfalls may be avoided. Based on existing research about the significance of domestic cult in Bronze Age Crete, it examines indicative assemblages from the Minoan settlement sites of Pseira, Mochlos and Gournia. It focuses on ritual activities at the small scale and in relation to the basis of the Minoan social pyramid, so as to outline a holistic approach to the social dimension of ritual beyond the confines of elite social discourse, to highlight the importance of a contextual methodology and renew the conceptual definition of ritual and ritual equipment.

Fig. 1. The location of the island of Pseira in the Gulf of Mirabello (Google maps).

Introduction

The identification of ritual is frequently difficult in prehistoric contexts. However, when it comes to domestic environments, our methodology faces even more shortcomings. Often, when archaeologists examine data (architecture and portable finds) from a building which do not seem to have an obvious domestic function, they end up labeling them as religious.[1] As a result, Aegeanists have detected shrines and rituals of religious character in almost every archaeological context. The goal of this paper is to explain that there does not exist a clear, archaeologically, detectable divide between ritual and non-ritual actions.

Study Cases[2]

Pseira

Pseira is a small island located about two kilometers north of the coast of Crete (Fig.1), at the eastern end of the Mirabello Gulf, and reached the peak of its expansion during the Late Minoan IB period (1550-1450 B.C.E.) (hereafter LMIB). Its inhabitants were mostly merchants and fishermen, although a small part of the island had been used for agricultural activities.[3]

House AC is located almost in the middle of the settlement. It is distinguished by the good state of preservation of its architecture and by its frescoes. Room AC1 is the largest room of the house and just before its final destruction, in LMIB (1450 B.C.E.), was joined with Room AC6. The walls of Room AC1 provide us with some of the best examples of pseudo-isodomic masonry within the site. Rooms AC1 and AC6 proved to be poor in finds, and those revealed were of uncertain context.[4] The majority of the artifacts consisted of ordinary pottery, cups, jugs, basins, amphorae, storage vessels[5] and a stone cup[6] or bowl. Two clay, discoid loom-weights[7], one stone loom-weight,[8] an obsidian flake[9] and a quartz crystal[10] also came to light. Marine shells,[11] bones of sheep and goat have been revealed as well.

Room AC6 revealed fragments of wall decoration (frescoes). There is no certainty whether they had fallen from the upper floor of the house, or were found in situ. According to Maria Shaw, their restoration is completely hypothetical due to the fragmentary state of their preservation[12] (Fig. 2). If we accept the most commonly proposed restorations of these fragments,[13] they depicted two women facing each other, but it is impossible to understand their relationship or the meaning of the scene.[14] We cannot be certain whether this represented ritual action or daily life activity. However, due to these frescoes some

Fig. 2. Part of a seated woman depicted in Room's AC6 frescoes. Archaeological Museum of Heraklion (photograph by the author).

have proposed that this house constituted a shrine.[15]

The architectural vestiges of Space AC10, located to the SE corner of the house, are very scant. The excavators believe this was an exterior space which contained a bench and a slab-lined pit/cist located against the east wall. Large quantities of fragmented and intact cups were found inside the pit, along with jugs, cooking pots, a miniature tripod vessel, a hand tool,[16] animal and fish bones[17] and a fragment of an animal figurine.[18] Furthermore, charcoal of pine and olive trees were found inside the pit.[19] The remaining area of AC10 revealed plenty of cups, jugs, fish and animal bones and charcoal of oak. The pottery bore no signs of burning. Traditionally related to ritual, is the discovery of two triton shells. One was found in the adjacent Room AC4[20] and another one in Space AC10.[21] We know that, quite often and after special processing, triton shells were sometimes used as rhytons in rituals for pouring libations.[22]

Discussion for House AC

Wall decoration with elaborate frescoes is often observed during the neopalatial period in houses,[23] but rarely can we detect examples having such an elaborate output like those of House AC1. The choice of this iconographic motif, however, does not necessarily connect the women with divinities or with the epiphany of a goddess.[24] Furthermore, there are no other artifacts or architectural features which could lead us to the conclusion that rooms AC1 and AC6 were dedicated to ritual action. Fragments of plaster have also been collected within other settlements in the Mirabello Gulf but are too fragmentary to be restored and interpreted.[25] Moreover, the presence of loom weights, raw materials such as quartz, obsidian, and bones of animals suggest domestic activities and the possible production of household goods. Only the data related to Space AC10 could be indicative of the occurrence of ceremonial acts, especially due to the presence of the slab-lined pit, the triton shell and the figurine. The ritual use of triton shells depends on the way they have been processed, including the addition of possible decorations. Nevertheless, decorated triton shells found on Crete, are extremely rare.[26] These types of triton shells could be used either as decorative artifacts, or as ritual objects. By contrast, natural triton shells seem to have been used as scoops, some as pouring vessels, as containers,[27] as trumpets[28] or as simple funnels.[29] Unfortunately, the fragmentation of triton shells found in House AC prevents us from being able to discuss whether they had been processed or decorated. Keeping in mind the rest of the finds from the assemblage of Space AC10, we can support the interpretation that the shells were part of a feasting equipment and more specifically, that they may have been used as containers.[30] The pit could be identified as a *"bothros-βόθρος"*, for discarding ritual objects after using them. The majority of the artifacts, the figurine included, were fragmented, perhaps due to ritual fragmentation.[31] An analogous case comes from Viglia Gramvoussas Kissamou,

Fig. 3. Digital reconstruction of the peninsula of Mochlos during Minoan times (Vavouranakis 2011).

where another "*bothros*" containing cups, jugs and an animal's figurine came to light in a building of the MM settlement.[32]

Mochlos

The island of Mochlos is a small, circular rock of limestone in the Gulf of Mirabello, just 150 meters from the coast of Crete (Fig. 3). During the neopalatial period, the island was connected to the mainland[33] and the settlement was well organized and wealthy. Its inhabitants were predominantly merchants, farmers and fishermen.

The House of the Lady with Ivory Pyxis is located to the NW section of the settlement and is thought to be the house of a priestess where rituals were taking place. Its masonry consists of slightly carved stones and rubble and it was a three-storey building.[34] On its eastern façade, two windows faced small, open areas (Fig. 4). A circular bin, made of rubble, is located right next to the northern window, which is the largest (Fig. 5). Some smaller bins were revealed a little bit to the north. A fire pit, which was located next to the window, to the left of the bin, contained carbonized figs, grapes and olives.[35] Some of the pulp of the olives was preserved, as well as one of their stem, which led the excavator to assume that an olive tree was growing on the spot of the finds, perhaps inside the bin, while the fire pit was in use.[36] In a second fire pit, located in front of the window, the excavators found whole grains of emmer wheat and grass. According to their opinion, a fire was lit in order to preserve grains for ritual purposes.[37]

Lavish artifacts came from the deposit that collapsed from the upper floor of the house,[38] such as an ivory pyxis[39] and a collection of pins.[40] Inside the pyxis, necklaces were revealed, one with 80 beads of Egyptian amethyst and others made of semi-precious stones, such as lapis lazuli from Afghanistan, silver from Lavrio, and carnelian from the Levant.[41] Some of the beads were in the shape of a Minoan lily, an eight shield, and a bull's head. On the ground floor other important possessions of the dweller were discovered, such as two large bronze bowls, a stone cosmetic palette and a carnelian seal depicting two lions.[42]

The ivory pyxis is, indeed, unique. Despite the fact that it was severely damaged by fire, the scene represented has been restored. The upper surface of its lid, which was carved in low relief, depicts a woman sitting on a stepped altar or building and an olive tree coming out of it. Above the woman's head we can clearly see another figure soaring, while three more people are trying to approach the seated figure. Between them, an object is floating in the air. This narrative scene is thought to represent the epiphany of a goddess.[43]

Discussion for the House of the Lady with the Ivory Pyxis.

On the basis of the current evidence, there is no doubt that the aforementioned objects and structures are unique. But do they indicate ritual acts? The fire pits mentioned, which were filled with fruits, cereals and olives are quite common in prehistoric settlements. Spyridon Marinatos,[44] amongst others,[45]argued the sacred character of such pits. It was noticed that in present-day Cypriot villages, people used to dig shallow pits inside their dwellings or in their yards, in order to store cereals, fruits and legumes. To seal off the stored material, they often used

Fig. 4. House of the Lady with the Ivory Pyxis. NE façade and open area (photograph by the author).

ashes, bran, sand, dry leaves or sea-weed. Furthermore, according to Marinatos, grass was used in these pits as fuel for lighting fire. This could explain why the excavator of the Lady's House said that grass had been found in the second pit. Consequently, the sacred function of the fire cannot be assumed.[46]The fire may have been used instead to heat food supplies which were placed in the pits, and burn the eggs of beetles which must have been accumulated, just as Marinatos describes in other cases. As a result, the small court to the NE of the House of the Lady with Ivory Pyxis was probably used for domestic activities[47] rather than ritual ones.

The pyxis is a luxurious object which contained the jewelry of a woman,[48]but nothing indicates that the latter was a priestess. Undoubtedly, the iconographic theme carved on its lid was often depicted during the LMIB period, especially on golden signet rings[49]. It was either part of a mythological tradition, which was in trend during the LMIB period or even an expression of religious beliefs, because religious symbols are part of culture and as a result their repetition or presence does not necessarily imply conscious religious action. Furthermore, the beads of her necklaces included symbols such as the bull or the eight shield, however, these are the usual symbols we come across everywhere on Minoan sites.[50] It is instead just as likely that this house was the residence of a woman who likely belonged to the elite[51] of Minoan society.

Gournia

The town of Gournia is situated at the inlet of the Gulf of Mirabello, oriented north (Fig.7). During the neopalatial period, approximately, 400-1200 people lived there. Recent excavations proved that Gournia was

Fig. 5. Large bin next to the northern window (view from the SE, photograph by the author).

Fig. 6. Part of the town of Gournia showing the typical rubble masonry and part of a road. View from the North (photograph by the author).

a center of pottery production in the Gulf of Mirabello, but metalworking, sea trade and farming were also important activities for its inhabitants.[52]

House Cm is located on the NE section of the town. The main investigator's notes, do not offer much information regarding its architectural style[53], but it likely consisted of the typical characteristics of domestic architecture found throughout Gournia[54] (Fig.6). Room C60 was the paved anteroom of the house and Rooms 57, 58, 59 were basement rooms.

Room 58 offered the largest quantity of portable finds in the house. All of the artifacts have recently been dated to the LMIB period.[55] Apart from sherds of pithoi and other storage vessels like amphorae, many other artifacts came to light, such as jugs, a kernos (the so-called Trick-cup) which must have been used as a brazier due to the holes which are present on its base and body[56] (Fig. 8), and at least 13 rhyta, most of them conical. The assemblage of rhyta also included a bull's head rhyton.[57] One of the amphorae had a very peculiar shape and was given the name "*Pilgrim Bottle*[58]" due to its resemblance to a human figure. The house has been connected to pottery production because of the discovery of the rhyta, thought to have been produced at the same workshop.[59]

Discussion of House Cm

This house revealed important information regarding the pottery production of the LMIA-LMIB period. Keeping in mind that 11 pottery kilns were found in the settlement,[60] it can be argued that House Cm was connected to pottery production or trade.[61] The aforementioned conical rhyta should not be strictly related to ritual use because their presence and decorations were common during the LMIB period. In a house with large enough storage capacity for liquids such as olive oil or wine, the rhyta could be used as funnels, in order to transfer liquids from one vessel to another, or may have simply been products to be sold by the potter. It is interesting that the situation observed in House Cm, with rhyta having fallen from the upper floor, is also attested in the so-called House of the Rhyta at Pseira. Fallen rhyta into the ground and basement

Fig.7. Map showing the geographical relationship of the three sites.

rooms show that they were mainly used on the upper floors of houses, perhaps, as auxiliary vessels in order to take oil or wine from the pithoi of the basement rooms and transfer them into smaller containers on the upper floors. Recently, it was argued that, because the rhyta of Room C58 were found with their conical edges lodged in the ground, they were therefore used for libations directly into the earth.[62] However, the excavator is clear that this context was actually created by the collapse of the building.[63]Furthermore, although there were other rare and unique types of pottery, such as the "Pilgrim Bottle", the bull's head rhyton, or the "Kernos", which might have been interpreted as ritual objects, these only indicate that the house contained a variety of pottery shapes, of varying qualities. It is most probable that House Cm was the residence of a pottery merchant[64] or of a wealthy inhabitant due to the house's large storage capacity and amount of pottery.

Fig. 8. House Cm, Room 58, The "Trick-cup" (Hawes et.al. 1908, 40).

Conclusions

Many definitions of the concept of ritual have been formulated by researchers,[65] however the material remains of an action must be carefully reconstituted by following the context in which these remains are entangled in order to confirm their use for a symbolic action (ritual) or for practical, daily activities. Moreover, domestic rituals should not be understood as strictly related to religion but rather to the multitude's inward worries and to its agony to be protected through the use of symbols. As was illustrated by the above examples, ritual can sometimes be used by archaeologists studying domestic contexts as an attempt to redefine and constrict the identity of the multitude. Sporadic and fragmented finds could be interpreted as popular rituals of secular character, such as the feasting in Space AC10, where triton shells were used as containers or as trumpets, while the animal's figurines could have had an apotropaic purpose. The above-mentioned finds could also be related to the protection of wealth and prosperity, as in the case of the lady with the ivory pyxis, whose jewelry depicted apotropaic symbols such as the bull's head, the lily and the eight shield. Such symbols could have been used as charms. Accordingly, the bull's head rhyton and the

Trick-cup from House Cm could also have been used in libations during a feasting, which could be of secular character as well. Yet, the Trick-cup could also have been employed as a strainer. Finally, frescoes were often present during the neopalatial period and were indicative of the high status of a residence and its dweller. Consequently, the simple occurrence of wall decorations cannot be used as an argument for the ritual function of an architectural space. Lastly, domestic rituals consist of repeated actions, having rules which are not always rigid[66] and leaving behind commonly found material objects. These actions reinforce social relationships and protect the community and its cultural identity.

Endnotes:

1 Many scholars have discussed ways to detect rituals. See for instance: Hodder 2012, 9-10 and 27; Hodder 2014, 15-19; Renfrew 1985, 3; Wright 1995, 341-3; Nicolaidou 2016, 97-107; Sikla 2011, 219-220; Whitehouse 1996, 12-13; Kyriakidis 2007b, 15. We must also keep in mind that rituals arenot always related to religion but can be secular as well.
2 The following sites were chosen as examples of settlements, which were distant from the central palatial institutions but at the same time dynamic and developing. They seem to construct their own cultural and communal identity, accepting the least possible influence from the palaces.
3 Betancourt-Davaras 1988, 209 ; Betancourt 1998b, 49-52 ; Betancourt-Banou 1991, 107-109.
4 The excavators faced serious difficulties trying to define the room's stratigraphy. It is certain that part of the soil deposit which was removed included material transported there from another location, probably by Seager during his excavations on the island in 1906 and 1907 (Betancourt 1998a, 33).
5 Banou 1998, 16.
6 Betancourt 1998a, 33-34, pl.17, n. 137.
7 Betancourt 1998a, 34.
8 Betancourt-Dierckx 1998, 31, n. 133, pl. 17, 19.
9 Dierckx 1998, 27, pl. 14, n. 117.
10 Dierckx 1998, 27, pl. 15, n.124.
11 Reese 1998, 35-36.
12 Shaw 1998a, 72-75.
13 Shaw 1998a, 55-76;Shaw 1998b, 167-169; Shaw 2009,Shaw and Betancourt 2009,113-118.
14 The two women depicted are restored either seated or standing. Another restoration shows only one of them as a seated figure and the second one as standing.
15 Hood 1977, 165; Hood 1978, 56.
16 Banou 1998, 22-23, Dierckx, 1998, 27, n. 128.
17 Rose 1998, 36 and 38.
18 Betancourt 1998a, 34, n. 140.
19 Schoch 1998, 39-40.
20 Reese 1998, 36.
21 Rose 1998, 38.
22 Triton shells have been detected in other cases of benched rooms as well, such as Room 12 of House AB at Pseira and Room 2 of the Northwest Building at Gournia, where two deposits of triton shells came to light (Reese 1995, 42; Watrous et al. 2015, 411). However, these shells are probably connected to artisanal activities.
23 Decorating the walls of a residence is a sign of wealth and high status. This is probably why many rooms in minoan villas bear elaborate frescoes. The neopalatial villa of NirouChani has wall decoration inside its storage rooms (Sakellarakis2011, 57-58, 59-61).
24 Immerwahr 1990, 62 and 184.
25 However, new light has recently been shed regarding frescoes from domestic assemblages, offering us more information concerning this aspect of Minoan art (Chapin 2018, 14-16, fig. 1, 2 and 3).
26 The majority of these examples were found at Phaistos and belong to the Middle Minoan Period (Savania-

Veingarten 2016, 337-339). Some later examples come from Gournia, such as a triton shell made of copper from House Cg, Room 30 (Hawes 1908, 48, n. 16, pl. XI 16), a clay triton shell from House Eb, Room 13 (Hawes 1908, 48, n. 17, pl. XI, 17-18) and one more clay triton shell from the Hill House, Room 10 (Hawes 1908, 48, n. 18, pl. XI, 18).

27 Reese 1990, 11.

28 They could have been used for notifying the inhabitants of the settlement when a ship was approaching the island.

29 This is why they are quite frequently found amongst cooking pots, cups and lopads, i.e. in the Northwest Building of Gournia (Watrous et al. 2015, 411). Furthermore, triton shells have been unearthed in contexts consisting of hand tools and raw materials, namely in possible workshops i.e. in a deposit that fell into Room BV1 of the Plateia Building at Pseira (Reese 1998, 141). Moreover, Åstrom (1990, 5-6) relates a triton shell found in Hala Sultan Tekke, Cyprus, to the religious function of the room in which it was found. However, the context implies domestic and craft activities. The shell had been carefully worked so that it could be blown as a trumpet.

30 Reese (1990, 11) observes, that most shells are not modified at all, and were probably used as containers for foods and/or other items. This kind of triton shells are mostly found on domestic environments.

31 The fragmentation of archaeological remains can be caused by a series of post-depositional factors, however intentional or semi-intentional fragmentation can also be caused by actants in order to create new, collective identities (Vavouranakis-Bourbou 2015, 172-196). This would be important in settlements isolated from the hinterland of Crete such as Pseira.

32 Σκόρδου 2012, 527, fig. 4. Another similar context comes from Palaikastro (Crete), where a triton shell of LMI date was found inside a cist. It was interpreted as a votive deposit (MacGillivray and Sackett 1984, 129, pl. IIg).

33 Leatham and Hood1958/1959, 273-275.

34 Soles 2016, 249-252.

35 Soles 2016, 251-252.

36 Soles 2016, 251-252.

37 Soles 2016, 252.

38 Soles and Davaras 2010, 1.

39 Soles 2016, 249, pl. LXXXI-LXXXII.

40 Soles 2016, 249, pl. LXXXb.

41 All these precious materials were imported to Crete and to Mochlos.

42 Soles 2016, 251.

43 Dimopoúlou andRethemiotákis2004, 19-24.

44 Marinatos 1968, 83-84.

45 Papadáki2018, 39-58.

46 The excavator claims that the priestess appeared in the window wearing all the jewelry (*regalia*), while her adorants were burning the offerings brought to her inside the pits. The burning of the offerings was conducted in order to succeed their ritual preservation (Soles 2016, 251-252).

47 Small courts in a house or in larger open areas within settlements were practical for activities such as cooking or grinding cereals. An example is the Public Court of Pseira (Betancourt 1999, 142;Dierckx 1999, 155). Also, a small court used for everyday activities has been identified outside the entrance of Xeste 3 on the island of Thera (Μαρινάτου 2014, 113). Moreover, this kind of activity in open areas has been notified since the FN-EMI periods in other settlements of eastern Crete (Papadatos 2012, 70-71).

48 We know that women used to wear jewels similar to the ones depicted on the frescoes of Thera and other sites of the Bronze Age Aegean (Morgan 1988, fig. 180;Doumas 1992, 136, fig.100; Doumas 138-145, fig. 101-108;Kontorli-Papadopoulou 1996, 129, pl. XIII, XIX, XXVII, and pl. 6-9).

49 Dimopoúlou and Rethemiotákis 2004; Soles 2016, 249-251.

50 These symbols are commonly found in domestic, palatial and funerary contexts in Minoan Crete. As a result, it is very difficult to distinguish ritual actions in non-funerary contexts. However, the occurrence of symbols almost everywhere could be explained through their possible use as amulets and charms.

51 The exotic raw materials are characteristic elements of the financial power and/or trade networks that were developed by the Minoans.

52 Watrous et al. 2000, 471-8.

53 Fotou 1993, 71.

54 Hawes et al. 1908, 21, 39. The excavator notes that upper and partition walls were made of large sun-dried bricks. The outer walls were constructed of rubble. The usual masonry in Gournia is rubble, while ashlar masonry is only attested in the palatial building and in the buildings to its south (Hawes et al. 1908, 21).

55 Watrous and Heimroth 2011, 200; Betancourt 1985, 137.

56 The Kernos or "*Trick cup"* is a composite vessel, comprised of two jugs and one conical cup. The cups could never be filled due to the holes which are visible in the bottom and sides of the vessels. Therefore, its use as a brazier or "fireboxe" of special design and shape is more likely.

57 It was found in Room C58, however it is not described in the published catalogues. There is only a sketch of it in color Plate I (Hawes et al. 1908, 39, pl. I).

58 Pilgrim flasks from Hala Sultan Tekke in Cyprus were probably used as containers of perfumed oil (Åstrom 1990, 6).

59 WatrousandHeimroth 2011, 204-206, footnote 18.

60 Watrous 2015, 12-13.

61 Houses Aa and Fb were the residences of potters as well, as indicated by the presence of potter's wheels (Fotou 1993, 86; Watrous 2015, 12-13; Watrous et al. 2015, 422-423).

62 Papadaki (2018, 43) makes this statement and cites Hood (1997, 113), who had earlier claimed that: «... *the hoard of rhytons found standing with their bottoms upwards on the floor in room C58 in House Cm*.». That indicates that Papadaki was mistaken because the conical edge of the rhytons was looking upwards and not

towards the floor.

63 "*... The value of vases 25-41 is greatly enhanced by their having been found together... In rapid succession vase after vase was recovered from within and around the pithoi, where they had fallen in the collapse of the house. This one small room added seventeen to our whole number of decorated vases (see Plate F and Plate VII, Nos 25-41)*"(Hawes et al. 1908, 39). As a result, Hood and Papadaki are both mistaken.

64 At least 70 vessels came to light from this house (Hawes et al. 1908, 39).

65 Staal 1979, 3-9; Renfrew 1985, 3-26; Turner 1986, 75; Barrett 1991, 5-6; Bell 1997, 128-9;Kyriakidis 2007a, 294; Verhoeven 2011, 116-121.

66 This is postulated because the possible daily ritual actions of the multitude cannot follow the strict rules of an authority (priests, kings, intendants), either due to the lack of means which are necessary or due to plain ignorance of the rules.

Works Cited:

Åstrom, P. 1990. "Triton Shells in East Mediterranean Cults", *JPR* III-IV:5-6.

Banou, S.E. 1998. "The Pottery, Building AC". In *Pseira II, Building AC (the Shrine) and Other Buildings in Area A*, edited by P. P. Betancourt and C. Davaras, 13-26. Philadelphia: University of Pennsylvania Press.

Barrett, C. J. 1991. "Towards an Archaeology of Ritual". In *Sacred and Profane. Proceedings of a Conference on Archaeology, Ritual and Religion Oxford, 1989*, edited by P. Garwood. D. Jennings, R. Skeates and J. Toms, 1-9. Oxford.

Bell, C. 1997. *Ritual: perspectives and dimensions*. New York: Oxford University Press.

Betancourt, P.P. 1985. *The History of Minoan Pottery*. Princeton University Press.

Betancourt, P.P. and C. Davaras. 1988. "Excavations at Pseira, 1985 and 1986", *Hesperia* 57:207- 225.

Betancourt, P.P. and E. Banou. 1991. "Pseira and Minoan Sea-Trade". In *Thalassa. L'Egee Prehistorique et la Mer*, edited by R. Laffineur and L. Basch, Actes de la troisième Rencontre égéenne international de l'Université de Liège, Stations de recherches sous-marines et océanographiques (StaReSO), Calvi, Corse (23-25 avril 1990), 107-109. Liége.

Betancourt, P.P. 1998a. "Other Catalogued Objects, Building AC". In *Pseira II. Building AC (the "Shrine") and Other Buildings in Area A*, edited by P. P. Betancourt and C. Davaras, 33-34. Philadelphia: University of Pennsylvania Press.

Betancourt, P.P. 1998b. "The legged flask from Pseira". In *Eastern Mediterranean, Cyprus-Dodecanese-Crete, 16th-6th cent. B.C.*, edited by V. Karageorghis and N. Stampolidis. Proceedings of the International Symposium: Rethymnon 13-16 May 1997, organized by the University of Crete, Rethymnon, and the Anastasios G. Leventis Foundation, 49-52. Nicosia.

Betancourt, P.P. and M.C. H., Dierckx. 1998. "The Stone Weights". In *Pseira II. Building AC (the "Shrine") and Other Buildings in Area A*, edited by P. P. Betancourt and C. Davaras, 31. Philadelphia: University of Pennsylvania Press.

Betancourt, P.P., G. Mitrakis, M. Parisi, and E. Velona. 1999. "Building BW". In *Pseira IV. Minoan Buildings in Areas B, C, D, and F*, edited by Betancourt P. Philip and C. Davaras, 191-198. Philadelphia: University of Pennsylvania Press.

Chapin, P.A. 2018. "It's a plasterpiece! The neopalatial plasters of Gournia", *Kentro* 21:14-16.

Dierckx, M.C.H. 1998. "The Ground and Chipped Stone Tools, Building AC". In *Pseira II, Building AC (the Shrine) and Other Buildings in Area A*, edited by P. P. Betancourt and C. Davάras, 27-29. Philadelphia: University of Pennsylvania Press.

Dierckx, M.C.H. 1999. "The Stone Tools, Area BR". In *Pseira IV. Minoan Buildings in Areas B, C, D, and F*, edited by P. P. Betancourt and C. Davάras, 155- 158. Philadelphia: University of Pennsylvania Press.

Dimopoúlou, N. and C. Rethemiotákis. 2004. *Το Δαχτυλίδι του Μίνωα και τα Μινωικά Χρυσά Δαχτυλίδια*, Αθήνα.

Doumas, C. and A. Doumas. 1992. *The Wall-Paintings of Thera*, Athens: Thera Foundation.

Fotou, V. 1993. *New Light on Gournia. Unknown Documents of the Excavation at Gournia and Other Sites on the Isthmus of Ierapetra by Harriet Ann Boyd*, Aegaeum 9, Liège.

Hawes, B. H., E. W. Blanche, B. R. Seager, H. E. Hall. 1908. *GOURNIA. Vasiliki and Other Prehistoric Sites on the Isthmus of Ierapetra, Crete. Excavations of the Wells-Houston-Cramp Expeditions 1901,1903, 1904*. Philadelphia, Pennsylvania: INSTAP Academic Press

Hodder, I. 2012. *Entangled. An Archaeology of the Relationship between Humans and Things*, Chichester, West Sussex: John Wiley & Sons.

Hodder, I. 2014. "The Entanglement of Humans and Things: A Long-Term View", *New Literary History* 45:19-36.

Hood S. 1977. "Minoan Town-Shrines?". In *Greece and the Eastern Mediterranean in Ancient History and Prehistory*, edited by F. Schachermeyr and K. H. Kinzl, 158-172. Berlin and New York: W. de Gruyter.

Hood S. 1978. *The Arts in Prehistoric Greece*, London: Penguin Group.

Hood S. 1997. "The Magico-Religious Background of the Minoan Villa". In *The Function of the "Minoan Villa"*, edited by R. Hägg, 105-116. Proceedings of the Eighth International Symposium at the Swedish Institute at Athens, 6-8 June, 1992. Stockholm.

Immerwahr S. A. 1990. *Aegean painting in the Bronze Age.* University Park and London: The Pennsylvania State University Press.

Kontorli-Papadopoulou, L. 1996. *Aegean Frescoes of Religious Character*. Studies in Mediterranean Archaeology, Vol. CXVII, Göteborg: P. Åströms förlag.

Kyriakidis, E. 2007a. "Archaeologies of Ritual". In *The Archaeology of Ritual*, edited by E. Kyriakidis, 289-308. California, Los Angeles: Cotsen Institute of Archaeology.

Kyriakidis, E. 2007b. "Finding Ritual: Calibrating The Evidence" In *The Archaeology of Ritual*, edited by E. Kyriakidis, 9-22. California, Los Angeles: Cotsen Institute of Archaeology.

Leatham, J., and S. Hood. 1958/1959. "Sub-marine Exploration in Crete, 1955", *The Annual of the British School at Athens* 53-54:263-280.

MacGillivray, J.A. and H. Sackett. 1984. "An archaeological survey of the Roussolakkos area at Palaikastro" *BSA* 79:129-159.

Marinátou, N. 2014. *Ακρωτήρι : η βιογραφία μιας χαμένης πολιτείας*, Αθήνα.

Marinatos, S. 1968. "Some evidence on ash pits or bothroi", *Αρχαιολογικά Ανάλεκτα εξ' Αθηνών* 1:83-84.

Morgan, L. 1988. *The Miniature Wall-Paintings of Thera. A Study in Aegean Culture and Iconography*, Cambridge: Cambridge University Press.

Nicolaidou, M. 2016. "Materialised Myth and Retualised Realities: Religious Symbolism on Minoan Pottery". In *Metaphysis: Ritual, Myth, and Symbolism in the Aegean Bronze Age,* Volume 39 of Aegaeum. Annales liégoises et PASPiennes d'archéologie égéenne, edited by E. Alram-Stern, F. Blakolmer, S. Deger-Jalkotzy, R. Laffineur and J. Weilhartner, 97-107. Leuven-Liege.

Papadáki, X. 2018. «Μινωικοί βόθροι υγρών προσφορών:Ζητήματα ορολογίας και ερμηνείας», *Κρητικά Χρονικά* 38:39-58.

Papadatos, Y. 2012. "Back to the Beginnings: the earliest habitation at Petras on the basis of the evidence from the FN-EMI settlement on Kephala". In *Petras, Siteia-25 years of excavations and studies*.Acts of a two-day conference held at the Danish Institute at Athens, 9-10 October 2010, edited by M. Tsipopoulou, 69-79. Athens.

Reese, S.D. 1990. "Triton Shells from East Mediterranean Sanctuaries and Graves", *JPR* III-IV:7-14.

Reese, S.D. 1995. "The Triton Shell Vessel, Building AB". In *Pseira I. The Minoan Buildings on the West Side of Area A*, edited by P. P. Betancourt and C. Davάras, 42. Philadelphia: University of Pennsylvania Press.

Reese, S.D. 1998. "The Faunal Remains, Building AC". In *Pseira II. Building AC (the "Shrine") and Other Buildings in Area A*, edited by P. P. Betancourt, C. Davάras, 35-36. Philadelphia: University of Pennsylvania Press.

Renfrew, C. 1985. *The Archaeology of Cult. The Sanctuary at Phylakopi*, Oxford: Thames and Hudson

Rose, J. M. 1998. "The Fish Bones". In *Pseira III. The Plateia Building*, edited by P. P. Betancourt, C. Davaras, 145-148. Philadelphia: University of Pennsylvania Press.

Sakellaráki, M. 2011. *Ο χαρακτήρας και η λειτουργία των νεοανακτορικών κτηρίων: Η περίπτωση του Νίρου Χάνι.* Διδακτορική διατριβή, Αθήνα.

Sanavia, A. and J. Weingarten. 2016. "The Transformation of Tritons: Some Decorated Middle Minoan Triton Shells and an Anatolian Counterpart". In *Metaphysis: Ritual, Myth, and Symbolism in the Aegean Bronze Age,* Volume 39 of Aegaeum. Annales liégoises et PASPiennes d'archéologie égéenne, edited by E. Alram-Stern, F. Blakolmer, S. Deger-Jalkotzy, R. Laffineur and J. Weilhartner, 335-343, Leuven-Liege.

Schoch, H.W. 1998. "The Charcoal Remains". In *Pseira III. The Plateia Building*, edited by P. P. Betancourt, C. Davaras, 149-151. Philadelphia: University of Pennsylvania Press.

Shaw, M. 1998a. "The Painted Plaster Reliefs from Pseira". In *Pseira II. Building AC (the "Shrine") and Other Buildings in Area A*, edited by P. P. Betancourt, C. Davaras, 55-76. Philadelphia: University of Pennsylvania Press.

Shaw, M. 1998b. "The Plaster". In *Pseira III. The Plateia Building*, edited by P. P. Betancourt, C. Davaras, 167-169. Philadelphia: University of Pennsylvania Press.

Shaw, M. and P. P. Betancourt. 2009. "Plaster from Block AF", In *Pseira X. The excavation of Block AF*, edited by P. P. Betancourt, C. Davaras, 113-118. Philadelphia: University of Pennsylvania Press.

Sikla, E. 2011. "The Elusive Domestic Shrine in Neopalatial Crete: On the Archaeological Correlates of Domestic Religion". In *ΣΤΕΓΑ. The Archaeology of Houses and Households in Ancient Crete*, edited by K. T. Gloeacki and N. Vogeikoff-Brogan, Hesperia, suppl. 44:219-231.

Skórdou, M. 2012. "Βιγλιά Γραμβούσας Κισάμου : πρώτη προσέγγιση μιας νέας μινωϊκής θέσης στη δυτική Κρήτη", *Αρχαιολογικό Έργο Κρήτης* 2: πρακτικά της 2ης συνάντησης, Ρέθυμνο, 26-28 Νοεμβρίου 2010 Ρέθυμνο, 525-536.

Soles, S. J. 2016. "Hero, Goddess. Priestess: New Evidence for Minoan Religion and Social Organization". In Eva Alram-Stern, Fritz Blakolmer, Sigrid Deger-Jalkotzy, Robert Laffineur and Jorg Weilhartner (eds.), In *Metaphysis: Ritual, Myth, and Symbolism in the Aegean Bronze Age,* Volume 39 of Aegaeum. Annales liégoises et PASPiennes d'archéologie égéenne, edited by E. Alram-Stern, F. Blakolmer, S. Deger-Jalkotzy, R. Laffineur and J. Weilhartner, 247-252, Leuven-Liege.

Soles, S.J. and C. Davaras. 2010. "2010 Greek-American Excavations at Mochlos", in *Kentro* 13:1-3.

Staal, F. 1979. "The Meaninglessness of Ritual." *Numen* 26(Fasc.1):2-22.

Turner, W. V. 1986. *The anthropology of performance*. New York: PAJ Publications.

Vavouranakis, G. and C. Bourbou. 2015. "Breaking up the Past: Patterns of Fragmentation in Early and Middle Bronze Age Tholos Tomb Contexts in Crete". In *Thrasma. Contextualising Intentional Destruction of Objects in the Bronze Age Aegean and Cyprus*, edited by K. Harrell and J. Driessen, 167-196, UCL Presses Universitaires de Louvain.

Verhoeven, M. 2011. "The many dimensions of ritual". In *The Oxford Handbook of the Archaeology of Ritual and Religion,* edited by T. Insoll, 115-32. OUP Oxford.

Watrous L. V., H. Blitzer, D. Haggis, E. and Zangger. 2000. "Economy and Society in the Gournia Region of Crete. A preliminary report on the 1992-1994 Field Seasons of the Gournia project". In *Πεπραγμένα του Η΄ Διεθνούς Κρητολογικού Συνεδρίου*, Α3:471-478.

Watrous, L. V. and A. Heimroth. 2011. "Household Industries of Late Minoan IB Gournia and the Socioeconomic Status of the Town". In *ΣΤΕΓΑ: The Archaeology of Houses and Households in Ancient Crete*, *Hesperia Supplements*, edited by K. T. Glowacki and N. Vogeikoff-Brogan, 44:199-212.

Watrous, L.V., D. M. Buel, J. C. McEnroe, J. G. Younger, L. A. Turner, B. S. Kunkel, K. Glowacki, S. Gallimore, A. Smith, P. A. Pantou, A. Chapin, and E. Margaritis. 2015. "Excavations at Gournia 2010-2012", *Hesperia*, 84(3)397-465.

Watrous, L.V., 2015. "Gournia 2015: Progress toward Publication", *Kentro* 1812-13.

Whitehouse, D. 1996. "Ritual Objects: Archaeological Joke or Neglected Evidence?". In *Approaches to the study of ritual: Italy and the Ancient Mediterranean*, edited by J.B. Wilkins, 9-30. Accordia Research Centre: University of London.

Wright, C.J. 1995. "The Archaeological Correlates of Religion: Case studies in the Aegean". In *Politeia*, *Society and State in the Aegean Bronze Age*, Aegaeum 12, part II, Proceedings of the 5th International Aegean Conference, University of Heidelberg, Archäologisches Institut 10-13 April 1994, edited by R. Laffineur and W. D. Neimeier, 341-348. Université de Liège, Histoire de l'art et archéologie de la Grèce antique.

Keith F. Otterbein Award Report: Bronze Age Rock Art Research in Southern Sweden

Nathan Dubinin

The Tanum World Heritage Site consists of a 45 km^2 area located in the Bohuslän province in southwestern Sweden boasting at least 600 Bronze Age rock art panels. The Bohuslän province in general has at least 1500 Bronze Age rock carving sites. Tanum, and the Bohuslän region in particular, is considered the most prolific rock carving area in northern Europe, gaining its status as a World Heritage Site in 1994.[1] A plethora of representations are carved on the natural bedrock exposed as the Fennoscandian Ice Sheet retreated after the Last Glacial Maximum. Cupmarks, boats and images of warfare and violence respectively are the most abundant motifs. Although styles changed during the course of the Nordic Bronze Age (3700-2500 BP), representations of boats and 'warriors', along with weapons were a constant throughout the entire Bronze Age. These dominant motifs of boats and representations of warfare may suggest significant social reproduction surrounding their creation as the rock was continually reused over the course of a millennia.

During October 2019 I travelled to Gothenburg, Sweden as a part of my dissertation project "Don't Rock the Boat: environmental change and evolving representations of conflict in Southern Swedish Bronze Age rock art". This project uses GIS and proxy data for archaeological environmental conditions to better understand the socio-environmental relationships between Bronze Age people expressed over time in representations of interpersonal and symbolic violence illustrated in rock art. Particular interest will be paid to the examination of demographic changes that may have resulted from environmental change. For example, warmer periods, because they are potentially more agriculturally productive, may have created agricultural surpluses in Bronze Age societies. This phenomenon could have led to crowding because of higher birth rates, lower infant mortality, and better overall health. Higher population densities may have led to constraints on land available for new farmsteads. This trend would likely have been reversed in colder, wetter periods. Either situation could have resulted in increased maritime opportunities for social advancement, either through trade or warfare. Specifically, this research will investigate the effects of the documented 3800 BP and 2800-3000 BP climate events respectively as potential drivers of cultural development in Scandinavia.[2]

Funding from the Keith F. Otterbein Award supported travel and residence from Gothenburg to Tanum. During the

Fig. 1. Section of Fossum panel; warriors fighting with axes (Photograph by author).

trip, I was able to visit major rock art sites within the Tanum World Heritage Site. These included the Vitlycke, Aspegebet, Fossum, and Litsleby rock carving sites. I was also able to visit several museums in Tanum and Gothenburg. These included, the City Museum of Gothenburg, Vitlycke Museum, and the Tanums Hällristningsmuseum Underslös (Underslös Museum and Tanum Rock Art Research Centre). The visit to the City Museum was particularly useful to my research as it provided the historical and cultural context necessary to understand Gothenburg's human settlement of over 8000 years. It is important to situate the archaeological context in which the rock art was created by becoming familiar with artifacts from contemporary Bronze Age settlements along with their distribution over space and time. Vitlycke Museum was also crucial as it displays cultural artifacts and reproductions such as swords, which are also illustrated in the rock art. This museum, located in Tanumshede, also manages the Tanum World Heritage Site.

Vitlycke Museum also holds the *Svenskt HällristningsForskningsarkiv* (SHFA) or Swedish Rock Art Archives. Direct, in person access, allowed me to negotiate access to high resolution images not readily available on their website. Representatives from the SHFA agreed to provide higher resolution images upon request. The current online database on the SHFA website has a tremendous amount of data and images, but many of the images are only snapshots of larger panels. Physically seeing these rock art panels afforded me the twofold opportunity to not only physically see the rock art in its geographic context, but also the phenomenological experience of seeing these rock art sites within their past and current landscape. GIS analysis of shoreline displacement resulting from isostatic rebound has greatly informed how the landscape has changed for thousands of years due to glacial processes.[3] During the Bronze Age, many of the rock art sites would have been situated near the shoreline, as the low valleys of today would have been shallow bays several thousand years ago. As it may be difficult to imagine these rock art sites situated on a Bronze Age shoreline, since many of the sites are now located several kilometers inland, a visit to the rest stop Skräddö aided in visualizing the past landscape. Skräddö, known as the "gateway" to the World Heritage area has a series of illustrations providing a snapshot of how the cultural landscape would have looked over the past 8000 years.

I was also able to record several sites using a Canon DSLR camera and the images captured will be used within my dissertation. Data was also provided to me in the form

Fig. 2. Section of Tanum 12A, Aspeberget panel depicting warriors with axes (Photograph by author).

of a published archaeological report which includes descriptions of several hundred rock art sites. This report is not readily accessible unless one travels to Vitlycke Museum. This data will be used in conjunction with the SHFA database to gather the corresponding geographic coordinates, as the report data, although having detailed descriptions of specific Tanum sites, excludes the latitude and longitude of these sites. All Tanum sites on the SHFA website have been obtained and formatted so they may be used with GIS software. Rstudio, an IDE for the statistical programing language R has been employed to aid in the creation of a database using PostgreSQL, an open source relational database software. The processing of this data is ongoing.

While in Gothenburg, several resources were brought to my attention, such as the Swedish National Heritage Board's archaeological database *Fornsök* which is publicly accessible. Sweden has a long tradition of preserving its cultural heritage dating back to the 17th century. Another resource is *Stiftelsen för dokumentation av Bohusläns hällristningar* (Foundation for the Documentation of the Rock Carvings of Bohuslän). The foundation is devoted to the systematic documentation of the rock carvings in the Bohuslän region. These resources have and will continue to facilitate my research and have become indispensable tools, not only to researchers, but to the general public.

My project offers a nuanced picture of the interplay between climate and warfare by providing information which up until this time has not been fully investigated for the Bronze Age in Southern Sweden. An overall spatial statistical approach using GIS will allow for direct comparison between these two factors as well as allowing for additional social aspects to be added to the study at a later date to determine the direct role, if any that they may have played in the development of Bronze Age society. My research trip to Sweden was instrumental in helping me gain access and acquire data. It also provided me an essential first-hand interaction with the rock art. These opportunities would not have been possible without the Keith. F. Otterbein Award funding.

Endnotes:

1 Bertilsson 2016, 93.
2 Berglund 2003, 9.
3 Påsse 2001.

Works Cited:

Berglund, B. E. 2003. "Human impact and climate changes—synchronous events and a causal link?" *Quaternary International*, 105(1),7-12.

Bertilsson, U. 2016. "The rock carvings in Tanum, Sweden." *Cuadernos de Arte Rupestre, 7:93-112.*

Påsse, T. 2001. "An empirical model of glacio-isostatic movements and shore-level displacement in Fennoscandia" (No. SKB-R--01-41). *Swedish Nuclear Fuel and Waste Management Co.* Stockholm.

Interview with Dr. Giulia Vollono

2019-2020 IEMA Postdoctoral Fellow

Dr. Giulia Vollono is the current Postdoctoral Fellow at the Institute for European and Mediterranean Archaeology at the University at Buffalo, SUNY. She received a Master's Degree in Archaeology from the Università degli Studi di Siena, as well as a Master's Degree in European Historical Archaeology from the University of Sheffield. Her Doctorate in Archaeology was completed in 2017 with a dissertation titled "Constructing Identity in Lombard Italy". Dr. Vollono's ongoing work focuses on the processes linked to identity construction in the Late Antiquity and the Early Middle Ages.

Dr. Vollono, what are your current research interests and goals, and what projects are you currently working on?

My research interests mainly revolve around the processes of identity construction between the Late Antique and the Early Middle Ages. In particular, my research has been focused on ethnicity and gender through the funerary evidence of Lombard Italy but I also recently included evidence from written and iconographic sources. So far, I have considered wide geographical areas, however I am currently reducing the scale of my analysis and focusing on a more detailed study of specific Italian regions. In parallel, I am also very interested in the history of archaeology, especially examining the relationship between the historical interpretations and the socio-political environment in which they developed.

Your work as the IEMA post-doc has centered on identity construction during the Late Antiquity and the Early Middle Ages. How did you get interested in this subject?

My interest in identity construction developed during my undergraduate years at the University of Siena. There, I began my long-lasting research on Lombard graves and cemeteries starting to reflect on the relationship between identity, particularly ethnicity, and the funerary evidence. I then had the chance to further explore issues surrounding identity across Europe between the Late Antique and the Early Middle Ages during my M.A. in European Historical Archaeology at the University of Sheffield. What I learned both in Italy and in the UK converged in my Ph.D. project, entitled '*Constructing Identity in Lombard Italy*', which had at its core the study of gender

identity during the Lombard period through the analysis of grave goods assemblages, written and iconographic sources. Although questions of identity are relevant to all the periods, I believe that the socio-political situation that developed in Europe and the Mediterranean between the Late Antiquity and the Early Middle Ages makes them a very fruitful and important field to study.

Whose work did you find the most inspiring for your own?

The scholars that inspired me the most are definitively those that I encountered during my time as a Master and Ph.D. student at the University of Sheffield (UK). There, I was introduced to new themes and approaches to archaeology, which have been and still are the basis of my work. I also had the chance of encountering and collaborating with people from different departments and I was encouraged to apply a multidisciplinary approach to the study of the past that is, in my opinion, the most effective. My Ph.D. supervisors, Professor John Moreland and Professor Dawn Hadley, were invaluable guides supporting me during those years and teaching me what it really means to be a researcher.

What have been the most rewarding aspects of the IEMA Postdoctoral Fellow position? What have been the most challenging?

Looking back now at the months that I have been spending as the IEMA Postdoctoral Fellow, I realize that it has been a constant learning process and I feel that I have improved both professionally and as a person. A significant contribution to this experience has come from the members of the staff and the students of the Department of Anthropology and Classics. The exchanges that I am having, both within and outside the class, have been extremely interesting and thought-provoking. Also, seeing the enthusiasm that is put in the IEMA conference and the support that everyone is providing is a fantastic feeling. Undoubtedly, the most challenging side of my position is the organizational aspect of the conference, managing all the logistics to make sure that everything will run smoothly. However, as much as it may seem difficult, this also is a great chance to learn.

What advice would you give current graduate students working on their dissertation?

My advice would be to have a research plan (i.e. research questions, dataset, type of analysis to perform, etc.) as clear as possible and try to break your work in smaller, manageable tasks. When I was writing my dissertation, thinking of producing a substantial piece of research, basically the equivalent of a book, was overwhelming and sometimes it seemed impossible. Focusing, instead, on single chapters and themes within the thesis was less stressful, much more rewarding and allowed me to have, at one point, the entire work done. I would also suggest finding some other activities that can give you quick results and satisfaction: working hard on the dissertation for a long time before seeing the outcomes can be frustrating. To counterbalance this feeling, for example, I did a lot of crosswords.

How do you think your work as the IEMA postdoctoral scholar will add to archaeology and related subfields?

I think that the 13th IEMA conference and the proceedings that will derive from that will provide a fresh perspective to the study of the period between the 3rd and the 8th century C.E.: it will be the chance to readdress traditional debates and bring to the fore new ideas and approaches. Extremely valuable will be the combination of papers by scholars from different disciplines and backgrounds. I also believe that discussions on the theme of encounters between cultures are very important in our contemporary society, so I hope that the conference would not only add to the scholarly debate but could ultimately

be a contribution to the wider society. Moreover, I hope that I am playing a part in the development of the discipline through the seminars that I am teaching by stimulating new ideas among the students who will become the scholars of the future.

What projects or research endeavors do you hope to pursue in the future?

Although I have been working for many years on the relationship between funerary evidence and identity in the Lombard period, I feel that there are still many facets to explore and I hope that I will have the chance to continue my research in this field in the future. I would also like to pursue further my interest in the relationship between historical interpretation, heritage management, and the contemporary socio-political environment.

Editor's note: This interview was conducted prior to the cancellation of the 2020 IEMA conference, due to the COVID-19 pandemic.

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