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CATTLE, CANINES, AND CULTURE: RECONSTRUCTING HUMAN-ANIMAL RELATIONSHIPS IN THE BRONZE AGE AEGEAN

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Declaration

I certify that:

a) The following dissertation is my own original work.

b) The source of all non-original material is clearly indicated.

c) All material presented by me for other modules is clearly indicated.

d) All assistance received has been acknowledged.

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I would like to dedicate this thesis to my father, Norman. Without his curious nature and thirst for knowledge influencing me at a young age, I would not be sat here writing.

Abstract

Human-animal study (HAS) is a vast area of research that offers many avenues for exploration. In modern times, dogs and cattle are ubiquitous, whether as pets, working animals in the fields, or sources of food. Each interaction between humans and animals strengthens their relationship. This was also true in the Bronze Age Aegean (BAA), as the wealth of evidence shows that there were numerous types of interactions based on various factors.

Defined by the AVMA (American Veterinary Medical Association, 2023), the human-animal bond is a mutually beneficial relationship influenced by behaviours essential to the health and well-being of both parties. The relationship is influenced by both the animal and the human through the animal's previous experience, the animal's genetics, the human's familiarity with the animal, and the human's knowledge and skills (Hosey, 2008, 105; Raul et al., 2020, 1). An ethological perspective on HAR focuses on the interaction's frequency, quality, and context to influence the relationship's overall quality (Breuer et al., 2011, 4-5). The relationships are thus based on a history of regular interactions.

This thesis will examine evidence from the BAA to reconstruct human-animal relationships (HAR) with dogs and cattle. As this thesis will show, scholars are understandably hesitant to apply modern research on HAR, at the risk of imposing one's own experiences onto ancient evidence. Through this thesis, I aim to provide support in favour of relying on modern research where applicable, by exploring the similarities between modern and ancient HAR.

Table of Contents

Table of Chronology

Crete			Mainland Greece		
	Year B.C.	Pottery Phase	Year B.C	Pottery Phase	
Prepalatial	3100-2700	Early Minoan (EM) I	3100-2700	Early Helladic (EH) I	
	2700-2200	EM II	2700-2200	EH II	
	2200-2100	EM III	2200-2000	EH III	
	2100-1900	Middle Minoan (MM) IA	2000-1850	Middle Helladic (MH) I	
Protopalatial	1900-1800	MM IB			
	1800-1700	MM II	1850-1700	MH II	
Neopalatial	1700-1600	MM III	1700-1600	MH III	Shaft Grave Era
	1600-1480	Late Minoan (LM) IA	1600-1500	Late Helladic (LH) I	
	1480-1425	LM IB			
Final Palatial	1425-1390	LM II	1500-1440	LH IIA	Mycenaean
			1440-1390	LH IIB	
	1390-1370	LM IIIA1	1390-1370	LH IIIA1	
Postpalatial	1370-1300	LM IIIA2	1370-1300	LH IIIA2	
	1300-1190	LM IIIB	1300-1190	LH IIIB	
	1190-1070	LM IIIC	1190-1070	LH IIIC	
	1070-1000	Subminoan	1070-1015	Submycenaean	

Dates taken from Tartaron, T (2007) "Aegean Prehistory as World Archaeology: Recent Trends in the Archaeology of Bronze Age Greece", *Journal of Archaeological* Research, 16(2):83-161, Table 1

List of Figures

Chapter one: Introduction to Thesis

1.1 Introduction

This thesis will examine evidence from the Bronze Age Aegean (BAA) to reconstruct human-animal relations (HAR) with dogs and cattle. As this thesis will show, scholars are understandably hesitant to apply modern research on HAR, at the risk of imposing their own experiences onto ancient evidence. Through this thesis, I aim to provide support in favour of relying on modern research where applicable, by exploring the similarities between modern and ancient HAR. To do this, this thesis will:

1) Determine what variables affect the relationship between humans and animals in the BAA.
2) Determine whether we can use modern research on HAS and research on evolutionary biology to understand the relationship between humans and animals in the BAA.

This thesis will begin with a review of the existing scholarship on HAR, before discussing the methodology and outlining potential risks and limitations. The main body of the thesis will discuss the evidence of human-dog and human-cattle relationships in the BAA, in an attempt to reconstruct these relationships. Modern research on human-dog and human-cattle relationships will be discussed before applying the relevant findings to the ancient evidence.

Defined by the AVMA (American Veterinary Medical Association, 2023), the human-animal bond is a mutually beneficial relationship influenced by behaviours essential to the health and well-being of both parties. Rault et al. (2020, 2) define a positive HAR as one that consists of the animal showing voluntary approach, and signs of anticipation, pleasure, or relaxation. The relationship is influenced by both the animal and the human through the following: the

animal's previous experience, the animal's genetics, the human's familiarity with the animal, and the human's knowledge and skills (Hosey, 2008, 105; Raul et al., 2020, 1). An ethological perspective on HAR focuses on the interaction's frequency, quality, and context to influence the relationship's overall quality (Breuer et al., 2011, 4-5). The relationships are thus based on a history of regular interactions, thus by studying the potential interactions taken place, we can reconstruct the relationship.

1.2 Literature Review

This section will review existing literature on HAR with dogs and cattle in the BAA. The study of HAR in the BAA is very broad, with some scholars discussing the broader study, whilst others focus very particularly on a certain species, medium, or location. This review will discuss the current ideas on how to successfully approach ancient evidence of HAR, and reconstruct the relationships based on this evidence. There has been an effort to bring together sources which focus on HAR with dogs and cattle. It is important to note that although the Homeric epics were not composed during the Bronze Age, they will be consulted as a guide to HAR in the Mycenaean period and will be referred to in this review.

The review will first discuss the methods scholars have used to reconstruct HAR and their potential issues, followed by a discussion of the media explored to gain evidence, and the significance of each. Finally, the review will conclude with a recommendation for where this thesis can contribute to the field.

Approaches

To begin, this section will discuss and review the methods taken previously by scholars in attempt to understand and reconstruct HAR in the BAA. As the study is so broad, with scholars having different aims and focussing on different animals and media, there is no one

right method. Instead, the ideal method for this thesis would be inspired by the strongest, and most relevant methods discussed below.

Palaima (2021) and Weilhartner (2021) explored the language used in Linear B documents to understand how the human responsible for caring for animals in the Mycenaean palatial period was addressed. The scholars discuss how some words which had an occupational designation, such as ποιμήν (poimēn) meaning 'herdsman', sometimes replaced personal names (Weilhartner, 2021, 337). The names of those who tended to livestock ended with the agent noun suffix -tās, which Palaima states relates to nourishing and caring for an animal (Palaima, 2021, 386). Palaima claims that these names were constructed by Mycenaean palatial society to promote positive attitudes towards both them and the society that they constructed and dominated, this is not expanded on enough to give a full explanation of how the scholar came to this conclusion. Nonetheless, these scholars have shown the ability to explore the role of the human in the HAR, whereas most scholarship naturally discusses the role of the animal.

Weilhartner (2021, 336) also discussed personal names which have parallels in Homer and with Classical Greek names, including *Lewōn* (lion) and *Tauros* (bull). These animals embody characteristics similar to Mycenaean elite warriors, such as strength and great defence ability. Thus, a man with this name believed, or wished, he also embodied these characteristics, suggesting respect and admiration of the animal. The use of compound names with the word βοῦς (ox) became rare in the first millennium BC, with the exceptions of Thessaly and Boeotia, and other regions where oxen were highly valued. The argument for the use of animals in names meaning humans placed a high value on the animal is strong; I do

not believe there is a more likely explanation for wanting to use the name of an animal as a personal name, if not to embody those characteristics.

Blakolmer (2016, 101) chose to focus on iconographical depictions of animals and their significance, suggesting that the number of occurrences on seals was directly equivalent to their symbolic significance. Despite this being supported by the abundance of bull imagery on seals (p.108), relying solely on the occurrence of seal depictions to suggest the symbolic significance an animal held in the BAA is counterproductive. A variety of media should be explored to provide a detailed overview of the role of animals in the BAA, and the subsequent HAR that followed. Panagiotopoulos (2021, 13) supports Blakolmer's method, suggesting that because wild and feral animals appear more often in iconography, they must have been more highly appreciated than domesticated animals, stating that there must have been a symbolic currency, in which different species possessed a different value. It is entirely likely that different species held different significance in the Minoan and Mycenaean societies, however, to say that there is a direct correlation between the occurrence of the species on various media and their appreciation is weak. By placing the human's appreciation of that animal on their occurrence in art, the flexibility of the relationship is being taken away. Panagiotopoulos then softens this view by stating the danger of constructing a hierarchy dependent exclusively on numbers, shifting the importance onto understanding the intention of the bearer of the image (p.13). It is through this that one would be able to explore deeply the significance of the animals as the focus can be moved onto the relationship between seal owner and animal. An important aspect of looking at the bearer of the image is understanding that there was not necessarily one meaning behind the animal's depiction. Panagiotopoulos correctly mentions how it would be naïve to believe otherwise, as the seal would have been born by people of various social rankings (p.13).

Shapland (2010) discussed frescoes, seals, and Linear A documents in an effort to determine what qualities are depicted on the individual mediums. Through doing this, Shapland aimed to understand the variety of roles of the animal, and importantly the human attitude towards them. Despite admitting that iconography appears on more than just these three mediums, Shapland is able to go into depth this way and can successfully answer their research question. Shapland (2010, 124) found that whilst the Linear A documents contained information about the domestic use of animals, the seals and frescoes show relations with non-domestic animals, such as feral bulls and goats, and concluded that relations with animals required material reinforcement, such as being depicted on seals, in order to be socially useful.

Throughout previous scholarship, three terms, *situationality, symbolism,* and *animal agency*, prevail through the countless other terms used, and Panagiotopoulos (2021, 7) believes they should be highlighted for their suitability in defining a methodology. Panagiotopoulos (2021, 8) argues that the term *situationality* should be used in place of the term *context*, offering a more sophisticated and flexible way to analyse the agents that make up a relationship, avoiding the risk of thinking of a relationship as fixed, referring only to spatial components of action. It is important to remain flexible with the aspects that make up the relationship, however *situationality* is a broad term, thus, this thesis shall split situationality into *context, role,* and *proximity* to begin with. Evidence should then be arranged into "*spheres of interaction"*, namely the divine/mythical realm, their milieus, for example ritual vs. ceremonial vs. profane, and finally the specific situations in which these encounters take place, for example within the profane milieu, training and control (Panagiotopoulos, 2021, 9). The animal's agency is discussed as an important aspect in reconstructing HAR having often been neglected in the past, as the actions of the animals directly influence the relationship.

Panagiotopoulos' suggestions honour the complexity of relationships, something that is easily forgotten in HAS when many scholars come to conclusions based on a singular animal or material. There is the risk of over-complicating the study, however, by introducing more terms.

The Ecological approach, as discussed by Shapland (2010, 112) considers the historical, cultural, and environmental context of the medium. This reflects the affordances of the animal, such as the amount of meat they yield, along with the culturally specific knowledge conveyed in Minoan material culture to understand the potential relations they would have had with humans. For example, one should not just look at a fresco and attempt to understand the full meaning and intentions behind it, without exploring what led the artist to make certain choices and what kind of person would understand these choices. Shapland's (2010) discussion on frescoes shows a great attempt to consider the environment at the time of creating the depictions, in order to attempt to understand their significance. For example, whilst discussing the monkeys on the Saffron Gatherer fresco and Xeste 3, the potential presence of monkeys on Crete in this period is discussed, arguing that although no monkey remains have been found from the Aegean Bronze Age, the frescoes are almost certainly the result of observation (2010, 120-121). In a similar line of thought, Palaima (2021, 383) insists that to truly understand the complex relationship Mycenaeans had with animals, one must aim to understand their internal anxieties or confidences, they had individually in the collective natural order. These approaches consider all the forethought which led to the material evidence, allowing for a richer interpretation to be made. By considering these additional points, one is not just interpreting the visuals of an image, but building up a true picture of the person who created the image. The cultural knowledge of the observer affects the affordance of the object, illustrated by the fact that Linear A is not yet deciphered, and

therefore we as observers cannot relate to the object the same way as the person reading this in Neopalatial Crete, or the person scribing (Shapland, 2010, 113). This is an important point to note and is one that is developed in this thesis when discussing the risks and limitations of this study. To support Shapland's point on this, the logograms, being simplistic visual depictions of the animals, also require the reader to have at least a basic understanding of the use of the tablet, to be able to determine which animals were being represented. Although the images of the animals are abbreviated in comparison to their depictions in other forms of media, invariants are used to symbolise the animal. Invariants include a long neck for a giraffe or the shape of a pig's head. Other invariants, including the horns of a sheep, require pre-existing contextual knowledge, suggesting knowledge of an animal's defining characteristics may depend on the proximity the human has with the animal on a day-to-day basis. A herdsman would be more familiar with these characteristics than a child, for example. Shapland (2021, 113) also notes the material, having been scribed in clay, has significance, showing that it was only meant to be temporary.

Blakolmer's (2016, 108-110) analysis suggested that the bull occupied a low position in Aegean hierarchy, due to their common depictions as prey in both human and animal combat. Panagiotopoulos' (2021, 17) argues that Blakolmer's analysis, however useful in comparing animal occurrences, does not go beyond the usual predatory relations of the animals. The bull's role, as will be discussed in depth in this thesis, goes far deeper than being a predator or prey. Their role in Minoan rites of passage, for example, shows that they held a more complex significance.

Media

Scholars have found that animals are depicted in different ways depending on the medium, each possessing its own iconographical tradition, with some species appearing on some types

of media but not others. Shapland (2010) noticed that cattle are one of the few animals to appear on all three of the media types they explored but in different ways. On seals, cattle are seen as speared, but they are not shown this way on frescoes, suggesting this quality was not significant in the use of frescoes (p.122-123). Different types of media have their advantages, for example, if one wishes to depict the most detailed, natural version of an animal or scene, frescoes allow for the depth and detail that other mediums, such as seals, do not (Shapland, 2010, 121). Seals provide information into the symbolic role of the animal in society, as the elite member of society wearing an image of the animal is showcasing to society that they relate to, or want to express qualities of, the chosen animal (Shapland, 2010). Discussing bull leaping, Shapland claims that as the oxherds had specialised knowledge of the cattle they worked with, and so bull leaping was the elite's way of reclaiming cattle, defining a new relationship with bulls (p.123). This is an interesting point, however, the evidence used to back it up is not particularly strong. Shapland uses the seal depictions and frescoes of bull leaping to reinforce the point, claiming that they differentiate the elite from the oxherds. However, these depictions do not need to represent the elite attempting to reclaim the cattle, which suggests hostility towards oxherds, and perhaps any other tradesman who worked with cattle. Multiple relationships likely did exist between humans and cattle, but they would have been embedded in society, and not necessarily sought out intentionally. Thus, cattle may never have needed to be reclaimed for prestige.

Panagiotopoulos (2021, 11) believes that seal imagery is the "most representative body of evidence for studying the significance of animals in Aegean imagery". By focusing purely on seal motifs as Panagiotopoulos chose to do, it is difficult to make real progress in the study. As mentioned on line 4 of p.8, different media depicted different species for different

reasons, due to their varying uses. However, it does allow a more specific discussion than trying to cover every medium in detail.

Palaima (2021) discusses human-cattle relationships with a focus on the Linear B documents and works of Homer. Dogs are the focus of the later discussion, with specific examples including Odyssey 17.290-310, in which Argos, Odysseus' faithful dog, waits for him upon return. Palaima believes this scene is representative of the lack of "divinely sanctioned, ritually pious, ethically sound (insofar as his dealings with his subjects), psychologically stable and politically shrewd" ideals at this point in the story (Palaima, 2021, 393). The use of animals in both iconographical decoration and texts shows the control the Mycenaean elites wished to have over the natural environment and the need to keep civilisation intact (Palaima, 2021, 394). It is an interesting point, and I do believe that the abundance of animal imagery and roles in both Minoan and Mycenaean civilisation suggest a desire for control, or at least dominance, however, the focus on status and politics takes the discussion away from more every day, mundane, relationships, which may have very much been apparent.

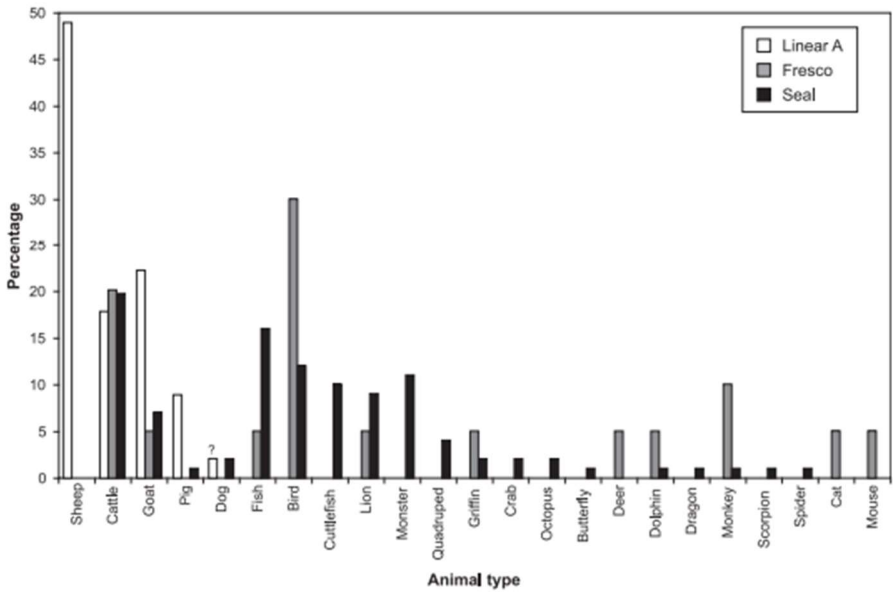

Figure 1 Chart showing the proportion of animals depicted in Linear A, frescoes, and seals. Source: Shapland, 2010: 116, fig.4

Conclusion

This review has explored scholarship on a variety of mediums and animals, all with an effort to reconstruct HAR in the BAA. From this review, it is clear that consulting multiple forms of mediums is essential in having a broad, full understanding of the role of the animal in BAA societies, and human attitudes towards the animal. From focusing on just one medium, or one animal, the methodology is less likely to be able to be applied to any other combination of animal and medium. A wide range of themes are covered in previous scholarship. Panagiotopoulos (2021) used the terms symbolism, situationality, and animal agency to assist in reconstructing HAR. Symbolism of animals in the BAA has been studied comprehensively and while important, there are practical roles of the animals that should be considered simultaneously to ensure a full picture of the relationship is discussed.

Previously, scholarship on BAA HAR exercised much caution when considering our relationships with animals in the present day. Panagiotopoulos (2021, 15) posed a question for thought: "Can we be sure that in Aegean societies people conceived their relationship to animals in terms of human exclusivity and domination, resembling the way in which this relationship has been fabricated in Western thought? Or alternatively, can we discern in the imagery – and perhaps even other archaeological sources – some indications for a more balanced and reciprocal interaction?". As will be discussed, many of the roles of dogs and cattle are the same in the modern day as they appear to have been in the Minoan and Mycenaean cultures, for example, in husbandry for cattle. There is an understandable hesitance in applying modern relationships to those in the BAA, as many of our experiences are culturally specific, meaning we cannot fully relate to those in a culture different from our own. However, I believe that scholars are not taking advantage of the wealth of modern research taking place on our relationships with dogs and cattle today. This thesis will attempt to fill this gap, by firstly reconstructing the multiple roles dogs and cattle held in the BAA, and then seeing how, if at all, modern research can aid in reinterpreting the evidence.

1.3 Methodology

Aim and objectives of this thesis

Panagiotopoulos (2021, 15) suggests a question to further explore the topic: Did Aegean societies view relationships with animals in the same way we do today in the Western world or does the evidence suggest a more balanced and reciprocal interaction? Through the literature review of previous scholarship, it is clear that there is hesitancy when comparing modern HAR, and those of the BAA.

The aim of this thesis is:

To reconstruct the HAR of dogs and cattle in the BAA.

The objectives of this thesis are:

3) To determine what variables affect the relationship between humans and animals in the BAA.
4) To determine whether we can use modern research on HAS and research on evolutionary biology to understand the relationship between humans and animals in the BAA.

Through this thesis, I wish to determine what variables affect the HAR in the BAA. The variables I will be discussing are the role of the animal, the physical proximity of the animal to the human, and the context of the relationship.

Before conducting the literature review, I hoped to cover a wider range of animals and contexts to produce a broader analysis. However, it has become clear that focusing on a smaller number of animals is a more sensible aim. I still wish to follow Marvin and McHugh's (2014) suggestion of multi-species analysis, as this is something previous scholarship has lacked.

Approach

To achieve the aim of this thesis, I began by providing a detailed explanation of the roles of dogs and cattle in the BAA. To do so, I consulted various sources of evidence. I made sure to consider multiple sources to increase the reliability of my findings, as different mediums may have been used for different purposes. For dogs, this consisted of evidence from the Homeric

epics, osteological evidence, figurines, and wall paintings. This offered a variety which would offer more substance, as well as evidence from various contexts involving many different people. The Homeric epics gave unique information on the bond between owner and dog, as well as how dogs are treated by the community when they can no longer perform as they used to. Figurines may provide evidence for companionship, or dogs working as guards, and wall paintings give information on their role as hunters. Osteological evidence provided evidence for the role of dogs in ritual contexts.

For cattle, the evidence also consisted of osteological evidence, figurines, and wall paintings, but also included evidence from Linear B tablets. Osteological evidence gave information for ritual contexts, figurines and Linear B tablets gave evidence on their role in farming, and wall paintings their role in sports. This wealth of evidence of both animals allows for a substantial explanation of their roles in the BAA.

From these explanations, it became clear where human-animal interactions took place within the lives of the animals, and how unique and individual these interactions were depending on the role. It is from this point that I applied the knowledge gained to determine what variables affected the relationship between humans and animals in the BAA. Hemsworth and Coleman (2011) proposed that an important step in studying HAR is identifying what is significant about the interactions between the humans and animals, and from here it is then possible to identify the variables that influenced the relationships. When applied to this research, it involved finding similarities and differences within and between species, considering the different mediums of evidence and the context of their situation.

The final stage was to, where applicable, apply modern research on human-animal studies to reinforce or reinterpret some of the evidence. As mentioned, the progression of HAS has

previously been slow, and there was a gap as we cannot place ourselves into the minds and lives of those who lived in the BAA. Modern research showed that in certain situations, it can be relied upon to aid in interpreting ancient evidence.

1.4 Risks and limitations

The universality vs cultural specificity of emotion

Understandably, we run a great risk of imposing our own modern behaviours and experiences onto those who lived in the ancient world when we attempt to understand their relationships. Emotion influences the quality of relationship the human and animal have with one another. It should be noted here that not every relationship will be positive, therefore a negative emotion does not render a relationship obsolete. The universality of emotion is a subject of debate; emotion is felt by all human beings and has been since we were cavemen experiencing fear when we were attempting to flee a predator. It is our individual upbringings and cultural experiences, however, that can impact what situations trigger these emotions. Therefore, I will take great care in referring to modern studies only where there is strong evidence that the attitudes and relationships referred to are universal and biological, and not influenced by individual cultures. As an example, Panagiotopoulos has suggested that those in the BAA may have categorised animals much more practically than we do today, for example, edible vs. non-edible or sacrificial vs. non-sacrificial, rather than mammal vs. reptilian vs. amphibian (Panagiotopoulos 2021, 14).

There is not a 'one size fits all' approach

Individuality must be considered when determining the relationship between a BAA person and an animal; it is not a 'one size fits all' approach. Various components influence the relationship an individual in this period will have had with an animal. For example, the day-to-day interactions a farmer has with his cattle will be different compared to an individual who

simply consumes the animal product. Both individuals have a relationship with the same animal, but they are likely to be wildly different because of these interactions. The aim of this thesis is not to present one singular description of the HAR relationship for each animal, but rather to determine what variables affect it. Therefore, this risk can be avoided quite easily through regular reminders of these points, and challenging any conclusion that I may come to.

Chapter two: Dogs

Dogs played a significant role in Minoan and Mycenaean cultures and their relationship with humans can be observed through various forms of evidence. This section discusses the evidence through each medium, beginning with literary evidence, followed by osteological evidence, and finally iconographic evidence of dogs. The section will conclude by attempting to reconstruct the role of dogs in the BAA and their subsequent relationships with humans.

2.1 Literary Evidence

When attempting to analyse ancient evidence in the modern day, ancient literature will offer what appears to be the most straightforward medium to interpret. However, different translations of the same text may result in different interpretations of the scenario. Thus, caution should be exercised when consulting literary works.

The Mycenaean Linear B tablets contain valuable information regarding the use of animals in trade and domestic settings which will be discussed in depth in Chapter three. However, this is limited when discussing dogs. Through the presence of the term *'kunagetai'* on tablet PY Na56, which translates to dog drivers or hunters, we can gain a small amount of evidence from the tablets, but not enough to write a dedicated section on the role of dogs (Kitchell, 2014, 47).

It is generally accepted that the Homeric epics are set during the Mycenaean period, despite not being written during that time. Therefore, they may offer valuable insights into Mycenaean culture, however, it is important to proceed with caution as it is not necessarily truly representative of society. The Iliad and Odyssey feature numerous instances of dogs, which are depicted in a variety of roles, including hunting, guarding, companionship, and sacrifice. Despite the differences, all these roles revolve around serving human needs. Even

companionship, which we might assume to be similar to our relationship with dogs today, is ultimately about providing a service to humans.

Dogs in the Homeric Epics

In this discussion, we will use Odysseus' return to Ithaca as an example, particularly the moment when his loyal dog, Argos, recognises him even in disguise. The passage highlights the strong bond between a master and his dog, as evidenced by Argos' physical reactions when greeting Odysseus, and also offers a familiar relationship to begin the discussion. Upon viewing his master, Argos' ears pricked up [Od.17.290], he wagged his tail and then dropped his ears [Od.17.302]. According to experts, pricked ears tend to show that the dog is alert and anticipating something. This can be both a negative or positive feeling, however, dogs usually show other signs of tension if it is negative, such as a drooped tail or fixed gaze (Gibeault, 2020). If a dog's ears are pricked, and then droop, it can signal disappointment. On the other hand, neutral ears can indicate that the dog is fine (De La Harpe, 2022). Tail wagging can show that the dog is emotionally aroused in some way, this can be either positive or negative (Gibeault, 2020). Typically, the faster the wag, the more aroused the dog (Gibeault, 2020). Unfortunately, we do not have that level of detail in this passage. When considering these postures in combination with each other, we can presume Argos is happy and excited to see his master after all this time. It is important to note that Argos was weak, without the strength to even move closer to Odysseus [17.301]. It speaks highly of Argos' love for Odysseus that he found the strength to even perform the postures he did.

Modern translations of this passage vary, adding different nuances to the relationship between Odysseus and Argos. Murray's translation from the Loeb Classical Library reads "*whom of old he had himself bred but had no joy of him" (17.293).* In Butler's translation, the corresponding line reads "*but he had never had any work out of him.".* There seems to be a

focus on the strength of Argos in the present scene, in comparison to how he was before Odysseus left. Odysseus enquires as to whether Argos is simply a table-dog, or whether he works physically [Od.17.305]. The first point to note about this is the distinction made between being a table dog and a working dog, suggesting that a dog can only be one or the other, not both. Secondly, Eumaeus replies that before Odysseus left, he was a fine hunter, stating that *"No creature that he started in the depths of the thick wood could escape him."* [Od.17.315]. Eumaeus commends Argos' speed and strength and refers to Argos as Odysseus' slave [Od.17.320]. When Odysseus left, Argos lost half of his worth, suggesting that although this interaction seems sweet and sincere to a modern reader, there is still a great deal of emphasis placed on the usefulness of a dog in serving a human individual [Od.17.320].

Argos passed away after this interaction, suggesting that although he was weak and neglected for some time, he fought to stay alive to welcome his master back home. This shows Argos' loyalty to his master. This is despite being neglected by society, deemed no longer useful or worthy of care, as Eumaeus suggested, and sleeping in piles of dung outside the door [Od.17.297, 315]. The line that emphasises the bond Argos and Odysseus once had been summed up in line 304, when Odysseus wipes away a tear after seeing how his once strong and active dog is now living, weak and uncared for, awaiting his return [Od.17.304]. He has lost his dog yet cannot reveal his true identity so cannot go to Argos with the same excitement Argos is showing. This passage suggests that the bond between a dog and a master was unmistakeably strong and is rather emotional in nature. Importantly, Argos can recognise his master even when other human individuals cannot. He has an understanding and love for his master that other individuals do not have. Kitchell (2004) suggests that the current situation of Argos is metaphorical, stating that when Argos became old and no longer useful, he had been "relegated to the gates of the town where he must sit as a rather

pathetic guard on a dung heap, symbolic of all that has befallen Ithaca in Odysseus' absence." (p.178). Not only does the detail and focus on this passage suggest that Homer had a great deal of experience with interacting with dogs, but it also means they expected their readers to also understand the complexity of the relationship, suggesting it was not rare for an individual to bond with a dog in this way.

As well as learning that dogs filled the role of hunters, the Odyssey also teaches us that they were guards. Four dogs guarded a total of 360 boars for Eumaeus [Hom.Od.14.20]. The dogs were violent and went to attack Odysseus before Eumaeus threw stones at them to stop them.

Despite the previous two examples of dogs seeming to show that dogs only played one role, Priam's dogs in the Iliad seem to play multiple. When Priam says "*Myself then last of all at the entering in of my door shall ravening dogs rend, when some man by thrust or cast of the sharp bronze hath reft my limbs of life—even the dogs that in my halls I reared at my table to guard my door, which then having drunk my blood in the madness of their hearts, shall lie there in the gateway"* [Hom. Il. 22.69-70, transl. Murray 1924], we are given evidence that dogs did not just play one role. Priam's dogs were companions during mealtimes, and served him as guard dogs, but were also wild and savage as they would likely treat his dead body like that of a dying boar, eating the body of the man they once served. As Kitchell (2004) sums up, dogs may appear to be man's best friend but are only one step away from the wolf. This offers a different perspective than Argos and Odysseus' bond, which suggests a more loyal companionship. Based on what we learnt about their bond, it is difficult to imagine Argos devouring his master's dead body as Priam believes his dogs would, however, perhaps this is

because we know Argos is physically weak and dies before Odysseus. Additionally, this may be implying one's own modern view of dogs onto the ancient evidence.

At Patroclus' funeral, Achilles slits the throats of two out of the nine dogs Patroclus' owned and tosses them on the pyre [Hom. Il. 23.174]. We are told that these nine dogs ate beside their master at his table, suggesting a closer bond than one simply of master and slave. For two of them to be killed and tossed on the pyre alongside oil and honey, and Trojan young men, they must have great significance to Patroclus in at least his living life, if not also his afterlife.

"Dog" as an Insult

The characters in the Homeric epics may show evidence of human attitudes towards animals in the Mycenaean period. An interesting example is the use of the word 'dog' in the language used throughout the epics. This can give us clues as to how dogs were viewed when we look at the context of the usage of the word. Two examples in which dogs are used as a negative comparison occur when Achilles insults Agamemnon with animal comparisons: "*with the face of a dog but the heart of a deer"* (Il. 1.159. 225) and when Helen degrades herself by calling herself a dog: *"O Brother of me that am a dog, a contriver of mischief and abhorred of all"* (Il. 6. 344) From these two examples, although it has been shown that dogs were viewed relatively high regard in certain scenarios, they are also seen as mischievous, ugly, and overall, not a commendable creature.

Conclusion of Dogs in Literature

The literary evidence seems to the modern eye as contradictory; however, it is important to exercise much caution in attempting to come to one solid conclusion, and one clearly defined role for dogs in the BAA. From this brief discussion of the presence of dogs in the Iliad and the Odyssey, although they were relied upon in many instances, it seems that they were not

treated with the kindness one may imagine. As mentioned in the introduction to this section, the role of dogs in Homer was to serve their master in one way or another. Even when invited to accompany their master at mealtimes, it is done to serve. When the dogs were sacrificed, it was done as if a final act of service to their master, whether it was believed the dog would continue with them into the afterlife or not. When Argos was no longer useful, he was neglected and became weak, despite being a brilliant hunting dog before Odysseus' absence. The evidence from Homer almost offers a juxtaposition. Were dogs seen as companions, slaves, or both? Regardless of whether there is a clear answer to that question, they held significance of some kind for all those who worked with, or owned, dogs in the Homeric epics. It should be noted again that the Homeric epics cannot be relied upon solely as evidence of human-dog relationships in the BAA and should be used alongside the other evidence that will now be discussed.

2.2 Osteological Evidence

The osteological evidence for dogs and their role in Minoan and Mycenaean cultures is substantial and includes convincing evidence of dog sacrifice. There are two categories of osteological evidence that will be discussed, potentially offering different meanings of the sacrifice and disposal of dogs: dog burials inside tombs, and dog depositions in well-shafts. Depositions of dogs inside tombs with human burials suggest the dog held significance to the human individual that is buried there and was sacrificed during the funerary rites. This section will discuss the evidence of dog sacrifice through burials and other methods of deposition. The LM Palaikastro well-shafts, which will be used as a case study in this section, may offer evidence that dogs were discarded when they died naturally and offered no importance to civilians, thus providing the opportunity for the discussion of multiple relationships with humans.

Burials and Sacrifice

There have been many EM – LH burials uncovered with osteological dog remains, ranging from full skulls to small fragments. There have been cases where the dogs have been found alongside humans and others where they have been found among other animals. It is worth questioning whether dogs held any more significance than the other fauna found present in the burials, to further explore the relationship between the deceased and the dog. Hamilakis provides two main hypotheses for the practice of Mycenaean dog burials: 1) burials alongside other animals were sacrificial offerings to the dead, either to please the deceased or to be used in the afterlife, and 2) dogs were the pets of the human individuals and were buried with them for sentimentality (Hamilakis, 1996, 161). It is important to note that these hypotheses are not fully supported, particularly the second because the focus of the burials was on the human individual, not the dog. In other words, it is important to keep in mind that it was not a 'dog burial', but a deposition of an animal in a human burial (Day, 1984; Hamilakis, 1996, 161). Kontorli-Papadopoulou (1995, 120) suggests three possible reasons behind animal burials: 1) to provide company for the deceased in his hunting activities in the other world, 2) to provide the deceased with appropriate food provisions for the journey to the underworld, and 3) the sacrifice and pouring of blood may have formed part of invocation rituals. Dog burials in other cultures, such as Classical Greece, and Ashkelon burials which were accompanied by gravestones and epitaphs, show us true examples of dog burials, and thus we must view at least Mycenaean dog depositions as a similar practice to the deposition of other grave goods (Hamilakis, 1996, 161). If we were to put all the emphasis on the dog, should the same emphasis, therefore, be placed on the other animals that were deposited?

Case Study: Dog Depositions in Mycenaean Chamber Tomb 2 at Apatheia, Galatas

LH II B – LH III C chamber tomb 2 at Apatheia, Galatas held a burial with both an unusually large number of human skeletons and evidence of at least two dogs (Hamilakis, 1996, 155). The grave goods consisted of typical Mycenaean vessels, including kylikes, jugs, and conical cups. These goods were joined by a variety of animal remains in two distinct categories. The first were scattered bone fragments from a variety of species, some of which had signs of knowing. The second was possibly two dog skeletons, both deliberately deposited (Hamilakis, 1996, 156).

The more complete dog, found in situ at a 1.15m depth in the South-West corner of the tomb, had multiple fine transverse cut marks on the left ulna bone, right rear foot, and right front foot, the latter of which showed signs of a 'saw mark', a mark left by the repeated action of a tool which cannot be replicated by gnawing rodents, which leave rounder, shallower marks (Hamilakis, 1996, 158). Because of these marks, ritual killing seems a plausible cause of death, however, it cannot be proven. This dog was an articulated skeleton, meaning the cut marks could not be because of a practice such as chopping or dismembering; the position of the cut marks coincides with the norm for the skinning process. Additionally, the lack of second and third phalanges is also supportive of skinning because they usually remain attached to the hide, although they may have passed unnoticed during excavation due to their small size. This suggests that this dog was consumed along with some other fauna during the funerary ritual.

The first dog was older than 11-12 months, and based on the measurements of the ulna, may have measured between 36.2 cm – 39.1 cm tall (Hamilakis, 1996, 159). This is smaller than Mycenaean dogs found in Tiryns, Kalapodi, and Pylos. Hamilakis (1996, 160) proposes that this may be a Brachymel dog, a short-legged Eastern Mediterranean variety. However, these

are usually smaller in stature, and it is worth mentioning that in some cases short-legged dogs were bred for pets or luxury animals, such as in the Roman period. However, small dogs have also been used for hunting in the past and present because they are better suited for certain tasks than larger dogs (Hamilakis, 1996, 160).

The second dog may be one single dog or the remains of multiple, but there is certainly at least one other dog skeleton, either fully or partially deposited in the tomb (Hamilakis, 1996, 161). The presence of maxillary first and second molars suggests the animal was mature, although smaller than the first dog; specific measurements have not been calculated. Cut marks were found on the lateral side of a right metacarpal III which have the same 'saw mark' cuts as the first dog, suggesting that this dog was also consumed (Hamilakis, 1996, 161).

Due to the large number of human burials in this tomb (at least 31), it is not possible to determine who the dogs belonged to, or the social status of any individuals buried in this tomb. However, the evidence suggests that these dog depositions are evidence of dog sacrifice and consumption, and if the dogs were of smaller stature, it suggests they were not working dogs, however this is not definite.

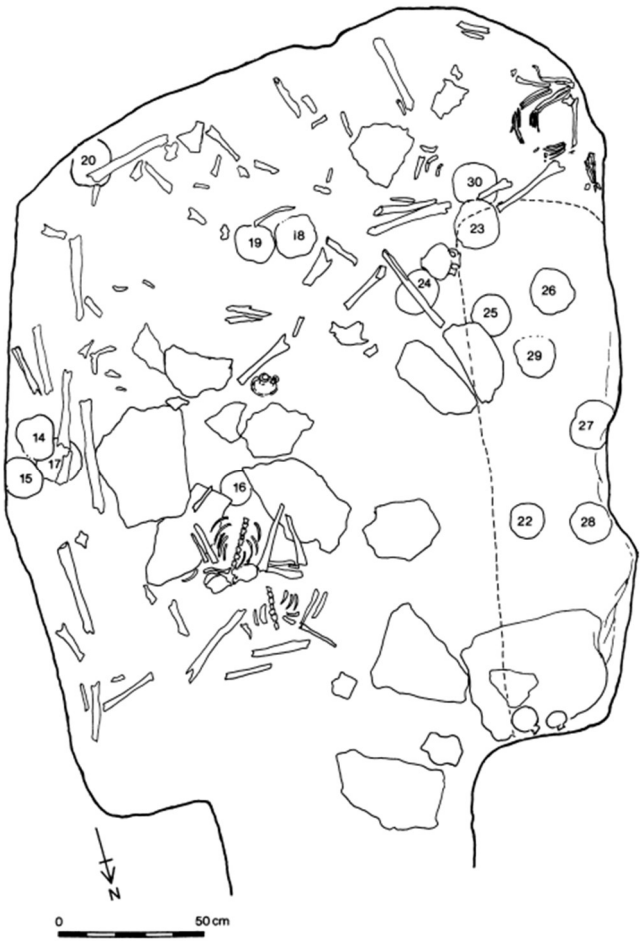

Figure 2 Plan of the Mycenaean chamber tomb 2, Apatheia, Galatas. Dotted line represents the pit where the second dog was found. Source: Hamilakis, 1996: 154, fig.1

Well-deposits

Not all dog deposits were found in tombs; there are multiple examples of dog and other animal deposits in well-shafts. One such example of a well-shaft deposit is known from Petsas House, Mycenae, an extra-palatial, craft-producing household in LH IIIA2 (Meier, Price, and Shelton, 2023, 1). The well deposit in Room Π contained refuse from surrounding rooms following a possible earthquake, including ceramics and faunal remains (Meier, Price, and Shelton, 2023, 3). Dog remains were most abundant in the lowest layer of the well, with most having cut marks suggestive of skinning for consumption (p.15). However, there is little

evidence of the crushing weight from later deposits on the dogs, suggesting they were mainly intact at time of deposition (p.16). Scholars have suggested that water in the well may have somewhat protected the bodies, so even this cannot be used solely as evidence for or against consumption (p.16). One dog possibly had a cut mark on its cervical vertebra, and there was no evidence of gnawing on surrounding fauna thus it is unlikely the dogs were alive when deposited (p.17). At first glance, the combination of ceramics and faunal remains may indicate ritual feasting involving dogs, however, the lack of cut marks on the bones may indicate the dogs died naturally, or through whatever disaster struck the area, and were then deposited in the well as a method of refuse management.

Similar to the Petsas house deposit are the LM IB well-shafts 576 and 605 at Palaikastro, which contained a variety of animals, including a total of 28 dogs (MacGillivray et. al, 2007).

Well 576

Well-shaft 576 was situated immediately to the West of building no. 6 (fig. 3). In well-shaft 576, 412 bones from approximately 23 dogs which vary in age were discovered (MacGillivray, Sackett, Driessen et. al, 2007, 185). A total of 99 bones were found in Deposits 4 and 5, dating to LM IB-LM IIIA1, seven were found in Deposit 6, dating to LM IIIA2, and 306 were found in Deposits 7, 8, and 9, dating to LM IIIA2 (MacGillivray, Sackett, Driessen et. al, 2007, 181). Deposits 4, 5, and 6 are said to be refuse deposits, suggested by the abundance of bones from food animals, some of which with evidence of canid gnawing implying they were exposed on the ground prior to disposal (p.182). Three of the bones from Deposits 4 and 5 had butchery marks: 1 humerus of a puppy, 1 right mandible of a juvenile, 1 right mandible of a mature dog. Most deposits in Deposits 7, 8, and 9 were dog bones in a good state of preservation and did not show evidence of butchery marks (p.184). The variation in condition and age means that it is not obvious what the meaning of the dogs being here is. One might

think that if the dogs were to be sacrificed, there may be more consistency in age. The surrounding remains in the deposits suggest the well was used for domestic refuse, as the other remains consist of kitchen vessels and food animals. However, Deposit 4B also contained two fragmented Horns of Consecration, and Deposit 6 a Knossian rhyton. These items do suggest a ritual significance; however, it is possible that these items were exceptional.

Well 605

Well-shaft 605 contained 134 dog bones, ranging from LM IB – LM IIIA2 (MacGillivray, Sackett, Driessen et. al, 2007, 193). The pottery which is present in this early period is dated to LM IB. In well-shaft 605, a total of 5 dog skeletons were discovered (MacGillivray, Sackett, Driessen et. al, 2007, 193). In Deposit 1, a dog skeleton showed signs that it suffered a blow to the back, as the tip of the dorsal spine is bent to the right side. In Deposit 3, there are partial remains of a dog skeleton amongst bird bones and a pair of goat horn cores. Dog bones were also found scattered throughout Deposit 5 A, B, and C.

One suggestion from MacGillivray, Sackett, Driessen et. al (2007) is that the deposits may be a ritual deposit of hunting dogs and agrimi horn trophies, but the idea that it was simply a refuse for unwanted animals was also suggested. Karetsou and Koehl compare the Palaikastro well shafts to sacrificial rituals from the Bronze Age Near East and Classical Greece, which involved the deposition of puppies and piglets in wells (2014). An analysis of the dog bones shows a dog with a shoulder height ranging between 43 and 53 cm, and that they are robust, sharing characteristics with modern terriers and Cretan hunting dogs (see fig.4. MacGillivray et. al, 2007, 196-197). If it is presumed that at least some of the dogs were working dogs, as the examples of puppies are unlikely to have been used in this way unless companions, it is saddening from a modern perspective to think of them being deposited

along with refuse when they spent a great deal of time among humans. This idea is reminiscent of Argos and his abandonment in the Odyssey, as discussed in the previous section. Although Argos was a great worker during his peak, he was left uncared for once he lost his usefulness.

Conclusion of Osteological Evidence

Although there are many more examples of dog deposits that could be discussed here, this section has aimed to cover a range of types of deposits to offer the widest discussion. The evidence of dogs in tomb burials suggests that dog companionship mattered enough to the deceased to have the dog sacrificed and possibly join them in the metaphysical realm. The context of the burial can offer supporting evidence for this, for example, if there were burial goods that suggest the dog held high significance in the deceased's life, such as the gold mastiff seal from Mycenae (see further below), the sacrifice of a dog makes sense. The well-shaft depositions offer a second environment in which we can attempt to reconstruct the human-dog relationship. The variation in age suggests that not all were working dogs, some may have been street dogs who died following a natural disaster. The combination of pottery, food animal remains, and dog remains, implies little care was given to these studied dogs. This shows that we cannot group an entire species together and generalise their relationships with humans.

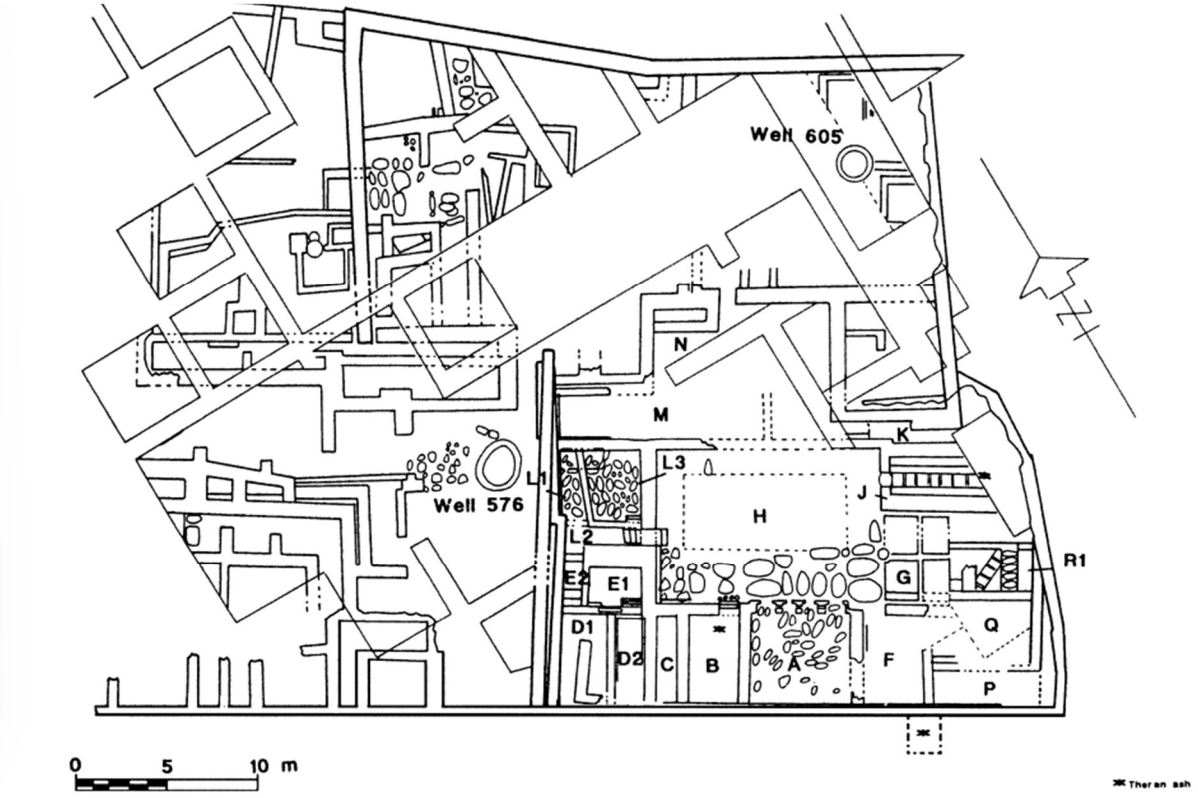

Figure 3 Plan of Palaikastro Area 6. Source: MacGillivray et al, 2007: 3, fig.1.2

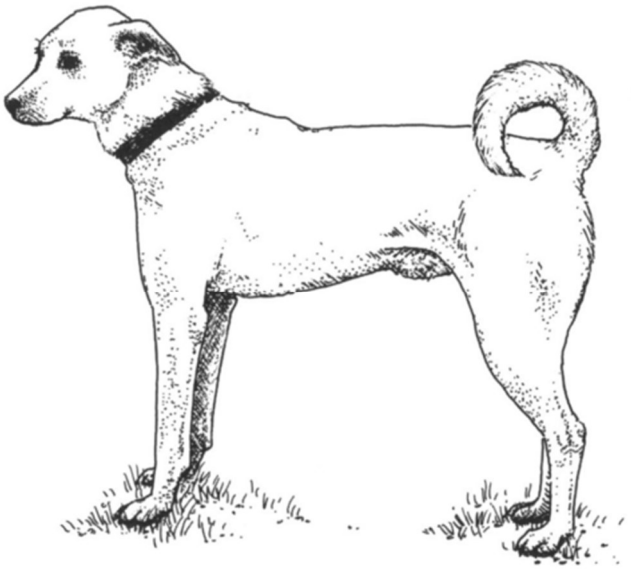

Figure 4 Drawing of a modern Cretan hunting hound. Source: MacGillivray et al, 2007: 196, fig.10.6

2.3 Iconographical Evidence

This section will discuss the evidence for human-dog relationships in Bronze Age Aegean iconography, including seals, wall paintings, and figurines. Two main breeds, which closely resemble the modern breeds of Cretan hounds and Mastiffs in their working roles of hunting and guarding, seem to be depicted in this iconography (see fig.5 for depictions of collared hounds). There is insufficient evidence to prove the dogs depicted in the iconography were the predecessors of the modern Cretan hound and Mastiff breeds. However, the resemblance in physical appearance and aptitude offers the possibility. As will be discussed, the two breeds represent two different spheres of society. Cretan hounds are used exclusively in hunting scenes, whereas Mastiffs represent the domestic sphere, acting as guard dogs.

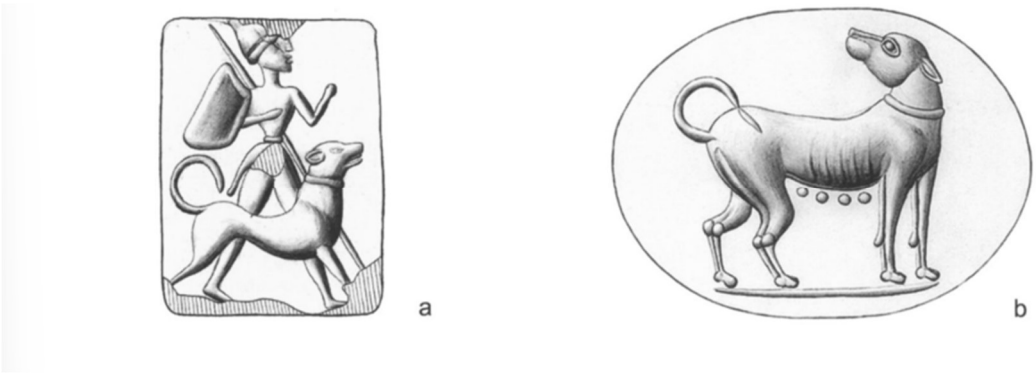

Figure 5 Drawings of seal impressions from Knossos. (A) shows a collared hound, (B) shows a collared bitch. Source: MacGillivray et al, 2007: 197, fig.10.8

Wall-paintings

Figure 6 Frieze of hunting dogs, Hall 64, Palace of Nestor, Pylos. Source: Immerwahr, 1989: 276, pl.80

The role of dogs in wall paintings focuses on their role in hunts. There are two examples from the Palace of Nestor, Pylos, fig.6 from Hall 64, the anteroom, and fig.7 from a large room above Hall 46, the small megaron (see fig.11 for plan of palace). The depiction in Hall 64 is a running frieze of life-size hunting dogs, in a couchant pose (Immerwahr, 1989, 137). Their bodies overlap similar to depictions of lions or griffins, such as fig.8, in Hall 46. The dogs in fig.6 vary in colour and sex, and appear to vary in alertness, with some ears pricked and mouths open (Immerwahr, 1989, 137). Some of the dogs wear a collar signalling domestication, but do not appear to be tied to a leash unlike other examples. Immerwahr (1989, 137) suggests they represent a real pack of hunting dogs, and are not meant to be emblematic, but more representational of real life (137). The second Pylos example is from Hall 46 and shows dogs as tall as the humans assisting with the hunt. Despite Immerwahr stating the dogs in this painting were not on leashes, I believe from the images it is evident that they are in fact on a leash, however, they are held by a human out of frame (Immerwahr, 1989, 132).

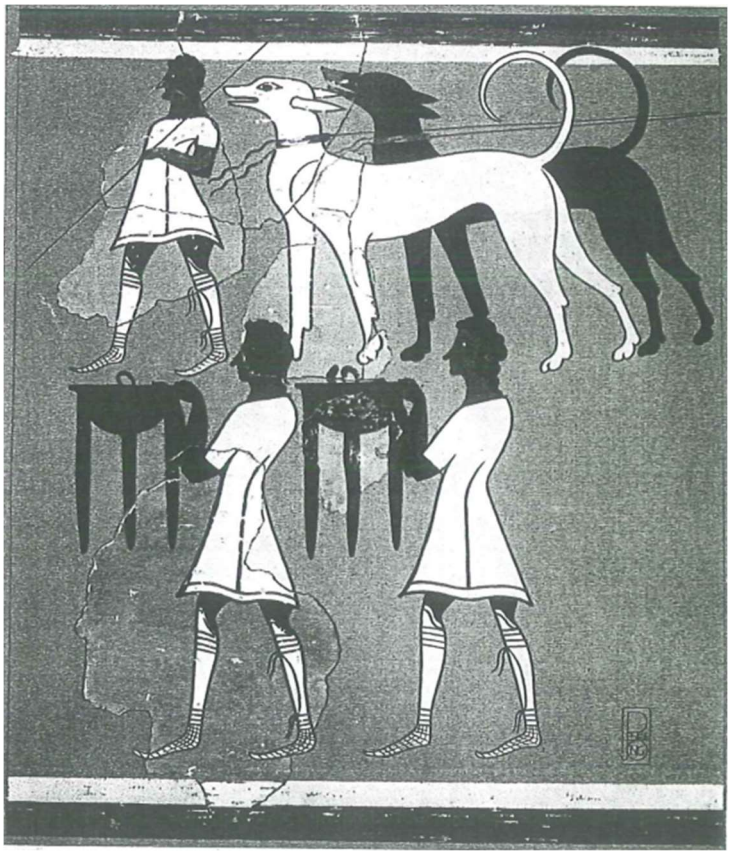

Figure 7 Hunters with dogs and tripods from the Hunting frieze, Pylos. Source: Immerwahr, 1989: 274, pl.74

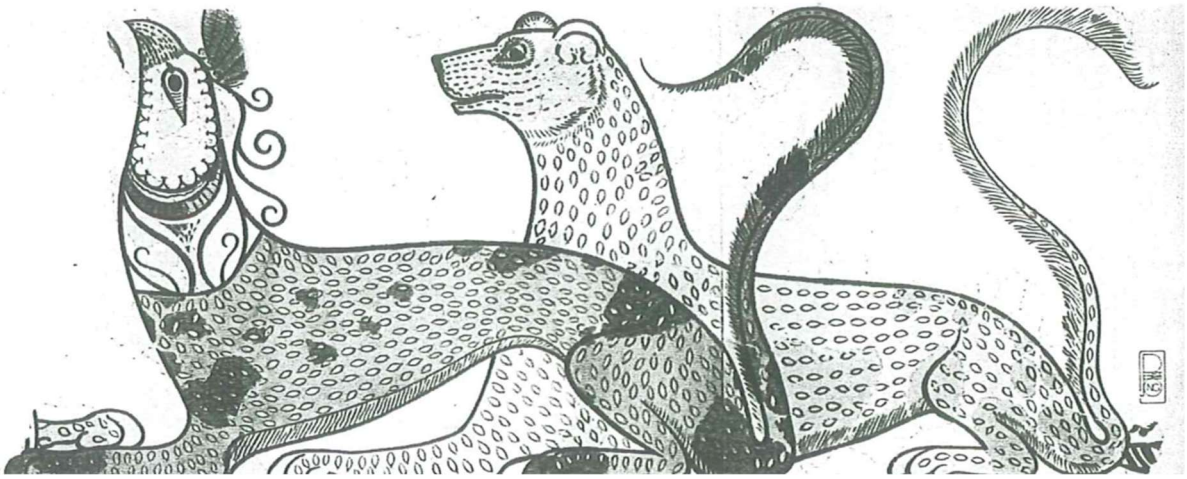

Figure 8 Lion and Griffin frieze, Hall 46, Palace of Nestor, Pylos. Source: Immerwahr, 1989: 276, pl.79

Figure 9 The Boar Hunting fresco from the Tiryns palace. LHIIIB. Source: User 'Zzvet', Dreamstime.com https://tinyurl.com/4p5vtrc3. Accessed on 02/03/24

Figure 10 The Boar Hunting fresco from the Tiryns palace. LHIIIB. Source: User 'Zzvet', Dreamstime.com https://tinyurl.com/2axbzuzn. Accessed on 02/03/24

The ‘Boar Hunt’ fresco is a LHIIIB wall painting from the palace at Tiryns. Figures 9 and 10 show two separate fragments from the fresco. Fig.9 shows a male (identifiable by the red skin) leading a horse by the reigns, and a dog, possibly a greyhound, by the leash. The dogs have been identified as Cretan hunting dogs due to their appearance. The long-pointed snout, pointed ears, and fluffy curved tail are all characteristics of the modern Cretan hunting dogs (fig.4). The fragment in fig.10 shows a group of three hounds attacking a wild boar. To the right of the boar’s head, there is a human figure pointing toward the boar, and possibly holding a spear. Cretan hounds are known today to be obedient, have a strong prey drive, and can become very attached to the humans they work with (Wisdom Panel, 2020). It is possible that modern Cretan hounds have been bred to fill these roles, and thus we cannot rely on these qualities as proof that they are direct descendants of the dogs in this painting.

It is important to examine the context of this painting to determine the significance of dogs in the scene. Those of a lower social standing would not likely have seen this painting, similar to the Pylos paintings discussed, as it was inside the palatial complex. Thus, this scene in particular would have been chosen to be depicted to other elite members of society, therefore holding some significance. The hunting scenes may be a way for the elite to express their wealth and power to those they entertain or work with. By decorating the complex with scenes which re-establish their superiority, they are conveying these messages continuously. It could be suggested that the hunting dogs are used as a pawn in their display, however, it shows that hunting dogs were held in high significance by the commissioner of the painting, and respected by the elite members of society that would view it. The Pylos examples of life-size dogs bring reality inside, but perhaps they were also more intimidating and powerful, as they could pose a higher threat.

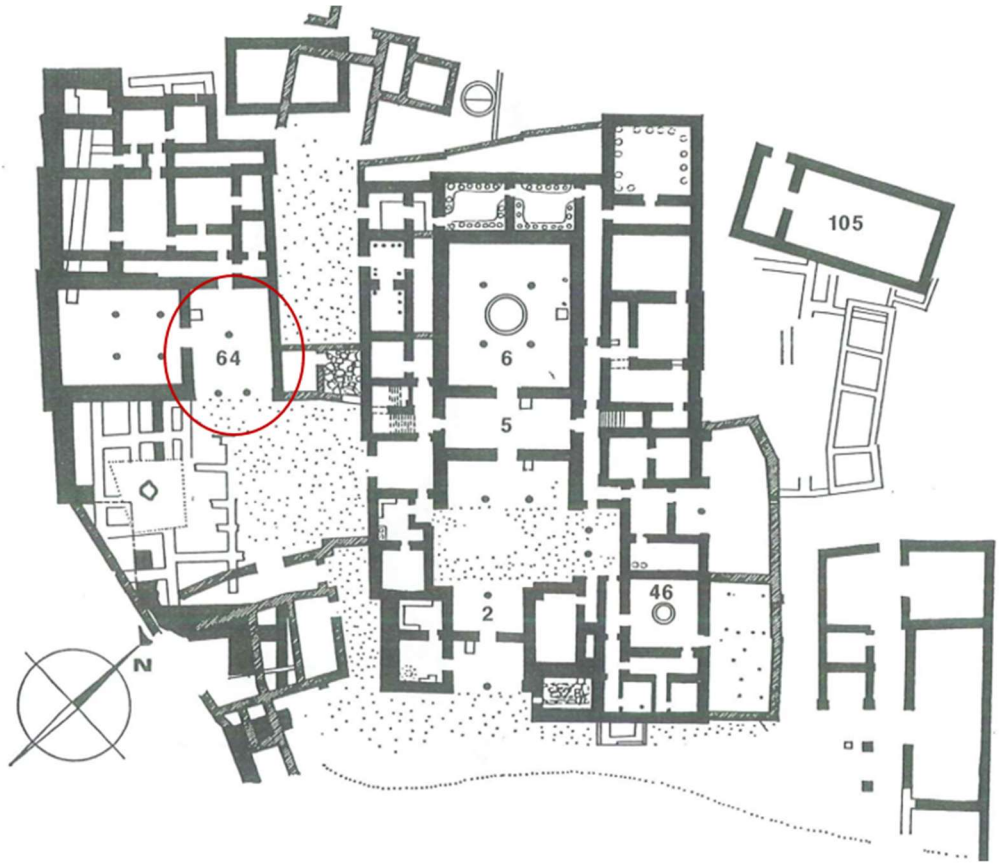

Figure 11 Map of the Palace of Nestor, Pylos. Hall 64 is circled. Source: Immerwahr, 1989: 108, fig.29

Pottery

Votive figurines

The discovery of dog figurines is uncommon, therefore the Minoan votive figurines from a peak sanctuary in Juktas are unusual (fig.12). A total of seven MMIA–LMIB dog figurines were uncovered in several areas of the sanctuary, including by the altar and in various trenches in Terrace II, allowing them to be identified as votive figurines (Karetsou and Koehl, 2014,333). Aside from the dog figurines, a range of other types of figurines were discovered at this sanctuary, including figurines of women in childbirth, phalloi, and other fauna. The dog figurines are mostly under one centremetre tall and long and may resemble either modern older mastiff puppies or young mastiff adults based on physical attributes (see fig.13 for a photo of modern-day mastiff puppy).

All except one show the same posture, lying on their stomach with their front paws tucked under their head; the exception is shown in a leaping position. Most have a collar, or at least a groove where a collar probably once sat, indicating that these are domesticated dogs (Karetsou and Koehl, 2014, 333). The figurines are made from a variety of materials: three are made from chlorite (HM3636, HM3640, HM3641), and one each from sheet gold (HM1227), ivory (HM504), lapis lazuli (HM3635), and steatite (HM3637) (Karetsou and Koehl, 2014, 333). HM504 and HM3637 may have been originally attached to another item, possibly the lid of a small box, or a dress pin. They both have small holes on the underside of the dog, possibly for dowels in the case of HM504. However, it has also been suggested that all the figurines were game pieces based on Egyptian parallels, or weights, however, these suggestions have not been taken forward as there does not seem to be a trend between the measurements and weights of the figurines (Karetsou and Koehl, 2014, 335).

Figurines were used in various spheres of human activity, including burials and ritual activities, and were reused (Tzonou, 2010, 214). Elsewhere on Crete, figurines were found in waste deposits and domestic spheres, suggesting that they may have had multiple meanings or uses for the Minoans (Tzonou, 2010, 214). Thus, one possibility is that the dog figurines were originally children's toys, which later became symbolic, and deposited. Karetsou and Koehl (2014, 338), who discussed the figurines at length, believe that the dog figurines from Juktas are symbolic of whatever the worshipper was experiencing, or wished to experience at the time of deposition. One suggestion by these authors is that they represent a transitional stage of life, due to them being puppies, not mature mastiffs. Therefore, they may have been deposited by those experiencing the transition from childhood to adolescence (Karetsou and Koehl, 2014, 338). The puppies wearing collars suggest that they are domesticated dogs, like the Cretan hounds in the 'Boar Hunting' fresco from Tiryns. HM 3636 has an engraved semi-

circle pattern on its back, which may represent a particular coat, possibly individualising the dog from others that may have been deposited at the same time. It is worth noting that this pattern was also seen on the bull's head rhyton from Knossos, and on many LM IB stone vases, so it may be simply a common motif with no greater detail (Karetsou and Koehl, 2014, 334). The only other example of a stone-carved miniature canine from Bronze Age Crete is a steatite figurine from Quartier Mu, Malia, however, this example does not share the detail of anatomical features that the Juktas figurines show.

The Mastiff-like dogs discussed have a guarding quality similar to those of modern mastiffs, as shown through a collection of seals and sealings which will be discussed next. In the case of the Juktas figurines, on the one hand, they may have been representative of a transitional phase of life, as suggested by Karetsou and Koehl, but I believe the choice of a mastiff-like dog over the Cretan hound implies the protective properties should be explored.

Figure 12 Drawings of the mastiff figurines from Juktas. Source: Karetsou and Koehl, 2014: 341, pl.XCV

Figure 13 Image of a modern Mastiff puppy lying down. Source: User 'esolex' from freepik.com. https://tinyurl.com/bdhc8n6b. Accessed on 02/03/24

Figure 14 Wooden pyxis with four mature mastiff dogs depicted in high relief, LHI, Shaft Grave V, Mycenae. Source: Karetsou and Koehl, 2014: 348, pl.CIIIc

Pyxides

Dogs are the only three-dimensional figural images depicted on the few pyxides we have from the Aegean Bronze Age, suggesting there is a link between the characteristics of the dog, and the function of the pyxides (Karetsou and Koehl, 2014, 335). Fig. 14 shows two opposing sides of a small wooden pyxis, possibly of Minoan manufacture, whose decoration consists of four mastiff dogs. There is little detail preserved, however, by attempting to analyse the posture of the dogs, it may be possible to understand the purpose of the scene. The two dogs which take up the upper register of the box are crouching on their haunches. The dog on the left image of fig.14 gives the impression of waiting to pounce, with the weight mostly on its hind legs, but its body relatively balanced and lifted from the ground. Its mouth seems to be open slightly and it is exposing its teeth, snarling, a sign of aggression (RSPCA, date unknown). The dog on the right has its buttocks raised, and front arms outstretched so the weight is further back. The head is also turned to face behind him, possibly alerted to an

intruder. Both dogs have their tails downturned which is another sign of aggression (RSPCA, date unknown). The two dogs on the lower register are smaller, possibly showing depth to the scene, or simply that they are younger. They are in similar positions to the dogs in the upper register, except their tails are upturned, possibly showing that they are alert, but not yet aggressive. The vertical rectangles may represent walls, showing that the dogs are guarding some kind of building. The lids of pyxides also depicted dogs. Two similar EM II lids were found in Zakros and Mochlos, probably created by the same artist, in which an outstretched dog formed the handle (Platon, 1985, Soles, 2004). Pyxides, as well as possibly functioning as a cosmetics box, were also used to contain the ashes of the deceased (Popham, 1986, 157). The significance of the objects contained within the pyxides could suggest that the mastiff-like dog was chosen for their protective properties, perhaps protecting the precious objects inside.

Vessels

The scene on a pictorial krater from Chamber Tomb 5, Ayia Triada, has been identified as a scene of prosthesis, the laying out of the dead body in a burial ceremony (Gallou, 2002, 297). Underneath the bier, which the deceased is lying on, a possible dog is depicted. Gallou (2002, 298) references the well-known Haghia Triadha sarcophagus decoration, which depicts animal sacrifice in honour of the dead. On the table lies a sacrificed bull, and two goats sit under the table, seemingly next for sacrifice. Therefore, the krater may depict a sacrificial scene in which the dog will soon be killed in honour of the deceased individual. Dog sacrifice is also shown through the LH IIIB dog head rhyton in fig.15. Animal head rhyta shows evidence for sacrifice and blood libations in honour of the deceased (Gallou, 2002). It has been suggested that animal head rhyta, and clay animal models, may have been used as symbolic substitutes for actual animal sacrifice (Gallou, 2002, 301).

Figure 15 Mycenaean dog's head rhyton decorated with painted chevrons, Tiryns, Late Helladic IIIB (1300-1190 BC). Ashmolean Museum, Source: University of Oxford. https://tinyurl.com/57hermva. Accessed on 02/03/24

Seals and Sealings

A seal was discovered in a large rock-cut tomb at Poros, Heraklion, dating to MM III based on the accompanying finds (fig.16). The scene shows a large dog standing or leaping across a tripartite embrasure, which has been identified as some kind of enclosure by Dimopoulou (2010, 90). The tripartite embrasure and tall branches growing behind the dog have been suggested to be like those in the MM IIIB fresco panel from room seven in the villa at Amnisos (see fig.17, Dimopoulou, 2010, 98). For a seal to be this alike a wall painting is rare, and therefore one should refer to the fresco for potential context. The fresco is said to depict a formal garden, possibly somewhere enclosed as supported by the seal. The difference

between the two scenes is that the viewer is behind the wall when viewing the fresco, but in front when viewing the seal. There are no elements of ritual on the seal, which suggests it is purely a domestic enclosure, likely a garden. The posture of the dog is similar to those of the pyxides discussed previously. The dog is in fact in an identical position to the dog on the upper left register. It is on this seal that the furrowed brow and snarl are more clearly visible thanks to the excellent preservation. To produce scenes of such naturalism, it was produced for seals made of the most precious materials. From this, and the material being sheet gold, we are aware that the owner of the signet ring with this seal was a wealthy individual. Fig. 18 shows a similar example from Ayia Triada, where a mastiff is shown walking along a wall, again potentially guarding a garden or private property. To use a guard dog for your property suggests that is not a public space, and the individual has the power to exclude. Choosing this scene for a signet ring emphasises the wearer's social standing, wealth, and power.

Other sealings feature dogs which do not share the same features as the mastiff breed. The 'Master of the Animals' is depicted on an LM II – III sealing from Knossos, which shows a male figure holding the leashes of two large dogs on either side (fig.19). In this example, the muscular strength of the mastiff has been combined with the pointed ears of the Cretan hound, clearly a hybrid worthy of a place among divinities, among birds and monkeys. This shows that these characteristics of each breed is what gave them their status importance.

Hybrids

Hybridisation has also been suggested in two LM II - III seals which may depict a lion-mastiff hybrid (Karetsou and Koehl, 2014, 338-339). Figures 20 and 21 show two seals from Isopata and Knossos, respectively. Scholars have suggested that the animal in fig. 20 appears to consist of a mastiff with a leonine head, shown by its up-right rounded ears (Karetsou and Koehl, 2014, 339). However, this thesis hypothesises that the animal can be one hundred per

cent leonine, and not a hybrid, as there are no features which are distinctly canine-like. The animal shown in fig. 21 does show features that are not leonine, including the pointed ears, which may reflect the head of the Cretan hound. The tail is very similar in style to the tails in the 'Boar Hunting' fresco (fig.9), however, the extra fur around the animal's neck can be interpreted as a lion's mane allowing for this animal to be classified as a dog-lion hybrid. I agree with Karetsou and Koehl's (2014, 339) interpretation that this is not a mastiff-lion hybrid, as the head is too pointed and the body slender to represent a mastiff. The animals in this scene have their front paws placed on the altar in the centre of the seal, indicating that they are of a religious nature. To combine a dog with a powerful wild creature such as the lion indicates that the Minoans thought the dog to possess features, whether physical or not, that would complement those of a lion, and worthy of accompanying a religious figure. To depict these creatures on a signet ring again allows the individual to emphasise the power of a lion with the elite connotations of a dog, i.e., hunting and guarding. It is a way for the individual to express their social standing once more, but almost to supersede the status of those who use only an individual dog.

Figure 16 Poros, gold bead seal, MMIIIA - LM I: mastiff on a wall. Source: Dimopoulou, 2010: 90, fig.9.1

Figure 17 Lily fresco from Room Seven, Villa at Amnisos. MM IIIB. Source: ArchaiOptix, Wikimedia. https://tinyurl.com/3athwdfs. Accessed on 02/03/24

Figure 18 Ayia Triada sealing, LM I, mastiff on a wall. Source: Karetsou and Koehl, 2014: 350, pl.CIVb

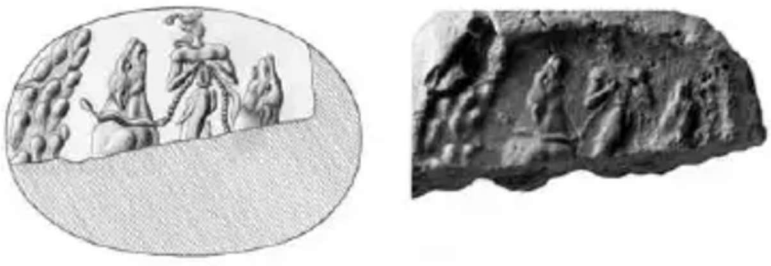

Figure 19 Knossos sealing, Archives Deposit, LM II-III, male flanked by dogs. Source: Karetsou and Koehl, 2014: 350, pl.CIVd

Figure 20 Isopata seal, Tomb 1, LM IIIA:1, two males with lion-mastiff. Source: Source: Karetsou and Koehl, 2014: 351, pl.CVb

Figure 21 Knossos, sealings, LM II-III, Room of the Wooden Staircase and Secretaries' Bureau, Source: Karetsou and Koehl, 2014: 351, pl.CVc

2.4 Conclusion of Dogs

It is now the stage to combine the wealth of information gained from the evidence discussed to reconstruct the relationship between humans and dogs in the BAA. I have attempted to include evidence from across the BAA, but due to the lack of literary evidence, there are naturally some gaps.

The literary evidence discussed relies quite heavily on the Homeric epics, due to the lack of mention of dogs in Linear B and other textual sources. As discussed on p.16, there is mention of the word '*kunagetai'* in Linear B, translating to dog hunters/ drivers, but this gives us very little evidence aside from the fact that a relationship existed between dogs and the *kunagetai*. The Homeric epics offered us a great deal of information to guide the interpretation of other types of evidence, including the emotional bond between dogs and their masters, however, the belief that dogs would turn feral after their master's death offers us a contrasting relationship.

Dog sacrifice and burials in tombs offered the deceased a final show of wealth and status, whilst also perhaps prolonging the companionship between owner and dog as long as possible, into the afterlife. The osteological evidence in well deposits shows what happened

to the dogs that were not thought of as important, or companions. Discarded and forgotten about among pottery and other animal remains shows the breadth of relationships with dogs and attitudes towards them.

The iconographic evidence introduced a Mastiff-like breed as the primary guard dogs for the Minoans and Mycenaeans. They, like the hunting Cretan hounds, were shown wearing collars, signifying their domestication. The seals and wall paintings almost exclusively represent the wealthier members of the societies, again suggesting that the dogs were used as a status symbol, and not as true companions. The possible hybrids build upon this by expressing the qualities most significant for the two breeds, the muscular build of a mastiff making it strong and perfect as a guard dog, and the large, pointed ears of the Cretan hound improving it's hearing for the hunt. The human-dog relationship will be discussed further in the Discussion chapter.

Chapter three: Cattle

3.1 Introduction

This chapter will delve into the relationship between humans and cattle in the BAA. 'Cattle' incorporates cows (female), bulls (male), and oxen (can be either gender, but usually a castrated male). Like dogs, cattle played both a symbolic and practical role, with evidence suggesting that cattle served humans in three key areas: farming, sacrifice, and sports. This chapter will be structured thematically, with a section discussing evidence for these areas. We will first explore the evidence for husbandry, including evidence from the Linear B tablets and iconography. We will then move on to examine animal consumption, including sacrifice. Finally, we will discuss the evidence for cattle in sports, such as hunting and bull games. A concluding discussion will sum up the various relationships between cattle and humans during this period.

3.2 Husbandry

Iconography and the Linear B tablets provide evidence for the domestication and use of cattle in husbandry. The information we can gain from the tablets is limited, as it revolves around the palatial centre and those operating within it, however, as will be discussed, we gain information for the distribution of cattle to farmers. Within farming, cattle were used to produce renewable products, such as calves and milk.

Ploughing

The origin of the plough in the Aegean can potentially be dated to EHI-II thanks to a group of terracotta oxen figurines from Tsoungiza hill, west of the sanctuary of Zeus at Nemea. It is

important to note that there are no obvious depictions of plough oxen, however these figurines, alongside evidence from the Linear B tablets, offer some potential information on this role and the subsequent relationship with the farmer that may have followed (Pullen, 1992, 49).

Tsoungiza Figurine 1 has evidence of a yoke being originally attached to its back, through a horizontal strip of clay being attached to the back of the horns (fig.23. Pullen, 1992, 49). The right end of the piece of clay appears to be broken. This, along with the rough texture of the rear right leg, suggests that figurine one was originally attached to another figurine. Figurine 2 has the beginning of an attachment behind the horns, indicating that it was originally secured to another figurine, replicating the modern ploughing set up (fig.22). Figurine 3 does not have any evidence of being attached to a yoke, however, the painted decoration on its back mirrors that of Figurine 1. Figurines 2 and 3 were found in a later deposit than Figurine 1, thus, the mirroring decoration does not indicate that they were originally physically connected but could suggest they were created in the same workshop or at least had the same use. This has led Pullen to believe Figurine 3 may have acted as the right-side figurine in a pair. It is uncertain whether these figurines were used to represent ploughing activities without the preservation of the yoke, especially considering not all the figurines had evidence of a yoke being attached. The absence of evidence showing wheels in the Early Bronze Age has led scholars to identify the activity of the oxen as ploughing, and not pulling a cart (Pullen 1992, 52).

The figurines offer evidence that cattle were used in the introduction of advanced agricultural technology (Pullen 1992, 53). This technological advancement would have placed greater pressure on the farmer, and therefore the oxen, to maintain productivity levels, as

this may have led to the separation of the elites from the rest of society, and eventually to the institutionalisation of this difference into social and political power. The advancement enabled the utilization of previously untouched land, resulting in increased productivity and wealth for those who were fortunate and wealthy enough to access it.

Figure 22 Photograph of modern ploughing oxen. Source: User 'Varun Verma' on Unsplash. http://tinyurl.com/y273j2ky. Accessed on 02/03/24

From the Ch tablets from Knossos, we can see that there was a bond between the farmer and the ox through the naming of the oxen (Shapland 2022, 66, 87). Personal names given to the oxen include *Aiolos* (Nimble), *Kelainos* (Blacky), and *Stomargos* (Noisy). Naming an animal shows the need or desire to individually identify each one. This may only be for practical reasons, however, the farmer, or whoever named the oxen, would have needed to develop a substantial understanding of each individual animal for those specific characteristics to stand out.

Figure 23 Ox figurine 1, top view. Tsoungiza Hill excavations, Nemea Valley Archaeological Project. Source: Pullen, 1992: 51, fig.3

Cattle Products

Cattle were used for their hide and horns. Their hide was used to decorate figure-of-eight shields, as shown in fig.24, as well as in garments, such as the hide skirts and capes worn for religious processions (Shapland 2022, 147). Figure-of-eight shields were depicted on seals from the Neopalatial period, and a variety of objects in the final palace period (Shapland 2022, 146). They have been defined as both practical items and symbolic devices, appearing on items including seals, pottery, and wall paintings. The use of hide may have been entirely practical, offering warmth and durability, however, it may also have acted as a trophy for those who have hunted the animal, thus placing symbolism on the product. In this case, the practical use of hide creates a reliance on the species for warmth and quality fabric, as well as the symbolic relationship for elite members of society.

The horns of cattle were also made use of, however, the evidence for this is indirect. For example, cut-horn cores have been found in a Protopalatial deposit close to the palace of Knossos and elsewhere (Shapland 2022, 126-127). Decoratively, the Vapheio cups were

designed as shallow and straight sided, and consistent with the dimensions of horn cores reported from Bronze Age Crete (Shapland 2022, 98). This suggests the horn core, not the sheath, held some significance. A simple explanation may be because the horn is the part of the animal that was most dangerous to a human, therefore, to remove it would be removing all power from the once dangerous animal. Aurochs, wild bulls, and modern cattle, can have a dorsal stripe running down the centre of their backs, suggesting that the thick stripe in the centre of the depictions may represent these, thus, the back of the animal may have been used to decorate the shields (Goderie et. al 2015, 25).

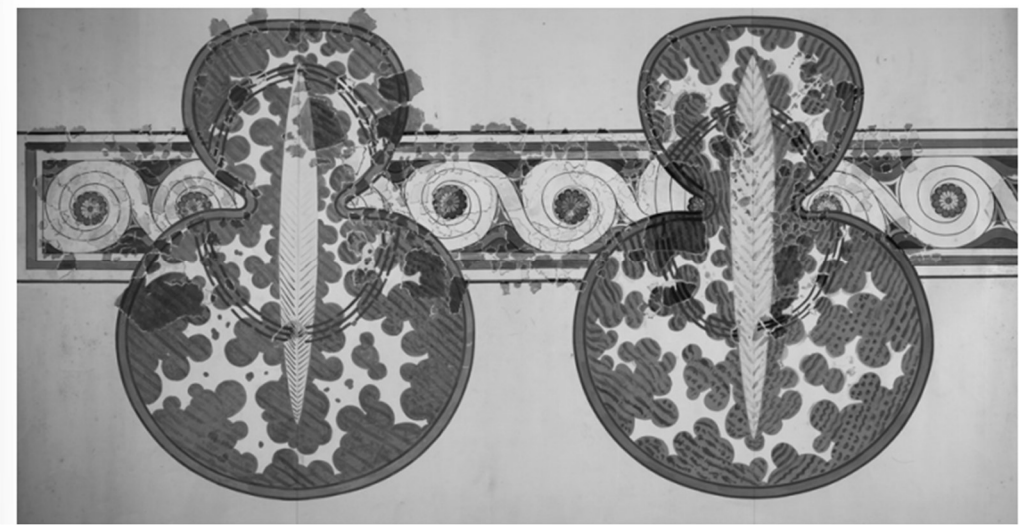

Figure 24 Drawing of the Shield fresco from Knossos, LMI-II. Source: Shapland, 2022: 97, fig.3.12

Domestication led to the creation of relationships between farmers and cattle particularly when the farmers relied heavily on the animal for their own success. Notably, different genders and sizes may have been preferred depending on the farmer. For example, Halstead (2014) suggested that small-scale farmers may have preferred cows, with oxen being

reserved for the palace. This would be unsurprising when one considers the difference in cost both short-term and long-term between the two, with a larger animal requiring more regular feeding (Halstead 2014, 60). In Neolithic Crete, traction pathologies on cow's pelvises have indicated that female cattle were used for ploughing instead of oxen. Females may have been preferred because of their multiple uses, providing milk, calves, and eventually meat (Shapland 2022, 68). This theory is not necessarily restricted to the farmers of Neolithic Crete, as it offers a logical, more economical option for farmers and the local community.

Scholars have suggested that cattle figurine depositions at sanctuaries may represent a farmer asking for the protection of his herd (Peatfield 1992; Rutowski 1986; Shapland 2022). Logically, it would not make sense to sacrifice a member of your herd in order to protect them, thus depositing figurines was the affordable way to do this. The Tsoungiza figurines, as previously discussed, may have been deposited for this reason, as discussed below.

The evidence discussed offers insight into the relationship between farmers and cattle by providing evidence of the working role of cattle alongside farmers. When one considers the pressure on farmers to keep up with demand from the palace or other farmers, and therefore the pressure placed upon the cattle to produce and plough, it can be suggested that reciprocated respect would be required for both the farmer and cattle to be productive. If the cattle do not perform, the farmer is less productive, in turn affecting the attitude the farmer has towards the cattle. An interesting point to explore here is the relationship between cattle and workshop workers, i.e. the human who turns the cattle into useful materials. If the animal came to them already killed, the cattle do not play an active role in their relationship. If they kill the animal, they do not need to rely on the animal to perform a certain way for their success, instead, they are constantly overpowering the animal.

3.3 Sacrifice and Consumption of Bulls

Evidence for cattle sacrifice and consumption comes from iconography, Linear B tablets, and zooarchaeological remains.

Perhaps the clearest evidence for cattle consumption is the evidence from the Linear B tablet *Un 718*. This particular tablet details donations for a feast of possibly well over 1,000 people, including the donations of cattle feast from four sources, two individuals and two corporate bodies (Nakassis, 2012, 3). One of the sources, *e-ke-ra-wo*, donated half of the total foodstuffs including the only bull, an expensive and valuable donation. The wealth of the donation has led to the suggestion that this person was the *wana*x of Pylos, however, this suggestion is not supported by all (Nakassis, 2012, 5). Similar to this, is a group of sealings from Thebes, which mentions the importation, and subsequent consumption, of cattle amongst other animals (Andreadaki-Vlazaki, 2008, 116).

The MMIA bull rhyton in fig.26 from a tomb at Phourni, Archanes, was accurately modelled with painted stipples to indicate the bull's coat, and possibly polled horns making the bull less of a danger to humans (Koehl, 2006; Shapland 2022). This may show that the humans have taken away the power and strength that the bull held and reclaimed it. Shapland suggests that this example signifies the shift from zoomorphic rhyta which were primarily vessels, to rhyta which primary functioned as figurines, and that the emphasis on the physique expresses the importance of prime cattle for the owners (2022, 71).

The significance of bull's head rhyton (figs.27, 28) has been discussed by a number of scholars. Miller (1984), Popham (1984) and Rehak (1995) agree that the naturalism of the bull's head rhyton allowed the individuals to be drawn in and relate to the vessel as if it were

a live bull. Although rhyta might have been intended to represent disembodied heads, the artists had taken great care to ensure that stylistically it did not appear that way. Shapland (2022, 115) notes how the objects could be reanimated when liquid was poured through rhyta, recreating the sacrifice repeatedly, without the need for actual sacrifice. It has also been suggested that rhyta were used to pour alcoholic beverages, possibly wine to resemble blood, which would give great symbolic power to the individual drinking the metaphorical blood of a slaughtered animal (Shapland 2022, 116).

Figure 25 Three bull rhyta found in the platform deposit of Room IL, Phaistos. Source: Caloi, 2017: 46, fig.13

Figure 26 MMIA Bull Rhyton from Phourni, Archanes. Source: Shapland, 2022: 71, fig.3.2

Figure 27 Bull's head rhyton from Zakros, LMI. Source: Shapland, 2022: 114, fig.4.3

Figure 28 Bull's head rhyton made from silver and gold from Grave Circle A, Shaft Grave IV at Mycenae. Source: Bkwillwm, Wikimedia. https://tinyurl.com/mpa8nmbz. Accessed on 02/03/24

Wall paintings

The Palace at Pylos held feasts fit for “thousands of people” (Wright, 2004, 5). Alongside the Linear B documents educating scholars about the feasts, wall paintings provided evidence. The two LH frescoes from the Megaron Unit at Pylos have been interpreted as forming part of a decorative program of the entrance rooms to the central megaron. The first fresco depicts a procession leading a bull into the antechamber of the megaron, and the second shows a lyre-player, bull, and individuals seated on campstools (figs.33, 34. Wright, 2004, 42).

In the first painting, the bull, which sits at the centre of the painting, is twice the size of the humans. Immediately we can assess that the artist wanted the bull to be the focus of the scene (fig.33). The humans have been divided into two horizontal registers, within those two registers are three vertical divisions with the bull at the centre. It is a processional scene, with the humans and bull walking towards the left of the painting. In the upper left register, two figures appear to step into the shorthand for a temple, supporting the ritual aspect of this scene, and therefore the sacrificial role of the bull. The use of this imagery in a palatial structure only emphasises the dominance of the palace over the rest of the land by expressing its status and power.

The painting has been compared to the processional scene on the Ayia Triada sarcophagus from Crete, which dates to c. 1370-1360 BC (Burke, 2005, 403). As the decoration is on a sarcophagus, we can assume the scenes are of a funerary nature. The processional scene, shown in fig.33, is also divided into three vertical sections like those on the Pylos fresco, indicated by the change in coloured background. A group of figures moves towards the left of the scene towards what looks like a shrine, whilst another group move in the opposite direction towards what has been interpreted as either the deceased and their tomb, a cult

statue, or a deity. The two figures in the centre carry what appear to be bull rhyta or figurines. Based on the size in comparison to the human figures, the more likely interpretation is rhyta, however, when compared with the proportions of the bull and humans in the Pylos fresco, realism may not be necessary. Regardless, the objects serve to depict the significance of the bull's role in the ritual being portrayed.

On Side A of the sarcophagus is a sacrificial scene. In the centre, a bull lies tied to a table, blood dripping from its slaughtered neck (fig.31). The bull looks directly out to the viewer to signify death, a motif shown on a sealing also from Ayia Triada (Long 1974). The bulls on both sides A and C share a spotted hide. While it is possible that the figurine with a spotted hide represents the slaughtered bull prior to its sacrifice, there is not enough evidence to support this theory and it may simply be a coincidence, as the second figurine/rhyton does not appear again. The two figures on the Side B of the sarcophagus are seated with a blue spotted hide, like those on the bulls, over their laps (fig.30). The griffin drawing their chariot has led experts to identify these figures as deities, indicating the bull's importance in the supernatural realm, which is regarded as more powerful than the living world (Long 1974). The sarcophagus alone reveals numerous uses of bulls and provides insight into their potential significance in Minoan and Mycenaean culture. The decoration emphasises the reliance on bulls for sacrifice, as well as their hides for utility, affirming the power and wealth of the deceased.

Thanks to the location of wall paintings, we can reconstruct official rituals that took place within palatial structures. These scenes allow an artist to depict a whole scene or multiple scenes, which would be difficult to depict on other mediums. The paintings discussed have provided strong evidence of cattle sacrifice, and by comparing the Pylos frescoes with the

painted decoration on the Ayia Triada sarcophagus, it is apparent that the sacrifice of cattle can provide multiple uses, including hide and food for feasting.

Figure 29 Close-up of the bull slaughter depicted on Side A of the Ayia Triada sarcophagus, LMIIIA. Source: ArchaiOptix. Wikimedia. https://tinyurl.com/bf3b3t4w. Accessed on 02/03/24

Figure 30 Side B of the Ayia Triada sarcophagus depicting two deities driven by griffins in a chariot; a hide covers their legs. Source: ArchaiOptix. Wikimedia. https://tinyurl.com/4k7sf28v. Accessed on 02/03/24

Figure 31 Stone sarcophagus, side A, Ayia Triada, c.1400 B.C., Heraklion Museum. Source: Carole Raddato, Wikimedia. https://tinyurl.com/v3c9ntry. Accessed on 02/03/24

Figure 32 Stone sarcophagus, side C, Ayia Triada, c.1400 B.C, Heraklion Museum. Source: Latsis Foundation, 2005: 172

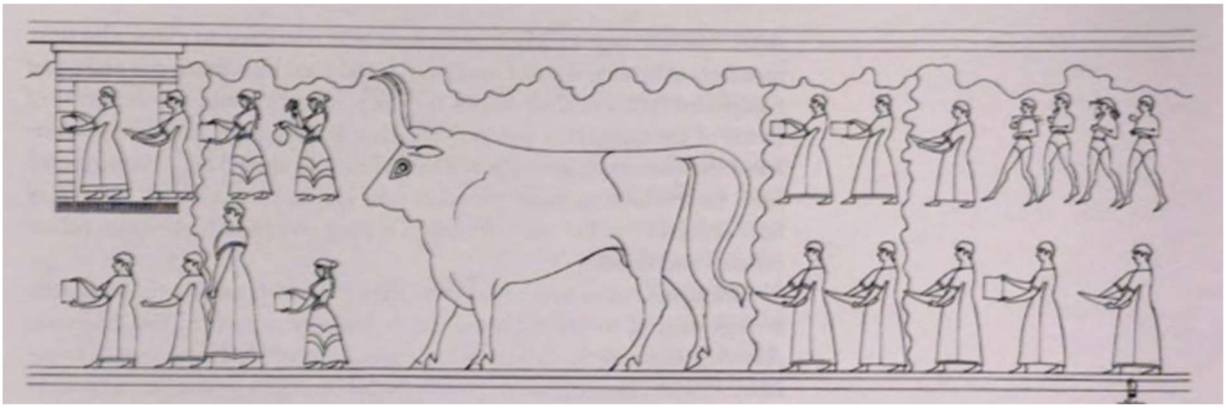

Figure 33 Drawing of the Procession fresco from the Pylos megaron, drawing by Piet de Jong, Piet de Jong Papers; Source: Wright, 2004: 162, fig.12

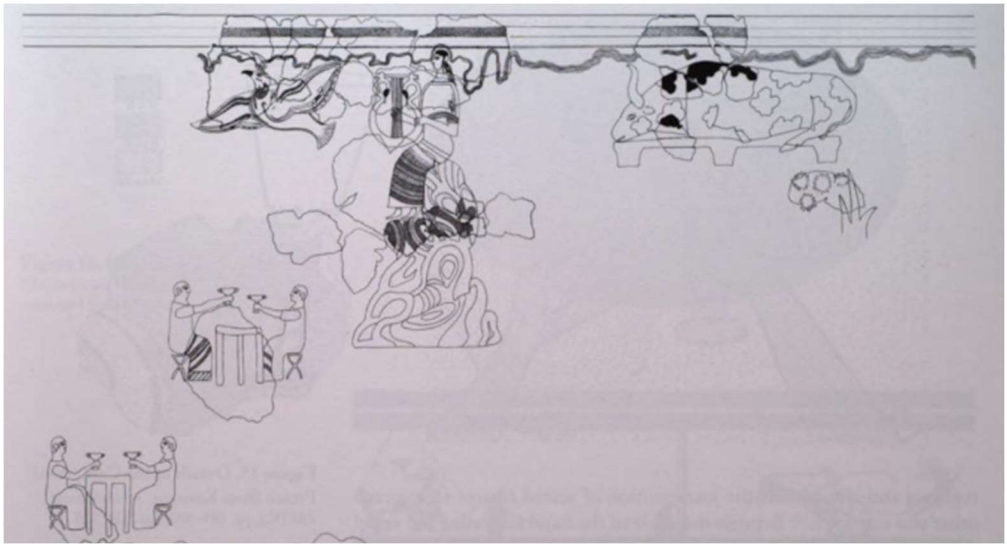

Figure 34 Drawing of the Procession fresco from the Pylos megaron, drawing by Piet de Jong, Piet de Jong Papers. Source: Wright, 2004: 162, fig.13

Seals

Seals also feature the slaughtered bull motif and offer a new context to explore its significance. Figs. 36 and 37 feature a slaughtered bull lying on a platform, possibly an altar. The presence of an altar signifies the ritual nature of the slaughter, showing that it is not a simple butchery scene purely for food, but a sacrifice. Underneath the platform in fig.36 is an animal head, either the head of a sacrificed animal, or potentially a rhyton. Given the position of the bull, the head of a sacrificed animal makes more sense than a rhyton. It should be noted that it is not just the motif of a slaughtered bull that appears on seals. Cattle in a variety of positions and scenes decorate seals, many in seemingly unimportant positions such as scratching their head with their hind leg, licking their hind foot, or standing with their head turned backwards. These positions may be depicted as they are easy for an artist to witness from a distance and may have practical benefits such as fitting the curve of the object; however, the naturalism of the scene may have been important also. As the individuals who commissioned the seals chose not to have a more complex scene depicted, it may be suggested that it was the animal itself that held significance, and not whatever role they were playing in this instance.

Figure 35 Drawing of a clay seal depicting a bull lying down with its head turned back, possibly on an altar. Found at the entrance of the Royal Tomb at Isopata. Source: Evans, 1928:694, fig.515

Figure 36 Seal featuring a possible sacrifice scene showing a bull lying on an altar. Knossos, LMIIIA. Source: Shapland, 2022: 111, fig.4.2a

Figure 37 Drawing of an agate lentoid seal with the depiction of a slaughtered ox above the slab of an altar. Source: Evans, 1928: 41, fig.24

Burials

Cattle remains in burials show that cattle were likely sacrificed during the funerary rites, expressing their significance in the deceased's life. Many of the cattle remains were found among other animal remains, such as an EM tholos tomb from Krasi, Crete, which held remains of a variety of animals including teeth from one cow and a dog (Price, Meier & Arbuckle 2021). Similar to this burial is the LH I – LH IIB tholos tomb burial from Patras, Achaia, which also contained remains of cows, sheep, and goats (Day 1984; Price, Meier & Arbuckle 2021). Three out of the eight inhumations in the LH IIIA:2 tholos tomb burial from Oxylithos, Euboea, contained remains from a cow, sheep, goat, and pig (Day, 1984). In this case, the humans were a woman, a youth, and a boy, suggesting that there was no gender or age-specific requirements for burials with these animals. To be buried with a variety of animals may suggest that the animals were sacrificed and consumed during the funerary ritual, however, may also indicate the animals were left as provisions for the deceased's journey to the afterlife.

Chapter Two discussed the discovery of dog remains in the Palaikastro wells where cattle remains were also present (Wall-Crowther, 2007). In Well 576, cattle horns were discovered in deposits four and six. In deposit four, a small piece from the base of a horn core was discovered, attached to the frontal bone, bearing four knife-cut marks in parallel. These marks imply that the animal was sacrificed and skinned, thus possibly consumed. In deposit six, a large horn core, likely from an adult male, was found, featuring the typical 'Longhorn' shape, as depicted in Minoan cattle images. Given their size and usefulness in husbandry, it is unlikely cattle were consumed for purely domestic reasons, instead reserved for feasts of a ritual or celebratory nature.

A rural shrine in Nemea-Tsoungiza had a Mycenaean dump with cattle skeletons, eating and drinking vessels, and figurines, suggesting palatial cult activity (Halstead, 2003, 259). The wealth of waste suggests that the meaty parts of the sacrificed animals were distributed to the participants, possibly to take home for consumption. A similar deposit was discovered in the Mycenaean Palace of Nestor, Pylos, where there is evidence of the consumption of considerable quantities of meat from several cattle (Halstead, 2003, 259). In both burials and palatial contexts, the presence of cattle remains indicates the significant role they played in the rituals of these communities. Sacrificing a cow would have been a costly matter, and the farmer would have had to forego the animal's productivity. To consume the animal offers the nutritional benefits of consuming meat, but also held the symbolism of power and wealth.

3.4 Bulls in Sports

Bull Games

Bull games were a sport and performance which connected the elite Minoans; however, the details are often contested. Bull leaping is the most depicted bull game in imagery, however, there is also evidence for cattle restraint or capture, which may be a separate sport, part of hunting, or part of bull leaping. Younger (1995, 509) states that bull leaping was one of a sequence of activities including capture, wrestling, and sacrifice. Potential meanings behind the bull games can be inferred from the variety of materials that the scenes decorate, including figurines and wall paintings. Bull capture may have been part of young men's martial training (Shapland, 2022, 146).

The act of bull leaping involved an individual jumping and taking hold of the horns of the bull and somersaulting their way over the back of the charging bull. The Taureador fresco from the Court of the Stone Spout, Knossos, 1400-1450 BC, shows that potentially multiple individuals participated in the sport at once (fig.41). The Taureador fresco captures the

moment when the red figure pushes off the back of the bull at the centre of the frame. Two white figures flank the bull, with the one on the left taking hold of the horns, likely to initiate their leap as controlling the bull with just the horns seems improbable. The figure on the right stands with raised arms and faces the action. If they had completed their leap, they would face the opposite direction from the other two figures. It is possible that this figure is there to catch the red figure at the end of their leap, or it may have been a stylistic choice to allow for symmetry. The moment of the leap is understandably the most aesthetically impressive part of the sequence. When creating depictions of the sport on figurines or jewellery with limited surface area, the most efficient way to represent it is by showing a figure pushing off from the bull. This is a more compact option compared to the freedom of wall paintings. An LMI bronze bull and leaper figurine from Rethymnon shows the moment the leaper takes hold of the horns and pushes themselves over the back of the bull (fig.38). It could be argued that this is the moment in which the individual is most in control of the bull, thus expressing the highest strength and power. It is also one of the most dangerous moments in the sport, emphasising the bravery of the acrobat.

It is believed that bull leaping games were popular in the Eastern Mediterranean, as evidenced by depictions found on Syrian seals, a Hittite relief vase, and frescoes at Tell el Dab'a in Egypt (Zeimbekis, 2006). The practice was particularly prominent in Knossos, where bull leaping imagery was widespread and became a defining feature of the palace (Shapland, 2022). Examples such as a Mycenaean signet ring bearing an image of a bull leaping scene shows that the sport, or at least appreciation for the sport, did not disappear into the Mycenaean civilisation (fig.39). The depictions emerged in Crete during the Neopalatial period, when Knossos was gaining influence throughout central and Eastern Crete. Knossos' territorial expansion is shown through bull imagery around the island, for example clay

packet sealings with bull depictions on from various sites have an origin in the area of Knossos (Goren and Panagiotopoulos, 2009, 258). From the evidence, there appears to have been a deliberate effort to link the palatial centre of Knossos with bull games through imagery in jewellery, wall-paintings, pottery, and figurines. Shapland (2022, 90) suggests that the depictions show a shift from localised herding to a ranching system, raising herds of animals on a large plot of land. Ultimately, this would have been a way for the palace to reaffirm its status and power in the community by containing these events within the palace. It may have been both the qualities of the bull, and its high practical significance, which made it the ideal motif for the elite members of society to use in their iconography.

Figure 38 Bronze group of a bull and acrobat. LMI, 1600 BC-1450 BC, Rethymnon. Source: The British Museum. https://tinyurl.com/4brwmcu6. Accessed on 02/03/24

Figure 39 Gold signet ring from the Acropolis of Athens, 1500-1400 BC. Source: National Archaeological Museum at Athens: Collection of Prehistoric Antiquities, inv. no P 19356. https://tinyurl.com/yyu3bp2u. Accessed on 02/03/24

Figure 40 Bull-shape clay vessel with acrobats, Koumasa, ca. 2000-1900 B.C. Source: McInerney, 2011: 9, fig.2

Figure 41 The Taureador fresco. Knossos. Source: Heraklion Museum. https://tinyurl.com/2fce46rt. Accessed on 02/03/24.

Hunting

It is possible that hunting cattle was a rite of passage for young males. The MMIII-LMI Chieftains Cup from Ayia Triada shows two scenes (fig.42). The first shows two males facing each other, with the figure on the right standing in front of what has been interpreted as a pillar (Koehl, 1986, 99). He wears a collection of jewellery, and a dagger inserted into his belt. The figure holds a straight staff with one hand, whilst his other hand is empty. The left figure is more simply dressed, and his hair is shorter and placed in a topknot. He holds a long sword in his right hand, and possibly a ritual sprinkler in his left (Koehl, 1986, 99). On the other side of the cup are three male figures who carry large animal skins, most likely ox hides. The scenes were originally interpreted as a military procession due to the sword and ox hides

which have also been interpreted as shields (Parabeni, 1903, 324). However, the later identification of a ritual sprinkler by Evans (1928) suggested a more ritual atmosphere. While this thesis will not delve into each interpretation, a common thread among them all is that the two figures are of different ages. Koehl (1986, 100) has put forth the idea that these scenes represent Minoan rites of passage, citing the top-knot hairstyle as one reason for this interpretation. This hairstyle is often associated with youths, suggesting a transition from a previously shaved scalp to growing hair on the head. The purpose of these rites of passage was to celebrate the initiation of a young person into a group, in this case marking the transition from youth to adulthood for young men. As part of this rite of passage, it was customary for an elder to gift a cup, among other gifts such as ox hides, to a youth. Koehl (1986) believes that the Chieftains cup, with its chosen imagery, may have been a gift from an elder to a youth partaking in a rite of passage (pp.105-106). Another duo of cups which display hunting are the gold Vapheio cups (Davis, 1974). The two cups have been named the 'quiet cup' and the 'violent cup' by scholars and were discovered among a wealth of high-status items including a gold signet ring and fragments of an inlaid dagger (Gallou, 2020, 30). In fig.43, the "quiet cup" portrays a bull being captured calmly with a rope around its leg. The "violent cup" depicts a bull caught in a net while another bull attacks two out of three hunters in fig.44. Nets would have been one method to capturing them but would have required someone to wrestle and restrain the bull, a task requiring strength and bravery (Shapland, 2022, 93). These depictions therefore show the challenge and danger of capturing feral bulls, potentially a part of young men's military training (Shapland, 2022, 99). Both the Vapheio cups and the Chieftains cup would have their meaning reinforced each time they were used for drinking, and again for the final time when buried with the deceased, indicating the significance of the act for men.

Figures 45, 46, and 48 show three examples of seals that depict the hunting of cattle. Figure 46 (LMI) shows a bull caught in a net, but not yet struck. Figure 45 and 48 both show a bull which has been speared. Notably, Shapland points out that the short horns of this bull represent the domesticated bull that would have been hunted on Crete, different from the Auroch (wild bull) that would have been hunted on Mainland Greece (2022, 92). Loughlin (2004, 183) has suggested that images on seals and wall paintings depict calves being hunted and sacrificed. The portrayal of wounded or dying calves might not necessarily be linked to hunting as a sport but rather could be interpreted as symbols of sacrifice. The seal depicted in fig.47 further supports the idea of a ritual nature, as it displays a figure-eight shield positioned above the calf, which could potentially be adorned with cattle hide. Loughlin (2004) proposes that the shield's material and purpose suggest the possibility of a renewal ceremony. There may have been practical reasons behind the killing of a calf, including protecting the supply of milk, as well as using the calf as a source of veal, soft leather, and bone (Loughlin 2004), however, there are inconsistencies with this theory. There is little evidence of calf sacrifice, and when one considers the stylistic choices an artist would have to make when working on seals, it makes more sense to view these depictions as simplified versions of mature cattle. With a much smaller surface area on seals, bodies may be rounded, or certain features left out.

Figure 42 The Chieftain Cup, Ayia Triada, Neopalatial period (c.1600-1450 BC). Source: Latsis Foundation, 2005: 154

Figure 43 The 'quiet' gold cup from the tholos tomb at Vapheio, Laconia. LH IIA (c.1500 BC). Source: Zde, Wikimedia. https://tinyurl.com/4mehbc74. Accessed on 02/03/24

Figure 44 The 'violent' gold cup from the tholos tomb at Vapheio, Laconia, LH IIA (c.1500 BC). Source: National Museum of Athens. https://tinyurl.com/37sfr5yz. Accessed on 02/03/24

Figure 45 Seal depicting a speared bull, Knossos, MMII-III. Source: Shapland, 2022: 90, fig.3.9

Figure 46 Seal showing a bull caught in a net, LMI. Source: Shapland, 2022: 90, fig.3.9

Figure 47 Drawing of a seal showing a calf and a figure-of-eight shield. Late Minoan. Knossos. Source: Loughlin, 2004: 184, fig.3

Figure 48 Drawing of a seal featuring a calf struck by a projectile. Late Minoan. Knossos. Source: Loughlin, 2004: 184, fig.2

3.6 Conclusion of Cattle

The term "cattle" encompasses cows, bulls, and oxen. Due to the scope of this chapter, I have not been able to discuss every single depiction of cattle in all media, however, have attempted to build a clearer picture of the role of cattle through a variety of examples.

Upon analysis, during the BAA, distinct roles were assigned to cattle, and while cattle are mainly used for farming like today, bulls played a particularly unique role. Farmers who use cows and oxen are dependent on them for future security. This reliance on cattle for financial stability creates a strong bond between the farmer and the animal. It is comparable to the relationship between an elite and their hunting or guard dog but with the added necessity of survival. A Stable Isotope Analysis conducted on evidence from Ayia Triada and Voudeni, alongside published records, shows that humans mainly got their animal protein from goats, sheep, and cattle (Petroutsa and Manolis, 2010, 619).

The Linear B tablets and iconography particularly show that oxen and bulls were highly regarded for their physical prowess and strength. Oxen were mainly utilised for practical purposes, while bulls were often used symbolically. Wealthy individuals who participated in bull games and hunting relied on the bull's strength and power to showcase their own status and individual power. The use of a bull's head rhyton evokes similar qualities through ritual. The seals suggest it was unnecessary to depict a whole hunting scene, and it would have been tricky to do so on such a small area. Like the bull-leaping seals, the seal depicting the struck calf focuses on the climax of the act. Even though only one moment is depicted, it effectively conveys the desired qualities that the seal owner wishes to express. To refer to the discussion of cattle sports as a rite of passage, young individuals entering the next stage of their life may have relied on cattle to gain respect from their elders and the rest of the

community. In turn, cattle, including bulls, may have become symbols for this significant stage in an individual's life, potentially representing the qualities that they themselves would be striving to embody, such as strength and power.

It is worth mentioning that hunting cattle served practical purposes as well. According to Loughlin (2004), in a hunting scene depicted on a LM III clay larnax from Armenoi, hunting feral cattle could have been a means of reducing their population, given limited resources to feed domesticated cattle. Despite this, the deliberate portrayal of such scenes on wall paintings and seals indicates that there was likely some symbolic significance attached to the activity. The use of leather for shields, shoes, leather pouches and more, shows the general reliance on cattle to further the quality of their items and increase durability.

Chapter Four: Human-Animal Studies in the Modern Day

The study of HAR is not limited to prehistory. With modern studies conducted by scholars on this subject changing how we view our relationships with animals, reviewing these may help us to reinterpret ancient evidence. This chapter will address relevant modern studies of human-cattle and human-dog relationships and will apply the new-found knowledge to the evidence discussed in this thesis, in the following chapter. Firstly, it will argue in support of the use of modern studies on ancient evidence.

Many studies show that the human brain is biologically hardwired to react in certain ways with certain animals (DeLoache & Lobue, 2009; Bertels et al., 2018; Bertels et al., 2020; Bertels et al. 2023). The 'Fear Module' developed in primate brains as a result of evolutionary pressure, even if the human had no prior interaction with the animal (Bertels et al., 2023). This thesis aims to argue that if the brains of modern humans have similarities to those of our earliest ancestors, it is not irrational to suggest that there will be also similarities between the brains of those who lived in the BAA and those who live in the modern day, particularly in our attitudes towards animals.

An important step in studying HAR is to characterise the interactions that have significance for both parties, as this then allows us to understand the influence of these interactions on the quality of the relationship. Interactions have been defined as sequences where one individual expresses a behaviour to another, sometimes resulting in the second individual responding with a behaviour (Hinde, 1976). It is not always necessary for an observable reaction for an interaction to have occurred (Hosey, 2008). Through these interactions, dogs and cattle may begin to associate humans with rewards or punishments during certain interactions, and therefore condition over time (Breuer et al., 2011).

There is a link between the role the animal plays in the world and the concern for consuming or using the animal, for example, there is more concern for dolphins than cattle (Krings, Dhont, and Salmen, 2021, 788). Additionally, more value is placed upon animals whom we believe hold more emotional capabilities and intelligence, such as dogs, over animals we commonly consume like cattle (see fig.49 for a chart detailing the moral concern for different animal categories). Unfortunately, the research on why this is the case, is lacking (Krings, Dhont, and Salmen, 2021, 788). The intelligence and emotional capabilities of dogs and cattle were discussed in Jardat and Lansade (2022). Jardat and Lansade (2022, 369) have suggested that HAR are based upon five sociocognitive abilities of the animals: "discriminating and recognising individual humans; perceiving human emotions; interpreting attentional states and goals; using referential communication; and engaging in social learning with humans". Research suggests that dogs can distinguish individual humans based on visual and auditory cues, such as viewing photographs of their owner. Dogs are also more sensitive when listening to humans with an angry voice rather than a happy voice, as well as if they were crying over talking (Jardat and Lansade, 2022). Cattle can be trained to recognise individuals based on visual cues, but it is unknown whether it is possible to train them using auditory cues. This study alone shows a complexity and agency of the animals which is infrequently discussed, but which can heavily influence the HAR.

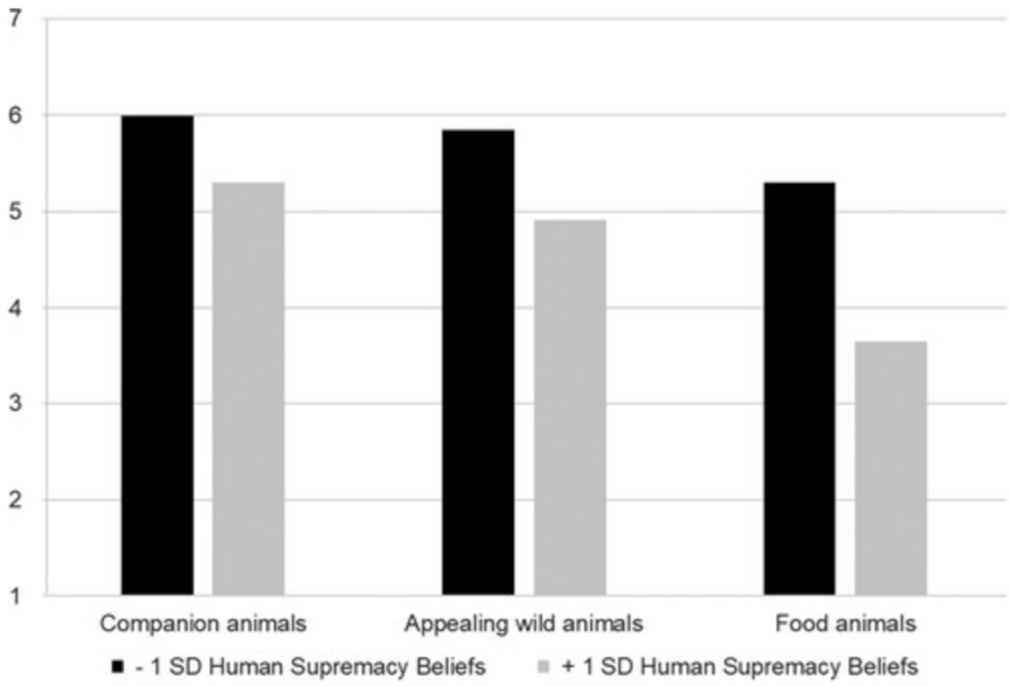

Figure 49 Moral concern ratings as a function of animal category at low (–1 SD) and high (+1 SD) levels of human supremacy beliefs (study 1). Source: Krings et al., 2021: 793, fig.1

4.1 Dogs

This section will discuss modern studies on human-dog relationships. A focus of this thesis is the role of working dogs in the BAA. A study by Mariti et al. (2013) wished to explore if there were any differences in the emotional attachment working dogs had with their handler in comparison to companion dogs and their owner. The results show that working dogs had the same emotional attachment to their handler as a companion dog did to his owner (Mariti et al., 2013, 142). This study tested 26 companion dogs and 14 search and rescue dogs using a modified version of the Ainsworth Strange Situation Test, originally created to measure the

attachment of a child to their mother. Despite a dog taking on a working role, it has been shown that their bond with their human is just as strong as a dog whose role is entirely companionship. It has even been suggested that the bond with a working dog may be even stronger, but more research would be required (Mariti et al., 2013, 143). Guide dogs require extreme reciprocal trust between themselves and their handler. This increased level of trust is a potential reason for the strong bond between the two parties, and as suggested an even stronger bond than between companion and owner. Mariti et al. also note that it appears to be the quality of the time spent together rather than the amount that has the greatest effect on the relationship (p.143). This theory has also been tested on cattle which will be discussed shortly.

A study by Lefebvre et al. (2006) explored the relationship between military dogs and their handlers, comparing the quality of the relationship between handlers who took their dog home with them and played sports with the dog, and those who did not. The research showed that the obedience of the military dogs was greater in those who lived at the home of their handler and practised sport with them, thus developing a relationship outside of their working role (Lefebvre et al. 2006). There was no correlation between the length of the relationship and the obedience of the dog, suggesting that the quality of the days spent together is more influential than the quantity, supporting Mariti et al.'s point (Lefebvre et al., 2006, 49). There was, however, a significant correlation between the dog having this stronger bond and the dog's perceived welfare and aggressiveness, with there being fewer reported bites for those who lived with their dog compared to those whose relationship existed purely in the professional setting (Lefebvre et al., 2006, 57).

4.2 Cattle

Both researchers and those personally working within the farming industry believe that the early experiences of an animal may contribute to their later relationships with humans (Hemsworth and Coleman, 2011). Brief, but long-term, negative handling of dairy calves increases their fear of humans, with the opposite also being true (Hemsworth and Coleman, 2011, 63). In a study by Hemsworth and Coleman, cows who were hit as a result of not avoiding the experimenter were then more cautious to approach an unknown human in an unknown location in comparison to those who were gently interacted with, suggesting the trust in humans in general was negatively affected thanks to one farmer (Breaur et al., 2003, 12). It has also been shown that farm animals are able to create long-lasting bonds with their owners/handlers, especially if they have been interacting since a young age (Hemsworth and Coleman, 2011, 53).

The flight distance, defined as the distance at which an animal escapes when approached by a human, can differ both between and within species (Hemsworth and Coleman, 2011, 51). Two breeds of cattle, the *Bos indicus* and the *Bos taurus* reportedly have different flight differences. There is also a link between the physical proximity the cattle usually have with the human, and their flight distance, with those that are usually left alone to graze more apprehensive than those who are usually closely managed. There is a notable link between the attitudes of the modern farmer towards calves and the calves' productivity, with a correlation between the farmer's beliefs about the cow's sensitivity, and the positive interactions (Munksgaard et al.,1997; Lensink, Boissy, and Veissier, 2000). Research shows that dairy cows can discriminate between farmers based on their treatment. When cows were treated adversely, their milk yield decreased due to an increase in heart rate and residual milk, directly affecting productivity, and the cow's aversion to certain farmers

continued after the initial negative treatment (Hemsworth and Coleman, 2011, 79). Interestingly, a change in 'milker' results in substantial changes in milk production, suggesting that the bond between humans and cattle is significant enough for the absence of that bond to affect productivity (Munksgaard et al., 2017, 1106). Additionally, Lensink et al. (2000) discovered through their research that the positive weight gain of veal calves also increased in correlation to positive behaviour from the stockperson. The variety of research discussed above showcases the significance of a positive stockperson-cattle relationship for the productivity and well-being of the animal. Negative treatment results in a negative result, affecting the farmer's productivity, potentially altering their attitude towards the animal.

Bull games have survived into the modern world, in multiple cultures and variations (see fig.50). There is the Spanish *la fiesta brava*, the Portuguese *Corrida de touros*, and the French *combats de taureaux*, among others (Conrad, 2023). In Arles, France, an event called the *Fete des Gardians* takes place, where both males and females partake on horseback to herd a number of bulls down a street. It is said that supporters of the games do not view them as a sport, but instead, as an art form, where the focus is not on the final victory, but the spectacle (Conrad, 2023). This is a familiar idea when one considers the moment of the game that is often depicted in Minoan art, the exciting moment of the individual somersaulting over the bull. Juan Belmonte, a matador, demonstrated the evolution of the audience's appreciation moving from the actual kill to the ability to master and control the animal. In most of the games, bulls are only ever used once, even if they survive. The impressive memory of a bull would make it took dangerous for a human individual to come face to face with the same bull twice. This means that today, the relationship between matador and bull is not long-term, but short-term. Their entire relationship exists only during their fight. In performances where the bull is killed, it is the climax of the act (Thompson, 2010, 324).

Thompson (2010, 318) notes the dualism of the sports, with the death/capture of the bull representing the human's supremacy over the animal world. The *torero* symbolises human, masculinity, and culture, and the bull symbolises wildness and nature. The bull then loses its wildness when it is tamed (Thompson, 2010, 322). In events where the bull is not killed, some bulls go on to have long careers of ten years or more, with some having their own tombstones or statues when they pass demonstrating the emotional attachment the people have to the bulls. Additionally, this shows that the bulls would enter relationships with a number of humans, and vice versa (Thompson, 2010, 322).

A major difference between modern bull games and those of the BAA is that the bulls in the modern games have been bred specifically to attack individuals in the arena. It is the human performing with the bull that also trains them prior to the game, meaning they would be building up a relationship with them prior to the performance (Thompson, 2010, 325). Competing in these games can be both a part-time hobby and a professional career; they have great cultural significance.

Figure 50 A forcado performing a face catch on a charging bull. Source: Eduardo Leal, https://tinyurl.com/3k93vn8z. Accessed on 02/03/24

It is difficult to apply modern studies on animal consumption to the BAA. The practical consumption of meat is rarely done within a ritualistic context, however, some cultures do still practice animal sacrifice and consumption, so these examples will form the bulk of this short section. For those who do consume meat in a purely nutritional, practical sense, many feel less guilt for eating meat by perceiving the animal has an inability to feel emotion and taking away their moral status, even if they support animal welfare, producing what has been coined the "meat paradox" (Loughnan, Haslam, and Bastian, 2010, 156). For religions, there are restrictions as to the animals that can be eaten, for example, the Afana people in Nigeria consider squirrels sacred (Adeola, 1992, 125). Similarly, the animals must be halal for the Muslim population, and Kosher for the Jewish population (Adeola, 1992, 125; Aghwan and

Regenstein, 2019, 112). Halal slaughter follows strict methods: the slaughter must be done by a sharp cut across the animal's neck and allowing the blood to drain out; the head of the animal must also be in the direction of the Qiblah facing towards Mecca; and the slaughter should happen upon the pronouncement of the Islamic invocation 'Bishmilla Allahu Akbar' (Aghwan and Regenstein, 2019, 112-113). It is also paramount that the animal is put through as little distress as possible prior to and during the slaughter, the knife/cutting tool should not be sharpened in front of the animal, nor should an animal witness any other animal being slaughtered (Aghwan and Regenstein, 2019, 113). It is most certainly a religious act. The Kosher act of slaughter is similarly strict to follow, with a particular technique, tool, and specific requirements for both the act and the internal organs of the animal (Aghwan and Regenstein, 2019, 115).

Hamilton and McCabe (2016, 35) explored the emotional attachment of slaughterhouse workers to the poultry they were killing. Through their research, they suggested that the workers displaced contradicting feelings, presenting a "paradox between indifference, boredom and sometimes pride of mass-killing of chickens versus the love, compassion and upset provoked by the slaughter." The chickens in this slaughterhouse were raised from eggs to be slaughtered, which the scholars believe may have impacted the view of the chickens being simply commodities.

The second aim of this thesis is to determine how far, if at all, we can rely on modern research on HAR to help us reinterpret relationships between humans and animals in the BAA. In this chapter, relevant modern studies were discussed to gain a basic understanding of the psychology behind HAR, specifically with dogs and cattle. I focused on areas which were present in the BAA, including farming, working dogs, and bull sports, to find the most

relevant material. From the studies discussed, there are clearly many similarities between our relationships with dogs and cattle today, and those in the BAA, and I believe that there is information that can be applied to our understanding of relationships in the BAA. Chapter five will apply this information where relevant to the conclusions made from the evidence discussed in earlier chapters.

Chapter Five: Discussion

5.1 Introduction

The earlier literature review concluded that the progression of the study of HAR in the BAA is halted as there is an understandable hesitance in engaging in modern studies of HAR, in risk of imposing our modern relationships on human individuals from the BAA. Thus, my research aim is not just to reconstruct HAR of dogs and cattle in the BAA, but to determine how far we can use modern research on HAR to aid in our understanding of the ancient evidence of HAR from the BAA. To reach this aim, the research objectives that were discussed in the methodology chapter must be explored in this chapter. These were: a) what variables affect the relationship between human and animal in the BAA?, and using this knowledge b) how far can we rely on modern research on HAR to reconstruct relationships in the BAA?

5.2 Variables affecting HAR

The Role of the Animal

Dog

It is clear that in every role dogs played, whether it be a hunting dog, a sacrificial victim, or a guard dog, there is similarity in the fact that they offer individuals the appearance of wealth, status, and power. However, I do not believe the evidence ignores the potential emotional bond between humans and dogs, due to the strong emotional bond between Odysseus and Argos shown through The Odyssey. To repeat, the Homeric epics were not written during Bronze Age society, and there are likely to be exaggerations and differences between the Mycenaean society possibly portrayed in the epics, and how it was in reality. It is easy to fall

into the trap of believing each animal had a particular set role, and they did not deviate from this, particularly when considering the specificity of breeds depicted in hunting and guarding roles. However, this way of thinking is counterproductive as it is entirely possible that there was fluidity in the role of the dog and that they were both companions and workers. There is no evidence to assume the relationships were sharply defined. The osteological evidence found in tombs, for example the depositions in Mycenaean Chamber Tomb 2 at Apatheia, Galatas, seems to suggest a relationship deeper than simply a practical working relationship, with no emotional bond. It is important to ask whether a dog sacrifice can be performed because of both the companionship between the deceased individual and the dog, and the status the deceased individual wished to express through the dog, or whether the two are mutually exclusive. The evidence discovered in peak sanctuaries, such as the Juktas dog figurines, suggests a more symbolic role of the dog, as mentioned possibly representing the move to adolescent life (Karetsou and Koehl, 2014). To rely on the role of the dog to reconstruct the relationship requires relying on very specific activities and qualities. The reliance on the dogs by the humans suggests a strong bond and an even stronger trust. For the guard dogs who guarded crops, the farmer relies heavily on the dog to protect his livelihood. For dogs who were used in hunting, the dogs were again a status symbol, however, there was also a reliance on them to assist in the hunt and assist in bringing back their trophy and entering adulthood. The relationship between the slaughterer and the sacrificed dog is unique compared to other roles, as the dog is transported from the living world to the afterlife, ending the physical relationships it has with the humans. For humans, the dog may have finished its purpose in the living world, having served its master in the living world, and now potentially in the afterlife. The relationship in this sense seems one-sided, as the dog would have no knowledge of its significance or why it was being sacrificed.

Cattle

The roles of cattle consist of their use in sports, sacrifice, textile production, consumption, and hunting. The relationship between humans and cattle appears to have varied depending on which of these roles the cattle were undertaking, as the roles differ wildly from each other. Within their use in sports, such as bull leaping, the bull has multiple roles. The most obvious is the bull as a competitor, standing between the human and victory. However, if one focuses on the rite of passage aspect of the sports, including hunting, the bull can be viewed as the reason for the boy succeeding in the rite of becoming a man. They are needed by the young man completing this rite of passage and are therefore not just a competitor, but also a companion through a significant life moment. The bull therefore could have played multiple roles within one, each with different significance to the human.

The role of cattle in sacrifice is like the role of hunting prey, in that the animal is killed during the encounter and is therefore no longer an active participant in the relationship. For the cattle, this means the relationship ended when they were killed, however, can we say the same for the humans? The significance of the sacrifice continues after death when the meat is offered to the gods or consumed by the participants.

The Context of the Relationship

Perhaps one issue with relying on the role of the animal as a variable is that it requires too much specificity. Generalising these roles into their context, for example, ritual, consumption, and labour may be less constricting.

There is evidence for both species being sacrificed and consumed in the BAA, showing relationships existed in ritual and consumption contexts. Dogs were used in guarding and

hunting showing they provided labour to the community, as did cattle in farming. Viewing the relationship through these individual contexts does suggest certain qualities and elements that make up the relationship. HAR in ritual contexts requires symbolism of the animal, and significance is placed upon this symbolism by the individuals involved. The animal is passive and does not actively contribute to this relationship. Difficulty arises when one investigates this deeper, and questions whether the relationship begins and ends when sacrifice is performed. Moreover, does the context change once the animal has been given this sacrificial role, moving from a labour context to a ritual one? Or is it the completion of sacrifice that affects the context and overall relationship? This is an idea that can be explored further in future research.

Through providing labour to humans, the focus is on what the animal can provide. However, unlike the other two contexts discussed here, it requires reciprocity, as the animal is provided with practical necessities, such as food, in return for their labour. To support this, one must remember that each animal has agency meaning they are actively choosing to participate in the relationships they enter. Of course, punishment for disobeying and acting too much on their own agency can limit the freedom the animal has.

The context that the relationship sits within does influence the overall quality of the relationship, however, it is difficult to know whether finding out what qualities make up the relationship is too far influenced by what we, in the modern day, believe to constitute a relationship in this particular context. Additionally, these three categories for context do not apply to the dog in their role as a companion, as they do not enter any of these contexts whilst purely existing in their companion role. Thus, attempting to categorise the contexts of the relationships may not be a useful way of understanding the complex relationship

between humans and animals, as there can be too much specificity required for each relationship.

The Physical Proximity Between Animal and Human

As discussed previously, Chapin and Pareja (2021) discussed the different physical zones of animals using their eco-social model. I wished to take inspiration from this to assist in determining whether physical proximity was influential in HAR in the BAA. When discussing proximity, it is both the human directly involved with the animal and those who are simply physically close by to the animal that is being referred to. For example, attending the bull leaping as an audience member would allow you to enter the relationship with the bull you are watching perform from a safe distance, and therefore would not experience the same danger as the bull leaper, who is in incredibly close physical proximity of the bull. It should be noted, however, that in the sport, the bull does not participate in a relationship with the spectators, only the performer, as the spectator does not directly involve themselves with the bull.

Throughout this thesis, several different situations have been explored, all requiring close proximity to the animal at some point during their relationship. For example, people working in farming would have been in close proximity to the cattle they work with when feeding, and for an individual hunting alongside a hunting dog, there would be close proximity to the dog at the end of the leash, as shown in the Pylos paintings. This shows us that close proximity is required for those whose relationship results from the 'workplace;' however, it does not necessarily equal a good quality, or enjoyable, relationship. A human may be within proximity to an animal because they are punishing it or killing it for sacrifice, or it may be a one-off interaction. Close proximity, therefore, does not equate to a good relationship, and far

proximity does not necessarily equate to a negative one. This also does not consider the duration of the proximity. For example, during a sacrifice, the physical proximity to the animal would be extremely close, but only last for a short time. This short length of time does not render the relationship any poorer quality than the longer stretch of time a hunter spends with their hunting dog. From this discussion, I believe it is clear that proximity is not a variable which influenced the HAR in the BAA and is instead a by-product from the actions that make up the relationship.

To conclude this section, the role of the animal is certainly the variable that has the most influence in HAR. Whilst the context of the relationship does suggest certain qualities or aspects of the relationships, for example, a working context suggests the need for reciprocity in supplies/needs, it is too broad to be relied upon solely to reconstruct a relationship. Focusing on the role of the animal honours the uniqueness and specificity of relationships, whilst relying on the context of the relationship allows you the ability to form a basis for which to develop with more specific information about the nature of the relationship. Both suggestions act well as variables when in conjunction with one another.

Animal	Role	Context	Physical proximity to human, 1 -5 (1 = physical contact – 5 = Long distance)	Duration of encounter, 1-5 (1= long-term – 5= fleeting encounter	Regularity of encounters	Animal agency?
Dog	Hunting	Labour	2	3	Regular	Yes
	Guard	Labour	4	3	Regular	Yes
	Sacrificial Victim	Ritual, Consumption	1	5	One-off	No
	Companion	Companionship?	1	1	Regular	Yes
Cattle	Sports	Ritual	1	4	One-off	Yes
	Sacrificial victim	Ritual, consumption	1	5	One-off	No
	Husbandry	Labour	4	1	Regular	Yes

Figure 51 Table showing the role, context, physical proximity, duration of encounter, regularity of encounters, and animal agency of dog and cattle.

5.3 Application of Modern Research

The second aim of this thesis is to determine how far, if at all, we can rely on modern research into human-animal relations to help us reinterpret relationships between humans and animals in the Bronze Age Aegean. In chapter four, relevant modern studies were discussed to gain a basic understanding of the psychology behind HAR, specifically with dogs

and cattle. I focused on areas which were present in the BAA, including farming, working dogs, and bull sports, to find the most relevant material.

The previous section concluded that by exploring the role of the animal and the general context of the relationship between human and animal in the BAA, the relationship can be reasonably confidently reconstructed. Thus, the remainder of this chapter will apply this modern research to the evidence discussed in previous chapters.

Dog

Perhaps the most important modern study for this thesis is that of Mariti et al. (2013), exploring the potential differences between the emotional attachment between working dogs and their handler, and companion dogs and their owner. As discussed in chapter four, the result of this study shows that there was no difference in emotional attachment between working dogs and companion dogs, but that the emotional attachment between working dogs and their handler may in fact be stronger. Although one might presume that the bond between a companion dog and owner is one of the strongest human-animal bonds, it is not surprising that this may not be the case when one considers the immense importance of reciprocated trust and respect between working dogs and their handler. An example of this is a guide dog and its visually impaired handler. The person may struggle to go about their daily life with the freedom of an able-bodied person and thus are partnered with a trained guide dog, essentially placing their life in the paws of the dog when crossing the road. Even when the dog is not responsible for the life of a human, working dogs in scenarios such as guarding or hunting are still present today, and demonstrate the significance of a strong bond between the human and animal.

The study by Lefebvre et al. (2007) found that handlers who initiated a more complex bond with their military dog improved both the dog's well-being and effectiveness in their role, compared to those who engaged with the dog only in the workplace. This study showed, similarly to the studies on cattle, that a stronger handler-animal bond has the potential to greatly improve the animal's productivity at work, and it is not just possible, but encouraged, to build this bond from early on.

When applying these conclusions to the relationships in the Bronze Age Aegean, it suggests that, although mainly the practical elements of the relationship were displayed through the evidence, it is not unlikely that those who worked alongside the dogs built up a strong bond which may have improved the work of the dog. This provides a stronger reasoning behind dog sacrifice, suggesting that a deeper emotional bond existed beyond the more practical contexts of work and ritual. The use of the word "dog" as an insult in the Homeric epics alongside the strong emotional bond between Odysseus and Argos reminds us that the dog was, at the end of the day, an animal. Those who did not participate in positive relationships with dogs would understandably have a different attitude to those who did, similarly to the modern day.

Cattle

Similar to the role of cattle in the BAA, cattle in the modern day take on multiple roles, including a role similar to the BAA bull in sports, and farming.

As discussed in chapter two, multiple studies have shown that the relationship between cattle and farmer is incredibly important in determining the productivity of the animal, and this relationship can be constructed very early on in the calf's life. The handling of the calf has

the potential to shape their attitude and approach towards humans into their later life. The significance of the farming industry in the BAA and the reliance on the productivity of the cattle implies that the relationship between cattle and farmer would have needed to have been just as strong. The naming of the oxen in the Linear B tablets reinforces this strength, at least for the oxen that were named. The modern research suggests that it is not unlikely that the bond between the two parties was deeper than simply a practical relationship, and in fact the naming of the oxen may have been like that of naming a companion animal. However, this does contradict Hill's (1993) study, which suggested that farmers had a lower consideration for the animals they worked with. This of course does not consider the farmer-cattle ratio in the BAA compared to those in Hill's study, which would understandably affect the amount of time and effort the farmer can put into building the relationship. The later study of Amiot and Bastian (2014) did provide evidence that vets had a higher consideration for animals thanks to their career, however, they were able to detach emotionally. Perhaps it is this ability to detach that led to the findings in the earlier study, and strong emotional bonds can be created for the duration of the cattle's working life.

The unique relationship between bull and bull leaper in the BAA is one that cannot be totally reproduced in the modern day, however as discussed, there are many examples of bull sports existing today across the globe which seem to imitate a similar relationship between the human and animal (Conrad, 2023). Both the BAA sport and modern-day sports involve humans going up against the animal in front of a captivated audience. The main differences are the movements, modern day athletes do not flip over the back of the bull, and in the modern sports, the bulls are often kept separate from humans in the lead up to the event to increase the bull's anger. The suggested symbolism of both the old and the new sport is strikingly similar, with man's mastery over nature being the prevailing suggestion. However, it

must be questioned whether scholars in the past have used their basic knowledge of modern-day bull fights to aid in their understanding of those from the BAA. If this were so, there is a risk of seeing similarities where there may be none, or at least fewer. Despite this, the symbolism of man's power over nature is not an outrageous suggestion. The theme of nature in Minoan art is abundant, and it is thus not unlikely that t it symbolically played a large role in the Minoans lives.

As previously discussed, the consumption of a bull was done in a ritual context and the act of practical consumption would not have been an occurrence as it is in the modern day. Thus, it is more difficult to apply modern studies of the relationship within consumption to those who lived in the BAA, as there must be a religious/ritualistic element to the modern consumption for it to be relevant. Although there are practices existing today that involve the ritualistic consumption of animals, I believe there is a great risk in assuming they are in any way like the ritualistic consumption in the BAA, as although religious beliefs have taken inspiration from one another and there are certainly similarities, there are still unique aspects which may totally change the relationship developed. The previous discussion of Halal and Kosher slaughtering practices are interesting in determining these similarities, however, does not offer much information on the potential relationship between the slaughterer, consumer, and animal. Hamilton and McCabe (2016, 2) coin the term 'de-animalisation', referring to the process of slaughterers detaching emotionally from poultry in comparison to the attachment to animals such as dogs and primates. As discussed in chapter two, raising chickens from eggs to the slaughterhouse may influence the emotional attachment, or lack thereof, to the animals. This would likely have been the case for the priests or assistants who performed the slaughtering in the BAA, as the cattle owned by the palace were likely to be domestic and therefore raised since birth. Thus, the relationship between BAA slaughterer, whether this be

a Priest or assistant, relied on the significance of the animal for the ritual and there was not a need to develop a strong bond with the animal like there would with cattle working in farming. For those who worked in the workshops creating items from cattle products, the relationship would be with deceased cattle, with the focus on producing material for an income.

5.4 Final Concluding Thoughts

Previous scholars have tended to focus on the practical aspects of the relationship between animals and humans in the BAA, which has led to a de-humanisation of those who lived and worked among these animals. In this thesis, I aimed to provide evidence that strengthens our confidence in using modern HAR research to reinterpret, or support interpretations of, ancient evidence. This theses' research shows that the relationship between humans and animals in the BAA would have been one of mutual trust, respect, and companionship, even for those animals who seemed to have only existed in a workplace context. By building an emotional bond with their working animals, farmers, hunters, athletes, and handlers of guard dogs could develop the effectiveness of the animal in their profession, which, in turn, aided the human. This emotional connection helped to strengthen the bond between humans and their animals, resulting in shared successes and failures. Therefore, it is vital to acknowledge that the bond between humans and animals in the BAA was not merely utilitarian, but in many cases a complex relationship which cannot be too simply defined.

Challenges

The research questions addressed in this thesis have highlighted some challenges. As anticipated, the relationship between animals and humans during the BAA is difficult to

replicate in certain areas. For instance, due to the uniqueness of bull leaping, many details about the practice remain unknown. While it is possible that the sport bears similarities to modern-day bull sports, this is not a certainty.

Throughout this thesis, the focus has been divided between dogs and cattle, which has sometimes hindered the ability to delve deeper into either topic.

Areas for future research

In my view, although multi-species analysis has its advantages, employing modern research techniques to study a single animal may yield greater insights into this relationship. Furthermore, reconstructing the significance of animals used in ritual practices is a challenging task, given the lack of clarity about their importance. The study of HAR in the BAA holds much potential. The more evidence unearthed and interpreted, alongside the more we learn about HAR in the modern day, the surer scholars can be in reconstructing these relationships. The companionship aspect of canine relationships, as briefly touched upon in the 'Dogs' chapter, is an area of study with ample contemporary research. Further exploration of this area could prove valuable, and fascinating to readers.

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