LOGOS

The Classical, Near Eastern & Religious Studies Student Journal

2016/2017

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Issue 2

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As Editor in Chief of the 2016/2017 issue, it is my pleasure to introduce the UBC Department of Classical Near Eastern and Religious Studies (CNERS) second issue of LOGOS. This past year working alongside a wonderful and insightful team of editors, Jacob Irwin the Chief Submissions Officer, and our Layout Editor Elissa Morris, has been a pleasure. Together this band of fearless UBC students and Alumni have helped a talented group of authors to shine, and this issue of the journal is the culmination of our hard work.

Keeping the momentum going from our inaugural issue of LOGOS, produced under the leadership of Jayden Lloyd, this year's issue has grown in interest and content. We were ecstatic in January to receive so many strong submissions from each branch our department. This issue celebrates the diverse topics addressed in our department and showcases the academic excellence that has become a standard in CNERS.

This issue opens with Sage Vanier's "The Erechtheion: Integration, Combination, and the Athenian Identity" which explores how Athenian architects employed symbolism in the construction of the Erechtheion to reinforce this building as a beacon of Athens' indomitability. Also from Athens and the Mediterranean comes Chelsea E. Sweeney's "Cause and Effects of the Timber Trade in the Athenian Empire: Shipbuilding, Klerouchia, and Deforestation." This paper seeks to understand how Athens procured the vast quantities of timber necessary to build its powerful navy, examining the empire's economic relationships its colonies and allies. In her article "Pilot XRF Analysis on Bahrain Ceramics from the Tylos Period" Emma Betz explores how XRF Analysis could expand knowledge on the composition and possible origin of ceramics. Anna Reynolds considers Anatolia and the Levant in her discussion of fertility cults in their relation to ancestor veneration in her paper entitled " The Head of the Family (Cult): A New Look at the Permeation of Neolithic Family Values in the Religious Sphere in the Ancient Near East". The final article of this issue "Fututrix: Female Sexual Subjectivity for Women Who Fuck in Pompeiian Graffiti" written by Robert Pervis takes a philological approach to sexual graffiti in Pompeii to explore ancient perceptions of women's agency.

The creation of this issue would not have been possible without our fantastic editorial board; Julia Browne, Angelique Kendall, Chloe Martin-Cabanne, Julia Perroni, Elise Wouters, and Katlin Wright. I would also like to take this opportunity to thank the faculty of the CNERS Department that were supportive throughout the year and entertained countless questions and offered sage advice. Last but not least I would like to thank the executive board of this year's CNERS Student Association for their generous contribution to the journal.

On behalf of all those involved with the creation of this journal I hope you enjoy,
Jaymie Orchard
Editor in Chief

The Erechtheion: Integration, Combination, and the Athenian Identity

Sage Vanier

The Classical Erechtheion is one of the most enigmatic and religiously significant structures in Athens. Due to a severe lack of extant archaeological evidence, and the ambiguous and vague nature of literary and epigraphic sources, the true function and purpose of the building remains elusive. From the surviving literary sources and the remaining convoluted and eclectic architectural style of the temple itself, the joint worship of Athena and Erechtheus is emphasized. The architecture of the Classical Erechtheion is heavily influenced by the mythology of these two figures. The structure and its associated myths are firmly rooted in the Bronze Age, in a way that highlights the paradoxical divine and autochthonous identity of the Athenians, demonstrating that they are both born of the earth and the sky. The memory of this legendary past, where the Athenians remain undefeated, is employed by the Classical Erechtheion in order to comment on the issues of contemporary times and instill a sense of indomitable confidence in the citizens of Athens after their arduous struggle with the Persian Empire. In this way, the Classical Erechtheion symbolizes not only memory and the legendary identity of the Athenians, but it also is a building that looks forward, to a time where Athens will once again regain its glory and prominence.

Introduction

The Erechtheion, despite being dwarfed in size by the Parthenon, was never outdone in religious significance. With the construction of the Classical Erechtheion sometime in the second half of the 4th century BCE, the Athenians undertook the unique challenge of combining many of the most ancient and significant cult structures on the Acropolis.[1] The Erechtheion is a distinctive building, noted by Pausanias as being double.[2] This double temple contained both the cult of Athena *Polias*, as the ancient olivewood *agalma* was relocated here after the Persian Wars, and the cult of the chthonic and enigmatic figure Erechtheus. In addition, pre-existing legendary cult buildings and features were incorporated into the precinct, with mythic connections that place them all together.[3] Not only are Athena and Erechtheus closely connected in the architecture of the Erechtheion, but they also share a close bond in the mythology of the Athenians. Each piece of the multi-faceted Erechtheion relates back to the commemoration and worship of Athena *Polias*, Erechtheus, or the two figures together, and solidifies their roles as symbols of Athenian indomitability. The study of this tight integration of parts attested in the literary, epigraphic, archaeological, and architectural records of the Erechtheion make clear the intent of the Athenians to assert and emphasize their national identity while also instilling confidence in their future.

Sources: the Surviving Evidence and Associated Problems

Before any analysis of the Erechtheion can be undertaken, it is necessary to discuss the surviving evidence and its many limitations. The problems associated with studying the Erechtheion are enough to write an entire paper in itself. In the words of Lesk, "there is no such thing as a general description, interpretation, or reconstruction of the Erechtheion".[4] This can be attributed to the many problems associated with the reconstruction of the physical building itself, as well as with the ambiguity and scarcity of the extant literary and epigraphical sources. The Erechtheion suffered through at least one fire, a Roman remodeling in the 20's CE, and a conver-

1 The exact date of the Erechtheion's construction is contentious. Conventionally it is placed at 421BCE, although some scholars place it in the 430's. For information on the debate of the construction of the temple see W.B. Dinsmoor, "The burning of the Opisthodomos at Athens II. The site," *American Journal of Archaeology* 36, (1932): 307–326; Jeffrey Hurwit, *The Acropolis in the Age of Pericles* (Cambridge: University Press, 2004), 174; and Alexandra Lesk, *A Diachronic Examintion of the Erechtheion and its Reception* (Cincinnati: University Press 2005), 37-41.
2 Pausanias 1.26.5 describes the Erechtheion as "*διπλοῦν γάρ ἐστι τὸ οἴκημα*" (for the temple/house is double).
3 Pausanias 1.26.5; George Elderkin, "The Cults of the Erechtheion," *Hesperia* 10, no. 2 (1941): 113-24; Henrik Gerding, "The Erechtheion and the Panathenaic Procession," *American Journal of Archaeology* 110, no. 3 (2006): 391.

4 Lesk, 23.

sion to a Christian church in the 7th century CE.[5] These modifications heavily damaged the building, especially the interior of the *cella*, making it difficult to discern the layout of the original classical temple. Many attempts have been undertaken to properly recreate and restore the Classical Erechtheion, and each has been met with varying criticism from fellow researchers.[6]

In addition to the building's physical damage, a lack of literary and epigraphic records for the temple also hinders attempts at cracking the mysteries of the Erechtheion. For example, although original building inscriptions for the Erechtheion do survive in the form of the Chandler stele and the Decree of Epigenes, these stelai only cover the second phase of construction on the temple and the appointment of a committee to evaluate the progress of the disrupted building program.[7] This example illustrates the basic rule of Erechtheion sources: only half of the necessary and wished for information is available. Similarly, due to this lack of comprehensive evidence, even the name and the location of the Erechtheion are still debated amongst scholars and researchers. The word 'Erechtheium' is only used twice in the ancient literature, once by Pausanias and once by Plutarch, both 2nd century CE writers approximately 600 years removed from the original building of the temple.[8] Other earlier sources tend to refer to it as "the temple on the Acropolis in which the ancient image is" or as the *archaios neos*, a very vague reference that does not give a location or any suggestion that other cult activity was performed on the site.[9] As for the location of this temple, the all-encompassing original edition published regarding the Erechtheion by Paton *et al*. established the traditional view that the ionic temple on the north side of the Acropolis is the Erechtheion referenced by Pausanias and Plutarch.[10] However, despite this, there are some scholars that reject this traditional view and argue varying points. Jeppesen, for instance, places Pausanias' Erechtheion in the so-called House of the *Arrhephoroi* to the west, while Robertson argues it is actually Building IV.[11] Ferrari even argues that the cult of Athena *Polias* did not move to the Erechtheion site at all.[12] These differing arguments and theories highlight the many problems and difficulties associated with analyzing the Erechtheion that any study must take into consideration. However, despite these alternative theories, it is the consensus of the majority of scholars that the extant building to the north of the Parthenon is the Erechtheion, and that is what this paper assumes.

Erechtheus and the Erechtheion

The legends associated with the mythical figure Erechtheus portray him as a symbol of historical Bronze Age victory and Athenian autochthony. Many of the architectural features of the Erechtheion were constructed to highlight his presence in the temple, and facilitate the Athenian religious practices undertaken there. To start, it is necessary to understand the mythology associated with Erechtheus and the tangled fluidity his character encompasses. The family tree of Erechtheus is outlined by Apollodorus, stating that he was the son of king Pandion and that upon the death of his father was given the kingdom of Athens, while his brother Butes was bestowed the priesthood of Athena and Poseidon-Erechtheus.[13] Pandion, Apollodorus claims, was the son of Erichthonius who was the third king of Athens and born from the earth after Hephaistos' failed attempt with Athena.[14] Erichthonius is attributed by Apollodorus as having set up the wooden image of Athena and "was buried in the same precinct of Athena" after his

5 Xenophon, *Hellenica*, 1.6.1; Leicester B. Holland, "Erechtheum Papers. I: The Remains of the Pre-Erechtheum." *American Journal of Archaeology* 28, no. 1 (1924): 3; Gerding, "Erechtheion and Panathenaic Procession," 394.
6 Lesk, 16-45 outlines all of the physical reconstructive work as well as the theoretical reconstructions by multiple researchers throughout time.
7 William Bell Dinsmoor, "Attic Building Accounts II. The Erechtheum." *American Journal of Archaeology* 17, no. 2 (1913): 242-65.
8 Pausanias 1.26.5; Plutarch, *Moralia*, 843-844.
9 Lesk, 16
10 James Morton Paton, Gorham Phillips Stevens, Lacey Davis. Caskey, Harold North Fowler, and Theodore Woolsey Hermance. *The Erechtheum* (Cambridge, MA: Harvard University Press, 1927).
11 Kristian Jeppesen, *The theory of the alternative Erechtheion: premises, definition, and implications* (Aarhus: University Press, 1987); N.Robertson, "*Athena's Shrines and Festivals." in Worshipping Athena*, ed. J. Neils, (Madison: University of Wisconsin Press, 1996) 27-77; Lesk, 25.
12 Gloria Ferrari, "The Ancient Temple on the Acropolis at Athens." *American Journal of Archaeology* 106, no. 1 (2002): 11-35.
13 Apollodorus, *Library*, 3.14.8-3.15.1.
14 Apollodorus 3.14.6-7; Homer, *Iliad*, 2.549.

death and Pandion's ascension to the throne.[15] Psarra suggests that Erichthonius was born from the earth, became king Erechtheus, and then was put back into the earth by Poseidon, making clear the connectedness between Erechtheus and Erichthonius.[16] Although this conflicts slightly with Apollodorus' narrative, where he seems to be talking about two distinct figures, it certainly displays the close relation of the two, as well a connection with Athena *Polias*. This can be further supported by the fact that Butes is given the priesthood of Athena and Poseidon-Erechtheus when his brother Erechtheus is still alive, implying perhaps two individuals named Erechtheus.[17] Furthermore, both Erechtheus and Erichthonius seem to be buried in the same location, in the precinct of Athena.

The many different and sometimes conflicting accounts relating to the chronology, genealogy, and biography of Erechtheus is mirrored in the convoluted design of the Erechtheion itself.[18] The main myth associated with Erechtheus is hinted at by Euripides' play *Ion*. Ion asks Creusa, the daughter of Erechtheus, if her father was hidden in a hollow of the earth, and she replies: "The blows of the sea-god's trident destroyed him'".[19] In a later recounting of the tale by Hyginus, however, Poseidon is not the one to strike Erechtheus into the earth, but Zeus performs the task with his thunderbolt.[20] Both versions of this myth can be found in the architectural features of the Classical Erechtheion. Pausanias in his description of the temple mentions four altars around and within the precinct: the altar of Zeus *Hypatos* (the Most High) outside the entrance; and inside the entrance, the altar of Poseidon on which the Athenians also sacrificed to Erechtheus due to the orders of an oracle, the altar of Butes, and an altar to Hephaistos.[21] The altar of Zeus *Hypatos* and Poseidon-Erechtheus mentioned by Pausanias can be seen to relate directly to Erechtheus' descent into the earth. Elderkin places the trident strike (or thunderbolt) on the North Porch of the Erechtheion, arguing that this explains the hole in the porch's ceiling as well as the hole in the porch's paving, which is contemporary with the building of the temple itself.[22] In addition to this, not mentioned by Pausanias but by the Erechtheion Construction Work Inventory inscription, was another important altar, the altar of the *Thyechous*.[23] At the site of this altar, Elderkin speculates that libations were poured to Erechtheus through the hole into which he was driven by the god, *Thyechous* being translated as "the one who pours the sacrifice".[24] Placing these two altars side by side on the North porch would certainly enforce the mythological connection between the two gods and Erechtheus. This would serve to create a tangible and authenticating architectural feature visible to any visitor of the temple space.

In addition, the other altars encompassed within the precinct also bore connections to Erechtheus and his commemoration. Erechtheus' brother Butes was honoured at an altar within the temple, bringing attention to the family tree of Erechtheus, and his relation through his brother to Athena and Poseidon-Erechtheus, of whom Butes was priest.[25] The altar of Hephaistos, too, can be connected to Erechtheus through his close resemblance and melding with Erichthonius. In this way, both the divine and the chthonic are represented in the temple: Athena and Hephaistos symbolizing heavenly deities, and Erechtheus/Erichthonius embodying the earth.

The Athenian notion of autochthony played a crucial role in extolling the archaic and illustrious history of the Athenians and the foundation of their great state. It was important to the Athenian image that firm ties could be established between the contemporary Athenian populace and their supposed ancestors from the mythical age. This served to strengthen their legitimacy and authority over the land while at the same time creating a strong sense of unity within the *polis*. Athenian autochthony, the notion that

15 Apollodorus 3.14.7.
16 Sophia Psarra, "The Parthenon and the Erechtheion: the architectural formation of place, politics and myth." *The Journal of Architecture* 9, no. 1 (2004): 93.
17 Apollodorus 3.15.1.
18 Psarra, 93.
19 Euripides, *Ion*, 281-283.
20 Hyginus, *Fabulae*, 46.
21 Pausanias 1.26.5.
22 Leicester, B. Holland, "Erechtheum Papers. II: The Strong House of Erechtheus." *American Journal of Archaeology* 28, no. 2 (1924): 159; Elderkin, 114.
23 Elderkin, 114; IG I3 474 & 476, quoted in Robertson, 33.
24 Elderkin, 114; Robertson, "Athena's Shrines and Festivals," argues against this translation of 'Thyechous,' yet agrees that offerings would have been poured down the hole in the porch..
25 Pausanias 1.26.5; Apollodorus 3.15.1.

contemporary Athenians descended from the native population of the area, was emphasized by their close association with Erechtheus and Athena. The Athenians "had the paradoxical identity of autochthony and divine birth".[26] For the Athenians, "both the city and the whole of the land [were] alike sacred to Athena", yet at the same time they referred to themselves as *Ἐρεχθεΐδαι*, the sons of Erechtheus.[27] The Athenians placed great importance on their autochthony by suggesting that their ancestors were literally born from the earth. The Athenians then monumentalized this symbol of autochthony, Erechtheus, by creating a temple that functioned as a testament to their long established, indomitable roots while also broadcasting their identity and claim to the land. In addition to their connection with Erechtheus, they incorporated many other distinctly Bronze Age Athenian religious features into the Classical Erechtheion in order to further emphasize the archaic nature of the site.[28] The Erechtheion encompassed the tomb of the first king of Athens, Kekrops; the sacred olive tree of Athena and the salt sea of Poseidon, the tokens of the two deities' struggle for the patronage of Athens; and the ancient *agalma* of Athena *Polias* that was said to have fallen from the sky in the time of Kekrops or Erichthonius.[29] The integration of all of these features, whether historically real or not, generated a cohesive structure that could be used by the Athenians to broadcast their past and celebrate the foundations of their *polis*.

The location and symbolism associated with the building site of the Classical Erechtheion also play a significant role in the formation of a strong Athenian identity. The Erechtheion and the worship of Erechtheus on the Acropolis served as both a reminder of the past and as a message for the future.[30] Homer refers to the "well-built house of Erechtheus" in Athens, while Herodotus speaks of a "megaron" on the site, potentially the seat of mythical king Erechtheus son of Pandion.[31] He also refers to the Athenian Acropolis as "the well-built citadel".[32] The archaeological evidence for a Mycenaean palace on the Acropolis is mainly conjectural and based around remains such as terrace walls.[33] Two of these terrace walls run under the Erechtheion, potentially creating a connection.[34] Whether or not a palace actually existed or not, or even if a historical Erechtheus was indeed king of Athens in the Bronze Age is irrelevant; the importance lies in the fact that the Athenians used these stories to reinforce their ideals and identity. According to Athenian memory and mythology, foreign invaders never took the Athenian Acropolis.[35] The Mycenaean fortifications withstood the Dorian invasions and even harboured the royal family of Pylos after invaders overran the Peloponnese.[36] The Athenians melded past and present together to demonstrate their glory by constructing a temple with features rooted firmly in the Bronze Age upon the site of their legendary, undefeated kings.[37]

The Erechtheion therefore served to remind the Athenians and their rivals of the victories of the past, yet this alone does not seem to fully justify the integration of the existing cult structures into a grand and all-encompassing temple. Based on the above evidence, I propose that, similar to the Parthenon and many other buildings from the Periklean programme, the Erechtheion also served to reinstate confidence in the Athenians after the devastating defeat of the Persian Wars and the burning of the Acropolis. Kousser, following the lead of Andrew Stewart, argues that each building of the Periklean building programme on the Acropolis was connected and related to its ruined predecessor and to the other buildings of the program.[38] This implies that a high degree of intentional connec-

26 Psarra, 92.
27 Pausanias 1.26.6; Euripides, *Medea*, 824.
28 Psarra, 93.
29 Herodotus 8.55, Apollodorus 3.14.1; Pausanias 1.26.6.
30 See Rachel Kousser, "Destruction and Memory on the Athenian Acropolis." *The Art Bulletin 91*, no. 3 (2009): 263-82 for a discussion of memory on the Acropolis, mainly regarding the Parthenon. Also, elements such as the windows in the Nike Bastion for displaying the Mycenaean Cyclopean wall and the rebuilding of the destroyed Old Parthenon into the Classical walls demonstrate the memory employed by the Athenians during their reconstruction of the Acropolis post-Persian Wars..
31 Homer, *Odyssey*, 7.80-81; Herodotus 8.53.
32 Homer, *Iliad*, 2.549.
33 Penelope A. Mountjoy, *Mycenaean Athens*, (Jonsered, Sweden: P. Åströms förlag, 1995), 42.
34 Lesk, 17.
35 Hurwit, 82.
36 Pausanias 2.18.7-9; Thucydides 1.12; Lesk, 18.
37 See Kousser for the integration of memory and the Periklean building programme on the Acropolis..
38 Kousser, 263-275; Andrew F. Stewart, *Classical Greece and the Birth of Western Art* (Cambridge: University Press, 2008).

tivity and memory was employed in the design of these buildings. The Erechtheion is connected to the ruined archaios neos in this way, yet it is also associated, as argued above, with the Bronze Age acropolis and its kings.[39] The building of a new structure could therefore signify the use of Erechtheus and his tie to the past, in collaboration with their patron goddess Athena, by the Athenians to demonstrate their future impregnability. Just as the mythical kings had warded off foreign invaders, the Athenians constructed the Erechtheion as a sort of promise that, like the "well-built house of Erechtheus", foreign invaders would never again infiltrate the Acropolis.

The Worship of Athena Polias in the Erechtheion

The site of the Erechtheion was not only used for the worship and the commemoration of earth-borne Erechtheus, but it also functioned as the preeminent religious space in which to worship Athena *Polias* in the Classical period.[40] While Erechtheus symbolized autochthony for the Athenians, literally springing forth from the earth, Athena represented the divine relation and protection that their *polis* enjoyed. Evidence for the worship of Athena *Polias* in and around the Erechtheion exists in both the archaeological and literary records. The mythology associated with Athena Polias and her subsequent worship directly influenced the design and architecture of the Erechtheion temple and its precinct. The very earliest form of Athena was commemorated in the Classical Erechtheion, in order to highlight her mytho-historical role as a victor. This Athena Polias, Athena of the city, is explicitly archaic and firmly rooted in the context of the Bronze Age, even in later literary sources. In Homer, Athena is said to come to the "well-built house of Erectheus", and even at this stage, she had "her own rich sanctuary" in Athens in which she invited Erechtheus to dwell.[41] Apollodorus recounts the contest between Athena and Poseidon that happened during the kingship of Kekrops, and Herodotus also mentions the sacred olive and the salt sea being present at the temple.[42] This mythical narrative translated into the architecture of the Erechtheion complex firmly establishes Athena's role as a past, Bronze Age victor. In addition, the ancient olivewood *agalma* was kept in the Classical Erechtheion, one of the Athenians' most prized religious icons.[43] Athena and Erechtheus share a close relationship in ancient sources, further tying Athena *Polias* to the mytho-historical Bronze Age. In Herodotus this relationship is demonstrated when the Athenians asked the Epidaurians to "pay yearly sacred dues to Athena, the city's goddess, and to Erechtheus".[44] The literary evidence suggests that Bronze Age Athena was predominantly worshipped in the Erechtheion. Combining the cults of Athena and Erechtheus not only reinforces the importance and the antiquity of the site, but more importantly it serves to strengthen the Athenian identity of belonging to earth and heaven.

The connection of Athena to Athens' heroic past is also present in the architecture of the Erechtheion and its precinct. One of the most contested, yet significant links present in the architecture is the relationship between the destroyed *archaios* neos and the Classical Erechtheion. One of the arguments proposed is that, if the reconstruction of the interior *cella* can be accepted, the double-roomed Erechtheion temple was built to emulate the destroyed *archaios neos*, with the Karyatid porch serving as the processional bridge between the two buildings.[45] Unfortunately, with the irreparable damage to the interior of the Erechtheion, any reconstruction of the cella lacks substantive evidence. Furthermore, many other explanations for the function of the Karyatid porch exist, such as that it is a heroön for Kekrops, a sculptural representation of the *arrhephoroi*, or even as a replacement for the korai burned by the Persians.[46] Despite not having any solid answer, each of these theories serves to either reinforce the archaic nature of the temple and/or strengthen Athena's function within it. Researchers have also discovered traces of an even older building under the Classical

39 Kousser, 263-275; Psarra, 93. Lesk, believes that the main cella of the Erechtheion can be seen "as a replacement for the east cella of the Archaic Temple of Athena".
40 Homer, *Iliad*, 2.549.
41 Homer, *Odyssey*, 7.80; Homer, *Iliad*, 2.549.
42 Apollodorus 3.14.1; Herodotus 8.55.
43 Pausanias 1.26.6.
44 Herodotus 5.82.
45 Lesk, 45-60.
46 Lesk, 60-63 citing in order of appearance: Kontoleon 1949, Marszal 1988, Palagia 1977.

Erechtheion, raising more questions regarding the history of the building and its function. On the north side of the temple, as early as 1924, Holland identified a layer of poros limestone under the marble paving of the North Court and that the hole in the North Porch leads into a sort of crypt that could be entered through the west cella, which accessed a significant preexisting sacred space.[47] More recently, Hollinshead reexamined this evidence, corroborating both of Hollands' observations, and she argues that the North Court was an integral part of the temple of Athena *Polias*.[48] Both the archaizing explanations for the Karyatid porch and the Erechtheion's architectural and archaeological tie to older temples and buildings relate the temple firmly to the past in a way that acknowledges Athena's contributions throughout the history of Athens.

The Erechtheion was also the location for the most important religious festivals in honour of Athena that both lauded her past patronage and implored her for future protection and glory. The double temple served as one of the locations for the grandest festival of the Athenians, the Panathenaia, as well as the ancillary rituals of the Plynteria, and the Kallynteria.[49] These ritual practices each had specific demands of the space and left their traces in the design of the temple and its surrounding areas. According to the mythology of Apollodorus, it was king Erichthonius who created the Panathenaia and placed the *agalma* in the temple of Athena.[50] Historically, Peisistratos is attributed with implementing the first Greater Panathenaia in ca. 570 BC.[51] On the second day of this festival, the procession would begin from the area of the Dipylon Gate and, following the Panathenaic Way through the Agora, come to the Acropolis and the Great Altar of Athena.[52] This procession carried the new *peplos* woven by the *arrhephoroi* for the olivewood statue of Athena in her temple that was given to her after the space was swept (Kallynteria) and the statue was ritually bathed (Plynteria).[53] Hollinshead suggests the North Court is the location for the Plynteria ceremony, due to both its proximity to the *cella* of the temple of Athena in the Erechtheion, and that from other temples in the Greek world, marble paving was reserved mainly for large altars or areas where water needed to be managed.[54] This evidence demonstrates the importance of the Erechtheion space to the legendary, according to ancient sources, Athena festival. In addition to these architectural features, Gerding sees the monumental North Porch as another innovation owed to the Panathenaia festival. The North Porch of the Erechtheion and its commanding architecture is still visible today from the Agora. Gerding believes that the North Porch served as a reminder of the goal of the Panathenaic procession.[55] Athena would be further intertwined with Erechtheus if the monumental size of the North Porch was intentionally designed to monumentalize the Panathenaia festival. Not only would the two share their double temple, recalling the words of Pausanias, but architectural features of the building would also be shared between them. This would further accentuate the notion of the Athenians' divine and autochthonous identity.

The worship of Athena *Polias* in the Erechtheion temple not only served to commemorate the past deeds of Athena, but similar to the worship of Erechtheus, the building of the Classical Erechtheion and the inclusion of Athena helped to reinforce the identity and glory of the Athenians looking forward into the future. Again, this argument hinges around the reasons for constructing a new temple, rather than rebuilding the destroyed *archaios neos*. Most scholars, even if they do not believe that the ionic temple is the Erechtheion, believe that the *archaios neos* was not rebuilt after the Persian Wars.[56] However, Stewart and Kousser have also noted a mathematical connection between the Erechtheion and the *archaios neos* in the form of 72-foot modules that also relates the building to others such as

47 Holland, "Erechtheum Papers. II," 159; Lesk, 52
48 Mary B. Hollinshead, "The North Court of the Erechtheion and the Ritual of the Plynteria," *American Journal of Archaeology* 119, no. 2 (2015): 177-90.
49 Gerding, 389-401; Hollinshead, 177-90.
50 Apollodorus 3.14.6
51 H.W. Parke, *Festivals of the Athenians* (Ithaca, NY: Cornell University Press, 1977), 152; K.P. Köpping, "Panathenaia," in E*ncyclopedia of Religion* (Detroit: Ed L. Jones Macmillan Reference, 2005), 6958.
52 Köpping, 6958-6959.
53 Parke, 152-154; H. Shapiro, "Deomcracy and Imperialism: The Panathenaia in the Age of Perikles," in *Worshipping Athena*, ed. J. Neils (Madison: University of Wisconsin Press, 1996), 220.
54 Hollinshead, 186.
55 Gerding, 399.
56 Stewart, 1-332; Kousser, 275.

the Parthenon.[57] Gerding argues that one of the main reasons that the *archaios neos* was not rebuilt on the Dörpfeld foundations, but on the Erechtheion site, was to provide more space around the Great Altar of Athena east of the temple.[58] The overall scope of the Panathenaia festival therefore would have increased, potentially freeing up space for more of the Athenian population to partake in the worship of Athena, the goddess who guided them to victory in the war. These worshippers would then be exposed to the new temple, the joint temple of Athena *Polias* and Erechtheus that commemorated victory. Both figures have many victories recounted in their mythology. King Erechtheus is credited with the defeat of Eumolpos in the ancient war with Eleusis, and near the temple of Athena stood "large bronze figures of men facing each other for a fight, one of whom they call Erechtheus, the other Eumolpus".[59] As for Athena, not only her victory over Poseidon was displayed in the Erechtheion in the form of her olive tree, but also Pausanias mentions Persian spoils being dedicated inside the temple of Athena *Polias*, namely the breastplate of Masistius from the Battle of Plataia and the scimitar of Mardonius.[60] These votive offerings and other victory imagery in association with the close relation between the new temple and its ruined predecessor give the Classical Erechtheion and the worship of Athena a forward looking view to the glory of Athens, complemented by the Panathenaia.

Conclusions

The Erechtheion is an enigmatic site that employed many different methods and designs to broadcast its messages to the viewer. These messages are best understood when they are looked at in terms of past and present. The elements of the temple and its precincts are firmly rooted in the Bronze Age with a fluid architecture that mirrors the apprehension and confusion of the many myths associated with Erechtheus, Athena, and the connections they share with one another. Even if the surviving archaeological evidence on the Acropolis cannot corroborate the existence of a "well-built house of Erechtheus", the appearance of it in the epic poetry of Homer suggests that the notion of its existence was rooted in Athenian mythology. What does survive in the archaeological record, however, also gives credit to the idea that the Erechtheion was intentionally designed to translate mythology into architecture in order to broadcast messages of victory, both past and future, to any visitors of the temple complex. This use of mythology and architecture mirrors and solidifies the divine and autochthonous identity of the Athenians, establishing their glorious past for all to see. Furthermore, by referring back to this illustrious past of the site and its premier figures, in combination with the construction of a new monumental building with connections to its destroyed forbearer, they also present a favorable future for themselves that promises that the atrocities of the previous war will not happen again to the Acropolis. The Erechtheion therefore is a building that can be seen to instill a sense of confidence and pride in the Athenian people after tough won wars through the use of symbols of mytho-historical victories in both the past and future.

57 Stewart 1-332, Kousser, 275.
58 Gerding, 393.
59 Apollodorus 13.15.4; Pausanias 1.27.4.
60 Pausanias 1.27.1.

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Cause and Effects of the Timber Trade in the Athenian Empire: Shipbuilding, Klerouchia, and Deforestation

Chelsea E. Sweeney

The Athenian Navy was once a force to be reckoned with in the ancient world. At the height of their power in the Classical period, they possessed over 200 *triremes* (warships) for their war with Persia. Such an immense fleet would have required a significant amount of raw building material. Contemporary quantitative analysis provides a tentative figure on the vast amount of timber required for constructing these fleets. As fleet building requires access to unlimited forests with suitable "green timber", depletion of local resources drove the demand to procure timber from abroad. While archaeological evidence is limited on this topic due to its perishable nature, literary evidence supports the theory of a largescale trade. Various primary sources depict a precious trade relationship with the Kingdom of Macedonia, and the aggressive establishment of invaluable *klerouchiai* (Athenian colonies) in Thrace. Examination of environmental consequences of logging, transport of raw materials, economic placement of *naupegia* (shipyards), and protection of freight routes, reveal the often overlooked web of associations and strategies employed with this trade. Yet the golden age of the Athenian timber trade was a limited one. This essay explores the abrupt end to their trade connections and their controlled supply of timber, and concludes that their high demand made them vulnerable and ultimately contributed to their lack of naval success in the following Peloponnesian Wars.

Introduction

The study of the Athenian Empire is often measured through its frequent warfare, the conception of democracy as a political institution, the interpretation of the art and building program of Pericles, and of the reverence of the "great" male leaders, historians, and philosophers who left their mark on Athenian society. In my research, I have discovered that theories on trade or economic motives for warfare are frequently overlooked in the study of Classical Athens. Indeed, for such a powerful and influential city as Athens to exist in our imaginations, scholars must include the study of its industries and resources in order to understand the full picture of how Athens emerged as a leading naval power in antiquity. As a British Columbian growing up next to a pulp mill in the rural interior, I was intrigued by the timber trade in Classical Athens. My research is centered on Athenian timber procurement for the construction of the fleets that were mobilized during the Persian and Peloponnesian Wars. I have discovered that a majority of shipbuilding timber was imported from the Northeast, in the Kingdom of Macedonia, where special treaties and relationships were formed with Athens, and, also in Thrace where a *klerouchia* (an Athenian colony) was established at Amphipolis. I will explore the cause and effects of importing shipbuilding timber into Athens from these two localities, and examine the typical transportation methods. In addition, I will demonstrate how the Athenians protected their supplies of Northern timber resources through establishments of aggressively founded *klerouchiai*. As for the effects of this industry, I will argue that it created obvious environmental problems including mass deforestation as well as ultimately alienating Athens from the timber trade altogether. My research presented below will analyse information from primary Athenian sources, contemporary quantitative calculations, and consider the warfare documentation of the Roman author Vegetius.

Shipbuilding and Demand for Warships

Quantitative analysis estimates that over 200 warships, triremes, not *pentekonters*[1], were maintained in Athens between the years 480-410 B.C.E.[2] These were the years that contained the Persian (449-449 B.C.E.) and Peloponnesian

1 The *pentekonter* was an interchangeable term for both an Archaic merchant and war galley rowed by 50 oarsmen, while a trireme was thought to have evolved from a *pentekonter* to function primarily as a warship. A *trireme* had three banks of oars and was manned by a crew of roughly 170 rowers. M. C. Howatson, "Trireme," "Penteconter," *The Oxford Companion to Classical Literature*, 3 ed. (Oxford, U.K.: Oxford University Press, 2011).
2 Russell Meiggs, *Trees and Timber in the Ancient Mediterranean World* (New York: Oxford University Press, 1982), 193; C. M. Reed, *Maritime Traders in the Ancient Greek World* (Cambridge: Cambridge University Press, 2003), 19.

Wars (431-404 B.C.E.) with Athens. Hughes maintains that from keel to mast, almost everything in a ship came from trees including pitch for caulking.[3] This statement is likely credited to archaeological excavations, since ship construction did not evolve from wood to steel until the European Industrial Revolution in the 18th century. However, Bissa argues that the exact amount of timber used for any Greek war fleet is beyond our current state of knowledge, as no remains of a trireme have yet been discovered. Yet she presents some general calculations based on a modern reconstruction of an Athenian trireme known as Olympias whose hull weighed approximately 25 tonnes.[4] Bissa asserts that for the 25 tonnes of wood used, the original weight in timber would have been around 50 percent higher.[5] The estimate that she gives is at least 35 tonnes of wood in logs, while the oar-set would require 2-3 tonnes of wood in logs alone.[6] Bissa calculates that 100 war ships would require 3,500 tonnes of timber (35 tonnes per ship).[7] This would involve at least 7,000 tonnes of timber for a 200-ship fleet. Merchant ships are estimated to have weighed approximately 120 tonnes based on recovered shipwrecks.[8] Each trireme had a life of about 20 years excluding losses due to weather or warfare. Therefore, she argues that for a 200-ship fleet, at least 10 new ships were built each year, and during the Peloponnesian War, when Athens had a 300-ship fleet, at least 15 new ships were built annually.[9] This Large-scale, and in times of war, often rapid, shipbuilding programmes would have contributed to the disappearance of entire forests . Meiggs claims that Thucydides was aware that naval power depended on access to good shipbuilding timber.[10] Therefore, naval powers, primarily Athens, were constantly searching out available forests to build more fleets, likely in competition with one another.

Grounds for Athenian Importation of Timber

The Athenians had numerous reasons during the Classical period to import shipbuilding timber from outside Attica. On a local scale, the topography of Attica was becoming increasingly deforested. This accelerated deforestation can be attested to the consumption of the large quantities of fuel that the silver Laurion Mines, located southeast of Athens, required. Hughes argues that large industry metal refineries and pottery kilns required a large quantity of fuel, and he claims that it is not a coincidence that areas around ancient mining centres became among the most deforested.[11] In terms of the mines at Laurion, some historians speculate that they imposed "a great scar upon the Attic landscape,"[12] and "by the time of Strabo, the wooded surface of the region had been completely bared to provide timber for the mines and charcoal for the smelting of the ore."[13] This reference to Strabo, who existed several centuries later from 64 or 63 B.C.E. until c. 24 CE, around the time of the transference of the Roman Republic to the Roman Empire, is representing the conditions of this time period. Yet since forests can replenish themselves, the Roman Republic and Empire may have witnessed a historic cycle of local over-logging around the Laurion Mines, giving the region the appearance that there was never any permanent forest.

In addition, local deforestation occurred as a result of high demand from previously built ships, buildings and household fuel in Athens. Hughes asserts that wood and charcoal were the primary ancient fuels in households, public facilities, and industries in order to produce both heat and light.[14] He claims that wood and its products would have accounted for 90 percent of fuel usage. It is estimated that 10 kilograms of wood may have yielded only one kilogram of charcoal, which burns to provide the calorific content of

3 J. Donald Hughes, *Environmental Problems of the Ancient Greeks and Romans* (Baltimore: The John Hopkins University Press, 1994), 122; Theodore. A. Wertime, "Furnace Versus the Goat: the Pryotechonologic Industries and Mediterranean Deforestation in Antiquity," *Journal of Field Archaeology* 10 (1983): 448.
4 Errietta M.A. Bissa, *Governmental Intervention in Foreign Trade in Archaic and Classical Greece* (Leiden: Koninklijke Brill, 2009), 108.
5 Bissa, *Governmental*, 108.
6 Ibid.,108.
7 Ibid.,119
8 Ibid.,109.
9 Ibid.,108.
10 Meiggs, *Trees*, 117.
11 Hughes, *Environmental*, 74
12 Wertime, "Furnace," 75.
13 Hughes, *Environmental*, 448.
14 Ibid.,74.

only 1.67 kilograms of wood.[15] A considerable amount of timber would need to be burned in order to produce charcoal at 10 times less the amount of wood. Hughes claims that local deforestation inflated the price of wood because it then had to be imported anyway.[16] Amounts, such as the 10:1 ratio concerning the conversion of wood to charcoal, would have contributed greatly in the importation of timber.

Another environmental impact that affected the Athenian quest for local forests was that Attica was not naturally rich in "fresh" green timber for shipbuilding. Now it is not exactly certain what type of trees grew in Attica during the Classical period, but Plato claims in Leges that from the earliest times, Attica did not contain timber for the easy construction of a navy.[17] Plato is possibly referring to the Mycenaean period of Athens down to his present time. Therefore, Plato's conclusion was that this was the reason why, in the past, Athens was not able to match their enemies in a naval battle. The historian Theophrastus (370-288 B.C.E.), in his written work Plant-Researches, discusses how Macedonia was the only area that produces trees suitable for shipbuilding.[18] Theophrastus (370-288 B.C.E.), in his written work Plant-Researches, discusses how Macedonia was the only area that produces trees suitable for shipbuilding. Theophrastus, defines that the types of wood suitable for shipbuilding were fir, pine, and cedar. Fir was used on triremes and other warships because of its lightness. Pine was used for merchant ships because of its resistance to decay. Some triremes were also made of pine if fir was not available. Theophrastus claims that old wood is better for carpentry, however, for shipbuilding, the timber has to be green because it is more flexible. He describes that the reasoning behind this is that "planking shows gaps when it is new, but when the ship is launched the planks absorb water, close up and become watertight."[19] This leads me to conclude that the forests of Macedonia contained fir and pine primarily, logged for the construction of triremes and merchant vessels.

Another environmental impact that was likely just as dramatic as clear-cut logging in Attica, was a common warfare tactic where forests were deliberately destroyed with fire. This is what Hughes claims that Xerxes, the Persian general, did when he invaded Greece in 480/79 BCE.[20] However, with sufficient time, forests replenish themselves, and this would have been a temporary situation for Athens. Military camps themselves contributed to the disappearance of forests in Attica. An example from an imperial Roman military treatise, Epitoma Rei Militaris, composed by Vegetius, describes how soldiers were sent to cut wood for fortifications and fuel.[21] As well, Vegetius documents that trees were often felled to block roads on military retreats.[22] Despite the fact that Vegetius was writing in the 4th century CE (under Imperial Rome) and that the Roman army had hundreds of years at that point to develop their strategies in war, the fact that history repeats itself is an imperative concept to consider when filling the gaps in Greek literature on this topic. While warfare tactics do evolve over time with technological advancements and contact with new cultural groups, if history repeats itself as it commonly does, Roman military procedures may have been similar to or evolved out of Greek and Persian military procedures. With respect for their spatio-temporal differences, a connection between imperial Roman military tactics and the earlier Graeco-Persion military strategies, could argue that warfare was continually affecting timber supplies, and war in turn led to the increase in local deforestation.[23] Yet, it would be only a temporary deforestation. In terms of naval warfare, one tactic was to break oars off the *triremes*.[24] This would add to the demand for timber products to be created or imported and thus contribute to further deforestation not only on a local scale, but on an international scale as noted below.

15 Peregrine Horden and Nicholas Purcell, *The Corrupting Sea: A Study of Mediterranean History* (Oxford: Blackwell)
16 Hughes, *Environmental*, 85.
17 Plato, *Laws*, Book I-VI4.706b.
18 Fik Meijer and Onno van Nijf, T*rade, Transport and Society in the Ancient World: A Sourcebook* (New York: Routledge, 1992), 116; Theophrastus, *Enquiry Into Plants and Minor Work on Odours and Weather Signs*, I, trans.
19 Meijer and van Nijf, Trade, 161; Theophrastus, *Enquiry*, V.7.1-4.
20 Hughes*, Environmental*, 75. He does not provide a primary source for this claim
21 Ibid.,75; Vegetius, *Epitome of Military Science*, II.10, II.23
22 Vegetius, *Epitome*, III.22.
23 Hughes, *Environmental*, 75.
24 Bissa, *Governmental*, 114.

Establishment of Trading Partners and Klerouchia

One way for Athens to obtain forests -- if they could not be conquered politically -- was to create treaties and special relationships with foreign powers. Bissa examines how Andokides' royal xenos (guest-friendship) connections with the Macedonian royal family granted him unlimited supplies of timber.[25] This shows that the Kingdom of Macedonia employed a controlled leasing system with exploitation and export rights granted to individuals by royal decree.[26] Andokides' testimony also claimed that he transported unshaved oars to Samos, which suggest that there was a certain level of expert oar-makers in Macedonia.[27] Bissa claims that this would indicate a private trade with Athens as well.[28] However, little other information is available on this subject, since it is unknown if there was actually a commercial or private trade in Macedonian oars with Athens. Another example of obtaining Macedonian timber is through special gift privileges that the king bestowed upon certain Athenians. Demosthenes himself claimed that Lasthenes received timber as a gift from the King of Macedonia.[29] As well, Timotheus, an Athenian general, also received a gift of timber from Amyntas, King of Macedonia.[30] This shipment from Amyntas is an example of naukleria (ship-owning) because the shipment of timber included freight costs to be paid.[31] Shipments with private transport costs attached to them indicate that this type of exchange was intended for personal use. It is unknown if gifts of timber were utilised by Athenian citizens in the private construction of *triremes* but they may have been utilised to increase the numbers of merchant ships.

Literary inscriptions also provide evidence for Athenian trade relationships with Macedonia. In the inscriptions Andok.2.11 (Attic orator Andocides c. 440 – c. 390 BC); ML. 91 = Fornara 161, line 30 (407/6 B.C.E.), Athens is described as receiving enough timber from Macedonia to build a new fleet of ships and to supply them with oars.[32] Not only was Athens receiving raw materials from Macedonia, but they were also receiving manufactured products (oars) which indicates that there must have been a large industry of skilled craftsmen and specialists in Macedonia. These skilled craftsmen and specialists would have depended on marine activities – naval warfare or merchant activities – for their livelihood. In a way, warfare was in their best interests, especially if Athens had great losses of oars or ships in battle, then the demand would dramatically increase. In every war, there are war profiteers, and it would not be unusual if Macedonia had a large interest in the war antics of Athens. Eventually trade monopolies were firmly established as depicted in the inscription I (3) 89.31, where Perdikkas II of Macedonia (440s-413 B.C.E.) states that he would not export oars to anyone but Athens. These inscriptions were written during the last stages of the Peloponnesian War (431-404 B.C.E.), and could particularly reference when Athens had devastating naval losses during their Sicilian Expedition (c. 413 B.C.E.). The loss of these triremes would have resulted in an urgent demand for more ships. Around 411 B.C.E., Andocides claims he took advantage of his friendship with the new Macedonian king, Archelaos, in order to supply oars to the Athenian fleet on the island of Samos.[33] This written evidence provided by Andocides, displays how well connected he was with the royalty of Macedonia, and that his connections ultimately benefited the Athenian navy. A later inscription to the ones above, IG II (2) 102, depicts an agreeable political relationship in the form of a treaty between Athens and Amyntas of Macedonia (ca. 370 B.C.E.). This treaty does not include raw timber, however, just specialised timber products. These inscriptions add to the literary evidence

25 Ibid.,112-113; Meiggs, *Trees*, 126.
26 Ibid.,113.
27 Ibid.,114.
28 Ibid.,125
29 Demosthenes, *De Corona and De Falsa Legatione* XVIII, XIX, 114, 145, 265; Herman, Gabriel, R*itualised Friendship and the Greek City* (Cambridge: Cambridge University Press, 1987), 82.
30 Demosthenes, *Private Orations* XLI-XLIX, trans. A. T. Murray (London: William Heinemann Ltd, 1956), 49.26; Herman, *Ritualised,* 82; Reed, *Maritime*, 115-116.
31 Reed, *Maritime*, 116.
32 Simon Hornblower, *The Greek World: 479-323 B.C.* 3rd ed. (New York: Routledge, 2002), 174.
33 Andok. 2.11.

portraying how trade connections evolved from informal familial connections between Athenian elite and Macedonian royalty in the late 400's B.C.E. to an established treaty between Athens and the monarchy of Macedonia in the early 300s B.C.E.

However, if the odds were in their favor, the Athenians had no qualms about colonising a region in order to control access of the timber resources there. An example of this would be the klerouchia of Amphipolis, strategically established as an Athenian lumber port on the Strymon River in Thrace, around the years 437/6 B.C.E.[34] It was only on the second attempt by Athens that this colony was founded, since the first attempt was a met with a violent response from the local indigenous people, the Hedoni, who annihilated the Athenian settlers.[35] This region of Thrace was a major source of timber, as it existed on the east side of the forest-rich Kingdom of Macedonia. Thucydides reports that Amphipolis was extremely important to the Athenians and they were greatly alarmed when it was captured by Sparta during the Peloponnesian War in 424 B.C.E.[36] Thucydides, who was also a military general in this war, was exiled from Athens for 20 years when the city was captured.[37] His fleet apparently reached the city too late to save it and Athens punished Thucydides for his lack of right timing.[38] This is an extreme reaction for one colony of Athens. Their main cause for concern was that this city was useful to them for the controlled procurement of shipbuilding timber, since relations with Macedonia could dissolve at any time and raw materials along with specialised products were not likely a free exchange.[39] It is not very clear in the literature what the timber trade with Macedonia was costing the Athenians. Realistically, it was in the Athenians best interests to have access to an independent supply. This example stresses the importance and value of northern Greek forests to the Athenians.

34 Hornblower, *The Greek,* 93; Hughes, *Environmental*, 74, 86; Meiggs, *Trees*, 127; Thucydides, *History of the Peloponnesian War,* trans. Rex Warner (London: Penguin Group, 1954), 4.108.
35 Hornblower, *The Greek*, 93; Thucydides, *History*, 4.102.
36 Hornblower, *The Greek*, 93; Hughes, *Environmental*, 3; Thucydides, *History*, 4.108, 5.26.
37 Hornblower, *The Greek*, 93; Thucydides, *History*, 5.26.
38 Thucydides, *History*, 4.107, 5.26.
39 Meiggs, *Trees*, 127.

I want to add this last point that it is not as if Athens could not afford to import timber or timber by-products. Athens was a very independently wealthy city due to the silver mines of Laurion. Herodotus records that when the Athenians received a large amount of money as a result of a lucky strike at the Laurion Mine, Themistocles persuaded the Athenians to use the money to build 200 warships for the war against Aegina instead of distributing the capital amongst themselves.[40] Yet, their actions with colonising Amphipolis demonstrate that power corrupts, and in order to monopolise on timber resources, aggressive forms of control were necessary to stabilise their claims to the region.

The primary motive behind the Athenian focus on dominating Thrace instead of Macedonia was because Macedonia was a centralised state with a large and experienced army. This army would have likely engaged in a land battle, rather than the naval battles that the Athenians preferred.[41] Thrace, on the other hand, was inhibited by indigenous groups and by the Thasians, and accordingly the Athenians found them the easiest to subdue.[42] Bissa asserts Athens attempted its best to dissolve the timber trade in order to have a steady state supply of timber resources.[43] She claims that Athens preferred extreme intervention in the form of violent coercion of the exporters through conquest and forced settlement of areas, while limiting and extinguishing the supply to rivals and revolting allies.[44] This can be observed in the establishment of the klerouchia of Amphipolis. However, arrangements and conquests appear to have backfired on Athens, first with the loss of Amphipolis and then falling out with her allies. Meiggs describes how at the end of the Peloponnesian War, Athens found herself alienated from all her usual timber supplying regions because relations with Macedonia had dissolved and Athenian merchant ships would have been vulnerable to interception with Spartan or Corinthian triremes. Athens may have looked increasingly to the West and South therefore to ensure that there was still a supply of timber to build more

40 Bissa, *Governmental*, 117; Herodotus, *The Histories*
41 Ibid., 124.
42 Ibid., 151.
43 Ibid.,139.
44 Meiggs, *Trees*, 128.

warships to protect them from their enemies of the Peloponnese.

Transport, Naupegia, and Protection of Freight Route

Timber freight is credited to have been handled by *emporoi*, translated into "traders" respectively, and by *naukleroi* who were "ship-owners."[45] *Emporoi* are considered to have dealt in interstate trade, traveled by sea in someone else's ship and owned the goods that they produced.[46] *Naukleroi* may have dealt in trade while owning their ships at the same time. It is suggested that *naukleria* (ship-owning) may have been passed down as a family occupation because one 4th century Kyrenia merchant vessel, uncovered in 1968/9, was found to be at least 80 years old when it sank.[47] Yet it is only theorised that *emporoi* and *naukleroi* were responsible for the transport of timber. In terms of timber freight, literary sources are scarce and information on them below is derived from quantitative analysis.

This leads to the debate if there was, in fact, an export of raw wood to Athens or rather if shipbuilding was conducted in ports close to the resource and then deploying the ships to Athens when completed. Meiggs stresses that the shipping of timber from Macedonia and Thrace to Athens in preparation for the Persian War would not go unnoticed because they were both under Persian control at that time. He argues that the timber was procured elsewhere to build ships in the port of Piraeus at Athens.[48] Bissa disagrees that Piraeus was the primary *naupegia* (shipyard) and constructor of ships because of a lack of evidence. Her argument is that a *naupegia* where the *triremes* would have been constructed appears more logical to have been closer in location of the timber resource.[49]

Quantitative analysis suggests that ships carrying timber would have had to carry more ballast because the long timbers of a *trireme* would be strapped down on the deck and they were generally 16 metres longer than the average merchant ship. Such a merchant ship is estimated to carry up to three triremes worth of timber – however, due to other cargo and compartmentalisation, this figure may be quite lower. Rafts carrying logs behind a ship would not have been a practical mode of transportation as stormy seas could neatly dispose of the timber cargo. Bissa argues that such freight would be very expensive to receive as well as ensuring protection from pirates.[50] Her argument is economically sound, and implies that naupegia were likely situated closer to the timber resources than previously assumed. Nearby naupegia would have been in the best interests of freight shippers, not only for saving shipping costs, time, and labour, but also for rapid manufacturing.

The freight route was protected by establishments of *klerouchiai* and of *naupegia* such as the one at Neapolis on Thasos. Bissa speculates that the reason behind the Thasian Revolt (465 BCE) was in response to the Athenian control of northern resources.[51] She argues that Thasos had interests in the northern Greek forests and the settlements there, and was known for its *naupegia* industry. Another extremely important settlement to Athenians, was Amphipolis on the Strymon River in Thrace. Bissa speculates that Amphipolis was not a trading port where exports would take place but rather where the logs would be sent downstream to the coast, making it a major lumber river-highway.[52] Amphipolis maintained its independence for many decades and was only colonised by the Athenians from 437/6 B.C.E. until they lost it to the Spartans in 424/3 B.C.E. (and never regained their hold over the city).[53] After 424/3 B.C.E, Macedonian timber exports would have been transported past Amphipolis on the Strymon River until they eventually colonised the city themselves under the reign of Philip II. There was a spell of political turmoil after the death of Amyntas III in 369 B.C.E. , which left a small power vacuum, and the Athenians were quick to send fleets close to Amphipolis as a message to the kings of Macedonia.[54] However, after 357 B.C.E. under the reign of Philip II, Macedonia controlled not only

45 Reed, *Maritime*, 6.
46 Ibid, 7-9.
47 Ibid.,13.
48 Meiggs, *Trees*, 124.
49 Bissa, *Governmental*, 109.
50 Bissa, *Governmental*, 109.
51 Ibid, 121.
52 Ibid, 123.
53 Sealey, *Demosthenes,* 110.
54Ibid, 77

the source of the timber, but most of the water freight ways and may have charged tolls on Athenian merchant vessels.[55]

Environmental Consequences of the Timber Trade

Plato (424-348 B.C.E.), in his dialogue *Critias*, describes how the mountains in Attica was once rich in timber, yet during his time, only traces of these rich forests could be still seen.[56] He claims that "but not so long ago trees fit for the roofs of vast buildings were felled there, and the rafters are still in existence." On an international level, Theophrastus (371-287 B.C.E.), who was born at the tail end of the Athenian empire, recorded that after the trees had been cleared around Philippi in Macedonia, the environment and weather patterns changed as the waters dried up and the climate became warmer.[57] Thus he witnessed firsthand the environmental impact of deforestation on Macedonia, likely a consequence of Alexander II's war effort. Theophrastus cleverly linked the destruction of the natural environment to affecting other elements such as the ecosystem of the once forested terrain and of the local weather patterns.

Conclusion

The Athenian demand for timber was a result of unavailable resources in the local environment due to previous over-logging and lack of certain "fresh" trees for massive shipbuilding programmes. Warfare tactics also played a small role in stripping the local terrain of its remaining forests. In order to access forests that contained the required trees for the purposes of shipbuilding, Athens turned toward northern Greece where the Kingdom of Macedonia and the tribal lands of the Thracians contained rich forests. Athens relied mainly on coercive diplomacy in controlling these timber-producing areas such as Amphipolis in Thrace, as well as employing peaceful diplomacy with the Kingdom of Macedonia to establish private and public trade.[58] Yet, the dark side of the Athenian Empire reveals that the demand for timber paved the way for violent conflicts with indigenous groups and with obvious and possible competitors such as the Thasians, which ultimately led to widespread environmental problems with over-logging and then alienation from the resources themselves. It is postulated that shipbuilding timber was not in fact transported to Athens, but rather warships were constructed in shipyards (naupegia) close to the resource. This displaces the entire perception that shipbuilding timber was exported for trade and for construction at the port of Piraeus. However, whether or not ships were constructed abroad or "at home," their extremely high demand and procurement of their building materials (timber) negatively affected the natural environment and the navel success of the Athenian Empire.

55 Sealey, *Demosthenes*, 111.
56 Meijer and van Nijf, *Trade*, 117; Plato, *Critias*, 111c.
57 Theophrastus, *De Causis Plantarum*, III, 5.14.5
58 Bissa, *Governmental*, 140.

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Pilot XRF Analysis on Bahrain Ceramics from the Tylos Period

Emma Jean Betz

Sixty ceramic objects were collected from the island of Bahrain by Harvey F. Blackmore during the 1960's. This collection was donated to the Laboratory of Archaeology, located on the campus of the University of British Columbia. Because many of the objects lack provenience, stylistic comparison has been used to hypothesise their context. This pilot study examined four artifacts dating stylistically to the Tylos Period (300 BCE – 600 CE) and utilized X-Ray Fluorescence to determine the elemental concentrations in the fabric and glazes of the ceramics. The results showed some definite distinctions among the elemental concentrations and could be used as a reference for future studies of this collection. If the study is expanded upon, by using the results from the stylistic and XRF analyses, it is possible to reconstruct where their clay was sourced, where they may have been produced, as well as the trade routes and economy of the time period.

Introduction

Museum collections around the world receive many donations from individuals, and often these artifacts do not have any context. When an object has no provenience, it is difficult for museums to find ways in which to use the objects unless they are of museum quality for display. Many objects are turned away or stored in a box where they become inaccessible. This problem has been recognized by the University of British Columbia's Museum of Anthropology (MOA) and the Laboratory of Archaeology (LOA) that is located at MOA. Operating through the University's Department of Anthropology, LOA is a repository with the goal of ensuring that artifacts are accessible for research purposes.

The Harvey F. Blackmore Collection was donated by the Blackmore family from Langley, BC to LOA precisely due to this fact. The collection includes over 200 artifacts including ceramics, metals, lithics, and bone, predominately from the island of Bahrain in the Persian Gulf. Harvey F. Blackmore conducted a series of approved amateur archaeological excavations on some burials while he was working for the Bahrain Petroleum Company in the 1960s and 1970s.[1] Much of the collection does not have any provenience but is said to all be from Bahrain, with the exception of four objects. There has been some stylistic research to classify the artifacts done by the graduate student initiative From Stone to Screen from the Department of Classical, Near Eastern, and Religious Studies at the University of British Columbia. However, none of these items have ever undergone a scientific analysis. The purpose of this study was to determine, from a small sampling of the ceramics, if X-Ray Fluorescence (XRF) could, in a future study, help in determining the source of the clay and the area of production for the ceramics in this collection. If so, this could help to better understand the areas of ancient ceramic production, trade routes, and ultimately the economy of this time period. It is postulated that this analysis will show distinct differences in elemental concentrations among the selected ceramics which, in addition to stylistic evidence, could help in determining their clay origin and area of production.

1 Laboratory of Archaeology Printed Archives

Background

Four ceramics were strategically selected for analysis. Two ceramics are mentioned in Blackmore's journal, which provides provenience and details of their excavation. The third had no provenience but was most definitely not made in Bahrain based on stylistic analysis. The fourth and final ceramic had no provenience but an interesting colour of glaze. All of the selected artifacts are well documented from other excavations on Bahrain and their parallels' place of production is relatively well known. All of the artifacts date to the Tylos period.

Bahrain's history is quite extensive. The island gained prominence in the early first mil-

lennium BCE when it served as a possible port for goods destined for Mesopotamia.[2] It is due to this fact that it is important to reconstruct the economy and trade routes since many goods would be imported and exported. The time period of interest for this study is the Tylos Period. The time period name originates from the Greek word for Bahrain, Tylos, which was allocated by Androsthenes of Thasos who was an admiral for Alexander the Great.[3] The period begins at this time, the late 4th century BCE and extends until the beginning of the rise of Islam in the 7th century CE.[4]

The Tylos Period is divided into shorter phases that reflect characteristics of change in pottery or architecture. From 200-50 BCE is considered Phase 1 and is characterized by cultural intermingling of Arabian, Greek, and Mesopotamian influences which is reflected in the artifacts.[5] From 50 BCE-50 CE, Phase II, Greek influence dwindled and was subsequently replaced by Roman influence that originated from the continued involvement with trade routes.[6] By this time, the burial customs on Bahrain had been established and there is a significant portion of grave goods that date to this phase and the following phase. This is why many of the artifacts in this collection date to this phase or later.[7] Finally in Phase III, 50-150 CE, the trends of the previous phase continued but evidence for local invention and innovation in ceramics, rather than primarily influenced works, is present.[8]

The tombs of this period are cists-graves made of stone with mortar and are for a single burial. These are subsequently concealed by a mound which can accommodate 1-200 burials.[9] The glazes, or coatings on the ceramics, seem to vary with burial levels as noted both on Failaka and Bahrain. Andersen mentions that from 200-50 BCE the glaze is typically decayed to a gray to white. From 50 BCE-50 CE the glaze is more of a gold or iridescent while from 50-150 CE both of the glazes occur and are common.[10]

Artifact Descriptions

The first object is BRN:46 (Figures 1-4), a handleless bottle with a teardrop shaped body. The LOA database states that it has a slightly footed, rounded base. The neck is narrow and the rim is flared. The fabric, or clay it is made of, is fired white with gold to brown glaze. The unglazed sections show evidence for the ceramic being wheel-made. There is a section near the base that has been broken off. The dimensions are as follows: length-62mm, width-50mm, thickness-7mm, rim diameter-24mm, and base diameter-32mm.[11] This object was identified from Blackmore's journal and was found on November 21, 1969 in a Tylos burial in a private garden that was South of ɣ which was 3.4km west of the roundabout on Budaiyah Road, 300 feet south of the road (Figure 5).[12] The exact location of this burial is quite difficult to pinpoint based on his descriptions especially since Budaiyah Road (now Budaiyah Highway) runs horizontally almost the width of the island and there are nine roundabouts along it. However, it is restricted to the northern part of the island which helps to narrow down the location to a general region.

BRN:46 most closely resembles the Type AK found in Andersen.[13] This Type is made of only two vessels found in Al-Hajar[14] and Hamad Town[15] (Figure 6). It is characterized by a raised base, globular body, a sharp transition from the shoulder to the narrow neck, an out turned rim, and a glaze that has turned brown and white due to decay. This ceramic style was common in Mesopotamia during the pre-Hellenistic periods and the examples from Bahrain date to c. 50 BCE-50 CE. The documented measurements are similar to BRN:46 with a height of 65mm and a

2 Søren Andersen, *The Tylos Period Burials in Bahrain: Volume 1 The Glass and Pottery Vessels* (Kingdom of Bahrain Culture and National Heritage, 2007), 232.
3 G. Bowersock, "Tylos and Tyre: Bahrain in the Graeco-Roman World" in *Bahrain Through the Ages, the Archaeology* (London: KPI Limited, 1986), 399.
4 Søren Andersen and Mustafa Salman, "The Tylos Burials in Bahrain" in *Proceedings of the Seminar for Arabian Studies* 36 (2005), 111.
5 Andersen, *The Tylos Period Burials*, 235-236.
6 Andersen, *The Tylos Period Burials*, 238-239, Andersen and Salman, The Tylos Burials in Bahrain, 114-115.
7 Andersen, *The Tylos Period Burials*, 238.
8 Andersen and Salman, *The Tylos Burials in Bahrain,* 114-115.
9 Andersen and Salman, *The Tylos Burials in Bahrain*, 112.
10 Andersen, *The Tylos Period Burials*, 216.
11 Laboratory of Archaeology Database.
12 Laboratory of Archaeology Printed Archives.
13 Andersen, *The Tylos Period Burials*, 145-146.
14 Just to the south of the central stretch of the Budaiyah Highway.
15 About 13km south of Budaiyah Highway and Al-Hajar.

rim diameter of 20mm.[16]

The second object is BRN:90 (Figures 7-8) which is a pilgrim flask. It is described in the LOA database as lenticular with two handles that extend from the neck to the body. The rim is flanged and there are ridges around the round body. The sides are flat with an indented area between them that extends around the body to the neck. It has a yellow glaze that has flaked off and the fabric is fine and pink. The body sides were likely molded and the neck, rim, and handles were likely handmade and affixed after. The dimensions are as follows: length-120mm, width-95mm, and rim diameter-37mm.[17] BRN:90 was found in the same mound and on the same day as BRN:46 but not necessarily the same burial since there were two tombs within the mound.[18]

The most closely resembled parallel is Type BX in Andersen.[19] The pilgrim flask has a circular body with handles. It has a vertical rim and the glaze has become a brown or white color. Pilgrim flasks only became popular in Bahrain after Alexander the Great but are found across the Near East. Some examples came from Failaka, Uruk, Seleucia, Dura Europos, Masjid-I Soleiman, Bard-e Nechandeh, Kangevar, and Mleiha. The pilgrim flasks typically date from the Seleucid period through the Parthian period. In Bahrain, the 22 parallel examples mentioned come from Qala'at al-Bahrain[20], Shakhoura[21], Um Al-Hasam[22], Al-Hajar, Saar[23], and Hamad Town, typically from tombs (Figure 6). These ceramics range in date from 50-140 CE. The vessels range in height from 80-150mm and rim diameter from 15-30mm.[24]

BRN:10 (Figures 9-12) is the third artifact and is a small, glazed lamp. The LOA database indicates that it has a short and wide body that has a curving, slightly vertical open neck which is close to the width of the body. The base is flat and wide and it has a handle that is attached at the widest part of the body. On the other side is a large spout which is connected to the base of the body to about 3mm below the rim. The spout is cylindrical and has a curved, crescent-shaped opening which faces upward that is slightly higher than the rim of the body. A thin, gold iridescent glaze is present and fairly intact on the exterior and interior. The fabric is fired white to gray with an overall smooth texture. It is likely a thumb pot and constructed by hand with the handle and spout hand modelled and pressed on after. The dimensions are as follows: length of entire lamp-75mm, length of just the body-25mm, spout width-25mm, handle width-18mm, body width-35mm, thickness-4mm, rim diameter-29mm, and base diameter-30mm.[25] There is no provenience found in the LOA Archives for this object.

It is noted by Andersen that lamps are not common in Bahrain and only three lamps with handles have been found, only one of which has provenience and is from a tomb in Hamad Town.[26] The lamps, Type DF, were found with artifacts dating to 50-150 CE. Andersen notes that lamps with and without handles were far more common in Failaka (an island to the north of Bahrain off the coast of Kuwait) and date to an earlier period. Those from Bahrain range in size from a height of 50mm to 60mm and a rim diameter of 40mm to 60mm.[27]

The final object is BRN:14 (Figures 13-14) which is a small bottle. According to the LOA Database it states that it has a concave, footed base and a body that is piriform, or pear-shaped. There are two handles which curve upwards that are attached to the shoulder and the entire neck. The neck is short and narrow with an everted rim. Heavy concretions of calcium carbonate cover the vessel but some green glaze remains and the fabric is a pale brown. The dimensions are as follows: length-110mm, width-75mm, thickness-5mm, rim diameter-38mm, and base diameter-47mm.[28] There is no provenience for this ceramic within the LOA Archives or in Blackmore's journal.

The closest parallel to BRN:14 is Type BV, described by Andersen as a "bottle with two neck-attached loop-handles."[29] The rim is exter-

16 Andersen, *The Tylos Period Burials*, 145-146.
17 Laboratory of Archaeology Database
18 Laboratory of Archaeology Printed Archives
19 Andersen, *The Tylos Period Burials*, 178-181.
20 About 2.7km north of Budaiyah Highway and Al-Hajar.
21 Northwest Bahrain, 1km south of Boudaiya Road.
22 About 5km southeast of the end of Budaiyah Highway at Manama.
23 Just to the west of Al-Hajar and south of Budaiya Highway.
24 Andersen, *The Tylos Period Burials*, 178-181.
25 Laboratory of Archaeology Database.
26 Andersen, *The Tylos Period Burials*, 204.
27 Andersen, *The Tylos Period Burials*, 204.
28 Laboratory of Archaeology Database.
29 Andersen, *The Tylos Period Burials*, 178-180.

nally thickened and the glaze is turquoise or has decayed to brown or gold. Some similar examples have been found in Nimrud, Susa, and Warka. About thirty of these vessels have been found on Bahrain and come from tombs in Karranah[30], Saar, Ali[31], Abu Arshira[32], Shakhoura, Al-Hajar, Hamad Town, and Um Al-Hasam. It is postulated that this type is likely a development of an earlier Type J which are likely imports from southern Mesopotamia. The height for BV ranges from 65mm to 130mm and the rim diameter is usually 20mm. The vessels primarily date to 50-150 CE but a few examples are from earlier periods.[33]

XRF Examples in the Near East

Scientific analysis of archaeological artifacts can provide further information that cannot be determined based on stylistic analysis alone. Ceramics are particularly common for these analyses because they have a greater preservation potential.[34] By analyzing these objects, inferences on the trading network of a particular area can be made by tracing the material's place of origin.[35] The composition of the clay used to make the object has a unique signature of elements that identifies the source of the clay.[36] The use of Portable XRF has become increasingly popular for scientific analysis of archaeological materials since it has become more affordable in many research and museum settings. It can detect fifteen to thirty elements ranging from Sodium (Z=11) to Niobium (Z-41)[37], depending on the settings, and it is relatively quick and inexpensive to run analyses.[38]

There have been many XRF studies conducted in the Near East. Some relevant studies that have been conducted include one by Pincé et al.[39] on ceramics from the Kur River Basin in Iran where they determined the origin and trade routes based on the fabric and pigments of the decoration. Another that is able to trace production areas was Bakraji et al.[40] from Tell Jendares in Syria. Bakraji used XRF analysis at Tel-Alramad in Syria to help classify ceramic pieces and determine their origin.[41] A study by Tite examined various glaze compositions from glazed Islamic ceramics gathered from Egypt, Iran, Iraq, and Syria.[42] A less relevant use of analysis but spatially relevant study was conducted by Grave et al. that used XRF to help distinguish groupings within the ceramics found at Tell Abraq and Saar in Bahrain.[43] Since the present analysis only used semi-quantative data and there are few studies published from Bahrain and none from the Tylos Period, few comparisons can be drawn from the literature.

Methods

X-Ray Fluorescence analysis was used to determine what elements were present and in what concentrations in the glaze and fabric of each ceramic. This method was chosen due to its non-destructive nature, quick analysis time, easy operation, and relatively good ability to detect trace elements in the range of parts per million (ppm).[44] A Bruker Tracer III-V+ Handheld XRF was used to obtain surface readings of the selected ceramics. On each ceramic, one reading was taken of the glaze and another was taken for the fabric. Each analysis point is indicated on the photographs of each ceramic with

30 On the central, northern side of Budaiyah Highway.
31 Central Bahrain.
32 About 3.4km southeast of the end of Budaiyah Highway at Manama.
33 Andersen, *The Tylos Period Burials*, 178-180.
34 P. Pincé, B. Vekemands, P. Vandenabeele, E. Haerinck, and B. Overlaet, "Analysis of pre-Islamic ceramics from the Kur River Basin (Fars, Iran) using handheld X-Ray fluorescence spectrometry" in *Scectrochimica Acta Part B: Atomic Spectroscopy* 123 (2016), 150.
35 E. Bakraji, M. Itlas, A. Abdulrahman, H. Issa, and R. Abboud, "X-Ray fluorescence analysis for the study of fragments pottery excavated at Tell Jendares site, Syria, employing multivariate statistical analysis" in *Journal of Radioanalytical and Nuclear Chemistry* 286 (2010) 455; E. Bakraji, "Application of multivariate statistical methods to classify archaeological pottery from Tel-Alramad site, Syria, based on X-Ray fluorescence analysis" in *X-Ray Spectrometry* 35 (2006) 190.
36 Bakraji et al., X-Ray Fluorescence Analysis, 455; Bakrahi, *Application of Multivariate*, 190.
37 Z is the atomic number of an element which is also its number of protons and thus defines it as an element..
38 Bakraji et al., *X-Ray Fluorescence Analysis*, 456.
39 P. Pincé et al., Analysis of pre-Islamic ceramics, 150-156.
40 Bakraji et al., *X-Ray Fluorescence Analysis*, 455-460.
41 Bakraji, Application of Multivariate, 190-194.
42 M. Tite, "The Technology of Glazed Islamic Ceramics using Data Collected by the late Alexander Kaczmarczyk" in *Archaeometry* 53 (2011) 329-339.
43 P. Grave, D. Potts, N. Yassi, W. Reade, and G. Bailey, "Elemental characterisation of Barbar ceramics from the Tell Abraq" in *Arabian Archaeology and Epigraphy* 7 (1996) 177-187.
44 M. Ferretti, "The Investigation of Ancient Metal Artefacts by Portable X-Ray Fluorescence Devices" in *Journal Analytical Atomic Spectrometry* 29 (2014) 1764.

a red circle for the fabric (Figures 2, 8, 10, and 13) and a blue circle for the glaze (Figures 1, 8, 11, and 13). There was no filter used in order to gain scan the whole mass range. The settings used were 40 kV and 13.00 μA over a time period of 60 seconds per test. This machine does not require calibration before use.[45] Since this is a study to see whether this method could then be applied to the entire collection, only one point was taken per spot but in the future to maintain scientific accuracy, at least three points should be taken per fabric or glaze. Only semi-quantative data was collected for: aluminum (Al), silicon (Si), phosphorus (P), sulfur (S), chlorine (Cl), potassium (K), calcium (Ca), titanium (Ti), chromium (Cr), manganese (Mn), iron (Fe), nickel (Ni), copper (Cu), zinc (Zn), gallium (Ga), arsenic (As), bromine (Br), rubidium (Rb), strontium (Sr), yttrium (Y), zirconium (Zr), and niobium (Nb).

Results

Raw spectrum data are shown in Figures 15 through 22 and the elemental concentrations are listed in Table 1 for the fabrics with these percentages also shown in Figure 23 for comparison among the four selected ceramics. Table 2 lists the glaze weight percentages and Figure 24 shows the comparison among the four ceramics.

It should be noted that to determine these elemental concentrations, the peaks were measured from their current placement on the spectra to remain consistent, despite the presence of background noise (where the spectrum line does not go back down to zero) towards the beginning and end of the spectrum (Al through S and Y through Nb). The "noise" is probably due to some systematic errors with the Handheld XRF or possibly interferences due to dirt on the objects' surfaces.[46] It is unknown if the "noise" is supposed to serve as a new baseline or if the peaks measured are their "true" value measured through the noise.

Also with this machine, there will also always be a small peak of rhodinium, copper, and iron since they are all present within the detector.[47] Additionally, there are unlabeled Krypton K-peaks at 12.648 on all of the spectra (Figures 15-22) but this is most likely part of the instrument reading since Krypton has appeared in other XRF spectra taken with the same Bruker Tracer III-V+ Handheld XRF that was used for this analysis. To further this point, Krypton is also not detectable through XRF analysis since its valence electron shell is full. It is most probable that there is an interference occurring during the readings.

Discussion

Figure 23 shows that there is more of a difference among the ceramics with the elements Ca, Fe, Cu, and As. Two bivariate plots show these differences more distinctively (Figures 25 and 26). Despite these differences, the element with the highest weight percent of all four ceramics is Fe followed by, in no particular order, Ca, Cu, and Sr. The only other close comparison are for the elements Al, Si, P, S, K, Ti, Cr, Ni, Zn, Br, Rb, and Y where the weight percentages are all quite low and of similar concentrations.

It is recognized that for these analyzed ceramics there is no information on production techniques as to whether they added other materials to their clays before firing or if they used raw clay in ceramic production. It is imperative to have clay samples from the Ancient Near East to use as a comparison to definitively trace a ceramic's source of clay.

Based on stylistic information, both BRN:46 and BRN:14 seem to have been produced in Mesopotamia and imported. Figure 27 shows their differences in elemental concentrations which indicated that their clay was most likely from different sources. BRN:46 has much higher Fe (16.36 wt% more)[48] and lower Ca (6.32 wt% less), Cu (3.74 wt% less), Sr (2.45 wt% less), and Zr (1.16 wt% less). Further comparative analyses are needed to determine their place of origin more precisely.

BRN:10 most likely originated from Failaka based on stylistic information. Objects originally from Failaka should have similar elemental con-

45 UCLA/Getty Conservation Program, *Instructions for Operating the Bruker III-V+ Handheld XRF with a Computer*, 4.
46 UCLA/Getty Conservation Program, *Instructions for Operating*, 4.
47 UCLA/Getty Conservation Program, I*nstructions for Operating*, 8.
48 A difference of greater than 1 wt% is considered significant..

centrations with relatively high amounts of Fe (~49 wt%) and Cu (~12 wt%).

Finally, BRN:90 is more difficult to trace. Its elemental concentrations are quite different from the other analyzed ceramics so it is likely that it does not have the same clay source as any of the others. Its stylistic parallels are found across the Near East and there have been some found on Bahrain but neither in large nor small quantities. It is possible that the clay was sourced from Bahrain but it is just as likely that the clay was neither sourced from Bahrain nor that the ceramic was produced on Bahrain. A similar clay source would indicate high amounts of Fe (~48 wt%), Ca (~13 wt%), and Sr (~11 wt%). Further analysis is certainly needed to confirm its origin and production.

The glazes unsurprisingly varied much more in composition. Since different elements produce different colours it was expected that the results would differ. It is important to remember that the glazes have decayed since their production and thus would not have the same composition as when they were made. Overall, the glazes differ in their weight percentages of Ca, Fe, Cu, As, Sr, and Zr. The glazes are not very useful as indications for areas of production but could prove to be a relevant study in the future to provide further information on ceramic production and finishing. This proved that the glazes do vary greatly in this region of the world and that further studies are required.

Conclusion

This pilot study for the ceramics from the Harvey F. Blackmore Collection has shown that XRF can be utilized to ascertain a general area of production and clay sourcing. It was found that none of the four analyzed ceramics had the same source of clay and were probably all produced in different areas and, with the exception of BRN:90, were probably imported to Bahrain. The results of BRN:90 were inconclusive and further studies are required to determine clay origin or area of production. Future studies of the ceramics in the Harvey F. Blackmore Collection are advised. The ceramics from this collection could be assessed based on groups of similar elemental compositions and stylistic information. A study that encompasses a larger selection of ceramics from various time periods is advised which could provide more conclusive data for elemental signatures of specific areas. Ultimately, an analysis of the various clays from the Ancient Near East would have to be performed to act as a comparison to actually trace where the ceramics were produced.

This study has revealed that some comparisons can be drawn based on the fabric of the objects and that there is enough variation that they can be differentiated, grouped, and determine a source and area of production with added stylistic information. Since this analysis included four different glazes, it is advised that a future study be conducted that analyzes the other glazed objects of this collection to see if any further comparisons could be drawn. If quantative data were available, it would allow for this collection to be one of the first comparative collections for Bahrain ceramics from the Tylos Period.

Acknowledgements

The author wishes to recognize Dr. Lisa Cooper, Associate Professor of Near Eastern Art & Archaeology, for her aid in formulating this analysis. Additional thanks to Patricia Ormerod, LOA Manager, and the Laboratory of Archaeology for allowing the analysis of the ceramics and access to the database and archives. Special thanks to Mauray Toutloff, MOA Conservator, and the Museum of Anthropology Conservation Lab for assisting to obtain the XRF data. Final thanks to Rhy McMillan, PhD candidate in Geological Sciences and MAGNET Trainee, for his valuable help in the revisions.

Figures

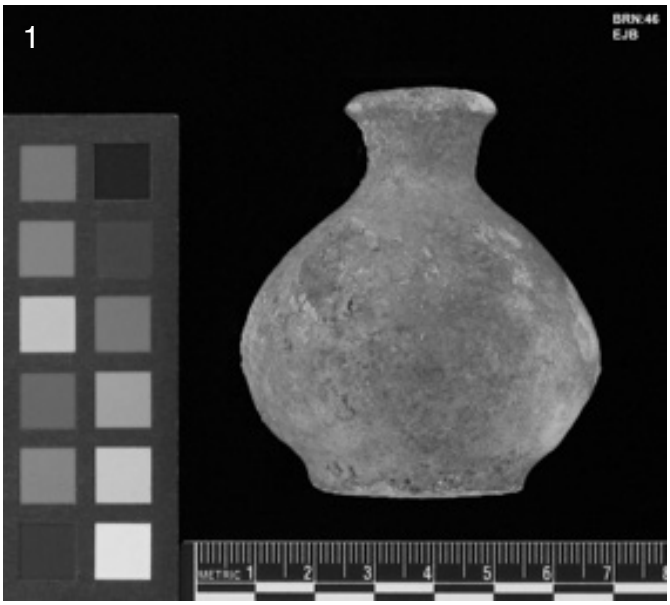

Figure 1: BRN:46 shown in profile, the glaze point was taken on a section of remnant gold glaze on the body, measurements in cm (Courtesy of LOA, taken by Emma J. Betz)

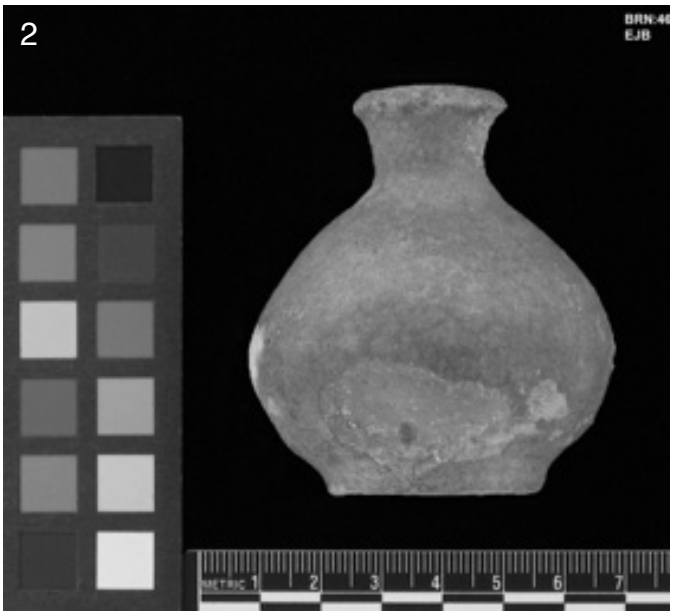

Figure 2: BRN:46 shown in profile, the fabric point was taken on an area of the body that had been chipped, measurements in cm (Courtesy of LOA, taken by Emma J. Betz)

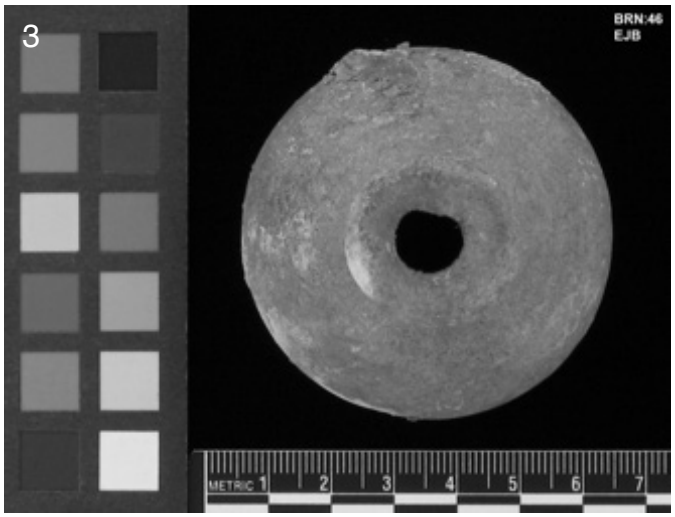

Figure 3: BRN:46 shown from the rim, measurements in cm (Courtesy of LOA, taken by Emma J. Betz)

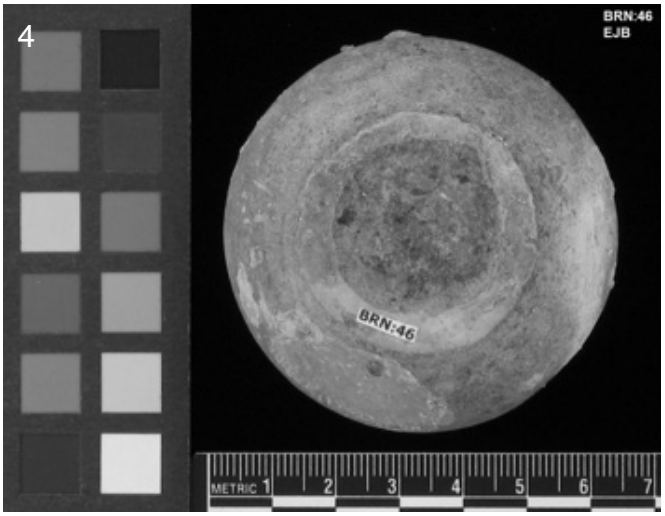

Figure 4: BRN:46 shown from the base, measurements in cm (Courtesy of LOA, taken by Emma J. Betz)

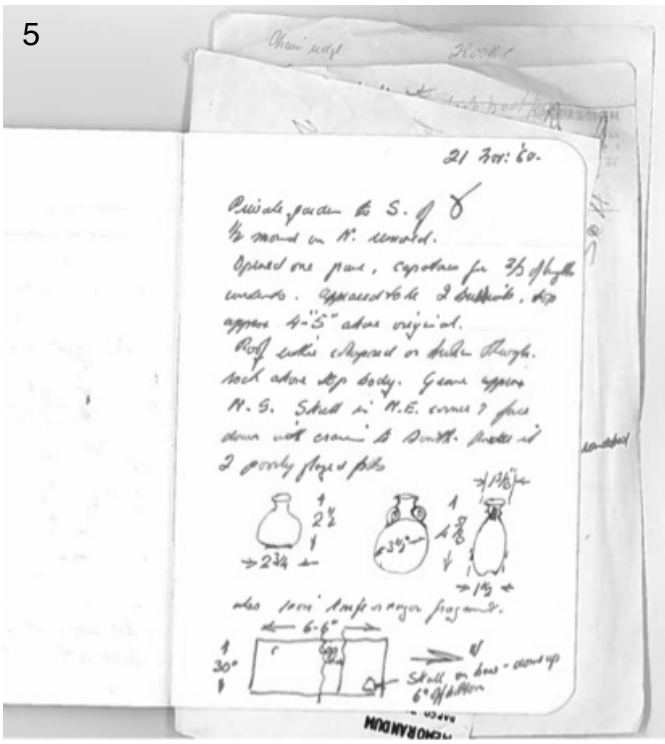

Figure 5: Image of Blackmore's journal showing the entry that mentions BRN:46 and BRN:90 (LOA Archives, taken by Emma J. Betz)

Figure 6: Map to the left shows the selected area on the island of Bahrain, map below shows the places where stylistic parallels have been found:

1. Possible Locations of Blackmore's Burials
2. Al-Hajar
3. Hamad Town
4. Qala'at al-Bahrain
5. Shakhoura
6. Um Al-Hasam
7. Saar
8. Karranah
9. Ali
10. Abu Arshira

Figure 7: BRN:90 shown in profile, measurements in cm (Courtesy of LOA, taken by Emma J. Betz).

Figure 8: BRN:90 shown in profile, the fabric point was taken on an area of the body where the glaze has flaked off, the glaze point was taken on an area of the neck where the glaze was preserved, measurements in cm (Courtesy of LOA, taken by Emma J. Betz).

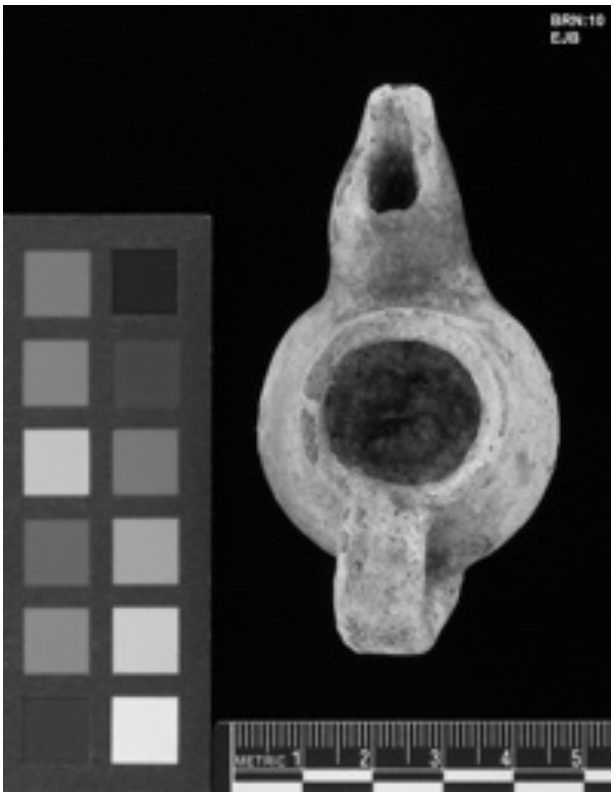

Figure 9: BRN:10 shown from the top, measurements in cm (Courtesy of LOA, taken by Emma J. Betz).

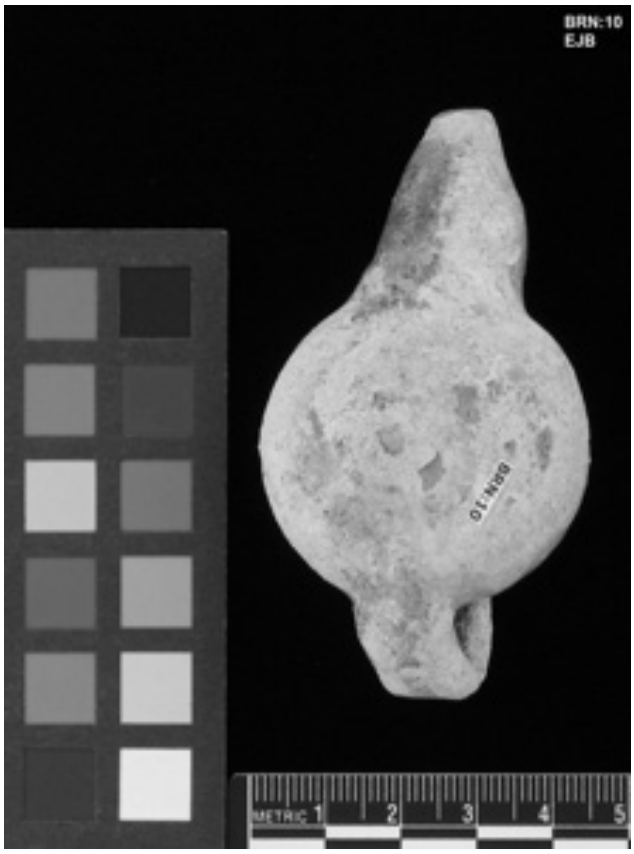

Figure 10: BRN:10 shown from the base, the fabric point was taken on a section of the spout that the glaze has completely flaked off, measurements in cm (Courtesy of LOA, taken by Emma J. Betz).

Figure 11: BRN:10 shown in profile, left side, the glaze point was taken on an area of the body with heavy gold glaze, measurements in cm (Courtesy of LOA, taken by Emma J. Betz)

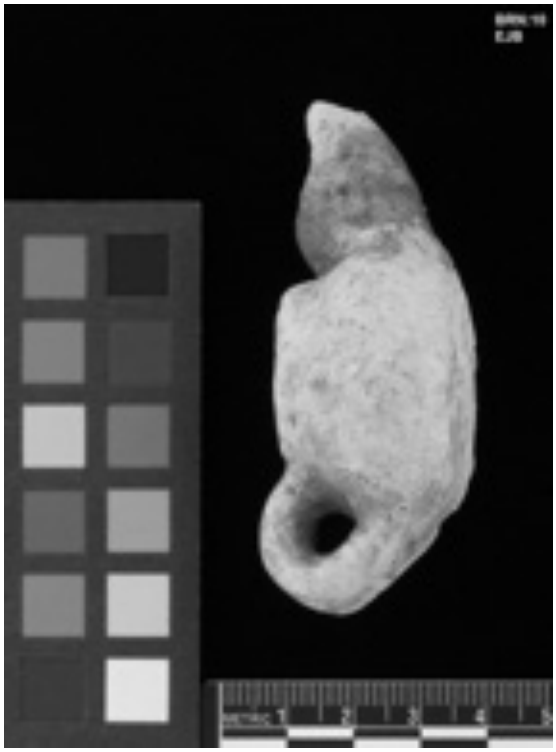

Figure 12: BRN:10 shown in profile, right side, measurements in cm (Courtesy of LOA, taken by Emma J. Betz)

Figure 13: BRN:14 shown in profile, the fabric point was taken on a section of the handle where the vessel had been chipped exposing the fabric, the glaze point was taken on an area of the body with heavy green glaze, measurements in cm (Courtesy of LOA, taken by Emma J. Betz)

Figure 14: BRN:14 shown in profile, measurements in cm (Courtesy of LOA, taken by Emma J. Betz)

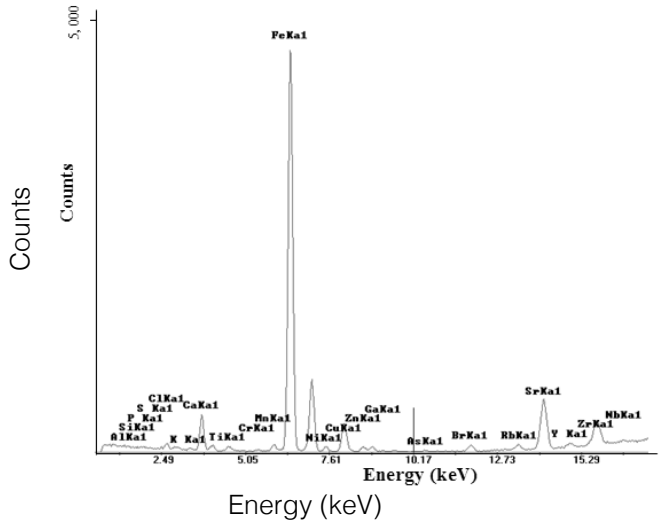

Figure 15: BRN:46 fabric XRF spectrum (Courtesy of MOA, taken by Mauray Toutloff and Emma J. Betz)

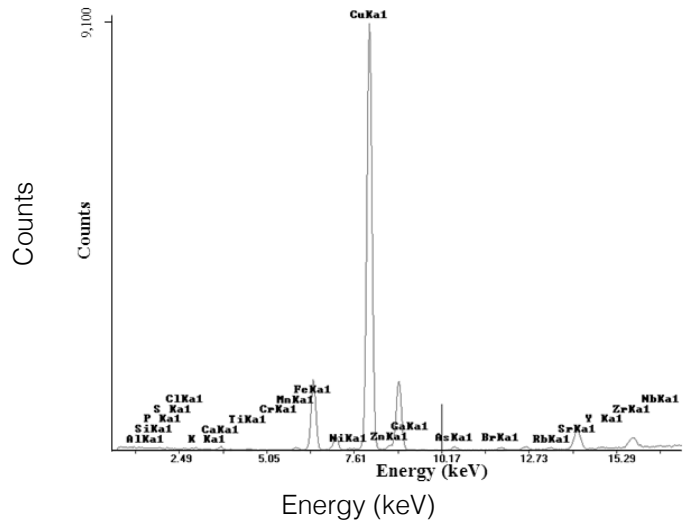

Figure 16: BRN:46 glazed XRF spectrum (Courtesy of MOA, taken by Mauray Toutloff and Emma J. Betz)

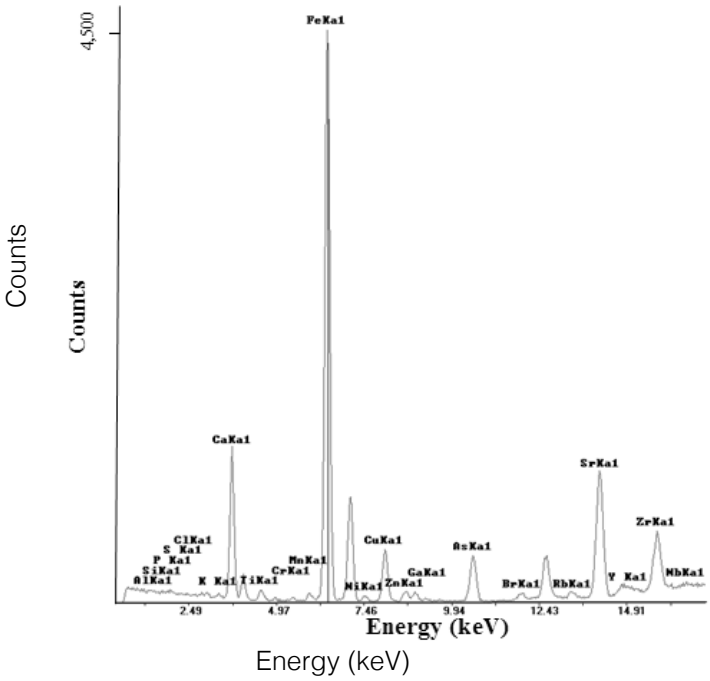

Figure 17: BRN:90 fabric XRF spectrum (Courtesy of MOA, taken by Mauray Toutloff and Emma J. Betz)

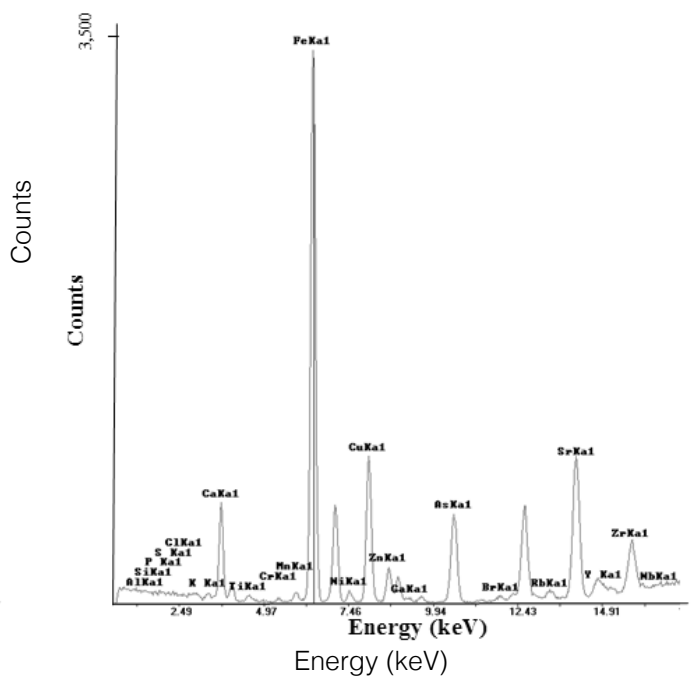

Figure 18: BRN:90 glazed XRF spectrum (Courtesy of MOA, taken by Mauray Toutloff and Emma J. Betz)

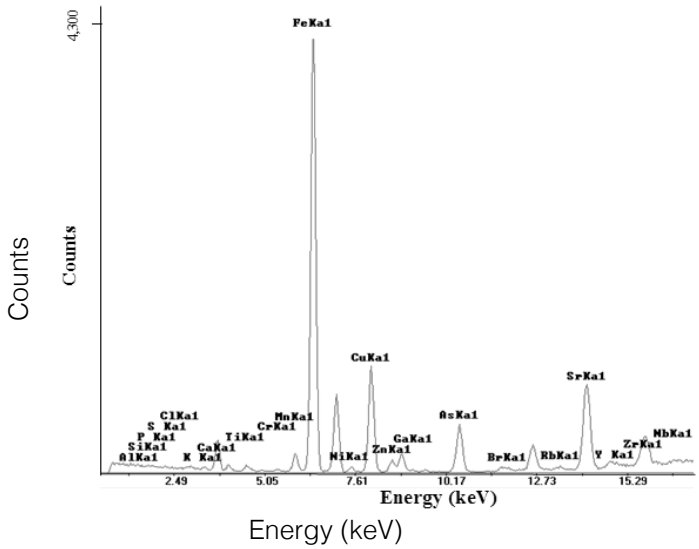

Figure 19: BRN:10 fabric XRF spectrum (Courtesy of MOA, taken by Mauray Toutloff and Emma J. Betz)

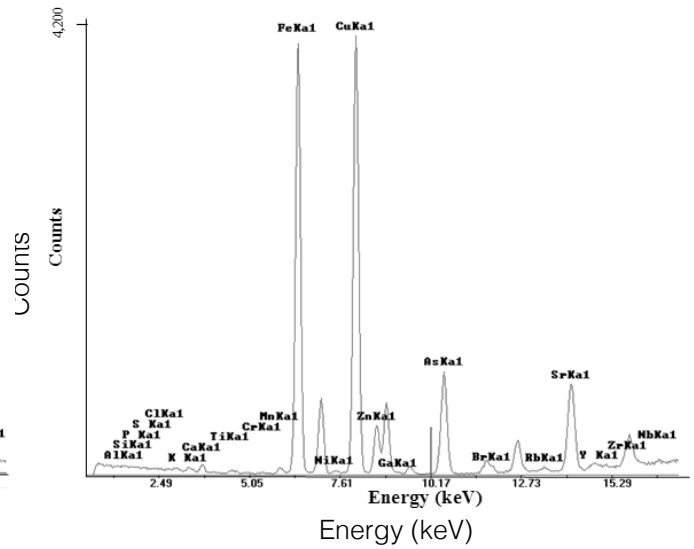

Figure 20: BRN:10 glazed XRF spectrum (Courtesy of MOA, taken by Mauray Toutloff and Emma J. Betz)

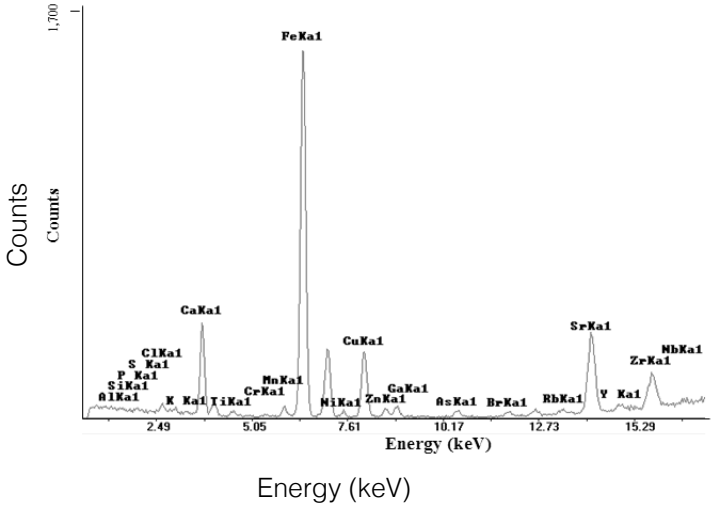

Figure 21: BRN:14 fabric XRF spectrum (Courtesy of MOA, taken by Mauray Toutloff and Emma J. Betz)

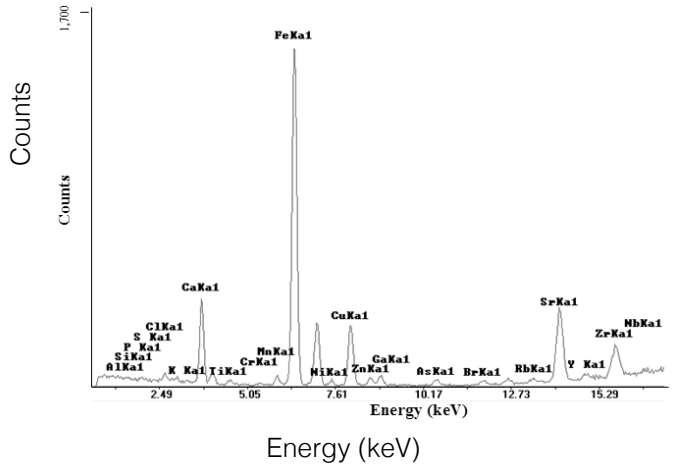

Figure 22: BRN:14 glazed XRF spectrum (Courtesy of MOA, taken by Mauray Toutloff and Emma J. Betz)

Fabric	BRN:46 (wt%)	BRN:90 (wt%)	BRN:10 (wt%)	BRN:14 (wt%)
Al	0.90	0.97	0.95	1.31
Si	0.63	0.76	0.88	0.84
P	0.72	1.09	0.57	1.28
S	0.53	0.83	0.74	0.67
Cl	1.28	0.72	0.58	1.76
K	0.59	0.58	0.71	0.70
Ca	5.71	13.09	3.81	12.03
Ti	0.86	1.01	0.96	0.73
Cr	0.42	0.38	0.42	0.39
Mn	1.05	0.81	2.14	1.31
Fe	62.11	47.78	48.81	45.74
Ni	0.82	0.55	0.69	0.50
Cu	4.21	4.51	12.09	7.95
Zn	0.92	0.98	1.51	1.09
Ga	0.17	0.27	2.09	0.28
As	0.27	3.92	5.40	0.92
Br	1.13	0.73	0.53	0.70
Rb	1.19	0.97	0.88	1.12
Sr	8.24	11.00	9.87	10.69
Y	1.44	1.45	1.02	1.40
Zr	4.96	5.86	4.03	6.11
Nb	1.84	1.75	1.34	2.48

Table 1: Table summarizing the results from the XRF spectra for the fabrics of the ceramics

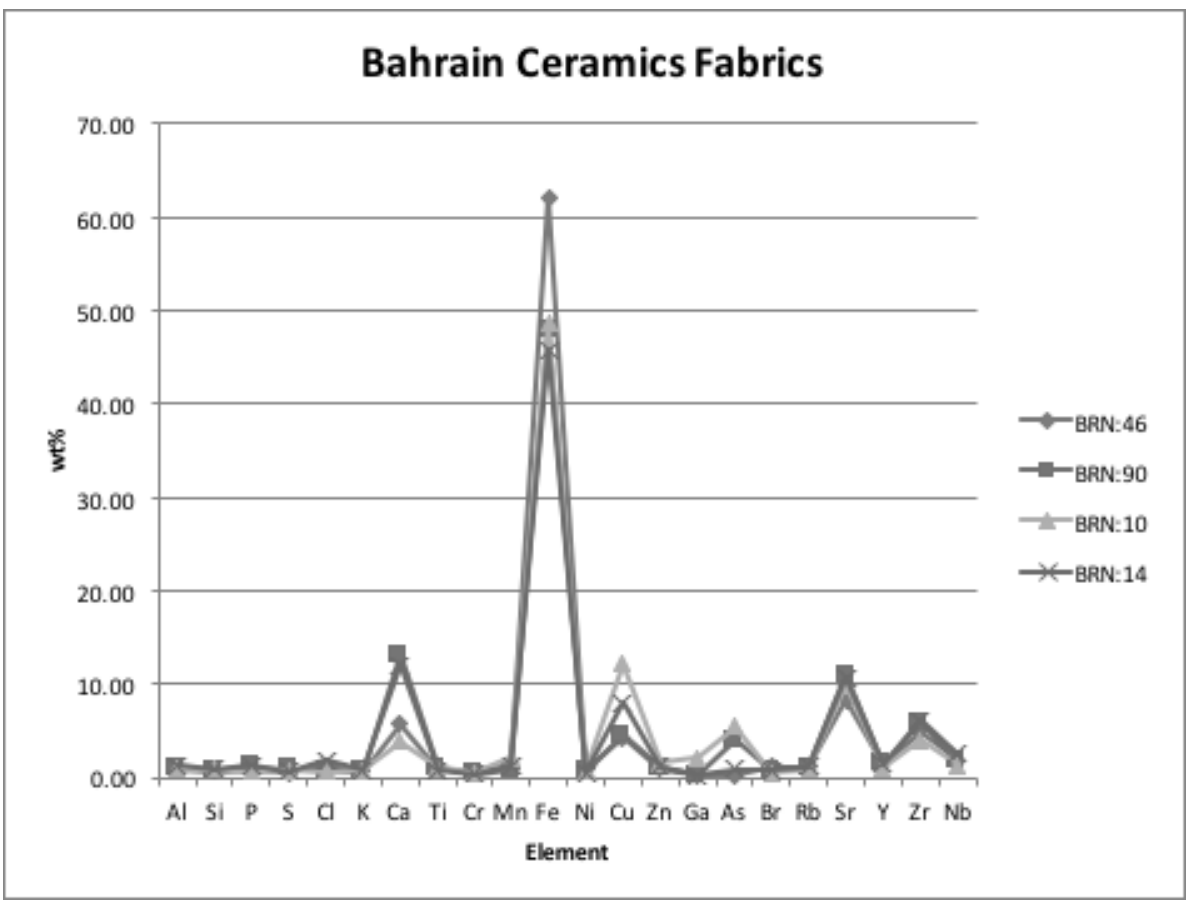

Figure 23: Graph showing the elemental concentrations of the fabrics for the four analyzed ceramics

Glaze	BRN:46 (wt%)	BRN:90 (wt%)	BRN:10 (wt%)	BRN:14 (wt%)
Al	0.55	0.94	0.73	1.13
Si	0.47	0.86	0.64	0.91
P	0.32	0.88	0.65	1.15
S	0.27	0.81	0.48	0.77
Cl	0.37	0.58	0.47	1.25
K	0.33	0.71	0.52	0.79
Ca	0.70	7.75	0.73	4.10
Ti	0.36	0.63	0.45	0.44
Cr	0.10	0.43	0.23	0.24
Mn	0.52	0.86	0.54	0.65
Fe	12.12	42.18	34.27	26.00
Ni	0.47	1.01	0.30	0.30
Cu	73.01	11.29	34.19	37.99
Zn	0.86	2.79	3.80	1.14
Ga	0.12	0.52	0.22	0.35
As	0.71	6.86	8.10	3.79
Br	0.52	0.56	0.70	1.06
Rb	0.55	1.10	0.57	1.34
Sr	4.00	11.31	7.21	9.80
Y	0.57	1.50	0.83	1.34
Zr	2.17	4.85	3.14	3.79
Nb	0.93	1.59	1.24	1.64

Table 2: Table summarizing the results from the XRF spectra for the glazes of the ceramics

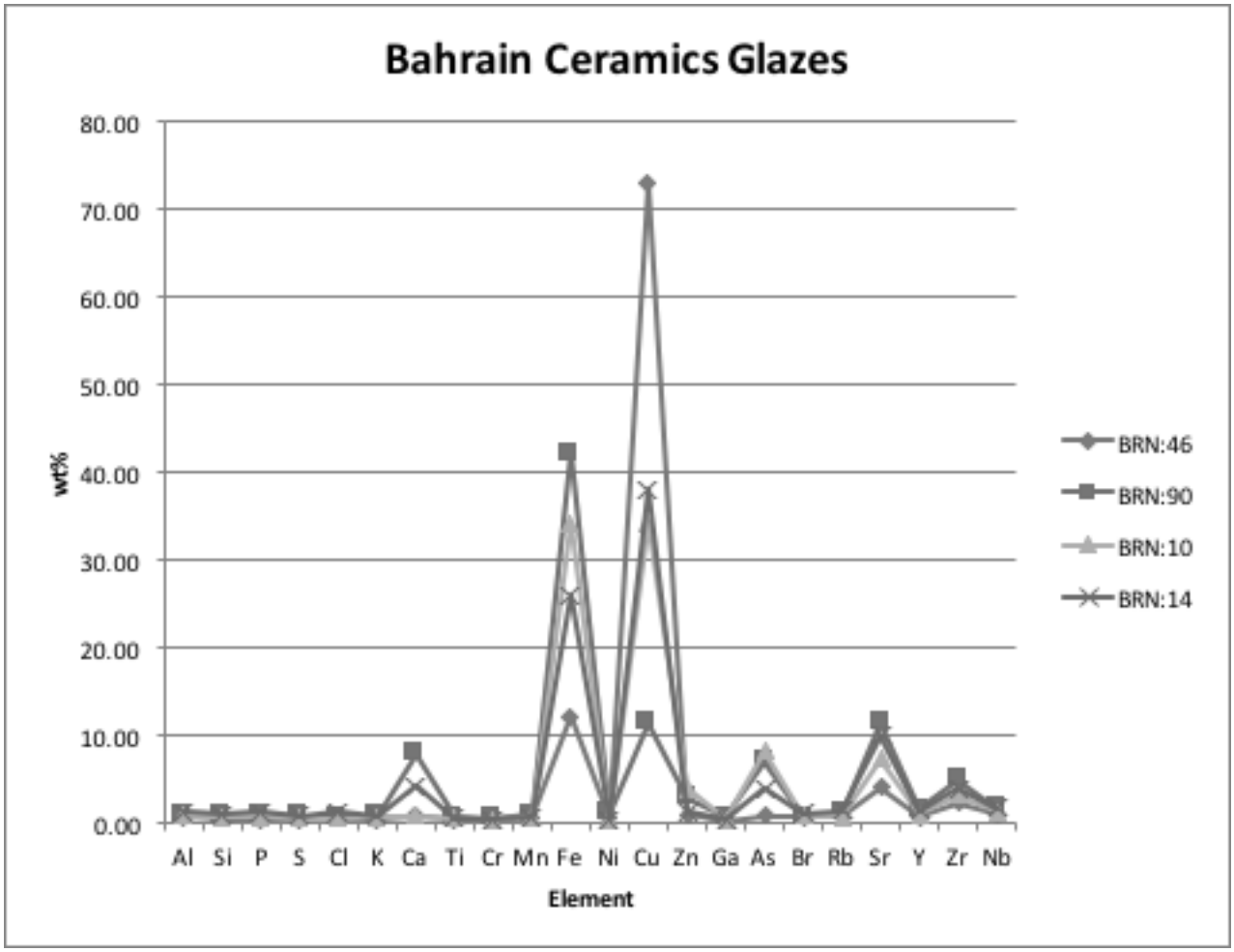

Figure 24: Graph showing the elemental concentrations of the glazes for the four analyzed ceramics

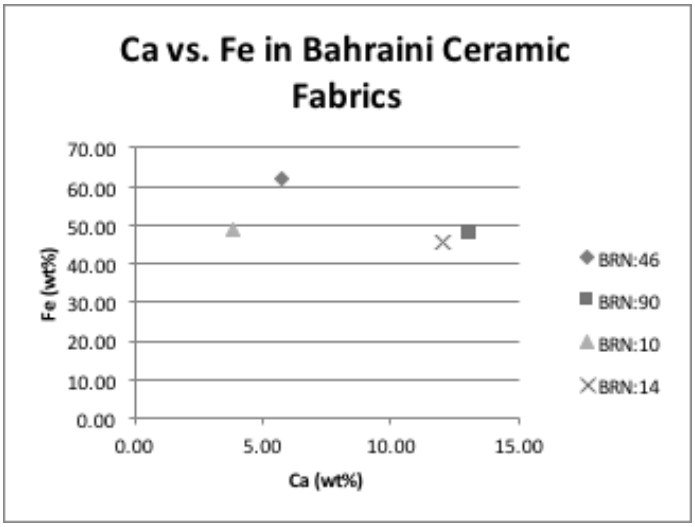

Figure 25: Bivariate plot showing the Ca and Fe weight percentages of the four ceramics

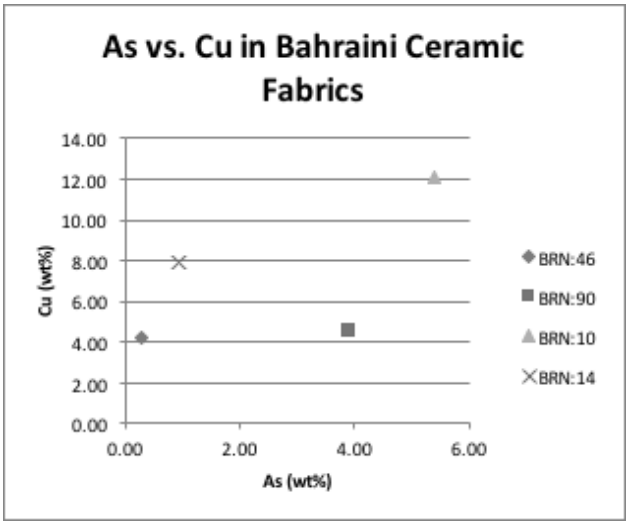

Figure 26: Bivariate plot showing the As and Cu weight percentages of the four ceramics

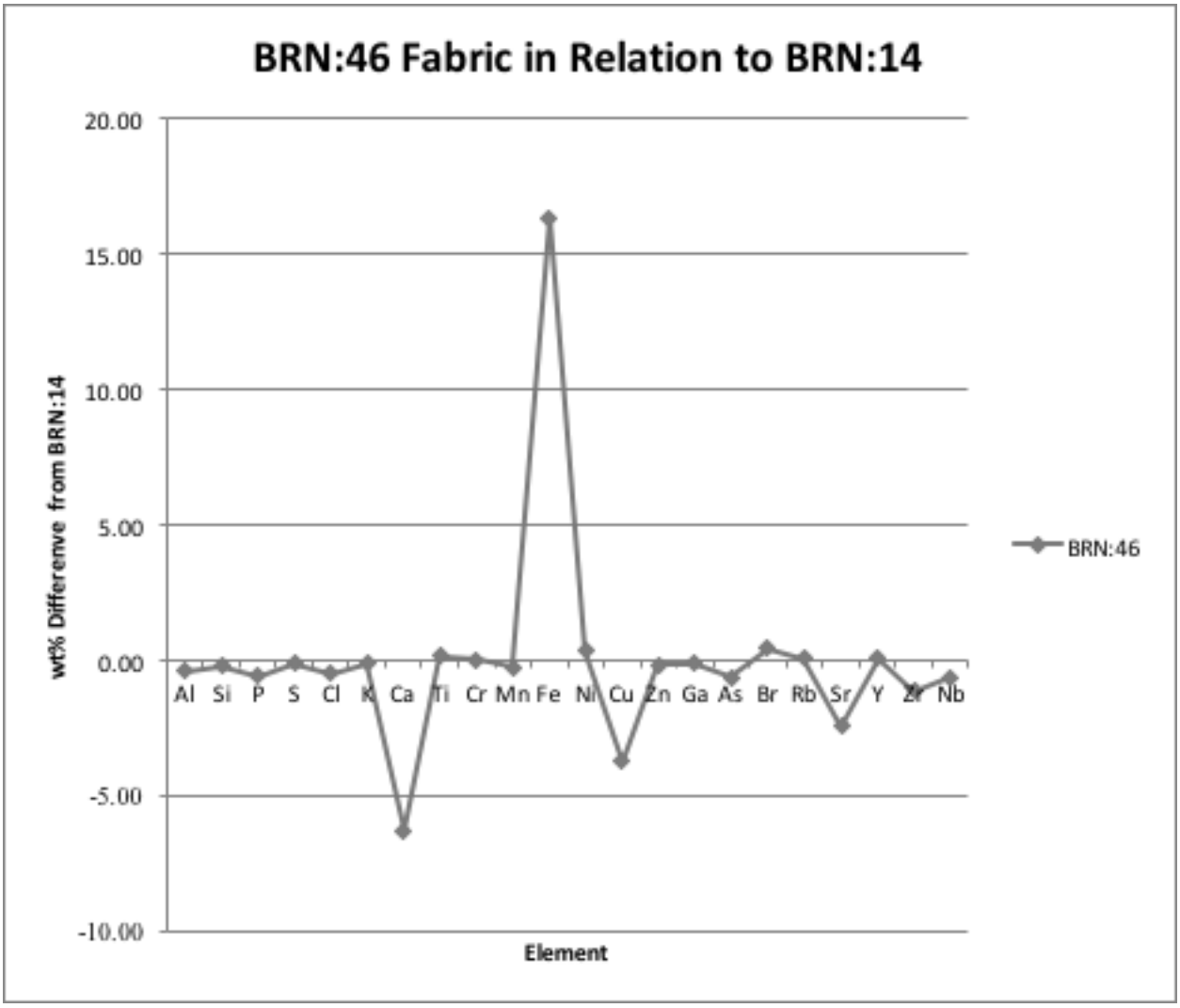

Figure 27: Graph showing the concentration variation of the fabric of BRN:46 in comparison to BRN:14

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The Head of the Family (Cult): A New Look at the Permeation of Neolithic Family Values in the Religious Sphere in the Ancient Near East

Anna Reynolds

The Neolithic Near East was a time of great expansion for humanity in terms of sedentism, agriculture, and significant improvements in stone technology. As a result, religion and cult activity is a frequently discussed topic among archaeologists who focus on civilizations developing into a social structure resembling that which we are familiar with today. Much emphasis has been placed on the discovery of plastered skulls as being representative of a skull cult, characterized mainly by the practice of ancestor veneration and the recurring theme of headlessness. Along these same lines, a focus on fertility cults is often included. This is most widely recognized through the identification of a Mother-Goddess figurine type, but more recently includes notions of phallocentrism and male prowess through the association with certain depictions of animal imagery. This paper attempts to integrate both male and female dominated forms of fertility cults and the notion of ancestor veneration to suggest the presence of an all-encompassing family cult, visible throughout the PPNA and PPNB phases of Anatolia and the Levant. Through the consideration of material culture, the participation of children, and the richly imbued memory of ancestors perceptible through specific architectural forms, the significance of family becomes a central concept in this discussion. Drawing on the fourth century Greek philosopher Euhemerus' mytho-historical approach to understanding religion and Jason Ur's theory of household expansion, I posit that the establishment and widespread acceptance of a family cult is not only visible at this time, but highly conceivable.

Introduction

During the Neolithic era the Near East has largely been regarded as a time of great cultural developments spanning several centuries from approximately 8000 BCE to 5000 BCE, and witnessing events such as the rise of sedentism, agriculture, and significant improvements in stone technology. Among these developments, archaeologists have identified recurring themes within religious rituals; fertility through the widespread recognition of a Mother-Goddess cult, ancestor veneration through the discovery of plastered skulls at multiple sites including Jericho, Çatalhöyük, and 'Ain Ghazal strongly related to the theme of headlessness, and a consistent focus on bovid species through their depiction on wall paintings and their preservation as *bucrania*.[1][2] Many scholars, including Kenyon, Mellaart, Ruby, Bonogofsky and Butler have discussed the presence of a Hero or Skull cult, but have failed to recognize the heavy prevalence of family-oriented symbolism in the archaeological record.[3] This paper aims to move away from looking solely at the existence of a skull cult indicated by the recurring theme of headlessness, and asserts that the recognition of family values, indicated primarily through fertility symbolism, provides evidence for the existence of a Family cult during the Neolithic era. I argue that such a cult would have engaged both the living and the dead, peaking in the PPNB (Pre-Pottery Neolithic B) phase of Anatolia and the Levant. By drawing on the work of the fourth century Greek philosopher Euhemerus, I will demonstrate how family members could be elevated to a divine status through a process known as euhemeristic etiology, placing them within the religious sphere as creators to be worshipped.[4][5] This interpretation lends support to the presence of anthropomor-

1 The preservation through the decoration in plaster of severed bull skulls creates objects known as bucrania; although it can include rams, the focus is on bovid species in this paper (Hodder and Meskell, 2011, 241).
The theme of headlessness will be thoroughly addressed in the paper as it has been in papers like Hodder and Meskell's "A 'Curious and Sometimes a Trifle Macabre Artistry' Some Aspects of Symbolism in Neoltihic Turkey" (2011). They discuss headlessness in terms of the bucrania and plastered human skulls separated from the body post-mortem (242, 245).
2 See Figure 1.

3 Bonogofsky, 125; Butler, 144; Kenyon, 64; Mellaart, 77 Ruby, 127.
4 Barden, 41. To try and avoid some of my contemporary bias, drawing on Euhemerus' work allows us to see how some Greek philosophers in the fourth century perceived the elevation of historical individuals to a divine status. While the fourth century post-dates the Neolithic by several thousand years, it illustrates a way of thinking present in both antiquity and today.
5 This paper uses the term "creators" to denote the once-living ancestors whose existence is the primary reason for the continuation of family lineages, allowing for descendants to participate in ancestor veneration. This is a self-perpetuating process.

phic depictions.

The Neolithic Near East is known for its witnessing of the rise in sedentary lifestyles, resulting in a population increase and enhancing the focus of family life.[6] Such a connection can easily be seen in Jason Ur's proposed extended household model in which urbanism occurs as a natural by-product of population growth as opposed to the intentional creation of a city-state.[7] In this case, the development of greater religious centres would have been able to accommodate the evolution and spread of a Family cult.[8] If family is what brought about the appearance of early cities then it seems likely that its values would also have been heavily integrated into religious life and practices. Those with more power (i.e., the head of the family) would have represented those ancestors. Ancestors were given divine status, in order to perpetuate not only their own power and specialized positions within the community, but also the continued worship of a family cult.[9] This would imply that such rituals were not only present at a day-to-day family level but that by their very nature, considering Ur's model, they operated at a much greater scale.[10] This can be seen through the initial evolution of family households constructed in the shape of a 'T' at few sites to spreading across a wider geographic area to include structures as far north as Habuba Kabira and as far south as Eridu.[11] At sites like Eridu, the structures thought to be temples reflect the same layout as the smaller households, but on a larger economic scale.[12] This progression towards larger 'T'-shaped houses eventually extended to other nearby cities, which can be interpreted as supporting family life's expansion into the religious sphere.[13]

Linking architectural evidence back to the recurring theme of headlessness, the excavation of three male, three female, and three juvenile skulls have all been found in various locations at the site of Çatalhöyük evidencing intentional post-mortem decapitation.[14] The placement of the aforementioned plastered skulls in foundation deposits, like in Building 17, may indicate the occurrence of a carefully selected depositional context tied to a religious meaning: that of a family cult.[15] At Çatalhöyük, one interpretation is, much like ancestors would have been seen as the foundations of a family or household, it follows that one might position their ancestor in place as the foundational infrastructure for both living family members and the shelter they reside in.[16] Hodder and Meskell refer to such houses as "history buildings" because they are naturally imbued with a rich family lineage by the placement of the skulls of their ancestors in the foundations of their homes.[17] Kenyon has suggested that these ancient societies may have attributed some sort of power, protective or otherwise, to the head that resulted in their preservation and deposition in these specialized ways, separate from the rest of the body.[18][19]

A similar phenomenon was discovered in the preservation of severed animal skulls, primarily from a bovid species, known as aurochs. The most compelling evidence of which is found at Çatalhöyük.[20][21] Hodder and Meskell see a clear association between these ancient bovids and human remains that extend beyond the coincidental discovery of both species having preserved and decorated skulls.[22] They suggest that the horns on bucrania are similar to other piercing or phallic objects which are meant to evoke notions of male fertility.[23] The faunal remains of these animals when found within the confines of a home are predominantly male with a very small number of females, a departure from the wide-

6 O. Bar-Yosef and A. Belfer-Cohen, "The Levantine 'PPNB' Interaction Sphere", in *People and Culture in Change: Proceedings of the Second Symposium on Upper Paleolithic, Mesolithic, and Neolithic Populations of Europe and the Mediterranean Basin* (Great Britain: Bar International Series, 1987), 60.
7 Jason Ur, "Households and the Emergence of Cities in Ancient Mesopotamia", in *Cambridge Archaeology Journal* (2014), 249.
8 Ur, 255.
9 Hodder and Meskell, 246. Sylvie Honigman, "Euhemerus of Messene and Plato's Atlantis," in *Historia: Zeitschrift für Alte Geschichte* (2009), 1. Ur, 249.
10 Ur, 249.
11 Ur, 250, 259, 261.
12 Ur, 258..
13 Ibid., 260.
14 Hodder and Meskell, 245.
15 Hodder and Meskell, 245.
16 Ibid.
17 Ibid.
18 Kenyon, 64.
19 For a full review of how a dichotomy between the body and the head would have been perceived at this time, see Ian Kuijt's article "The Regeneration of Life: Neolithic Structures of Symbolic Remembering and Forgetting" (2008).
20 J. Mellaart, *Çatalhöyük: A Neolithic Town in Anatolia* (New York: McGraw-Hill Book Company, 1967), 65.
21 See Figure 2.
22 Hodder and Meskell, 245..
23 Ibid., 235.

spread demographic seen among the preserved human skulls.[24] The significance of male aurochs found in such contexts may have indicated a desire for the inclusion of horns on the skull – once again suggesting a preference for piercing or phallic objects denoting male fertility.[25] Other sites including Jerf el Ahmar and Tell 'Abr 3 in Syria had similar archeological finds of *bucrania*.[26] While this phenomenon appears across a wider geographic area, the aurochs continues to be the animal of choice, despite the presence of other animals in the region such as deer.[27] Mellaart suggests that these skulls were mounted on the walls of individuals' homes in order to serve a protective function.[28]

The evidence for a skull cult comes from the discovery of plastered skulls at numerous Neolithic sites including Jericho, Çatalhöyük, 'Ain Ghazal, and Çayönü.[29][30] At Jericho, these skulls were the reason that Kenyon prolonged one of her excavation seasons when she discovered human skulls decorated by plaster, perhaps in an attempt to reflesh the face with this gypsum-based material.[31][32] Upon further investigation she exposed several other severed heads from the same PPNB phase of the site.[33] Cowrie shells were used as replacements for the eyes and in many cases the lower mandible was missing.[34] Traces of bitumen within the eye sockets may indicate an attempt to paint on an iris or eyeliner, but apart from this occurrence at 'Ain Ghazal few of the other plastered skulls were visibly decorated with any form of applied colour or design after the plaster had set.[35] The demographic of the skulls is fairly inclusive in terms of gender and age; examples for genotypically female and male skulls have both been observed and the age range of the individuals spans infant, child, and various stages of adulthood.[36] I postulate that the demographic representation of both adult males, females, and children indicate that the skulls likely were not being preserved for the same symbolic reasons as the *bucrania*, and in fact may point to an effort in preserving family members from all stages of life. The inclusion of children's skulls at Jericho has led some academics, including Kenyon, to believe that infant sacrifice was taking place, although an alternative suggestion for the presence of children will be discussed below.[37] It is a widely-held view among scholars, including Butler, Hodder and Meskell, Kenyon, and Ruby to name a few, that such finds are evidence for the practice of ancestor veneration.[38]

Returning to the theme of headlessness, several finds from the PPNB phase of Jericho, indicates a continued focus on disembodied heads beyond the practice of encasing the skulls of deceased individuals in plaster to facilitate ancestor veneration after their death.[39] A small bead carved out of bone in the shape of a human head featuring a small hole, possibly for its attachment to religious or cultic garb, was excavated along with several figurines that depict the Mother-Goddess type.[40][41]The bead may fall into the realm of the skull cult thought to be used for ancestor veneration and the Mother-Goddess figurines are considered to be heavily associated with fertility worship. The excavation of the PPNA (Pre-Pottery Neolithic A) phase at Jericho revealed the existence of three life-size plaster statues, of a man, woman and child.[42] Kenyon

24 Hodder and Meskell, 243.
25 Ibid, 243.
26 Ibid., 242.
27 Ibid.
28 Mellaart, 65.
29 M. Bonogofsky, "A Bioarchaeological Study of Plastered Skulls from Anatolia: New Discoveries and Interpretations," in *International Journal of Osteoarchaeology* (2005), 125; Alexandra Fletcher et al., "The Manipulation of Social and Physical Identity in the Pre-Pottery Neolithic: Radiographic Evidence for Cranial Modification at Jericho and its Implications for the Plastering of Skulls," in *Cambridge Archaeological Journal* (2008), 312.
30 See Figure 1.
31 R. Ruby, *Jericho: Dreams, Ruins, Phantoms* (New York: Henry Holt and Company, 1995), 127.
32 See Figures 3 and 4.
33 Ibid.
34 Ibid.
35 C. Butler, "The Plastered Skulls of 'Ain Ghazal: Preliminary Findings," in *People and Culture in Change: Proceedings of the Second Symposium on Upper Palaeolithic, Mesolithic and Neolithic Populations of Europe and the Mediterranean Basin*, ed. I. Hershkovitz (Great Britain: Bar International Series, 1987), 144.
36 Bonogofsky, "A Bioarchaeological Study of Plastered Skulls from Anatolia," 130.
Butler, 142.
Hodder & Meskell, 249.
37 Kenyon, *Digging up Jericho* (London: Ernest Benn Limited, 1957), 72.
38 Butler, 144; Hodder and Meskell, 246; Kenyon, 64; Ruby, 128.
39 Kenyon, 60.
40 Ibid., 59-60.
41 See Figures 5.
42 Striking comparisons can be drawn to the plaster statues found at 'Ain Ghazal, which fall outside the scope of this paper. For more information on these incredible works, please see Denise Schmandt-Besserat's "'Ain Ghazal

herself suggests these portraits could be an "anthropomorphic representation of a divine family" but does not make a connection between them and the plastered skulls she believes evidence a cult.[43] It is possible to identify potential family values or ideals among this family triad that have not been directly alluded to or visibly identifiable among any of the artifacts previously discussed within this paper. The male figure of the three was the most well-preserved and on his head two cowrie shells were inlaid in place of the eyes, similar to the decoration seen on the plastered skulls previously discussed.[44] The continuity in decoration style but change in art form and production suggests an evolution in preference for display but not a deviation away from family values as the familial concept becomes more identifiable.

The burial customs and pathological condition of the plastered skulls found across multiple Neolithic communities did not indicate that these individuals were the subjects of violent deaths, therefore it is unlikely these were the heads of enemies preserved as trophies.[45] Kenyon has allowed for the interpretation that they could have been the result of a victorious military generals who had died in battle and whose memory was being preserved.[46] The term "cult of heroes" was put forward, although the number of skulls found and demographic variability among them seems to indicate otherwise.[47] She concludes that a "Skull cult" is the most compelling explanation, in which the skulls were saved for their power to evoke the memory of the dead by the practice of ancestor veneration.[48] As there are no cases of other body parts being similarly preserved, it is clear that the head was thought to be more valuable in some way; perhaps because it houses the brain, or because it indicates a deeper grasp on the preservation of human anatomy, or because facial recognition is a meaningful way to distinguish between individuals.[49] While the specific decorations have not survived the archaeological record, the remaining plaster points to an attempt to reanimate the face in such a way that appears to "push away death" by physically covering those details which might have been considered distasteful or created a sense of loss for the viewer.[50] It certainly detracts from the gruesome impression a decaying skull would have made following its detachment from the body after a period of decay. We do not, however, know how long these skulls may have been on display before these foundation deposits were made and as such can only guess at the ceremonial and religious value assigned to them had they been deposited shortly after decoration without a display period.

The use of human skulls as a means to incorporate deceased family members into the daily lives of their living relatives points to a clear evolution of the family cult. As previously mentioned, the plastered skulls from Jericho in the PPNB phase were predated by the similarly decorated PPNA triad of male, female, and child portrait figures.[51] This portrayal of a "divine family" standardized an image which would have evoked the memory of the deceased for family members, and would allow others to remember their own ancestors.[52] The subsequent development of preserving the actual human remains, as exemplified by the plastered skulls, significantly increased the value of such images by directly utilizing the remnants of the people being remembered in order to recall their memory.[53] Chronologically speaking, this development also coincides with the emergence of a sedentary lifestyle and urbanism which, as previously discussed, entailed an increase in the number of offspring people could feasibly care for, which emphasised the family as a whole.[54] At these Neolithic urban sites, we also see the presence of Mother-Goddess figurines which have been widely associated with fertility, not unusual considering a rise in population size.[55]

Hodder and Meskell's argument asserting that phallic masculinity is more representative of a fertility cult does not completely eradicate the notion of such a cult being associated with the

'Monumental' Figures" (1998).
43 Kenyon, 84.
44 Kenyon, 84; Ruby, 127.
45 Kenyon, 64.
46 Kenyon, 63.
47 Kenyon, 64; Ruby, 128.
48 Kenyon, 64.
49 Ibid.
50 Ruby, 128.
51 Kenyon, 85.
52Ibid., 84-85.
53 Ibid., 85.
54 Bar-Yosef and Belfer-Cohen, 60; Ur, 249.
55 Bar-Yosef and Belfer-Cohen 63; Hodder and Meskell, 237.

Mother-Goddess figurines, and therefore fails to address the latter's raison d'être.[56] A family cult justifies both counterparts by recognizing the fundamental concept of procreation: that both male and female components are necessary for the notion of fertility to be accepted. In this way, parents and grand-parents were elevated to the divine status of creators. The inclusion of children thus fulfills the requirements for this group of phenomena to be viewed as a family cult overall. While some have seen the plastering of children's skulls as detracting from these artifacts being used in ancestor veneration because those individuals would not have had the opportunity to contribute their own offspring, they still promoted the celebration of ancestors by existing at all.[57] Certain child-centered rituals further indicate that children were not excluded from ancestor veneration.[58] The fact that "children [were] revered individuals or embodiments of deities and spirits" which placed them at the centre of "many ritual contexts" is aligned with the fourth century Greek philosopher Euhemerus' theory on myth, that Gods were created from the living figures found among the individuals who worshipped them.[59] Euhemerus' interpretation of myth and religion attempts to contextualize cults, such as the one proposed in this paper, as originating from a historical milieu.[60] The family cult can thus be seen as intrinsically linked with a euhemeristic etiology from its beginning; the portraits of the "divine family" from the PPNA phase of Jericho represent the first archaeological presence of mundane individuals considered on a religiously celebrated scale in Anatolia and the Levant.[61][62]

Extending beyond a family cult presence in the Neolithic period, it is unsurprising that religious figural depictions would take an anthropomorphic form if they stemmed from ancestors, or creators, to embody natural facets of life, like fertility. The plastered skulls can be thought to symbolize fertility through their celebration as ancestors by their progeny; such a cycle can only exist among fertile individuals capable of maintaining an ancestral lineage. That divine aspects of a cult would arise from the mundane can be theorized through the mytho-historical work of Euhemerus. Thus, from the evidence found in the archaeological record, it is possible to identify the presence of what I call a family cult that is deeply entrenched in the daily Neolithic lifestyle and well-represented demographically. Fundamental to both my argument for and the existence of a family cult, ancestor veneration and the celebration of family values is perpetuated through procreation. The previously identified "skull cult" and "Mother-Goddess cult" contemporary with the family cult proposed in this paper are not replaced by this larger religious set of practices and ideals but could be considered as branches within it. Touching on notions of male and female fertility, headlessness or a spiritual conception of the head as being more important than the body, animal symbolism, a clear development in economic life exemplified in the rise in urbanism and an expansion of family architectural forms into the religious sphere, the establishment of a Family cult is not only visible during the Neolithic era, but highly conceivable.

56 Hodder and Meskell, 236.
57 Bonogofsky, 133.
Hodder and Meskell, 246.
58 Hodder and Meskell, 246.
59 Hodder and Meskell, 246; Honigman, 1.
60 Segal, 19.
61 Honigman, 1; Kenyon, 85.
62 Barden, 41.

Figures

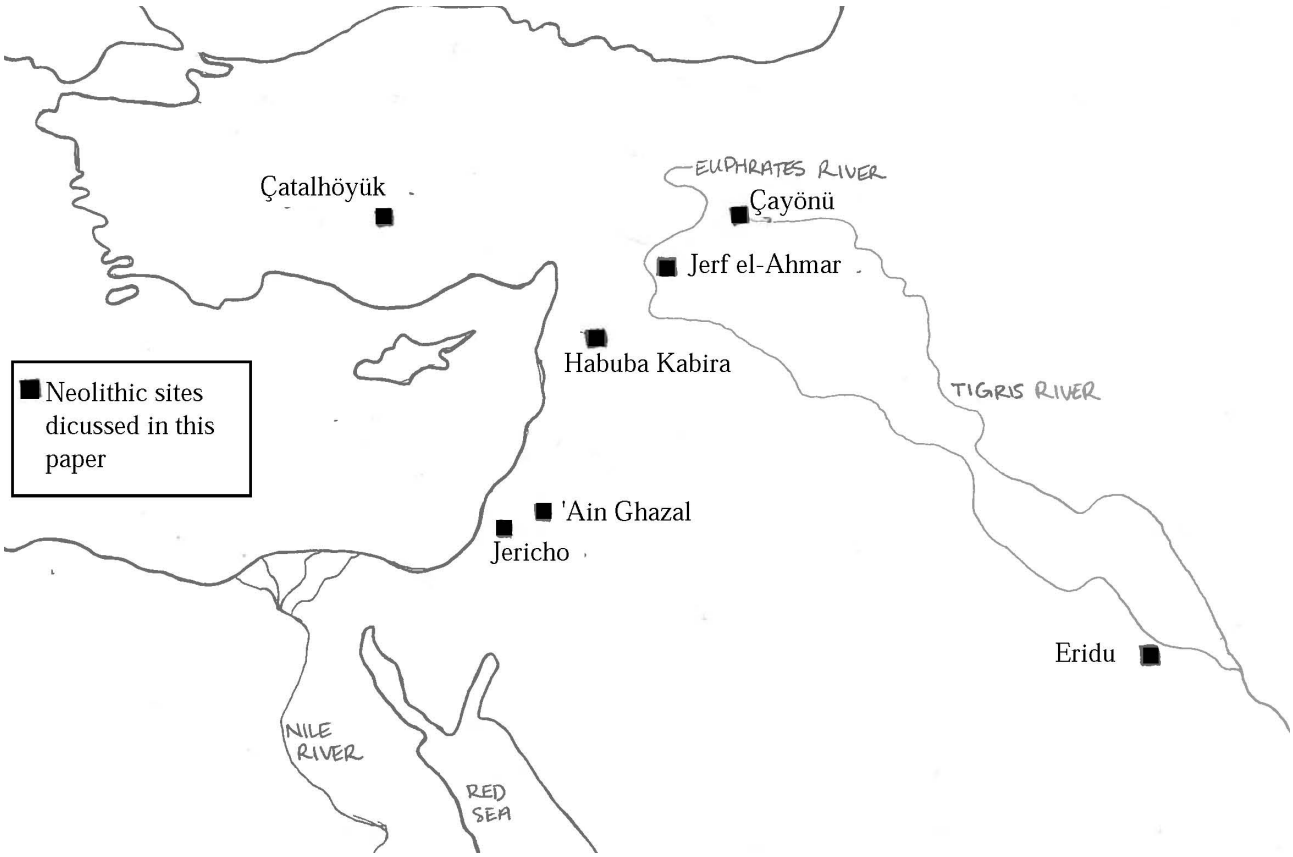

Figure 1: Map showing Neolithic sites discussed in this paper (adapted from Bonogofsky, 2005, p. 125 and Ur, 2014, p. 250)

Figure 2: Example of bucrania from Çatalhöyük (Roweromaniak wielkopolskiego, 2006).

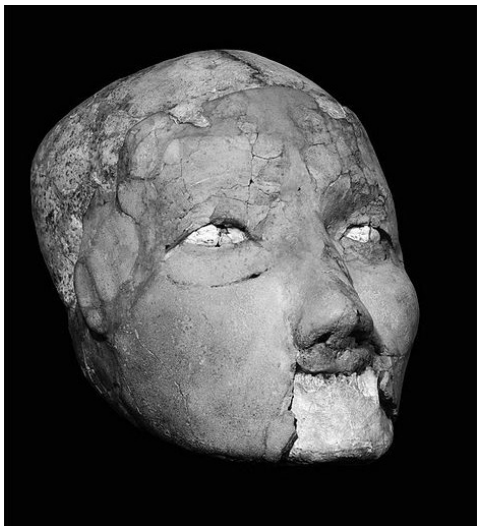

Figure 3: Example of a plastered skull from Jericho (Jononmac46, 2014)

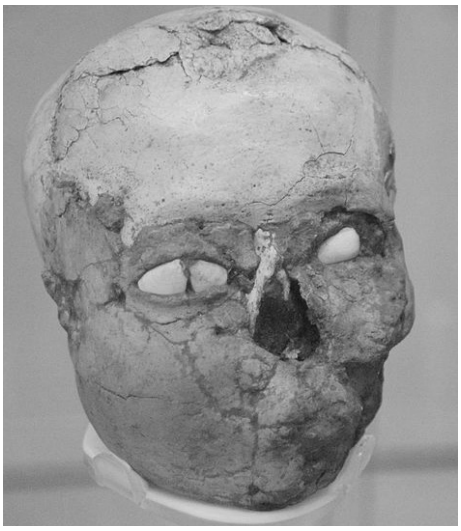

Figure 4: Example of a plastered skull from Jericho - note cowrie shell eyes (Jononmac46, 2009).

Figure 5: Example of a Mother-Goddess figurine-type from Çatalhöyük (Roweromaniak, 2006)

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Fututrix: Female Sexual Subjectivity for Women Who Fuck in Pompeiian Graffiti

Robert Pervis

"Fututrix" is a very rare word that only appears in the graffiti of Pompeii. It appears once in Latin and once in Greek. The only literary context is that it appears beside a proper name. *Futuo* means "to fuck" and *-trix* is the feminine agentive ending. Thus, *fututrix* literally translates to "fucktress". This grammar may be correct but the meaning remains unclear. The verb *futuo* is usually reserved for the dominant male role during sex who penetrates with his penis. Can we simply add the female suffix *-trix* to the innately masculine verb *futuo*? Should we think of her as an amazon, a tomboy, or γύνανδρος (virago)? Is *fututrix* an inherently inconsistent phrase like "he's pregnant" or "she has prostate cancer"? This graffiti seems to be an oxymoron. This paper is a linguistic analysis of *fututrix*. It argues that *fututrix* is not an inherently inconsistent word. Rather, it argues that the use of *fututrix* broadens the concept of *futuo*. The meaning of *fututrix* is comparable to sexual metaphors that give sexual agency to women. As English sexual slang expands the meaning of words, *fututrix* expands the meanings of words in the Latin sexual vocabulary.

Introduction

"Fututrix" occurs in CIL IV 4196, "*Miduse Fututrix,*"[1] and, "*φουτοῦτρις*," occurs in Greek in CIL IV 2204, "*ΜΟΛΑ ΦΟΥΤΟΥΤΡΙΣ,*"[2] and both words occur only once in known examples.[3] *Fututrix* and *foutoutris*[4], the transliteration from Greek into Latin, have roots in the Latin verb *futuo* and the Latin female agentive ending "*-trix*.".In graffiti, *futuo* and related words often occur in contexts where we can tell very little about their specific meaning. As part of Latin obscene and profane vocabulary, we often translate *futuo* as "to fuck" in order to emphasize the lower registry of the language. Thus, in translating *fututrix*, we should keep the vulgarity and translate as "fucktress".

But what is the precise meaning of a *fututrix*, that is to say, what is a "fucktress" exactly? How should we imagine her? To make sense of *fututrix* we need to work out the logical consistency of using feminine agentive endings in what was perceived as a verb predominantly denoting masculine sexual activity in classical times. With a greater knowledge of the historical context and usage of similar terms, we can answer some of the questions that prevent the accurate interpretation of *fututrix*. What does the agency conveyed or granted by the verb *futuo* tell us about woman? How does she act in an agentive way during sex?

This paper addresses these questions through a linguistic analysis of *fututrix*. This paper will offer an enriched definition of *futuo* by combining possible meanings from two different language registers: vulgar Latin, represented in graffiti, and classical Latin, represented in examples of Latin literature. This paper argues that *fututrix* is expanding on the definition of *futuo* by adding elements of wordplay and metaphor.

There are examples of wordplay and inventiveness appears in Pompeiian graffiti. For example, CIL IV 10071a adapts Capanus's name to "*CaCapanius* [sic]" as a scatological joke on his name.[5] CIL IV 5244 adapts triclinium into trichilinum to associate it with a toilet[6]: "This is the 'trichilinum' of Martha, for she shits in the 'trichilinium'."[7] Another example is in CIL IV 8473 with the word *culibona*: "... matrenia of the pretty bum."[8] Culibonia is taken by Adams as "she who has a nice ass".[9] He interprets this word as "a humorous formation, designating perhaps a

1 *Corpus Inscriptionum Latinarum / Inscriptionum Mauretaniae Latinarum Miliariorum* (Walter De Gruyter, 1969), 516
2 Ibid., 140
3 Ibid., 659
4 Sarah Levin-Richardson and Deborah Kamen, "Lusty Ladies in the Roman Imaginary," In *Ancient Sex: New Essays*, eds. R. Blondell and K. Ormand (Columbus: Ohio State University, 2015), 231.
5 Sarah Levin-Richardson, "Bodily Waste and Boundaries in Pompeian Graffiti," In *Ancient Obscenities*, eds. D. Dutsch and A. Suter (University of Michigan Press, 2015), 236.
6 Ibid., 235.
7 Latin: "*Marthae hoc trichilinium [sic] / est nam in trichilinio [sic] / cacat*"
8 Antonio Varone, E*rotica Pompeiana: Iscrizioni D'amore Sui Muri Di Pompei* (Roma: "L'Erma" Di Bretschneider, 1994), 96.
9 J. N. Adams, *The Latin Sexual Vocabulary* (Baltimore, MD: Johns Hopkins University Press, 1982), 110; Latin: "*ea quae bonum culum habet*".

whore who offered anal intercourse."[10] With these wordplay and inventiveness examples, it is reasonable to believe that they are present in *fututrix* as well.

Grammar

The word *fututrix* comes from the verb *futuo* with the suffix *-trix*. The verb *futuo* means "to fuck" and the suffix is the female agentive ending. Thus *fututrix* means "she who fucks" and translates as "fucktress". *Fututrix* means "ea quae futuit" ("She who fucks") and not "ea quae futuitur" ("she who is fucked").[11] *Futuit* is the active voice of the verb *futuo* and means that that subject of the verb does that action. *Futuitur* is the passive voice and means that the subject has that action done to it.

The latter passive translation of *fututrix* disregards how agentive nouns work.[12] Agentive nouns show the subjects as the doers of the verb and not the patient. To show passivity, use the (feminine) perfect passive participle *fututa*.[13] The word *fututa* translates as "she, (having been) fucked" or "she who has been (or was) fucked".

The Verb Futuo

Fututrix stems from the verb *futuo*. The verb *futuo* is an obscenity and translates as "to fuck" to show its recreational, extramarital, and/or illicit nature.[14] In general, *futuo* means a man's action in sexual intercourse with a woman.[15] So *futuo* has been taken to mean "to penetrate the vagina with one's penis". Yet the usage of *futuo* is wide and includes insults and aggressions, affections and praises, and boasts.[16] Thus, that translation is too narrow because it is not only vaginal penetration nor penetration with the penis, or penetration at all.

The idea that *futuo* is an active verb with a male subject is not a modern idea. The 5th century grammarian Priscian discusses in his Prisciani Institutionum Grammaticarum the sexual subjects of *futuo*: "for no one says 'a woman fucks,' unless in mixed-gendered names of animals, such as 'an eagle fucks,' in which, although we say a feminine (noun), nevertheless, we understand a masculine (noun/animal)."[17] Thus, women cannot be the subjects of *futuo* because they have the passive role in sex. In addition to Priscian's gendered usage of *futuo*, other grammarians made comments of active and passive roles in sex.[18]

Although Priscian rejects women as active subjects of *futuo*, recognize that this note itself exists. If *futuo* was obviously only for male subjects then why would Priscian even consider women as subjects? Is there evidence of women engaging in *futuo* that would cause him write down this rule in the first place? Is there evidence of *futuo* where it applies to subjects other than people?

Fututrix Usage in Latin Literature

Futuo forms adjectives which apply to feminine nouns. *Fututrix*, *fututricis* occurs twice in Latin literature, both in book XI of Martial's epigrams. Also, Adams suggests that there may also be a "*fututam ore*" in XI.40.[19]

In Epigram XI.22.4, *fututrix* describes a boy's hand (*manus*), a feminine noun, during masturbation: "at least refrain from arousing their

10 Ibid., 110-111
11 Adams, *The Latin Sexual Vocabulary* ,122.
12 J. H. Allen, J. B. Greenough, G. L. Kittredge, A. A. Howard, and B. L. D'Ooge. *Allen and Greenough's New Latin Grammar: For Schools and Colleges: Founded on Comparative Grammar* (Boston: Ginn & Company, 1931), 143, 236; C. E. Bennet, *New Latin Grammar* (Boston: Allyn & Bacon, 1945), 108, 147.1; B. L. Gildersleeve, and G. Lodge. *Latin Grammar*. (Bost.: Heath, 1894), 124, 181.1; A. Harkness, *A Latin Grammar for Schools and Colleges* (New York: American Book, 1892) 153, 334.
13 *Fututa* in Pompeian graffiti: CIL IV 2217; CIL IV 2006; CIL IV 8897.
14 Adams, *The Latin Sexual Vocabulary*, 118.; C. D. Buck, *A Dictionary of Selected Synonyms in the Principal Indo-European Languages: A Contribution to the History of Ideas* (Chicago: University of Chicago Press, 1988), 278-279; Patricia Watson, "The Originality of Martial's Language," *Glotta 78*, no. 1/4 (2002): 224.
15 C. T. Lewis and C. Short, *A Latin Dictionary, by Charlton T. Lewis and Charles Short* (Oxford: Clarendon Press, 1879), 798.; P. G. W. Glare, *Oxford Latin Dictionary* (Oxford: Clarendon Press, 1982), 751; Robert Cowan, "How's your Father? A Recurrent Bilingual Wordplay in Martial," *The Classical Quarterly 65, no. 2* (2015): 736; John R. Heath, "The Supine Hero in Catullus 32," The Classical Journal 82, no. 1 (1986): 31.
16 Adams, *The Latin Sexual Vocabulary*,119-120.
17 Latin: "*nemo enim dicit haec futuens, nisi in epicoenis nominibus animalium, ut haec aquila futuens, in quo, quamvis femininum proferamus, tamen marem intellegimus*" III.478.14ff, cf. 2.556.13.
18 Levin-Richardson and Kamen, "Lusty Ladies in the Roman Imaginary," In *Ancient Sex: New Essays*, eds. R. Blondell and K. Ormand (Columbus: Ohio State University, 2015), 236-237.
19 Adams, *The Latin Sexual Vocabulary*,132

groins with your fucking hand."[20] The hand is active because it moves up and down the penis during masturbation.[21] This is accurate and note the following implications: the hand represents the penetrated vagina; the hand is not being penetrated and the penis is not penetrating; no actual penetration of anything is occurring. Rather than a hand that is fucked, it is a hand that fucks because it has the motion and it belongs to the person doing the motion.[22]

In Epigram XI.61.10, *fututrix* describes a man's tongue (l*ingua*), another feminine noun, during cunnilingus: "he cannot erect his fucking tongue."[23] The tongue is active because it licks a woman's genitals. The tongue is the penetrator and is the metaphorical penis. Unlike the hand, the tongue may actually penetrate a woman's vagina while licking her vulva. Like the hand, the tongue has motion and belongs to that person doing the motion.

In these epigrams, the *fututrix* can either be penetrated like the hand-vagina or be the penetrator like the tongue-penis. Thus, the *fututrices* imply desire, agency, and movement over concepts of penetration.[24]

One example of a woman who has the desire to *futuo* is Paula. In Martial's Epigram XI.7.13, Paula wants to meet her lover. He states: "whenever it pleases you to go fuck."[25] Here *futuo* appears as the supine *fututum* and with a female subject. This lack of focus on penetration in the above examples may be due to their intransitive uses of *futuo*. *Futuo* is usually transitive and thus the verb takes an object. In other words, "x fucks y" or "x penetrates y".

Intransitive Use of Futuo

With intransitive uses of *futuo*, it is simply "x fucks" . In addition to the above examples, there are usages of the preposition cum with the verb *futuo* in the CIL IV, and the verb with ad + accusative in a graffito in Ostia Antica.[26] There is also evidence that this hypothetical intransitive usage survived down the centuries as the Old French verb 'fotre'.[27] In these cases, concepts of penetration are not distinct. To understand this aspect of *futuo*, there is a helpful analogy with the verb *paedico*, which means to penetrate anally: "since the new, broader meaning of the verb blurred the line between active and passive partners, it had to be intransitive and absolute."[28] Vaginal penetration may be similar.

Thus, in these intransitive cases, again, the fututrices imply desire, agency, and movement over concepts of penetration.[29]

The intriguing mystery of the *fututrix* remains in part as the exact etymology of *futuo* is unknown; appendix A lists the various possibilities. One popular theory is that *futuo* is related to roots that mean "hit". In this way, one may consider a woman who engages in *futuo* as a woman who "hits" her groin against a man's groin and "grinds" herself against him.

Thus, a *fututrix* is a woman who fucks (*futuo*) men. But how can a woman fuck?

The Sexual Agency of the Fututrix

To understand how a *fututrix* is a sexual agent despite penetration, consider the verb *criso*. The verb *criso* indicates the motions of the female during intercourse.[30] The definition is "to move the haunches" during sex.[31] These definitions are satisfactory and there are many examples of women who *criso* in ancient texts.[32]

Perhaps the title of *fututrix* is to emphasize the sexual movements of a prostitute in contrast to the wives.[33] Lucretius discusses the contrast in movement in his *De Rerum Natura*, 4.1268-71: "And sexy movements are no need (use) to wives whatsoever. For a woman prohibits herself to conceive and fights it, with her ass, if she thrusts against the man's penis with pleasure and with her whole body flexible she moves in waves."[34] A man could penetrate a woman who

20 Latin: "*inguina saltem parce fututrici sollicitare manu*"
21 Levin-Richardson and Kamen, "Lusty Ladies", 246.
22 N. M. Kay and Martial. *Martial Book XI: A Commentary* (New York: Oxford University Press, 1985), 119.
23 Latin: "*arrigere linguam non potest fututricem*"
24 Levin-Richardson and Kamen, "Lusty Ladies" 246..
25 Latin: "*quotiens placet ire fututum*".
26 R. Taylor, "Two Pathic Subcultures in Ancient Rome," *Journal of the History of Sexuality* (University of Texas Press, 1997), 357, footnote 130.
27 Adams, *The Latin Sexual Vocabulary*, 122.
28 Taylor, "Two Pathic Subcultures", 357.
29 Levin-Richardson and Kamen, "Lusty Ladies", 246.
30 Adams, *The Latin Sexual Vocabulary*, 136.
31 Lewis and Short, *A Latin Dictionary*, 482; P. G. W. Glare, *Oxford Latin Dictionary*, 460.
32 Levin-Richardson and Kamen, "Lusty Ladies", 247.
33 Ibid. 247-248.
34 Latin: "*nec molles opus sunt motus uxoribus hilum. nam mulier prohibet se concipere atque repugnat, clunibus*

is passive during sex at home. At the brothel, a man could penetrate a women who is active.

A *fututrix* would be doing her job in sex work as she is providing those motions of fucking from a female perspective. As how a *fellatrix* provides the head movements of blowjobs, a *fututrix* provide the feminine movements of grinding with her hips.[35] She is paid to do the work of sexual intercourse.

These feminine movements (*criso*) of a *fututrix* are represented in Pompeian graffiti. Rather than the word *criso*, metaphors of that action are present. The metaphors use the verbs *ludo* (to play; to fool around) and *sedeo* (to sit; to ride).

Ludo (to play) can indicate the mutually pleasurable sexual activities for both sexes.[36] Thus, both males and females can be subject of the verb.

There are a few literary examples featuring women: "O Colonia, you who wish to play on the long bridge"[37]; "permit her to play as she pleases"[38]; "your breasts which do not yet hang down prevent you from playing"[39]; "beautiful girls play (around): a chaste girl is she whom no one has pursued."[40] A graffiti example is CIL IV 1781: "My life, my dear, let us play for a little while. Let us imagine that this bed is our field and me as your horse (stallion)"[41]
These women are the sexual subjects of their active mood verbs, despite how they might be penetrated vaginally during sex. They are actively playing and are passive in the sense that they are being played with since it is first person plural. She and her partner are doing similar or analogous things to each other.

Related to playing, riding is another sexual metaphor. The man is the horse and the woman is the rider.[42] The verb describing the position of the female in Latin is *sedeo* (to sit).[43] For this metaphorical use of the verb for the female role in sex, "riding" is the translation even if there is no mention of a horse.[44]

There are a few examples of women riding in literature: "Whenever the wife sat on (rode) her Hectorean horse (stallion)"[45]; "Let a short woman be carried away (or ridden) on horseback: because she was very tall, never did Thebe the bride remain riding on her Hectorean horse"[46]; "the little bed having been climbed into - upon me, she was gently riding."[47] In addition, CIL IV 8767 offers a possible graffiti example: "Floronius, benefactor and soldier of the seventh legion was here, but no women knew him except a few, and they rode him."[48]

These women all are the subjects of their sexual verbs despite being physically penetrated. Therefore, the active role of females in intercourse was not unfamiliar in antiquity. The agency that these women have here can then apply to the term *fututrix*. The female-dominant sex positions where women have power over the sexual motions are possible examples of a *fututrix* at work. These might very likely describe female-pleasure sex positions where she could stimulate her clitoris. Examples would be woman-on-top positions like the cowgirl.

Fututrix vs Fellatrix

Another way to understand the agency of *fututrix* is to compare it with another more common explicitly sexual term associated with women, fellatrix, a woman who gives blowjobs.

The verb fello with the suffix *-trix* forms the word *fellatrix*. The verb *fello* means "to suck" and so *fellatrix* means "she who sucks". In context, *fellatrix* means "she who sucks a penis". In general, it means "she who performs oral sex on a man". With regard to agency, note the difference

ipsa viri Venerem si laeta retractat atque exossato ciet omni pectore fluctus".
35 Levin-Richardson and Kamen, "Lusty Ladies", 247-8.
36 Adams, *The Latin Sexual Vocabulary*, 162.
37 Latin: "*O Colonia, quae cupis ponte ludere longo*" Catullus 17.1.
38 Latin: "*ludere hanc sinit ut lubet*" Catullus 17.17
39 Latin: "*necdum inclinatae prohibent te ludere mammae*" Propertius in Elegiae 2.15.21
40 Latin: "*ludunt formosae; casta est, quam nemo rogavit*" Ovid in Amores I.8.43
41 Latin: "*Mea vita meae deliciae ludamus parumper / hunc lectum campum me tibei equom esse putamus*". W.D. Lebek, "Zu lateinischen Versinschriften." *Zeitschrift für Papyrologie und Epigraphik* (Dr. Rudolf Habelt GmbH 1978), 215..
42 Adams, *The Latin Sexual Vocabulary*, 165.
43 Ibid.
44 Ibid.
45 Latin: "*Hectoreo quotiens sederat uxor equo*" Martial XI.104.14
46 Latin: "*Parva vehatur equo: quod erat longissima, numquam / Thebais Hectoreo nupta resedit equo*" Ovid in *Amores* 777-778.
47 Latin: "*inscenso grabattulo super me sensim residens*" Apuleius in *Metamorphoses* 2.17
48 Latin: "*Floronius / benef(icarius) ac miles / leg(ionis) VII hic / fuit, neque mulieres / scierunt nisi / paucae et / sederunt (=seserunt?)*". (=and there were six?)

between *fello* and *irrumo*. While *fello* is blowjob, *irrumo* is "mouth-rape" or "face fuck". While a *fellatrix* moves her head during a blowjob, during *irrumatio* her head is being moved.

Fellatrix translates as "she who gives blowjobs" or "she who gives head". In a negative sense, it translates as "a (female) cocksucker". *Fellatrix* means "ea quae fellat" and not "ea quae fellatur". A *fellatrix* is "a woman gives blowjobs" and not "a woman who is given blowjobs". Thus *fellatrices* in Pompeiian graffiti are the subjects of their verb *fello*.[49]

By analogy, *fututrices* are the subjects of their verb *futuo*. As *fellatrix* means "she who sucks" and not "she who is sucked", *fututrix* means "she who fucks" and not "she who is fucked".

Regarding penetration and agency, consider how a penis penetrating the mouth of a *fellatrix* does not negate her agency. A *fellatrix* is still performing her job of oral sex on a man. She is a sexual subject and she is dong the motions of that kind of sex. By analogy, for a *fututrix*, although a penis is penetrating her vagina, she still has agency and is still performing her job of *futuo* and doing those motions.

Fututrix vs Tribas

Fututrix has, at times, been defined as a woman who *futuo* in a way similar to a man, in the sense that she penetrates. The idea that *fututrix* means penetrator appears in the *Thesaurus Linguae Latinae* (TLL).[50] The TLL suggests that *fututrix* means *tribas*, a woman who penetrates.[51] The LS and OLD defines *tribas* as "a woman who practises lewdness with women" and "a female sexual pervert, a (masculine) lesbian".[52] *Tribas* comes from the Greek *τριβάς*, which the LSJ defines as "a woman who practises unnatural vice with herself or with other women."[53]

These dictionary definitions have judgmental language. In order to avoid such biases, this essay will define *tribas* from *τρίβω*, the verb meaning, "to rub".[54] Thus, *tribas* means "a woman who rubs" in a literal translation.[55] Lesbian sex often involves the act of rubbing genitals without penetration. In addition, and alternatively, rubbing has a metonymical use for sexual penetration.[56] Thus, *tribas* can also mean "a woman who penetrates".[57]

Thus, a translation for *tribas* may be a "top", "butch", "dyke", or "bulldyke" to show her position and attitude. If *fututrix* is literally penetrating her (male) partner with a strap-on or dildo, a more apt translation would be a "pegger". Related terms that would indicate the sexual power may be a "domme" or "dominatrix". It is also possible that she could also penetrate with her tongue during cunnilingus ("eating pussy") or analingus ("rimjob"), or with her fingers ("fingering").

The idea of a *tribad* who penetrates appears in Seneca the Younger in his *Epistulae Morales ad Lucilium* 95.21: "Truly, they do not even yield to men in their lust: born to be penetrated (may the gods and goddesses wickedly curse them), to such a degree, they invent a perverted kind of impurity that they enter men."[58] Though the passage does not explicitly mention *tribades*, it implies them with the word "enter" (*ineunt*). Here, the *tribad* is a woman who penetrates and so she would probably be a "pegger".

The Roman poet Martial writes about *tribades* named Philaenis and Bassa in his epigrams. Philaenis appears in Martial's epigrams II.33, VII.67, and VII.70, and Bassa appears in I.90. In epigram II.33, Philaenis appears as a personified penis. In the last three appearances, the tribades are women who penetrate.

Philaenis appears in epigram VII.67 as a tribad who penetrates: "Philaenis the tribad buggers boys and more fierce than a husband's erection (or lust) she drills eleven girls in a day."[59] Here, she penetrates boys anally

49 *Fellatrices* in Pompeian graffiti: CIL IV 2292; CIL IV 1388, Add. 207; CIL IV 1389; CIL IV 1510, Add. 208; CIL IV 9228; CIL IV 4192.
50 *Thesaurus Lingae Latinae: Editus Iussu Et Auctoritate Consilii Ab Academiis Societativusque Diversarum Nationum Electi* (Stuttgart: B.G. Teubner, 1994), VI.I.1664.60-64
51 Levin-Richardson and Kamen, "Lusty Ladies", 244.
52 Lewis and Short, *A Latin Dictionary*, 1896.
53 H.G. Liddell, E.A. Barber, R.Scott, H.S. Jones, and R. McKenzie, *A Greek-English Lexicon* (Oxford: Clarendon Press, 1940), 1816.
54 Ibid., 1817.
55 Levin-Richardson and Kamen, "Lusty Ladies", 242.
56 Adams, *The Latin Sexual Vocabulary*, 183-185.
57 Levin-Richardson and Kamen, "Lusty Ladies", 242.
58 Latin: *Libidine vero ne maribus quidem cedunt: pati natae (di illas deaeque male perdant!) adeo perversum commentae genus inpudicitiae viros ineunt*
59 Latin: "*pedicat pueros tribas Philaenis / et tentigine saeuior mariti / undenas dolat in die puellas*".

and girls vaginally. In epigram VII.70, Philaenis again penetrates: "Tribad of the very Tribades, Philaenis, rightly, whom you fuck, you call your girlfriend."[60]

Philaenis is the grammatical subject of active sexual verbs. She is also active in regards to sexual agency. Note that here Martial uses the verb "fuck" (*futuo*) with a female subject.

The other *tribad*, Bassa, appears in epigram I.90. Martial again uses the verb *futuo*, and he calls Bassa a *fututor*. A *fututor* is the male agentive noun and translates as "(male) fucker" . Thus, Marital emphasizes the (masculine) penetration of Bassa, the *tribad*: "but you, according to your crime, Bassa, were a fucker / you dare to bring two cunts together / and your prodigiosa Venus fakes a man."[61] Prodigiosa Venus may be a double entendre meaning a monstrous love or oversized clitoris.[62] The clitoris could be large enough that it penetrates likes a penis. Bassa could penetrate one's mouth when one performs cunnilingus on her. It could also be a biological analogy between male and female genitalia. Yet, perhaps Martial was intentionally unclear about how a woman could penetrate.[63]

In this text, the male noun *fututor* highlights the masculine and feminine divisions in lesbian sexual relationships. Bassa would be the active, butch lesbian rather than the passive, femme lesbian.

Could these literary references of *tribades* apply to the *fututrices* that are in graffiti? Are these *fututrices* also *tribades*? Is a *fututrix* synonymous with a *tribad*?

If one takes the penetrator-definition of *fututrix* strictly, then inconsistencies arise. Latin literature does not describe *tribades* as *fututrices* specifically. The graffiti does not mention other tribadic activities for *fututrices*. Such activities include penetrating a man or woman, or performing cunnilingus.[64] On the contrary, graffiti of the *fututrix* Mola from CIL IV 2204 has representations of her being penetrated: her name is penetrated by a phallus[65]; "I fucked Mula (or Mola) here".[66] The latter graffiti has Mola and Mula as the same person[67], and accusatives can lack the "-m".[68] Mola the *fututrix* is the accusative direct object of the verb *futuo* and thus is penetrated. There is also non-tribadic activity: "Mula sucks."[69] This means that Mola gave oral sex to men, since *fello* is not used for cunnilingus.

Thus the *fututrix* Mola probably was not a *tribad*. But, considering that the negative view of *tribades*, Levin has suggested this: "the graffito, then, might be slandering Mola as a *tribad* (the "masculine" or "penetrating" partner in a female homoerotic relationship)."[70]

But *futuo* does not always mean vaginal penetration. Though a woman is usually the grammatical object and the physical object would be the vagina, *futuo* has been applied to men as well. In those cases, men are penetrated anally. Usually a dominant older male penetrates a passive younger partner. Butrica addresses this problem: "*Futuo* is normally taken to refer exclusively to vaginal penetration of female bodies, but perhaps a better explanation for its occurrence in the graffito is that *futuo* was extended colloquially to anal intercourse with males precisely because such penetration was imagined in some way to 'feminize" 'the passive partner.'"[71] Reversing the dynamic, for the graffiti of Mola, maybe the title of *fututrix* is a way to masculinize her as the active partner. Thus if a *fututrix* is not a *tribad*, which is a penetrating homosexual woman, then she is a penetrated, but still active, heterosexual woman.

Conclusion

A *fututrix* blurs the distinctions between submissive, passive, and penetrated with dominant, active, and penetrator. The verb *futuo* now is not only "fucking" in the sennsne of penile

60 Latin: "*Ipsarum tribadum tribas, Philaeni / recte, quam futuis, vocas amicam*"
61 Latin: "a*t tu, pro facinus, Bassa, fututor eras / Inter se geminos audes committere cunnos / mentiturque uirum prodigiosa Venus*".
62 Levin-Richardson and Kamen, "Lusty Ladies", 244.
63 Þ. Vilhjálmsson, T*he Tribadic Tradition: The Reception of an Ancient Discourse on Female Homosexuality* (MA diss., University of Bristol, 2015), 11.
64 Levin-Richardson and Kamen, "Lusty Ladies", 244-245.
65 CIL IV 2237, add. 215.
66 CIL IV 2203, add. 215. "*futui Mula<m> hic*".
67 Ibid., 245.
68 V. I. Väänänen, *Le Latin Vulgaire Des Inscriptions Pompéiennes. Troisième Édition Augmentée* (Berlin, 1966), 73.
69 CIL IV 8185. "Mula fellaat [sic]"
70 Levin-Richardson and D. Kamen, "Lusty Ladies", 169, note 239.
71 J. L. Butrica, "Criso and Ceueo," *Glotta* (Vandenhoeck & Ruprecht (GmbH & Co. KG), 2006), 32, note 6.

sexual penetration but is "fucking" as in general sexual intercourse. A *fututrix* does not necessarily take the man's physical position in sex, but she is changing the roles of power and control in movement and desire in sex.

Hypothetically, there is one more possibility in understanding the role and meaning of *futuo*. If we could flip the gender perspective of sex, that is, rather than male penetrating a woman's vagina with his penis, we consider that a woman is "sheathing" a man's penis with her vagina; "sheathing'" being a made-up word based on vagina meaning both sheath or vagina.[72] There, the definitions of *futuo* would involve male sheathing rather than female penetration. However, this is the least-likely option, since classical Greek and Rome weren't female-dominant societies which would accept this view.

As how a man can be a good fucker, a *fututrix* is a good fucker too. She is a "a good fuck".[73] Although she does not penetrate, she is a sexual agent through her desire and movement.[74] The most literal definition of what a *fututrix* is doing is from the *Totius Latinitatis Lexicon*: "she, as if, she fucks, or imitates fucking."[75] A *fututrix* does not fuck in the generally-accepted penetrating idea of fucking. She has expanded on the idea to include the penetrated idea of fucking back. As a *fututor* is a male who fucks through the motions of penetration, a *fututrix* is a female who fucks back through the motions of being penetrated.

The word *fututrix* is similar to various English sexual slang which bends gender. An example is "lady boner." The term does not literally mean that a woman has an erect penis in the sense of a male "boner". It means that a woman has an erect clitoris or is aroused and desires sex. Another example is "jilling off". The term is the female equivalent of the slang "jacking off" for male masturbation. Other more-obscure terms include "wide-on" (for "hard-on") and "morning dew" (for "morning wood"). These slang words expand on meanings in creative ways.

In conclusion, *fututrix* expands the traditional usage and idea of *futuo*. As with slang and profanity when interpreting sexual terms, we need to use some imagination. What may seem like a simple grammatical suffix can have far-reaching implications.

72 Glare, *Oxford Latin Dictionary*, 2004.; Lewis and Short, *A Latin Dictionary*, 1951.
73 A. Richlin, *Sexual Terms and Themes in Roman Satire and Related Genres* (PhD diss., Yale University, 1978), 141.
74 Levin-Richardson and Kamen, "Lusty Ladies", 246.
75 Latin: "*quae quasi fututit, vel fututionem imitatur*"

Appendix A - Etymology of the Verb Futuo

The precise etymology of *futuo* is unknown. However, several scholars have suggested possibilities. All forms of Proto-Indo-European (PIE) are reconstructed rather than directly attested. The reconstruction is indicated by the "*".

The first possibility is that *futuo* has a root related to striking or hitting. Ernout and Meillet suggest that *futuo* "might be derived from the root -fūt- 'to strike, hit.'"[76],[77] They state, "sans doute à rapprocher de **fūtō** «battre», "without a doubt it is likened to *futo-* to hit."[78] In addition, "the formation in -uere suggests an original noun or adj. **futu-*, which may have meant 'a strike, a get-together' vel sim."[79] Relatedly, Adams states that "verbs of striking and the like are often applied metaphorically to the act of the male in intercourse."[80] This can be similar to the modern slang, "to bang"," to hit", and "to knock (up)".

The second possibility is that *futuo* has a root related to pouring or ejaculating. Garnier and Forssman suggest that *futuo* came from the PIE *ǵheu-, "to pour." This became, *ǵhu-tu-, which then became, *futu-, in proto-Latin. *Futu-, is a noun meaning "capicité d'éjacule" or "ability to ejaculate." Garnier,[81] and Forssman.[82] state that this PIE noun formed Latin *futuo*.

In addition, García-Ramón state that this root may be the source of several words for 'force' or 'manly vigour.' Mann derives the Latin *futum* "sprinkler" from *ĝhutós (the past passive form of *ĝhuu̯ō) "poured, cast, libated; liquid,

76 M. A. Cor de Vaan, *Etymological Dictionary of Latin and the Other Italic Languages* (Leiden: Brill, 2008), 254.
77 Adams, *The Latin Sexual Vocabulary*, 118.
78 A. Ernout and P. Meillet. D*ictionnaire Étymologique De La Langue Latine ... Quatrième Édition, Revue, Corrigée Et Augmentée D'un Index, Etc.* (Paris: C. Klincksieck, 1959), 264.
79 de Vaan, *Etymological Dictionary of Latin and the Other Italic Languages*, 254.
80 Adams, *The Latin Sexual Vocabulary*, 118.
81 de Vaan, *Etymological Dictionary of Latin and the Other Italic Languages*, 254.
82 B. Forssman, "Review of: X. Mignot, Les verbs denominatifs latins," *Gnomon* 44 (1972): 669.

libation," although he does not mention *futuo*. Both Pokorny and Kummel derive Latin *fundo*, -ere "to pour" from *ĝheu̯d-.

In addition, García-Ramón state that this root may be the source of several words for 'force' or 'manly vigour.[83] Mann derives the Latin *futum* "sprinkler" from *ĝhutós (the past passive form of *ĝhuu̯ō) "poured, cast, libated; liquid, libation,"[84] although he does not mention *futuo*. Both Pokorny[85] and Kummel[86] derive Latin *fundo*, -ere "to pour" from *ĝheu̯d-.

This PIE derivation causes problems if one wants to etymologically relate *φυτεύω* with *futuo*. Thus the LS suggestion would have problems. The voiced aspirate PIE *gh sound becomes the voiceless aspirate kh sound for Greek, the letter χ. Therefore, *ǵheu could not have become *φυτεύω*. It would become *χυτεύω*, which does not relate to any word.

The third possibility is that *futuo* has the PIE *bhew- "to hit." This is represented by *bhau-/bhu-.[87][88] (These are equivalent despite the spelling).

Derivative words include *confuto*, -are "to check, repress; by speech, to put down, silence,"[89] *refuto*, -are "to drive back, check, repress; to refute, disprove."[90] Interestingly, the Albanian word *fūtuō* means "have sexual relations with (a woman), penetrate, insert, cheat."[91] Amusingly, apparently the English word footle "to mess (or to fuck) about" is derived from the similar-meaning French word foutre.[92]

The LS relationship of *futuo* and *φυτεύω* probably comes from the *bhew derivation of *futuo*. The PIE *bh sound becomes the Latin f or the Greek ph or ϕ. However, to establish an etymological connection here is probably circular reasoning: assume the words are related because of phonetic and metaphoric similarities, derive a PIE root from this assumption, and then use this derivation to prove they are related. This might be the reason why the relatively modern Brill Etymological Dictionary omits this etymology.[93]

In meaning, the closest Greek word to *futuo* is *βινέω*, which the LSJ define as "*inire, coïre*, of illicit intercourse" and "to have sexual intercourse."[94] Similarly, Bain states, "*βινῶ* is found in a number of 'graffiti' similar in character and expression to the many Pompeian or Ostian graffiti containing the word *futuo*."[95] That said, Bain also says this: "it should be observed that *βινῶ* affords no analogy for a use of *futuo* observed by Adams where, illogically from the point of view of language, a woman is the subject."[96]

Regarding PIE, *βινέω* would probably come from a *b- root, and, thus, it is not etymologically related to *futuo*.

The fourth possibility, and final one mentioned here, is that *futuo* came from a "denominative of an abstract noun *fu-tu- 'generating'".[97] An early usage of *futuo* translates as "knock up"[98] from the PIE *bhaud. Szemerényi dismisses that translation and that PIE derivation, although he does accept that *futuo* comes from *fu-tu-. He doesn't offer any translation or suggestion of what PIE root it comes from.

Whatever the possible etymology of *futuo*, the ideas of hitting, pouring, and seeding, and therefore penetration, ejaculation, and insemination are metaphorically present. The subject, most likely male, demonstrates physical agency in all these verbs.

Appendix B - Related Words from Greek

The LS compares *futuo* with the Greek words *φῖτυς, φιτόω, φυτεύω*."[99] In the Greek-En-

83 M. A. Cor de Vaan, *Etymological Dictionary*, 254.
84 J. Pokorny, *Indogermanisches Etymologisches Wörterbuch* (Bern: Francke, 1994), 426.
85 Ibid., 448.
86 Rix, Helmut, and Kümmel. *LIV, Lexikon Der Indogermanischen Verben: Die Wurzeln Und Ihre Primärstammbildungen*. (Wiesbaden: Reichert, 2001). 179.
87 Pokorny, *Indogermanisches*, 112.
88 C. Watkins, *The American Heritage Dictionary of Indo-European Roots* (Boston: Houghton Mifflin, 2000), 8.
89 Pokorny, *Indogermanisches Etymologisches Wörterbuch*, 112.
90 Ibid.
91 Ibid.
92 C. Watkins, *The American Heritage Dictionary of Indo-European Roots* (Boston: Houghton Mifflin, 2000), 8.
93 de Vaan, E*tymological Dictionary of Latin and the Other Italic Languages*, 254.
94 Liddell et all, *A Greek-English Lexicon*, 315.
95 D.Bain, "Six Greek Verbs of Sexual Congress," *The Classical Quarterly 41*, no. 1 (1991): 56.
96 Ibid. 62.
97 Oswald Szemerényi, "Latin Verbs in -uō, -uere," *Italic and Romance Current Issues in Linguistic Theory* (1980): 18.
98 Ibid., 19.
99 Lewis and Short, *A Latin Dictionary*, 798.

glish Lexicon (LSJ), *φιτύω*[100] can mean "bear" in middle voice, and *φυτεύω*[101], means "beget, engender." These uses may indicate a relation to female reproduction. However, generally, they mean "to sow" or "to plant."

Here are a few examples of these verbs used in the middle voice: Hesiod's *θεογονία* (Theogony) in line 986: "*αὐτὰρ ὑπαὶ Κεφάλῳ φιτύσατο φαίδιμον υἱόν / ἴφθιμον Φαέθοντα, θεοῖς ἐπιείκελον ἄνδρα,*" "and to Cephalus, she bore a splendid son, strong Phaethon, a man like the gods"; Apollonnius Rhodius's *Ἀργοναυτικά* (Argonautica) in 4.807: "*ὄφρα γάμου θυμηδέος ἀντιάσειας,/ τέκνα τε φιτύσαιο*," "that you might find a marriage dear to your heart and bear children"; Oppian's *Κυνηγετικά* (Cynegetica) in 1.4: "*τὸν μεγάλη μεγάλῳ φιτύσατο Δόμνα Σεβήρῳ,*" "whom Domna bore to Severus, a mighty (mother) to a mighty (father)"; Moschus's *Εὐρώπη* (Europa) in 2.160: "*ἐξ ἐμέθεν δὲ κλυτοὺς φιτύσεαι υἷας,*" "from me, you will bear famous children"; Bacchylides's *Διθύραμβοι* (Dithyrambs) in 16.59: "*εἰ / δὲ καὶ σὲ Τροιζηνία σεισίχθονι / φύτευσεν Αἴθρα Ποσειδᾶνι*," "And also you, if Troezenian Aethra bore you to Poseidon, the earth-shaker."

With the exception of the example from Bacchylides, *Φυτεύω* is used for the female in the middle voice. This may be in order to show how a woman can be passively inseminated but actively give birth.

The connection between *futuo* and *φυτεύω* is tempting due to many analogies: planting into the ground, and insemination; plants growing in the ground, and pregnancy; tending to plants, and caring for children. More similarities can be found in Aristotle's *Περὶ ζῴων γενέσεως* (On the Generation of Animals). Greek and Latin also share neuter nouns for semen[102][103] *σπέρμα*[104] which means seed for plants and semen for animals, and its verb *σπείρω*[105], meaning sow or beget; and they both have feminine nouns of land for terra[106][107] and for *γαῖα*[108]. Also, fertilis and sterilis, adjectives applied to farming and denoting the quality of land are transferred and symbolize female reproductive capabilities. In English, even, a woman who is infertile could be called "barren." There are even sexual metaphors for ploughing.

Unfortunately, the Lewis and Short comparison between futuo and *φυτεύω* is probably etymologically inaccurate due to advancements in understanding Proto-Indo-European upon which both Latin and Greek are based.

We should also consider what ancient authors and readers believed to be the etymology of *futuo*. Cowan suggests that Martial and his audience may have thought that *futuo* and *φυτεύω* were related.[109] During the period, these associations likely impacted usage even if they were not etymologically true. Cowan suggests that Martial has wordplay between *futuo* and reproduction precisely because it looks and sounds similar to *φυτεύω.*[110]

100 Liddell, et. all, *A Greek-English Lexicon*, 1943.
101 Ibid., 1965.
102 Glare, *Oxford Latin Dictionary*, 1729.
103 Lewis and Short, *A Latin Dictionary*, 1664.
104 Liddell, Barber, Scott, Jones, and McKenzie, *A Greek-English Lexicon*, 1626.
105 Ibid., 1626.
106 Glare, *Oxford Latin Dictionary*, 1927.
107 Lewis and Short, *A Latin Dictionary*, 1860.
108 Liddell et al., *A Greek-English Lexicon*, 335.
109 R.Cowan, "How's your Father? A Recurrent Bilingual Wordplay in Martial," *The Classical Quarterly* 65, no. 2 (2015): 736.
110 Ibid., 737-739

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