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# Letter from the Editor

We are proud to present the ninth volume of the Institute for European and Mediterranean Archaeology's Graduate Student Journal, *Chronika*. As I prepare to pass the torch as editor, I can't help but reflect back on what an amazing opportunity this position has been over the last two years. There are not enough chances for graduate students to get the kind of introduction to the publication process that *Chronika* has provided for contributors and the editorial board alike. Despite the overwhelming rewards of this process, it has not been without its challenges and setbacks. These challenges have been made easier to overcome because of the assistance I have received from my amazing editorial board, for which I am so thankful.

There are even more people behind this volume than the board and authors. As always, this journal would not exist without the continued support of people and organizations within the University at Buffalo and beyond. We thank all of these supporters, including peer reviewers, past editors, and cosponsors. In this volume we had the opportunity to interview not only the 2018-2019 IEMA visiting scholar, but an IEMA board member and the current IEMA visiting professor. These professionals further display the guidance and support that students have available to them within this organization. I, myself, hope to be able to lend support and guidance to the next editor in chief, and assist them in continuing to expand and improve on this publication. Though it will be strange to pass responsibility of this publication down, I am excited to see what future volumes will bring!

Heather Rosch  
Editor in Chief



# Between Roman and Other: Approaches to Provincial Identity in Roman Dacia

Brittany Stone

*The Roman Empire is a defining example of 'us versus them' mentality: insiders versus outsiders; citizens against barbarians. Within archaeological thought, the idea of Romanization has been used for decades, but its limiting implications have been acknowledged. The term's binary assumptions negate the agency of native populations as being overpowered by Roman authority and this bias is only slowly being corrected. This phenomenon is especially notable when researching the Roman frontier, a space between the Roman citizen and barbarian other. How do we understand the history of this violently charged military zone? How does it differ from understanding it as a vital, transitive area of cultural interaction? Roman mentality regarding the might of Rome can be found in ancient texts, coin imagery, and monumental schemes but these artifacts reflect the Roman bias. This paper highlights the issues of investigating non-Roman material, principally pottery, and so calls forth an often-ignored perspective, the native perspective. Archaeologists must understand the bias of ancient authors and recognize the neglect of modern researchers who fail to acknowledge native agency under the veil of "Romanization." The province of Dacia, in modern Romania, provides a fascinating case study that illuminates the bias of interpretation and its effects on modern mis-interpretations of the region's shifting cultural identity.*

## Introduction

Archaeological interpretation is based on one's framework of understanding, the theoretical basis in which an archaeologist operates, and if not careful, this basis could easily turn into bias. This paper will highlight the issues that arise when an archaeologist investigates the past under the framework of Romanization, using the case study of the short-lived Roman province Dacia, in modern Romania, as an example. This paper will deliver a critique of Romanization as a concept and then illustrate its issues within a Dacian context, presenting the history of cultural interaction between Rome and Dacia before the Dacian Wars. With this understanding in place, the paper will highlight how governmental influence in archaeology had pressured certain results and how modern archaeologists are correcting this previous damage. After the theoretical debate is presented, it will be highlighted in practice through interpreting archaeological pottery in this region. All of this work is presented with the intention of contributing to the fundamental question: What happened to the Dacian population after Roman invasion?

The history of the Dacian province is one that often gets neglected in the Roman imperial narrative mainly due to the region's modern political environment, which has left Dacia with a confused archaeological past so rife with contention and uncertainty that most (English) writers have simply left Dacia out of the equation, including the Oxford History of Roman Europe.<sup>1</sup> Oftentimes, maps of the Roman Empire disregard Dacia<sup>2</sup> because the province was continually reorganized throughout its short 130 year occupation, it is only when maps are specifically labelled "Roman Empire at its Greatest Extent" or "c. 117 A.D."<sup>3</sup> that the unusual province is portrayed. To our modern perspective, it seems obvious that Dacia would not last as a Roman province due to its odd position, seemingly sticking out into

barbarian territory,<sup>4</sup> but the Roman frontier was usually determined by geographical barriers such as rivers, deserts, and, in the case of Dacia, mountains.<sup>5</sup> The Carpathian Mountains protected most of Roman Dacia and passes through the mountains allowed the province to be monitored by forts<sup>6</sup> just like any other province within the empire. Despite the urge to ignore this complex province, the interactions between Rome and the Dacian kingdom in the period leading up to its conquest under Trajan are of vital importance and Dacia's history is one that shows the extreme of Roman takeover.

In the context of Dacia, archaeological theory in Romania has stemmed around the debate of Dacian survival.<sup>7</sup> Mostly this argument developed from Eutropius<sup>8</sup> as the Late Roman writer offhandedly recalled the fate of native Dacians after the Dacian Wars: "Trajan brought from the whole Roman world countless masses of people to live in the fields and in the cities, since Dacia was exhausted of men after the long war with Decebalus."<sup>9</sup> Some scholars have interpreted this sentence to mean that the native Dacians did not survive the Roman conquest<sup>10</sup> but that is not the only possible outcome for the indigenous population as Romanian archaeologists have segregated into three schools of thought: extermination, relocation, or assimilation.<sup>11</sup> For a long time, the reason for one's belief did not rest on factual evidence but was influenced by the government at the time and Romanization was a convenient tool to interpret history to produce a desired result. While this has been much discussed in Romanian literature, the purpose of this paper is to reveal a gap in the English literature as well as highlight the importance of ancient Dacia related to Roman archaeology. The perspective of Eastern Europe within the Roman Empire is one that has been largely forgotten by English scholarship and only slowly being acknowledged.

### Romanization as a Previous Framework

When researching the role of the native in Roman provincial archaeology, a major debate emerges as theoretical concepts struggle to explain the cultural transition from indigenous to Roman lifestyles. Many archaeologists are inclined to follow the Romanization theory that Roman culture overpowered barbarian societies in the empire, as evident by the fact that Roman culture is quite distinctive archaeologically and is abundant within the archaeological record. However, in recent scholarship archaeologists have admitted that this line of thinking is not constructive so more nuanced theories of cultural interaction have been suggested. Within the past twenty years, Romanization as a concept has come under fire for its biased implications.<sup>12</sup> Romanization suggests a binary understanding of cultural interaction with no sense of equality between the groups: it is either Roman or native, this or that. Scholars who use the term give the sense that Roman culture was superior and overpowered all others, which is not objective academia. Perspective is essential and in Roman archaeology, the focus is on Roman power, Roman command, and Roman strength, which essentially ignores the agency of the native populations in the expanding Roman empire. Since Millet's elite-driven conception of cultural change,<sup>13</sup> Romanization has been greatly contested because of the term's implications that denies the agency of the native people<sup>14</sup> by assuming that when two different cultures encounter one another, one becomes dominated by the other: in this case, Roman culture overpowering the provincial native cultures. However, the reality was not so simply defined as cultural interactions are "more complex [because] native and Roman interacted together to produce unique forms."<sup>15</sup>

Although Romanization is the dominant term, "the exact anthropological or historical meaning is unclear"<sup>16</sup> and so theorists

have suggested other interpretations like creolization,<sup>17</sup> discrepant experience,<sup>18</sup> and agency.<sup>19</sup> However, the application of such modern political conceptions onto ancient situations does not entirely work, as creolization "implies the existence of originally 'pure' ethnic groups [which is not] appropriate to a world like the ancient Mediterranean [and continental Europe as well], where intense cultural interaction has been going on at least since the Neolithic."<sup>20</sup> Instead of Roman preference, there are various other ways to explain Roman culture encountering others which do not imply overpowering or superiority, such as a blending or mixing behaviors to form the new cultures found throughout the empire. However, none of these possibilities come to mind when one uses Romanization as the only description for cultural interaction. Roman identity was not a static being that remained the same from Republic to Empire to Late Antiquity,<sup>21</sup> especially as the military, the main proponents of the spread of Roman culture, were "recruited from across the Empire, [who were] all individually influenced by their own relationships with and interpretations of Rome."<sup>22</sup> Migrations and interactions for centuries were shaping this region and thus complicate the idea of ancient identity.

### Romanian Historiography

The political history of Romania must be considered because "nationalistic agenda have dominated most previous scholarships on Dacia."<sup>23</sup> During the development of statehood in Europe in the sixteenth and seventeenth centuries, most governments manipulated their past to promote long-lasting independence from other nations, while simultaneously unifying the populace. However, Romania at this time was the only Balkan nation "not to have had an historically attested mediaeval empire to look back upon."<sup>24</sup> Instead Transylvania, and surrounding sections, has been the site of conquer and political unrest for centuries while control over the area has

passed through many hands (Dacians, Romans, Goths, Huns, Saxons and Slavs) and each change of power further confused its history.<sup>25</sup> So what was the history of the people of Romania? If the Dacians survived the Roman invasion and continued to thrive around or among the Romans, the modern Romanians can argue their ancestry to a fierce and resistant people that have endured for over two thousand years.<sup>26</sup> If the Dacians were annihilated during the Wars, then outsiders have continually won the right to the land over the locals and so began the millennium of shifting powers.

In such an instance, archaeology would be appropriate as an objective solution to understand the past but as the European counties were being organized, archaeologists were not employed to be objective but to validate the government in power,<sup>27</sup> as was the case during the time of the German Habsburg empire<sup>28</sup> (who claimed that Saxons conquered the region in the 1300s) and the Austro-Hungarian Empire<sup>29</sup> (who believed that medieval Hungarians came to this area in the 1100s). This manipulation of evidence is even more apparent with the introduction of the Soviet Union in Eastern Europe as communist officials “kept the sovereignty of Transylvania as an open issue as a tool to unbalance Hungary and Romania.”<sup>30</sup> With the implementation of the Communist regime, no archaeological excavations took place in Roman Dacia because “Soviet ideologists regarded the classical world as a typical expression of the ‘decadent West’.”<sup>31</sup> Instead of archaeology, the political regime in the Stalin era of the 1950s was concerned with changing the identity of Romania by “documenting and emphasizing the presence of the Slavic populations in Romania,” changing the name of the country so it no longer reflected an association with Rome, and forced university linguists “to confirm that Romanian was a Slavic language and not a member of the Romance family.”<sup>32</sup> These corrupted pieces of evidence illuminate the fact that any documents

recorded from this time would most likely be degraded by the government’s interference. This thread of determinism continued to the opposite extreme during the Ceausescu<sup>33</sup> era in which evidence for the Dacians survival was promoted<sup>34</sup> “by the stereotypes of the ‘70s and ‘80s, submitted to the Romanian Communist Party’s official propaganda [acknowledging that] the funding of research is always connected to some ‘priorities’ drawn by the political authority.”<sup>35</sup>

While searching for a national and unifying identity, governments turned to antiquity to enhance their perceived proto-historical longevity. The modern countries of Roman Europe are guilty of manipulating the past to promote their own agendas, using museums<sup>36</sup> and statues<sup>37</sup> as visible symbols of fabricated ancient national identities, especially considering that these areas were mostly composed of various tribes with no forced sense of loyalty to a higher ethnic identity. This was especially common during the period of statehood establishment, of which examples<sup>38</sup> include Germany who adopted Arminius as a symbol of resistance, freedom and unification due to his victory over Varus and three Roman legions, France who used Vercingetorix of the Arverni tribe to represent Gaulish resistance to Caesar,<sup>39</sup> and Belgium who recognized Ambiorix of the Eburones as a national hero. The obvious issue with using these tribal figures to represent a unified, millenniums old national identity is the fact that these figures did not think in terms of modern statehood and so cannot be used to symbolize an identity that was not within their context. However, this rationale did not stop these governments from using history as a justification of their actions. The difference between these Western Europe nations and Romania is the fact that Decebalus, the fierce and last Dacian king, did in fact unify various tribes under his rule, and so could be used to represent modern identity.<sup>40</sup> Pressure from other countries was prevalent as the 2050th

anniversary of Romania in 1980 could have been a response to the imminent Bulgarian celebrations of the 1300th anniversary of the First Bulgarian Empire in 1981.<sup>41</sup>

The most influential studies dedicated to cultural change have occurred in the western provinces, in the choice areas of Britain, Germany, France, and Spain, which is not a coincidence but is due to the “national points of view of modern scholars, the advancement of archaeological fieldwork, and the overall balance of power in the modern western world.”<sup>42</sup> The reason that Romanization is so prevalent is due to its political consequence during the establishment of modern European countries, as it justified colonization which was a popular ideology throughout Europe at this time.<sup>43</sup> This modern bias has hindered the study of the empire as a whole in the often neglected area of Eastern Europe. The context of this region is necessary, both its ancient context and modern historical relevance.

### The Debate through Pottery

The research devoted to “native” pottery in the area has reflected the constantly shifting views of academia. The blatant bias of past research “has had a harmful effect on medium- and long-term scientific research.”<sup>44</sup> The effect of research bias on pottery over the centuries has been noted by Mircea Negru. Regarding pottery, archaeologists in Romania only gradually took notice of native pottery and its implications beginning in the 1850s. Important early archaeologists began to question the continuity of Dacian habitations during the Roman period, such as Carl Goos and Friedrich Müller, both of whom were Transylvanian Saxons which influenced their archaeological ideologies. An example of early Dacian discovery is from central Romania at the Roman camp of Sighișoara (German name: Schässburg) where “Dacian dishes [were] discovered in the Roman settlement” which might

have belonged to “the colonists that were, perhaps, mixed among the inhabitants of the Dacian province.”<sup>45</sup> Aside from merely acknowledging Dacian material, there were many other issues that contended research at this time. The first bibliography of Dacia was not completed until 1872 by Alexandru Odobescu who frustratingly struggled with a lack of collaboration between archaeologists and inadequate excavation reports that still neglected a great deal of Dacian artifacts, often by simply labelling the finds as “many bricks and pottery fragments.”<sup>46</sup> Another major issue for research in this period is the discrepancy between excavations in the Transylvania region and the area outside of the Carpathian Mountains. Lastly, it was during this era that archaeology was often rushed and chaotic, as proven by Cezar Bolliac’s “sensational” work ‘The Carpathians Trumpet’ which was part of the movement that “set Romanian archaeology off on the wrong track.”<sup>47</sup>

It was only during the inter-war period of the twentieth century that a systematic approach to the study of Roman Dacian indigenous pottery was established. While the persistence of the native population had been hinted at throughout the nineteenth century, research in full finally went into this issue and evidence for Dacian pottery was found at Roman camps, civilian sites, and funerary contexts and has only increased over the decades. First in 1925 at the Lechința de Mureș settlement near Cluj-Napoca in central Romania, the excavator commented that “Late Iron Age shapes keep repeating during the Roman period” and “Late Iron Age shapes are being transposed in Roman clay,”<sup>48</sup> the implications of which were staggering. Many excavators of Roman camps noted that “the pottery retained – in both technique and ornamentation – its old, local elements” or the pottery “might be a local tradition” or that the pottery was similar in style to those found in pre-Roman settlements.<sup>49</sup> Even though these reports were important to the study of Dacian pottery, rather quickly they morphed and

were used to support the propaganda notion of Romanian continuity. Few scientists were willing to explain that these reports were exaggerations of archaeological material that was “incompletely studied and then locked away in Museum stores, or still buried.”<sup>50</sup>

After the Second World War, with Romania ruled by a Communist government, even more examples of Dacian pottery were discovered, with archaeologists even claiming that Dacian pottery comprised 25% of the total pottery found on one site. Research also expanded into rural areas, although still not to the degree necessary for modern research standards today. Prominent archaeologists arose during this period such as Dumitru Protase, Nicolae Gudea, and Mihail Macrea.<sup>51</sup> Protase published pottery drawings that began the typological study of Roman period Dacian pottery. Macrea calculated that hand-made Dacian pottery represented roughly 5% of the total pottery found at his Roman site, which is a more realistic statistic than the 25% suggested a few decades earlier for another site. Lastly, Gudea initiated systematic and minute research into native pottery, allowing for observations that illustrated the evolution of native pottery during the Roman period compared to the Dacian Late Iron Age period. Decades later, Gudea published a criticism of previous research into this subject concerning the scientists’ lax study methods and lack of publications, additionally Gudea provides “criteria for scientific analysis, and [offers] a possible model for future research.”<sup>52</sup>

Despite the advances outlined above, there is still much that needs to be done in this area of study and it is no small task. While Protase started a typology of Roman period Dacian pottery, there is no complete or definitive set which is “a fact that still makes it difficult to differentiate [Roman period Dacian pottery] from the Geto-Dacian classical Late Iron Age pottery.”<sup>53</sup> When reading through pottery publications,

it must be remembered that researchers often defined Dacian pottery purely on the basis of the piece being a hand-made or local production, even though the piece could just as easily be Celtic or Roman or belonging to earlier or later periods instead of conveniently being Dacian. As of now, there are certain aspects of Dacian pottery that have been understood. Firstly, the Dacians had a myriad of pottery production centers all over the region including rural settlements.<sup>54</sup> Once the Roman period began, indigenous hand-made pottery became more abundant than indigenous wheel-made pottery, understood on the theory that Roman wheel-made production took over indigenous practice due to Roman production producing cheaper and better-quality pottery.<sup>55</sup> The frequency of these types is first within cemeteries and rural settlements, then Roman camps and civilian settlements, next in villas, and lastly, seldomly in cities but not limited geographically, instead in a uniform distribution throughout Roman Dacia.<sup>56</sup>

#### Archaeology in Romania Today

The case of Dacia is complex and violent but not to be simply discounted as a political nuisance better left ignored, instead the case of surviving Dacian identity must be searched for in new ways with objective scientific intrigue, not political influence or ingrained bias. Thus far, pottery seems to be the most substantial material to suggest Dacian continuity, even though there are still a multitude of considerations regarding this evidence. Although this paper highlights that more unbiased research is necessary for this subject, it is a fact that indigenous pottery illustrates continued native presence throughout the Roman period and it must be based on two causes: first, there was a preference for this type of pottery as well as a demand for it, and second, there were potters with the knowledge and skill to produce this specific type of pottery.

The Dacian population did survive the

Roman conquest, and the suggestion that they were all annihilated is merely historical propaganda. The real archaeological questions are how many survived, in what capacities, how did Dacian culture change with the influx of Roman migrants, and how did Dacian culture affect the Roman culture that invaded the region? These questions have only begun to be investigated in earnest without governmental incentive.<sup>57</sup> Linguistic studies from inscriptions within the province reveals that most of the names are Roman<sup>58</sup> while few have Thracian/Dacian roots,<sup>59</sup> which is to be expected as the Dacians did not have their own written language. Additionally, “evidence for the indigenous population of Dacia following the conquest is poor” except for those conscripted into the army.<sup>60</sup> On the other hand, research for the Dacian population after Roman conquest within the province is a minority and difficult to find in the archaeological record, as the natives were more likely to have survived in rural settings<sup>61</sup> with difficult-to-detect archaeological evidence. With the introduction of Roman opposition during Trajan’s Dacian Wars, the Dacian presence becomes disorganized, lost in the chaos of takeover,<sup>62</sup> but this does not mean that they should be neglected, especially as the survival of the group still has political affects being felt today in its modern relation of Romania.<sup>63</sup>

## Endnotes:

- 1 Bispham 2008: Dacia is not even listed in the Index.
- 2 Bispham 2008, Fig. 1, 360-361.
- 3 As Trajan was the last expansionist emperor.
- 4 Luttwak 1975, 100.
- 5 Breeze 2011, 4.
- 6 Berzovan 2016.
- 7 Lockyear 2004, 33.
- 8 Oxford Classical Dictionary 2016, Eutropius: “a fourth century CE historian known for his impartiality and good judgement.”
- 9 Eutropius *Breviary*, 8.6.2.
- 10 Ruscu 2004, 75.
- 11 Ruscu 2004, 75; Ellis 1998, 221.
- 12 Millet 1990, 212. In arguing for an elite-based top-down societal change, Millet caused outrage with his social evolution theory.
- 13 Millet 1990, 212.
- 14 Revell 2010, 7.
- 15 Hope 1997, 248.
- 16 Woolf 1998, 119.
- 17 Webster 2001.
- 18 Mattingly 2006.
- 19 Barrett 1997; Gardner 2003.
- 20 Terrenato 2008, 236.
- 21 Revell 2010, 8.
- 22 Hope 1997, 248.
- 23 Chappell 2010, 92.
- 24 Lockyear 2004, 34: Which made the Dacians a popular historical group to utilize for political gain.
- 25 Ellis 1998, 221.
- 26 Oltean 2007, 6; Chappell 2010, 93; Ellis 1998, 223: Based on linguistic and territorial heritage.
- 27 Chappell 2010, 90; Ellis 1998, 225; Oltean 2007, 6.
- 28 Hodgkin 1887, 101.
- 29 Ehrhardt 1970, 223; Wade 1970, 114.
- 30 Chappell 2010, 92.
- 31 Diaconescu 2004, 87: Except for Sarmizegetusa, Romula, and some rescue excavations, but this research was tainted with bias.
- 32 Ellis 1998, 224.
- 33 Nicolae Ceausescu was the second and last “president” of Romania during the Soviet period. This government at this time was totalitarian and Ceausescu acted as a dictator.
- 34 Ellis 1998, 225.
- 35 Teodor 2015, 125.
- 36 Breeze 2011, 10.
- 37 Maureen 2001, 12.
- 38 Maureen 2001, 12-13.
- 39 Although as the German government is quick to note, Arminius succeeded in his goal while Vercingetorix did not.
- 40 The Dacian king symbolized strength against outside rule, which was of vital importance during the time of Romania’s independence from the Hungarian Empire.
- 41 Lockyear 2004, 34.

42 Terrenato 2008, 236.  
 43 Terrenato 2008, 234.  
 44 Negru 2003, 1.  
 45 Negru 2003, 2.  
 46 Negru 2003, 3.  
 47 Negru 2003, 2.  
 48 Negru 2003, 3.  
 49 Negru 2003, 3.  
 50 Negru 2003, 4.  
 51 Negru 2003, 5-6.  
 52 Negru 2003, 8.  
 53 Negru 2003, 9.  
 54 Negru 2003, 35.  
 55 Negru 2003, 35.  
 56 Negru 2003, 28.  
 57 Institute of Cultural Memory Romania, various excavation reports.  
 58 Ruscu 2004, 78; Varga 2016, 77.  
 59 Haynes and Hanson 2004, 22: "As Thraco-Dacian names were also used extensively beyond Dacia's Roman boundaries, their presence on an inscription from the province may not automatically be assumed to refer to a native Dacian rather than an immigrant from south of the Danube."  
 60 Haynes and Hanson 2004, 22. Example of inscriptions with *dacia* flax weapons inscribed at Hadrian's Wall Birdoswald fort.  
 61 Oltean 2007; Teodor 2015, 91.  
 62 Ellis 1998; Ruscu 2004; Oltean 2007.  
 63 Ellis 1998; Oltean 2007; Chappell 2010.

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# Distinction Through Diet: Assessing the Evidence for Consumption at Late Anglo-Saxon Estate Centres

Samantha Cone

*Bourdieu presents the idea that taste is determined by social class and taste in music, art and films, amongst other things will vary with social status and contribute to distinguishing those with more 'cultural capital' from those with less. By studying taste in food, in other words diet, archaeologists may be able to gain an increased understanding of social stratification in antiquity. This paper looks at landscape, faunal assemblages, and plant remains at five 'estate centres' in Late Anglo-Saxon England (Faccombe Netherton, Flixborough, Goltho, Higham Ferrers and Yarnton) to discuss the idea that archaeologists can use consumption as an indicator of status. Although the sites studied are all distinctive in different ways, it appears that looking at faunal and plant remains alone is not enough when trying to classify sites as higher status 'estate centres'. This highlights the importance of interdisciplinary approaches in archaeology which take into account textual, iconographic and experimental evidence, as well as the material remains at sites.*

## Introduction

In his 1979 work *La Distinction, Critique sociale du jugement*, Bourdieu presents the idea that taste is determined by social class and that taste in music, art and films amongst other things will vary with social status and contribute to distinguishing those with more 'cultural capital' from those with less.<sup>1</sup> Thus, by studying diet, which could be called 'taste' in food, archaeologists might be able to gain increased understanding of social stratification in antiquity. Furthermore, regional changes in consumption could be relevant: differences between types of site (for example urban or rural), different cultures, and changing climates or topographies could all have impacts on the types of food being grown and consumed in an area. This paper will concentrate specifically on diet at Late Anglo-Saxon estate centres (from around 800 A.D. – 1066 A.D.) to establish whether this method is a suitable technique to use when looking at social stratification in this period.

An estate centre is taken here to be a centre of organisation and authority within the landscape, often a cluster of buildings, not large enough to warrant the term 'village'.<sup>2</sup> Estate centres were places where elites were apparently able to 'distinguish' themselves – the perception of the estate centre as a model of distinction has led to anything out of the ordinary being labeled as an estate centre by archaeologists, which would indicate a more elite presence. The five sites that this paper will discuss are: Flixborough, Goltho, Higham Ferrers, Yarnton, and Facombe Netherton. All of these sites have been identified as estate centres for a variety of reasons. Large numbers of styli, believed to represent estate management, and unusual faunal assemblages at Flixborough have been taken to indicate an elite presence. The changing nature of the site makes pin-pointing the exact type of settlement more difficult, with later material culture lacking evidence of falconry and thus

being generally closer in appearance to monastic sites in England rather than other known aristocratic residences, highlighting the difficult nature of classifying sites.<sup>3</sup> A malting oven at Higham Ferrers points to large scale production of ale, and the construction of the large halls and ditches would have required a degree of centralised authority.<sup>4</sup> Yarnton also had large, timber hall structures: two built by the end of the eighth century, and another which may be from the period in question. This later structure was associated with other buildings – granaries and a possible fowl house (the pattern of post holes is similar to that of a likely fowl house at Cheddar).<sup>5</sup> This is suggestive of elite activity and organisation and is further supported by the presence of a smithy, copper, iron, bone and glass objects, and worked stone. Two aisled halls at Goltho distinguish it as an estate centre – similar halls are found at Yeavinger, Cheddar, Portchester, Westminster, Thetford and Waltham Abbey (all elite sites).<sup>6</sup> The fifth site, Facombe Netherton, is first mentioned in a charter of 863 A.D.<sup>7</sup> Documentary evidence tends only to be found for important sites, such as the site of Facombe Netherton. Facombe Netherton's elite status is further supported by a wealth of finds from pottery and coinage, to metal artefacts and more elite food types such as deer.<sup>8</sup> The decision to primarily study these sites was pragmatic, looking at all of the known sites in the country would be too vast an undertaking, and choosing a specific type of site makes comparisons more viable. These five sites cover a broad regional area, from Lincolnshire to Hampshire, so it may be possible to note some regional variation as well.

## Landscape and Climate

Soil type, exposure and drainage can all have an effect on the types of crops and animals that can be efficiently maintained within a landscape. For instance, arable land tends to be found in fertile, sheltered environments,

with relatively flat ground (which is more appropriate for machinery such as ploughs), whereas animals can be raised in harsher conditions (poorer soils, colder, wetter, windier climates, and steeper slopes). Not only does environment determine whether land is used for agriculture or pasture, but also what species or breeds are used there. In modern sheep farming, a stratified system exists where different breeds are raised in different environments, and sheep at different stages of their lives are moved between environments depending on their intended use. Similar strategies can be applied to different species as well. Pigs can be reared successfully in forested areas, whereas cattle require more grassy land, and barley can be grown further north in England than wheat, owing to the colder and wetter northerly climate.<sup>9</sup> Change in landscape can also determine the availability and types of exploitable natural resources: sites nearer to coasts, rivers and lakes are likely to make more use of marine and aquatic resources than sites further away.

Landscape and climate were therefore important factors in determining land use and resource availability. Flixborough, eight kilometres south of the Humber estuary, was well positioned near both wetland (near the River Trent) and the more well-drained Lincoln Edge which allowed for pasture, arable land, and marshes to be available for exploitation.<sup>10</sup> Faunal remains there indicate the presence of eel, salmon, perch, trout and pike - demonstrating the exploitation of estuarine resources.<sup>11</sup> Further evidence of this exploitation takes the form of wildfowl remains. Cranes and geese seem to have been favoured at Flixborough, possibly due to the proximity to the marshy environment in which these birds live.<sup>12</sup> Faccombe Netherton, on the edge of Salisbury plain, is further south than Flixborough, thus crops grown there would be expected to be better suited to slightly warmer climate (for instance, a predominance of wheat over barley). Furthermore, the landscape there

is predominantly chalky, which tends to provide well drained, alkaline soil types.<sup>13</sup> Place names (such as 'mere', meaning pond) and documentary evidence (such as charters) also indicate the presence of forests and ponds in the area surrounding Faccombe Netherton.<sup>14</sup> Exploitation of these forests and ponds is supported by pig, deer and fish remains.<sup>15</sup> Yarnton, eight kilometres north-west of Oxford, was also situated near different exploitable landscapes - river, woodland, heath, and open land with soils suitable for both grazing and cultivation.<sup>16</sup> There is also evidence here for declining soil fertility over the Saxon period - pottery scatters often associated with manuring and the presence of crops such as vetch, which is indicative of a low nitrogen environment.<sup>17</sup> Looking at topography and location alone is not sufficient for archaeologists when it comes to understanding the use of the landscape, it is also important to consider factors that could change over time like forest coverage, soil fertility, and position of sites relative to rivers. Archaeological evidence for presence at a site can be an indication of how productive the land was - a number of sites, including Yarnton and Higham Ferrers, have evidence for prehistoric settlers. In both of these cases this is likely due to the productivity of the land and access to a waterway (the Thames and the Nene, at Yarnton and Higham Ferrers respectively).<sup>18</sup>

The environmental features at each site are summarised in Table 1 seen below. The main differences between the sites in question are proximity to water (Faccombe Netherton and Goltho are furthest from rivers), soil type (clay soils are usually less well draining than chalky or gravelly soils), and climate (with sites further north - Flixborough and Goltho - being more likely to experience colder and wetter climates than the more southern ones). The landscape and climate can determine what can be produced at a site; however, analysing landscape alone cannot tell archaeologists what was actually being consumed in the past, only what was feasible. Although

Site:	Location:	Soil type:	Details:
Facombe Netherton	Hampshire, Salisbury Plain	Chalky (alkaline, usually well draining).	Forests, ponds, grasslands, heath
Flixborough	Humber Estuary, Lincolnshire	Limestone	Proximity to River Trent, in an area with access to both waterlogged and well-drained conditions.
Goltho	Lincolnshire	Boulder Clay, containing chalk and sandstone.	Elevated, dry conditions, compared to nearby lower, wetter areas, heavy clay types.
Higham Ferrers	Northamptonshire	Boulder Clay, limestone.	Alluvial deposits, proximity to River Nene.
Yarnton	Upper Thames Valley, Oxfordshire	Gravel terraces, Oxford and Kimmeridge clay.	Proximity to Thames, situated on floodplain, flat.

Table 1. Summary of Environmental conditions (based on data from Fairbrother 1990; Loveluck 2007, 2010; Beresford 1987; Hardy et al. 2007; Hey 2004).

archaeologists should not look solely at topography and climate when drawing conclusions, it is important to take them into account when making comparisons, as some differences could be due to environmental factors, rather than socioeconomic ones. Also, environmental factors might not always be reflected in the archaeological remains. It cannot always be assumed that a settlement made use of resources simply because it had access to them, and some remains are less archaeologically visible than others.

#### Faunal remains

Faunal remains are incredibly important to archaeologists; however, one must be aware of some of the biases that will affect the interpretation of the assemblages seen today. The most obvious factor is the survival of remains – bone survives longer than flesh or hair. Smaller pieces are also more likely to be missed due to both human error and because small fragments are less likely to survive; especially if sieving techniques are not used. As a result, larger animals are better represented in the archaeological record. Animals such as fish and birds, which could have been important in the Anglo-Saxon diet, as demonstrated by remains at Flixborough, are more likely to be underrepresented. The same applies to different bones in animals – larger or denser bones are more

likely to survive and be found than smaller, less resilient ones. Another potential issue associated with interpreting faunal remains is that bones can come from one individual or many, and even knowing the number of individuals can be misleading. For example, even if the absolute number of sheep is larger than the number of cows, cows are larger animals and contribute more meat weight overall. The area being excavated will also have an effect on the type of assemblage – small vertebrates at Flixborough were primarily found in middens (refuse dumps), so where middens are absent, there are likely to be fewer small vertebrates discovered.<sup>19</sup> Understanding excavation location is valuable as well: at Facombe Netherton, faunal remains found near buildings are likely to represent consumption, as animals that died from disease would probably have been removed from domestic areas.<sup>20</sup>

Regardless of these biases, faunal remains could still be useful in reconstructing diets at different levels of society and the relationships between them. In the case of venison for instance, ‘high-status’ sites often have fewer meat-bearing bones than other places, such as religious sites. This is likely to be due to redistribution practices, since the elite could afford to give away more nutritious parts of a deer after a hunt and there may have been some obligation

to provide for religious institutions.<sup>21</sup> The very presence of deer bones at a site also indicates hunting, which has implications for social interpretations. After the production of agricultural surpluses, when farming was no longer purely for subsistence, there was less pressure to hunt for food, so hunting became an elite activity, as it required spare time and resources.<sup>22</sup> Similarly, falconry, indicated by the presence of wildfowl, like at Flixborough, or by the remains of the hunting birds themselves, such as the Goshawk skeleton at Faccombe Netherton, could represent elite activity for the same reasons.<sup>23</sup> Faunal remains can also be useful for studying secondary products such as wool, leather and milk. Looking at mortality profiles can reveal variations in dairying practices. For instance, high numbers of male calf bones and older female cow bones usually indicate dairying. However, sexing the animals can be difficult if the skeleton is incomplete. Veal and the production of vellum would also produce many calf bones, and cattle for traction would result in more mature bones, complicating interpretations.<sup>24</sup>

Preservation and excavation techniques will also affect the quality of any evidence. For instance, changes in sampling and excavation technique at Goltho have made interpretations more difficult. At Goltho there is evidence for exploitation of both domestic and wild animals. 2,559 bones were found at the site, 125 of these were deer bones, identified as red, fallow and roe deer, providing sufficient evidence to suggest hunting activity.<sup>25</sup> However, when considering the data provided by Beresford concerning the Goltho faunal remains, a number of issues arise. The first is variation in sampling techniques between seasons means that comparisons between contexts (and thus change over time) is more difficult due to differences in rigour of excavation and recording.<sup>26</sup> Also, only well preserved whole bones, bones with joints, and fragments larger than 60mm were kept after excavation, and any data concerning smaller and more delicate remains, such as fish bones, is not available.<sup>27</sup> The second

issue with the Goltho faunal remains is that the data provided is measured in Number of Identified Specimens (NISP), where each bone fragment is a single unit. This technique often over-represents larger animals, like cows and deer, as their bones fracture more easily and were more likely to be broken during butchery for redistribution, which is considered an unnecessary practice for smaller species such as sheep, goat and pigs.<sup>28</sup> This is the case at Yarnton, where cattle are the most abundant when NISP is used, but when using Minimum Number of Individuals (MNI) sheep/goat appear to be the most abundant.<sup>29</sup>

MNI is useful when looking at what proportion of a diet a species might have contributed to, but even where MNI is not calculated there are still interesting conclusions to be drawn from faunal evidence. Noting the types of species found can be useful. For example at Flixborough there was access to both farming and more marshy aquatic and marine conditions. As a result, the types of animals represented by the faunal remains are more varied than at other sites. Calves and lambs are present in large numbers, as well as adult domesticates.<sup>30</sup> There were also birds of prey, mostly hawks and red kite, and high frequencies of wildfowl, such as geese, ducks and waders. At least eight cranes were also found in a mid-Saxon pit, which possibly indicates a feast.<sup>31</sup> The raptorial birds and wild fowl would also point towards more elite activity on the site, which is further supported by yet more unusual finds, such as the remains from bottle-nose dolphin, minke whale, and perhaps even a killer whale. These finds could be related to the proximity to the Humber, but even so, such finds would be indicative of consumption at a higher social level at the site, as dolphin was likely harder to come by than domesticates or fish. Given the high numbers of 'elite' species at the site, the question of the use of domesticates is raised: these, as well as the many fresh water species found, could represent food rent, a form of tax, brought to the site, rather than animals purposefully raised or hunted there.<sup>32</sup>

The lack of evidence for a species can also provide interesting avenues for discussion (see Table 2 for a summary of site findings). There were no deer remains at Yarnton, where the only wild animals remains were frog/toad and mole.<sup>33</sup> This is not well explained by environmental evidence, as deer would have thrived in the Oxfordshire region. At Higham Ferrers in the late eighth century to early ninth century there is little evidence for deer, only a single skull fragment and a piece of antler.<sup>34</sup> This is not sufficient evidence to establish that hunting was frequent, but it is interesting to note that the find is a non-meat-bearing part of the animal. The low number of deer remains found throughout the different phases at Higham Ferrers makes it difficult to understand changes in deer consumption over time. This is also the case at Goltho, where the nature of the evidence differs between contexts. However, it is clear that deer were present and consumed as red, fallow, and roe deer remains were found in different contexts dating between 850 and 1150 A.D., and some even show evidence for butchery, through cut and chop marks.<sup>35</sup> In contrast to the sites mentioned above, it is at Flixborough and Faccombe Netherton that we see the

most evidence for deer consumption. More importantly, at Faccombe Netherton there is sufficient evidence across different periods to analyse changes in redistribution practice – an increase in the proportion of meat-bearing parts over time, which suggests a decline in the sharing of meat in the community.<sup>36</sup> The presence of wildfowl and fish at Flixborough and Faccombe Netherton also indicates elite presence, supporting the classification of these sites as estate centres.

In general, this period also exhibits a longer lifespan for some domestic animals.<sup>37</sup> At Faccombe Netherton, a higher proportion of cattle and sheep/goat were culled between the ages of three and six, when these animals grew to full size and their meat would no longer be tender. This is important to note because there would have been little economic value in feeding fully grown animals longer than necessary.<sup>38</sup> On the other hand however, at Flixborough and Yarnton, there are a large number of remains from younger animals, possibly for vellum production, which indicates a literate body of elite or wealthy individuals. In addition to vellum production, the remains could also indicate dairying as

Site:	Falconry	Hunting	Fishing	Farming
<b>Faccombe Netherton</b>	Wildfowl (including partridge, duck, heron), birds of prey (goshawk, sparrow hawk, peregrine falcon)	High number of deer across all relevant periods (red, roe). Evidence of butchery.	Some fish bones, both aquatic (likely fishing) and marine (likely salting or smoking).	Cattle, sheep/goat (both usually kept until 3-6 years old), pig, domestic fowl.
<b>Flixborough</b>	High numbers of wildfowl (including waders, ducks, geese), birds of prey (buzzard, red kite), eight cranes.	Some deer (red or roe).	Bottle-nose dolphin, Minke whale, perhaps killer whale. Also 28 different species of freshwater fish.	Cattle, sheep/goat (high proportion of calf and lamb), pig, domestic fowl.
<b>Goltho</b>	One buzzard (unclear if wild or for falconry)	Some deer (red, roe, fallow). Evidence of butchery.	Cod (likely salting or smoking rather than fishing, due to distance from sea).	Cattle, sheep/goat, pig.
<b>Higham Ferrers</b>	Some wildfowl (very low amounts).	Deer (in very low amounts)	One eel, one carp.	Cattle, sheep/goat, pig, domestic fowl.
<b>Yarnton</b>	(No evidence)	(No evidence)	One eel.	Cattle, sheep/goat (high proportion of calf and lamb), pig, domestic fowl.

Table 2. Summary of faunal remains (based on data from Fairbrother 1990; Loveluck 2007, 2010; Beresford 1987; Hardy et al. 2007; Hey 2004).

killing young males is an efficient way to raise dairy cattle, or the preferred consumption of younger, more tender meats.<sup>39</sup> Each of the sites offers different evidence for meat or fish consumption, making comparisons difficult, however faunal remains from Flixborough and Faccombe Netherton clearly indicate elite activities, whereas at Higham Ferrers, Yarnton and to some extent Goltho there is little evidence to distinguish the sites from other, non-elite farming sites, as the majority of the remains are domesticates, a common find throughout Anglo-Saxon England.

### Plant Remains

Faunal remains usually have better preservation than plant remains. At Flixborough, the number of hand-collected vertebrate remains totaled 41206, compared to ‘sparse’ crop remains – a trace of barley chaff from one sample, some cereal crop weeds from a twelfth to fourteenth century context, and scattered seeds from beans or peas.<sup>40</sup> Excavation techniques have significant

impacts upon whether archaeobotanical remains are found – sieving and floatation are the only reliable methods to find small remains like seeds and chaff. It is curious, then, that the number of plant remains at Flixborough was so small, given that sieving did occur, as evidenced by large numbers of fish bone found. This is probably partly because archaeobotanical remains are more likely to survive if charred – cereals that require processing using heat are more likely to be preserved than others. Another important consideration is that an apparent change over time in crop type could instead represent a development in processing techniques.<sup>41</sup>

The nature of the evidence at Goltho and Faccombe Netherton is unclear – at Goltho there is no mention of plant remains other than construction timber, and there is no mention of plant remains at Faccombe Netherton either. The relevant publications date from the 1980s (Goltho)<sup>42</sup> and 1990 (Faccombe Netherton),<sup>43</sup> so linking the lack of evidence to older excavation techniques might be

Site:	Plant remains
<b>Faccombe Netherton</b>	(No evidence)
<b>Flixborough</b>	Trace of barley chaff (cereal crop weeds from later contexts).  Small amounts of field bean and pea scattered across contexts.
<b>Goltho</b>	(No evidence)
<b>Higham Ferrers</b>	5 <sup>th</sup> -6 <sup>th</sup> centuries: Some free-threshing wheat (most common), hulled barley and oats (possibly a weed). Some field bean. Late 7 <sup>th</sup> -early 9 <sup>th</sup> centuries: Mostly cereal grain, usually wheat, sometimes barley. Barley made up 90% of the wheat in the malting oven contexts. Few weed seeds.
<b>Yarnton</b>	5 <sup>th</sup> -7 <sup>th</sup> centuries: Hulled barley dominates earlier phases, but also a presence of hulled and free-threshing wheat. At least 13 common weed species, and seven grassland weed species. 7 <sup>th</sup> -mid-10 <sup>th</sup> centuries: Greater dominance of free-threshing wheat. Barley and rye still present. Leguminous crops appear (garden pea, lentil) Possible oats, not clear if domestic or wild. Decrease in weed varieties – smaller species less prevalent. 10 <sup>th</sup> -14 <sup>th</sup> centuries: Medieval remains contained more barley than wheat.

Table 3. Summary of archaeobotanical remains (based on data from Fairbrother 1990; Loveluck 2007, 2010; Beresford 1987; Hardy et al. 2007; Hey 2004).

tempting. However, Flixborough was poor in plant remains as well, and the excavations and publications are more recent (2000s). Perhaps similarly to Goltho and Facombe Netherton, preservation conditions may have been too poor at Flixborough.<sup>44</sup> Luckily, Higham Ferrers and Yarnton have more evidence available for discussion. At Yarnton, floatation was used to find 58 Anglo-Saxon samples dated to the fifth to tenth centuries. From these samples the archaeologists saw an increase in free-threshing wheats, as well as leguminous crops found in contexts from the end of the period.<sup>45</sup> Overall, this matches wider patterns in the period, with changes from hulled to free-threshing crops being seen as a development undertaken for convenience. This is because free-threshing varieties, though more susceptible to disease, are ready for milling upon threshing and do not require as much processing as hulled types, which require heating, pounding or soaking before use.<sup>46</sup> A decline in perennial weeds at Yarnton could also indicate the development of new ploughing techniques and more intensive agricultural strategies.<sup>47</sup> A similar floatation strategy at Higham Ferrers produced 42 samples which demonstrate an increase in weed seeds over time perhaps indicating an increase in animal husbandry and less focus on maintaining arable lands. Both explanations are plausible, but without more examples and a clear increase or decrease in crop production alongside fluctuations in weed seed numbers, it is impossible to judge. There is also a malting oven to consider at Higham Ferrers – these oven contexts contained barley (90% of the seeds), some of which had sprouted (a key stage in the malting process).<sup>48</sup> This oven is the only evidence for crop processing at the sites, all the other plant remains represent clean seeds, which could indicate domestic, rather than agricultural processes.<sup>49</sup> Table 3 provides a summary of the plant remains at each site.

## Conclusion

While Bourdieu's comment may be applicable in some more recent social contexts, it does not appear to be applicable to the Late Anglo-Saxon period, where there simply is not sufficient evidence to support it. This is illustrated especially well when trying to understand what criteria archaeologists use to define estate centres. Looking at faunal and plant remains alone it is not clear why some of these sites are classified as estate centres. The faunal remains at Flixborough are clearly distinctive, however this might be due to the landscape and the ability to access a wide variety of food types. Moreover, there is certainly nothing distinctive about the plant remains at this site. The lack of plant evidence at Facombe Netherton, Flixborough and Goltho is an all too common feature of Anglo-Saxon sites, meaning that where plant evidence is found it immediately stands out as distinctive in some way, and as a result the site is considered special. At Higham Ferrers, this may be justified, due to the presence of the malting oven, but the lack of distinctive faunal remains at this site (and at Yarnton) provides a contrast to this. This illustrates the importance of interdisciplinary study in archaeology – an approach that looks not only at the landscape and the faunal and plant remains, but also at texts, illustrations and physical remains, for it is all of these in combination that help archaeologists determine the status of a site. The five sites used as case studies were all distinctive in some way, however not all were distinctive through the evidence for diet there. This is not to say that the diets at these sites were not distinctive, just that the archaeological evidence for diet was not conclusive. This could happen for any number of reasons including excavation and sampling techniques, preservation conditions, and excavation locations. Unfortunately some of these reasons, such as preservation, cannot be avoided. However, in the future excavation techniques can hopefully be improved, and archaeologists will have more evidence for diet to interpret.

## Endnotes:

- 1 Bourdieu 2010.
- 2 Astill 1991 103.
- 3 Loveluck 2007, xv.
- 4 Hardy et al. 2007, 203.
- 5 Hey 2004, 114.
- 6 Beresford 1987, 65.
- 7 Fairbrother 1990, 513.
- 8 Fairbrother 1990, 518-519.
- 9 Banham et al. 2014, 32.
- 10 Loveluck 2007, 3.
- 11 Sykes 2011, 335.
- 12 Loveluck 2007, 91.
- 13 Fairbrother 1990, 3.
- 14 Fairbrother 1990, 27-28.
- 15 Fairbrother 1990, 464-465.
- 16 Hey 2004, 29.
- 17 Hey 2004, 55.
- 18 Hardy et al. 2007, 1.
- 19 Loveluck 2007, 25.
- 20 Fairbrother 1990, 507.
- 21 Sykes 2010, 179-180.
- 22 Sykes 2004, 83.
- 23 Sykes 2011, 337.
- 24 Sykes 2006, 58.
- 25 Beresford 1987, 201.
- 26 Beresford 1987, 197.
- 27 Beresford 1987, 197.
- 28 Hey 2004, 325.
- 29 Hey 2004, 327.
- 30 Sykes 2006, 57.
- 31 Sykes 2011, 333.
- 32 Sykes 2011, 87.
- 33 Hey 2004, 326.
- 34 Hardy et al. 2007, 151.
- 35 Beresford 1987, 199.
- 36 Sykes 2010, 185.
- 37 Sykes 2006, 67.
- 38 Fairbrother 1990, 471, 477.
- 39 Sykes 2006, 58, 62.
- 40 Loveluck 2007, 88, 90.
- 41 Hardy et al. 2007, 177.
- 42 Beresford 1987.
- 43 Fairbrother 1990.
- 44 Loveluck 2010, 90.
- 45 Hey 2007, 351.
- 46 Banham et al. 2014, 22.
- 47 Banham et al. 2014, 54.
- 48 Hardy et al. 2007, 163.
- 49 Hardy et al. 2007, 169.

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# Somewhere Beyond the Sea: 250 Years of Cemetery Disturbance and Bioarchaeology at Haffjarðarey, Western Iceland

Sarah Hoffman

*The church and cemetery of Saint Nicholas on the island of Haffjarðarey served a coastally based fishing community in Western Iceland from approximately 1200 to 1563 CE. After the island was abandoned, relative sea level rise and coastal erosion immediately began to cause irreparable damage to the archaeological remains of the church and the over two hundred inhumation burials surrounding it. Four separate instances of burial removal, beginning in 1886 and terminating in 1945, have distorted the bioarchaeological record at Haffjarðarey through the international separation of osteological materials and differential collection methodology. Until recently, the osteological remains from Haffjarðarey were never presented as a cohesive sample. When considered as a single cemetery population, patterns of pathology, cultural practice, and landscape organization are identifiable. This paper presents a historical and landscape-based reconstruction of Haffjarðarey in its entirety in an effort to understand the processes that have led to the division of bioarchaeological material, and a correlated underrepresentation the size of the cemetery and its regional importance within the medieval marine economy.*

## Introduction

From ca. 1200 to 1563, the church and cemetery of Saint Nicholas on the island of Haffjarðarey served as the center for religious practice and burial for the entire region of Eyjahreppur, now modern Eyjaog-Miklaholtshreppur, in Western Iceland (fig. 1).<sup>1</sup> While small in size (.25km<sup>2</sup>) the island was home to a farm, church, and one of the largest cemeteries excavated thus far from this period in Iceland. Three episodes of cemetery disturbance and excavation took place between 1886 and 1945, which removed the skeletal remains of up to 228 individuals.<sup>2</sup> Local inhabitants removed the first remains in 1886 when ongoing coastal erosion began to expose burials on the surface.<sup>3</sup> In 1905 a geological team from Harvard University removed the remains of at least 61 individuals also noted to be already exposed on the surface due to erosion.<sup>4</sup> These remains are currently housed at the Peabody Museum of Archaeology and Ethnology at Harvard University. Finally in 1945 a team of Icelandic archaeologists carried out the only systematic excavation of

burials on the island, collecting the remains of an additional 58 individuals, which are currently housed at the National Museum of Iceland.<sup>5</sup> These instances salvaged osteoarchaeological remains that would have otherwise been damaged by erosion, however a lack of excavation records from the earlier removals and the international division of the remains has hindered any comprehensive analysis until recently (see Table 1 for a timeline of the events described in this paper). As a result the full extent of this site and its role within the region was largely unknown. This paper attempts to reconcile historical, archaeological, and osteological data from the cemetery at Haffjarðarey in order to reconstruct and analyze this unique regional community.<sup>6</sup>

## Foundations: Consecration, Land Rights, and Wealth

There are three medieval manuscripts that inventory church belongings at Haffjarðarey. Dating to throughout the 14th century, these charters are known as máldagar.<sup>7</sup> The oldest of these charters dates



Fig. 1. Matthias Quad Map of Iceland ca. 1600, Germany. Despite being a copy of an earlier more geographically accurate map by Abraham Ortelius (ca. 1590), the Quad map is the only known map of Iceland from the pre-modern period to depict a church structure on the Island of Haffjarðarey. This structure is an addition by Quad, which is not included on the original by Ortelius (The National and University Library of Iceland, [Islandskort online map collections, https://islandskort.is/en/category/list/10](https://islandskort.is/en/category/list/10)).

to the beginning of the 14th century, the second to the mid-14th century, and the last one to approximately 1400 C.E.<sup>8</sup> Máldagar record the consecration of the church at Haffjarðarey to the year 1223 C.E., however the accuracy of the dates found within these records is regarded as slightly problematic given the fact that they were continuously updated.<sup>9</sup> Therefore is entirely possible, and plausible, that the church at Haffjarðarey was constructed on farm property shortly after the Icelandic conversion to Christianity in the year 999/1000 C.E., with official consecration following some time later.<sup>10</sup> This is supported by a brief passage in Eyrbyggja Saga, which describes a wealthy farmer from Haffjarðarey shortly after the conversion to Christianity. It is also supported by the fact that hundreds of small farm-based churches appeared throughout Iceland shortly after the conversion, and while some fell into disuse by the 13th century, others were transformed into larger parish churches.<sup>11</sup>

By the end of the 14th century C.E., the church at Haffjarðarey had amassed a considerable amount of wealth and valuable furnishings. There were five chapels and eleven farms within the Haffjarðarey parish paying a tithe, or tax, to the church in the 14th century.<sup>12</sup> The Jarðabók census of 1702-1714 lists fourteen farms in Eyjahreppur, some of which are probably the same farms that would have been included in the medieval church parish (Fig. 2).<sup>13</sup> Most of these 18th century farms had formal documented links to the fishing industry.<sup>14</sup>

The 14th century máldagar describe fishing rights belonging to the church at Haffjarðarey along several main fishing rivers, with a place to dock ships (*skipshofnn*) at an as yet unknown location.<sup>15</sup> There are also landholdings listed specifically for the cutting, collection, and drying moss and turf, or peat, which was a common component in medieval Icelandic architecture.<sup>16</sup> The church was also paid a *lysitollr*, or a lighting tax<sup>17</sup> and owned a church bell, at least one image of the patron saint (in this

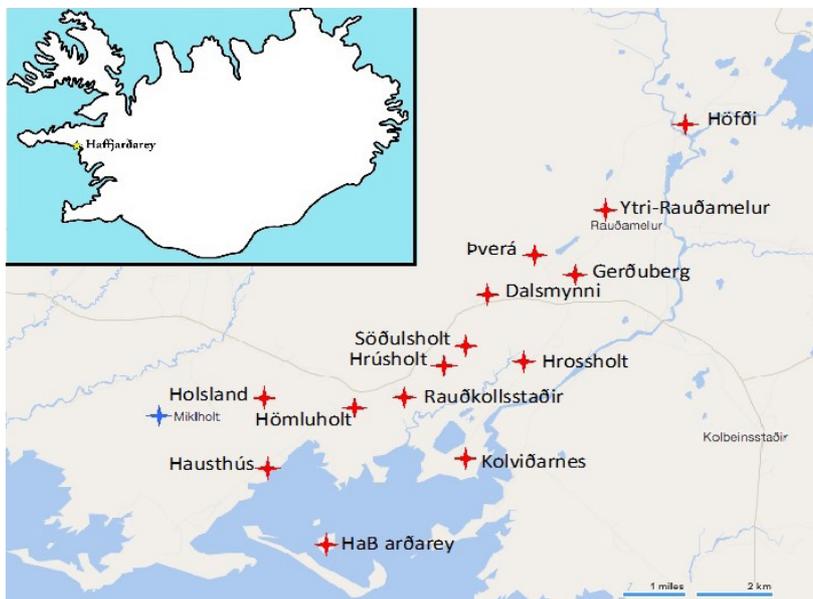


Fig. 2. Map of Haffjarðarey with red stars indicating the placement of farms in Eyjahreppur as listed in Jarðabók. Base image from Bing Maps with alterations by the author.

case Saint Nicholas), priestly vestments made of velvet, an altar or shrine, and an expensive collection of books.<sup>18</sup> Generally speaking, the more recent máldagar (mid-14th century and ca. 1400 C.E. documents) list considerably more holdings and rights than the earlier documents. This suggests that the máldagar were updated to reflect increasing, or changing, church wealth and holdings as they were intended.

Given the timeline of these documents, it appears that what originated as a small farm-based church was eventually able to amass a considerable amount of wealth and regional prestige over the course of the 14th century. This includes owning the farm and all of the land on which the church is located, coastal and riverine fishing and drift rights, some form of port or docks for fishing and/or mercantile boats, and expensive church furnishings. This timeline of increasing wealth and prestige as described in the máldagar parallel the establishment and growth of the early Icelandic fishing industry<sup>19</sup> in which the community at Haffjarðarey was an active participant.<sup>20</sup>

#### Early Erosion, Flash Floods, and the 1883 Removal

In 1563, shortly after the arrival and adoption of Lutheranism in Iceland, the Catholic church of St. Nicholas on Haffjarðarey was closed and Bishop Gísli Jónsson deconsecrated the land.<sup>21</sup> After the closure a regional folklore was established describing the drowning deaths of the last priest and all of his parishioners on Christmas Eve the year the church was closed (see Table 1 for more detail).<sup>22</sup> While this folk tale supported Reformation ideals, it also hints at the early impacts of coastal erosion within this community.<sup>23</sup>

In his 1861 travel diary, Frederick Metcalfe describes a local tale where “the waters encroached by degrees; a boat took the place of a plank; and in this the worshippers passed over to the house of God; till at

last, the clergyman and thirteen souls were engulfed in the breakers.”<sup>24</sup> While this story shares several elements of the Christmas Eve event, it focuses more on the progressive nature of erosion within the tidal flat. Historical accounts of supposed flash floods killing people on their way back from church in the 16th century only support the notion that access to the island became increasingly dangerous around the time of abandonment.<sup>25</sup>

The first real Icelandic census carried out in the early 18th century states that the last farmer on Haffjarðarey left the island in 1708, possibly due to the ongoing effects of coastal erosion.<sup>26</sup> To make matters worse, between January 8th and 9th, 1798 a massive storm hit the southern coast of Snæfellsnes making landfall at Lágafell to the west and destroying 14 farms, severely impacting grasslands, and forever altering the coastline.<sup>27</sup>

Paleoclimatic and environmental data supports the historical descriptions of both the erosive damage and potential major storm surges in Western Iceland. Approximately 3.7km Southeast of Haffjarðarey, in the same bay, is the Viðarhólmi salt marsh. Viðarhólmi has been the focus of paleoclimatic and environmental research concerning the determination of relative sea level rise (RSL) along the western coast of Iceland since 2006. These studies suggest an overall RSL rise of 1.3m since ~100 C.E.<sup>28</sup> with three episodes of rapid sea level rise occurring from 1620-50, 1780-1850, and 1950-present.<sup>29</sup> These instances of rapid sea level rise are theorized to be related to shifts within the North Atlantic Oscillation (NAO) pressure system.<sup>30</sup> In the winter, shifts within the NAO are associated with frequent and intense storms in Iceland<sup>31</sup> such as the aforementioned 1798 storm.

After centuries of progressive erosive damage and two episodes of rapid sea level rise, in the 19th century local inhabitants along the coast began to notice

Date	Description
Pre-1200	A farm is established on Haffjarðarey. Noted in Eyrbyggja Saga to be shortly after the conversion to Christianity in ca. 1000 CE.
ca. 1200	A church dedicated to St. Nicholas is consecrated on the island of Haffjarðarey (DI, I, 116, 421-423; DI, III, 43, 82-83; DI, IV, CCIX, 179-180).
1300s	Multiple church charters, or máldagar, are compiled describing land rights and taxes of churches throughout medieval Iceland (DI, I, 116, 421-423; DI, III, 43, 82-83; DI, IV, CCIX, 179-180).
1563	The church and cemetery are deconsecrated. No further burials take place on the island (DI, I, 116, 421-423; DI, III, 43, 82-83; DI, IV, CCIX, 179-180).
1708	The last farmer leaves the island due to the impacts of coastal erosion (JÁM V 1931-3: 45-47).
1798	A massive storm hits the Southern Coast of the Snæfellsnes Peninsula destroying 14 farms (Trans. By author, Hermann 1907-10: 93).
1855	"Once a priest and 13 lay people crossing the flat were surprised by a flood and perished" (Trans. by author, Ersch and Gruber 1818-1898: 174).
1861	"in ancient days the church is said to have been no here, but on the Haffjorderó, that island lying well out to sea over the sands...the narrow stream that separated it from the mainland was spanned by a plank. But the waters encroached. By degrees; a boat took the place of a plank; and in this the worshippers passed over to the house of God; till at last, the clergyman and thirteen souls were engulfed in the breakers" (Metcalf 1861:308).
1883	Erosion uncovers the skeletal remains of about 109 individuals who are subsequently reburied elsewhere (Trans. By author, Steffanson 1946: 146).
1905	The remains of 61 individuals are removed by John W. Hastings and Viljalmur Stefansson and brought to Harvard University where they currently remain.
1905	The remains of an unknown number of individuals are removed by locals and reburied elsewhere following the Hastings-Stefansson expedition (Trans. by author, Steffanson 1946: 147).
1918	Ernest Hooton publishes, "On Certain Eskimoid Characters in Icelandic Skulls" using the 1905 remains collected by Hastings and Stefansson.
1935	"It is said that the priest and many parishioners, on the last Christmas Eve before the church closed, died on their way back to land." (Trans. By author, Kristjánsson, 1935).
1945	The burials of 58 individuals are excavated by a team of archaeologists from the National Museum of Iceland (Steffanson 1946).
2004	Hildur Gestsdóttir publishes an osteological analysis of remains recovered in 1945 (Gestsdóttir 2004).
2012	S.Hoffman carries out an analysis of the 1905 Hastings-Stefansson Collection for the M.Sc. Project Health in the <i>Sagas of the Icelanders</i> .
2014	Hildur Gestsdóttir includes the 1945 remains from Haffjarðarey in her dissertation on osteoarthritis in Iceland (Gestsdóttir 2014).
2017	S. Hoffman carries out an analysis of the 1945 remains from Haffjarðarey at the National Museum of Iceland for the ongoing dissertation project <i>Place, Practice, and Pathology in Medieval Iceland</i> . These data are combined with that from the 1905 collection to establish a more complete picture of health in this medieval population (Hoffman 2018a, Hoffman 2018b, Hoffman 2019).

Table 1. A timeline of historical events and archaeological/osteological work done at Haffjarðarey.

the emergence of human remains from the surface of the island. In 1883 locals living in farms along the coast gathered the remains of approximately 109 individuals and reburied them elsewhere.<sup>32</sup> To date, these remains have not been excavated nor has their exact location been identified, although it is possible that they were reinterred in the Miklholt churchyard.

This episode is important for three reasons: first it reflects a cemetery population size not typically taken into consideration for this site; second it showcases the first recorded incidence of site disturbance resulting in the removal of human remains; and thirdly, it shows that the integrity of the site has been significantly compromised by exposure to erosional processes.

### Erosion Provides Permission: 1905

Twenty-two years after the first removal and reburial, a geological team from Harvard University conducting volcanological research in Iceland visited Haffjarðarey and another cemetery site at Álftanes near Borgarnes.<sup>33</sup> This team included John W. Hastings, an anthropology student at Harvard University who financed part of the expedition,<sup>34</sup> and Vilhjalmur Stefansson, an anthropologist and arctic explorer also affiliated with Harvard.<sup>35</sup> While the majority of the geologists on the expedition kept to their research, Hastings and Stefansson separated from the group and travelled to Álftanes and Haffjarðarey for the express purpose of collecting human skeletal remains.<sup>36</sup>

At Haffjarðarey, Hastings and Stefansson were given tentative local permissions from a clergyman to retrieve skeletal remains already exposed on the surface of the island. They were informed that, “the authorities would certainly permit [them] to carry away any skulls that had been disinterred by the sea.”<sup>37</sup> In the span of two weeks the duo collected skeletal remains along the beach that they found “rolling around in the surf” as well as a “cupful of loose teeth” picked out of the beach at low tide.<sup>38</sup> Hastings and Stefansson considered their expedition a great success and the bones they collected to be their “prime harvest.”<sup>39</sup> The remains were shipped back to Harvard, where they are now housed within the Peabody Museum of Archaeology and Ethnology.

Until recently, the exact minimum number of individuals (MNI) within the Hastings-Stefansson Collection from Haffjarðarey remained unpublished. In his autobiography Stefansson records the collection of eighty-six skulls and several nearly complete skeletons collected from the eroded beach at Haffjarðarey.<sup>40</sup> This number, however, represents a combination of the remains taken from both Haffjarðarey and Álftanes in the same summer, as Stefansson does

not differentiate between the two within his personal account.<sup>41</sup> Later publications report approximately fifty skulls within the Hastings-Stefansson Collection from Haffjarðarey.<sup>42</sup> A recent assessment of the collection places the MNI at sixty-one individuals.<sup>43</sup> This count is also based on cranial skeletal remains. It should also be noted that while there are nearly complete skeletons from Álftanes, there are no complete skeletons within the Hastings-Stefansson Collection from Haffjarðarey.

Shortly after Hastings and Stefansson left the site in 1905, there was another removal of remains from the surface that were reburied at Miklholt church.<sup>44</sup> While the location of this mass reburial is somewhat understood vaguely as the Miklholt cemetery, the number of individuals removed from the cemetery in this incident and where in the cemetery they were reburied can only be speculated.

### Excavation and Site Plan: 1945 (Archaeologists enter stage right)

Forty year after Hastings and Stefansson left Haffjarðarey, archaeologists Kristján Eldjárn and Jon Steffensen with the National Museum of Iceland returned to the site to carry out a salvage excavation.<sup>45</sup> Unlike the 1905 expedition Eldjárn and Steffensen, as archaeologists, made thorough notes and drawings during excavation, and later published some of the results.<sup>46</sup> The site plan (fig. 3) includes areas labeled “rof,” which refer extensive patches of erosion within the church cemetery. This excavation recovered the remains of approximately 58 individuals, 24 in-situ burials and an additional 34 disturbed burials.<sup>47</sup> It is possible that many of the disturbed remains were found within these eroded areas, and are therefore not labeled on the map as discrete burials. Excavators believed that they recovered all skeletal remains, however no evidence of church or farm structures was found during this excavation.

All in-situ burials were in supine position

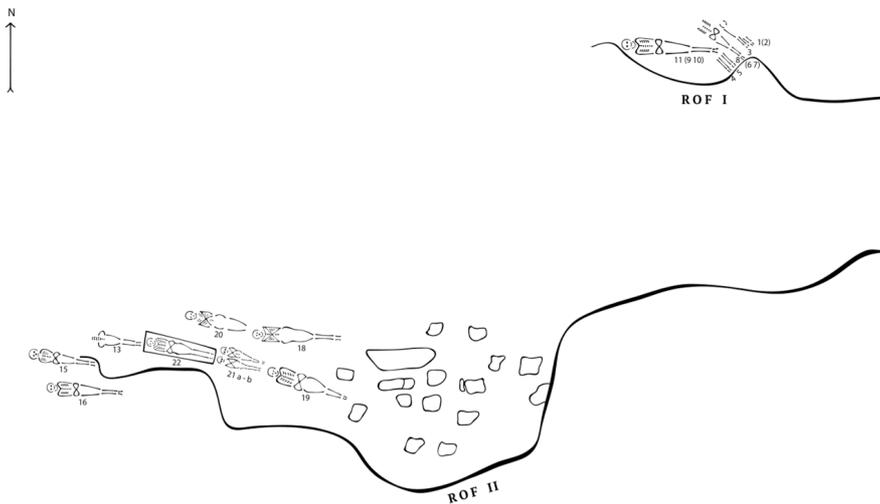


Fig. 3. Site plan of 1945 excavations adapted from Steffensen 1946. While no scale was provided for the original map, some distances can be estimated by average burial length. Areas labeled 'rof' indicate where severe erosion has damaged the site (after Steffensen 1946: 148; digital artwork by Alana Tedmon).

in an east-west orientation with no grave goods, all common features of Christian period cemetery burials at this time in Iceland.<sup>48</sup> This is consistent with Vilhjalmur Stefánsson, who also recorded the complete absence of grave goods in 1905.<sup>49</sup> There also does not appear to be any cemetery organization based on age, sex, or social status at Haffjarðarey. Earlier farm-based church cemeteries in Iceland were segregated by sex, age, and social status.<sup>50</sup> Specifically, men were buried to the north, women to the south, children and infants closer to the cemetery boundaries, and those of lower social status further away from the church structure.<sup>51</sup> The practice of segregating burials on these bases seems to have been discontinued in later parish church cemeteries after 1300 C.E. and this appears to hold true for Haffjarðarey.<sup>52</sup>

Although only 58 individuals were recovered during this excavation they were all found within a relatively small area (see fig. 3). Many of the graves were overlapping, intercut, or stacked vertically.<sup>53</sup> In some instances newer burials displaced older ones resulting in reburial of the older graves

on top of the newer ones.<sup>54</sup> For example the grave of an adult male (HFE-A-11), shown in the top right quadrant of the cemetery plan, disturbed two earlier non-adult graves (HFE-A-9 and HFE-A-10) that were then reinterred with the later burial.<sup>55</sup> This type of overlapping and intercutting of graves has also been seen at the roughly contemporary parish church cemetery of Höfði in Northern Iceland, however Höfði was in use for considerably longer than Haffjarðarey.<sup>56</sup>

#### Discussion: A Maritime Parish Community Reassembled

From 1886 to 1945 an estimated at least 228 individuals were removed from the Haffjarðarey cemetery with an additional unknown number removed between the 1905 and 1945 excavations.<sup>57</sup> Overall, earlier small farm-based church cemeteries generally contain a relatively small number of graves, thirteen at the 11th-12th century Hrísbú cemetery<sup>58</sup> and 53 at the 11th-12th century cemetery at Keldudalur.<sup>59</sup> Later medieval and Renaissance sites such as the monasteries at Viðey (13th-

18th centuries) and Skriðuklaustur (15th-16th centuries), had larger cemetery populations with approximately 100 and 300 individuals respectively.<sup>60</sup> Therefore, the approximate size of the cemetery population at Haffjarðarey places it among some of the largest excavated thus far for the period between the 13th-18th centuries, a previously unreported fact given the geographical and academic separation of the skeletal material.<sup>61</sup>

The cemetery size and crowding at Haffjarðarey suggests not only long-term cemetery use and church popularity, but also informs our understanding of the formation of the parish church system in medieval Iceland. Other contemporary cemeteries that display intercutting and overlapping of burials, as seen at Haffjarðarey, are thought to have transitioned from small farm-based churches to communal parish churches.<sup>62</sup> It is possible that the church at Haffjarðarey followed this course, as there are saga references to a possible farm on the island as early as the conversion to Christianity in the year 999/1000 C.E.<sup>63</sup> If this is the case, future archaeological work at Haffjarðarey may present a unique opportunity to better understand the transition from farm- to parish-based church communities. Bioarchaeological data on the other hand can address the link between these new regional community centers and international economies such as the fishing industry.<sup>64</sup>

The transition from early medieval farm-based churches to the later medieval parish church system began with the introduction of the 1096/7 tithe, which ultimately led to the independence of churches from their former secular land-owners.<sup>65</sup> These parish churches could amass considerable wealth from the tithe, especially if the secular landowner still had a role in everyday church function.<sup>66</sup> After the tithe, smaller farm-based churches diminished in size, ceased functioning as a burial location entirely, or alternatively would grow into later parish churches.<sup>67</sup> What caused some

to fall into disuse and others to succeed is the focus of several ongoing archaeological projects.<sup>68</sup>

At Haffjarðarey, success was likely tied to the increasing role of a maritime economy in medieval Iceland. With the remains from 1883 unavailable for study there are approximately one-hundred and nineteen (MNI=119) individuals available for paleopathological analysis from the 1905 and 1945 collections. Paleopathological<sup>69</sup> and isotopic analysis<sup>70</sup> of the skeletal remains from Haffjarðarey support the supposition that this was, in fact, a maritime-based community heavily reliant on fishing for personal dietary support in addition to economic income.<sup>71</sup> High prevalence of periodontal disease and antemortem tooth loss, as well as probable cases of non-adult vitamin C deficiency, can all be associated with a diet highly reliant on marine resources like dried fish.<sup>72</sup> A 2014 study concerning osteoarthritis in Iceland came to the conclusion that unusually high rates of the joint disease at Haffjarðarey when compared to other medieval sites were directly related to strenuous activities associated with intensive participation in the fishing industry.<sup>73</sup> Strontium isotope analysis of ten individuals from Haffjarðarey also suggests a highly marine-based diet when compared to the more varied terrestrial and marine mixed diets of sites further inland.<sup>74</sup>

Historically speaking, a saintly dedication to St. Nicholas is a frequent indicator of a church with maritime affiliations in the medieval world.<sup>75</sup> As the patron saint of sailors, fishermen, merchants, children, and thieves the saint was popular in Iceland with at least forty church dedications across the country.<sup>76</sup> Máldagar recording a place to dock ships<sup>77</sup> and proximity to an international trading post<sup>78</sup> only solidify the connection to the fishing industry. While máldagar suggest the rights to nearby rivers were under the purview of the church, the precise economic relationship between this

ecclesiastic institution and local fishermen was however, remains unknown.

### Conclusions

When serious erosive processes began to affect access to the island both the church and cemetery were deconsecrated and abandoned. Abandonment of the church and cemetery happened quickly and the island was never re-settled after the last farmer left in the early 18th century.<sup>79</sup> Damage from coastal winds, storm surges, and relative sea level rise ate away at the cemetery surface until human remains were readily visible on the surface of the beach. Subsequent removal of these remains in multiple episodes since the mid-19th century resulted in a distorted representation of the site with only half of the skeletal sample included in most publications.

It is clear from bioarchaeological and historical data, that Haffjarðarey was not a small farm-based church cemetery, nor was it insignificant within the regional landscape. On the contrary it appears that the island church was a focal point for a fairly large regional community heavily engaged in the maritime economy, an economy that would go on to become the predominant Icelandic export across the North Atlantic and into Western Europe in the later middle ages and pre-modern era.

### Endnotes:

- 1 Nielsson 1869, 98; Þorkelsson 1888, 80; DI, I, 116, 421-423 (This notation refers to the 16 volume collection of medieval church charters (máldagar) referred to as the *Diplomatarium Islandicum*. Citation format is as follows (DI, Volume, Entry Number, and Inclusive Page Numbers)).
- 2 Steffensen 1946, 146-151; Gestsdóttir 2014, 40-41; Hoffman 2018b, 35.
- 3 Steffensen 1946, 146.
- 4 Pálsson 2005, 53; Stefansson 1964, 52-53.
- 5 Eldjarn 1945 handwritten notes; Steffensen 1946, 147-152; Gestsdóttir 2014, 40-41.
- 6 See table 1 for more detail.
- 7 Cormack 1994, 25-29.
- 8 Cormack 1994, 170.
- 9 DI, I, 116, 421-423; Cormack 1994, 170; Vésteinnsson 2012, 128. Cormack (1994) and Vésteinnsson (2012) note that máldagar were intended to be updated annually, this results in the alteration of dates and details throughout the historical record.
- 10 DI, I, 116, 421-423; Cormack 1994, 27-28
- 11 Zoëga 2014, 35-49. No archaeological work has been carried out regarding the farm at Haffjarðarey. The upcoming 2019 field season is focused on identifying the exact locations of the farm and church structures through remote sensing.
- 12 DI, I, 116, 421-423; Steffensen 1946, 9.
- 13 Jarðabók V 1931-3, 36-49; The church of Haffjarðarey was noted as serving “allr Eyjahreppr” in 1397 (DI, I, 116, 421), however the farms contained within the hreppur at this time are not named. It is only in the 18th century Jarðabók where we have a list of farms, and it is theorized (Gestsdóttir 2014: 124) that many of the farms listed in the 18th century census would have been included within the medieval parish of Haffjarðarey.
- 14 Gestsdóttir 2014, 124.
- 15 DI, III, 43, 82-83; DI, IV, CCIX, 179-180.
- 16 Van Hoof and van Dijken 2008.
- 17 Dennis et al. 2000, 363; DI, IV, CCIX, 179-180.
- 18 DI, I, 116, 422; DI, III, 43, 83; DI, IV, CCIX, 179. Books worth ‘fiogur hundrað í bokum’, which, in the post-1280 value system, is worth about 13 modern ounces of silver (Cormack 1994: 251).
- 19 Barrett 2016; Fagan 2017; Gardiner and Mehler 2007; Hastrup 1990.
- 20 Gestsdóttir and Price 2003; Gestsdóttir 2014; Hoffman 2018a; Hoffman 2018b.
- 21 DI, I, 116, 421-423.
- 22 Kristjánsson 1935; Hoffman 2018a, 2.
- 23 Munnmæli vestra herma, að margt kirkjugesta, er var þar síðasta aðfangadagskvöld áður en kirkjan var lögð niður, hafi farizt á leið til lands. //It is said that the priest and many parishioners, on the last Christmas Eve before the church closed, died on their way back to land.// Luðvik Kristjánsson, 1935. Translation by author. For further discussion see Hoffman 2018a.
- 24 Metcalfe 1861, 301.
- 25 Ersch and Gruber 1818-1898, 174.

- 26 JÁM V 1931-3, 45-47; Gestsdóttir 2014, 40.  
27 Herrmann 1907-10, 93.  
28 Gehrels et al. 2006, 949.  
29 Saher et al. 2015, 34.  
30 Saher et al. 2015, 34.  
31 Hurrell and Deser 2010, 240.  
32 Steffensen 1946, 146-147. Another source living at Hausthús farm on the coast told Steffensen that they had heard the number was closer to two-hundred and fifty, although that seems extremely high.  
33 Pálsson 2005, 53.  
34 Stefánsson 1964, 51.  
35 Pálsson 2005, 51.  
36 Pálsson 2005, 53.  
37 Stefánsson 1964, 52-53.  
38 Stefánsson 1964, 53.  
39 Pálsson 2005, 53.  
40 Stefánsson 1964, 53.  
41 Stefánsson 1964, 52-53.  
42 Steffensen 1946, 146; Gestsdóttir 2004, 9; Gestsdóttir 2014, 40.  
43 Steffensen 1946, 146; Gestsdóttir 2004, 9; Gestsdóttir 2014, 40; Hoffman 2018b, 35.  
44 Steffensen 1946, 147.  
45 Steffensen 1946; Gestsdóttir 2004; Gestsdóttir 2014.  
46 Eldjárn 1945; Steffensen 1946.  
47 Steffensen 1946, 147-151; Gestsdóttir 2004, 9; Gestsdóttir 2014, 41.  
48 Friðriksson and Vésteinsson 2011, 59; Zoëga 2014, 46.  
49 Stefánsson 1964, 53.  
50 Zoëga 2014, 47-48.  
51 Zoëga 2014, 47.  
52 Zoëga 2014, 49.  
53 Eldjárn 1945; Steffensen 1946, 147-150; Hoffman 2018b, 35-36.  
54 Eldjárn 1945; Steffensen 1946, 147-150; Hoffman 2018b, 35-36.  
55 Eldjárn 1945; Hoffman 2018b, 36.  
56 Zoëga 2014, 41.  
57 Eldjárn 1945; Steffensen 1946, 147-150; Gestsdóttir 2004, 9; Gestsdóttir 2014, 41; Hoffman 2018b, 35-36.  
58 Walker et al. 2004, 1.  
59 Zoëga and Murphy 2015, 574.  
60 Hallgrímsdóttir 1990, 123; Gestsdóttir 2014, 550; Kristjánsdóttir 2015, 154.  
61 Previous studies on the population at Haffjarðarey (Gestsdóttir 2004, 2014; Gestsdóttir and Price 2003, 2006) briefly mention the existence of the Hastings-Stefánsson Collection, but the remains are not included in analysis or discussion.  
62 Zoëga 2014, 35, 41, 49.  
63 Eyrbyggja Saga, translation by Quinn 2003.  
64 Hoffman 2018b.  
65 Sigurðsson 2007, 180; Jakobsson 2010, 7; Zoëga 2014, 43.  
66 Cormack 1994, XIV.  
67 Zoëga 2014, 25.  
68 Some notable projects include: The Skagafjörður Church Project, Death and Burial in Iceland for 1150 Years, and the authors' ongoing dissertation project Place, Practice, and Pathology in Medieval Iceland.  
69 Gestsdóttir 2014, 164; Hoffman 2018b, 37-47.  
70 Gestsdóttir and Price 2003, 11.  
71 For a complete breakdown of isotopic data and paleopathological analysis of the human remains from Haffjarðarey see Gestsdóttir 2004, 2014; Gestsdóttir and Price 2003, 2006; Hoffman 2018b, 2019.  
72 Hoffman 2018b, 38-47.  
73 Gestsdóttir 2014, 123-125.  
74 Gestsdóttir and Price 2003, 11. All tested individuals are considered to have been born in Iceland.  
75 Miller 2003: 133  
76 Þorkelsson 1888, 80; Curtis 1995; Miller 2003, 133.  
77 DI, III, 43, 82-83; DI, IV, CCIX, 179-180  
78 The international trading port of Buðarhamar is less than 10km west of Haffjarðarey. Gardiner and Mehler 2007, 410-412.  
79 JÁM V 1931-3, 45-47; Gestsdóttir 2014, 40.

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# Hues of Art: Pigment Analysis of Unprovenanced Wall Painting Fragment from Pompeii

Tuuli Kasso

*This study uses a non-destructive approach on fresco fragments from Pompeii, focusing on the artist's pigment palette used in the 1st century A.D. in Roman wall paintings. The Tukkila fragments were brought to Finland from Pompeii in 1947 in the aftermath of World War II, and the precise provenance (house, insula) is not known. However, objects, 'things', and even fragments, provide us with knowledge through the materials they were made from, linking to the choice and intention by the maker. Pigments can be identified by their chemical composition in addition to wall painting techniques. The identification of the pigments was conducted with a two-phase non-destructive method pXRF (portable X-ray Fluorescence), directing further analysis with a micro-destructive method SEM-EDX (Scanning Electron Microscopy with Energy Dispersive X-ray Spectroscopy). The results were compared to known compositions of historical pigments, tradition of fresco painting, and classic literature. The results represent the ideal Pompeian pigment palette of alkaline resistant colors (green earth, yellow ochre, cinnabar, Egyptian blue), agreeing with the craft of Roman wall painting, further supported by the literary evidence from Pliny the Elder and Vitruvius.*

## Introduction

The impact of the devastation caused by the catastrophic eruption of Vesuvius in A.D. 79 is most evident throughout the settlements and cities it destroyed. The most famous, Pompeii, was re-discovered in 1748, and since has greatly influenced arts and been a continuous target of studies.<sup>1</sup> Despite the long history of researching Pompeii, there are still significant gaps in our knowledge about daily Roman life, represented not by the literal evidence, but by the material culture left behind.<sup>2</sup> In the late 1990s it was resolved that no more excavations should be carried out in Pompeii, and the focus of the research would be targeted to the conservation and documentation of the areas already excavated.<sup>3</sup> Currently, new excavations are implemented again. The choice to pertain from excavation was influenced due to the reason that the wall paintings discovered earlier from the ancient city are under a grave risk of disappearing completely. Current estimation is that nearly 80 percent of the wall paintings excavated after 1748 have been destroyed by deterioration, caused by light exposure, weathering and environmental conditions. For instance, sulphur dioxide ( $\text{SO}_2$ ) in present-day pollution cause the calcium carbonate ( $\text{CaCO}_3$ ) in the plaster to turn to gypsum ( $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ ), causing the flaking of the surface, further predisposing the wall paintings to decay. Documentation plays a substantial role in preserving what is still left, but much knowledge is already lost with the paintings faded beyond recognition.<sup>4</sup>

Despite the discrepancy of excavating Pompeii contributing to the loss of evidence, other human events such as the coming of war to Pompeii brought new findings, albeit at a great price. During World War II, the Allies bombed Pompeii on several occasions, resulting in extensive damage to the city. However, bomb pits outside the city walls exposed the location of the Villa Imperiale, a previously unknown building with rich and elaborate murals. After

the war ended, Pompeii was in a chaotic state. Photographs show the crumbling *villae*, and the surrounding mayhem. Streets were scattered with pieces of wall paintings.<sup>5</sup> Finnish architect Iiro Tukkila visited Pompeii in 1948, and brought back with him two wall painting fragments, displayed in Figures 1 and 2. In 2006 Tukkila's widow donated the fragments to EPUH (EXPEDITO POMPEIANA UNIVERSITATIS HELSINGIENSIS), The Pompeii Project by the University of Helsinki.<sup>6</sup> The provenance of these fragments, which are still in excellent

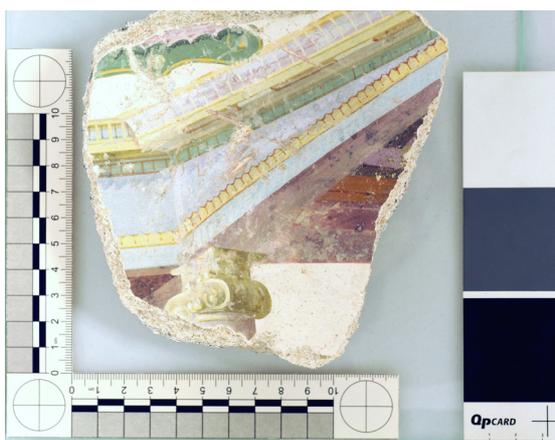


Fig. 1 and 2. The “Tukkila fresco fragments”. Referred to as “Fragment A” (on the top) and “Fragment B” (on the bottom). The results of the analysis of Fragment A are presented in this study.

condition, is unknown including which *regio, insula*, house or room they originated. Research into the provenance has yet to be done, as such comprehensive work *in situ* has not been possible to implement.

### The Significance of Pompeii for the Study of Roman Art

German scholar August Mau classified wall painting styles in Pompeii into the four Pompeian styles in 1899. This categorization of the styles does not only apply to Pompeii, but also to painting styles throughout the Roman world. Although several scholars before Mau had published their own classifications, Mau's version is the most recognized due to its coherence and clarity.<sup>7</sup> According to Docent Antero Tammisto, the Tukkila fresco fragments are identified as belonging to the late Third or early Fourth Style.<sup>8</sup> The Third Style first appeared around 15 B.C., continuing until A.D. 50 when the Fourth Style formed.<sup>9</sup> This gives the fragments an approximate dating from 15 B.C. to A.D. 79.

In addition to styles, the pigments used in Roman wall paintings have been a target of interest since the early days of researching Pompeii. Chemists Jean-Antoine Chaptalin and Sir Humphry David conducted extensive research in the 19th century, and in 1967 Selim August published the results of his 18 year investigation in *I colori Pompeiani*.<sup>10</sup> The current international groups working with multianalytical methods in Pompeii mark an entirely new era of researching the pigments in Pompeii, benefitting from the hand-held instrumentation e.g. portable Raman- and infrared spectroscopy, allowing non-destructive measurements of remains *in situ*.<sup>11</sup> The materials tell us about the quality of the wall paintings, their makers, commissioners and purpose of the wall paintings through the choice of materials. The 1,500 buildings at Pompeii were painted inside and outside with around 20,000 m<sup>2</sup> of wall paintings covering Pompeii on every level: from the advertisement of gladiatorial

shows and the assortment of a wine-serving *thermopolium* to the imperial villas and public temples.<sup>12</sup>

Although several names of painters, such as Aristomenes of Thasos, Andron of Ephesus and Polycles mentioned by Vitruvius have survived, the majority of wall painters remain unidentified. Yet, this is not necessarily the result of poor preservation, rather it is more likely that many paintings were unsigned as most artists in ancient Rome were anonymous, and considered to be low-status workers with an unfavorable position in the society.<sup>13</sup> Working together, painters' groups formed and worked as local workshops or mobile groups. The styles of these groups can be identified based on the conservative repertory of Roman art. Groups can be distinguished from one another by their technique, but this is only just a new area in the study of Roman wall paintings.<sup>14</sup>

Questions relating to perceptions and value of Roman wall paintings in the Roman world have been raised by modern scholars. Umberto Pappalardo mentions a relationship between the decorations and homeowners. According to Pappalardo, this bond must have been more profound than expected, as fixed art, such as mosaics and wall paintings were hard to move compared to the modern-day pictures on our walls. Nowadays we experience the Roman wall paintings as art quite decidedly. The perception of art differed in the ancient period in a way that we, who have developed our sense of art and aesthetics through the 19th century romanticism, might never truly grasp.<sup>15</sup> What we need to attain, is the Roman thought on the difference between mere decoration and art – perhaps this separation is dispensable. Despite many authors claim that *l'art pour l'art* or aestheticism were more or less unfamiliar concepts for the Romans, a so-called aesthetic approach must have been present.<sup>16</sup>

### The Technique of Roman Wall Paintings

Artists employed various techniques of painting that were specific to the types of materials used, the scale of the painting, and the level of detail required. Most paintings began *a fresco*, painted with high alkaline-tolerant pigments mixed in water on wet plaster. From this, details and the finishing touches were added *a secco*, on dry plaster. This was done using binding agents such as saponified lime, animal or plant-based glues, with low alkaline-tolerant pigments.<sup>17</sup> Therefore, the term *fresco* should be carefully used, as technically it is a false expression of the entity of Roman wall paintings. In addition to technical matters, economic and social standards influenced the artist's palette. Certainly, the taste of the artist could not map out the choosing of the materials completely, since those who commissioned the paintings must have been well aware of the difference between using rare and precious materials over easily accessed ones as common earth pigments widely available, and cheap.

Concerning the technique of Roman wall painting, there are two matters about the technique of frescoes that must be addressed

that affected the choice of materials as well. As the lime plaster is highly alkaline, alkaline-tolerant pigments were preferred. Ancient authors, such as Vitruvius in his *De architectura* (25 B.C.) and Pliny the Elder in *Naturalis Historia* (1st century A.D.), describe the fresco technique quite meticulously, and discuss the best pigments to be used in frescoes. The poor durability of cinnabar in frescoes when exposed to sunlight and moonlight was known in ancient Rome, the red color turning dark over time.<sup>18</sup> Vitruvius comments on treating cinnabar-containing wall paintings with Punic wax, made by bleaching beeswax in the sun. This helped to preserve the color; the dry painting would be brushed with hot Punic wax, then smoothed down with a hot tool. A final finish was made with polishing the surface with linen cloths.<sup>19</sup>

The second issue which affects the fresco technique is the dryness level of the plaster. It is fundamental that the painting is conducted on the plaster at the optimum state. If too wet, the brush paws the surface. If too dry, the pigments will not become fixed to the plaster. The pigment particles are only sealed when calcium carbonate from the lime travels to the surface with



Fig. 3. South wall and part of the eastern wall of the oecus in Casa dei pittori al lavoro. On the left the centrepiece of the wall is unfinished, with a lot of the background is missing, including the socle of the walls.

evaporating water, forming a layer of crystallized calcium carbonate on top of the paint.<sup>20</sup>

Due to these processes the painters had to prepare timing for the work depending on its scale, all together the day's work, *giornata*. The wet plaster *intonaco*, was applied over a rougher grounding layer, *arriccio*, only a controllable area at a time. First the *parietarii* prepared the background, and the work was conducted piece by piece culminating in the centrepiece, which was painted by the *imaginarii*, figure painters. Of course, the groups had members to perform the less artistic tasks, such as grinding the lime. The designer and master painter *redemptor*, was in charge, and the most appreciated member of the painting group, but not even the master signed the works that had been so systematically made.<sup>21</sup> It is possible that the technique itself had an influence on the style of the wall paintings, as the tripartite horizontal division remained as a dominant feature in the wall paintings from the First to the Fourth Style.<sup>22</sup> Archaeological evidence supports the manufacturing of the frescoes in addition to the exact roles of the painter groups. *Casa dei pittori al lavoro* (fig. 3), or The House of the Painters was given its name from the unfinished frescoes and working tools found in the *oecus*, the main hall.

The tradition of wall painting and the ancient literature give us some understanding of the pigments that may have been chosen for the frescoes, but the precise identification of the historical pigments can be made through the analysis of their chemical composition. Pigments have significant differences in their capability to cover and dye, to tolerate light, to react and to absorb oil, not forgetting the differences in particle size, density and toxicity. Density of the color has much to do with the elements of the pigments, for instance, lead (Pb) has a high density and is therefore highly opaque, for which reason it was favored through history.<sup>23</sup> Considering the fact that the choice of materials could

vary greatly depending on the region, time and possibly owing to the artist as well, distinct study of the pigments is important. Ulla Knuutinen also points out that accurate analysis is needed, as the terminology and nomenclature of pigments can be unclear due to the variety of the chemical composition of a color carrying the same name, for example Pompeian red (figs. 4 and 5). Cinnabar (mercury (II) sulfide, HgS), minium/red lead ( $Pb_3O_4$ ) and iron (III) oxides such as hematite and red ochre have all been called Pompeian red but their consistency is dissimilar to one another.<sup>24</sup>



Fig. 4. Detail of a psychedelic female figure on a "Pompeian red" background from the east wall in the triclinium in Casa dei casti amanti.



Fig. 5. Modern day industrial red pigment sold as Pompeian red.

The majority of historical pigments are of inorganic origin and have metal elements in their composition. However, some organic pigments can also have metal elements in the form of salts, including magnesium (Mg) and calcium (Ca). In some cases, a specific key element only appears in certain pigments or produces a certain color.<sup>25</sup> In spite of this, identifying the historical pigments is never simple, since the object studied may have been contaminated, transformed due to aging and weathering or the original paint can consist of a mixture of several pigments that complicate the study substantively. Besides the chemical composition, pigments form crystal structures that are identifiable as well. Typically, iron oxides have an octahedron structure, but in contrast cinnabar form trigonal crystals.<sup>26</sup>

#### Pigment Analysis of Tukkila Fragment A: Two-phase Approach

The pigments and painting technique of the Tukkila fragments were studied using non- or micro-destructive methods due to the high historical value of the fragments, and the results of Fragment A are presented in this article. The sequence of the paint layers was examined from the surface with optical microscopy, as making cross-sections was found to be too damaging for the fragments. The spectroscopic study of the pigments was conducted with a multianalytical two-phase method. Starting with a non-invasive method, the fresco fragments were first studied to determine the need for additional research, and then continuing using a micro-invasive method to finalize the analysis. Firstly, the fresco fragments were examined with XRF (X-ray fluorescence), resulting in mostly very indefinable outcome of the pigments. Secondly, based on the initial results of XRF, the study was further carried out using a more accurate method, in this case the SEM-EDX (scanning electron microscopy with energy dispersive X-ray spectroscopy), which would provide more detailed information about the chemical

compounds of the pigments.

The XRF analysis was conducted with a Bruker S1 Titan portable hand-held energy dispersive X-ray fluorescence spectrometry (pXRF), with an 8 mm spot size, at the Department of Archaeology of the University of Helsinki. Using the calibration application Geochem and GeoGhem Trace method, the sample areas were measured with this mode accordingly: Phase 1 (heavy elements): 45 kV/8,9 uA (with TiAl-filter), Phase 2 (light elements): 15 kV/30 uA (no filter). The measurement time for each phase was 60 seconds, altogether 120 seconds for each spot. Only key elements affiliated with pigments are reported in this study, and the lowest levels under 1% or under limit of detection have been omitted.

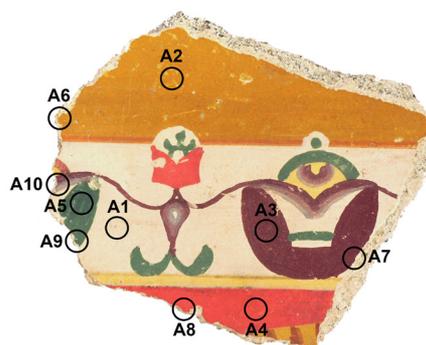


Fig. 6. Measurements and sampling areas from Fragment A.

#### **pXRF-measurements:**

- A1 White
- A2 Yellow
- A3 Purple
- A4 Red
- A5 Green

#### **SEM-EDX sampling areas:**

- A6 Yellow
- A7 Purple
- A8 Red
- A9 Green
- A10 Blue

Analyses with the SEM-EDX were made in the Nanomicroscopy Center at Aalto University with Dr. Krista Vajanto, using analytical high-resolution SEM, JEOL JSM-7500FA. Only the edges of the fragments and already damaged areas were chosen for the samples, sampling carefully 1-2 mm<sup>2</sup> areas for the samples. In this case, the samples were prepared on aluminum stubs with double-sided carbon tape, and no coating was used. Measurements were taken with COMPO mode, with the acceleration voltage 15 kV, emission current 20 kV, and probe current 20 kV in 8 mm working distance due to the backscattering detector. Otherwise an SEI detector was used for the scanning. Each of the micro samples was scanned thoroughly, choosing particles for measurement that had most the appearance of a pigment particle. The results were also compared with ancient Roman literature and related research.

During the inspection of Fragment A with the optical microscope, some areas of the fragment turned out to be surprisingly interesting in contrast to its simple style. Figure 7 shows the presence of some very large, square shaped blue crystals within the violet and blue gradient areas. This would indicate already that the blue pigment here might be Egyptian blue, as it generally has a very well-known cubical crystal form. Figure 8 depicts an interesting

phenomenon on the border of yellow and red. On the areas where the top layer of the red paint layer has vanished, some blackening process is clearly noticeable. This might be due to the aging process of cinnabar, which results in a greyish or black layer. Cinnabar is a precious pigment, not used for secondary paintings. To conclude, Fragment A seems to be painted a *fresco*, with remarkably thick and solid colors. The painting order can be observed as well with the microscope: top and bottom strips were prepared first, followed by the abstract floral pattern in the middle.

The results of the XRF-measurements are displayed in Table 1. The white color of the fresco is most likely just lime white, a calcium carbonate (CaCO<sub>3</sub>) with some magnesium present in this sample A1 White. It might be *paraetonium white*, which was a favored white color for frescoes.<sup>27</sup> The strong presence of mercury (Hg) in A4 Red indicates cinnabar (HgS) as the red pigment.<sup>28</sup> As a preliminary study, no exact results were assumed with the pXRF, knowing the directive quality of this method. A2 Yellow, A3 Purple and A5 Green might be mixtures and/or of earth colors of high iron and silicate content, but no specific pigments could be identified based on this. Hence it was no surprise that the results pointed directly to the need for further analysis. As the blue details of the

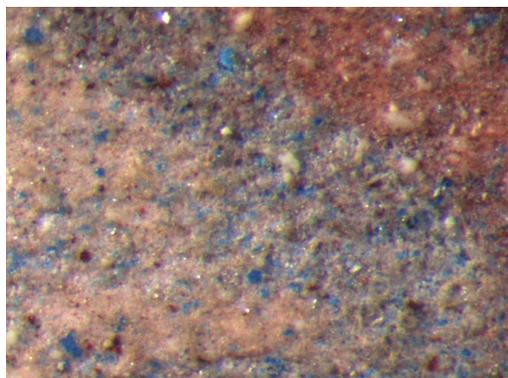


Fig. 7. Blue crystals on Fragment A.

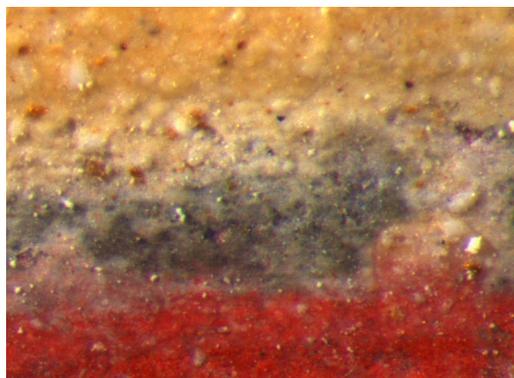


Fig. 8. Darkening of cinnabar in Fragment A.

Sample ID	%MgO	%Al <sub>2</sub> O <sub>3</sub>	%CaO	%SiO <sub>2</sub>	%Fe	%Cu	%K <sub>2</sub> O	%P <sub>2</sub> O <sub>5</sub>	%Hg
A1 White	9.3323	2.9306	56.0835	1.5561					
A2 Yellow	6.178	1.1733	41.6878		13.405				
A3 Purple	6.1246	3.0135	40.178	16.111	8.2069				
A4 Red	11.2077	2.9884	15.0837	4.2694		1.385		1.8032	19.393
A5 Green	5.8612	1.1658	42.8942	16.8111	3.709				

Table 1. The results from Fragment A with pXRF with key elements.

fresco were too small to be studied due to the small measurement area of the pXRF, the blue color was added for SEM-EDX analysis to argue if Egyptian blue was *de facto* used in this fragment. Displayed in Table 2, examination of the pigments with SEM-EDX gave fairly comparative results to form an understanding of the pigments used in Fragment A.

With the combination of pXRF and SEM-EDX the pigment palette used in Fragment A could be identified. Painting *a fresco* and thick mixtures of paint with good quality pigments, the artist first used lime white before painting the top yellow strip with yellow ochre and the bottom strip with precious cinnabar. Green earth, lime white, cinnabar and Egyptian blue were used for the abstract floral pattern. The violet color, was accomplished by mixing a variety of pigments, in this case cinnabar with Egyptian blue and possibly darkened

with black iron oxide and/or another black pigment. The presence of carbon (C) does indicate a carbon-based black pigment, and the prominent content of iron (8,2069 %) might mark the presence of an iron oxide pigment, such as red ochre (Fe<sub>2</sub>O<sub>3</sub>). All the colors mentioned are commonly known pigments used in Pompeii.<sup>29</sup> If further analyses can be made, studying the light-yellow color used on a few places in the fresco could be interesting, as it has a cooler tone compared to the rich yellow ochre used so generously.

### Conclusion

Fragment A is a ‘textbook’ example of the Pompeian pigment palette used in the 1st century A.D., painted using good quality pigments common to the area and period. Though simple in style, Fragment A might be from a border lining to a more elaborate centerpiece in a room

Sample ID	Key elements	Pigment(s)
A6 Yellow	Fe, Si, O	Yellow ochre (Fe <sub>2</sub> O <sub>3</sub> )·nH <sub>2</sub> O
A7 Purple	Hg, Si, Fe, Mg, Cu, O	Mixture (?) including: Cinnabar (HgS) Egyptian blue (CaOxCuOx <sub>4</sub> SiO <sub>2</sub> ) Black iron oxide (FeOxFe <sub>2</sub> O <sub>3</sub> ) Charcoal black (C), Graphite (C), Lamp black (C)
A8 Red	Hg	Cinnabar (HgS)
A4 Green	Fe, Si, K, Mg, Al	Green earth (Fe-Mg-Al-K-hydrosilicate)
A5 Blue	Cu, Si, O	Egyptian blue (CaOxCuOx <sub>4</sub> SiO <sub>2</sub> )

Table 2. Summary of the key elements detected with SEM-EDX and results.

important to residents, as cinnabar was an expensive pigment compared to other reds.<sup>30</sup> As such, the pigment analysis gives us information beyond the image and style. However, studying historical pigments – or even trying to identify them on a primary level – is definitely not in any case a straightforward or an easy task. Results depend greatly on the samples, that can include contamination from past conservation and restoration treatments. In addition, scientist should collaborate with art historians and archaeologists for a coherent picture of the human past, ever increasing the current interdisciplinary approach. Thorough knowledge about the subject and knowing the instrumentation are both matters of great importance, as no measurement is a direct result, but subject to interpretation. Nevertheless, objects can tell us more than is visible to the naked eye through their materials. With the study of materials, we can further understand the craftsmen and the Pompeian pigment palette, casting light on the ancient art and people who conducted it.

### Acknowledgements

*“There are these Pompeian fragments in a drawer that we do not know much about...”*

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17. Fuga 2006, 92-95; Cuní 2016, 1.
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# The Making of a Vampire: Demonic Burials and Social Order in Christian Cultures

Emma Harty

*This paper aims to better understand the conflicting relationship between European folkloric tradition and dominant Christian culture that gripped the continent from the fall of The Roman Empire to the 19th century. This is done through an analysis of historical and ecclesiastical documentation, as well as in-depth case studies from the archaeological record across European regions and into North America. The first of these cases is a 15th century plague burial in Northern Italy, where a young woman was interred with a sizeable brick in her oral cavity. The ritual aspect of this action speaks to the great cultural importance that it must have had in Venice in a time of rampant disease. The pattern of epidemic disease coinciding with vampiric and apotropaic burials is a ubiquitous theme throughout the cases discussed in this paper.*

## Introduction

The modern concept of “vampire” immediately conjures images of white faced spectres with blood red fangs and thick Slavic accents. With the publication of Bram Stoker’s iconic book *Dracula*, the modern incarnation of the vampire myth was reborn. This vampiric persona swept through literature and Hollywood as an allegorical enforcement emulating Western society’s cultural concepts of morality and health.

Stoker’s Romanian villain, however, was hardly conceived in a cultural vacuum. For millennia, regional variations of a folkloric creature who rises from the grave to consume the living has been highly prevalent. The ‘vampire’ is represented in oral traditions<sup>1</sup>, medieval ecclesiastical documents<sup>2</sup>, and in the burial practices of many cultures.<sup>3</sup> This is a worldwide phenomenon and has been documented in Haiti,<sup>4</sup> Southeast Asian countries such as the Philippines,<sup>5</sup> and Greece.<sup>6</sup> The best recognized of these regions, however, is undeniably in the cluster of interconnected Christian cultures within Southern and Eastern Europe. This paper focuses on instances of so-called vampirism in Historic-period Christian burials from Italy, Poland, and the United States.

## Vampires, Demons, and the Roman Catholic Church

The etymology of the word “vampire” consists of a highly contested lineage of linguistic shifts. A commonly accepted theory is that the root of the word lies in Turkish with “uber”, meaning “witch.”<sup>7</sup> The word “vampire” itself, however, arrives rather late in the regional languages of Europe.<sup>8</sup> A theory suggesting that “vampire” has its roots in the Serbian word “bamiup”, or in the Polish “upior,”<sup>9</sup> is also prevalent in linguistic communities.<sup>10</sup> In the year 1721,<sup>11</sup> the first use of the Polish “upior” appeared in a German publication documenting

the details of supposed vampiric attacks that had occurred in 17th century Poland, Russia, and Lithuania, possibly providing evidence to either theory, as well as marking the beginning of the “vampire” in European documents.<sup>12</sup>

The historic record provides documentary evidence of “vampiric attacks” prior to the use of “upior” in Germany, with French documentation of such events at the end of the 1600s.<sup>13</sup> Throughout the 18th century, however, the prevalence of a deep belief in vampires and the harm that they could inflict on living populations throughout Europe became a clear element of the folklore of the continent. In 1737,<sup>14</sup> the *Lettres Juives* in France included an account of two vampiric episodes in Kisilova, Serbia.<sup>15</sup>

Serbia and Romania are both recognized for being the countries most closely associated with the vampire myth. While Romania celebrates being home to Vlad Tepes-otherwise known as the historical inspiration for Bram Stoker’s Hollywood vampire-Serbia has been home to numerous superstitious events and ideologies that provide foundation for the universal attributes of the vampire.

In Carniola, Serbia, vampires are described as the bodies of deceased persons animated by evil spirits which rise from their graves and suck the blood of the living “thereby destroying them.”<sup>16</sup> This description was contemporary with an epidemic of “vampire” attacks in Medwegya, Serbia during the winter of 1731-1732.<sup>17</sup> The events of that winter resulted in the entry of “vampiric” deaths into the academic and media spheres of the Holy Roman Empire.<sup>18</sup> The events at Medwegya marked the first time in the historical record in which vampirism could be spread as if it were a communicable disease.<sup>19</sup> This became a key aspect of vampire symbolism as the myth evolved.

In the 18th century, acts of grave

disturbance and corpse mutilation prompted the Vatican to respond to the notion of so-called ‘vampires’.<sup>20</sup> Their response to the exhumation and ritual mutilation of these “vampiric” corpses across Eastern Europe was to have Pope Benedict XIV issue an official condemnation of those committing these desecrations in 1749.<sup>21</sup> The decree against the vampire myth—and other unofficial regional versions of Christianity in Europe-- was not uniformly observed by members of the clergy at all levels.<sup>22</sup> Some clergy members accepted and embraced local, and regional folkloric traditions integrating them into Catholic ritual.<sup>23</sup>

Evidence of the blending of church law and regional folkloric traditions can be seen in personal records of clergy officials at varying levels within the medieval Roman Catholic hierarchy, as well as the persistence of demonic or ‘vampire’ burials from the medieval to early modern eras of the archaeological record.

### The Medieval Church

The structure of the medieval and early modern Church throughout European history has been immortalized by today’s media as an omnipresent, restrictive element of daily life in all Christian countries. However, the relationship between all communities and Church authority was much more complex and nuanced than what is portrayed in the popular narrative that Hollywood supports. Jacques Le Goff, in a study of Medieval Europe, writes that Europe was still a “mission country” in the year 1500.<sup>24</sup> Ecclesiastical documentation by priests in regions throughout the continent provides support for Le Goff’s assessment that a large swath of European towns and cities were more heavily influenced by older folkloric traditions than the teachings of Church-approved rituals, rendering the separation between Medieval Christianity and Paganism an arbitrary distinction in some regions.

Law codes from Macedonia describe strange burial practices undertaken in response to specific situations, often involving sudden death or death by disease. For example, there are historic descriptions of the corpses of individuals being staked in their graves, as well as secondary funeral rites in which the bones were cleaned and reinterred. These became relatively commonplace.<sup>25</sup> This is also seen in the Balkan peninsula, where a child must be immediately baptized in case of an early death outside of the Christian faith, as a preventative measure.<sup>26</sup>

Across medieval Europe, numerous belief systems considered to be outside the Christian faith persisted well into the Christian period. These ritual practices were a part of daily life and often derived from Christianity itself. In the interest of serving the immediate, largely illiterate peasant and middle class communities, Christian and folkloric rituals were rooted in shrines, images, saints, and relics. It was not an uncommon occurrence for communion wafers to be crumbled over fields in an attempt to ensure a good harvest.<sup>27</sup> In Wales, the historical record supports instances of ritual dancing in mimicry of the sowing and reaping of a harvest.<sup>28</sup> There are additional records by a monk traveling through Ireland in the early 10th century, who documented an account of a ritual animal sacrifice in Kirkcudbright, Galloway, dedicated to the Catholic Saint Cuthbert.<sup>29</sup>

This example from Kirkcudbright in Scotland not only provides evidence for the syncretic nature of medieval European Christianity with older folklore, but the records also provide evidence of the regionalization of ecclesiastical practice to fit local belief systems. The documentation by monks and other clergy in the medieval period no longer simply state legal doctrines and condemn so-called “Pagan” rituals. Religious members recorded older oral traditions, such as epics and chronicles based in pre-Christian ideologies. These mythologies included those of the tales of

dead individuals who rose from the grave at night. While the practices remained largely illegal in the eyes of the church, they were not consistently condemned in practice. Many priests outside of Christian city centers and in smaller, poorer, villages began to adapt to the regional practices of their parishes. In doing so, the clergy began to disseminate Christianized incarnations of older myths like that of the Vampire.

The highly regionalized religious rituals and tales of European Christianity were orally articulated for centuries before the clergy began to document these traditions. Depending on the mode of literature by which the churchmen were describing these traditions, different levels of sympathy for diversity in religious expression began to present themselves. These conflicts between Church law and the traditions of the clergy become particularly evident when comparing the experiences of Burchard of Worms, and Guibert of Nogent. Worms, otherwise referred to as “The Corrector”, was documented to have criticized a community of individuals in a legal letter to his superiors, stating that these individuals obeyed the superstition of not leaving the house before the cockcrow to avoid the evil spirits of the night.<sup>30</sup> Nogent, another educated churchman, actually believed in evil folk spirits himself, keeping a lit lamp by his bedside to keep the evil at bay.<sup>31</sup> While Worms followed ecclesiastical law, Nogent embraced local tradition. This example highlights the variability in clerical adherence to canon law, and to the occasional overpowering nature of local folk belief.

Nowhere is the dualistic nature of folk belief versus institutionalized religion more visible than in the discovery of “vampire burials” within Christian cemeteries. These burials provide insight into this ‘blending’ of folk belief and the practices of the Roman Catholic Church from the Renaissance in Italy to Colonial America.

## Case Studies

### *Vampires of Venice*

The Nuovo Lazzaretto plague cemetery in Venice, Italy, was excavated from 2006 to 2007.<sup>32</sup> Consecutive outbreaks of an unspecified pestilence in 1576 and 1600<sup>33</sup> resulted in a densely packed cemetery where graves were frequently intercut and overlapping.

Burial ID6 is that of an adult female which dates to the earlier, 1576, outbreak of plague at Nuovo Lazaretto.<sup>34</sup> ID6 was buried in supine position with textile remains suggestive of a burial shroud.<sup>35</sup> The grave was intercut by a later burial resulting in the loss of all skeletal material below the middle of the torso in line with the distal humeral diaphyses.<sup>36</sup> Dental wear suggests that this individual was approximately 61 years old at the time of her death and burial.<sup>37</sup> What makes ID6 unique is the nature of the burial. Despite a lack of any sizeable rocky inclusions in the soil of the grave, a large brick was found inside the oral cavity of ID6.<sup>38</sup> The brick appears to have been purposefully placed in the oral cavity before decomposition began, possibly during the initial inhumation or shortly after.<sup>39</sup>

This is the only instance of a ‘deviation’ from traditional Christian burial practice within the Nuovo Lazzaretto cemetery.<sup>40</sup> In this case the brick is believed to have symbolic and ritual value in the prevention of vampirism.<sup>41</sup> The presence of the brick in the oral cavity suggests a deep folkloric connection between the vampire myth and the mouth. This case suggests a link between outbreaks of vampirism and outbreaks of epidemic disease which are mirrored in all cases discussed in this paper.

### *Poltergeists of Poland*

The archaeological site of Drawsko 1 is located in the northwestern Polish region of

Pomerania, along the Notec River. This 17th to 18th century cemetery was originally excavated in 1929. However, developments stemming from excavations in 2008 brought new discoveries to light regarding the folklore that informed the nature of six of the burials.<sup>42</sup>

There is no known church or religious structure associated with the graves at Drawsko 1, and the cemetery is located outside the boundary of the settlement itself. Of the over 300 burials that have been excavated at Drawsko 1, six members of the population were found to include apotropaic objects in the contexts of their graves.<sup>43</sup> These apotropaic grave goods such as coins, sickles, and stones are included in burials with the intention of staving off evil, preventing the reanimation of a corpse, or to satisfy the spirit of the deceased so they will not attempt to return.<sup>44</sup> The coins were believed to act as a protective talisman, preventing disruption of the deceased by evil forces, and the sickles and other sharp implements were intended to prevent the rise of the deceased from the grave, effectively popping them if they get too swollen.<sup>45</sup>

The potential ritual activities surrounding the burials of these six individuals are categorized as “demonic” or “vampiristic”. They provide potentially strong evidence for Vampire folklore overtaking institutionalized Catholic tradition in Pomerania.

All of the individuals with evidence of demonic burial were found to be buried supine, in discrete graves, with an east-west orientation that corresponds to all other individuals buried at the site.<sup>46</sup> Burials 28/2008, 24/2009, 6/2012, and Burial 49/2012, were uncovered with metal sickles placed across their necks and under their chins.<sup>47</sup> Burial 29/2008 had two large stones beneath its chin, presumably used to keep the jaw shut after death.<sup>48</sup> Burial 60/2010 was also found with a stone under the chin and a sickle across the abdomen.<sup>49</sup>

The use of these particular apotropaic talismans speaks volumes about the community that buried these individuals. Relying on a mostly agrarian economy, the people of Drawsko must have had a reason to bury important farm implements with their dead.<sup>50</sup> As well as the restrictive use of the stones, placed clearly under the jaw as if to prevent the opening of the mouth. The community of Drawsko, like the individuals who placed the brick in the mouth of ID6 in Venice, made personal sacrifices for the sake of protecting their community from cultural monsters.

Again we see an association between outbreaks of little-understood epidemic disease and the presence of vampire burials. In the case of Drawsko there may have been an outbreak of cholera or another high mortality infectious disease that are not visible on human bone.<sup>51</sup> Outbreaks of cholera are historically recorded during the period that the Drawsko cemetery was in use in the 17th and 18th century.<sup>52</sup>

#### *A Haunting in Connecticut*

The cultures and customs of Europe emigrated to the Americas with their people, bringing the European concept of the ‘vampire’ with them across the ocean. Evidence of colonial vampirism in New England is often found in historic medical records corresponding to outbreaks of diseases like tuberculosis. The unknown nature of the disease, like that of the plague in Venice and cholera in Pomerania, spread panic through many populations in the northeastern United States. Widely known as ‘consumption’ due to the emaciated appearance of the afflicted individuals this disease was, in some cases, compared to that of vampirism.

Walton Cemetery, in Griswold, Connecticut, was the burial ground of a European American farmstead owned by the Walton family from 1690 until the 1750s.<sup>53</sup> After its abandonment in the 18th-19th centuries,

it was re-discovered by archaeologists in 1990.<sup>54</sup> For a family farm cemetery the size of the cemetery population is relatively small. Overall there were 15 sub-adults, six adult males and eight adult females.<sup>55</sup> They were interred in wooden coffins, some including identification on the lids in the form of tacks pressed into the shape of initials and numbers.<sup>56</sup>

The evidence of a vampiric influence within the community is found in burial JB-55.<sup>57</sup> JB-55 is the burial of an adult male approximately 50 years of age who was interred in a coffin marked with the initials JB and the number 55.<sup>58</sup> Unlike any other individuals in the Walton Cemetery, JB-55 was buried in a stone-lined grave.<sup>59</sup>

The skeletal remains of JB-55 show evidence of numerous healed fractures, mild osteoarthritis in the hips, knees, and shoulders, as well as Schmorl's nodes of the vertebral bodies.<sup>60</sup> This evidence suggests that JB-55 lived a life in which he participated in extended periods of hard labor, not uncommon in colonial farm life. What sets this individual apart from the others interred at Walton Cemetery are the indicators of infectious disease and the peculiar post-mortem positioning of the body.

Lesions identified on the visceral surface of the left 2nd, 3rd, and 4th ribs are gray and pitted in the areas adjacent to the pleura, indicative of pulmonary tuberculosis or another infectious respiratory disease such as brucellosis.<sup>61</sup> Whatever the actual underlying bacterial cause this respiratory disease would likely have been interpreted by JB-55's contemporary physicians as consumption,<sup>62</sup> otherwise known as tuberculosis.

The positioning of the remains, however, indicates a burial steeped in European folk beliefs. JB-55 was exhumed after an extended period of decay when the body was mostly, if not completely,

skeletonized.<sup>63</sup> Both femora were displaced from anatomical position and crossed over the thoracic cavity.<sup>64</sup> The cranium was also disarticulated from the mandible and placed over the crossed femora creating a 'Jolly Roger' or skull and crossbones shape.<sup>65</sup> The exhumation of the body in and of itself is unusual in traditional Christian burial. The additional rearrangements of the skeleton are further evidence that indicates a ritual purpose to JB-55's burial and reburial.

Given contemporary historical accounts of vampirism in nearby Norwich, Connecticut, as well as in Rhode Island, Massachusetts, and Vermont all connected to 'consumption' it is possible that JB-55 is an archaeologically visible case of colonial American vampirism.<sup>66</sup>

#### Discussion: Making a Vampire

A 'vampire', as it pertains to the European myth, is a creature comparable to many other variations of the undead, who rise from their graves. For this reason, it is a commonly drawn conclusion that burials including grave goods such as stakes, sickles or other apotropaic items could be considered 'vampiric' in the context of Western Judeo-Christian societies.<sup>67</sup> An understanding of the historical context and demography of the burial site where the 'vampire' is found are also instrumental in deciphering the folklore that surrounds the nature of these graves.<sup>68</sup> Beliefs of the undead and evil spirits rising from the grave persisted through centuries of Christian tradition, as evidenced by the cases illustrated above. However, elements such as Church participation and fear of epidemic disease also drove these communities to differentiate from typical burial practices.

The relationship between Christian communities participating in these 'vampiric' burial rites, while contentious, was also complex and highly syncretic. By the time ID6 was buried at Nuovo

Lazarretto in Venice, older folkloric practices and superstitions like those surrounding vampires were largely absorbed into European Christianity. This, however, was not necessarily indicative of approval from the Church itself. While many educated clergy members proceeded to document the ‘simple mindedness’ and ‘ignorance’ of these superstitions,<sup>69</sup> they also routinely presided over the rituals and reburials that defied Christian tradition. Many clergy, such as Guibert of Nogent, began to believe in those same myths, while others systematically profited from the fears that the vampire myth represented to those who believed.<sup>70</sup>

The incorporation of these vampire myths into Christianity can be evidenced by the documentation of the clergy, and the nature of burials such as ID6, Drawsko 1, and JB-55. Not only were these individuals provided with special burial practices or instances of reburial, they all corresponded with outbreaks of epidemic disease.<sup>71</sup> In deeply religious communities across Europe and New England throughout the Renaissance and early modern periods, the connection between disease and ‘unclean’ or ‘ungodly’ souls furthered the myth of the vampire in conjunction with spreading the word of Christianity.

Drawsko 1 and JB-55 both correspond with outbreaks of epidemic disease that provided an emaciated appearance to the afflicted. This, in New England in particular, supported an already prominent belief that vampires were responsible for the spread of the disease.<sup>72</sup> Twenty five percent of deaths in the region were attributed to tuberculosis by the year 1800,<sup>73</sup> and the panic surrounding the disease found a scapegoat in age-old folkloric beliefs like the vampire, which had made the transition from a pagan concept to a Christian one in Europe centuries before.

## Conclusion

Bram Stoker’s iconic literary vampire was not conceived in a cultural vacuum, but rather the opposite, resting on the shoulders of a millennia’s worth of influence from historic and folkloric beliefs across Europe. The modern incarnation of this subversive creature of the night, however, may never have seen the light of day without the reluctant syncretism between ancient pagan beliefs and the Christian establishment across the centuries.

The conflicting relationship between dominant religious powers and the older folkloric traditions of Europe manifest in the evidence of both primary documentation by clergy, and in ‘vampire burials’ in the archaeological record. The grudging tolerance for these burials by the institution of the Church was prompted not only by the leniency of certain clergymen like Guibert of Nogent, but by a symbiotic relationship that rose to benefit them. Monetary contributions and the heightened fanaticism for their faith exhibited by communities who feared the vampire led the Church to humor their superstitions, rather than take legal action against them.

Fear of disease and fear of death outside of the Christian faith maintained the vampire myth in the minds of Europeans from 1576, with the burial of ID6 in Venice, to the “Jolly Roger” formation of the bones of JB-55 in Griswold, Connecticut. The presence of apotropaic items and rearrangement of skeletonized remains in the graves of the individuals at Nuovo Lazarretto, Drawsko 1, and Walton Cemetery speak to a deep folkloric belief embedded in their cultures.

Endnotes:

- 1 Audikos 2013, 310-312.
- 2 Wilson 1985, 582.
- 3 Hodgson 2013, 5-6.
- 4 Charlier 2017.
- 5 Nadeau 2011, 252.
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- 7 Wilson 1985, 577.
- 8 Stachowski and Stachowski 2017, 683.
- 9 Wilson 1985, 577.
- 10 Wilson 1985, 577-578.
- 11 Wilson 1985, 579.
- 12 Wilson 1985, 579.
- 13 Wilson 1985, 579.
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## Interview with Dr. Kevin Garstki 2018-2019 IEMA Postdoctoral Fellow

*Dr. Kevin Garstki is currently the Postdoctoral Fellow at the Institute for European and Mediterranean Archaeology at the University at Buffalo, SUNY. He received a Master's Degree in Social Science/Anthropology in 2009 from The University of Chicago. His Doctorate in Anthropology was completed in 2017 at The University of Wisconsin-Milwaukee, with a dissertation entitled, "Production and Technological Change: Ironworking in Prehistoric Ireland." His current work uses digital 3D models of sculptures from the Athienou Archaeological Project in Cyprus to supplement standard catalogue information. As the IEMA Postdoctoral Fellow he organized a conference about critical archaeology in the digital age, which brought together scholars from across the globe and across disciplines.*

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

My current research interests are focused on the integration of new technologies with existing archaeological practice in practical ways and making archaeological data as open and accessible to researchers as possible. I am co-authoring an open access, fully digital monograph, *Visualizing Votive Practice: Exploring Limestone and Terracotta Sculpture from Athienou-Malloura through 3D Models* (ASOR and The Digital Press), that uses digital 3D models of sculptures from the Athienou Archaeological Project in Cyprus to supplement standard catalogue information. My work documenting this material in 3D began in 2014, while this current project aims to advance the publication of cultural heritage material by using a multi-platform approach. This project will integrate emerging visualization technology with a model for the digital, open-access publication of research data and interpretation. The issues raised by the Cyprus project have led to the next stage in my research: utilizing digital 3D technologies to facilitate access to items of cultural heritage that have been removed from their nations of origin, particularly during colonial excavations. With a collaborator, I am beginning a project to provide digital access to an important collection of Iron Age Slovenian artifacts excavated by the Duchess of Mecklenburg at the beginning of the 20th century, dispersed to different museums in the US and Britain. This project will serve as an example of how to utilize digital technologies for robust scholarly research and provide an avenue for digital repatriation of dispersed cultural heritage.

**Your work as the IEMA post-doc has centered on the uses of new digital technologies in archaeological practice. How did you get interested in this subject?**

I would say my interest in “technology” broadly speaking developed early on in my graduate career. Even before my research into the use of digital technology by archaeologists, I have long been fascinated by the ways in which emergent technologies have the potential to disrupt social practices. You could see this in my doctoral work, which focused on the impact of new technologies on prehistoric populations, specifically the development of ironworking technology in the Irish Iron Age. By utilizing a multi-scalar approach to investigate the organization of iron production, my project highlighted how small-scale action can impact multiple dimensions of technological practice and, by extension, social life. This approach really proved useful in multiple contexts and in other research engaging with the socially-embedded nature of technology. As I began to use 3D scanning technologies in 2013-2014, I saw immediate parallels with the ways I envisioned prehistoric disruptive technologies, and the interest grew from there.

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

At the risk of sounding too politic, most of my graduate professors and collaborators have inspired my work in significant ways, from influencing my approaches to social theory to seeing how an academic can maintain a work/personal life balance. In particular, my PhD advisor’s (Bettina Arnold) work on modern appropriation of archaeological research has directly influenced my ethical perspectives on the archaeological record. From a distance, Marcia Anne Dobres’s work on technology in a social context was extremely formative in the development of

my thinking on technological practice.

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

The most rewarding aspect of this position has been the relationships I've been able to create with the faculty and graduate students in both Anthropology and Classics. In particular, the interactions I've been able to have with students in my class far exceeded my expectations. Additionally, I have greatly enjoyed having the opportunity to interact with the scholars participating in the IEMA conference. On the flip side of this, getting all of the logistical details together as part of the conference has indeed been a challenge.

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

The best advice I can give to current graduate students working on their dissertations would be to find things outside of your research that also bring you joy. Writing a dissertation can feel like a never-ending slog that drains all of your mental energy. It is necessary to once in awhile take a break, read a book, watch a movie, or meet up with friends. Reconnecting with the outside world will help provide some perspective and limit the feeling of isolation that often accompanies the singular focus on your dissertation topic.

**Do you have any advice for students about the applicability of practices we learn as archaeologists, such as digital technologies, for careers outside of our field or academia?**

I think that most students moving towards their PhDs have in their minds an ultimate goal of working at a university as a faculty member. However, students should also be aware of the myriad of "alt-ac" jobs available to archaeology PhDs. These exist

in the both the private and public sector, and often allow people to stay just as connected to the field as those in university positions. As it relates to digital technologies, many of the skills that one can learn through their graduate career (e.g. GIS, database management, remote sensing, data analysis, etc.) can be immediately applicable to other fields and types of employment.

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

I hope to continue the main threads of my current research moving forward: working on the best ways to reuse 3D digital artifact representations and participating in the development of best practices for the digital accessibility, publishing, and archiving of archaeological data. One form of this will hopefully come about through the development of platforms for the multi-use futures of 3D archaeological data, where digital data can be published in a stable and open way, but also be utilized for public interaction. I plan to continue my current research projects in Cyprus and with the Slovenian material, but hope to extend my collaborations to archaeologists and heritage professionals working in a variety of locations.



## Interview with Dr. Alessandro Sebastiani Professor of Classics at the University at Buffalo and IEMA Board Member

*Dr. Sebastiani is a recent addition to the Classics Department at the University at Buffalo, and to the board for the Institute for European and Mediterranean Archaeology. After completing his PhD at the University of Siena, Italy in 2008, he has held many positions that give him unique insight into the importance of research and collaboration within the field of archaeology. His current research project in Monteverdi focuses on the interconnectivity of economies and societies through three periods, and brings together a team of researchers of different levels of experience and from across two continents.*

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**You are relatively new to the Classics department at the University at Buffalo and IEMA, what were you doing before arriving here?**

Before joining the University at Buffalo, I had been working for several institutions, mainly in America and the UK. While writing my Ph.D., I was hired by the Penn Museum in Philadelphia, where I focused on the publications of the excavations at Butrint, a UNESCO world Heritage Site in Albania. After that I moved to the UK, to the Butrint Foundation, where I served as an Archaeological Consultant. In 2012 I started my Marie Curie Fellowship at the Department of Archaeology at the University of Sheffield. The Intra-European Fellowship gave me the opportunity to work on my research project in Tuscany and to develop a number of skillsets that are still useful nowadays. After Sheffield, I served as Visiting Professor at Charles University in Prague (Czech Republic) and as a senior archaeologist for the Crowded Desert Project in Qatar.

**How have you benefitted so far from the support of an organization like IEMA? Do you find the cooperation between the Classics and Anthropology departments valuable?**

IEMA represents a unique opportunity for the scholarly community of the Departments of Classics and Anthropology to work together and to organize an annual conference with young post-doctoral fellows. I personally think that the cooperation between the two departments is not only valuable but necessary and inevitable; the classical and anthropological approaches to archaeology and the reconstruction of the past may be sometimes different but we work towards the same task: understanding ancient communities and, in my specific case, economies and landscapes. We can only obtain a better task if we collaborate and compare our results.

**What contributions do you hope to make as a board member of IEMA?**

I like to think that my main contribution could be a constant and steady support for the younger scholars who approach IEMA through the post-doctoral position that we advertise every year. At the same time, I had the possibility of working for several institutions, both in the old and new world, and hopefully I can bring those networks into IEMA, to start new fruitful collaborations for the Institute.

**Where do you see IEMA going in the future?**

As the world of humanities is facing new challenges nowadays, IEMA has to continue on the path that has been constructed in the last several years. We need to support the young generations of scholars who have the energy and passion to continuously renovate the discipline while keeping the highest standard of research. We do this at every moment and I guess this should be the direction, or at least, the star leading our path into the next decade. Archaeology and humanities in general also need a stronger digital approach with an ideal eye towards cultural heritage studies and management. The future of IEMA will include more and more these subjects.

**What is your current research project or the current focus of your work?**

In the last two years, I have been focusing my research on the wider territory of the Ombrone river valley (south Tuscany) in the Roman and medieval times. Before starting my recent project with Michelle Hobart and Todd Fenton, I was working on the coastal area of south Tuscany, within the Regional Park of Maremma. That project involved the excavations of three major Roman sites, but I wanted to expand the research to include the hinterland of the *ager Rusellanus*. So the Impero Project started in 2017 and now is a successful archaeological project,

involving different American and European institutions, international undergraduate and graduate students and a number of professional archaeologists. Almost 30 people gather together at Monteverdi, where we analyze, study and understand the interconnectivity of economies and societies among three crucial periods: the Etruscan, Roman and Medieval ages. The project has been generously funded by some external grants, as well as a recent UB research grant. The latter focuses on the 3D reconstruction of the material culture and settlements currently under excavations, as well as on the extensive use of augmented reality to disseminate the results of our research to the wider possible audience. Since 2018, the project also represents an opportunity to study abroad and gain first-hand experience on the archaeological discipline. Last year we had 8 students joining the excavations, while this year we received an outstanding number of applications and we were able to accept and select 12 students. We have decided to keep the number of participants relatively low, in order to guarantee the best teaching and learning environment for the students.

**What advice do you have for students looking towards careers in this field?  
How can students use organizations like IEMA to their advantage?**

My usual suggestion for students looking to pursue a career in the humanities is to stay focused and, at the same time, desirous of learning. There are so many projects and new ideas in our field that it is fundamental to read and appreciate scholarships and to find the best way to use this knowledge to develop new directions of the research. They also have to pay attention to the larger debates and to both archaeological and historical backgrounds in the specific regions they want to operate for their careers. New ideas are stronger when there is a solid, consistent background of the previous theories and models.

Students at UB have the fantastic opportunity to use IEMA to boost their knowledge and to absorb new debates in Classics and Anthropology. Every year, a brilliant post-doctoral fellow is selected to guarantee an organized, international conference on a specific cutting-edge topic. The conference represents a moment of discussion and interaction that each student should take advantage of. Graduate students also have the possibility to attend a conference-related seminal course during the spring semester and they can deepen the specific subject and theories. Obviously, we are also open to suggestions from the student community, so as to find new ways to support them during their studies and their future careers.



## Interview with Dr. Gonca Dardeniz Arıkan IEMA Visiting Professor

*Dr. Gonca Dardeniz Arıkan completed a PhD at the Koç University Department of Archaeology and History of Art in 2017 with a dissertation entitled “Vitreous Material Crafting in the Second Millennium B.C.: Glass, Faience and Frit Production at Tell Atchana, Ancient Alalakh.” Since then, she has been a post-doctoral fellow at the Research Center of Anatolian Civilizations (at Koç University) and a research fellow at the Department of Archaeology, Classics and Egyptology at the University of Liverpool. Her current research focuses on understanding pyrotechnology and cross-craft integrations in Anatolia, with a special focus on the Halys Basin in Central and North-Central Anatolia. This research is funded by the Scientific and Technological Research Council of Turkey (TUBITAK).*

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**How did you come to be part of IEMA at the University at Buffalo? What were you doing before you came to be here?**

After I had finished my dissertation, I continued my research as post-doctoral fellow at the Research Center of Anatolian Civilizations (Koç University). Last year, I was the honorary research fellow at the Department of Archaeology, Classics and Egyptology at the University of Liverpool. Both of these fellowships contributed extensively to my academic career; I published my research while I was developing new projects.

My current project, which has been funded by the Scientific and Technological Research Council of Turkey (TUBITAK)–the equivalent of the NSF in the USA– is a product of those two fellowships. IEMA at the University at Buffalo with its resources and wider network of academics from various disciplines provides the best research environment to conduct the project and make it a success.

**What is your current research project or the current focus of your work?**

My research focuses on understanding pyrotechnology and cross-craft integrations in Anatolia, with a special focus on the Halys Basin in Central and North-Central Anatolia. I examine vitreous material technologies and their possible integration to metallurgy of copper. I have limited the time frame from the end of the third millennium B.C. until the mid-second millennium B.C., which covers the period known as the end of the Early Bronze Age (EBA III) until the end of the Middle Bronze Age (MBA) in Anatolia. This period is particularly interesting as Anatolia went through dynamic social and political changes, which affected the organization, production and exchange of metals and vitreous materials. of metals and vitreous materials.

By using complementary methods of archaeology and archaeometry, I am trying to develop our understanding on the vitrified materials and their cross craft integration to metallurgy of copper and its alloys by examining resource procurement, manipulation of raw materials, technical know-how of artisans, and integrated and multifunctional crafts before the dominating culture of the Hittite Empire started at the second half of the second millennium B.C.

**Whose work has had the most influence on you own? Who has inspired you as a scholar?**

My research is two-fold as archaeology and archaeological science come together. There have been a number of people in both fields who have inspired my research. Foremost, Belkıs Dinçol, who is a Turkish Hittitologist encouraged me to research Anatolian archaeology and mentored me through ways in which I have dwelled into history, archaeology and art history without framing myself with disciplinary divisions. Dominique Collon is my John Berger; she showed me ‘ways of seeing’ and how to look at things. Julian Henderson, one of my PhD advisors, has impact on my interdisciplinary research on vitreous materials. As for theory of organization of societies and economies, I regularly come back to Timothy Earle and Fernand Braudel.

**So far, what has been the most rewarding part of joining an organization like IEMA? Have there been any challenges?**

The most rewarding aspects have been researching in a vivid academic environment, giving lectures and establishing connections to the greater scholarly community in the USA. Even though it has been just three months since I arrived, I have been invited to other universities to give lectures. This is rewarding as it gives me the opportunity to disseminate my research. I have not encountered any challenges yet

except several challenging conferences approaching at which I am going to present!

**What contributions do you hope to make to IEMA as a visiting professor?**

I have the chance to meet several graduate students and discuss their research, all of which are truly inspiring. Their interest in archaeological science and Anatolian Archaeology has been energizing thus I hope to continue my interaction with graduate and undergraduate students, who would like to reach out for feedback or criticism for their research. I am about to start a reading group with interested graduate students, where we will read and discuss Anatolian Bronze Ages.

**What advice do you have for students looking towards careers in this field?  
How can students use organizations like IEMA to their advantage?**

They should be persistent and have the willingness to persevere. Organizing ideas, framing projects, submitting work for publications/presentations as well as participating in field work might well be a hurdle for both graduate and undergraduate students. I advise them never lose their curiosity for their research. Being open to feedback and sharing of knowledge helps a lot.

Regarding all this challenges, IEMA, with its research structure as well as its support and participation in projects serves as a great opportunity for students who look forward to a career in this field. Annual symposium and lectures along with the access to field and laboratory projects are favorable circumstances to explore how much still needs to be done!



# Critical Archaeology in the Digital Age

The 12<sup>th</sup> IEMA Visiting Scholar Conference

April 6-7, 2019

Grainer Hall, Ground Level  
North Campus, University at Buffalo  
Buffalo, NY 14261

[iema.buffalo.edu/conference](http://iema.buffalo.edu/conference)

Conference Organizer: Dr. Kevin Garstki  
[kjgarstk@buffalo](mailto:kjgarstk@buffalo)

Archaeologists have made significant advances in the application of digital technologies in the last few decades. These projects have paved the way for an evolution of data collection, analysis, and publication. However, the epistemological and methodological impacts of digital technologies on the reconstruction of the past are only just beginning to be considered. As all archaeologists now make use of digital tools in some, if not most, aspects of their work, we have the responsibility to critically interact with these tools and their potential impact on the way we do archaeology.

This conference will facilitate a dialogue that addresses the concerns of moving to an increasingly digital field. As we transition

beyond the experimental period of digital technologies in archaeology, it is incumbent upon those creating and using digital archaeological data to engage with the effects on archaeological practice and knowledge creation. Knowledge is created at every stage of archaeological practice: data are created during an excavation and during artifact analysis; the choice of what platform to publish data significantly impacts the availability and usability of knowledge; the way archaeology is presented to the public impacts the way the past is negotiated in everyday life. At present, significant attention has been paid to the productive aspect of digital data, especially with regards to digital recording in the field. These techniques have been used to supplement traditional recording practices,

while also challenging some traditional aspects of archaeological practice. At the same time, the down-the-line impact of these data on publication, public outreach, and claims of ownership has only recently been considered. This conference will contend with the impact of digital technologies on these broader aspects of archaeological inquiry and data dissemination.

The conference will provide a space to consider how these tools are impacting our work as archaeologists and to critically discuss the ways to move forward in the discipline. This conference will bring together scholars working at different scales to implement digital tools, and whose research focuses on the impact of these tools on different aspects of archaeological practice.

## 12<sup>th</sup> Institute for European and Mediterranean Archaeology International Conference

### Organizer

Kevin Garstki, 2018-2019 IEMA Postdoctoral Scholar

### Speakers

Rebecca Briss, (University of Minnesota, Department of Anthropology)  
"Collaborative photogrammetry: enriching community engagement and increasing archaeological literacy in rural Peru"

William Caraher, (University of North Dakota, Department of History and Indian Studies) - "Collaborative digital publishing in archaeology: data, workflows, and books in the age of logistics"

Paola Di Giuseppantonio Di Franco, (University of Essex, School of Philosophy and Art History) - "Sensing and feeling: experiencing museum objects through digifacts"

Maurizio Forte, (Duke University, Department of Classical Studies, Art, Art History and Visual Studies) - "Cyberarchaeology and digital redundancy"

Bernard Frischer, (Indiana University - Bloomington, Department of Informatics)  
"Rome reborn, the digital uffizi project, and studies in digital publishing"

Fabrizio Golezani, (University of East Anglia, Centre for Archaeology and Heritage (SISAC); University of York, Department of Archaeology) - "3D thinking in archaeology: from critical interaction to effective evaluation."

Laura Harrison, (University of South Florida, Access 3D Lab) - "At-risk archaeological heritage and the public: local and global perspectives"

Sebastian Heath, (New York University, Institute for the Study of the Ancient World)  
"Is ownership part of computational archaeology?"

Jeremy Huggett, (University of Glasgow, Archaeology, School of Humanities)  
"Is less more? Slow data and datafication in archaeology"

Eric Kansa, (Open Context) - "Openness in the context of neoliberalism"

Sara Perry, (University of York, Department of Archaeology)  
"The case for an affective archaeology"

Adam Rabinowitz, (University of Texas at Austin, Department of Classics)  
"Imagining the archive: thinking through the effects of current digital practice on future archaeological research"

Lorna-Jane Richardson, (University of East Anglia, Interdisciplinary Institute for the Humanities) - "Research challenges and methodological pitfalls: social media as a source for understanding public perceptions of archaeology"

Heather Richards-Rissetto, (University of Nebraska-Lincoln, Department of Anthropology) - "Where's it all going? critically assessing preservation and access of 3D archaeological data"

Benjamin Stular, (ZRC SAZU, Slovenia) - "Publication of archaeological interpretation of airborne LIDAR data: a decade of experience and future development"

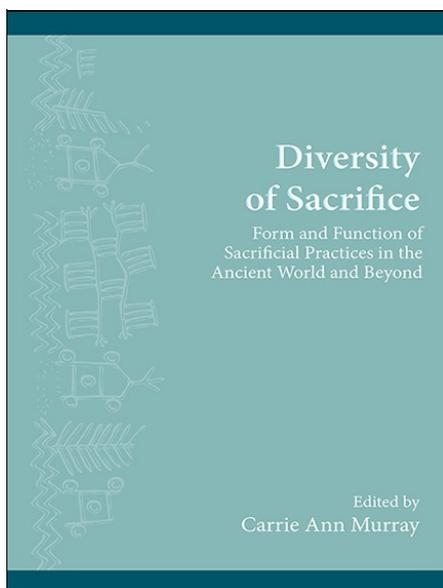
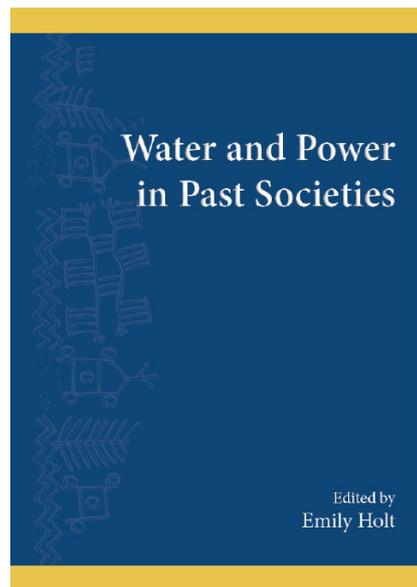
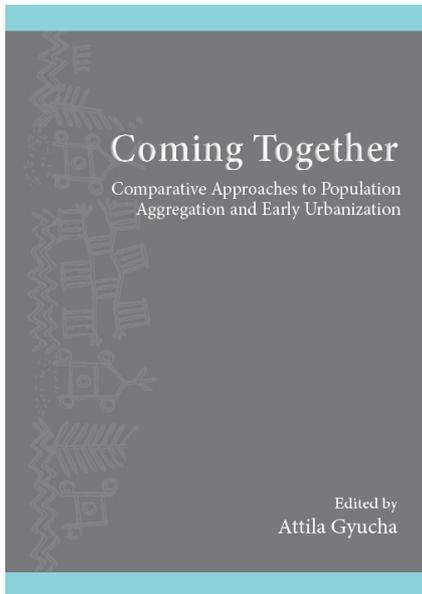
Ruth Tringham, (University of California at Berkeley, Department of Anthropology)  
"Some thoughts on the digital and analog alternatives of archaeological projects"

Patrick Willert (University at Buffalo, SUNY, Department of Anthropology/ University of Leuven), Chris Carleton (Simon Fraser University, Department of Archaeology), Ralf Vandam (University of Leuven, Department of Archaeology)  
"Modeling archaeological potential in SW Anatolia: three decades of landscape research in the territory of ancient Sagalassos"

The conference is generally co-sponsored by U@B Departments of History and Geography.

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