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Cover image:

Glass bowl with gold leaf from the Late Roman period, ca. 350 C.E. Text reads
ELARES EN CRISTO DENGNETAS AMICOROM (joyful in Christ, worthy among thy friends)

Image © The Metropolitan Museum of Art

Photo credit: The Metropolitan Museum of Art, Rogers Fund, 1911(11.91.4)

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Letter from the Editor

Transitions are always tumultuous times for an organization, especially the first one. While Chronika has been always growing and striving to improve, it had been all under the auspices of Laura Harrison, who not only led, but was integral in starting the journal. I am taking charge of a journal that has already gone through its growing pains, and has already achieved international reach in three short years.

During my tenure, I plan to follow the spirit of Laura's plan, while also striving to improve Chronika in every way I can. But all the steps forward I make are only possible because of the bounds Laura Harrison took this journal during her time as Editor-in-Chief.

In Volume 4, we have expanded our mission to provide graduate students a launching point into academic publication by expanding and improving upon our editing process with external reviewers. These reviewers have put in the work to make this volume of Chronika the best one yet, and I and the rest of the editorial staff are thankful for the diligence they put into each and every article.

Authors, reviewers, and editors, all graduate students, have put many hours into the volume before you. I believe this effort truly shows. I invite you to sit back and explore the burgeoning research occurring at the graduate level.

Darren Poltorak
Editor in Chief

Pictish Ogam Stones as Representations of Cross-cultural Dialogue

Kathryn M. Hudson & Wayne E. Harbert

The Pictish Ogham stones of eastern Scotland represent an interpretive conundrum. Their inscriptions visually match their Irish counterparts but do not align with traditional conventions of use, and the juxtaposition of foreign script and indigenous symbol suggests an ancient dialogue rooted in the visual register. This paper presents a survey of these stones and situates them in a broader archaeological and historical context. Their role as reflectors of a core-periphery mode of interaction and documents of cultural negotiation is considered, and their position in a changing cultural landscape is evaluated.

Introduction

The Picts, as agents of a rich but perennially perplexing and ill-understood symbolic culture, confront linguists and archaeologists with a wealth of conundrums. No objects exemplify these problems more than the so-called Pictish ogam inscriptions. These inscriptions visually match their Irish counterparts but do not align with traditional conventions of use, and the juxtaposition of foreign script and indigenous symbol suggests an ancient dialogue rooted in the visual register. This paper situates the inscriptions in a broader archaeological and historical context. Their role as reflectors of interaction and documents of cultural negotiation is considered, and their position in a changing cultural landscape is evaluated.

The Picts and their Stones: A Contextual Overview

Any consideration of the Pictish ogam stones must necessarily be situated within their cultural and historical contexts, and a brief overview of Pictish history will be provided here. The Picts inhabited northern and eastern Scotland during the Late Iron Age and Early Medieval periods, and their territorial distribution can be approximated based on the distributions of place name elements, Pictish stones, and Pictish hoards. They likely spoke a Brythonic language, though no clear examples of it survive and it is not known what they called themselves. The Romans referred to them as the *Pictii*, a term first used by Euminius in 297 C.E. to describe the painted or tattooed people known to live in the regions now associated with Pictish territories.¹ Foster noted that the label may have been “a generic term for people living north of the Forth-Clyde isthmus who raided the Roman Empire,” though such potential ambiguity has not prevented some interesting renditions of its referent(s) in academic and popular literatures (fig. 1).²

Details of the emergence of the Pictish confederation – an admittedly problematic term that nonetheless appears to accurately reflect Pictish social organization – remain uncertain. Whatever its origins, the Pictish confederation is generally believed to have encompassed multiple distinct kingdoms.³ The *Poppleton Manuscript* contains a kinglist and sociopolitical observations that have been used to propose multiple Pictish kingdoms;⁴ the Gaelic quatrains in *Lebor Bretnach* as well as assorted Irish legends have also been used in support of this claim.⁵ However, the validity of these original sources is nothing if not questionable. What is clear is that the Picts were not politically united despite their shared traditions. The kingdom of Fortriu – located somewhere near Moray and one of the seven described in the aforementioned sources – appears to have dominated for some part of Pictish history, but the duration and scope of its power remain uncertain. There is some evidence of a pan-Pictish royal structure which involved



Figure 1: “A Young Daughter of the Picts,” a painting that is attributed to Jacques Le Moyne de Morgues (c. 1585).

a tripartite system composed of local kings, overkings presiding over some subset of lesser kings, and a king of overkings who held power over them all.⁶

A stone from the Borough of Birsay, Orkney, appears to represent this proposed royal structure (fig. 2). Moffat observes that the stone contains a representation of “a file of three warriors...all of them wear long robes and carry a shield, spear, and sword [sic]. But there are subtle, and crucial, differences between them.”⁷ These differences are what some see as evidence of a tiered royal structure, with the most highly ranked king placed in the front of the procession. He has a more elaborate hairstyle and appears to wear a crown, and his robes and shield are more elaborate than those of the others. Moffat points out that the distinctive facial features on each individual suggest that they are portraits, and posits that this likely represents



Figure 2: An illustration of the engravings found on the Birsey Stone, including the file of three warriors commonly taken as evidence of a tripartite political structure (drawing by K. Hudson).

political relationships in the northern reaches of Pictland.⁸

Archaeologically, it appears Pictish populations were organized into relatively small settlements that exploited a variety of floral and faunal domesticates, though some lived in crannogs built on the lochs, and reconstructions of these dwellings indicate a considerable amount of architectural and social complexity. Historical documents and surviving oral histories suggest that Pictish communities were involved with raiding and engaged in frequent military skirmishes; these sources also suggest that they were accomplished seafarers and warriors, skills which likely contributed to their repeated success against Roman forces and caused the fourth century C.E. Roman chronicler Ammianus Marcellinus to comment on their roving and devastating actions.⁹

Technologically, Pictish capabilities were similar to those of populations living elsewhere in northern Europe. Extensive metallurgy is attested by both utilitarian and non-utilitarian items. In particular, their silverwork – which was often created from recycled Roman materials¹⁰ – is renowned for its intricacy and beauty, and the pieces they produced included heavy chains and intricate items adorned with the same symbols that occur on the carved stones. Hoards such as those uncovered at Norrie’s Law¹¹ and St Ninian’s Isle¹² included brooches, hand-pins, earrings, pendants, arm-bands, decorated bowls, and engraved spoons. The Picts were also renowned for their intricately carved symbol stones, and it is to these materials that we will now turn our attention.

The Pictish Ogam Inscriptions

The ogam characters were clearly a cultural borrowing of some sort. They originated in early Medieval Ireland, and were used to record an archaic form of Old Irish from as early as the fourth century C.E. Even

the numerous inscriptions found in Wales record Irish, often in combination with Brythonic Latin inscriptions. Only in Pictland were ogam characters deployed in inscriptions not written in Old Irish. What language, if any, was recorded in these inscriptions is a longstanding matter of controversy. An older view – that they recorded a pre-Celtic, pre-Indo-European language labeled “Pictish” – has now been definitively set aside,¹³ and it seems very likely that the Pictish ogam inscriptions do not encode any language. They are thus not true writing, in the narrow sense, since the characters do not consistently stand for linguistic units, and often seem to be simple gibberish. On the other hand, they often contain quite language-like sequences of consonants and vowels, and even some forms which contain provisionally identifiable (Irish) words, and proper names. For example, it is hard not to identify the sequence MAQQ with the Old Irish word for ‘son’ (macc), which frequently occurs in Pictish ogam inscriptions.

We may take the inscription found on the Lunnasting stone in Shetland as representative of this combination of traits (fig. 3). The stone was found in 1876 by Rev. J. C. Roger at a location “some miles from any known ruin.”¹⁴ Forsyth notes that the remains of a possible monastery have been located at Chapel Knowe, Lunna, but the connection between this site and the Lunnasting stone are indirect at best.¹⁵ The monument itself is made of sandstone. It is 1120 mm long, 200 – 330 mm wide, and 40 mm thick; these dimensions would have allowed it to be stood upright or laid flat on top of another surface.¹⁶ A single cruciform shape, potentially Pictish in origin, occurs on the left-hand side. The higher degree of wear on this marking suggests that it may predate the accompanying ogam inscription, though the dating of incised stones is necessarily problematic and thus it is difficult to determine the accuracy of such a proposed ordering.

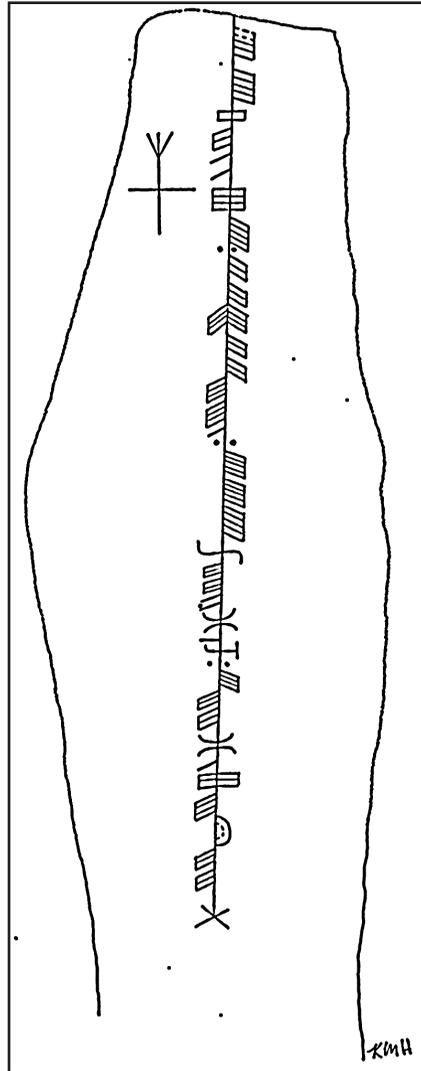


Figure 3: An illustration of the engravings found on the Lunnasting Stone, including the ogam inscription and the accompanying cross motif (drawing by K. Hudson).

A transcription of the Lunnasting ogam text is provided below. It was positioned in the center of the stone’s broad face and positioned about a third of the way up the surface.¹⁷ The lettering is said to have a calligraphic quality,¹⁸ though this has not aided in its interpretation. It is the longest single (i.e. fully articulated) ogam inscription in Scotland with 38 characters.¹⁹

ETTECUHETTS: AHEHHTTANN:
HCCVVEVV: NEHHTONN

The strokes are clearly bound, and word boundaries are indicated by pairs of dots. The occurrence of four words is unquestioned, but their meaning – particularly when considered in combination with each other – remains unclear. The first two words have eleven letters each while the last two words have eight each, but this symmetry could be the result of coincidence and should not be assumed to have a talismanic function.²⁰

The final word in the inscription, NEHHTONN, is generally thought to be a common Pictish name.²¹ The –TANN ending of the second word suggests that it might also represent a personal name of some sort and, if this proposed interpretation is correct, the inscription would have an X – NAME – X – NAME structure analogous to that found on the Bressay stone.²² It is therefore possible that the first word represents a label that was applied to the stone itself while the third indicates a familial or social relationship,²³ though these proposed categories of significance represent a best guess based on the presence of –TANN in the second word and the composition of other Scottish ogam inscriptions rather than an interpretation based on an understanding of the words themselves. Francis Diack proposed that the last two words mean “vassal of Nehtonn,”²⁴ but the overall meaning of the text remains determinedly unclear.

The provisional conclusion which we reach is that, while the Pictish ogam inscriptions are not true writing, they represent a stage in the development toward literacy; the people who deployed them did not fully control them as an alphabetic system, but were aware to some degree of their sound values, or at least of their conventional sequencing. The occurrence of ogam inscriptions on Pictish stones demonstrates that the idea of

ogam writing, the shapes of the characters, and indeed perhaps even some specific sequences of characters, were taken over²⁵ by the Picts, but that the borrowing stopped short of the general concept of their ability to represent linguistically meaningful sounds. We propose that they represent a preliminary step toward literacy, of a particular sort.²⁶ They are also an instance of the phenomenon of partial transfer of cultural practices at a distance, in which the borrowing – in this case, of a system of symbolic representation – is a partial one, attenuated, filtered and reinvented in consequence of the geographical and cultural remoteness of the borrowing culture from the source of the borrowed material.²⁷ There are, we believe, other instances of such ‘imperfect’ borrowing at a distance. The Old Irish ogam letters themselves may in fact be another such instance, though of a quite different source; in this case, the idea of using symbols to stand for language was borrowed from a remote source, but the symbol shapes themselves came from an adapted indigenous symbol system which was superimposed on that concept.²⁸

Pictish Ogams and the Question of Writing

The focus of previous work on Pictish ogams has been primarily restricted to the question of whether or not they constituted ‘writing;’ we are persuaded by arguments from specialists that they do not). They may not even have been deployed as a symbolic system in the more general sense, in which the characters have a fixed, conventional interpretation, or a grammar which constrains their patterning. We also believe, though, that the attention to this narrow question has eclipsed some other interesting questions that might be posed about them. Supposing that they are not writing in the narrow sense, as seems likely, nor even a *system* of symbols, we may still wonder what they may have meant to those who used them. Furthermore, we believe,

it may be possible to make some progress toward answering that question by close consideration of the fact and context of their deployment.

One striking feature of the Pictish ogam inscriptions is the fact that a large portion of them occur on stones which also contain inscriptions drawn from the inventory of Pictish pictorial symbols. An outstanding example can be found on the Logie Elphinstone 2, which contains both Pictish and ogam compositions. The spatial association of these texts suggests a related semantic connection, and consideration of the composition of the ogam inscription indicates that its purpose was not likely to be literary in the traditional manner.

The Logie Elphinstone 2 (fig. 4), sometimes referred to as Logie 2, is a Class I symbol stone located in Aberdeenshire. More specifically, it is a garden ornament for the Logie Elphinstone House, and this function may have protected the stone from the damaging fate that befell many of its contemporaries.²⁹ The twelfth volume of The New Statistical Account of Scotland references Class I stones located near each other on the Moor of Carden,³⁰ and Forsyth expanded on this history by noting that they were built into one of the plantation's enclosing walls around 1821 before being erected in the garden where they can be found today.³¹ One of the original four was broken while being used as a hearthstone and, of the remaining three, the one possessing the ogam inscription is the tallest.³² Some have speculated that they may have originally been part of a standing circle,³³ though there is no evidence for this other than the Stuart's description of their original position.

The lower Garioch region where Logie 2 is located contains the greatest concentration of Pictish symbol stones in Scotland.³⁴ The stone itself is blue granite that was possibly water worn prior to its carving and

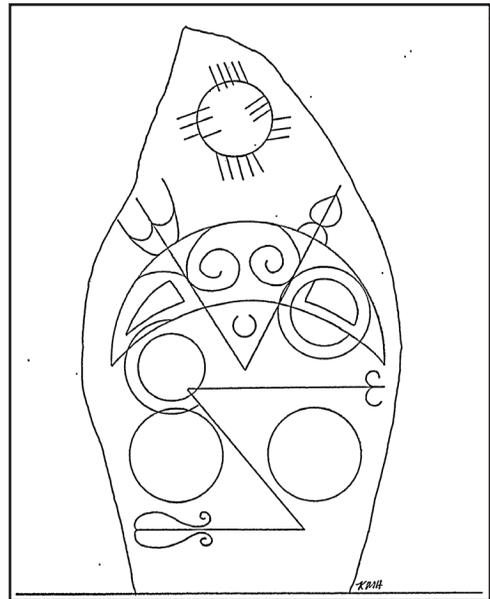


Figure 4: An illustration of the Logie 2 stone, including the ogam inscription and the accompanying Pictish motifs (drawing by K. Hudson).

stands 1.37 m tall.³⁵ It contains two clear Pictish symbols – the crescent with V-rod and the double disk with Z-rod – that are positioned on the lower section of the stone. The remains of an additional double disk motif are faintly visible under the two elements described above, and it is possible they represent an earlier engraving event. Forsyth posits that this additional symbol represents an unfinished monument that was reused; the possible use of paint as a means of covering the evidence of this earlier function is proposed but unsubstantiated.³⁶

The ogam inscription on Logie 2 is positioned above the carved Pictish symbols and in the center of the upper section of the inscribed face. Although it seems probable that the ogam inscription relates to the symbols, either contemporaneously or as a subsequent addition intended to amend their meaning, it is impossible to reconstruct the carving sequence. Forsyth notes that the lines used to carve the

Pictish symbols are broader, deeper, and smoother than those used to form the ogam inscription;³⁷ it is possible that this indicates separate carving events, though the tapering of the stone's upper portion could also have provided spatial constraints contributing to these differences. The inscription contains five groups of ogam characters arranged around a circular bar. The likely reading order is clockwise, but there is no clear indication of where the reading should begin.³⁸

The reading proposed by Forsyth is QFTQU.³⁹ Her interpretation begins at the so-called “ten-o'clock gap” and then proceeds clockwise; the number of strokes found in each sequential letter is five, three, three, five, and three.⁴⁰ This makes it the shortest complete ogam monument in Scotland and it is possible, based on other short ogam texts in the region, that QFTQU represents some sort of personal name or title.⁴¹ However, Forsyth is reluctant to force a name from this odd combination of letter and neglects to offer a translation. Padel offers several contradictory interpretations, but the most plausible of these is QADALT.⁴² However, he proposes no significance for this word, and its fit with the number of letters that seem to occur at first glance is not clearly explained.

The lack of a plausible translation for the Logie 2 text is explainable if the ogam inscription is assumed to represent a Pictish appropriation of and engagement with the Irish literary tradition. The assumption that form must be linked with a particular linguistic or semantic core is inherently problematic, as studies of Mesopotamian cuneiform and Mayan hieroglyphs have shown. The literary biases of contemporary Western scholarship predispose researchers to the identification of writing, particularly when symbolic elements are drawn from a known script, but in regions of cultural contact and transition such interpretations

must be based on more than surface similarities.

The Pictish pictorial symbols have themselves recently been claimed to be an actual writing system.⁴³ The last of these reaches that conclusion on the basis of computational methods which have been widely and rather uncritically reported in the popular scientific press⁴⁴ which are sharply criticized by some linguists.⁴⁵ We take their claimed status as writing, in the narrower sense, as, at least, unestablished. That they are a symbolic system, however, is clear, in view of their limited inventory, their high degree of conventionalization, and the fact that they seem to exhibit a ‘grammar,’ which constrains their co-occurrence and results in recurrent patterning. This much can be established, even without an understanding of the signata of the individual symbols.

But why should these indigenous symbols have been deployed with such frequency on the same objects as alien ogam characters? We believe that the juxtaposition of the two can be viewed as significant in itself as an expression of cross-cultural dialogue, and a negotiation of cultural boundaries between the two cultures in contact. We believe, in fact, that this sort of dialogue is a very usual response to cultural engagement, and one that appears in Pictland in sufficiently diverse forms as to enable a typology of the phenomenon.

The dialogic nature of such artifacts is particularly clear in those cases where the symbolic treatment of the stone was effected in multiple episodes and by different groups. Such cases include stones originally assigned significance by one cultural group, for example, those erected or decorated with the emblems of that cultural tradition but then deliberately repurposed by another group. Examples would be:

- standing stones erected by earlier groups, but subsequently decorated with inscriptions or ornamentation by later groups,
- cross stones raised by Irish missionaries but defaced by Pictish symbols,
- the deliberate effacement or damaging of stones decorated with symbols belonging to one cultural tradition by bearers of another, and
- Pictish symbol stones purposefully incorporated into the construction of churches.

Examples of this final category include the stone infixed into the wall of the Bourtie parish church and those used to make a cross in the wall of the church in Fyvie.

We have previously examined one such artifact, the Tarbat stone, on which a Latin inscription has been superimposed on a Pictish symbol stone, apparently effaced by partial removal of the latter.⁴⁶ In all of these cases, a later cultural group has assigned value to artifacts precisely because of the significance with which an earlier group has endowed them, through symbolic treatment, even though they are unable to ‘read’ the earlier symbols, and have attempted to appropriate those significant objects by imposing their own symbology. These objects are thus to be read as dialogues between competing symbolic systems.

Pictish Ogams as Indicators of Cultural Negotiation

When considered within an anthropological framework, the Logie 2 stone and other Pictish ogams can be viewed as documents of cultural negotiation that reflect the development of – and resistance to – an emergent core-periphery mode of interaction. World systems theory is the most widely used framework for analyzing

inter-regional interaction, but it does not allow for the kind of selective and agentive behaviors suggested in the Pictish ogam stones. Many of its key features – including the beliefs that cores dominate peripheries through asymmetrical exchange networks and that peripheries are dependent on cores for cultural inspiration and innovation – are not conducive to analyses in which core features are localized and deployed selectively in ways that serve peripheral purposes.

The Pictish ogams provide clear evidence of ancient agency and intentionality. Their juxtaposition of traditional symbols and ogam-based inscriptions reveals that the Picts were regular participants in the broader cultural landscape of the British Isles and active negotiators of their cultural identity. The majority of Pictish stones are Class I and contain only traditional motifs that lack any evidence of external influence. These stones are clear evidence of the development of a distinct Pictish identity, but the incorporation of ogam-based inscriptions into the overall symbolic corpus of a stone reveals that this identity was actively considered and negotiated rather than received through the kinds of biased channels proposed by core-periphery frameworks.

The creation of ogam-based inscriptions rather than the simple borrowing of linguistically decipherable or “correct” ogam implies engagement with the concepts implicit in the Irish use of the ogam, namely the ability to abstractly encode information in a non-representative manner and assign it some kind of social significance. The distribution of the Pictish stones marks an arguably bounded space in which Pictish identity was developed and nurtured, but it did not represent an impenetrable barrier despite the ferocity with which they are said to have defended their lands. Rather, the ogam-based inscriptions reveal that those who inhabited

Pictland were both engaged with outside traditions – a necessary prerequisite for gaining any knowledge of the ogam system and its use – and selectively involved with the borrowing and subsequent nativization or incorporation of outside ideas into the Pictish context.

The ogam script seems to have been borrowed as an idea or suite of ideas rather than as a complete system, and the decipherment difficulties posed by these stones suggest that the ideas it represented were manipulated and explored by Pictish individuals. In essence, the presence of such seemingly nonsensical ogam-based inscriptions on Pictish stones adorned with otherwise normal symbolic elements suggests that these inscriptions were incorporated into the symbolic corpus, perhaps as whole segments adopted to mean something specific – such as the oft cited occurrence of phrases such as “son of” – or as a set of independent elements that were recombined according to some unknown guiding principle. In fact, it is possible such inscriptions were not intended to be writing at all and that the contemporary insistence that they are reflect the biases inherent in modern literate culture and views of what makes an ancient society complex.

A dialogic interpretation may be profitably applied even in those cases where the two opposing symbol sets on the stone may have been produced concurrently by members of a single group. In such cases, the symbolic polyvocality can be viewed as reflective of an internal dialogue that negotiated relationships and boundaries between indigenous and extraneous systems of symbols and their cultural implications. Examples of this process may include stones on which indigenous Pictish symbols co-occur with Irish ogam characters as well as stones on which traditional symbols share space with Latin inscriptions. Note that we assume that the ogam inscriptions and the Pictish symbols on the ogam symbol

stones were produced at the same time, and possibly by the same authors, though the definitive establishment of this can only be confirmed by application of new methodologies to the physical examination of the artifacts. We know, at least, that the ogams were not written by Irish speakers, since if that were the case, we would expect them to be written in Irish, as are, for example, the ogam stones of Wales.

Concluding Remarks

The Pictish ogam inscriptions contain a juxtaposition of foreign script and indigenous symbol that suggests an ancient dialogue rooted in the visual register. The local appropriation of a foreign writing system and the ideas underlying its utilization reflect processes of interaction and cultural negotiation that originated in a shifting cultural landscape; perhaps more significantly, they reveal that the Picts were active agents rather than passive recipients of the sociocultural and political changes taking place at the time these stones were carved. It is our hope that the arguments presented here have returned some of this agency to its ancient possessors and demonstrated that the Picts were active participants in their cultural landscape. The Pictish stones represent instances of ancient dialogue and innovation, and a better understand of them can reveal the dynamic environment within which Pictish culture was created and shaped.

Endnotes:

- 1 Smyth 2003.
- 2 Foster 1996:11.
- 3 See Broun 1998, 2005; Forsyth 2000; Foster 1996.
- 4 Skene 1867; Woolf 2007.
- 5 Van Hamel 1932; Woolf 2007.
- 6 Sadler 1998:17.
- 7 Moffat 2009:292.
- 8 Moffat 2009:292-293.
- 9 Ammianus Marcellinus 1986.
- 10 Wagner 2002:44.
- 11 For a discussion of Norrie's Law hoard, see Laing 1994.
- 12 For a discussion of the St Ninian's Isle hoard, see Barrowman 2011 and O'Dell 1960.
- 13 Forsyth 1997.
- 14 Brash 1879:365.
- 15 Forsyth 1996:402.
- 16 Forsyth 1996:402-403.
- 17 Forsyth 1996:403.
- 18 Forsyth 1996:403.
- 19 Forsyth 1996:404.
- 20 Forsyth 1996:413.
- 21 For a discussion of this interpretation, see Forsyth 1996:413.
- 22 Forsyth 1996:413.
- 23 Forsyth 1996:413.
- 24 Diack 1925.
- 25 Contained within the Ogam inscriptions are some sequences which seem to represent personal names (Forsyth).
- 26 The distinction between non-writing and writing is not a binary one, and the transition between the two of them is not abrupt, but gradual, with distinct internal stages. The fine structure of this process is the subject of work in progress by one of the authors (Hudson).
- 27 This phenomenon, too, occurs in variant forms across cultures. For example, the Rongo Rongo inscriptions of Easter Island have been similarly interpreted by some as an imitation of European writing, involving an even smaller degree of understanding of the functioning of the borrowed system; while the users of Pictish ogams understood the shapes of the individual symbols, and, apparently, even their sound values, in the case of the Rongo Rongo 'script' it may be that only the idea of linearly sequenced symbols was transferred.
- 28 McManus 1988, 1991
- 29 Forsyth 1996:385.
- 30 The New Statistical Account of Scotland 1845.
- 31 Forsyth 1996:385.
- 32 Forsyth 1996:385.
- 33 For a discussion of this possible interpretation, see Forsyth 1996.
- 34 Forsyth 1996:386.
- 35 Forsyth 1996:390.
- 36 Forsyth 1996:391.
- 37 Forsyth 1996:391.

- 38 A discussion of the issues relating to reading order can be found in Forsyth 1996 and Padel 1972.
- 39 Forsyth 1996.
- 40 Forsyth 1996:393.
- 41 Forsyth 1996:398.
- 42 Padel 1972.
- 43 Forsyth 1995; Lee et al. 2010.
- 44 Ravillous 2010; Viega 2010.
- 45 Liberman 2010; Sproat 2010.
- 46 Hudson and Harbert 2013.

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History and Archaeology: Two Regional Approaches

Kathryn Whalen

The United Kingdom and the Republic of Ireland will be confronting several contentious centenaries in the coming decades. Concurrently, post-medieval archaeology in the British Isles is gaining traction, despite its previous taboo status. It is possible to draw parallels between this shift and the introduction of slave-archaeology in the United States during the 1960s. Both are the study of recent oppression with ramifications in current cultural, social, and political spheres. This paper discusses the similarities between these two developments in order to better understand the efforts that need to be made in archaeology within the United Kingdom and the Republic of Ireland in the coming years.

Introduction

The advent of historical archaeology in the United States, and that of Post-Medieval archaeology in Great Britain (and Europe in general) have a similar start date, but divergent developments. While they both have their intellectual historical roots in the Civil Rights movements of the 1960s, and have been operationalized through the development of salvage archaeology and popularized by public archaeology, they have developed their own regional flavor.¹ This paper is not about determining the primo genesis of historical archaeology - the American Society for Historic Archaeology was established in 1967² while the Society for Post-Medieval Archaeology was founded in 1966³ - but rather explore how the two traditions have emerged almost 50 years later.

Historic archaeology in a general sense is the archaeology of literate cultures, but can mean different things to different people. This literature can be either autobiographical- that is produced by the culture, or it can be ethnographic - i.e. produced by literate societies about not literate societies that they encounter. Both categories of historical documents have their own biases and blind spots, but can be utilized by archaeologists to help inform their excavations, analysis, and interpretations.⁴

In the American tradition, “historical archaeology” is used as a short-hand to denote the archaeology of the country after European colonization.⁵ This term is used to differentiate between that time period and the one previous, or “prehistoric archaeology”, which deals in Native American cultures with little or no written history. In America, the difference between these two periods is very drastic, and thus makes it a seemingly natural breaking point for academics. There are several people who have pointed out the racist undertones

of this dichotomy, such as Pauketat and DiPaolo Loren,⁶ as it blatantly ignores the literate cultures of the New World and drastically devalues the oral historical traditions of the “prehistoric” cultures, but these are arguments will not be addressed in this paper directly.

The Post-Medieval Period in history has a coinciding start date with the “historic period” in America, namely with the Columbian Exchange. However, there is more regional variation to the term Post-Medieval Archaeology. Depending on the country of interest’s history, and the academic tradition of the scholar, the Post-Medieval period could start anywhere from the 15th to the 17th century C.E.⁷ In both the American and European tradition, there are subsets of interest within this general time frame, such as Industrial Archaeology, Plantation Archaeology, and the Archaeology of the 20th Century.⁸ Interestingly while Hume⁹ notes in 1968 that Post-Medieval Archaeology gains recognition as an independent area of research around the same time as historical archaeology, West¹⁰ notes that by the 1990s there is a demonstrable lag between the two regional developments.

In this paper I will be using the term “historical archaeology” in the American tradition to reference the archaeology in America focusing on times after European colonization. Concurrent with that decision, “post-medieval archaeology”, when used in the context of the United Kingdom, will denote archaeology focusing on the 15th century C.E to 17th Century. This coincides with the beginning of the Tudor dynasty, which oversaw the beginnings of the English global colonization.

One last point of clarification, the relationship between history and historical archaeology has always been contentious in both intellectual and academic traditions.¹¹ At first many scholars felt that the advent

of historical archaeology was redundant to academic ground already covered by historians, and that it was a waste of time, money, and effort to excavate things we already knew through historical text. Archaeologists, on the other hand, wanted to prove that their work was no “handmaiden to history”.¹² As Stanley South, an eminent figure in American historical archaeology notes:

“Traditionally, historical archaeology in America has been oriented to site-specific goals focused on filling in historical documentation, locating architectural features, recovering and describing artifacts associated with architecture, and correlating archaeological with historical data. Most of this involvement can be termed ‘heritage studies’ from sponsorship by agencies concerned with research founded on a priori beliefs about the past.”¹³

Ultimately, the use of anthropological theory, and anthropologically derived research questions and methods instead of humanities paradigms, has created a distinct difference between the fields of history and historic or Post-Medieval archaeology.

American Historical Archaeology

Historical archaeology became largely crystalized in the United States during the 1960s. Work on places like Colonial Williamsburg and Historic Jamestowne had been conducted in the 1930s, as well as other preservation acts that saved historic structures in places like Boston and Philadelphia, or battle fields like Gettysburg. In America during the 1950s, there was a large emphasis on evolutionary processes in anthropological theory, especially amongst practitioners looking at prehistoric Native American populations, which emphasized change in culture over

time. But the Civil Rights movement of the 1960s brought to the forefront critical elements that are the basis of many historical archaeological studies today: race, class, and gender. These are elements that, up until the 1960s, had been missing from much of academic scholarship of all fields.

These are critical elements in historic archaeology because these groups - slaves, women, and poor people - frequently do not have a voice in historical documents. This shift had two engines- first being a newly found popular interest in the history of what traditional historians might have labeled “the mundane”, but is more appealing to people on a whole. The second major change was the opening up of academia to women, African-Americans and other minorities, and the use of the GI Bill to get more people into college. As academia became less white and male, archaeology began to look at topics related to this newfound diversity. Some of the major scholars of this early time include Ivor Noël Hume, Stanley South, and James Deetz. One similar theme running through all of their work is that historical text, when available and read with a critical eye should not be ignored but instead treated as another data set to be included in research.

Ivor Noël Hume started his archaeological career at the London Guildhall Museum in 1949 and ultimately became the director of the Colonial Williamsburg dig in Virginia. In this regards, Hume’s career is intrinsically linked with the disciplines of both historical and post-medieval archaeology, salvage archaeology, and public archaeology, which he used to excite the public imagination about the past.¹⁴ Stanley South’s contribution to historical archaeology hinges more on the methodological, than the public interest. His interest in pattern recognition, which lead to the development of the mean

ceramic date method for identifying the likely occupation date of a site, helps us to understand the lifeways of a structure that may not have historical contextual data for us to use.¹⁵ James Deetz's contribution to historical archaeology, much like Humes', includes working at an iconic colonial site, Jamestown, but also appealing to popular interest. His book, *In Small Things Forgotten*,¹⁶ is one of the seminal books for historical archaeologists, but is also employed by historians and scholars of American Studies. The cross-disciplinary nature of his work helped to show how seamlessly history and archaeology could work together to produce fruitful, and not redundant, research.¹⁷

The appeal of sites like Colonial Williamsburg or Fort Dobbs, is easy to see for both researchers and the public. The lives of the inhabitants of these places were different for our lives in the present; they represent a familiar yet still exotic past. They capture the patriotic imagination as sites of national pride, the places where our country took root. It is from a current stand point to understand how these places were forgotten, and can be reclaimed with enthusiasm. In many ways sites like Williamsburg and Jamestown could be considered natural environments to give rise to public archaeology- another aspect of archaeology that is frequently associated with historic archaeology.¹⁸ Public archaeology means the sites are open to the public, with educational outreach elements such as placards explaining site interpretations, archaeologist tour guides who can answer questions, and activities that simulate archaeological methods. Many historical archaeological destination sites in the United States specialize in public archaeology in conjunction with national parks, museum and living history elements.

British Post-Medieval Archaeology

Much like historical archaeology, British Post-Medieval Archaeology had its start in the 1930s and 1940s but did not come into its own until the 1960s with the British version of the Civil Rights movement. In Northern Ireland, in particular, the 1960s and 1970s were a major period of both violent and non-violent civil unrest.¹⁹ Most famously, this is the beginning of the Troubles in this region, an ethnic-nationalist sectarian conflict that still sees action today. In this era, popular attention was brought to the discrimination against Roman Catholics in Northern Ireland, rampant gerrymandering which swayed elections in the small polity, civil discourse between opposing sides of home rule and unionist factions, and the plight of the Irish Travellers, a minority group of itinerant workers in Ireland, the United Kingdom, and the United States who faced harsh prejudice due to their ethnic identity.

Much like in America, British archaeology began to look at historical texts as an important source of archaeological data. As salvage archaeology and cultural resource management began to take root as a modus operandi of public policy, historical sites began to be preserved, or at least excavated at a greater rate. Unlike American historical archaeology, however, post-medieval archaeology was slower to gain popularity as a specialty, especially in Ireland.²⁰

There are several theories as to why there was less academic enthusiasm initially for post-medieval archaeology. The two I will discuss are related and are adapted from Matthew Johnson's *Archaeology of Capitalism*²¹ but are also echoed in West's introduction²², and Gaimster.²³ First is an embarrassment of riches. As many an American tourist will note, there is "a lot" of history in European countries, so seeing castles and palaces might seem mundane or too recent to be worthy of

study. The second is that the Post-Medieval period may represent to some an era that is uncomfortable for many to intellectually address or digest. And, of course, much like historical archaeology, there were some academic turf wars between historians and archaeologist which might have inhibited the careers of young scholars.

Regardless of the why, post-medieval archaeology has come into its own during the post-processual era of archaeology,²⁴ which contrasts strongly with American historic archaeology's "founding fathers" location within the processual schools of thought. In the post-processual paradigm, a strong emphasis is placed on the interpretive elements of archaeology, instead of the evolutionary or change in patterns over time like in processual archaeology. Historical texts contribute greatly to the interpretive voice for archaeologists, even when they are researching people who may not have had a voice in texts. In the 1990s and early 2000s many archaeological departments created new teaching lines and programs that specialized in Post-Medieval archaeology, which signaled the acceptance of this niche within the larger academic community.²⁵

Three major post-medieval archaeologists include, but are no means limited to, Matthew Johnson, Audrey Horning, and Charles Orser. Matthew Johnson is an eminent archaeologist who specializes in the Late Medieval and Early Modern period. His work emphasizes interdisciplinary interpretive approaches to cultural change over time. Textural and contextual understanding is evident in all his work, especially his work on architectural forms like Bodiam Castle in southeastern England. Horning and Orser represent one of the more exciting aspects of the burgeoning Post-Medieval field in that their research interests look at globalization, and the Transatlantic world of the modern period. Both have worked

in Ireland and Colonial North America, colonial and Irish Diaspora setting on either side of the ocean, and have looked at the beginnings of our modern global economic systems.

The African Burial Grounds and the Battle of the Boyne

The following are two case studies of historical and post-medieval archaeology that illustrate not only value of interdisciplinary research, but also outline why these fields of study are often difficult for both researchers and the public to confront.

Case Study One- The African Burial Grounds

In 1991, during the construction of a new General Services Administration building in Lower Manhattan, the remains of a long-since thought destroyed colonial African burial ground were found. Previous to construction an environmental impact statement is required by law on all projects that use state or federal funds for capital improvement. One of the aspects of an environmental impact statement is the cultural heritage impact statement, which includes assessment of impacts on cultural resources. In this particular case, the impact statement had noted that the historical maps of the earliest occupation had indicated that this particular plot of land had been a "Negroes Cemetery" in the late 17th and early 18th Century, but due to the heavy development over the years, it was highly likely that this cemetery would have been destroyed in the interim. The building scheme was then allowed to proceed as planned. However, its predicted destruction due to centuries of urban development proved not to be the case. Miraculously, much of the graves, represented by over 400 individual remains, were intact.²⁶

After a few disastrous public relations events, the African American community of New York City held several protests and managed to get an injunction to stay further construction and allow for proper archaeological excavations to be conducted. In 1992, the historic black college Howard University was granted control over the excavations under the lead of Dr. Michael Blakey and the descendant community was given a larger share of stakeholder responsibility.²⁷ Later that year the African Burial Ground was added to the list of National Register of Historic Places and the following year became a National Historic Landmark.

The African Burial Ground is both a paragon of and a cautionary tale for historical archaeology. It is considered successful because of its eventual incorporation of the descendent community in the interpretation, analysis, and excavation of the burial sites. Though initially the House Subcommittee on Public Works and the General Services Administration were reluctant to relinquish their oversight power, they were finally convinced that the African American community of New York City had the right to act as descendants of those buried in the grounds, and therefore should be given a place at the table for preservation planning. Academics also noted how helpful the descendent community was in interpreting the material culture left with the deceased.²⁸ This set an inclusionary precedent that unfortunately has not always been enforced in governmental projects.

Case Study Two- The Battle of the Boyne Site

The Battle of the Boyne is seen historically as the decisive battle that left Ireland in English control. Fought between the ousted King James and the newly crowned King William of Orange in 1690 C.E. on a field outside the town of Dragheda in what is now the Republic of Ireland. This battle

is still commemorated today in Northern Ireland with parades and festivities each year. Currently, the site is located on the Oldbridge Estate and is managed by the Office of Public Works, Republic of Ireland.

The history of the site itself is fraught with the troubling national symbolism that is embodied. Each of the Unionist/Republican arguments had their own view on how to manage (or forget) the sight during the tumultuous early half of the 20th century. However, in the wake of the Good Friday Agreement and acknowledgement of the site's importance to both the Republic and Northern Ireland, the Irish Government purchased the estate, funded pilot archaeological studies, designated the area a part of the Heritage Council aegis, and built a visitor education center in the restored Oldbridge Estate house.²⁹

In 2007, as part of a larger effort to ease partisan tensions across the border, the Taoiseach³⁰ Bertie Ahern and the First Minister of Northern Ireland, Dr. Ian Paisley, visited the site as a symbolic gesture, acknowledging the importance of, and painful national memories associated with, sites such as the Battle of the Boyne. Part of Ahern's speech that day eloquently notes that: "The fact that we have come here together shows us once again that our history need not divide us. Your history is our history too. We need to understand our shared history if we are to build our shared future."³¹ This trip emphasized the importance of acknowledging, instead of forgetting, even the uncomfortable areas of a shared history to move forward to a peaceful future.

Discussion: Descendent Communities and Public Opinion

The African Burial Ground and the Battle of the Boyne represent some of the most difficult issues facing historic and post-

medieval sites: the power relationship between descendent communities and the entities that control the production of knowledge. The tension these two groups often stem from historical context of an unequal power structure, and can be seen in the demography of the field. In the United States, the vast majority of people holding advanced degrees in archaeology are Caucasian, a point that was illustrated by the difficulty of the African Burial Ground Board of Directors' search for African-American archaeologists to participate in the excavation.³² With the adoption of theoretical suites such as Post-Colonialism, the concept of multi-vocality has become more mainstream in archaeological interpretations. By addressing the views of descendent communities, we get a more balanced picture of history, even when confronted with possibly painful and still recursive events from the past.

Because these sites embody two divisive elements of their representative nations - race relations in America and the root of sectarianism in the Republic of and Northern Ireland - their preservation, and interpretation, could be in threat of whitewashing or biased interpretation. For the African Burial Ground the descendent community was able, through highly visual and well-organized protests, to ultimately gain some control over the process. This site brought to light many uncomfortable, but necessary, conversations about slavery in a Northern state, and its lasting legacy of racism. At the Battle of the Boyne site, the Republic of Ireland's government had to shore up public support for the idea of preserving this site, which is still a symbol to many of a very real and active sectarian fight still today. This case is almost the reverse of the one in New York where the government was not initially including the public. Here the government was appealing to the public to appreciate this site as significant and worthy of preservation efforts.

Ultimately, historic and post-medieval archaeologists deal with the archaeology of the modern world.³³ This presents some exciting research questions stemming from colonization, globalization, and the beginnings of capitalism, but also brings with it the need to acknowledge the darker sides of these phenomena. As Deetz says in his introduction to *In Small Things Forgotten*: "One of the more important developments in American historical archaeology during the past two decades has been the emergence of African American archaeology as a critical component of the field."³⁴ Our world today is still greatly shaped culturally by these very phenomena, which force us to confront things like white privileged voices in the academic ivory tower. Minorities are still grossly under-represented in American archaeology. Additionally, while white women have made inroads, they are still minority shareholders of tenure track jobs and other high impact positions.³⁵ Though historic archaeology, through its intense relationship with public archaeology, has done much to improve the field's relationship with descendent communities, it would do better to encourage practitioners from these minority groups to enrich the field as a whole.

Another way this tension about examining Post-Medieval sites in Ireland can be represented is anecdotally. Over this past summer, I was working in Northern Ireland on a Scottish Plantation manor with an archaeologist from the Republic. During the course of the day, as conversation meandered, we eventually got to talking about how exciting it was that Post-Medieval archaeology was becoming a legitimate area of study. As one of crew members put it "twenty years ago it was almost taboo to do excavations on a site that post-dated the 1600s C.E. Now it's quite fashionable." As archaeologists have started to tread where only historians have gone before, vast amounts of research data has opened up to a new generation of archaeologists.

Conclusion: Archaeology of the Modern World

As Susie Wright says: “If prehistoric archaeology is about making the unknown more familiar, the archaeology of historic periods is often about de-familiarizing what we think is the known past.”³⁶ Historical archaeologists blend available historic data and archaeological data to give us a richer picture of the past. As more minorities join the field of archaeology, and we start to develop ways to address sensitive subjects pertaining to colonization, the stage is set for a new Global Historical Archaeology that starts to transcend the regional data sets - much like Harold Mytum’s work with cemeteries across Britain, Ireland, and New England.³⁷ As the archaeology of the modern world gains traction, it is hopeful that a multitude of voices- from historical text, descendent communities, and minority practitioners- join together to give us a vibrant picture of the past.

Endnotes:

1. Orser 2004, 7-9.
2. Hume 1968, 6; Hall and Silliman 2006, 1-3.
3. Hume 1968, 6; Majewski and Gaimster 2009, xviii.
4. Hall and Silliman 2006, 1-3.
5. Hume 1968, 5-6; Hall and Silliman 2006, 1-3.
6. Pauketat and DiPaolo Loren 2005, 7-8.
7. Tarlow and West 1999, 1-2; Funari, Hall, and Jones 1999, 16-17.
8. Andren 1998, 9.
9. Hume 1968, 6.
10. West 1999, 1-2.
11. Orser 2004, 7-9.
12. Funari, Hall, and Jones 1999, 2.
13. South 1978, 223.
14. Hume and Miller 2011, 9-10.
15. South 1978.
16. Deetz 1996.
17. Yentsch and Beaudry 1992.
18. Hume 1968.
19. Smithey 2011, 14-17.
20. Horning and Palmer 2009, XIII-XIV.
21. Johnson 1996, 10-19.
22. West 1999, 1-2.
23. Majewski and Gaimster 2009, 525-526.
24. West 1999, 1-2.
25. Courtney 2001, 1-2.
26. Epperson 1999.
27. La Roche and Blakey 1997, 84-106.
28. Jamieson 1995, 39-58.
29. Brady, et al. 2007, 53-54.
30. Irish Prime Minister.
31. Smithey 2011, 181.
32. La Roche and Blakey 1997, 88-89.
33. Orser 1996.
34. Deetz 1996, xi.
35. Bilen-Green, et al. 2008.
36. West 1999, 1.
37. Mytum 2006.

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From Hispania to the Chalkidiki: A Detailed Study of Transport Amphorae from the Macquarie University Museum of Ancient Cultures

Emlyn Dodd

*This study considers a collection of four diverse amphorae recently acquired by the Macquarie University Museum of Ancient Cultures. Upon commencing, these ceramic vessels bore no information regarding distribution or contents and were largely unanalyzed and unpublished. This paper seeks to determine what they can reveal through a detailed study of their origins, provenance, principal contents, and potential distribution. It is hoped that this information will aid in the analysis of larger trade networks for these amphora types along with their role in the economies of the ancient Mediterranean.**

Introduction

As one of the fundamental bulk transport facilitators in antiquity, the amphora plays a large role not only in international and interregional trade, but also the local agricultural and domestic market. The four examples purchased by the Macquarie University Museum of Ancient Cultures (MAC), however, were most likely traded, transported or travelled within the international or interregional realm due to their likely marine provenance. The focus of this paper will take this into consideration rather than any potential domestic, regional or secondary use.

Discussions of shape, preservation, petrological characteristics, origin, contents, and possible distribution are presented along with an appendix of detailed measurements for each amphora. A graphical representation of the proposed date ranges for each amphora is also provided in figure 6. It is through an examination of these features that the value of exploring and analyzing de-contextualized artefacts can be seen, particularly those in museum collections with limited or no provincial data.

The latest additions to the MAC arrived with little information and only brief typological studies had been undertaken to determine vague geographical origin. The only information supplied with these four amphorae were brief notes on one vessel (MU4616), stating:

“Amphora, 4th Century – Pottery amphora, of elongated form, tapering to a pointed base with two small loop handles at the neck, the rim curving, sea encrusted. Stand for mounting. Ex-collection of Mr. Sandy Nardini, founder of the Scottish Nardini Ice Cream business, given to him as a housewarming gift in the 1950’s.”¹ Access was generously provided to all of the amphorae periodically over the course of one year to allow hand-held study and documentation. While the preliminary results have proven useful, further scientific and petrological examination would allow for more concrete and comprehensive analyses.

MU4639 – Mendeian Amphora c. 370 B.C.E.

Shape Description

This amphora has a turnip-shaped body with a sharp, somewhat carinated, shoulder (fig. 1). The rim tapers down and outwards from the lip to a sharp point and then changes direction to join the neck with a slightly concave curve. The strap-like handles attach to the long, cylindrical neck just below the rim, rising slightly and then continuing almost vertically downwards to join the body in between the base of the neck and shoulder. The body tapers down from the shoulders and flows into a short-stemmed, flaring or splayed toe with a deep depression underneath (appx. 1.1). It also includes a small carination near its base in the form of a thickened and raised band of clay.



Figure 1: Mendeian Amphora (MU4639)

Preservation

This vessel is almost completely intact, with only small chips and pieces missing from the outer lip in multiple locations. It is thoroughly encrusted with marine sediment and concretion covering approximately 70% of the vessel thus making further analysis of the state of preservation somewhat difficult in certain areas.

Fabric and Petrological Characteristics

The body is a dark, rich red color with some sections moving to a golden yellow shade, the darker areas being those most likely covered by silt. The neck is a lighter greyish-brown or tan color only going as far as a light red on one side. There are many coarse inclusions evident and pockmarks visible on the outer layer from the firing process. It should be noted that due to the heavily encrusted nature of the vessel, without creating a fresh break, it was difficult to fully observe the nature of the fabric. While some sections of MU4639 can be identified with Whitbread's most common color of 5YR 6/6 (reddish yellow), the majority of the vessel is a darker hue with the 'light red' sections closer to 2.5YR 6/6.² Whitbread has also identified two distinct classes of fabric relating to Mendean amphorae and, without scientific petrological analysis, MU4639 fits most closely with Class 1.³ While the two classes are very similar, Class 1 has a rougher texture with distinct bimodal grain size and many inclusions closely identifiable with MU4639.⁴

Origin

This vessel provides an interesting mixture of morphological characteristics suggesting two possible origins. The neck, body and toe are almost identical to those Mendean amphorae analyzed by Whitbread suggesting a Mendean provenance.⁵ The rim, however, is not rolled as the Mendean examples show; it is more similar to the Graeco-Italic forms found at Euesperides by Göransson.⁶ It is perhaps the evidence from the Porticello shipwreck

which most conclusively shows MU4639 to be Mendean in origin.⁷ The handles from MU4639 are not quite vertical but also not an S-curve, hence, the vessel falls somewhere between Eiseman's Type 1.A and 1.C amphora, possibly Type 1.B.⁸

Date

Mendeian amphorae are dated between the second half of the fifth to the late fourth century B.C.E.⁹ This relatively brief time span is likely due to the region's history and relatively quick synoecism that resulted in the creation of Kassandria;¹⁰ or it may rather simply be due to a lack of excavated and published examples of later Mendean amphorae. MU4639 appears to fall within this brief chronology. As there are no visible stamps or other inscriptions or *dipinti*, dating must be solely based upon morphology and comparison with other relatively securely dated forms. The *communis opinio* with regard to dating Mendean amphorae focuses on the fact that they began, in the late fifth century B.C.E., with a shorter, squatter body and neck and a more round overall figure which developed in a relatively short time period to a more elongated and angular shape.¹¹ Based on this trend, MU4639 can be seen to date *later* than the Porticello Mendean amphorae and amphora U13:1 from the Athenian Agora (both dated to the early fourth century) and *earlier* than amphora R13:11 from the Athenian Agora (dated no later than 351 B.C.E. based upon a closed deposit created by the construction of the Maussolleion of Halikarnassos).¹² From the angular and relatively long morphology of MU4639, yet still somewhat thick as compared to R13:11, it should be concluded that MU4639 fits somewhere midway between the aforementioned examples, perhaps c. 370 B.C.E.

Principal Contents

It should first be recognised that MU4639 bears large-scale concretion over its surface suggesting that it was found in a marine context. While this may not narrow down

whether it was being re-used or still contained its principal and original contents, it suggests that it was last used actively in trade on board a shipping vessel.¹³ The area surrounding Mende was known famously in ancient times for its wine¹⁴ and it is logical to assume that a large proportion of, if not all, Mendean amphorae were used originally for the transportation of this commodity. There are no remaining signs of content residue or sealant on the interior of the vessel and without further detailed scientific examination it is difficult to determine exactly what it last held. Taking into account previous publications and finds, however, it can be hypothesised that MU4639 contained wine.¹⁵

Distribution and Provenance

It must first be recognised that very little is known of the production and distribution of Mendean amphorae, however, details regarding their distribution and trading routes can be extrapolated from known finds. Numerous examples have been found in deposits at the Athenian Agora along with those on the Alonnesos, Porticello, and El Sec shipwrecks.¹⁶ On the other end of the spectrum, finds have been made from settlements in the lower Dnieper Valley in the Black Sea Littoral region.¹⁷ Interestingly finds from this location are often found in burials of the wealthy Scythian aristocracy and royalty (being rare in ordinary burials) possibly as remains from a funerary

feast and are hence very well preserved.¹⁸ It can therefore be seen that Mendean amphorae were used across the Mediterranean in ancient times, being found in the far-west near Majorca to the far north-east region of the Black Sea. This simply demonstrates that without detailed biological study of the encrustations and concretion on MU4639, and further scientific and petrological investigation, no conclusive agreement can be met on the provenance of the amphora.

MU4666 – (Corinthian) ‘B’ Amphora/Graeco-Italic Intermediate Form c. 325-300 B.C.E.

Shape Description

The body is a globular turnip shape with a sharp carination at the shoulder (fig. 2). The solid-made ‘peg’ toe is also joined to the body at a sharp angle and has a flat and angular base. The strap-like handles attach just below the rim, are slightly arched at their peak and then flow vertically down to attach again midway up the shoulder (appx.1.2). The rim is a flattened disc shape with a slight concave shape on its underside and a slightly rounded lip. It is important to note that there is evidence of sealant in two locations: first, inside the vessel in limited patches of a black color which are fading yet still visible to the naked eye and second, on the top surface of the rim and appearing as a crystalline, black concretion,



Figure 2: ‘B’ Amphora (MU4666)

possibly used as a glue to adhere a stopper to seal the vessel.¹⁹ These residues can most closely be identified as pine pitch; however, further scientific analysis may prove otherwise. Clues to the manufacture of this vessel may be gained from the interior of the neck, where strong parallel lines indicate wheel-made craftsmanship.²⁰

Preservation

MU4666 is a completely intact amphora, with only slight damage occurring at the join between one handle and the shoulder. There is fairly limited concretion on the vessel (covering approximately 30% of the entire vessel), yet small encrustations are prevalent, particularly clustered around the shoulder and neck, with a fairly large formation under one handle.

Fabric and Petrological Characteristics

The fabric is a reddish-tan color in the limited sections where encrustation and discoloration have not occurred, similar to that of Farnsworth's red-colored "buff with rosy overtones".²¹ When split vertically downwards, from rim to toe, half of the vessel appears a cream or white color while the other half is brown or golden yellow. Similarly, the concretions appear as a white color or a stained golden yellow color. This may serve to indicate which side of the amphora was partially buried by sediment whilst in situ in a marine context. The fabric is composed of very fine grains when compared to other vessels, such as MU4639, and has a smooth, well-finished texture. Similarly, the joins appear well made, with evidence of smoothing marks and care taken to ensure a quality finish. These characteristics appear to indicate that MU4666 belongs to Whitbread's Corinthian Type B Fabric Class 4, a fine-grained extension of Class 3, which is a pink to reddish yellow (5YR 7/4 to 5YR 7/6) referring to a reddish brown (2.5YR 4/4) with grain-size about 0.03-0.04mm.²²

Origin

It is perhaps the results of Göransson's excavations at Euesperides that most clearly suggest MU4666 to be of Corinthian type B (or a 'B' Amphora).²³ The difficulty then lies in determining the exact origin of this example without having access to full petrographic and microscopic study. The origins of 'B' amphorae, as recently re-labelled by Göransson,²⁴ have been debated since the early 1900s and only recently have scientific studies begun to shed some light on where they may truly belong. In the 1970s, Neutron Activation Analysis (NAA) was used on pottery from both Corinth and Corfu (the two most likely candidates for the origin of this type) and established that Corinthian-type pottery was definitely manufactured in Corfu (ancient Corcyra). While earlier publications had concluded that all 'B' amphorae should have the same production centre (as no stylistic change is evident from those found in Corinth, Corfu, Athens or farther abroad), archaeological and scientific evidence now suggests that at least some of these vessels were in fact manufactured in Corinth as well.²⁵ Indeed, more recent investigations using optical microscopy have confirmed an Aegean provenance for 'B' amphorae (most likely Corinthian), but have not discarded the possibility of a Corcyrean provenance due to certain similarities found with the results of the NAA studies.²⁶ Excavations at Euesperides (ancient Cyrenaica) have revealed that local imitations of 'B' amphorae did exist and that these were not limited to North Africa but may have also included Magna Graecia and Sicily.²⁷ Therefore, as Koehler has recently observed, it seems inescapable that the Corinthian B/Corcyrean type was produced in several places and without a full petrographic examination in thin-section and comparison to Whitbread's results from both Corinth and Corcyra, it is virtually impossible to determine exactly where MU4666 was produced.²⁸

Intermediary and Evolutionary Details Specific to MU4666

While MU4666 can fairly confidently be identified as a 'B' amphora, certain morphological details suggest an alternate attribution, one that must be considered when analysing this piece and are included here for the benefit of future studies. The body, handles, shoulder, and toe of MU4666 bear close resemblance to certain Graeco-Italic types, or MGS types (Magna Graecia and Sicily), and finds off Sicily at the Secca di Capistello wreck that have been attributed as "Graeco-Italic" are also very similar.²⁹ Upon consultation of Will's Graeco-Italic forms, MU4666 aligns (morphologically) most closely to her Form A.³⁰ The rim of MU4666, however, is not the typical "duckbill" shape of the Graeco-Italic amphora rather it is almost completely flat on top and has only a curved underside: much more similar to a 'B' amphora. It is, therefore, possible that MU4666 is an intermediary or evolutionary piece, part of the transitional or overlapping phase from 'B' amphorae to Graeco-Italic. It has previously been suggested that 'B' amphorae were (one of) the predecessors of Graeco-Italic amphorae, with Will suggesting a morphological link between 'B' amphorae and her Graeco-Italic Form A amphorae and Van der Mersch noting a similarity between his MGS III amphorae and 'B' amphorae of the second half of the fifth century B.C.E.³¹

Additionally, Göransson has compiled a collection of "intermediary" types from the finds at Euesperides suggesting an evolutionary typology and many of these also bear similarities with MU4666.³² It could be concluded that these similarities, and those characteristics on MU4666, are potentially due to vessels being manufactured in a location where 'B' amphorae and Graeco-Italic workshops worked side by side or even combined and hence concepts and styles were free-flowing between contemporary types.³³ The conclusion that MU4666 is potentially an intermediate type, while relevant and

important to consider, should not distract from the fact that it still holds many features of a 'B' amphora. Additional research is necessary before committing to this hypothesis and time needs to be spent observing the full similarities and differences between 'B' amphorae and Graeco-Italic forms, in particular relation to their manufacture and places of origin.

Date

'B' amphorae are thought to have been manufactured in the last quarter of the sixth century B.C.E. until the second century B.C.E.³⁴ Early examples appear very round, almost cylindrical in shape and as time passes there is a general tendency to become longer and slimmer, with the handles and neck increasing in height.³⁵ The Hellenistic wreck at Seriphos (*Karavi*) provided an example from the third quarter of the third century B.C.E. that is noticeably slimmer and with longer handles than MU4666.³⁶ Catalogue numbers 111 and 133 from the excavations at Euesperides both have an unusually flat upper face of the rim and a disc-like appearance similar to MU4666, even more so in the latter, and have been dated between 325-250 B.C.E. suggesting that it is likely that MU4666 falls within this period.³⁷ The accentuated peg-toe of MU4666 also suggests origins c. 325 B.C.E. as later examples have less distinction between toe and body and the join follows the line of the body into the toe, quite unlike MU4666.³⁸ Finally, Whitbread concludes that Class 3 and 4 fabrics are exclusive to the late fourth and early third centuries B.C.E., while Classes 1 and 2 belong to earlier periods and the beginning of the typology.³⁹ Thus, MU4666 made of Class 4 fabric, may belong to the period after 350 B.C.E. MU4666 can be dated, therefore, to the century between 350-250 B.C.E. in terms of relative typology and fabric; and can further tentatively be dated to c. 325-300 B.C.E. based on extrapolations of rim, toe, and handle morphological evolution.

Principal Contents

Koehler has suggested wine as the most likely contents of 'B' amphorae.⁴⁰ This is supported both by the fact that the interiors of 'B' amphorae have often been found to have been coated with a resinous pitch-like substance (probably pine pitch as in MU4666) to limit seepage through the porous fabric, and by the fact that Athenaeus describes Corcyrean wine as "...a pleasant wine, when old", clearly showing that Corcyra produced quality, renowned wine in antiquity.⁴¹ It is believed that Koehler made this assumption based on her belief that Corinthian Type A amphorae were designed for olive oil only and similarly 'B' amphorae for wine only.⁴² This can also fit in with the theory that Corcyra manufactured these amphorae. If Corinth did not produce a good quality wine itself, as Athenaeus has suggested,⁴³ it may have imported wine from Corcyra in these 'B' amphorae, hence explaining the large numbers of Corcyrean-exported 'B' amphorae found at Corinth alongside their local produce.⁴⁴ Finally, the general morphological shape of 'B' amphorae, with their useful peg-toe, small mouth, and defined lip for controlled pouring further suggests that wine was the most likely principal contents of 'B' amphorae.⁴⁵

Distribution and Provenance

'B' amphorae are known to have been widespread during their production period, particularly throughout Greater Hellas and also along the North African coast from Alexandria to Veggazi and Carthage.⁴⁶

Particular concentrations have been found during excavations at the Athenian Agora and this seems reasonable as it was a major trading hub with connections to both Corinth and Corcyra.⁴⁷ In an anonymous passage from the Aristotelian corpus the trade in Corcyrean amphorae is described, amongst others, at a market in the neighbourhood of the Mentores, between Histria (*Istrai*) on the Black Sea and Liburnian territory.⁴⁸ This may provide evidence for extensive northern overland trade in these amphorae as well as maritime.⁴⁹ While it is difficult to ascribe a more concrete provenance to MU4666 without the aid of scientific investigation and more detailed petrological study, it can be concluded that, as it was found in a marine context, this example might have travelled between Corcyra and Corinth or through another major Greek trading port within Greater Hellas, such as Athens. Further biological analysis of the encrustations found on the vessel may reveal a general latitude upon which the vessel was submerged as these are known to vary depending upon their position in the northern or southern Mediterranean.⁵⁰

MU4640 – Pascual 1 Amphora c. 50 B.C.E.–80 C.E.⁵¹

Shape Description

MU4640 has an ovoid body with a long rim, neck and elongated toe (Appx. 1.3). The toe is a slightly splayed peg toe and the rim is thickened in a slightly everted (or funnelled) collar shape (fig. 3).



Figure 3: Pascual Amphora (MU4640)



Figure 4: Pascual Amphora (MU4640) - Rim and Handle Detail

It has a significant carination along its lower edge where it joins the neck and has a rounded upper edge. The handles begin below the rim's lower edge and attach midway up the shoulder of the vessel. They are strap-like, almost rectangular, in profile and have a deep groove running down the middle of the outside edge (fig. 4). There is evidence of stoppering on the interior of the neck just before the shoulder, where an indent or shallow mark approximately 1.0cm wide can be observed with residues of glue or sealant within, most likely to cement the stoppering mechanism in place and provide a hermetic seal. Thick parallel lines running around the interior of the rim and neck and continuing to the shoulder suggest manufacture and construction on a potter's wheel (fig. 4).

Preservation

This example is largely intact with no missing pieces. There are, however, many cuts, scratches and other deep grooves of a random nature on the mid and lower body created post-manufacture (fig. 3). In addition to this, concretion and small-scale encrustation covers approximately 50% of the exterior of the vessel.

Fabric and Petrological Characteristics

The sections of the vessel unaffected by concretion reveal a light reddish/orange to creamy white or buff-tan colored fabric with some sections moving to a light pink. This is most comparable with 5YR 8/4 moving to a lighter 5YR 8/2 on the upper neck and rim. A closer examination reveals a very fine, hard fabric, with quartz inclusions and fine crystalline structures.⁵²

Origin

From a purely morphological perspective this piece has two possible origins, the most likely being presented here.⁵³ The vertical groove on the handles and the ovoid body strongly suggest that this vessel belongs to the Pascual 1 family of amphorae, a copy of the more common Dressel 1B type (fig. 4). Kilns known to have produced this form have been found around the north-eastern coastal zone of Spain, in the Catalan, and more specifically, modern Barcelona region.⁵⁴ It has also been suggested that this form was manufactured in Gaul at a variety of sites including Aspiran, Montans, and Corneilhan.⁵⁵

Date

This form is known to have been in existence from the second half of the first century B.C.E. and is thought to have ceased, on the one hand, sometime between 40 and 79 C.E. or, on the other, to have continued into the Trajanic period.⁵⁶ The majority of forms are found in Augustan and Tiberian contexts and it is rare to date a Pascual vessel outside of these periods.⁵⁷ Without a specific Pascual 1 typology for comparison it is difficult to refine the date of MU4640 any further than late first century B.C.E. to mid-first century C.E. It could be suggested, however, that due to the quality of workmanship and highly developed and technical nature of MU4640 that it may fit into the second half of this date range, closer to the end of Pascual 1 amphora manufacture.

Principal Contents

The probable inspiration and model for the Pascual 1 form was the pre-existing Dressel 1B amphora which was used to transport wine throughout the Roman world. It would therefore make sense that the Pascual types, with their similar morphological shape and design, should be used for a similar purpose. Indeed, the general geographical location of their manufacture in *Hispania Tarraconensis* was famed for its wine.⁵⁸ Additionally, examples of Pascual 1 amphorae have been found undisturbed in marine contexts with intact pitch or resin interior linings (similar to those residues found at the neck of MU4640), used predominantly on wine-carrying vessels as it would spoil olive oil.⁵⁹ While there is very limited remaining evidence for an interior lining in MU4640, it is likely that this would have deteriorated over time, particularly when exposed to dry terrestrial conditions since being lifted from its original marine context.

Distribution and Provenance

The Pascual 1 form is seen as somewhat of a regional imitation of the more widespread and ‘international’ Dressel 1B type.⁶⁰ Paralleling this, its distribution pattern reflects a ‘regional distribution’ for the Pascual 1 form rather than an Empire-wide distribution, like the Dressel 1B.⁶¹ The form, however, was popular for its brief lifespan and distribution is evident throughout the Western Roman Empire, reaching Britain, Germany, France, Italy, and Africa from its source in Spain.⁶² This pattern is slightly atypical when compared to the common trend of amphora distribution over water, as it focuses on increased terrestrial transportation. Indeed, the Narbonne-Bordeaux route, via *Aquitania*, appears to have been an important means of distribution to the northwest and was vital to the continual wine supply from the coastal Catalan region to Britain and other north-western colonies.⁶³

This widespread distribution, along with the lack of detailed scientific study, makes it difficult to determine a provenance of any kind for MU4640 with any confidence. The concretions and small-scale barnacle encrustations reveal that it was discovered in a marine context and, if being used for its primary purpose (transporting wine from the coastal Catalan region or Gaul), it may be suggested that its trading route may have passed through the western Mediterranean Sea or even the Bay of Biscay or English Channel; en route to North Africa or Britain respectively. Further scientific biological analysis on the marine encrustations may serve to narrow this down to one generalised geographical region and potentially reveal the trade route on which MU4640 was travelling.



Figure 5: African 1 Amphora (MU4616)

MU4616 – Africana 1 Amphora c. 180-380 C.E.⁶⁴*Shape Description*

This amphora has a long, cylindrical body with a short neck, a rounded shoulder with a slight carination at its peak, and two strap-shaped ear or loop handles (appx. 1.4 and fig. 5). The handles join just below the rim and finish midway up the shoulder and there is a small separation between handle and upper neck where the join has aged. The rim has a rolled lip and is thickened and everted on the outer face and flat or concave on the inside.⁶⁵ There is a distinct joining line between lower rim and neck. It has a solid spike or pointed toe flowing from the lower body.

Preservation

This example is completely intact with no damage or missing pieces and only a small separation, due to deterioration, between one handle and the upper neck. The vessel is thoroughly encrusted on one side of the body with the remains of medium to large mollusc-like organisms and concretion covering approximately 50% of the vessel's surface.

Fabric and Petrological Characteristics

The fabric of MU4616 has minimal inclusions and is of a fine, sandy nature with black and white grains evident. The vessel was likely discovered partially under sediment as the fabric is discolored to an almost black shade in some sections on half of the body. Between these black discolorations, a rich red-brown to ochre fabric emerges as the vessel's original color. This has faded to a grey shade on the top half and then to a cream and almost white color on the encrusted side of the vessel. The multi-colored nature of this vessel's fabric, most likely due to the marine conditions in situ, also includes pinkish, tan, and greenish sections between encrustations. This does not make an analysis purely by hand specimen examination completely accurate or reliable. If

valid information is sought regarding the fabric of MU4616 destructive petrological studies will need to be undertaken in thin section on fresh breaks without the hindrance of encrustation, concretion and discoloration. The apparent 'original' fabric of the vessel, however, is most closely identified with 10R 4/3, yet it is difficult to determine a more accurate Munsell reading without wider comparison along the rest of the vessel. Gibbins states that most Africana 1 amphorae of this form oxidize brick-red (2.5R 6/6) with a black outer zone and white limestone 'flecks' visible to the naked eye (up to 0.5mm across).⁶⁶ The white inclusions are certainly evident in MU4616, however, it is difficult to determine whether the black coloration occurred when the vessel was fired or due to post-depositional marine activity.

Origin

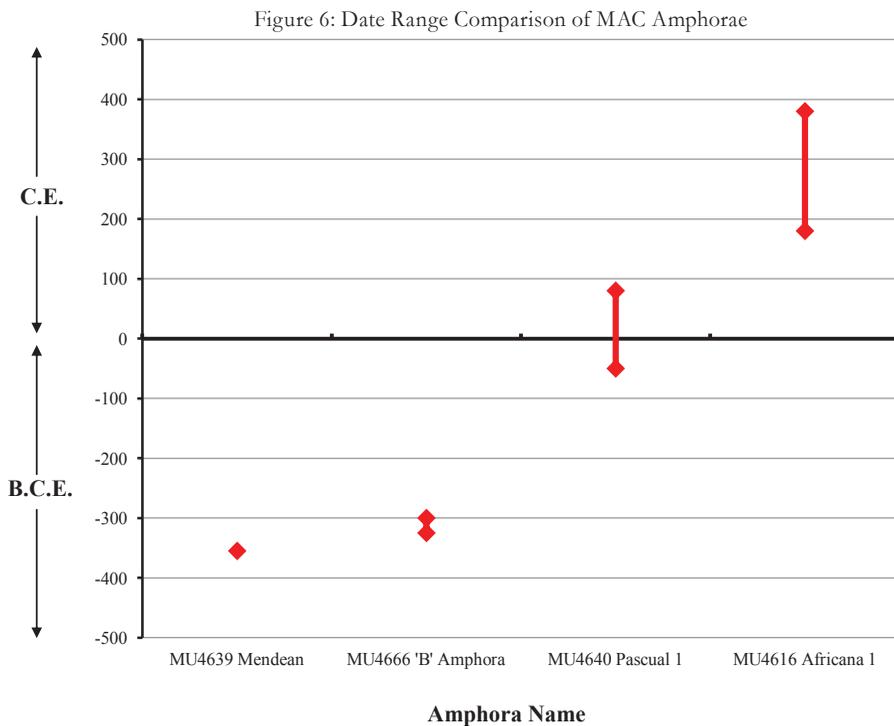
MU4616 is immediately recognisable as an African-type and further typological study reveals it to be an Africana 1 amphora. A number of these were found on the Plemmirio wreck and this, along with finds from Roman Britain and Italy, have created a solid foundation for research into the origin and manufacture of this particular form of amphora. The Plemmirio Africana 1 amphorae have fabric consistent with 'central Tunisian ware' and the limestone inclusions along with the black colorations similar to MU4616 are particularly evident in pottery produced from the coastal area around Salakta (ancient Sullechtum).⁶⁷ Some finds of this form from Ostia also bear stamps mentioning the coastal towns of Leptis Minor and Hadrumetum and others include a *tria nomina* formula along with a place name.⁶⁸ Production is also attested at Carthage, Acholla, Hr Ben Hassine, Thaenae, Nabeul, and Oued el Akarit.⁶⁹ It appears, therefore, that the entire Sahel region of central Tunisia (Roman Byzacena) was producing this type. Without epigraphic evidence it is fairly difficult to determine the exact origin of an Africana 1 amphora as the regional geology of coastal Tunisia is fairly uniform with limited distinctive features.⁷⁰ Results of kiln surveys

have not helped much in differentiation, only showing that Africana 1 amphorae were produced at several east Tunisian port sites, including Sullechtum, in nucleated urban and peri-urban locations.⁷¹ It appears that the most decisive method in determining exact origin of these amphorae is to use Instrumental Neutron Activation Analysis (INAA) technology and compare samples from both kiln sites and unknown amphorae.⁷² Without the help of more advanced scientific technology, it is difficult to decisively determine the origin of MU4616. It is safest to conclude that the vessel was most likely manufactured along the eastern Tunisian coastline.

Date

Evidence from Rome suggests that Africana 1 amphorae were first produced around the middle of the first century C.E. and variants of the form continued until the late fourth century C.E.⁷³ Production is thought to have

reached its peak in the second half of the second century or early third century C.E. with large scale export beginning during the 170s C.E. under the Emperors Marcus Aurelius and Verus.⁷⁴ This was again bolstered after 193 C.E. with the accession of Septimius Severus who not only supported his native North Africa but may have instituted free oil handouts in Rome.⁷⁵ This mass production is thought to have lasted until at least 220 C.E.⁷⁶ A detailed typological and morphological analysis reveals MU4616 to fit somewhere between the Africana 1 and Africana 2 chronology. It has the rim, handles and body of an Africana 1 amphora, however, the toe is elongated and rounded at the bottom (not abruptly ending to form a flatter base as the early-mid Africana 1 examples show). This, and the fact that it flows smoothly from the body, align more with the early Africana 2a examples.⁷⁷



Principal Contents

There is no evidence of an interior coating inside MU4616. Africana 1 sherds have been found on the Plemmirio wreck with adhering olive pits and, similarly, none of these examples have evidence of an interior lining.⁷⁸ As stated by Gibbins, this is consistent with the proposition that resin contaminates oil.⁷⁹ Thus, it would not seem a coincidence that the four main areas identified with large-scale Africana 1 production identify closely with major zones of olive oil cultivation.⁸⁰ Further confirmation may be reached by using scientific techniques, such as gas chromatography or DNA testing on residues, to test for traces of oil in the walls of the vessel.⁸¹ Additionally, the narrow mouth and large volume of the body would have allowed the controlled pouring and distribution of mass quantities of liquid, important factors when considering the antique distribution and transport of such a widespread and necessary commodity as olive oil.

Distribution and Provenance

Due to the relatively long production period of Africana 1 amphorae, they had the opportunity to travel large distances and are predominantly found across the Mediterranean. They are commonly distributed throughout the Western Mediterranean but examples have also been attested as far as Britain and Knossos.⁸² Indeed, the demanding oil market in Britain during this period allowed profitable export to those distant provinces from North Africa.⁸³ It is more pertinent in relation to MU4616, however, to study the locations of wrecks with Africana 1 amphorae on board as MU4616 was itself likely found in a marine context. Gibbins states that at least thirty wrecks are known with Africana 1 or 2A amphorae in situ and that these are mainly concentrated in the western Mediterranean, with a single exception of one off western Turkey.⁸⁴ According to his distribution map, there are four Africana 1 wrecks off Sicily, three off Tyrrhenian Italy, one off southern Sardinia, and two in the Adriatic; one off the coastline of Venetia and one just off eastern Calabria.⁸⁵ The study of

the Plemmirio wreck with its large cargo of Africana 1 amphorae has revealed a potential trading route for this form which travels via eastern Sicily, the Strait of Messina and onto the Italian western coast.⁸⁶ While this only outlines one possibility for where MU4616 may have been found, it gives a general sense of how Africana 1 amphorae were traded. Originating in a Northern African port they travelled via many island trading points with potential for trade before reaching their chief destination and consequent large-scale unloading.

Summary of the Evidence

Through a combination of typological study, handheld macroscopic petrological analysis, and a comparison to known finds and distributions of relevant amphorae, it has been possible to determine the date, origin, principal contents, distribution, and a hypothetical provenance for all four of the previously unstudied MAC amphorae. Three of the four amphorae most likely carried wine, while the remaining vessel, MU4616, carried olive oil. The amphorae can also be seen to have been manufactured across a wide range of time, with two examples from various stages of the fourth century B.C.E. (MU4639 and MU4666), one from the mid-first century B.C.E. to the late first century C.E. (MU4616) and one from the late second to late fourth century C.E. (MU4640) (Fig. 6). It is hoped that these conclusions, along with the more detailed data presented above, will not only be of assistance to the MAC's catalogue and database but also to future scholars researching these types of amphorae and what can be determined from an analysis of their morphology and fabric.

It would be worthwhile, in future studies, to investigate using microscopic and other more detailed scientific petrological methods on fresh breaks and in thin section to provide comparable and more accurate and verifiable dating and provenance results. These techniques, however, are recognised to be destructive and the museum's continued preservation of artifacts is a high priority and of equal value to academia.

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Endnotes:

- 1 Thanks to Karl Van Dyke, Director of the MAC, for access to these records.
- 2 Whitbread 1995, 201.
- 3 See Whitbread 1995, 201-3 for a discussion on Class 1 and 2 Mendeian fabrics and their identification.
- 4 Whitbread 1995, 201-2.
- 5 Whitbread 1995, 198.
- 6 cf. Göransson 2007, 124 (particularly fig. 218).
- 7 For more detail on the Porticello Mendeian amphorae, see Eiseman 1973, 13-23, esp. 13-15.
- 8 To date, I am not convinced that MU4639 can be completely aligned with Eiseman's Type 1.B due to the vast differences in other typological characteristics (shoulder, rim and missing toe). cf. Eiseman 1973, 13-14.
- 9 Whitbread 1995, 198.
- 10 cf. Grace 1949, 178; Lawall 2005, 384.
- 11 This putative development can be traced through various publications showing amphorae from the Athenian Agora excavations and the Alonnesos, Porticello, and El Sec shipwrecks. See Eiseman 1973; Cerdá and Arribas 1987; Whitbread 1995, 198-200; Lawall 1998, 2000, 2005, 2010.
- 12 On the closed deposit created by the construction of the Maussolleion of Halikarnassos, see Lawall 2005, 45. The Mendeian amphora from the El Sec shipwreck has also been placed in this general period, however, its dating is somewhat controversial and it is thought to be 20-30 years older than the rest of the cargo and possibly in re-use along with errors in photography and drawing multiplying dating problems (Lawall 2005, 45 & 53-4).
- 13 This theory relies on the assumption that MU4639 was not found in context with an underwater, flooded, ancient settlement site and hence may not have been in active trade circulation.
- 14 Athenaeus praises Mendeian wine stating it is "what the gods piss in their soft beds" and refers to the design of a new type of amphora specifically for the export of this produce (Athenaeus, I.29, I.31 & XI.784). In his case against Lacritus, Demosthenes also mentions a cargo of 3000 jars of Mendeian wine loaded at either Mende or Scione (Demosthenes, Against Lacritus [XXXV], 10).
- 15 See Eiseman 1973; Whitbread 1995, 198-203; Karjaka 2007, 133-41.
- 16 The Porticello and the El Sec shipwrecks being located in the Straits of Messina and just off Majorca in Spain respectively and the Alonnesos near the island of its naming in the Aegean.
- 17 For full detail on these finds and excavations, see Karjaka 2007, 133-41. Sites included in this study range from large forts to small villages among which some of the best known are Kamenskoe Gorodišče, Lysaja Gora, Kapulovskoe, Sovutina Skelja, Pervomaevka, Černeča, and Belozerskoe.
- 18 Karjaka 2007, 140.
- 19 Sealant would not have been necessary on an

outer surface of the vessel such as this, hence the suggestion of using it as a glue to adhere a stopper. Zemer (1977, 90, n. 235) has suggested that hermetic sealing was accomplished through the combination of clay stoppers and tree resin and three jars dating to the Persian period found by Dr E. Stern at Tel Mevorakh suggest this to be true.

20 As supported by Göransson (2007, 91) who states that 'B' amphorae were wheel-made from the sixth century until the third century B.C.E.

21 Farnsworth 1970, 10-11.

22 Whitbread 1995, 277-8.

23 On the 'B' amphorae from Euesperides, see: Göransson 2007, 88-115.

24 cf. Göransson (2007, 88-93) for a full discussion on why they should be termed 'B amphorae' rather than Corinthian type B amphorae, particularly p. 93.

25 Including the excavation of a kiln complex in the early 1990s at Figareto on Corfu by K. Preta-Alexandri and D. Kourkoumelis. The finds of over 3000 amphora sherds fitting a Corinthian B typology with some including monographic devices, such as an eight or sixteen pointed star, ivy leaves, a bunch of grapes, and an amphora similar to those found on Corcyrean coins strongly suggested a Corcyrean origin for B amphora: Farnsworth, Perlman, and Asaro 1977, 455-6; Kourkoumelis, 1990, 45. For more on the NAA study, see: Farnsworth, Perlman and Asaro 1977, 455-68.

26 Barone et al. 2002, 174.

27 cf. Göransson 2007, 76 & 82.

28 Koehler 1992.

29 I must thank Alba Mazza and Sebastiano Tusa for this suggestion and the connection with the Sicilian wrecks, which was raised during personal correspondence. The MGS amphora typology was established by Van der Mersch and is numbered from I to VI with a chronology spanning from the late fifth century to the first century B.C.E: Göransson 2007, 115. For more on the MGS typology, see Van der Mersch 1994, 59-92. For the finds around Sicily, see the website for the Museo Archeologico di Lipari, in particular the images of the "Shipwrecks of Lipari" and the Graeco-Italic amphorae from the Secca di Capistello wreck (<<http://www.regione.sicilia.it/beniculturali/museolipari/pagina.asp?Idsez4=1>>).

30 Large quantities of Form A jars have been found in and around Sicily and this may suggest a Sicilian origin. Their date range is thought to be between the latter fourth and early third centuries B.C.E.: Will 1982, 341-44.

31 See in particular: Will 1982, 341, n. 4; Van der Mersch 1994, 71, n. 120.

32 Göransson (2007, 118 & 120-21) has defined these as those which share morphological characteristics with Will Form A/MGS IV-V and B amphorae but to varying degrees so that some are more like 'B' amphorae whereas others are more similar to Graeco-Italic amphorae. Those closest to MU4666 are catalogue numbers 206, 207 & 208.

33 This has also been suggested by Göransson

(2007, 119) who has shown how 'B' amphorae were produced in the western Mediterranean at locations such as Sicily, Euesperides, the Adriatic coast, and the Calabrian Ionic coast; all locations that are also known to have manufactured Graeco-Italic amphora.

34 Whitbread 1995, 258.

35 This has been mainly observed in the examples found at Euesperides (cf. Göransson 2007), but also in those found in context with the wreck at Seriphos (see following note).

36 Kazianes, Simossi and Haniotes 1990, 227-8.

37 Göransson 2007, 78 & 98.

38 Göransson 2007, 110.

39 Whitbread 1995, 278-9.

40 Koehler 1978, 6.

41 This observation relies, therefore, upon the assumption that Corcyra produced B amphorae: Athenaeus, I.33; Koehler 1978, 6; Whitbread 1995, 260; Göransson 2007, 89.

42 Göransson 2007, 92.

43 Athenaeus quotes the Middle and New Comedy writer Alexis (c. 375-275 B.C.E.) in a fragment describing Corinthian wine as "torturous": Athenaeus, I.30.

44 Whitbread 1995.

45 For further discussion of this in connection to Graeco-Italic amphorae and the relationship between these two types, see Whitbread 1995, 92.

46 Kazianes, Simossi and Haniotes 1990, 228.

47 cf. Farnsworth, Perlman, and Asaro's article (1977, 463) on finds from Corfu in the Athenian Agora. The difficulty in conducting an ancient maritime voyage to Corcyra from Athens (particularly around the notoriously treacherous southern tip of the Peloponnesos, Cape Maleas) has been made clear by Thomas Hillard in personal correspondence.

48 Anonymous, Aristotelian corpus; Fraser 1972, 276; Whitbread 1995, 260.

49 The Mentores appear as a shadowy group and very little is known concerning them with almost no reference in modern scholarship. From Fraser's description (1972, 276) there is some speculation regarding where they should be placed and this makes determining whether or not amphorae travelled into the hinterland difficult.

50 I am thankful to Sebastiano Tusa and his colleague Alba Mazza for this suggestion, and would recommend future studies in these vessels to investigate this aspect in detail as it has great potential for revealing further provenance and distribution data.

51 Also known as Peacock and Williams Class 6.

52 This fits with Carreté's description of Dressel 1 amphorae containing well-sorted subangular quartz grains normally under 0.40mm in size, together with small irregular pieces of cryptocrystalline limestone. It is also similar to Peacock and Williams' description of Pascual 1 amphora petrology with discrete grains of quartz and feldspar and flecks of mica. For more detail on the petrology of Dressel 1 amphorae see Carreté, Key and Millet 1995; Key and Williams

- 2005, http://archaeologydataservice.ac.uk/archives/view/amphora_ahrb_2005/details.cfm?id=324&CFID=69943&CFTOKEN=E529B207-F3D5-4627-A0DEF8CCF0B03EF6. For Pascual 1 amphorae, see Peacock and Williams 1986, 93-5; Keay and Williams 2005, http://archaeologydataservice.ac.uk/archives/view/amphora_ahrb_2005/details.cfm?id=268&CFID=69943&CFTOKEN=E529B207-F3D5-4627-A0DEF8CCF0B03EF6.
- 53 The other possibility is that this vessel could be attributed as a Dressel 1B amphora. The evidence weighs in favour of the Pascual attribution, however, as the 'grooved' handles are not present in known Dressel 1B examples and this style of rim is more common on Pascual 1 vessels along with the smoother shoulder carination and rounder profile.
- 54 Peacock and Williams 1986, 93; Keay and Williams 2005, http://archaeologydataservice.ac.uk/archives/view/amphora_ahrb_2005/details.cfm?id=268&CFID=69943&CFTOKEN=E529B207-F3D5-4627-A0DEF8CCF0B03EF6.
- 55 Keay and Williams 2005, http://archaeologydataservice.ac.uk/archives/view/amphora_ahrb_2005/details.cfm?id=268&CFID=69943&CFTOKEN=E529B207-F3D5-4627-A0DEF8CCF0B03EF6.
- 56 Tchernia 1971, 52-4; Keay and Williams 2005, http://archaeologydataservice.ac.uk/archives/view/amphora_ahrb_2005/details.cfm?id=268&CFID=69943&CFTOKEN=E529B207-F3D5-4627-A0DEF8CCF0B03EF6.
- 57 Woolf 1992, 285.
- 58 Tchernia 1986; Trott and Tomalin 2003, 13.
- 59 The Pascual 1 vessel found at Saint Alban's Head Ledge in Dorset, England is a particularly well preserved example of this type, including a thick coating of pitch or resin inside. See Parham and Fitzpatrick 2013, 193.
- 60 Throckmorton (1987, 68) believes it was a "provincial derivative of the Dressel 1" type.
- 61 Woolf 1992, 287.
- 62 Tchernia 1986.
- 63 The importance of this route as a shortcut from the Mediterranean to the Atlantic (via the Bay of Biscay) should not be underestimated and this certainly assisted in the widespread distribution of Pascual 1 amphorae. Carreras also believes the Narbonne-Bordeaux route to have been closely linked to the distribution of Pascual 1 amphorae. See: Carreras' contribution, in: Keay and Williams 2005, http://archaeologydataservice.ac.uk/archives/view/amphora_ahrb_2005/details.cfm?id=268&CFID=69943&CFTOKEN=E529B207-F3D5-4627-A0DEF8CCF0B03EF6.
- 64 Also known as: Africana Piccolo/Ostia IV/Keay IV/Beltrán 57/ Peacock and Williams 33.
- 65 For further generalised description of this trait, see the University of Southampton's Amphora Project website: Keay and Williams 2005, http://archaeologydataservice.ac.uk/archives/view/amphora_ahrb_2005/index.cfm.
- 67 Gibbins 2001, 324-5. Williams and Carreras (1995, 246) add that quartz is also a frequent inclusion to fabrics from this type.
- 68 Gibbins 2001, 325.
- 69 Williams and Carreras 1995, 246-7. For a suggestion that Thanae is also represented on the stamps of Africana 1 amphorae from Ostia, see Taylor, Robinson and Gibbins 1997, 10.
- 70 Panella 1982, 171-186; Bonifay 2004; Keay and Williams 2005, http://archaeologydataservice.ac.uk/archives/view/amphora_ahrb_2005/details.cfm?id=1&CFID=573996&CFTOKEN=39545028.
- 71 It has been highlighted that North African fabrics in general are rather generic and poorly distinguished from each other: Gibbins 2001, 324; Keay and Williams 2005, http://archaeologydataservice.ac.uk/archives/view/amphora_ahrb_2005/details.cfm?id=1&CFID=573996&CFTOKEN=39545028.
- 72 Gibbins 2001, 'Abstract' & 326. For the archaeomagnetic study of Sullechtum and what the kiln site reveals in terms of its own dating, see Fouzai, Casa, Ouazaa and Alvarez 2012, 1872-74.
- 73 cf. Gibbins 2001, 326 for an example of using this technology in context.
- 74 Williams and Carreras 1995, 247; Keay and Williams 2005, http://archaeologydataservice.ac.uk/archives/view/amphora_ahrb_2005/details.cfm?id=1&CFID=573996&CFTOKEN=39545028.
- 75 See CIL II, 1180 for a description of Sextus Julius Possessor being ordered to assess the productivity of Spanish and African oleoculture.
- 76 Hist. Aug., Severus, 18.3.
- 77 Gibbins 2001, 328.
- 78 For illustration and side by side comparison of Africana 1 and 2 amphorae, see Sciallano and Sibella 1994, "Amphore Africaine I" and "Amphore Africaine II".
- 79 Gibbins 2001, 315.
- 80 Gibbins 2001, 315. Although more recent scientific analyses are proving that resins were also used in oil containers, see Romanus et al. 2009, 901 & 905. For more on the topic of how resin was used in amphorae, see Heron and Pollard 1988, 429-46.
- 81 Gibbins 2001, 324 & 328.
- 82 See Muckelroy 1978, 73.
- 83 A more detailed and complete list would include: Rome, Ostia, Tarraco, Fos, Antibes, Marseille, Athens, and Knossos in the Mediterranean with Bishopsgate, London, Caerleon, and Clausentum in Roman Britain and Olisipo, La Coruña and Lanzada on the Atlantic coast of Spain. Finds in northern Europe are barely documented and this form seems to be rare that far north: Williams and Carreras 1995, 247.
- 84 It is known that the majority of olive oil imported into Roman Britain originated in either Spain or North Africa, with other oil imports evident as a clear minority: Williams and Carreras 1995, 232.
- 85 Gibbins 2001, 313.
- 86 See Gibbins 2001, 315, fig. 3.
- 87 Taylor, Robinson and Gibbins 1997, 10.

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Appendix 1: Measurements and Data

Appendix 1.1:
MU4639 – Mendean Amphora c. 370 B.C.E.

Maximum Height	85.0 cm
Maximum Circumference	118.0 cm
Handle to Handle (max.)	25.5 cm
Neck Length	19.5 cm
Toe Length	5.4 cm
Toe Diameter	6.0 cm
Mouth Diameter	9.5 cm
Rim Diameter	2.0 cm
Rim Height	2.5 cm
Weight (kg)	12.2
Approx. Volume (L)	19.0
Munsell Comparison	5YR 6/6 - 2.5YR 6/6

Appendix 1.2:
MU4666 – (Corinthian) ‘B’ Amphora/Graeco-Italic Intermediate Form c. 325-300 B.C.E.

Maximum Height	61.0 cm
Maximum Circumference	10.5 cm
Handle to Handle (max.)	22.5 cm
Neck Length	11.5 cm
Toe Length	5.8 cm
Toe Diameter	2.7 cm
Mouth Diameter	11.5 cm
Rim Diameter	16.4 cm
Rim Height	1.9 cm
Weight (kg)	9.1
Approx. Volume (L)	21.0
Munsell Comparison	5YR 7/4 - 5YR 7/6

Appendix 1.3:
MU4640 – Pascual 1 Amphora c. 50 B.C.E.– 80 C.E.

Maximum Height	104.0 cm
Maximum Circumference	99.0 cm
Handle to Handle (max.)	22.0 cm
Neck Length	28.5 cm
Toe Length	11.5 cm
Toe Diameter	6.5 cm
Mouth Diameter	13.0 cm
Rim Diameter	2.0 cm
Rim Height	10.0 cm
Weight (kg)	18.5
Approx. Volume (L)	26.0
Munsell Comparison	5YR 8/4 - 5YR 8/2

Appendix 1.4:
MU4616 – Africana 1 Amphora c. 180-380 C.E.

Maximum Height	106.0 cm
Maximum Circumference	93.0 cm
Handle to Handle (max.)	20.0 cm
Neck Length	8.0 cm
Toe Length	8.5 cm
Toe Diameter	2.0 cm
Mouth Diameter	11.0 cm
Rim Diameter	1.5 cm
Rim Height	4.5 cm
Weight (kg)	11.1
Approx. Volume (L)	37.0
Munsell Comparison	10R 4/3

Thinking About Thera: A Re-interpretation of the Wall Paintings in Xeste 3

Emily Simons

The Bronze Age town of Akrotiri contains some of the best-preserved and much discussed frescoes from the Aegean Bronze Age. The wall paintings from Xeste 3 in particular, serve as the foundation for many discussions regarding ritual practice in the Bronze Age; but the identities and the actions portrayed in these paintings are ambiguous at best. This paper will critically analyse the painted figures, their identities, positions and stories while also placing them in the larger context of Xeste 3 and of Akrotiri. The discussion will query the role that these paintings played in constructing and exhibiting Theran culture.

Akrotiri contains some of the best-preserved frescoes from the Aegean Bronze Age, scenes which offer valuable insight into Thera's Bronze Age cultural practices. Acclaimed as the Bronze Age Pompeii, the town of Akrotiri was covered by volcanic debris following the eruption of the Thera volcano c. 1500 B.C.E.,¹ preserving many of the buildings and their delicate wall paintings. This paper will address the subject matter of some of the wall paintings from the building Xeste 3, providing potential new interpretations. Located in the extreme south of the excavated town, Xeste 3 is the second largest building excavated at the site of Akrotiri,² has the highest concentration of wall paintings in the town,³ and is the only house with a so-called lustral basin or *adyton*. This architectural feature consists of a sunken area accessible by steps. The terminology has problematic implications: 'lustral basin' with Arthur Evans' colonial assumptions, and the *adyton* with Classical temple architecture. This paper will address the architectural feature as an *adyton*, although this is not a perfect analogy. The *adyton* along with its associated wall paintings has caused much controversy in Bronze Age scholarship.

The wall paintings in Room 3a, located above the *adyton* of Xeste 3, depict women performing various tasks in a saffron-studded landscape. The 'Adorants', 'Saffron Gatherers', and 'Mistress of the Animals' occupy the northern and eastern walls of the room, on both the ground floor and the first floor (fig. 1). Scholarly interpretations of the *adyton* paintings are surprisingly unified; there is almost unanimous agreement they are evidence for the basin being a site of female initiation rites.⁴ However, I find this explanation lacking both in evidence and coherence. This paper considers the role that the *adyton* frescoes may have played in Xeste 3. It does not intend to provide definitive conclusions about Thera's religion or society but rather to address the possible identification of the female figures as decorative features in a room rather than as symbolic objects.⁵

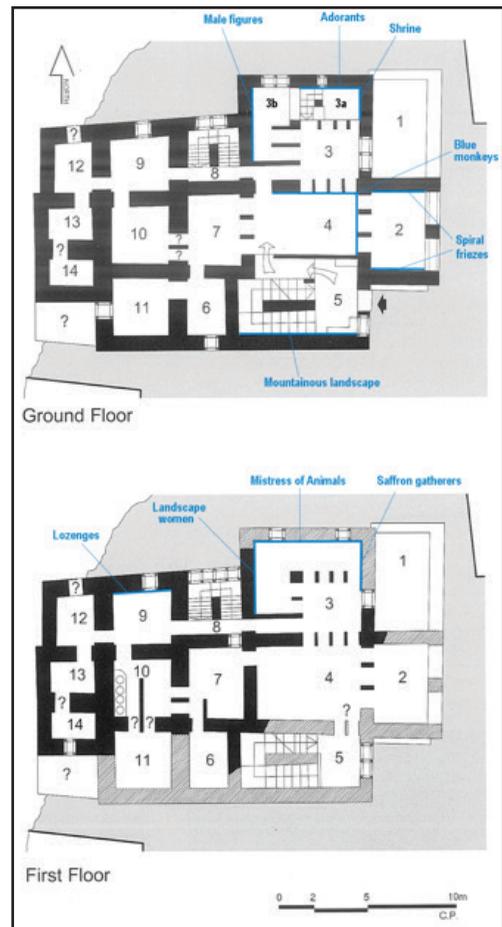


Figure 1: Ground floor and first floor plans of Xeste 3. Position of frescoes and decoration are indicated in blue. Adapted from Palyvou 2005, fig. 62.

The *adyton* in Xeste 3 was located under a series of controversial wall paintings in Room 3a measuring 3.3 x 1.8m and is approached by six steps. The basin in Akrotiri is unusual because of its position; Xeste 3 is not a palace complex, and in fact, no palace complex has been excavated at the site. In both art and architecture there is clear Minoan and Cycladic influence, but it is unclear where Thera lay politically and religiously.⁶ If Akrotiri was not a Minoan town we should not assume that the function of the *adyton*, ritual or otherwise, was the same as an *adyton* on Crete.⁷

The placement and iconography of the paintings above the *adyton* are the primary factors which allow for a religious and ritualistic interpretation. However, considering the ambiguous nature of the architectural feature itself, it is inappropriate to use the room as evidence for the interpretation of the scene as depicting a ritual. Additionally the frescoes cannot be used to prove a ritual nature of the *adyton*. The size, detail, and positioning of the *adyton* paintings within the house as a whole implies their importance, and the attributes of each woman indicates specific identities or activities recognisable to the Therans. Like wall paintings from Roman Pompeii and Herculaneum, it is possible that many of the Akrotiri paintings could depict myths or stories familiar to the occupants of the buildings.

Unlike other buildings in Akrotiri, Xeste 3 has paintings on both the ground floor and the first floor (fig. 2).⁸ The high density and distribution of paintings on both floors in Xeste 3 are indicative of affluence and indicates that Xeste 3 may have functioned as a civic building. The lack of domestic pottery and other items found in Xeste 3 further supports this notion.⁹ Large rooms in the eastern area could have functioned as large reception areas, although the lack of furniture and artefacts severely

limits solid interpretations of function. Furthermore, access to Xeste 3 was restricted; the main entrance is on the southeast corner with a staircase directly ahead. A foyer, Room 5, was created by partitions immediately to the right.¹⁰ In order to arrive in Room 4, the central room, a visitor was first forced to pass through the foyer and down a short corridor, limiting access. To the north, east and west of Room 4, other rooms were accessible through a series of pier and door partitions, which may have been opened or closed to control air and light and may have further regulated access within the building. The layout of the upper story of Xeste 3 reflects the lower story almost identically, demonstrating further access restrictions to the upper level.

Ground Floor *Adyton* Paintings

Traditionally, the paintings on both levels from Room 3a, have been interpreted as representing an initiation sequence; but this interpretation does not adequately consider the relationship between architecture and decoration. After a brief analysis of both the paintings, their positioning within Xeste 3, and a consideration of previous interpretations of their purpose, this paper will draw potential conclusions as to the identification of the figures.

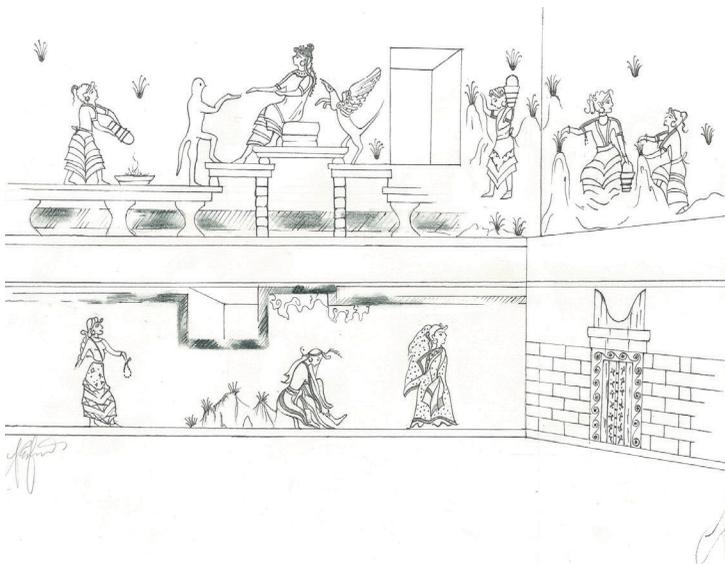


Figure 2: Sketch of the ground floor and first floor frescoes on the north and east walls of Room 3a, Xeste 3. Artist's impression, Fenella Fenton 2014.



Figure 3: 'Adorants' fresco from the north wall on the ground floor of Room 3a. From left, the 'Necklace Swinger', the 'Wounded Woman', and the 'Veiled Girl'. Ht. 1.43m, L. 3.91m. Dumas 1992, fig. 100.

On the north wall of the ground floor Room 3a, three female figures, the 'Adorants', are painted in a rocky landscape with a number of saffron crocuses (fig. 3). Based on hairstyle variations and physiological differences, they represent two age groups.¹¹ On the left of the composition are two older women, the 'Necklace Swinger', and the 'Wounded Woman', with a younger 'Veiled Girl' to the right. On the eastern wall of the *adyton*, there is a painted shrine or altar. The structure is topped with Horns of Consecration, which, according to Nanno Marinatos and Christos Dumas appear to be dripping blood.¹² Paul Rehak disputes this and instead claims that it depicts ashlar masonry and thus represents a palace.¹³ In his argument he also follows Gesell's hypothesis that the 'blood' streaked on the horns is actually garlands of saffron stigmas, a more appropriate interpretation given the setting,¹⁴ as saffron would stylistically and thematically link the paintings.

Of the two older women, the 'Necklace Swinger' is on the far left and is moving toward the basin and the shrine on the eastern wall. She is holding out what appears to be a beaded rock crystal necklace in a gesture which could be one of offering.¹⁵ Her obvious movement from one place to another creates the impression of purpose, of a narrative. N. Marinatos claims that she is an "abbreviated procession" offering the necklace to the shrine.¹⁶ However it is more likely that she was painted to stand alone. Her ornate dress,

comprised of the typical Minoan skirt; a transparent blue, open bodice blouse; and jewelery of chain-like crocus flowers across her chest,¹⁷ may have been indicative of her participation in a particular ritual. However, conventionally, elaborate costume is a means by which artists convey wealth or aristocracy.¹⁸ Given the common depiction of similar dresses elsewhere in Aegean art, it is likely that the style is indicative of a hierarchy based on wealth, although this does not discount N. Marinatos' offering theory. The purpose of her movement is related to the necklace. It is unlikely that the necklace was symbolic of all possible offerings, just as it is difficult to imagine that the women depicted here were generic females. It is more probable that the 'Necklace Swinger' was recognisable to the users of the room. Her purpose in holding the necklace may have been an identifiable attribute, a key which viewers used to read the painted narrative.

The 'Wounded Woman', the central figure, is seated on a rocky outcrop, seemingly tending to her injured foot and is much larger than the other two figures (fig. 3).¹⁹ The purposeful depiction of the injury signifies its importance. N. Marinatos makes the argument that the 'Wounded Woman' is evidence for a rite of passage having occurred within these rooms. She references Van Gennep's theory that pain must be part of the rite, and that the rite included collecting saffron barefoot.²⁰ Rehak notes that next to her injured foot is an unattached saffron crocus and suggests that the

'Wounded Woman' may in fact be reaching for the flower.²¹ Her hand is raised to her head in a gesture commonly associated with mourning or pain, leading scholars to associate the blood-streaked foot with menstruation.²² However, it seems unlikely that a bloody foot would be so symbolic, particularly, as Chapin notes, since the 'Wounded Woman' has a large breast and long hair; both post-pubescent features, making it unlikely that the woman represents a figure about to embark on a puberty rite.²³ Instead, Chapin and Davis believe that the mark represents the blood of defloration.²⁴ Chapin claims that since the woman is depicted as post-menstrual with her full breast, long hair, and 'string skirt', that the blood instead represents her impending marriage,²⁵ and is representative simultaneously of the broken hymen and the blood of childbirth.²⁶

It is, however, tenuous at best to claim that a wounded foot could be representative of any part of being a woman. It is necessary to note here that the so-called blotch of blood on her foot is very small and faded. This leads me to question whether the wound itself was important or whether it had another function. I argue that her pose and injury are attributes which identified her in Thera myth; that she was a well-known figure identifiable through her injury. As a large central figure, the 'Wounded Woman' would be an important character, perhaps the main figure in a mythical narrative. The 'Necklace Swinger' is walking towards her, but she is unaware; if the painting is depicting a narrative then their interaction must not come until later in the story.

The 'Veiled Girl' is in a strange position. Her body faces left as if walking away from the structure on the eastern wall but her head is turned 180 degrees to look back at it. She is almost completely covered by a veil that is pulled back to show her head and arm. Her costume is unlike those of the other two females; she wears a short juvenile skirt and a unique yellow and red veil. The blue head and flat chest identify her as a child, but the veil is unique in Cycladic and Minoan art.²⁷ Rehak

identifies the three 'Adorants' as acolytes in the service of a goddess.²⁸ He suggests that the older two females may have completed their service to the goddess and that the 'Veiled Girl' may only be starting, explaining her garments. He and N. Marinatos claim that the veil separates the girl from the other females and from the rest of the room, symbolically separating her, and identifying her as occupying a transitional role, a liminal space as part of a rite of passage.²⁹ It would be easy to imagine her playing some specific role that required a specific costume. However, the assumption that she *must* be occupied with a rite of passage is unreasonable due to insubstantial evidence. Much like the other 'Adorants', her unique veil may have been an identifiable attribute of a mythical figure.

First Floor *Adyton* Paintings

The upper level paintings are commonly read as a narrative from right to left,³⁰ showing a series of actions from the collection of saffron to the presentation of the same saffron to the central figure seated on the tripartite structure (fig. 4).³¹ One might expect to read the paintings left to right as in the ground floor paintings, yet such a reading is unsupported by the paintings themselves. The inconsistency of directionality in the paintings makes their reading ambiguous and not at all certain. The central female figure was originally assumed by S. Marinatos to be a nature goddess based on her animal attendants and animal themed jewelry.³² His interpretation of the scene has greatly influenced subsequent scholarship on these paintings and many scholars use this interpretation to see a ritualistic scene and purpose. However, the goddess figure is ambiguous and it is easy to attribute religious meaning to unknown figures rather than put them in a wider social context. Furthermore, while religion played an important part in society and social structure, without intimate knowledge about what constituted the pure and profane it is almost impossible to distinguish the extent of a religious ritual within a social ritual.³³



Figure 4: The 'Mistress of the Animals' fresco from the north wall of the first floor of Room 3a. Doulas 1992, fig. 122.

The 'Mistress of the Animals' dominates the first floor fresco; she is flanked by a blue monkey and a griffin, and those in turn are flanked by adolescent girls (fig. 3). The 'Mistress of the Animals' occupies the central position and towers over the other figures. Both S. and N. Marinatos have heavily influenced how this figure has been interpreted as a divinity,³⁴ based on her size, elaborate garments, and attendant animals. The size and central position of the 'Mistress of the Animals' illustrates her status, but this status may be social rather than religious. Her attendant animals are in heraldic positions. The griffin could be evidence of divinity due to its mythical nature, but since both throne rooms at Knossos and Pylos are decorated with griffins,³⁵ it is only indicative that the griffin was connected with authority.³⁶ Its presence, coupled with her size can only suggest that the 'Mistress of the Animals' held a high social status. Our ignorance of whether the animal was considered sacred restricts any religious interpretations. Therefore the only valid statement describing the 'Mistress of the Animals' painting is that it represents a higher authority, perhaps it is a form of ruler iconography, or possibly even a deity.

Through their analyses, Rehak and Chapin brought attention to an important detail, fine blue lines found in the eyes of the women discussed above. This detail would have passed by unnoticed were it not for the red lines in the eyes of the men in the ground floor adjacent Room 3b, and in the eyes of the women from the House of Ladies, also in the town of Akrotiri. The older 'Landscape Woman' in Room 3b on the first floor of Xeste 3 has no lines at all in her eyes.³⁷ Rehak claims that the blue streaks are the physical representation of a diet rich in Vitamins A and B, the same vitamin found in saffron.³⁸ The men and women painted with red streaks in their eyes may indicate a Vitamin A and B deficient diet. Rehak therefore claims that the frescoes in Xeste 3 distinguish between people who have access to saffron and those who did not; a differentiation which seems to have followed gender, age, and hierarchical lines.³⁹ Additionally, the colored streaks in the figures' eyes may equally have been artistic conventions specific to different painters. Different painters may have worked in specialised areas thus restricting their particular depictions to a room, as evident in both the ground floor and first floor Room 3a paintings.

Interpretations of these frescoes are problematic as it is unclear whether they depict everyday activities such as the harvest of saffron, or are representative of something else entirely. The depiction of saffron is common to both frescoes and could thematically link both registers,⁴⁰ though the importance of the plant could easily justify its feature in these paintings. Ferrence and Bendersky argue that Xeste 3 functioned as a centre for female physicians or priestesses who worked with saffron.⁴¹ Saffron has many medicinal properties, and functions as an emmenagogue, promoting uterine health and in high doses may have been used as an abortifacient.⁴² Based on these features, they argue that the ‘Mistress of the Animals’ was a healing deity. The validity of their conclusions is based on the assumption that the ancient Therans were aware of the medicinal properties of saffron. From the colors used in the paintings and the garments worn by the women in the paintings, the use of the plant as a dye was certainly known. Additionally, it is possible that the Therans knew some of its medicinal properties, perhaps communicated through the abundance of saffron in these paintings. The use of the plants in the frescoes of Xeste 3, lends support to the idea that saffron played an important role in the civic and perhaps religious functions of Xeste 3. It is entirely possible that the upper story paintings depict a realistic situation where saffron is harvested and offered to an authority who may redistribute it or sell it, or a deity who employs its healing abilities. The ground floor paintings also depict saffron crocuses albeit in smaller numbers. In this context it may have been depicted as a realistic portrayal of the Thera landscape or used in order to link the narrative depicted to the usage of saffron in the house.

The connection between the two stories and paintings are thematic, not physical. Originally a floor existed between the two levels and as discussed above, access was restricted between the two areas. Movement between them would have involved passing through a variety of rooms and a staircase, effectively minimising direct relations between the two scenes. This

is an often overlooked fact, with Forsyth even suggesting that the ‘Wounded Woman’ may have ‘ascended’ to join the ‘Mistress’ after an initiation.⁴³ If initiations did occur in the *adyton*, the ‘Mistress’ would not have been visible, and would have no visual influence on the scene. Additionally, given her presence on the first floor, the ‘Mistress’ is in no way physically connected with the *adyton* invalidating any argument that her presence is a sign that ritual activity occurred there. One could argue that perhaps this civic building was not used for initiation rites into womanhood but rather was used by the group of women identified by Ferrence and Bendersky, possibly priestesses, who employed saffron medicinally. The use of saffron and initiations are not mutually exclusive, but there is no evidence in the wall paintings that these were the primary functions that occurred in Room 3a, let alone the wider Xeste 3.

Early in the 1974 excavations Doumas discussed the possibility that Xeste 3 was the house of a wealthy saffron merchant.⁴⁴ The clumps of saffron painted may suggest purposeful cultivation,⁴⁵ and the ‘Saffron Gatherers’ may represent workers, dressed elaborately as a symbol of his wealth (fig. 5). Saffron is an expensive commodity, especially when one considers its uses in medicine.⁴⁶ However, the lack of domestic pottery and furniture prevents any clear interpretation of Xeste 3 as the house of a wealthy family. Given the building’s size, fine quality, and position within the town, the function of Xeste 3 as a civic building is highly probable. Therefore the wall paintings within, while decorative, likely depicted recognisable figures who were important to the town, local heroines or characters from a known myth.

The Traditional Theory

The traditional theory that the Xeste 3 paintings depict a rite of passage for girls is flawed. It is important that the ambiguous nature of the paintings is clearly communicated. Socially, the rites of passage that children undergo to pass into adulthood are public events.⁴⁷ In

many cultures they are the established means by which children are accepted into society and introduced to roles that they will play in maintaining the culture, religion and the social structure. Xeste 3, decorated with a greater number of wall paintings than any other building at Akrotiri, has the only example of an *adyton* and has multiple examples of pier and door partitions. These features make it probable that Xeste 3 functioned as a civic building, the role of which is unlikely to have been solely that of a place of initiation.

The problem in identifying these images as depicting part of an initiation ritual lies in our lack of knowledge about Theraan ritual practice. Literature about initiation sequences is based on ethnographies from tribal-scale groups.⁴⁸ Akrotiri as a built town does not fall within this definition. Van Genneep famously introduced the idea of a three-phase initiation sequence which may be applied to any important transition in life.⁴⁹ It may, therefore, be possible to apply the sequence here.

However there is no overt distinction between phases in these paintings. The shorn hair is indicative of childhood, but the depiction of breasts is a physical bodily change associated with physical puberty rather than the social puberty that Van Genneep claims is the focus of initiations.⁵⁰ Perhaps the distinction can be seen in the ‘Veiled Girl’s’ unique clothing; but she is the only example of any figure dressed in such a veil so far excavated in the Aegean. To base an assumption of an initiation rite on the separation of one girl amongst many, remains blatantly speculative.

The exclusive use of females as decoration, and as a basis for an initiation interpretation or engendering process is illusionary. Room 3a, the area discussed, is small and the adjoining room, Room 3b, depicts images exclusively of men, highlighting the fact that these paintings do not exist in isolation but interact with both the architecture and other paintings in the building (fig. 1). Additionally, a room’s decoration does not always reflect its purpose,



Figure 5: ‘Saffron Gatherers’ fresco from the east wall of the first floor of Room 3a Douras 1992, fig. 116.

therefore the decoration of Room 3a very probably does not reflect its function. This makes a narrative or mythical interpretation of the paintings, as separate from the function of the *adyton*, particularly reasonable.

Rehak aligns the actions seen in the Xeste 3 frescoes as one similar to the engendering processes of the cult of Artemis at Brauron in the Classical period.⁵¹ Unfortunately this does not explain the roles of either the 'Wounded Woman', or that of the 'Veiled Girl', nor does it acknowledge other paintings in the building. If the main purpose of Xeste 3 was to provide an area where girls may be inducted into society, how should one interpret the 'Man in the Mountainous Landscape' at the entrance (fig. 1)?⁵²

It is evident that the figures are enacting something. The 'Saffron Gatherers' on the eastern wall of the first floor could be depicting the action of picking saffron accurately (fig. 5), while the 'Adorants' may have been figures from a mythic tradition. The actions are inexplicable by themselves. The lack of similar iconography around the Aegean could be attributed to a specifically Theran myth, perhaps an origin myth, or a depiction of local heroines. Saffron may have played a role in a particular myth or story, thus explaining its presence in the paintings. In this case, these figures would have been recognisable to the Therans, much as later Greeks identified Herakles through depictions of his lion skin. However, since a Theran mythic tradition is unknown at present it is impossible to state with any surety that this is the case, although the idea of the 'Adorants' as characters from a mythic tradition should not be put aside merely for want of more evidence.

Conclusion

The wall paintings in Xeste 3 display a variety of features which may be interpreted in a number of ways, none of which are entirely certain. It is unlikely that the *adyton* paintings depict an initiation sequence, or represent a puberty or

marriage rite, given that this interpretation is based on the tenuous symbolism of a small smear of blood on the 'Wounded Woman's' foot. It is more probable that Xeste 3 was used as a civic building within which saffron may have been used medicinally. This interpretation could explain the waiting area in Room 5, though not necessarily the large spaces of Room 4 and 2. An attractive explanation of the depiction of the 'Adorants' is that they are figures from a mythic tradition, while the first story frescoes could clearly depict the saffron picking process or another myth. Wall paintings do not always reflect the use that rooms were put to, and it is probable that they functioned primarily as decoration rather than as an explanation of a ritual. The 'Mistress of the Animals' can certainly be identified as a higher authority, although not necessarily a goddess. Any activity that occurred in the building may not have been its only feature; be it religious or civic performances, saffron usage, or mythic traditions. None of the above are mutually exclusive, however interpretations of the Xeste 3 wall paintings should focus specifically on observable characteristics and treat the figures as decorative features rather than symbolic.

Endnotes:

- 1 According to Egyptian chronology, the eruption must have occurred between 1560 and 1480 b.C.E., but ice-core dating suggests an earlier date 1650 – 1643 bce. Wiener 2003 in Palyvou, 2011, 248.
- 2 Palyvou 2005, 54; Doumas 1992, 19, 128.
- 3 Palyvou 1986, 179.
- 4 See n. Marinatos 1993, 205; Doumas 1992, 128; Davis 1986.
- 5 Knappett 2002, 158.
- 6 Doumas 1983, 123.
- 7 Palyvou 2005, 183; Marinatos, n. 1984, 73.
- 8 Doumas 1983, 54.
- 9 Marinatos, s. 1976, 23; Doumas 1992, 127.
- 10 Marinatos, s. Thera vii, 1976, 23.
- 11 Rehak 2004, 87.
- 12 Marinatos, n. 1984 74-75; Doumas, 1992, 129 in Rehak, 2004, 87.
- 13 Rehak 2004, 87.
- 14 Gessell in Rehak 2004, 87.
- 15 Doumas 1992, 129.
- 16 Marinatos, n. 1984, 75.
- 17 Rehak 2004, 87.
- 18 Colburn and Heyn, 2008a, 4.
- 19 Rehak 2004, 88.
- 20 Marinatos, n. 1984, 78-84; Van Gennepe 1960. According to Marinatos, walking barefoot in the rocky landscape depicted, would have been painful and within a group of girls provided a sense of achievement and camaraderie necessary for a rite of passage.
- 21 This does not explain the red paint however. Rehak 2004, 89.
- 22 Rehak 2004, 94; Marinatos, n. 1993, 205-211; Colburn 2008b, 35.
- 23 Chapin 2001, 22.
- 24 Chapin 2001, 23; Davis 1986, 420.
- 25 Barber 1991, 257 writes that a string skirt was indicative of sexual availability, or reproductive age, or that the woman had reached puberty but was not yet married.
- 26 Chapin 2001, 20.
- 27 Only other example of a similar type of patterning is a Mycenaean fresco fragment depicting a girl in a yellow tunic with red polka dots. The arrangement of arms and hairstyle is consistent with the 'veiled girl'. Rehak, 2007, 222.
- 28 Rehak 2007, 210-213
- 29 Rehak 2004 93; Marinatos, n. 1984, 79; 1993, 208-209. Traditionally, the whole scene is attributed to a rite of passage through the presence of the horns of consecration on the east wall.
- 30 Doumas 1983, 76; Marinatos, n. 1984, 61.
- 31 Doumas 1983, 76-77.
- 32 Marinatos, s. Thera vii 1976, 33-34.
- 33 Durkheim 2002, 40-46.
- 34 Davis 1986, 402. Marinatos, s. Thera vii, 1976, 22-23.
- 35 Preziosi and Hitchcock 1999, 160.
- 36 Morgan 1988, 50-51.
- 37 Davis 1986, 403-404
- 38 Rehak 2004, 92.
- 39 Rehak 2004, 92.
- 40 Chapin 2008, 72.
- 41 Ferrence and Bendersky 2004, 214-218.
- 42 Ferrence and Bendersky 2004.
- 43 Forsyth 1997, 59.
- 44 Doumas 1983, 76.
- 45 Morgan 1988, 29.
- 46 Ferrence and Bendersky 2004, 203.
- 47 Van Gennepe 1960, 68.
- 48 Van Gennepe 1960; Turner 1969.
- 49 Van Gennepe 1960, 67.
- 50 Though the two may coincide, however rarely. Van Gennepe 1960, 67-68.
- 51 Rehak 2004, 93, 210; 2007, 208- 210, 224.
- 52 He is as of yet not fully reconstructed or published, but Doumas 1992, 128 identifies the figure.

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Preserving Archaeological Mosaic Pavements: A Discussion of Context and Access

Katherine Becker

*This article explores if and how the conservation of archaeological mosaics can be managed so that neither context nor public access is sacrificed. First, the subjects are introduced to give the reader an understanding of the role of artifacts and sites within heritage management. Then, the first of two case studies derived from the study of archaeological mosaics in Turkey discusses the potentially negative impact of time-sensitive decisions in the field on the preservation of mosaics, while the second explores the impact of dispersed mosaics from one parent site. The discussion and conclusions urge for movements towards open communication and additional guidelines from the heritage management sector, as well as a potential digital solution.**

Introduction

Mosaics are designs or images made up of smaller pieces, traditionally tesserae. Though they can occur as pavements (*opus tessellatum*) or adorn walls and vaults (*opus musivum*), this article focuses on *opus tessellatum*. The Ancient Greeks first developed mosaics into their true form as pebbled pavements. Later, the Romans introduced *opus musivum* and glass tesserae. By the fifth century C.E., mosaics had been largely appropriated by the Christian Church, which remained true until the eventual decline of mosaics during the Renaissance.

Today, mosaics face both physical and conceptual challenges. Physically, many mosaics are deteriorating in situ or within museum stores. Conceptually, mosaics tend to be presented without much explanation as to where they came from, why they are significant, and how the designs and images should be interpreted. This lack of context, whether the mosaic is in situ or in an institution, prohibits visitor understanding and contributes to a general devaluation of the medium. This article has been developed from research in response to these issues, focusing on how context is (or is not) provided for mosaics and the extent to which the public is allowed access to the material, physically or virtually.

Context and access are issues that have received significant attention in recent years. In this paper, context can be defined as the geographic, cultural, material, and archaeological setting of the artifact, both originally and as it survives today.¹ Access is understood to be the inherent right of the public to be provided with opportunities to interact with and experience material culture from within the heritage realm.² The meanings of the terms are entirely dependent upon numerous parameters individual to each situation. Thus, it is difficult to determine the role of context and the possibility of access preemptively in regards to conservation management. Any attempt at making recommendations regarding the literal and figurative space of mosaics then requires diverse discussion and consideration.

As *opus tessellatum* are pavements, they embody both decoration and function and are omnipresent to residents and visitors of the space. The art form was known as an extravagant and desirable addition to noble homes and public spaces, giving “an impression of plenty, luxury, and hedonistic living ... every visitor who stepped over [the mosaics] would know he was a man of culture.”³ Mosaics were chosen to directly enhance the specific space and décor in question, so that contemporary viewers were immersed in a total environment of decoration and opulence.⁴ Each aspect of the motif – style, materials, design, and location – communicated specific people, places, events, and beliefs. In this way, mosaics are a kind of visual language in which contemporary viewers were literate and current scholars are still deciphering. It is with all of the above in mind that the modern viewer must experience mosaics, appreciating each phase of their life from patronage to quarrying, production, and decades of use.

Archaeological Mosaics

As mosaics first began to be rediscovered and interest in the arts of antiquity grew within collections and early museums, methods were developed for lifting and transporting the mosaics, as well as for caring for and displaying them once they arrived. Various techniques developed from the late 19th century through the 20th century. Because mosaics require a large investment of resources in terms of conservation, storage, and display, many lifted mosaics were never treated, resulting in their deterioration within stores.⁵ For those that were treated, it was common up through the 1970s to re-lay the mosaics in reinforced concrete, which has caused unintentional damage.⁶ For the treated mosaics that were actually displayed within museums, it tended to be as art rather than as archaeological material culture, contorting the constructed context and public perception.⁷ Concurrently, those mosaics that were encountered but left in situ were not treated according to a set protocol, nor were reburial practices governed.⁸

By the early 1980s, conservation theory began to support preservation *in situ*.⁹ The International Committee for the Conservation of Mosaics (ICCM), other organizations, and various individuals have helped the field of mosaics conservation advance significantly by devoting numerous publications and conferences to ethical and practical guidelines.¹⁰ The contemporary western approach to mosaics conservation advocates *in situ* preservation with minimum intervention and a focus on stabilization, documentation, and environmental monitoring. *In situ* preservation occurs most commonly via reburial or protective shelter, though also through lifting and then re-laying on a new foundation *in situ*.¹¹ While lifting and relocation still occur, it is ideally only when the mosaic would be damaged or destroyed if left *in situ*.¹² There is no single, supported method of preservation because of the number of situational decisions that must be made during the process of managing and conserving archaeological mosaics.

Mosaics discovered on active excavations are further at risk in that “archaeological activities are one of the main causes of decay of archaeological sites.”¹³ This is one of the primary reasons that archaeological and conservation management plans are considered essential to contemporary responsible practice. It also indicates the important role that archaeological conservators have to play.

Archaeological Conservation

Though conservation is variously defined according to the situation, locations, and who is involved, there are uniting principles. The fundamental underpinnings of the term can be described as “the preservation, protection, care and restoration of our [*sic*] cultural heritage,”¹⁴ making a conservator someone who pursues these aims, even if not formally trained.¹⁵ However, the guiding principles for how to achieve ‘the preservation, protection, care and restoration’ are still evolving.

One of the primary goals of contemporary conservation is ‘minimum intervention,’ by which one should only choose those treatments required by the object’s needs and with the least possible effect on the object itself.¹⁶ Another is the idea that conservators must “respect the cultural context” and “clarify the artistic and historical messages therein without the loss of authenticity and meaning.”¹⁷ These tasks necessitate the use of personal judgement. However, modern conservators are trained to evaluate situations while considering the many values and stakeholders involved in order to determine the best possible outcome without sacrifice to the object or site in question.

In heritage management, the term ‘stakeholders’ refers to “the many individuals, groups, and institutions with an interest in the outcome of heritage and conservation issues.”¹⁸ Identifying and involving as many stakeholders as possible in conservation issues is a way of increasing participation and access. The term ‘the public’ can be interpreted many ways.¹⁹ The public represent the motivation of heritage professions as the users, consumers, and overall beneficiaries. Furthermore, the public is not a unanimous collective.²⁰ Understanding the public in their role as stakeholders requires accounting for the diversity as well as prioritizing the various needs in order to benefit the majority, where possible.²¹

Also indispensable to effective conservation management plans is the discussion of the significance and values of the site or object in question. Mason and Avrami propose the following typology of values: historical and artistic, social or civic, spiritual or religious, symbolic or identity, research, natural, and economic.²² While these categories are not definitive or exhaustive, they provide a framework for discussion. That values vary by culture and time adds complexity, allowing conservation to continually evolve and enhance cultural values by preserving the heritage in which they are founded and thus derive.²³

As is the case in many aspects of conservation, there is not yet a consensus as to the ideal physical or conceptual treatment of mosaic pavements. Despite dedicated conferences and publications, the excavation of mosaics inherently encounters questions yet to be answered.

Context and Access of Artifact Display

The primary difference between the effects of conserving objects in situ versus within a cultural institution manifests in terms of visitor experience. This is due to the impact of context, which is not discussed in terms of presence and absence, but in terms of the concept of originality and intent; nothing exists without context but many items are no longer seen in their original context, which distorts modern understanding and interactions.²⁴ Unfortunately, sometimes in situ preservation is impossible or no original context survives. Additionally, many museums have recreated historical contexts far beyond what would be possible on-site.

If preservation in situ is not possible, then presentation in a museum as close to the originating site as possible would seem preferable in terms of upholding context. However, the inverse is often true for access. Due to population size and ease of travel, international and national museums often reach wider audiences than regional or local museums. For those objects that remain in situ, location, the environment, and the materiality of the object in question often limit display. Further complications may arise from legal constraints or the policies of the excavation, as not all sites are open to the public, especially if the site is the subject of ongoing excavations.

The following case study illustrates the importance of the planning process and the potential impact of individuals lacking heritage theory awareness on the significance of shared culture.

Case Study One: The Decision Making Process Behind Reburial

The topic of mosaic conservation came to be of particular interest to the author after witnessing the discovery and excavation of a series of mosaics during the summer of 2011 on site in southern Turkey.²⁵ The ensuing conversations between conservation student, archaeologist, field director, and project director were illuminating in terms of the lack of consensus on what should happen to mosaics post-excavation and which qualities of mosaics are most valuable. The author was charged with devising a plan of action for the mosaics, which she developed from a series of publications, particularly the manuals published by the Getty Conservation Institute.²⁶ However, it was still largely unclear how to proceed with the excavation and how to objectively determine the future of the mosaics.

The mosaic pavements were discovered and excavated towards the end of the season, limiting the time and available resources for its treatment. As such, it was decided that after excavation and cleaning, full documentation would be followed by an efficient preservation campaign. After researching available techniques and recommendations from similar sites, a discussion was held between the primary stakeholders. Figure 1 illustrates the decision-making process of the student and lead archaeologists at the site.

Lifting was immediately excluded for many reasons including that the purpose of preservation of the mosaics was to continue excavating the pavement in the future. Preservation by shelter was not possible due to resources, security concerns, and the risk of environmental damage due to open exposure. Thus, reburial was the only viable solution. It was agreed that the most appropriate approach would be temporary reburial designed to last a maximum of three to five years. Synthetic woven bags were purchased locally and taken to the field. Each bag was

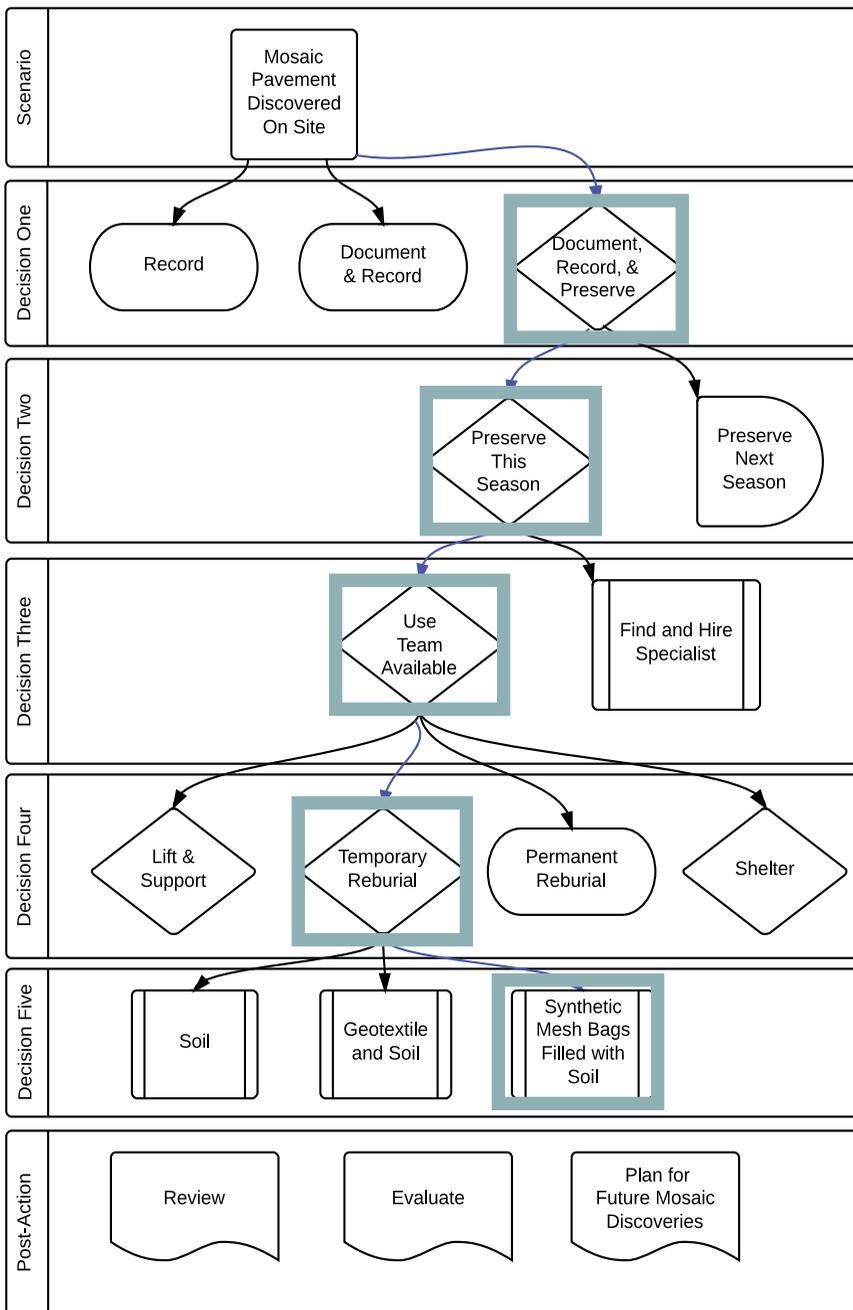


Figure 1: This decision tree illustrates the many possible responses to discovering a mosaic during excavation. The think squares highlight the choices made in case study one.



Figure 2: One of the synthetic bags split with the contents emptied, one year after installation (author's own image).

then filled approximately halfway with sieved soil removed during excavation. The bags were stacked on top of the areas of exposed pavements, approximately three to four bags high and wide enough to extend beyond the boundaries of the pavements. A layer of soil was then placed over the bags to protect the material from exposure to the elements. Reversal of the reburial process was planned to occur within the three to five year window, once issues regarding land-rights had been resolved. Otherwise, the contingency plan was to lift the bags, check on the condition of the pavements, and complete another temporary reburial following a similar methodology.

When the author returned for the 2012 season, the condition of the synthetic bags was checked. Though many bags along the edges of the top layer had split, likely due to the elements, the lower rows seemed to be in good condition (fig. 2). The compacted layer of soil placed over the bags appeared to have been very effective, as the bags that had split were those not protected by the soil layer (fig. 3).

As it was not yet possible to replace the temporary reburial with a more permanent solution, the bags were left in place. Thus, the condition of the pavements could not be checked. It is possible that water retention, biological growth, and the extension of the vegetation into the pavement are currently putting the tesserae at risk for further deterioration. In the next few years, when the bags are removed, these issues can be identified

and documented so that future conservation can address them.

Reflecting on the reburial process undertaken, decision-making occurred without full consultation of a broad range of stakeholders and resulted in a plan that considered the resources of the project but little else. There were significant gaps in the author's understanding of the situation, specifically in terms of who should be involved in



Figure 3: View of the layers of bags in place and covered by soil (author's own image).

the discussion and the potential cultural significance of the pavements. Had the author been in contact with a broader range of stakeholders and experts, the decisions made would have been more inclusive and informed.

Though the mound is closed to the public due to government policy, the author now believes that attempts should have been made to make an exception prior to reburial of the mosaics. If not then, when the mosaic is uncovered and prepared for a permanent solution in the future, the site should certainly aim to allow the public access. Doing so would help create a sense of community engagement and responsibility. In addition, the project should strongly consider public dissemination of the information through publication, online or otherwise. Many projects have made illustrated discussions of their mosaic conservation projects available in order to help other projects and increase awareness of the importance of mosaic conservation.²⁷

Ultimately, the case study is not an example of faulty decisions and the actions taken did not, as far as is currently known, negatively impact the physical integrity of the mosaics. However, the processes employed to reach the decisions is not in keeping with current theory on site and conservation management. Greater awareness of these movements and a pathway to pursue them given reduced resources and limited time could help prevent future individuals and sites from making similar lapses and encourage communication within the archaeology and conservation communities.

Mosaics in Museums

Current practice dictates that mosaics should not be lifted unless the pavement would likely be destroyed and an institution has already been identified to provide storage and care. Ideally having met these conditions, the mosaic would then be lifted and transported to the accepting institution where it would undergo a significant period of care that includes backing, cleaning, and mounting.²⁸ Following these processes, the

mosaic would either be selected for display or remain in storage. If chosen for display, there are two basic approaches for mounting mosaic pavements – horizontally and vertically. Though *opus tessellatum* were typically intended to be floor pavements, this is not necessarily the factor used within a museum to determine display. Rather, available space is a key issue that guides many curatorial and design decisions.²⁹

From the author's personal experience, more mosaic pavements are displayed upon the floor, either in recesses or on plinths, in Mediterranean museums than Western museums. While this trend could have many explanations, it could also be a reflection that the closer an object is to its original location, the more of its context it retains. On the other hand, for those museums born from colonial endeavours, the display of mosaics upon walls could be interpreted as a reflection of these origins.³⁰ Rather than material culture, the pavements represent the art of idealized societies and are valuable for their appearance and what they represent more so than for their original function or archaeological significance.

However, in the modern world and in an effort to embrace values-based conservation and its guiding principles, there must be an expectation for responsible display of mosaics. Museums and institutions in which lifted mosaics are displayed have a responsibility to create an atmosphere of both context and access without sacrificing the mosaics' additional values. The following case study focuses on the dispersal of mosaic pavements excavated from Antioch in the early 20th century and the conceptual issues these pavements now face as a result.

Case Study Two: Dispersal of the Antioch Mosaics

Antioch-on-the-Orontes is an archaeological site in modern Turkey well known for the prolific Roman mosaic pavements.³¹ American teams excavated the site from 1932 to 1939, during which time many mosaics were lifted

due to their quality and condition.³² The removal process involved “gluing a sheet of burlap or canvas to the face of a mosaic, undercutting the mosaic to free it from the bed, turning it over, and reinforcing the back with iron rods and concrete.”³³ As necessary, larger mosaics were “cut and lifted in sections.”³⁴ The lifted mosaics were then separated into groups by a nominated committee who took “subject matter, decorative design, and chronological span” into account.³⁵ Three groups resulted: one remained at the Antioch museum and/or in situ, one was shipped to Paris, and the other to America.³⁶ Within America, the lifted mosaics were eventually dispersed to various institutions, including the Princeton Art Museum, the Worcester Art Museum, the University of Oklahoma, the Metropolitan Museum of Art, and the Virginia Museum of Fine Arts in Richmond.³⁷ Within these institutions, the manner of display included wall mounting and floor display, both elevated and as useable pavements.³⁸ In the various publications, if not in the display itself, effort was made to describe and illustrate the original context of the mosaic pavements.³⁹

Though the excavation intended to separate the mosaics, as proven by their division and sale, the dispersal of pavements within America was not anticipated and occurred largely due to shortage of space and funds.⁴⁰ In the case of the pavements of the ‘House of Cilicia,’ the component parts were divided up and dispersed to at least three institutions, where they still remain.⁴¹ While recent efforts have been made to rejoin separated component parts such as during the *Antioch: The Lost Ancient City* exhibit in 2000, the majority of the mosaic sections from Antioch remain in disparate institutions with no guarantee of reference to their original context and associated parts (fig. 4).⁴²

Furthermore, as Dobbins demonstrates, it is only through consideration of the individual sections as parts of a whole that the significance of the mosaics is revealed.⁴³ By at least theoretically returning the pavements to their original context, it is possible to better understand the Antiochean individuals and society, as well as the way the city corresponded to the Classical world at large.⁴⁴ Thus, while the current dispersal of mosaics enables greater access and awareness of the city and its art,



Figure 4: . The Antioch hunt mosaic in Worcester, Massachusetts. The pavement is displayed horizontally, inset into the museum floor. Visitors can circumnavigate the pavement while a barrier prevents anyone from walking across the pavement. The hunt pavement is the largest Antioch mosaic in America (image taken on January 7, 2012 by Peter Eimon).

much of the value of the mosaics is lost. Still, the pieces do not have to be removed from their current institutions in order to reinstate context. Rather, further work in the vein of Becker, Dobbins, Kondoleon, and Smith can achieve such while also serving to reaffirm the cultural and academic values of the Antioch mosaics and discourage the future division of mosaic pavements.⁴⁵

Discussion

When unexpectedly excavating a mosaic, there is no single answer as to which methodology should be pursued, as each situation is rife with variables. Therefore, Case Study One is not advocating for the creation of a recipe approach to mosaics preservation. Rather, heritage professionals and organizations need to actively disseminate the importance of inclusivity in the decision making process. Additionally, more publications are needed that address the impact of conservation on the more abstract aspects of the object (or pavement) in question with practical suggestions for ways to maintain both material and conceptual authenticity and integrity.

Case Study Two illustrates the complexity of mosaic display within museums, as well as the impact location and display has on the conceptual nature of the pavements. Despite the issues surrounding the removal of mosaics from their original context, mosaics face far fewer mechanisms of decay inside institutional storage, meaning that mosaics on display in a museum may survive significantly longer than those preserved in situ. Though original context has been destroyed by relocating the pavement, the material itself survives and is available for research and appreciation. Berducou states that the authenticity of archaeological objects “is in their structure, their physiochemical makeup, [and] the potential source of new learning.”⁴⁶ If relocation does not remove or alter the original material and indisputably provides greater access and possibility for discovery, then perhaps museum display is the ‘new’ authentic. The paradox demands a

prioritization of values, which can only occur from a thorough discussion with a range of stakeholders on a case-by-case basis.

With the assistance of technology, solutions are possible that unite the artistic and archaeological aspects of mosaics in an effective and unobtrusive display. Given a room in which mosaics are safely mounted on walls, it would be entirely possible to project images onto the floor. The projected images could include the mosaics on display, as well as any associated pavements and photographs of the original setting, as available. This, in conjunction with adequate wall text, could effectively recreate an archaeological excavation within a museum without forcing the viewer to choose between art and archaeology. The number of adaptations of this scenario that take advantage of projectors and interactive computer screens are infinite and provide creative opportunities to enhance visitors’ experience and understanding of mosaics.

Digital Solution to Increase Access to Mosaics

With in situ preservation as the predominant recommendation for contemporary mosaic conservation, context is inherently preserved to some extent. Thus, access becomes the more elusive principle. Richards proclaims “it is no longer sufficient just to preserve heritage resources, digital or otherwise. We must make sure that they are accessible, and this means taking the resource to the world, rather than expecting the world to come to us.”⁴⁷ Many factors may interrupt or prohibit public access to archaeological mosaics, whether lifted or in situ, demanding a solution be proffered in which access can be provided while upholding the integrity of both the archaeological sites and/or the institution in possession of the pavements. As context and access are both location dependent and are often inversely related, the most convenient solution would be some form of online archive. There are many successful prototypes for online archives and databases.⁴⁸ An archive with a similar mission

could then provide a possible model and a thorough survey of available resources would be highly informative as to useful fields and the most reliable platforms.

An archive dedicated to archaeological mosaics would require procedure and objectives to be agreed upon by a large body of stakeholders. Certain requirements would be required logistically, which could include: public access, searchable by multiple criteria, standardized entry format, a strong preference to the inclusion of images, and the provision of background information to communicate original context. Achieving these objectives would require the cooperation of many people, projects, and countries as well as a thorough assessment of intellectual property rights and copyright law. If the archive were configured so that individuals directly associated with mosaic pavements could submit entries for approval, the resources mandated by such a project would be greatly reduced, though the issue of individuals' authority to release information would have to be addressed.

While the logistical issues of designing and launching an archive of this scale are complex, the benefits of investing in the process would be numerous enough to validate the resources and difficulties. An archive would provide access to information, particularly for those sites that are under-published and those museums that do not include their mosaic holdings in their collections databases or are lacking such. It would undoubtedly facilitate the study of archaeological mosaics and all aspects of their contemporary society, in part by creating the potential for the comparison of pavements discovered in different countries and centuries, allowing for potential identification of operating workshops, patterns of the diffusion of motifs, and even unknown colonies and spheres of influence. Additionally, a joint-effort, digital enterprise would spark public interest in mosaic pavements, archaeology, and conservation. Potentially, demonstrating leadership in terms of open access to mosaics could encourage the creation of similar archives and cooperation

in other areas of heritage management, such as in the identification and preservation of other outdoor artifacts including rock art, cave paintings, and in situ fossils. A mosaics archive would make it possible to continue supporting minimum intervention and the preservation of mosaics in situ without sacrificing public gain or archaeological data from the discoveries.

Though an archive does not rectify the lack of public access to many archaeological in situ mosaics, it offers a potential solution that not only does not sacrifice context, but also potentially enhances it. The resulting mosaics archive could be highly effective as a means of digital display, encouraging in situ preservation and avoiding the complications of archaeological display in institutions by trading storage of tesserae with storage of bits.

Conclusions

The conservation of mosaics has been a long discussed topic, and yet there are still many areas requiring further research and clarification. Resource effective, ethically founded techniques for in situ preservation are highly relevant needs. However, it is possible that despite physical damage and material degradation, the primary hindrance to the contemporary conservation of mosaics is awareness. Thus, it is important to increase communication between experts and novices in a setting that is not judgmental of past decisions but supportive of facilitating improvements to future thought and action. Wider dissemination of current and progressive publications on a values-based approach to planning would also improve knowledge and thereby facilitate sustainable decision-making.⁴⁹ The continued publication of technical manuals for conservation treatment of mosaics such as The Getty Conservation Institute is also important, especially as improvements to current practice are discovered.⁵⁰ Discussions also need to continue regarding the issues of context and access and how the two components can be managed so as to best provide for the material and the public, a topic that is applicable to many objects in addition to mosaics.

Ultimately, excavation and conservation are ineffective if the potential knowledge and experiences embedded within that material remains inaccessible to the collective owners.⁵¹ While the current push for in situ conservation ensures the maintenance of context, equal energy must be applied towards the provision of access in order for the perceived value of the material not to exceed the value of its impact. The idea that “it is the public, after all, that benefits and is served by the world-wide conservation movement” should be embraced as a sector-wide mission.⁵² By pursuing open communication, digital sharing, as well as by accepting that the decision-making process in itself is a significant step towards achieving better practice in conservation, heritage professionals have the potential to improve the future of in situ and relocated mosaics, as well as conservation theory as a whole.

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Endnotes:

- 1 Caple 2001, 36.
- 2 Potter, Jr. 1997, 39.
- 3 Westgate 2000, 270.
- 4 Dobbins 2000, 60-1; Westgate 2000, 271.
- 5 de Guichen and Nardi 2006, 4; Roby 2010, 1.
- 6 Roby 2010, 1.
- 7 Scott 2006, 636.
- 8 Ling 1997.
- 9 de Guichen and Nardi 2006, 4-6.
- 10 de Guichen and Nardi 2006; Roby 2010; see for example, ICCROM *Mosaics N°1-5*.
- 11 For a reburial example see the Lod Mosaic website (<http://www.lodmosaic.org/conservation-1.html>); and Demas 2012b. For shelter examples see Stewart et al. 2006; Demas 2012a. For lifting see Sease 1994; Waelkens and Loots 2000, 438.
- 12 Roby 2010, 1.
- 13 Palumbo 2002, 8.
- 14 Icon 2012, ¶3.
- 15 Muñoz Viñas 2005.
- 16 Caple 2001, 64-65.
- 17 ICOMOS Training Guidelines, ¶ 3 cited by Jokilhetto 2007, 6.
- 18 Mason and Avrami 2002, 21.
- 19 See Merriman 2004, 1-2.
- 20 Keene 2002, 21.
- 21 Ambrose and Paine 1993; Jameson, Jr. 2000, 288-97; Merriman 2004, 1-9.
- 22 Mason and Avrami 2002, 16-17.
- 23 Child 1994, 141; Demas 2002, 49.
- 24 Berducou 1996, 256-57.
- 25 The name and location have been withheld in the interest of site preservation.
- 26 Getty Conservation Institute and The Israel Antiquities Authority 2003; Getty Conservation Institute 2008.
- 27 See as examples: The Getty Conservation Institute 1991; Piqué 2004; Kolaťaj et al. 2007.
- 28 Sease 1994, 72.
- 29 Jones 1981, 3; Bradley et al. 1983, 161.
- 30 Scott 2006.
- 31 See Levi 1947; Campbell 1988; Kondoleon 2000; Becker and Kondoleon 2005.
- 32 Alexander 1940, 245; Becker and Kondoleon 2005.
- 33 Jones 1981, 2.
- 34 Jones 1981, 2.
- 35 Jones 1981, 13; Smith 2011, 12.
- 36 Jones 1981, 14.
- 37 Alexander 1940; Jones 1981; Becker and Kondoleon 2005; Smith 2011; see the Appendix in Jones (1981, 16-26) for a full account of the American dispersal.
- 38 Smith (2011) discusses elevated display; see Alexander (1940) and Jones (1981) for information on useable pavement displays.
- 39 Alexander 1940; Jones 1981; and Smith 2011.
- 40 Smith 2011, 12.

- 41 Smith 2011, 12-13.
42 For the exhibition see Kondoleon (2000) and Becker and Kondoleon (2005, 17).
43 Dobbins 2000.
44 Dobbins 2000, 60-61.
45 Becker and Kondoleon, 2005; Dobbins, 2000; Kondoleon, 2000; and Smith, 2011. These works have given holistic catalogues and interpretations of the Antioch mosaics and discussed the roll of the lifted mosaics in museums, both historically and currently. Dobbins and Smith bring the issue of separated pavements and ways for creating context to light, important topics that should be addressed by more art historians.
46 Berducou 1996, 250.
47 Richards 2008, 189.
48 See, for example: the Beazley Archive (<http://www.beazley.ox.ac.uk/index.htm>); ARTstor (<http://www.artstor.org/index.shtml>); JSTOR (<http://www.jstor.org/>); the Portable Antiquities Scheme (<http://finds.org.uk/>); and the Corpus Vasorum Antiquorum (<http://www.cvaonline.org/cva/default.htm>).
49 Demas 2002.
50 For example, the Getty Conservation Institute 2008.
51 Davis 1997, 85.
52 ICCROM 1977 cited by de Guichen and Nardi 2006, 6.

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Community, Conflict & Archaeology in Old Akko (Acre), Israel

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The Old City of Akko, Israel was declared a World Heritage site because of its well preserved Ottoman and Islamic-era town, and underground ruins of a Crusader port. Today, the Old City remains a 'living' Arabic town within a larger Jewish community. Akko's Arab population is economically depressed and skeptical of official tourism developments, wary of whose heritage will be preserved. The situation is complicated by the recent discovery of a Hellenistic port underneath the existing marina. The conflict between community and archaeology in regions of religious conflict are old problems. Akko has experimented with new solutions, which this paper will evaluate.

Introduction

In 2001, the Old City of Akko, Israel was declared a UNESCO World Heritage site. This designation was based on the Old City's Ottoman and Islamic-era town, and the partly subterranean ruins of a well-preserved port built during the Crusader era. The Old City lies within a larger, mostly Jewish community and remains a living Arabic town where tourist shops have not yet replaced vegetable markets and small fishing boats dominate the marina. Akko's Arab community is economically depressed and skeptical of efforts by officials to develop the port for tourism. Moreover, the city's cultural resource management plans, formulated by both local development companies and the government, have generated conflict with residents, who have resisted some efforts to have Akko's Crusader legacy promoted alongside its 18th-19th century Arabic-Ottoman heritage. The recent discovery of well-preserved Hellenistic port facilities extending underneath the town and its fishing marina and proposals to incorporate these features into the city's heritage tourism infrastructure has complicated the situation. The conflict between community and archaeology, and the danger of privileging the dominant histories in regions of ethnic and religious conflict, are old and widespread problems. Akko, however, has been experimenting with some new solutions, which this article seeks to evaluate.

Cultural Heritage: Past and Present Problems

Heritage management efforts in Akko began during the British Mandate (1920-1948). Much of the work conducted during this period had its roots in a series of surveys carried out under the Palestine Exploration Fund during the late 19th century.¹ These initial surveys were conducted to search for not only biblical evidence but also the concrete archaeological evidence for modern European (and by default, Christian) society.² Following the establishment of the Mandate, the British Mandate Antiquity Department recognized the Old City's historical value and named certain

parts of the town to be antiquities protected under the 1929 Antiquities ordinance, including the city walls, the Crusader citadel, and the remains of an ancient aqueduct leading out of the city towards Tel Kabri.³ Although the fastidious attention to detail in the records would suggest a comprehensive survey of the town, the managing of sites initiated by the British was primarily focused on the Crusader legacy, presumably for its direct European ties. The restoration of the Crusader-era complex of the Hospitaller religious order (a project which continues into the present day) began under the British and dominated their efforts during their tenure in Akko. Ottoman-era sites and their descriptions are present in the files and while there is some evidence of restoring Ottoman material, it was not to the extent of the Hospitaller complex restorations. Some structures, such as a sentry box on top of the Ottoman wall, were demolished instead.⁴

The biased manner in which the British conducted their work and the subsequent politicized archaeological agenda of the new Jewish state crucially formed the way heritage and archaeology is dealt with in Akko as well as the country at large.⁵ This is reflected in the current state of the town, and its complete focus on the Crusader legacy and Hospitaller Citadel, which has been run by the Old Acre Development Company (OADC) since the 1960s. The OADC is a government-run organization whose primary goal is to transform Akko into an international tourist destination. Additionally, the company is dedicated to Akko as a diverse tourist attraction that will bring in many different types of people. The OADC also recognizes that Akko and its buildings must be conserved and restored to ensure that the history remains intact. Finally, the company is dedicated to improving the economic welfare of the area.⁶ As part of this mission, they have created an interactive walking museum in the Hospitaller complex, which draws the majority of Akko's tourists. True to their mission statement, this comprehensive restoration plan is aimed at "striking a delicate balance between the needs of conservation and those of development, so as to both protect and display

heritage components while allowing visitors to experience the place and ensure proper visitor management.”⁷

The restoration of the Hospitaller Compound has made a significant impact on the tourism industry in Akko, and even the Crusader name ‘Acre’ as it was known in the 11th and 12th centuries is synonymous with its contemporary name. For the most part, it is one of the few stops made by today’s tourists while traveling through the town.⁸ A short walk from the Hospitaller Compound will take visitors to a bustling Arab souk, Turkish baths built by Al-Jezzar, the Ottoman ruler of Akko from 1775-1804, as well as the mosque of Al-Jezzar.⁹ A walk to the seawalls will not only provide breathtaking views of the sea but an operational port dependent on local fishing. All of these landmarks are equally part of the heritage of the living residents of Akko, and yet, they receive decidedly less attention than the Crusader fortress nearby. Additionally, the 18th and 19th century buildings of the town, which can be considered historical monuments in their own right, are decrepit and underdeveloped. Akko is recognizable in Israel as not only a richly historic town, but also as one of the country’s impoverished.¹⁰

While the Compound is the primary reason for Akko’s UNESCO status, the official statement does recognize the other key history that is present. “Acre (Akko) is a living witness to the existence of two now extinct cultures – those of the Crusaders in the Holy Land and of the Ottomans....”¹¹ A seemingly logical conclusion would be that Arabs such as those that reside in Akko would likely identify with an Islamic heritage rather than a Western European one. This common misconception is part of a larger trend in Israeli archaeology today. First, in Akko and in other parts of the country, the focus on Jewish history over the last sixty years has been at the cost of all other histories.¹² Second, archaeological practice in Israel has been so intertwined with the nation building that has occurred since the declaration of

statehood in 1948 that there is the assumption that Arabs could use the direct heritage evidence in the ground to assert themselves as rightful owners of the land.¹³ The actuality is the opposite; since archaeology is so closely associated with Jewish national pride, Arabs view it as just another political maneuver on the part of the Israeli government as well as the fanatical Jewish settlers of the occupied territories.¹⁴ This distrust is misidentified as a complete ‘lack of interest’ in heritage.¹⁵

Since their inception, the OADC has made some strides in incorporating local preservation into tourism development. As part of their dedication to economic well being in Akko the OADC includes in its objectives: “To enable high quality residential and living conditions for the population of Old Acre.”¹⁶ This includes plans to expand the marina to hold 300 ships, which would expand the fishing industry and promote economic development for the local residents.¹⁷ The OADC also has future plans to restore and commercialize the Khan al-Umdan, an 18th century inn, the efforts of which will be discussed in further detail below.¹⁸ There are also several areas of the Crusader citadel that are still being conserved and will be open to the public in the coming years. The proposed concepts are ambitious and include many positive ideas for the improvement of Akko.



Figure 1: Akko's marina

The history of the city itself and all development efforts are set against the backdrop of a modern city, which is politically complex and has broader cultural concerns than heritage management. Just last year, for reasons not yet discovered the mayor of Akko, Shimon Lankry, was shot and wounded by a masked man in a drive-by shooting.¹⁹ In the news more recently was Ahmad Tibi, a well-known anti-Zionist politician in the Israeli Knesset and a native son of Akko. He loudly criticized the Israeli government for their treatment of the city, saying that Akko is suffering from Jewish rule.²⁰ There is also recorded skepticism that exists among the local Arab population. As Abdu Matta, an Akko tour guide, stated in reference to the restoration projects, “the local people [are] afraid, and they are suspicious. We as human beings are suspicious of any new, huge change in our lives.”²¹ Archaeology and the cultural heritage management are inseparable from politics and religion, and it could not be more apparent in the Old City, where the majority population is Arab, the government leaders trying to develop the town are Jewish, and the tourists are either Christian or Jewish.²²

In interviews with various Arab locals, filmmaker Patrick B. Stewart highlights the skepticism the population feels in his documentary *Its Better to Jump*. Many say that they are afraid of Akko being transformed by the government into an overrun tourist town with no population. Abu Yusef Fakieh, a local fisherman, was convinced that the improvement of the marina was part of this plan.²³ All of the interviewees felt that the government, by offering to buy their houses, was pushing them out and trying to transform Akko into a European-style village where only the rich could afford to own houses. Additionally, they believe that any local organization that would help locals to improve their houses would be immediately shut down because the government does not want them to stay.

Any effort by the government to develop Akko for more tourists is viewed by many of the

residents as a negative action. As previously mentioned, the sale of the Khan al-Umdan, the 18th century inn, was the focus of several peaceful protests that occurred last October. These demonstrations were successful and the hotel development plans were stalled.²⁴ The locals viewed the sale of this historic building as an attack on their national identity and on their identity as Arabs of the Old City.²⁵ Demographically, Jewish people relocating to Akko from Gaza after Israel disengaged from the Strip in 2006 has further troubled the situation in Akko.²⁶ Makram Khoury, a well-known Israeli-Arab actor, likened the development of Akko to a military invasion, except instead of tanks, the government is occupying the town with their housing plan and replacing the history with the culture of another people.²⁷

Future Considerations for Improved Cultural Heritage Management

As the residents have vocalized, it is not a lack of concern for heritage that the people in this town possess, it is more a distrust of the official efforts and a lack of resources to initiate their own heritage endeavors. Akko is taking steps to combat not only these problems, but also the fundamental problem of archaeology among Arabs in Israel. The first step would be to recognize that heritage is not necessarily divided along religious and ethnic lines, but rather is a universal phenomenon.²⁸ This concept of universal heritage is already being put into practice by the Akko International Conservation Center, located in heart of the Old City. The interviews in *Its Better to Jump* have shown that the Akko residents are beginning to recognize the need for local involvement in heritage preservation.²⁹ They not only see that Akko has a lot of potential if developed the right way, but there is a sense of connection to the city’s history, both Arab and non-Arab. The Conservation Center is a branch of the Israel Antiquities Authority (IAA), which provides space for international students to come and practice conservation. The center’s director, Shelley-Ann Peleg, believes that Akko

is an ideal place for the study of the history of Akko as well as an opportunity to evaluate and plan for the true diversity of Akko's rich heritage. Peleg also identifies it as an *in vivo* environment for multidisciplinary scholars, architects and engineers.³⁰

The Conservation Center has strengthened its relationship with the local people by keeping a literal open-door policy and by the introduction of various community programs.³¹ These local programs include lectures on the history of Akko as well as workshops at the local schools. Peleg believes that by involving the local population in the preservation of all aspects of their city, the residents will have increased pride and investment in the heritage that belongs to them.³² Moreover, the Center hosts students from around the world for five-month increments to learn about conservation and documentation techniques by allowing them to participate in the restoration of various buildings around the city. The mission of the Conservation Center recognizes that urban preservation is a daunting undertaking that requires a blending of architecture, structural, and community concerns. The true challenge, however, stems from the need to integrate these components and relate them to each other.³³ Intangible heritage, or the recognition of the visible remains as well as the local heritage and identity that has developed alongside the physical structures has become an important part of the Conservation Center's mission.³⁴ By involving the residents in preservation of their homes and community, they have integrated this concept in the upkeep of the Ottoman buildings in Akko.³⁵

In addition to the work that is being done by the International Conservation Center, the recent discovery of an ancient Hellenistic harbor poses more possibilities for strengthening Akko's cultural heritage development. The discovery of this harbor was the result of restoration work that was being done on the Ottoman seawall by the OADC. The restoration efforts included the construction of a cofferdam

that temporarily separated the sea and the wall. During this restoration, the discovery of ancient remains prompted the OADC to involve the IAA and initiate an archaeological survey. In 2011, the IAA was joined by the University of Rhode Island (URI) to excavate and preserve the ancient harbor facilities of Akko. The Hellenistic slipway that has been revealed can be dated to approximately the second century B.C.E. and it is estimated that the slipway extends below the Ottoman walls. While this is the first significant evidence of the harbor, the existence of the Hellenistic city underneath the Crusader and Ottoman layer has been known for quite some time, as land excavations outside of the wall have revealed as much.³⁶ The slipway and jetty facilities most likely extend further out into the modern port harbor. The discovery of these facilities was the goal of URI's 2013 field season, along with research conducted on several recently discovered 18th and 19th century wrecks. Future exploration will reveal the full extent of the ancient harbor.

This discovery is extremely significant to the understanding of the Hellenistic world and represents the first concrete evidence for the important military harbor at Ptolemais-Ake (Hellenistic Akko). The discovery poses a number of possibilities, however for the purposes of this study, the incorporation of the emerging ruins of Akko's Hellenistic maritime past and their role in its future development as a



Figure 2: the 2013 IAA/URI field season

center for archaeological tourism will dominate all future discussions of heritage management. An OADC proposed development would involve a walkway that would start on the southern beaches and lead along the length of the sea wall. The Hellenistic sunken ship shed – slipway structure, if revealed in its entirety, should be a valuable inclusion of this proposed walkway. Ideally, this could be another type of interactive museum similar to the Crusader fortress, with signs highlighting the important historical events that have occurred in Akko's harbor. The walkway would include all historical periods of Akko's harbor, thus making it appealing to many people. Additional historical information could easily be incorporated into the walkway for example, the research being done on Napoleon's attempt to gain control of the Holy Land, which included a siege to Akko in 1799 C.E. The discovery of several 18th and 19th century wrecks in the harbor and off Hatamarim beach to the south that could contribute to the discussion of the Napoleonic siege of Akko.

The development of this walkway is not foreseeable in the immediate future due to

the unfinished archaeological work and lack of funding for such an expensive endeavor. Another, more cost-effective option would be to construct an interactive 'walking' museum atop the existing seawalls. From the seawalls, a visitor would be able to learn about the town's history by looking and reading about it while being able to see and hear the modern town below. This experience in a sense embodies what Akko residents believe it should be known for: a living town housed against the backdrop of hundreds of years of history. The true potential of Akko as a center for tourism is illustrated by a recent media observation that its attraction is its history, which is unencumbered by large developments or chain restaurants.³⁷ Future tourism development should highlight the multiplicity of Akko's historical heritage, not just the prominent Crusader legacy.

The idea of a walkway could lead to another proposal: an enhancement of the city's walking tours. This has the potential to help the OADC and Conservation Center engage the local population in their cultural heritage in a way that brings attention and economic benefit to non-Crusader sites. Currently, the OADC



Figure 3: Map of Akko with walking tour outlined.

website has a section dedicated to walking tours of Akko.³⁸ These tours, similar to a walking museum experience either on or next to the city's walls, would be a wonderful way to involve tourists in the history of the town and the living culture that remains. Currently, there are seven different tours, highlighting different themes in the town's history and seemingly offering an option for a wide variety of visitors. However most visitors to Akko are day-trippers who will by default choose the Crusader tour, as the statistics have shown.³⁹ The walking tours on the Company's website are also limited in their historical scope and do not have detailed descriptions. In some of the tours it is unclear how the sites that are mentioned fit into the historic time period of the tours.

The OADC's current "classic tour" (which includes the citadel, Templar tunnels, Okashi museum, Ramchal synagogue, the souk, and Turkish baths) could be revised into a different experience that can be recommended to Akko's day-trippers. This premiere walking tour would give visitors an intensive and balanced introduction to the Old City over the ages. The redirection of resources will emphasize a shared commitment to celebrating the town's diverse historical attractions. The tour would highlight important Arab sites of Akko such as the Al-Jezzar Mosque as well as a walk along the Ottoman built seawall. It would also include the Crusader Pisan port, and any future development in the Hellenistic history of the town.

Conclusion

The Old City of Akko has been important to many civilizations and cultures, and for almost a hundred years it has been given attention by several heritage management efforts. Most recently, the Old Acre Development Company has been the leader of the city's conservation projects, including the Crusader-era Hospitaller complex. The complex is almost solely responsible for Akko's tourism industry. However, Akko faces larger problems than

diversifying the tourism experience, including acute political and religious tension. The International Conservation Center has been pursuing alternative avenues in relating to the local population, and while their success has started out small, it is a great stride for a troubled town. Additionally, the discovery of an ancient Hellenistic port has brought new possibilities to light for the city. If Akko is to develop and prosper as an international tourist destination while maintaining its pride and identity as a living Arab town, the local authorities and inhabitants must find common ground and a balanced, inclusive appreciation of the town's cultural heritage. A different approach, such as interesting and diverse walking tours, along with the continued incorporation of the local community will revitalize the local economy and ensure Akko's diverse history and culture for future generations.

Endnote

- 1 Abu El-Haj 2001, 22.
- 2 Abu El-Haj 2001, 22, 25.
- 3 1929. British Mandate Files, Akko, Antiquities Ordinance no. 51.
- 4 British Mandate Files, Akko, File 5, n. 3006
- 5 For a critical discussion of archaeological practice in Israel and its history, see Abu El-Haj, 2001.
- 6 Mission statement of the Company available at: <http://www.akko.org.il/en/Acre-Tourism-Development-Strategy>
- 7 Fuhrmann-Naaman & Kislev, 2010, 41.
- 8 It is estimated that approximately 250,000 visitors visited the complex annually between 2006 & 2011, more than any other attraction in the city. (See Shoval, 2013, 3.)
- 9 Murphy-O'Connor, 2008, 180.
- 10 Shoval, 2013, 3.
- 11 (2001) UNESCO Description of the Old City of Acre.
- 12 Abu El-Haj 2001, 251.
- 13 Abu El-Haj 2001, 252.
- 14 Abu El-Haj 2001, 249.
- 15 For a discussion of this 'disinterest' among the Arab population see Abu El-Haj, N. 2001. "Archaeology and Its Aftermath" In *Facts on the Ground: Archaeological Practice and Territorial Self-Fashioning in Israeli Society*, 239-276. Chicago: University of Chicago Press.
- 16 For descriptions of the development strategy see "Acre Tourism Development Strategy" at <http://www.akko.org.il/en/Acre-Tourism-Development-Strategy>.
- 17 OADC "Acre Tourism Development Strategy"
- 18 For a description of the Future plans see "Future Plans" at <http://www.akko.org.il/en/Future-plans>.
- 19 Haaretz, Mar. 22, 2013.
- 20 Aretz Sheva, Jan. 26, 2014.
- 21 Matta, A. in CNN interview (Mysteries of the Holy Land).
- 22 Shoval, 2013, 3.
- 23 Stewart, 2014.
- 24 Electronic Intifada, Jan. 30, 2014.
- 25 Stewart, 2014.
- 26 Stewart, 2014.
- 27 Stewart, 2014.
- 28 Abu El-Haj, 2001, 242.
- 29 Stewart, 2014.
- 30 Peleg, 2008, 2.
- 31 Peleg, 2008, 2.
- 32 Peleg, 2008, 6.
- 33 Khirfan 2010, 49.
- 34 See the description of intangible heritage given by UNESCO at http://portal.unesco.org/culture/en/ev.php-URL_ID=34325&URL_DO=DO_TOPIC&URL_SECTION=201.html
- 35 Peleg, 2008, 2.
- 36 See Smithline, H. 2013 "A Unique Hellenistic Pottery Assemblage From Akko." *Atiqot* 76:71-103.
- 37 Montmousard, Acre ('Akko) 50: 153-179.
- 38 For the walking tours, their descriptions, and maps, refer to the Old Acre Development Website at <http://www.akko.org.il/en/Old-Acre-Walking-Tours-in-Acre>
- 39 See Shoval, 2013, 3.

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Baking in the Desert: The Potential Personal Quarters or Kitchen at Khirbet Sufaysif, Jordan

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*Salvage excavations at the caravanserai Khirbet Sufaysif in the southern Wadi Araba, Jordan, approximately seven km outside of Petra, revealed an interior room with both internal and external ovens, a U-shaped stone enclosure and a 'bench-like' installation as well as a deliberately sealed door to an adjacent interior room. This paper seeks to present the data recovered and provide a preliminary analysis of the finds, architecture and significance of this area which may have served as a kitchen area or as personal quarters. By exploring this room and its role in the caravanserai, it is possible to begin to understand the vital position which caravan stations held along the major trade road, the Incense Route, between Petra and the Mediterranean coast at Gaza during the Nabataean and Early Roman Periods.**

Salvage excavations were completed at the caravanserai (caravan station) Khirbet Sufaysif in 2013 under the aegis of The Bir Madhkur Project.¹ The Bir Madhkur Project (BMP) seeks to explore the hinterland of Petra and the southern Wadi Araba to elucidate the complex occupational history of the region with an emphasis on the Nabataean control of the area, from the late fourth century B.C.E., the Roman annexation in 106 C.E. and into the modern era.² To achieve this aim, research has centred on excavations at the fourth century C.E. Roman *quadriburgium* Bir Madhkur as well as an extensive pedestrian and aerial survey of the broader area which is currently being conducted to study the landscape and settlement patterns from the Palaeolithic to the modern period. As part of the ongoing study of the southern Wadi Araba, the caravan station at Khirbet Sufaysif was excavated to gain a more comprehensive understanding of the trade networks surrounding Petra and linking the Nabataeans to the markets of the Eastern Mediterranean, as well as to determine the potential occupation phases and time of abandonment for this particular site.

The ‘Incense Route’ passes through the Negev in Israel, with this portion having been placed on the UNESCO World Heritage List, extending into Jordan. This ancient pathway connects the Nabataean capital of Petra, and sites further east, with Gaza on the eastern Mediterranean coast (fig. 1).³ Khirbet Sufaysif was the first place of refuge, and the last place of rest, outside Petra after having crossed the mountains or wadis and plateaus into the Wadi Musa. Pliny, in his *Natural History* (12.32.64-65), describes this overland route from southern Arabia to Gaza as comprised of “65 stages each with a halt for camels, and at a cost of 688 denarii for a single camel load by the time it reached the Mediterranean ports.”⁴ Along this route, valuable goods were transported for centuries on the backs of camels led by experienced traders who were able to navigate the ever changing and always challenging desert pathways and routes.⁵ The primary goods, which supply the modern name of the route, were frankincense and myrrh which were highly sought after in the ancient world for religious rituals and perfumes.⁶ In

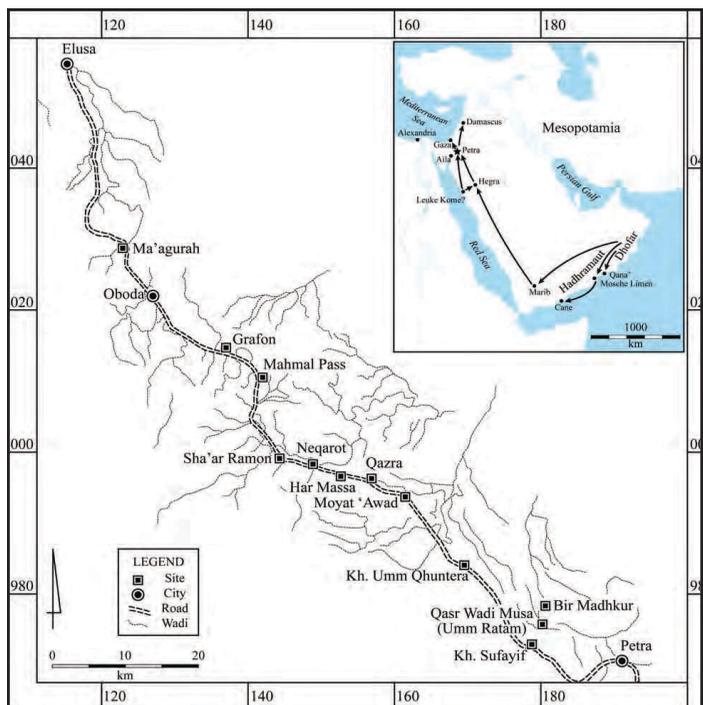


Figure 1: Petra-Gaza Incense Route showing Khirbet Sufaysif. Courtesy of the Israel Antiquities Authority.



Figure 2: Khirbet Sufaysif with room outlined. The southern wall and adjacent wadi are not shown. Courtesy of The Bir Madhkur Project.

addition, along this route traveled spices and other goods produced in the Arabian regions and further east.⁷ Control over this valuable network was maintained through a series of caravanserais, fortresses, and towns and diligently administered by the Nabataeans whose kingdom was annexed by the Romans in the early second century C.E. Following the transfer of power, the trade route was continued and expanded upon in order to supply increased demands in the West.⁸

Nabataean caravanserais were constructed using a standardised plan incorporating several essential features including a food preparation and production area, chambers for sleeping and other necessities. At Khirbet Sufaysif, a potential kitchen area or personal quarters was excavated during the 2013 season in its entirety and provides important information about the layout and function of caravanserais in the region. This paper focuses on this single room of the Nabataean and Early Roman caravanserai.

Location and Dating of the Site

Khirbet Sufaysif is located approximately seven km NW of Petra on a level plateau overlooking the confluence of Wadi Faysif and Wadi Musa near Jebel et-Tayyiba. The site measures approximately 21 m N-S by 26 m E-W and approximately a third of the eastern side of the complex, ranging from five to ten metres, has eroded into the wadi. Figure 2 shows much of the site though several of the looted areas and the wadi collapse were not able to be included in the image. The entire site and periphery have been extensively looted, including immediately after the excavation season in 2010, shutting down excavations until 2013. During this hiatus, looting ceased and human activity at the site appears to have been minimal. Due to the continuous erosion of the eastern side of the complex, and the extensive nature of clandestine excavations, the site was excavated using rescue techniques in order to recover the maximum amount of information in as short a time as possible while preserving the integrity of the stratigraphy and site.⁹

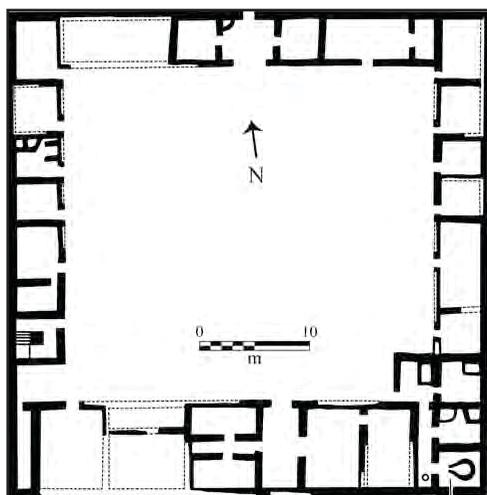


Figure 3: Nabataean caravanserai from Sha'ar Ramon in Israel. Courtesy of Israel Antiquities Authority

The pottery recovered from Khirbet Sufaysif during survey and excavations dates primarily to the Nabataean and Early Roman periods with some Late Roman/Early Byzantine sherds recovered, though the nature of occupation of the complex at this later date remains inconclusive. The Nabataean pottery includes many examples of finely painted Nabataean Fine Ware characteristic of the first century B.C.E. through second century C.E.¹⁰ In addition, there were many sherds of Nabataean coarse wares which share multiple similarities with Early Roman pottery in the Jordan region. The pottery received a preliminary study in the field. Unfortunately, because of the absence of the project ceramicist a detailed analysis has not been completed at this time though is planned prior to the full publication of the site. Once this analysis has been conducted, more information about the pottery assemblage and occupational history of the site will be available.

Identification as a Caravanserai

Caravanserais of the Nabataean and Roman periods along the major trade routes in the Near East came in a variety of sizes, though they shared a number of identifying features. Nabataean caravanserais in particular were

rectangular or square in form with a large central courtyard entered through a main gateway. These faced onto the main pathway with a number of rooms around the periphery of the central court (fig. 3). There are four primary features which Yifat Thareani-Sussely has identified as essential to the identification of caravanserais along with several secondary features which help strengthen this designation. The primary features are a close proximity to a trade route, a physical separation from the local populations, the presence of space for sleeping, and food preparation and consumption areas.¹¹ In addition to these requirements, many caravanserais also had space for sheltering animals, a degree of security provided by a fortified structure or the presence of a garrison, areas for trade and display of merchandise, and a close proximity to a water system.¹² This final feature was essential in the desert environment found in the Wadi Araba and along the Incense Route.

At Khirbet Sufaysif, many of these features have been identified. The trade route, and modern pathway, lies immediately to the west of the site which is presumably also the direction in which the main entry faced though this has not been excavated. The occupation of the region is slowly being elucidated by the pedestrian survey conducted by The Bir Madhkur Project with many sites near the caravanserai being identified in 2013 in addition to those published in 2005.¹³ At this time it appears that there were small settlements, including several agricultural features, in the vicinity of the station though no large scale settlement has been recorded in the immediate area. Although no distinctive sleeping areas have been uncovered, the lack of definitive spaces in the excavated areas does not negate the possibility that any of the courtyard rooms, or the courtyard itself, could have been used to house the temporary and perhaps permanent occupants which will only become clear with further excavation. The food preparation and production area, or personal quarters, may have been uncovered in its entirety and this room is the focus of this paper. In addition



Figure 4: The kitchen or private quarters at Khirbet Sufaysif. Courtesy of The Bir Madhkur Project.

to these primary features, space was provided for the accommodation of animals, within the courtyard as shown by the faunal material recovered from the site, which included a significant quantity of equine bones, as well as multiple rooms which could have functioned as areas for resting, trade or the display of merchandise.¹⁴ The site lacks a fortified element though two auxiliary structures, around 6 x 6 m, were found approximately 10 m from the NW and SW corners of the complex alongside the ancient path.¹⁵ The water supply may be represented by a small containment dam located to the south of the site.¹⁶ Using the criteria supplied by Thareani-Sussely,¹⁷ it is clear that Khirbet Sufaysif can be identified as a caravanserai closely resembling the others strung along the Petra-Gaza route and throughout the Near East.

The Personal Quarters/Kitchen at Khirbet Sufaysif

Two of the primary features necessary for a caravanserai are the presence of food storage and preparation facilities and areas for lodging. The room excavated at Khirbet Sufaysif measured approximately 6.0 x 3.5 m with a large central room, measuring 3.5 x 3.6 m, as well as an ancillary room, 2.74 x 2.90 m, which had been blocked off in antiquity (fig. 4). The northern wall was the exterior casement wall which was thicker, 0.44 to 1.50 m, than the interior walls which were 0.30 to 0.50 m thick. The walls were composed primarily of two

courses of semi-worked limestone blocks with rubble fill. The room was entered from a two-stone threshold from the courtyard with no door connecting to the adjacent room to the west. The floor of the room was approximately 25 cm lower than the threshold blocks with three flat single stone stairs which became increasingly narrower as they descended. The floor of the room was composed primarily of hard-packed soil which had been heavily plastered in antiquity as evidenced by the large quantity of plaster fragments recovered and still present upon the floor layers. In the western third of the room was found a flat flagstone floor with plaster remaining in between the large stones. The room was built along the northern casement wall and, including the small ancillary room, would have comprised the northeastern corner of the complex.

Several features unique to this room suggest that the room served a particular function in contrast to the other excavated rooms of the complex which had minimal installations and features. Prior to crossing the threshold into the room, to the east, was found a large courtyard oven along the interior wall. Immediately to the west upon entering the room was built another oven which featured two half-ovoid openings with a central stone.¹⁹ On the western side of the room was a flagstone floor on top of which was constructed a U-shaped installation in the southwestern corner. Against the northern wall, opposite the entrance, was a low flat installation composed of large flagstones



Figure 5: The courtyard oven (facing East). Courtesy of The Bir Madhkur Project.

and small flat-faced boulders which extended along much of the northern casement wall and eastern interior wall.

Courtyard Oven

An oven complex was found in the courtyard, adjacent to the entrance to the room (fig. 5). This feature measures 1.32 m in length, and ranges from 1.39 to 1.64 m in width with a height of 0.47 m, with the interior of the oven approximately 8 cm below the floor of the courtyard. It was composed of large semi-worked stones in two rows, with rubble fill, placed in a U-shape with the northern face being composed of the courtyard wall. The interior faces of the blocks had been worked flat and were blackened by fire. The opening of the oven faced towards the west and was enclosed by a series of three low-lying stones forming an arc around the interior. This western edge aligned directly with the eastern corner of the threshold placing this oven directly adjacent to the opening to the room. The interior faces of these stones had been worked flat and showed a high degree of burning. Within the feature was recovered a large quantity of ash as well as charcoal, animal bones, and a small quantity of cooking wares which showed signs of burning. Immediately outside the oven feature, along the low-lying western edge, was found 7 cm of ash and burnt soil. The placement of this ash layer directly in front of the threshold to

the room suggests that this may have been used after the room, or perhaps complex itself, had been abandoned, or, that little regard was paid for the deposition of the ash.²⁰ This oven feature, being placed in the publicly accessible courtyard, may have served as the, or one of the, primary cooking areas for the complex. Although its size would likely have been sufficient to produce food for a number of people, it is unclear whether it would have been able to supply the entire population which may have occupied the complex.

Interior Oven

Within the room itself, along the southern wall adjacent to the threshold and stairs, was uncovered a small oven complex (fig. 6). The installation lay 0.45 m to the east of the U-shaped installation and 0.20 m to the west of the entry and stairs making this the central feature of the room directly across from the 'bench-like' installation. The main opening of the oven was composed of three stones built against the southern wall, forming a U-shape. These stones had their interior faces worked flat and showed a high degree of burning. To the west of these stones, approximately 4 cm away, was found another stone which had been worked flat and severely burnt on one face that also was used for cooking. The reasoning for the two separated burning areas can only be speculated and is currently unclear. The soil

within the oven was found to contain a large quantity of charred cooking pot sherds and small animal bones as well as an abundance of charcoal. This feature may have been used as a ‘personal oven’, if the room is in fact living quarters, or as a small scale production area if the room had been a kitchen during antiquity.

Flagstone Floor

The flagstone flooring in the western part of the room extended approximately a third of the way into the room and ran along the base of the western interior wall, the northern casement wall and the southern courtyard wall. This area was composed of large flat stones which had been heavily plastered in antiquity as shown by the large quantities of plaster remaining between the stones and recovered from the soil layer above. The construction found in this portion of the room, in contrast to the simple plastered soil floor in the rest, indicates that the area may have served a special function in antiquity. While the functions of

this area cannot be determined at this time, the presence of a flagstone floor in only a portion of the room may indicate that this area served a separate function from the plastered dirt floor.

U-Shaped Installation

In the southwestern corner was a small installation built on top of the flagstone floor. This installation utilised the courtyard wall as its southern face and was composed of two large upright stones running to the north with a long flat stone which then extended to the west. This formed a deep U-shaped enclosure which extended 0.50 m away from the interior wall with a depth of 0.75 m (fig. 7). The functions of this installation are currently unknown, though storage for perishable foodstuffs or a water supply are possible, as this area would remain cooler and more sheltered than any other part of the room. In addition, the enclosed area would have provided privacy from the threshold and may have been used as a personal storage area, or for other personal

Figure 6 (Below): The interior oven (facing Southeast).
Courtesy of The Bir Madhkur Project.

Figure 7 (Right): The U-shaped installation.
Courtesy of The Bir Madhkur Project.





Figure 8: The 'bench-like' installation (facing Northwest). Courtesy of The Bir Madhkur Project.

functions, if the room had served as personal quarters. The presence of this installation on a plastered flagstone floor provides many potential functions to the room though does not aid in identifying it as personal quarters or as a kitchen area.

'Bench-like' Installation

Along the northern casement wall and the eastern interior wall, nearly to the door of the ancillary room, lay a low and flat 'bench-like' installation measuring 0.30 m high composed of two courses of large worked blocks (fig. 8). The stones along the eastern interior wall were broad and flat and only one stone deep with a depth of 0.20 m. This shallow depth implies a different function for this area of the installation in contrast to the main section. Along the northern wall, the feature was significantly deeper, nearly 1.00 m, with the large stones laid flat, similar to a flagstone floor, with two courses of stones and periphery blocks placed upright along the interior edge. In addition, there was a square worked stone, approximately 0.50 x 0.45 m with a thickness of 0.10 m, which was placed upright against the interior edge in the middle of the northern section and extended above the top surface by 0.10 m. The western edge of the installation abutted the flagstone floor which stopped at

this point and did not continue further into the room. Although the purpose of this installation is unknown, it may have served a variety of functions including as storage, with the deeper northern section employing the upright stone to hold vessels or other goods in place with access from either side, or preparation area or as a resting place.

Ancillary Room

The ancillary room was blocked off in antiquity with two large stones being placed within the doorway with their flat worked sides facing west into the main room (fig. 9). This doorway, located immediately upon entering the room to the east, shares the same plastered dirt floor as the main room and was the only entrance into this small room which composed the northeastern corner of the complex. The ancillary area, measuring 2.74 x 2.90 m, contained few artifacts or architectural features beyond a plastered floor layer. Of particular interest in this room was the recovery of a small intact beehive-shaped ceramic vessel, measuring 8.55 cm high with a circumference ranging from 4.70 to 7.85 cm, adjacent to fragments of a glass object and two worked stones within the northeastern corner of the room and complex below a portion of wall collapse. The first stone, which was round and

16.0 cm in diameter, was found adjacent to the ceramic vessel at the same level. Slightly lower and 0.15 m to the south, a rectangular stone was recovered with rounded edges, measuring 12.7 x 8.5 cm, with five vertical grooves worked into the stone and four ridges between. The relationship between these stones and the intact vessel is currently unclear. In addition, in the same corner and soil layer, was recovered a severely corroded large bronze coin, which has yet to be read and dated, as well as two fragments of a small bronze object, likely a spoon. Although the ancillary room has been entirely excavated, the reasoning for sealing the door in antiquity and the time frame within which this occurred is currently unclear and will remain so until the numismatic and ceramic evidence has been more intensively studied. The function of this room is uncertain as the nature of the architecture and the artifacts recovered therein are inconclusive. The room may have served as a small storage room for goods or foodstuffs, while serving either as a kitchen or as personal quarters. Alternatively, the room may have been the sleeping area for the occupants of the personal quarters.

The artifact assemblage from the entire room was disappointingly sparse and does not provide substantial amounts of information regarding the usage and occupation history of this room and the site as a whole. Aside from large quantities of Nabataean and Early Roman pottery and faunal bones, there were a total of eleven artifacts recovered, primarily from the ancillary room which have been discussed separately, with only three objects being found in the main room. Within this main area was found a curved bronze fragment near the surface, two small bronze coins corroded together along with a separate corroded iron piece recovered from the layer which exposed both the oven and 'bench-like' installations. The artifacts recovered add little to our understanding of this room though with proper study of the coins and ceramics, a more conclusive date for the usage of the room can be established.

Figure 9: Ancillary room with blocked door (facing North). Courtesy of The Bir Madhkur Project.



Interpretations

Detailed studies of caravanserais are lacking within Jordan and the Near East with few sites having been excavated and published comprehensively. Two sites, Sha'ar Ramon (42 x 42 m) and Moyat 'Awad (40 x 40 m), both lying within Israel along the Incense Route, are comparable to Khirbet Sufaysif.²¹ These sites are significantly larger than the station at Khirbet Sufaysif, with distinctive kitchen and living areas that could be compared and used in a cross-analysis of the sites and their respective roles. By comparing and contrasting these larger stations to Khirbet Sufaysif, it would be possible to draw several conclusions about the function of the site and the role which it played within the caravan trade of the Nabataean and Early Roman world.

The Room as a Kitchen

The kitchens excavated at Sha'ar Ramon and Moyat 'Awad seem to be similar in size, complexity and installations. The oven at Sha'ar Ramon was built in a U-shape from clay and stones and shows a large degree of burning within the interior. This installation, which nearly filled the room, was built in the eastern section of the complex on a raised platform dating to after Roman annexation in 106 C.E. The size of the oven and the separate room in which it was situated indicates that there was a large demand at the site for providing food not only to travelers but also to support a permanent garrison.²² The kitchen at Moyat 'Awad has not been studied and published in its entirety with the researchers only stating that "It is identical to the caravanserai constructed in the same period next to the Saharonim Spring on the edge of the Ramon Crater at Sha'ar Ramon."²³ These sites were substantially larger and could have provided travelers with more amenities than stations such as Khirbet Sufaysif and thus were supplied with more substantial kitchen areas.

The caravanserai at Khirbet Sufaysif, and in particular the potential kitchen area, is substantially smaller than the published examples at Moyat 'Awad and Sha'ar Ramon. Due to the close proximity of the site to the markets of Petra, it could be that the complex was a stopping point rather than a large-scale station, where the caravans could acquire supplies of food and water prior to, or after, crossing the hot and almost barren Wadi Araba. In addition, this site could have served to accommodate those travelers who had traversed the Wadi Musa seeking rest for the night prior to venturing up the mountain passes to the plateau of the city. As Khirbet Sufaysif was located approximately seven kilometres away from Petra, a climb which would take several hours with heavily laden camels, the traffic stopping here could have been less than at those sites further along the road and thus the complex was not required to be the same size nor as extensively equipped. There is potential that Khirbet Sufaysif was constructed as a smaller caravanserai due to its close proximity to the major city and that this pattern is repeated along the length of the Incense Route with smaller stations being placed between the larger stations, such as Sha'ar Ramon and Moyat 'Awad, though more comprehensive surveys, excavations and publication of results along this route would be necessary to test this hypothesis.

The different sizes and complexity of the cooking facilities between the caravanserais demonstrates that there was a significant difference in the function of the complexes along the trade route. Sites such as Moyat 'Awad and Sha'ar Ramon, which were more heavily settled and held a permanent garrison/staff, may have been more heavily frequented, and thus required larger and more comprehensive cooking facilities, than those similar to Khirbet Sufaysif with a smaller overall complex and potentially smaller food production areas.²⁴ The variety of caravanserais along the Incense Route remains unclear due to the lack of sites which have been excavated and published

though the diversity within the architecture, artifact assemblages and occupation histories indicates that a comparative study would be both possible and highly informative.

The Room as Personal Quarters

As personal quarters, the room would have been well equipped not only with an oven, which could have been used for food production as well as heating, but also a variety of installations and features which could have served multiple purposes. The ancillary room may have been used as an extension of the main area in order either to store goods or perhaps to serve as a sleeping chamber. The presence of a number of coins, the intact ceramic vessel and the two worked stones may support both of these hypotheses for this room and does not provide conclusive evidence. The reasoning behind sealing off the ancillary room may have been a result of changing architectural or social dynamics within the complex that necessitated this action though this may never be determined conclusively. The main area of the room would have provided ample space for sleeping, whether on the 'bench-like' feature, the flagstone flooring or the plastered dirt floor itself as well as areas for cooking and the storage of goods. If this room did in fact serve as personal quarters within the complex, it may have been the chambers of the overseer, or other permanent resident, of the complex with the ancillary room used as the sleeping chambers and the main area being used as the more 'public' area where food production, eating and other activities could have taken place. At Sha'ar Ramon there is also mentioned to be a "commander's quarters" though little else is stated about this important area of the complex.²⁵

There is currently no publication of the more private areas of caravanserais within the Near East which would enable a more complete analysis to be conducted. Due to the potential difficulties in identifying these areas, and the differences between permanent quarters, sleeping areas and rest areas being

significantly obscured, these rooms have not received a thorough analysis or publication. Due to these restrictions, it is not possible at this time to compare the potential personal quarters excavated at Khirbet Sufaysif to other examples from caravanserais during the Nabataean and Early Roman periods.

Conclusions

The room excavated at Khirbet Sufaysif displays some of the ambiguity found within caravanserais where definite identification of rooms as either public or private, and their precise role within the complex, is not always possible. The lack of definitive ceramic and artifactual evidence from this room furthers this complication and does not provide conclusive evidence either way. The quantities of cooking wares and animal remains are likely more indicative of smaller scale production and consumption, such as may be associated with a personal area with its own oven, though the presence of the larger oven immediately outside the room was almost certainly for more public usage. The presence of the sealed ancillary room, and the reasoning behind its closure, indicate that the complex went through significant changes during its occupation and one such change in this area may have been from public to private or vice versa. Although the positive identification of this room is not possible without further excavation at Khirbet Sufaysif, it does provide important information about the functions and roles of caravanserais in the Near East in particular along the Nabataean and Roman Incense Route.

The presence of caravanserais such as Khirbet Sufaysif as well as those at Moyat 'Awad and Sha'ar Ramon reveals significant details about the trade networks of the Nabataeans and Romans in the Near East. Not only do they clearly indicate where the primary routes were located, but they also demonstrate the methods used in controlling and securing these trade routes. The desire, and perhaps necessity, of constructing large complexes, at times heavily

fortified and supplied, near to significant water sources and roadways demonstrates the fairly strict control which the Nabataeans and their successors sought to impose. The value, quantity and quality of the goods brought through Khirbet Sufaysif and the Wadi Araba can only be speculated, though its close proximity to the Nabataean capital as well as the Red Sea, and the presence of caravanserais stretching along the Incense Route and other desert pathways, indicates that it was substantial enough to necessitate their presence. These complexes were able to provide security, food and water for the camel caravans carrying goods from the Red Sea and, by connection, the Indian Ocean trade network, which were bound for internal consumption and Eastern Mediterranean markets. In addition, as can be shown at Khirbet Sufaysif, they could have provided not only living quarters and cooking areas for the residents of the caravanserai but also quarters for travelers and traders.

The social dynamics within these caravanserais have long been lost from the Incense Route though continued excavations and publication of sites such as Khirbet Sufaysif can provide valuable information for the identification, study and understanding of the functions, roles and history of the caravanserais of the Nabataean and Roman Near East. Without further publication of caravanserais within Jordan and the Near East it is impossible at this time to provide comprehensive information regarding their usages, history and roles. The author hopes that this preliminary publication of the findings at Khirbet Sufaysif, and subsequent publications, will provide a starting point from which to study the caravanserais along the Incense Route and throughout the Near East.

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Endnotes:

- 1 Smith 2005a.
- 2 Corbett 2012, 209.
- 3 Erickson-Gini and Israel 2013, 24.
- 4 Pliny in Graf and Sidebotham 2003, 67.
- 5 Smith 2005b.
- 6 Parker 2002, 59 and Van Beek 1960.
- 7 Graf and Sidebotham 2003; Thorley 1969, 209.
- 8 Cohen 1982, 243.
- 9 The rescue techniques employed on site were designed to increase efficiency and allow the excavators the freedom to conduct several essential tasks on site. Due to the absence of a total station, because of political complications, elevations were conducted using a level and stadia rod. In addition, much of the excavation was conducted by shovel with trowels being used primarily for delicate or thin soil layers and around features and artifacts.
- 10 Further study of the pottery is necessary to determine which specific types are present at the site.
- 11 Thareani-Sussely 2007, 128.
- 12 Thareani-Sussely 2007, 128.
- 13 Several sites of small-scale occupation have been uncovered in the region though the association between these sites and the caravanserai is unclear. Smith 2005a.
- 14 Currently, there is no evidence of craft production having occurred within the complex. The inner courtyard of caravanserai were commonly used to house the camel caravans as discussed by Thareani-Sussely 2007, 127. The faunal material has not been thoroughly studied from the excavations though predominately the bones were those of equines at Khirbet Sufaysif.
- 15 These had been heavily looted with large (roughly) 2.00 x 2.00 m pits having been dug in the centre of the ruins.
- 16 Smith 2014 - personal communication.
- 17 Thareani-Sussely 2007, 126-128.
- 18 The thickness of the wall varies substantially what may be evidence of wall repair, or collapse, within the ancillary room which could have been a factor in the abandonment and closing off of the room.
- 19 There is no evidence that either of the ovens served any type of industrial purpose.
- 20 Although this is unsure, the presence of large quantities of ash within another interior room of the complex, located along the eastern casement, showing that the later occupants of the site did not utilise the rooms as extensively or for the same purposes as they had been used earlier.
- 21 Moyat 'Awad and Sha'ar Ramon: Erickson-Gini and Israel 2013, 28f; Cohen 1982, 244; Meshel and Tsafirir 1975, 14; Dorsey 1991, 217; Frank 1934. The site reports are currently being processed by Tali Erickson-Gini following the death of Rudolph Cohen and are currently unavailable for study.
- 22 Erickson-Gini and Israel 2013, 39.

- 23 Erickson-Gini and Israel 2013, 44.
- 24 Erickson-Gini and Israel 2013, 39. Further study and publication of domestic areas within caravanserais and urban areas will help in expanding upon the interpretations of this room as domestic quarters. Currently excavations at Petra are focusing on the domestic areas as seen in Kolb 2003, 230-237.
- 25 Erickson-Gini and Israel 2013, 41.

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The Athenian Agora, Volume XXXV: Funerary Sculpture. By Janet Burnett Grossman Pp. xxxiii + 248, b/w figs 23, plates 128, plans 2, tables 12. American School of Classical Studies at Athens, Princeton, N.J. 2013. Price not available. ISBN 978-087661-235-4 (hardcover).

In 1965 Evelyn B. Harrison, to whom this work is dedicated, published her findings on the Archaic sculptures, including the funerary monuments, from the Agora excavations as *Agora XI: Archaic and Archaistic Sculpture*. It seems only fitting that Janet Burnett Grossman, a former student under Harrison, would compile a work that serves as a companion to that chronological study of funerary sculpture from the Athenian Agora. Grossman undertakes a wide and initially daunting examination of grave monuments of the Classical, Hellenistic and Roman periods, uncovered by the Agora excavations between 1931 through 2011. Since no new Archaic funerary sculptures have been discovered since Harrison's 1965 publication, Grossman does not reduplicate that effort by including them in her volume.

Grossman organizes her volume into six chapters. The first three chapters are devoted to examining the subject of funerary sculpture on a variety of different levels. Chapter one provides a brief, yet vital discussion of past scholarship on Attic funerary monuments dating from the Classical through Roman periods. Grossman offers a great service to students and professors alike, who wish to learn more about the development of this topic. She undertakes this task chronologically beginning with the 19th century German scholar Alexander Conze, known for his formidable, albeit rough, chronological sequence of 2,158 funerary monuments (*Die attischen Grabreliefs* 1 [Berlin 1893], 2 [Berlin 1900], and 3 [Berlin 1906]). Some of the seminal authors to the study of funerary sculpture included in this chapter are Frel (*Les sculpteurs attiques anonymes, 430-300* [Prague 1969]), Kurtz and Boardman (*Greek*

Burial Customs [Ithaca 1971]), Oliver (ed. *The Epigraphy of Death: Studies in the History and Society of Greece and Rome* [Liverpool 2000]) and Gray ("Self-Representation of the *Milesioi* on the Sculpted Gravestones of Roman Attica" [diss. Univ. of California, Berkeley 2002]). Grossman briefly describes the various authors' fundamental goals, but is not shy to challenge their methodology when she has the opportunity. Nowhere is this more apparent than in her evaluation of the scholarship of Morris (*Burial and Ancient Society: The Rise of the Greek City-State* [Cambridge 1987]), Nielsen (et al "Athenian Grave Monuments and Social Class" *Greek, Roman, and Byzantine Studies* 30 [1989] 411-20) and Bergemann (*Datenbank der attischen Grabreliefs des 5. Und 4. Jahrhunderts v. Chr.: Projekt Dyabola* (<http://www.dyabola.de>) [Munich 1998]), all three of whom observed funerary sculpture more as cultural artifacts than art, part of a 20th century movement towards the incorporation of anthropological theory into Classical Archaeology. Grossman states that their conclusions were based on "selective use of certain funerary monuments" (5). She goes on to say that anthropological approaches, not just towards Attic grave stones, but to Athenian society, must be used carefully because of the limitations of funerary sculpture generally, and specifically its lack of completeness and unknown original context. Grossman ends the chapter on a lighter note admitting that Attic grave monuments are indeed cultural artifacts and commends those who attempt to study them in such a manner, but confesses that her interest in this volume is to examine them as sculpture.

Grossman, in chapter two, takes a wide approach to examining funerary sculpture from Athens and Attica. She begins the chapter with an overview of trends among funerary monuments common to specific time period, from Archaic down to Roman. This leads nicely to a section devoted to the various types of funerary monuments found in Attica (*stelai* and *naiskoi*, *lekythoi*, *loutrophoroi*, animals and

columnar monuments). Here Grossman's description is simple and straightforward, providing the reader with a chronological guide to the appearance of each specific monument type in the archaeological record and providing multiple references to the photographs located at the back of the volume. A table containing all 389 funerary sculptures compares monument type with date, and clearly displays the results of her studies (33). Ten tables visibly illustrate Grossman's findings based on gestures, poses, clothing and costume, attributes and origins, and social status for men and women. A final table examines characteristics of portraiture – crow's feet, furrowed brows, naso-labia folds and Venus rings – in order to determine the age and status of men and women (36).

Chapter three focuses on the 389 post-Archaic funerary sculptures found in the Athenian Agora and serves as an introduction to the subsequent catalogue, which consists of chapters four to six. Although Grossman admits that the majority of the pieces in the catalogue are of medium to low artistic merit and technical skill, the range of quality is nonetheless vast with several unique and rare sculptures being found among the corpus. One monument I found worthy of note was #385, a funerary altar inscribed to Valeria Fortunata. This altar contains a bilingual inscription (Latin and Greek) on the front and reliefs of a tympanum and cymbals or castanets adorning the left and right side respectively. The reliefs suggest some Bacchic and Dionysian connection, and the rare bilingual inscription suggests that the husband of the deceased woman, Antiochos Caesaris, whose name is also inscribed, wished to emphasize his connection with both Athens and Rome.

Grossman touches in a brief section of the chapter how she identified the 389 sculptures as funerary in function, since none were recovered in their original context. Other worthwhile topics she mentioned include criteria for dating

the monuments, evidence of a foreign population, the pattern of reuse, and habits in funerary craftsmanship. While these are important subjects for anyone interested in ancient sculpture, I found their placement in this chapter a bit abrupt and out of place, perhaps due to their overall brevity.

The catalogue in this volume is organized primarily by period, beginning with the Classical (ch. 4), then Hellenistic (ch. 5) and Roman (ch. 6). Each chapter and subsequent time period is then subdivided by monument type followed by gender of the deceased, and finally the pose of the deceased (standing, seated, kneeling). Although Grossman's description of the catalogue's organization was initially a bit puzzling, her decision ultimately allows the reader to draw comparisons based on period, monument type and gender without great difficulty. The reader is also benefited by a series of helpful tables scattered in the second chapter and the wonderful photographs of the sculptures themselves, taken by Angelique Sideris that adorn 128 plates.

The catalogue entries were detailed with no glaring omissions, and the addition of bibliography and comparanda, where available, from outside the Agora should be pleasing to those in academia. A two page glossary near the front of the volume allows this work to be appreciated by those outside of the academy as well. This volume is truly a labor of love by Grossman. This is an invaluable resource for anyone wishing to study Attic funerary sculpture, either from an iconographic perspective, with emphasis on gender and body position, or monument type.

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SUNY at Buffalo

Marine Ventures International Symposium: Diversity and Dynamics in the Human Sea Relation

The *Marine Ventures International Symposium: Diversity and Dynamics in the Human Sea Relation* was held between October 2nd and 6th, 2013 in Trondheim, Norway. The symposium was hosted by the Norwegian University of Science and Technology's Museum of Natural History and Archaeology (NTNU Vitenskapsmuseet) in collaboration with CADIC-CONICET in Ushuaia, Tierra del Fuego, Argentina. The goals of the symposium were to engender greater dialogue between archaeologists and historians that study the adaptations and complexity of human lifeways in coastal/marine environments. The symposium explored three major areas related to this theme: 1) studies of marine foraging and subsistence; 2) technological and logistical implications of travel by sea; and 3) relationships between social and cognitive systems, settlement and subsistence of marine-hunter-gatherers. These three broad areas were chosen to highlight the important intersection of current research, competencies, methodologies and theoretical traditions in the study of the human-sea dynamic. This symposium was organized under the auspices of the *Marine Ventures Project: Comparative perspectives on the dynamics of early human approaches to the seascape of Tierra Del Fuego and Norway*, an international comparative archaeology project supported by the Latin America Program of the Research Council of Norway. This project is currently exploring the similarities and differences of cultural histories found between the coastlines and seascapes of Patagonia and Scandinavia.

The symposium was divided into six sessions over a three day period. The first day of the symposium focused heavily on human interactions and movement within and across the sea with an emphasis on the circumpolar North. These sessions

explored how the various histories and movement of early peoples in the arctic and North Atlantic took many different forms and challenged a number of previously held assumptions of how early peoples navigated harsh and uncompromising coastal systems. Papers stressed variable human relationships and perceptions of the land, sea and ice that helped to create unique cultural strategies and traditions across the Aleutian Islands, Ireland and Fennoscandia coastline during the Holocene.

The second day of the symposium shifted attention to much of the recent collaborative work of Chilean and Norwegian researchers in the Marine Ventures project. Papers highlighted the current archaeological as well as anthropological work being conducted between the skerry-fjord seascapes of Tierra del Fuego and Western Norway. Taken as a whole, the sessions presented significant insight and new perspectives on coastal and marine adaptations as well as the analogous cultural trajectories of sea-faring people found between the two hemispheres. Time was also given to exploring modern concerns of cultural heritage preservation and how different strategies of cultural resources are managed between the Parque Nacional Tierra del Fuego and the Vega World Heritage site in Nordland, Norway.

The third day of the symposium gave the floor to researchers working in a number of diverse marine/coastal areas that ranged from the Baltic Sea to South Africa, the Atacama Desert coast of Chile, the Iberian Peninsula, the Southeast coast of Sri Lanka and the West Coast of South Africa. Much of the focus in these papers centered on new data related to the expression of diverse cultural forms, movement and economies of early to middle Holocene hunter-fisher-gatherers. Papers explored numerous methodologies for inferring human activity in the past that ranged from ancient paleoenvironmental reconstruction

and faunal analysis to delineating cultural spheres of interaction in prehistory.

At the conclusion of the conference, participants were offered the opportunity to take a seven hour sea-voyage that traversed a variety of Norwegian seascapes: the Trondheim fjord, a protected channel behind an almost unbroken succession of mountainous islands and skerries and the outer coast of Northwest Norway. A variety of cultural sites and monuments were visited, with the main focus being on marine hunter-gatherers.

Overall the symposium was well-organized and presented both students and career researchers with the opportunity to network and share ideas related to their research. Many of the ideas and data presented gives credence to the fact that past interactions with the sea are relevant to modern concerns of heritage preservation, climate change and coastal sustainability in the 21st century. Furthermore the symposium highlighted the important shift toward global comparative studies in archaeology, demonstrated in the work currently underway by the Marine Ventures Project in Patagonia and Scandinavia. Work of this nature demonstrates the dynamic quality of human resourcefulness and ingenuity in prehistory and how important sea and coastal systems were in the development of early human societies. Funding for the publication of the Symposium Proceedings is secured and a publication date is expected in 2014.

Please consult the following website for more information on the 2013 Marine Ventures Symposium:

<http://www.ntnu.no/vitenskapsmuseet/marine-ventures-symposium-2013>

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Workshop Review: Grassroots Mapping and DIY Industrial Monitoring¹

The 112th annual meeting of the American Anthropological Association was held from November 21-25 at the Hilton in Chicago, IL. Presented under the theme “Future Republics, Current Engagements,” the schedule of events bore testament to the conferences scope and depth. The activities ranged from panels addressing cutting edge topics from across the discipline; informative roundtables discussing pressing ethical, theoretical, and methodological issues; invited talks by world famous researchers; professional development workshops; aesthetically pleasing and analytically rich poster presentations; job and publishing fairs; and society galas. While the panels, invited lectures, and poster sessions provided a more formal atmosphere, the intimacy of the roundtables and workshops allowed for more interactive experiences. Several workshops, including the one reviewed here, provided basic training in new fieldwork methods and technologies. In this review, I hope to impart the content of the workshop and the different ways to apply it to fieldwork situations, pedagogical activities, and within applied or “active” anthropology.

On Friday afternoon, I attended a workshop along with a dozen other researchers hosted by the Culture and Agriculture subgroup entitled “Grassroots Mapping and DIY Industrial Monitoring: Low Cost, Open Source Techniques For Community-Academic Collaboration In Environmental and Cultural Anthropology.”² In a small conference room on the Hilton’s fourth floor, the presenter Shannon M. Dosemagen, from the non-profit Public Laboratory for Open Technology and Science, introduced both herself and the organizer Sara Wylie from the Northeastern University and Public Laboratory. The participants

then introduced themselves and their interests in attending. The sociocultural anthropologists were largely interested in using this tool from an applied or action perspective to empower local populations in their advocacy for social and ecological justice. My own interest lay in the need for an inexpensive and easy to use platform for constructing areal maps for collaborative research efforts between researchers and populations for its potential to expand upon the traditional dialectic of fieldwork.

The aim of the workshop was to give an overview of how to construct hardware and use software to create high definition areal maps for little cost. The method was developed through collaborative research between anthropologists and communities to monitor operations associated with the mining, oil, and gas industries. For example, “the method was used during the BP oil spill in the Gulf of Mexico by communities to create a public archive of maps documenting damage from the spill.”³ The Public Laboratory emerged from this research, and develops “low-cost open source hardware and software for Do-It-Yourself (DIY) environmental monitoring.”

The experience was broken down into three sections. The first section dealt with explaining the process and constructing the hardware. The second section involved testing the hardware in the field. In the concluding section, we learned how to use the software and were introduced to other emerging technologies and their use within the growing online community. After familiarizing the group with the technique and philosophy behind Grassroots Mapping, we were split into groups around stations dedicated to constructing one part of this simple camera “rig” which would then be attached to the helium balloon or kite.⁴ The equipment consists of a large Mylar balloon, a tank of helium, one two-liter plastic soda bottle, 1000 feet of string

wound around a spool, rubber bands, duct and clear packing tape, and a cheap digital camera with a continuous shooting mode. The rig is very easy to construct and provides safety and stability for the camera while it is in the air.⁵ After constructing our rig, we were instructed on how to set up the camera so that when fixed inside the harness, it will automatically begin shooting when turned on.

In the second section, we moved in a group to a small park opposite the hotel where we set up the helium tank and inflated the balloon. After turning the camera on the balloon is slowly let up into the sky and seconds it was floated several stories up. The group moved in a straight line towards the edge of the field where we then retrieved the balloon and turned off the camera. Once back inside the conference room, we uploaded the pictures while Sara introduced us to the proprietary software with which we could construct our map. The browser, called MapKnitter, is an open-source and copyleft program that helps sort and piece together the disparate captures from the camera. The process of making these composite images is known as known as orthorectification or georectification and is distinctly different than satellite maps created by automated aerial imaging systems. While the composite images lack the higher precision in spatial telemetry of satellite maps, they can be higher resolution because the sensor is only a hundred feet in the air instead of in orbital space. To ensure the best images for the mosaic, the photos are sorted through a subprogram called Mapmill, which features a crowdsourcing function to help choose photos that are in focus and suitable for the map.⁶

In the final section of the workshop, after we had reviewed the mapping software's results for our test, we discussed the impacts of the technology through its use by protest groups, researchers, and community advocacy organizations. A number of

papers have been published on the impacts of the technology with myriad approaches and foci. These impacts range from general shifts towards a democratization of science, to cost-effective implications for assessing environmental damage more rapidly and scrupulously than satellite technologies.^{7,8} The research promotes future avenues for geospatial activists promoting crowd-sourced information to apply low-cost mapping techniques. Already, different groups of activists have used grassroots mapping techniques to create current and detailed representations of geographic space at little cost. The method is especially suited to crisis mapping and other situations where conventional mapping lags behind changing conditions, or when political and economic conditions prevent populations from accessing or participating in the creation of geospatial information.

In the public sphere, balloon mapping has been used as a media tool by protest groups around the world. For example, a student protest in Madrid used the technology to broadcast a live stream of the protest from the air via Youtube, which spread their demands of lower costs and better quality to hundreds of thousands of viewers.⁹ In addition to media uses, ecological monitoring by local groups has had an impact on a number of legislative and legal cases corresponding to an array of problems. From post-Sandy New York City cleanup to monitoring mining and oil operations, the technology allows access to a technocratic realm otherwise inaccessible to most populations.

Sara also introduced us to two other technologies, or "hacks," using cheap digital cameras and simple equipment. The first, a low-cost tool for detecting Hydrogen Sulfide using film canisters and undeveloped film, would be of interest to anthropologists studying oil and gas extraction, industrial farming operations, and landfills. The second, low cost spectrometry using an

altered camera to capture photosynthesis rates as infrared light, would be of interest to anthropologists working on environmental justice issues, such as oil spills, and chemical contamination from oil refining and chemical manufacture. The concluding group discussion covered these tools can help build partnerships between academics and public groups to “address environmental health issues through advocacy, remediation, and increasing public and regulatory awareness.”

The potential application of these technologies is high, both because of their low-cost simplicity and the extensive network of researchers and enthusiasts that have formed an online community around the development and use of grassroots mapping. The application within advocacy and protest movements fosters agency and strengthens the social connections to technology and science which are largely underdeveloped. The technologies provide researchers with powerful tools that can be applied in a wide variety of subfields. For example, aerial archaeological surveys could be undertaken without airplanes or access to high-resolution satellite imagery. Researchers and planners could also make up-to-date maps of urban areas or environmental features with high rates of change. Beyond the potential uses posed in these brief examples, the greatest possibilities of these developments lies in the burgeoning online community surrounding their development and application.

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Endnote

- 1 Photos of session available at <http://www.flickr.com/photos/zevphotos/sets/72157640112911163/>
- 2 http://aaa.confex.com/aaa/2013/schedule/index.cgi?password=*cookie&action=schedule&page=browse#view=Session9768&srch=
- 3 <http://www.pbs.org/idealab/2010/05/diy-mappers-offer-remarkable-images-of-gulf-coast-oil-spill132>
- 4 http://archive.publiclaboratory.org/download/Grassroots_Mapping_English_2_0.pdf
- 5 <http://publiclab.org/wiki/pet-bottle-rubber-band-rig>
- 6 <http://publiclab.org/wiki/mapknitter>
- 7 Dosemagen, S., with M. Lippincott, L. Barry, D. Blair, and J. Breen 2013 “Civic, Citizen and Grassroots Science: Towards a transformative scientific research model.” In *Accountability Technologies - Tools for Asking Hard Questions*. Offenhuber, Dietmar, and Katja Schechtner eds. Vienna, New York: Springer.
- 8 Warren, Jeffery and Stewart Long 2010 “Neogeographic: Approach to Inexpensive Oil Spill Mapping.” *Directions Magazine*. <http://www.directionsmag.com/articles/neogeographic-approach-to-inexpensive-oil-spill-mapping/131048>
- 9 <http://grassrootsmapping.org/2011/08/balloon-mapping-in-santiago-seeing-protests-from-a-different-perspective/>

Interview with Dr. Orlando Cerasuolo, 2013-2014 IEMA Postdoctoral Fellow

Ryan E. Hughes

Dr. Orlando Cerasuolo is currently the Postdoctoral Fellow at the Institute for European and Mediterranean Archaeology at the University at Buffalo, SUNY. He received a Master of Arts with honors in Archaeology from Sapienza University of Rome in 2005. He remained at Sapienza University of Rome to conduct his doctoral work on the connection of Etruria with the major Eastern Mediterranean islands earning his Ph.D. in Archaeology in 2011. Dr. Cerasuolo's work focuses on the Etruscans and their interaction with the (Eastern) Mediterranean cultures with an interest in the interconnectedness of the ancient world as well as the illustration and exhibition of archaeological remains in the modern..

What are your current research interests and what projects are you involved in?

Being by nature a very inquiring person, my interests are quite varied and my research has taken different paths over the years. Although my interests are ever changing and expanding, I am always continuing to build on my past experiences.

When I started my undergraduate studies, I already had a passion for the Etruscans; furthermore, I had direct knowledge of several archaeological sites in the area north of Rome, my hometown. However, when I started attending courses, I was positively surprised to have a large variety of teachings to choose. Fortunately the Sapienza University of Rome is one of the largest universities in Italy and the archeology department is among the best in Europe: therefore, the didactic offer ranges from prehistory to the Middle Ages, from Rome to the Near East, from numismatics to technical analysis and excavation methods.

Very early I became interested in the Bronze Age and Iron Age (the so called Protohistory), likely because of the teaching skills of Professor Renato Peroni, who held the chair of the European Protohistory. He was my advisor, and with him I discussed many times the issues of city formation, the progress from scattered villages to the first urban centers. I devoted the two volumes of my thesis to this topic, and it is still at the center of my interests.

After graduation, I returned to my first love. In fact, for my PhD research, supervised by Professors Gilda Bartoloni and Giovanna Bagnasco Gianni, I returned to focus on the Etruscans. My research discussed the oldest phases, say the 8th and 7th century B.C.E., of one of the most important Etruscan cities: Cerveteri, called *Caere* by the Romans. When I started my research, I read Cerveteri was best known for its exceptional princely graves (such as the Regolini-Galassi tomb), but no one

seemed to tackle the rest of the population. To me it was crucial to understand how the aristocratic class was formed, and how they were able to gain control and rule the rest of the population. As you see, somehow I had already started to deal with the subject of inequalities, the theme of my project here at IEMA.

My doctorate research also opened me to another perspective, one that perhaps is now a large part of my current interests, the great network of contacts between the various peoples of the Mediterranean. I was in fact convinced by the complex evidence from the Etruscan cities of the importance of these exchanges, both economic and cultural, for the development of ancient civilizations. I was persuaded that in areas like the Mediterranean, where resources are quite abundant, the major factor of development is due to the strong interaction between people of different cultures and traditions. Fortunately, I was able to develop some of these interests last year, during a fellowship at the Italian Archaeological School at Athens (SAIA).

I have not yet spoken of my field work and projects I am involved in. I've always enjoyed field work and perhaps the distance from my beloved territories has been the hardest part of this experience in Buffalo. I have conducted a lot of excavations and surveys; I worked several years as a contract archaeologist, both with the National Archaeological Bureau and private cooperatives, to pay for my university studies. I am proud to be a member of the Veii Project, by Sapienza University of Rome; which involves the excavation of Veii, the Etruscan town closest to Rome. Since 1999 I dug in many parts of the city, and in the necropolis and I have studied the Iron Age and early Orientalizing pottery, as well as Archaic architecture and defensive works. However, since the project has a strong education component, the most important thing I do there is teaching freshmen the rudiments of the archaeological research.

Since 2008, on behalf of the Roman Archaeological Association (GAR), I have been director of an excavation and outreach project, centered on a small but well-preserved Etruscan fortress, called Rofalco, which was destroyed by the Roman army around 280 B.C.E. It is nice to dig there because it is a perfectly preserved site, where the collapsed roofs, which fell after the Roman conquest, directly cover the occupation layers. In addition, since the projects start in 1996, it was designed as a field school for international volunteers, of all ages and from every background, giving the field school a very diverse and mixed character.

The last project I want to talk you about is very important because it sees the collaboration with the University of Buffalo. Together with Professor Steve Dyson and the PhD candidate Erin Warford (and my Italian colleague Luca Pulcinelli) we designed a webGIS project of the ancient territory of Vulci, another major Etruscan city; our main goal is to understand how the organization and perception of the territory changed over time during the Etruscan and Roman period. I'm very proud to announce that our project has been awarded by SPARC (an NSF founded Institute at Arkansas University), and I hope this would be an opportunity for students from Buffalo to come into Italy for intensive field activity.

Whose work has had the strongest influence on your own?

It is not easy to answer this question. In fact, despite having much interest in theoretical debates, I have always been unwilling to place myself into any school of thought or interpretive category.

If I go back to some of my childhood readings, I see they have contributed much to my early education. Texts such as the *Labors of Hercules* or Ovid's *Metamorphoses*, which as a child I read as fairy tales, provided me with a basic level of knowledge

of ancient culture and thought. Through other childhood readings as *Journey to the Center of the Earth* by Jules Verne or *The Kon-Tiki Expedition* by Thor Heyerdahl, I developed attention to detail and passion for discovery, factors that still make me enjoy this job.

In a more purely academic side, I owe a lot to my first undergraduate professor, Renato Peroni. He, who passed away in May 2010, was a model of clear teaching, scientific rigor and breadth of vision. I learned a lot from him, both in the field of methodologies and in the area of broad chronological and geographical studies. He was a terrific person who gave a lot of confidence to young scholars.

There are scholars I have not met in person, but I've known only through their writings that have influenced me as a scholar. Fernand Braudel, with his work on the Ancient Mediterranean, taught me the value of wide-ranging research, which aims to consider the full evidence in a broad perspective. Colin Renfrew is for me a model of an archaeologist who manages to combine theoretical formulation and field practice, scientific rigor and dissemination. Ian Hodder has the function to always put into question the fixed points on which one lies, with an outstanding narrative capacity and imagination. The list goes on with many other names, Bianchi Bandinelli, John Boardman, Jared Diamond, Henri Duday, Kent Flannery, Cairol Fulvio Giuliani, Domenico Musti, John B. Ward-Perkins, and many others I can't remember now.

Finally, I am convinced I learn a lot from my colleagues and students, with whom I am constantly working in a very fruitful process of growth.

The Etruscans and pre-Roman Italy tend to be neglected in North America. What led you to study this regrettably understudied time period and culture? What advice would you give to those who wish to study the pre-Roman Italians?

My interest towards the Etruscans came a little by chance and a little by luck.

For me the Etruscans are in my backyard. In fact, if you move just north of Rome, you will soon find the first remains of the Etruscans. Although many people view the Tuscany as the homeland of the Etruscans, as a matter of fact some of the major Etruscan cities, those of the so-called southern Etruria, are located in the Lazio region, north of the river Tiber. The city of Veii, which Rome fought against in its first battles, is now in the suburbs of the capital. Do not forget that the Etruscans greatly contributed to the formation of the same Roman civilization; remember the Etruscan kings of Rome?

Growing up in Rome, I was able to know the history of my territory from an early age. I also had the fortune to start practicing archeology from very young age. I was 11 when I enrolled in a voluntary society, the Roman Archaeological association, with which I started doing surveys, archaeological excavations and simple projects of experimental archeology.

The Etruscans have always interested me. Their wealth, monumental tombs and black pottery (the *'bucchero'*) that distinguishes them have always been of great interest, while their unique language, Eastern iconography and intense Mediterranean trade were important elements to understand their contribution to human history.

I know that it can be very hard for those who live outside Italy to approach the study of the Etruscans. Nonetheless, in the U.S. Etruscan archeology has a strong and active tradition. Not only are there a couple

of journals dedicated to the Etruscans (*Etruscan News* edited by Larissa Bonfante from NYU and *Etruscan Studies* by the Etruscan Foundation), but there are also annual lectures at Berkeley. Not to mention that the majority of American museums exhibit Etruscans objects!

Nevertheless, I must admit that I was quite surprised when I came to Buffalo and found students interested in Etruscan archeology. It was a great satisfaction.

There are at least two good pieces of advice I can give to students who are interested in the Etruscans. First, studying the pre-Roman populations requires a fair knowledge of Italian, because the major publications in the field are still done in this language. Secondly, first-hand knowledge of the geographical setting where these populations developed is necessary. I do not think one can studies ancient, or modern, people without knowing their geography. It is not possible to study the peoples only on book pages or maps!

Although this last aspect remains crucial, a number of important publications in English are providing American students new and updated tools for studying the Etruscans. Here let me mention for example the recent book by Jean MacIntosh Turfa *The Etruscan World* (Routledge, 2013). Currently there is an ambitious publishing project (edited by Nancy de Grummond and Lisa Pieraccini) of a series of volumes each dedicated to a single Etruscan city. By participating in two of these volumes I feel I'm giving a small contribution to make the Etruscans more accessible to American students.

You apply many diverse methods of analysis in your research, what do you find most appealing about this approach? What are the difficulties you have found in applying these methods?

The decision to use a multi-faceted and multi-disciplinary approach is perhaps

more a necessity than a choice, or at least it is an option that many of us choose after conscious reflection. Given that as archaeologists we have to deal with scarce remains from the past, only those preserved and discovered, we must be able to exploit all the available evidence, and we must know how to look for it in the best possible way. This requires the use of many techniques and many different specializations.

The most interesting thing is to see how in relatively few years, the contributions of the latest scientific studies are helping to clarify aspects of the ancient civilizations that were almost unknown. I am thinking about studies like those on ancient textiles or those on the residue analysis within ceramic containers that can finally give us a rather detailed report of perishable materials from ancient civilizations, those that have not been preserved in such a good condition as the ceramic and architectural ruins did.

The level of advancement of the techniques today requires teamwork, in which together with archaeologists, art historians and philologists, there are specialists in every field of science (chemists, biologists, computer scientists, statisticians, etc.). However, I believe that a good archaeologist, in order to direct research projects and address studies of the antiquity - being aware that a total knowledge is not feasible - should anyway have a good knowledge of all the various techniques available.

It's true I am comfortable to apply technological tools (like GPS, total stations, scanners, and so on) and rather complicated software (Autocad, GIS, R, etc.), trying to better and better integrate them in my studies. But what often interests me even more, is the dissemination of the results. As much as possible, I try to find the best way to communicate the results of my work with my colleagues and to students, but

also to a wider public. Likewise, I always try to identify and communicate what are the educative potential for our society.

In this context, I believe that there is still much to be done, not only in Italy. I think that communication with the entire community, and especially the youths, is often overlooked and that archaeologists typically are not very attentive to issues of ownership of antiquities, as well as the value of tradition in the modern world.

What have been the most rewarding aspects of your time as IEMA postdoctoral fellow? What have been the most challenging?

I must say that my experience in Buffalo has been truly positive. I found a great place to work and I had a great opportunity for personal and professional enhancement. Sure, I've had a number of difficulties to adapt here, not only to American academic system that is very different from what I come from, but also to the American life-style. At IEMA in these months, unfortunately so few, I learned many things and certainly improved as a scholar and as a teacher, although I believe I still have a long way to go.

I really enjoyed the teaching component of my fellowship. The seminar was at the same time rewarding and challenging. It was a fun and educational, but it's not been easy to adapt my teaching methods to American standards. However, I believe that my students have also been able to appreciate some aspects of a different way of teaching as well as my personal contribution and viewpoint. I must certainly thank all my students for their patience and willingness, and also for their great contribution to the class discussions we have made together.

Of course, the organization of the conference was very complex, not so much the design or set up, of which I already had some experience, but conducting it in a country that was new to me. In

addition, having to interact with scholars from all over the world certainly makes the whole organization very complex, but the opportunity to discuss with them, with their very different approaches and perspectives, a theme as dear to me as inequalities in ancient times, made it worth doing. Fortunately I had the precious help of Professors Peter Biehl and Steve Dyson who aided me with their vast experience and support.

What advice would you give to graduate students in order to help them in their studies and careers?

I speak especially for students planning to continue their careers in archaeology.

For a good career development, the field experience is crucial. I urge everyone to take part in excavation projects, survey and documentation campaigns. Only in this way can one get a good degree of confidence with the archaeological evidence that is the object of our studies.

Crucial is also the direct knowledge of the materials. Drawing, photograph, restoration get you closer to what was the daily experience of the ancient people. Once again I want to stress that it is not sufficient to study only from the books: how many times, for example, have you found in a museum an object you have seen many times in the manuals, and then realize that it is actually much smaller than what you imagined?

Likewise it can be very useful to experience experimental archeology: such as through engaging in the making of objects using ancient techniques, from flint to vessels, from textiles to metal weapons, from canoes to huts.

Like every human experience, it is important to deal with the points of view of other people. Colleagues, especially if from other nationalities, help to enrich our experiences. Finally, to give a sense to our

most advanced research it is necessary to participate in conferences and to publish. Only in this way can we really contribute to the advancement of the studies.

I hope these tips are useful to graduate students interested in a career in archaeology, but I hope also they are aware that to be an archaeologist, passing from dirt to books, is one of the most beautiful jobs in the world.

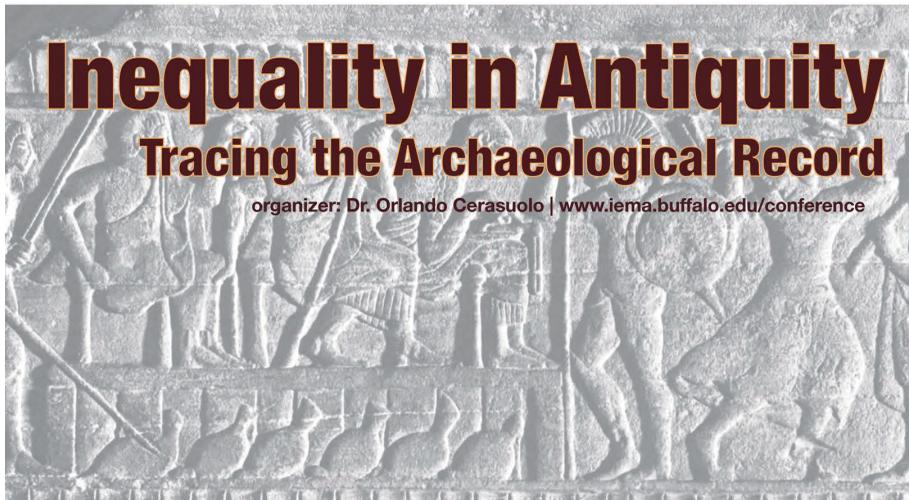
IEMA

Institute for European and Mediterranean Archaeology

The Seventh IEMA Visiting Scholar Conference

5-6 April 2014 | Buffalo, NY

Saturday and Sunday, 5-6 April, 9am-5:30pm
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organizer: Dr. Orlando Cerasuolo | www.iema.buffalo.edu/conference

Stone cippus from Chiusi, second quarter of 5th century BCE, Museo Archeologico Regionale Antonio Salinas di Palermo – ITALY

The social and political division of communities was a common and complex feature of past civilizations around the world. In many ancient cultures there were several discrimination strategies: free people versus slaves, age- and gender-based categories, economic concentration and exclusion. As archaeologists, we have to ask how visible such structures of inequality are in the material record of the past. Where they are visible, how do we interpret their meaning for the marginalized communities that they document? So far, no symposium has addressed these diverse aspects of inequality in a single venue. A wider, interdisciplinary archaeology based approach to these issues should prove especially productive.

We know that in ancient times there were men and women, freemen and slaves, locals and immigrants. We can observe some material residues of their existence in the archaeological record. The central methodological problem is how we can extract fuller meaning from the surviving archaeological residues and relate those meanings to issues of gender, legal and ethnic status, and other categories of potential inequality.

This conference will apply two relatively novel approaches. While studies of slavery, gender, and ethnicity are relatively common, the IEMA conference will explore them as intersecting areas of study within the larger framework of inequality. It will also attempt to bring together prehistorians, specialists in classical archaeology, and students of Late Antiquity and the Early Middle Ages, as well as physical anthropologists, epigraphers, and statisticians.

Many issues should arise from the perspective envisaged for this symposium. Is it possible to develop a general theory of inequality in antiquity? Is it possible to define wide-ranging strategies for the archaeological analysis of that inequality? To what degree are the inequalities and social boundaries culture specific and how does their emergence relate to growing complexity? To what degree can archaeologists identify and analyze different patterns of inequality.

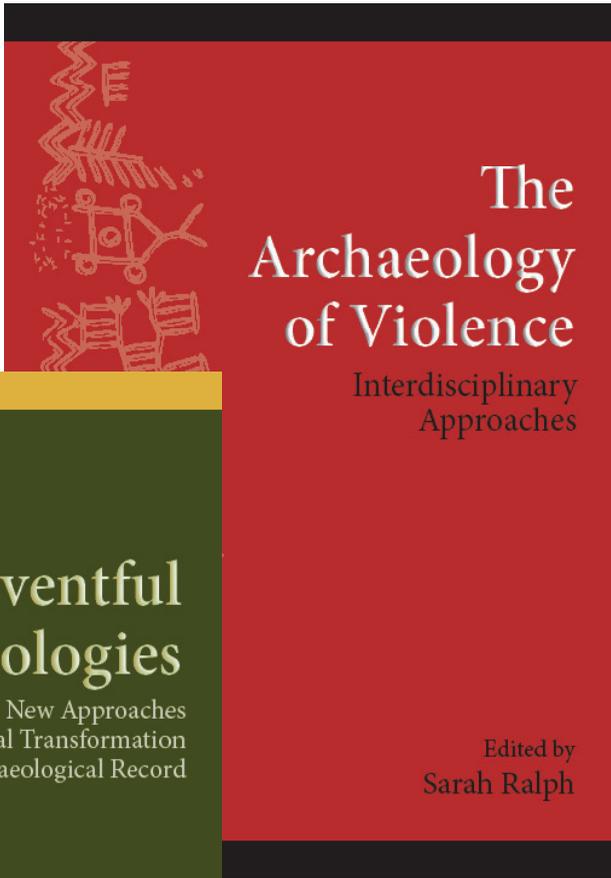
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REGISTRATION INFORMATION

All are welcome to attend the conference
Please register through www.iema.buffalo.edu/conference
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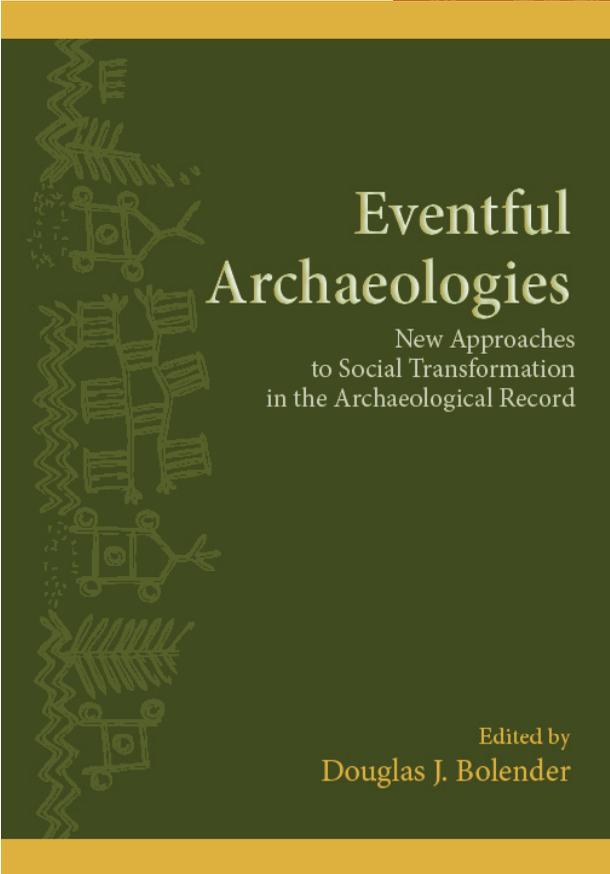
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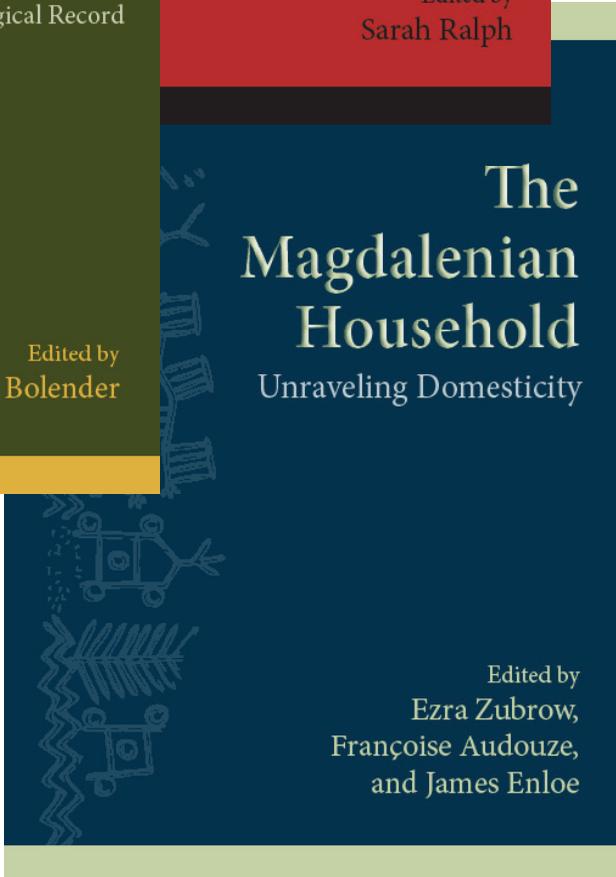
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