Birds in the Aegean Bronze Age

Julia Karin Binnberg

Merton College

University of Oxford

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Abstract

The thesis discusses bird depictions in the Aegean Bronze Age. The iconographical study is based on a catalogue of almost 2000 objects showing bird images from Crete, the Cyclades, the Greek Mainland and the Dodecanese dating to EB I – LB IIIC. Three research aims are addressed. The first aim is the reliable and accurate identification of the depicted bird species by finding a middle ground between the two approaches that have prevailed in past scholarship, which either consisted of overambitious attempts at species identification or resorted to overgeneralised accounts of bird imagery. A systematic identification methodology, based on a combination of techniques from iconography, ornithology and in particular anthropological studies of folk taxonomies, is developed. The second aim is the interpretation of any specific symbolic functions and ideological roles of birds in different regions and periods. This analysis rests on the combined study of media and find contexts as well as the chosen bird species and iconographical associations. The third aim is the reconstruction of types of ontologies prevalent in different regions. Based on a structuralist model of ontologies developed by the anthropologist Descola, the bird depictions are studied by looking for features that are typical of analogical, naturalist, totemic or animist art.

Each research aim has yielded numerous results, which deepen our understanding of biological knowledge and cultural diversity in the Aegean Bronze Age. First, the vast majority of bird depictions can be identified as belonging to one of the following folk-taxonomical groups: columbids (doves), birds of prey/corvids, waterbirds, wading birds, owls, hoopoes, galliformes, swallows and seabirds. Second, the existence of a multitude of particular functions and roles of birds is revealed. These vary significantly according to time and regions, mirroring historical developments and the presence of different cultural attitudes towards birds. Third, marked regional differences are detectable with regard to ontologies. Cretan and Cycladic bird art is consistent with animist iconography discernible because of a pronounced artistic naturalism, an emphasis on movement and agency, and the presence of shamanic imagery. The images from the Greek Mainland can be characterised as being consistent with an ontology termed analogical by Descola because of a preference of stylised and modular depictions and the persistence of symbolic functions through time. This work lays a foundation opening up a new perspective on interpreting iconography of the Aegean Bronze Age.

Table of contents

Volume I: Text

Volume II: Figures and catalogue

1. Introduction

1.1 Birds and people

In Aegean Bronze Age iconography, birds of all kinds feature very frequently, a fact demonstrated by the almost two thousand depictions assembled in the exhaustive catalogue. In Cretan art, their number equals that of quadrupeds such as cattle, lions and goats and surpasses depictions of humans.[1] The large number of bird depictions contrasts with the scarcity of (reported) osteological material in the archaeological record and the sparse references to birds in the deciphered written sources (Linear B). Therefore we need primarily to concentrate on iconography when discussing birds in the Aegean Bronze Age.

Birds have often held a preeminent status in art, literature, folklore and mythology of many cultures, both past and present.[2] What is so special about birds to warrant this important place in human imagination? First, they are ubiquitous, even inhabiting the Polar Regions and desert areas, and they are often conspicuous because of their colourful plumage or notable vocalisations. Second, birds have much in common with humans such as their elaborate courting behaviour and their bipedalism; their songs have often been likened to music and their nest-building can be compared to the construction of houses. Despite these shared attributes, there is one thing setting most birds apart from and above normal humans: their ability to fly. Thus, birds are both like and unlike us thereby opening up many possibilities for metaphorical and relational links between humans and birds. Third, birds come in a vast variety of different families and species, resulting in a broad spectrum of appearances, habits and habitats. Compare for example a pelican – a large fish-eating aquatic bird – to a tiny sparrow which feeds on seeds and lives in hedges. With this diversity, birds not only live in a wide geographical range but also occupy every possible niche in the imaginary landscapes that have been created by humans.

The present study of bird depictions in the Aegean Bronze Age has four aims. The first aim – and a necessary prerequisite for this study – is to assemble an exhaustive catalogue of bird images from the Cyclades, Crete, the Greek Mainland and the Dodecanese dating from EB I to LB IIIC. The catalogue includes bird depictions in various types of media which are reflected in the catalogue numbers – vessels (A), figurines (B), jewellery (C), seals (D),

[1] As was shown by Shapland (2009, Figure 5.28).
[2] Cf. Cocker 2013.

frescoes (E), weapons (F), vase-paintings (G), larnakes (H) and other (I). As we will see (Section 1.2.1), the previous lack of a comprehensive catalogue has often hindered systematic identification and interpretation of bird depictions in the past. Therefore, it was essential to compile a catalogue that permits a thorough analysis of Aegean Bronze Age bird images without being constrained by temporal, geographical or typological limits.

The second aim is to develop a coherent methodology of species identification that can be applied to all images, no matter how stylized they may seem. In our review of past identification attempts (Section 1.2.2) we will see that previous scholars mostly focused on relatively detailed images, e.g. in frescoes, while more schematic depictions or those exhibiting mixed features were often dismissed as unidentifiable. Also, it has been doubted that western scientific taxonomy is applicable to pre-modern sources. We will return to these issues in Chapter 2 when we develop a systematic and flexible identification method by drawing on insights and methods from iconography, ornithology and anthropology.

Our third aim is to interpret the meaning/function of bird images. As we will see (Section 1.2.3), the variety of birds depicted in iconography has seldom been taken into account in interpretations. Rather, generalizing explanations, for example as avian epiphanies, have prevailed. This study attempts to address this imbalance by paying particular attention to the species of birds depicted and to the ways in which their specific characteristics are emphasized to gain valuable – and hitherto overlooked – clues to their meaning. Such an approach is based on the observation that most bird symbolism is not random or general but usually takes attributes of different species into account.[3] For example, the tiny seed-eating sparrow hardly conveys notions of power and strength, while the large and predatory eagle perfectly epitomizes these qualities, which is why eagles have become power and status symbols in many cultures. In art, efforts are usually made to depict the most suitable species and to emphasise the anatomical or behavioural features which are most relevant in the respective context. For example, predatory features of an eagle are often especially highlighted in a scene that we know from contextual evidence is supposed to evoke an association of physical strength and/or social dominance.

Our fourth aim is the reconstruction of ontologies that may have been prevalent in the Aegean Bronze Age by studying form and content of bird images. As we will see in Chapter 3, anthropological studies of the ways people see themselves in relation to non-human entities

[3] Cf. examples in Gosler – Tidemann 2010 and Cocker 2013.

and their reflections in art can offer a theoretical model for the reconstruction of past conceptual frameworks. Although earlier scholars have done some work in this area, either suggesting animism or analogism as prevalent ontologies in the Aegean Bronze Age (Section 3.3), such studies have focused on depictions of other animals, for example lions, and cult scenes. By studying stylistic and other details of bird imagery, e.g. the degree of attention paid to species-specific behavior, an important contribution can be made to this debate, especially given the relative frequency of bird depictions.

In Chapters 4 to 8, we will discuss the bird images assembled in the catalogue according to the aims defined above. In keeping with the importance attached to the variety of bird species, the chapters are organized around the different types of birds identifiable in the iconography. These are columbids (doves), birds of prey and corvids, waterbirds (ducks, geese and swans), wading birds and miscellaneous birds such as owls, swallows or galliformes (Table 1).

Table 1: Distribution of bird types in Aegean Bronze Age iconography.

Bird species	Number of depictions	Percentage
Columbids (doves)	184	9.0 %
Birds of prey/corvids	325	16.0 %
Waterbirds	803	39.3 %
Wading birds	418	20.5 %
Owls	21	1.0 %
Hoopoes	6	0.3 %
Galliformes	76	3.7 %
Hybrids	104	5.1 %
Swallows	31	1.5 %
Seabirds	5	0.2 %
Unidentifiable	70	3.4 %
Total	2043	100 %

The order of discussion follows a roughly chronological rationale. Thus, columbids and birds of prey/corvids are analysed first because these were particularly popular in the Cycladic and Cretan cultures which flourished from the EB period to the end of LB I, while waterbirds and wading birds are discussed later because they tend to be more frequently depicted in the

succeeding periods LB II – LB III, during the heyday of Mycenaean culture and influence in the Aegean.

Before going deeper into theoretical considerations in Chapters 2 and 3, it is useful to first review the history of research on birds in the Aegean Bronze Age. Identifying inherent strengths or weaknesses of past approaches helps show in what ways this project can complement earlier work and address previously neglected areas of research.

1.2 Avian epiphanies – Birds in previous research

Four aims of this study were identified above:

- the compilation of a comprehensive catalogue of bird depictions
- the development of a systematic identification methodology
- the interpretation of the meaning/function/significance of bird images by including the result of the identification and/or any emphasised traits
- the reconstruction of ontologies by studying the style and content of bird images

In the following, we look at research that has been done on the first three aims in past scholarship. The fourth aim – the reconstruction of ontologies – has never been attempted on the basis of bird images alone. Different categories of evidence, especially depictions of cult scenes, have been considered more important in this context, using anthropological studies of ontologies as the basis for such attempts. We will discuss this anthropological background in Chapter 3 (especially Section 3.3). The rest of the present chapter examines research done on the first three aims one by one.

1.2.1 Catalogues of bird depictions in previous research

In this section we look at catalogues of bird depictions that have been created in past scholarship. Only a very few scholars have compiled typologies, lists, or catalogues of bird depictions in general terms, cross-cutting species, regions or media. Occasionally, lists of bird depictions have been included in larger catalogues of animal images. Most catalogues, however, focus on specific bird species (especially swallows), while others limit themselves to bird depictions from certain regions and/or in specific media. A comprehensive catalogue such as the one compiled for this study has hitherto been lacking. We will first discuss general lists before looking at catalogues that have a specific focus.

There are only two general studies of bird images not limited to certain species or media and they are divided by several decades. The first typology of Aegean Bronze Age depictions of birds was established by Krüger who subdivided birds in several media into five groups according to pose and position of the wings.[4] He was primarily interested in flying birds and differentiated four types depending on the shape and number of wings visible. In his discussion, he compared Aegean bird images to similar ones from the Near East and Egypt and noted some differences such as enhanced liveliness in Aegean art.

Another, but much later and hence more extensive, list of bird depictions was devised by Vanschoonwinkel as part of two articles about animals in Theran and Minoan art.[5] He included information about the type of object, date and provenance, and categorised the images as birds, doves, ducks, hoopoes, partridges, waterbirds, pelicans, swallows and storks. He drew attention to diachronic changes in preferences of media and degree of naturalism. Like Krüger, he compared the appearance of the birds to similar ones from the Greek Mainland and discussed possible inspirations from Egypt.[6]

Most other lists of bird depictions are characterized by a focus on certain species, usually prompted by the discussion of one specific image. An important example is Morgan's study of the Miniature Frieze at Akrotiri on Thera (**E16**), where she traced predecessors and parallels for the various motifs depicted in this fresco.[7] Her discussion of doves and waterfowl in the East Frieze mentions depictions of these birds in other media, for example seals, vases, as well as other wallpaintings.

After Morgan's study of dove and waterfowl depictions, the swallow was the species that has received most scholarly attention (Section 8.2). Key articles on swallow images are those by Immerwahr, Foster and Marthari.[8] Immerwahr examined the swallow in Cycladic art and interconnections of this motif in frescoes and vase-paintings, including some from Crete, but mainly focusing on Cycladic depictions.[9] Foster compiled a catalogue of swallow depictions in various media in Aegean art, prompted by her discussion of the so-called Spring Fresco from Akrotiri showing swallows and lilies (**E29**).[10] She also included some uncertain images and wrote short descriptions of the poses and associations. The most recent and extensive

[4] Krüger 1940, 27-32.
[5] Vanschoonwinkel 1990, 333, 337-341 and 1996, 365-367.
[6] Vanschoonwinkel 1990, 338-339.
[7] Morgan 1988.
[8] Immerwahr 1990; Foster 1995, 424-425; Marthari 2009.
[9] Immerwahr 1990.
[10] Foster 1995, 424-425.

discussion of the swallow motif is Marthari's analysis of a Cretan MM seal showing a bird (**D20**) and tracing its parallels with images in Theran art.[11]

All the compilations discussed above are characterized by the cross-cutting of medium boundaries. The majority of catalogues, however, focus on bird depictions in certain media, usually vase-paintings.

Bird motifs on MB III – LB I Cycladic and the related Mainland polychrome vases (Section 5.2) have been catalogued by Mylonas, Davis, MacGillivray, Crouwel and Porter.[12] They mainly focused on chronological and regional variations of style and shape, both of the birds and the vases. Although various bird types were differentiated, no systematic attempts were made in these studies to identify or interpret them. A notable exception is the article by Porter whose interpretation will be discussed below (Section 1.2.3).

The most detailed typology of birds on LB II - IIIC Cretan and Mainland vases was developed by Furumark in his classic study of Mycenaean pottery.[13] He created charts showing various types of birds (Furumark Motif 7) found in vase-paintings, arranged according to similarity and pose of the wings.[14] Although some of the bird types illustrated are hypothetical "missing links", most of them can be found on vases, thus allowing a detailed reconstruction of the various stages of stylistic development. He also suggested that frescoes were the ultimate source of LM II vase-paintings of birds.[15]

A large catalogue of bird depictions was included in a comprehensive discussion of LM II – LM IIIA2 pictorial pottery from Knossos by Crouwel and Morris.[16] Bird depictions on vase-paintings from other regions on Crete were also compared stylistically and typologically to the ones from Knossos. The authors noted considerable variation in types of depictions (small sketchily painted ones and larger detailed birds), but did not link this variation to the depiction of different species. They argued that the origins of the bird motif in LM II vase-painting lie in other media (frescoes) and/or Egyptian art, especially the so-called Nilotic landscape.[17]

[11] Marthari 2009.
[12] Mylonas 1969, 1970; Davis 1976; MacGillivray 1983; Crouwel 1989; Porter 2011.
[13] Furumark 1941, 250-255.
[14] Furumark 1941, figs. 29-31.
[15] Furumark 1941, 251-252.
[16] Crouwel – Morris 1995.
[17] Crouwel – Morris 1995, 176.

In their fundamental book about Mycenaean pictorial vase-painting, Vermeule and Karageorghis dedicated several sections to the bird motifs in different phases.[18] An extensive list covering the Greek Mainland, the Dodecanese, Asia Minor and Cyprus was established which proved essential for further studies in this field. Although not complete, their catalogue gives a good impression of the prevalent types of birds in the respective periods. In the discussion, they noted diachronic changes in the way of depicting birds, e.g. the decreasing number of flying birds from the early to the late Mycenaean period.[19] The role of these depictions in a social or ideological context, however, was not addressed.

The bird motif in Aegean and Cypriot vase-paintings in LH IIIC and EIA was the main focus of a study by Lenz who listed them in a catalogue with detailed descriptions and an extensive bibliography.[20] He not only focused on style and type, but also attempted some interpretations, which will be further discussed below. His rather selective catalogue in terms of medium (only vases) and time (only LH IIIC and EIA) did not provide a sufficiently large basis for the interpretation of his material and in his discussion Lenz had to take recourse to several bird depictions in other media or those dating from earlier periods.

Only two studies focused on birds in media other than vase-painting. Desborough catalogued all vessels in the shape of (water)birds from Crete, the Cyclades, the Greek Mainland and Cyprus.[21] He noted important variations in style and shape of bird vases from different regions, but did not consider varying functions, being mainly concerned with the possible origin of these vessels on Cyprus.

The second catalogue, by Ruuskanen, concentrated on bird images on Minoan seals and sealings.[22] He developed an extensive and detailed typology of birds on seals. Most notably, he attempted to link these bird types to the identification of different species and his approach will be further discussed below (Section 1.2.2). He also detected diachronic changes in the preference of certain types/species in glyptic (e.g. waders in MM II), but did not attempt to explain them.[23]

This brief survey has observed that most previous catalogues of bird depictions were restricted to a certain species or region/medium. The lack of a comprehensive up-to-date

[18] Vermeule - Karageorghis 1982.
[19] Vermeule - Karageorghis 1982, 76, 103.
[20] Lenz 1995.
[21] Desborough 1972.
[22] Ruuskanen 1992.
[23] Ruuskanen 1992, 51.

catalogue has had major implications for the study of bird depictions. For example, the limitation to certain species meant that their relative frequency has largely remained unclear. Considering this, it seems questionable that the relative rarity of the swallow motif (comprising just 1.5% of the whole corpus) justifies the amount of scholarly attention awarded to this species. Moreover, the restriction to a certain type of object often meant that other images of the same birds could not be used in a systematic way to inform the depictions in the medium discussed, thereby potentially ignoring valuable evidence. The lack of a comprehensive catalogue may also have contributed to the fact that the associated discussions typically focused on morphological variations, chronological developments and origins of bird depictions rather than on identification or interpretation. In the next section, we will see how this shortcoming has affected previous identification attempts.

1.2.2 Bird identification in previous studies

In the following we look at ways the second aim of our study – species identification – has been approached in previous research. As we will see, many scholars refer to relatively few or only to a single image without taking note of depictions of similar birds in other media.[24]

Since the early days of research several scholars have attempted to identify bird images of the Aegean Bronze Age by comparing their morphological features to bird species illustrated in ornithological field guides. In ornithology, bird species are commonly identified by paying attention to the shape and in particular the plumage details of birds (Section 2.2.2). Using this approach, Evans made several identifications of bird images, which do seem to be correct according to the findings of the present study.[25] A typical example is the identification of the birds in the fresco from the Caravanserai (**E26**) as hoopoes and chukar partridges because of the close correspondence of colour patterns (yellow plumage of hoopoes, red legs of chukar partridges).[26] Similarly, Oulié, in her study of Aegean animals in frescoes and on vases, made some suggestions about the depicted bird species, based on the same approach.[27] She further noted the close correspondence of the plumage of the birds in the Caravanserai Fresco, e.g. the stripes on the belly, to those of real partridges.[28] Both scholars pointed out differences from Egyptian bird images, which are generally more detailed and accurate in the depiction of

[24] Cf. identification of partridges on Cycladic vases by McGillivray (1983, 153) or the occasional identifications made by Vermeule – Karageorghis (1982) for images on some Mycenaean vases.
[25] Many instances in Evans 1921.
[26] Evans 1928[a], 110.
[27] Oulié 1926.
[28] Oulié 1926, 67.

colour and plumage patterns, and Oulié noted an increasing difficulty in identifying species in later Aegean art.[29]

Benton focused on species identification of some birds on Cretan and Mycenaean vases.[30] In keeping with the ornithological approach and its focus on certain morphological features, she identified the birds on a vase from Palaikastro (**G159**) as great northern divers or black-throated divers because of the plumage details (bands of dots).[31] In addition, she noted behavioural characteristics of birds on Mycenaean vases which allowed their identification as cattle egrets.[32]

Ruuskanen explicitly sought the help of ornithologists in his ambitious attempt to identify the species of birds on Minoan seals which he had assembled in a detailed typology.[33] He argued that identifications are possible "more exactly than has been formerly suggested".[34] Because of the lack of colour on seals, the ornithologists were forced to only focus on the silhouettes of the birds rather than on plumage details. Although the bird experts were certain about the identity of the birds in many cases, e.g. the identification of cranes and herons on MM II seals, they could not agree over the identity of several flying birds on MM III – LM I seals which seemed to exhibit mixed features of different species (eagles, crows or gulls). We will return to this problem in the next chapter (Section 2.2.3) and see how the structure of "non-scientific" folk taxonomies can offer a possible solution to this problem.

A similar approach to identification was suggested by Warren in an article about a seal image of an unusual bird (**D464**).[35] Like Ruuskanen, he paid specific attention to the shape of individual parts of the body (beak, neck etc.) because of the lack of colour on seals which prevented focusing on plumage details. According to this method, he identified the bird as a crowned crane although this species is not native to the Mediterranean. We will return to this particular identification in the next chapter when we discuss the importance of archaeological typology in the identification process (Section 2.2.1). As we will see, comparison with similar – and more detailed – bird images might lead to a different identification result.

[29] Evans 1928[a], 110-111; Oulié 1926, 55-78.
[30] Benton 1961, 1972.
[31] Benton 1972, 172.
[32] Benton 1961, 44.
[33] Ruuskanen 1992.
[34] Ruuskanen 1992, 62.
[35] Warren 1995.

Ornithological methods were most recently applied by Masseti and Harte.[36] The former looked at Minoan frescoes, relief carvings and jewellery, and the latter concentrated on Theran frescoes. By comparing the morphological features of swallows in the Theran frescoes to biological specimens, Harte was even able to determine sex and age of the birds. He also remarked upon occasional deviations of the birds in Theran art from "real" birds as illustrated or photographed in ornithological guides.[37] Masseti tried to determine if the represented birds were wild or domesticated by focusing on possible alterations of plumage colour or patterns.[38]

While all these scholars adopted a confident stance regarding the possibility of species identification, others have been more hesitant. For example Nilsson, in his influential book about Minoan and Mycenaean religion, emphasised that species identification is not possible in many instances. He mentioned two reasons for this. First, the frequent stylization of images in media lacking colour (e.g. seals, vases, figurines) prevented focusing on plumage details which in turn hindered identification of certain scientific species as defined by modern ornithology.[39] For example, he criticized the frequent identification of bird figurines as doves because in his opinion they are too stylised and the colours of the plumage seem to be "entirely imaginary".[40] Second, he considered the scholarly disagreement over the identity of the birds on the Ayia Triada sarcophagus (**H2**) as proof that any further identification attempts are fruitless and they were simply meant to be "birds".[41] He argued that any interpretation attempts should therefore be based on this general idea. The confusion over the Ayia Triada birds seems to be due to a mismatch of their body shape, which suggests that they are ravens, and their plumage colour, which is yellow instead of black as we would expect in the case of ravens. Similar reasons have induced many subsequent scholars, for example Morgan, Vanschoonwinkel and Nikolakopoulos, to speak in terms of rough categories such as 'waterfowl' or 'doves' or even the more general category of 'birds' to avoid overambitious identification attempts in cases where a certain species cannot unequivocally be identified.[42]

In addition to these two obstacles – uncertainty because of stylization/lack of detail and disagreement because of mixed features – a third problem of animal identification in general has been raised by Morgan. She expressed doubts whether the modern western scientific

[36] Masseti 1997; Harte 2000.
[37] Harte 2000, 691-695.
[38] Masseti 1997, 361.
[39] Nilsson 1950, 290-292. Cf. also Philips 2008, 188, footnote 1002.
[40] Nilsson 1950, 291.
[41] Nilsson 1950, 291-292.
[42] Morgan 1988, 64; Vanschoonwinkel 1996, 366; Nikolakopoulou 2010, 214.

system can be applied to the iconography of past societies and commented in her discussion of the theory of iconography:

> Consider zoological taxonomy: classification according to genus/species (lion, cat, bull, deer) or family (Felidae, Bovidae, Cervidae) is effective, but I wonder if it adequately reflects the system of animal classification revealed in Minoan iconography?[43]

Instead, she suggested that other classification criteria (such as the ritual value of animals) may have been more important. More recently, Shapland has similarly emphasised the alleged arbitrariness of ancient classification systems which is why he did not attempt a systematic identification of animals on species or family level in his study of human-animal relations on Minoan Crete.[44] We will return to these important points in Chapter 2.

This brief survey of previous identification attempts demonstrates that most scholars used the established ornithological methods to identify species, i.e. they primarily focused on plumage colour and patterns compared to scientific species as shown in field guides or museum specimens or when this was not possible, for example in the case of seals, paid primary attention to the shape of the bird and its constituent parts. Although these approaches taken from ornithology often resulted in relatively unequivocal identifications, they reached their limits in the case of more stylized depictions or images exhibiting mixed features. These factors as well as doubts about the applicability of the scientific system to past iconographies have led other scholars to argue that it was safer to discuss such images in more generalizing terms simply as those of "birds".

1.2.3 Interpretations of bird images in previous studies

The reluctance to identify more images of birds more closely has had a direct effect on interpretation attempts, which have often been rather vague. The deep link which frequently exists between the choice of a specific bird, its associated behaviour/habitat and the symbolism of images has only rarely been utilized to inform the functions of bird

[43] Morgan 1985, 6.
[44] Shapland 2009, 30-31, 230.

depictions.[45] This may explain why the most pervasive interpretation of bird images as avian epiphanies has been repeated again and again, regardless of the significant variations of bird depictions in time, contexts, regions, media or species. This is worth discussing in more detail.

The interpretation of birds as avian epiphanies goes back to Evans and Nilsson. In his discussion of the MM II terracotta columns with doves (**B41**) from a ritual context in the palace of Knossos, Evans interpreted them as symbols or embodiments of the divine, comparable to the Christian idea of the dove as embodiment of the Holy Ghost.[46] Earlier depictions of doves from the Prepalatial Period were thus considered to "illustrate the antiquity of the Minoan cult of the Dove Goddess".[47] In his book about Minoan-Mycenaean religion, Nilsson followed Evans and emphasized the religious and symbolic roles of birds in general.[48] Significantly, he applied his interpretation as divine attributes or avian epiphanies to various kinds of birds, for example the dove on the Kalyvia gold ring (**D11**) and the ravens on the Ayia Triada sarcophagus (**H2**).[49] Such a blanket explanation was deemed correct because of his opinion that it is in most cases impossible and hence unnecessary to identify the depicted birds more closely.

In the following decades, theistic readings of birds were repeatedly applied to images of all kinds of birds. For example, a religious meaning of birds in the Aegean Bronze Age was advocated by Pollard in his book *Birds in Greek Life and Myths*.[50] Birds associated with trees were interpreted as "…representing the epiphanies of the deities to which the trees were sacred".[51] By drawing analogies to the Homeric similes of deities who could assume the appearance of birds he also proposed a continuity of this idea into later times.[52]

Although Morgan interpreted the birds in the Miniature Frieze as having different functions (e.g. as defining a certain natural environment or as navigation aids), birds, especially doves, were also seen as messengers or attributes of deities.[53] Thus, doves "may indicate the sanctity

[45] Although this link has not been systematically studied, ethno-ornithological research has provided numerous examples for this. See especially Gosler – Tidemann 2010 and Cocker 2013.
[46] Evans 1921, 222-224.
[47] Evans 1921, 222.
[48] Nilsson 1950, 292-294.
[49] Nilsson 1950, 285-294, especially 285-286, 288, 294.
[50] Pollard 1977, 149-161.
[51] Pollard 1977, 154.
[52] Pollard 1977, 154-161.
[53] Morgan 1988, 63-67.

of a place or a holy presence", whereas waterfowl depicted in wetland habitat were said to have "nothing esoteric" about them.[54]

Cycladic swallow and waterbird images of MC III – LC I date have likewise been linked to a presumed function as avian epiphanies or divine symbols by Foster, Russell and Vlachopoulos.[55] Foster suggested that the depiction of swallows in the Spring Fresco (**E29**) was due to the assumed function of the room as designed for an epiphany ritual.[56] Russell proposed that the images of flying swallows on nippled ewers could be explained by their being symbols of the epiphany of a goddess.[57] Vlachopoulos argued that the mallards in the Reed Fresco from Xeste 3 at Akrotiri (**E14**) were also linked to the divine sphere.[58] He suggested a relationship of the Reed Fresco with those of the nearby 'Frescoes of the Saffron Gatherers', and tentatively interpreted it as providing the backdrop for the enthroned goddess, who is thus shown "in a symbolic milieu of serenity, fertility and natural life".[59]

Such theistic readings of birds were not limited to LB I depictions, but also applied to the LM IIIA2 Ayia Triada sarcophagus (**H2**) and the LM IIIC Goddesses of Upraised Arms (Section 4.6).[60] Alexiou saw the birds attached to female figures as divine attributes or avian epiphanies, while Gesell in an article about bird and snake depictions in Cretan art interpreted them as symbols of bird or sky deities.[61]

In cases where birds were not interpreted as directly connected to divine agents, their presence in nature scenes was often rather vaguely seen as indicating "spring", "seasons" or "fertility" (sometimes connected to a "goddess of nature"). Such interpretations were proposed mainly for Cretan and Cycladic frescoes, for example by Marinatos, Shaw, Chapin and Lovelace.[62] Frequently, these readings were inspired by characterisations of the bird poses as "life-like" and the habitat as "lush".[63] The fresco from Delta 2 at Akrotiri showing four birds, one pair and two single ones, was called the Spring Fresco (**E29**) because Marinatos interpreted their behavior as courtship rituals.[64] The specific choice of a certain bird species in a fresco, for

[54] Morgan 1988, 65-66.
[55] Foster 1995; Russell 2006; Vlachopoulos 2000.
[56] Foster 1995, 413-415.
[57] Russell 2006, 149.
[58] Vlachopoulos 2000.
[59] Vlachopoulos 2000, 642.
[60] Alexiou 1958, 252-263; Gesell 2006.
[61] Gesell 2006, 320-321.
[62] Marinatos 1971, 24, 50-51; Marinatos 1984, 92-93; Shaw 2005, 101-105; Chapin 2004; Lovelace 2015.
[63] Shaw 2005, 105.
[64] Marinatos 1971, 50-51.

example partridges, doves or swallows, was usually not considered important for the interpretation.

One of the few scholars who have criticized such theistic or vague explanations, emphasizing that they do not do justice to the variety and accuracy of bird depictions, was Shapland.[65] In his work about human-animal relationships in Minoan Crete he studied both zooarchaeological and iconographic evidence.[66] Instead of concentrating on the cultic significance of birds he drew attention to indications for hunting of birds (fowling) which had hitherto only rarely been discussed.[67] According to him, types and variants of birds on seals as identified by Ruuskanen could express various movements made by birds in different hunting practices.[68] Also, he stressed the palatability of partridges in the Caravanserai Fresco (**E26**) from Knossos, following a suggestion by Evans.[69] Similarly, scenes of felines attacking birds (Section 6.1) were considered "of social significance if cats were involved in fowling".[70] Fowling practices were also suggested by Papageorgiou for depictions of birds caught in nets, one of them recently restored in Xeste 3 (**E6**).[71] A further example of the pervasiveness of the theistic readings of bird images, she suggested that birds were caught alive to be sacrificed in honour of the "goddess" shown in the same building.

Attempts to counter generalizing accounts by linking the specific choice of a particular bird with an interpretation of the function of the object are notably rare. Examples include studies undertaken by Laffineur, Yon, Lenz, and Porter.[72] Laffineur interpreted the choice of owls as ornaments in Mycenaean graves as being inspired by apotropaic concerns.[73] He argued that owls are especially suited to protect the dead because they know the dangers of the night due to their nocturnal habits (Section 8.2). Yon linked the depiction of waterbird protomes on Mycenaean ships (Section 6.5) to their unique ability to connect land, water and air.[74] Lenz was able to identify many different roles and functions of bird images in the Aegean Bronze Age via comparisons made across media and periods. Following Evans and Nilsson, he saw

[65] Shapland 2009, 228.
[66] Shapland 2009; 2010[a].
[67] Shapland 2009, 86.
[68] Shapland 2009, 230.
[69] Evans 1921, 114; Shapland 2009, 230-231.
[70] Shapland 2009, 243.
[71] Papageorgiou 2014.
[72] Laffineur 1981; Yon 1992; Lenz 1995; Porter 2011.
[73] Laffineur 1981.
[74] Yon 1992.

birds as attributes of deities and symbolizing the epiphany,[75] but also considered a function as symbols of sacrifice possible due to the frequent association of birds and bulls.[76] He explained the choice of birds of prey in the shaft graves by their function as status symbols. Moreover, he observed the frequent depiction of waterbirds in connection with music (Section 6.2) and ships (Section 6.5).[77] Porter explained the depiction of raptors on Cycladic vases and the association with disks as being due to a distinct sun symbolism, which he argued was adopted from Egyptian Horus imagery (Section 5.2).[78]

In this survey of interpretations of bird images we have observed that the most pervasive readings have been theistic ones. Birds have been seen as embodying the divine or as being attributes and messengers of deities, regardless of variations in time, region, medium or species depicted. More recently, possible evidence for fowling and eating practices has gained attention, although such images were sometimes also tied to a divine agent by way of sacrifice. One reason for the pervasiveness of a certain type of interpretation applied to all kinds of birds lies in the reluctance to identify birds more closely. Attempts to take the species identification into account in the interpretation are notably rare. The present study will argue that a more systematic methodology for species identification provides a more nuanced basis for interpretation.

1.3 Conclusion

Previous studies of bird images in the Aegean Bronze Age have consisted of the compilation of catalogues and identification or interpretation attempts. Most catalogues of bird depictions have focused either on only one medium/region or on one species. The lack of a comprehensive catalogue has led to the underrepresentation of some media (e.g. figurines) or species (e.g. corvids or large waders vs. swallows) and had a direct bearing on identification attempts. Therefore, a comprehensive catalogue of bird depictions as compiled in this thesis is an invaluable asset.

Scholars trying to identify bird species have usually used ornithological methodology with its primary focus on plumage details and colour. This can be done most easily for frescoes and scholars working with colour-less images have had to focus on silhouettes which were

[75] Lenz 1995, 48-55.
[76] Lenz 1995, 93-96.
[77] Lenz 1995, 96-103, 132-147
[78] Porter 2011.

compared to the contours of “real” birds. Obstacles such as schematisation, mixed features or uncertainty about the applicability of modern taxonomy were often taken as reasons to abstain from detailed identification attempts, making it seem wiser to discuss depictions simply as “birds”. This generalised approach may seem to decrease the likelihood of misidentifications – and hence misinterpretations – but it also increases the danger of overgeneralizations by subsuming notably different kinds of birds and their different meanings under one heading.

The lack of a systematic identification methodology has usually led to rather vague interpretations which did not take the species into account. Thus, generalizing explanations of birds as divine attributes, avian epiphanies or as symbols of fertility/spring have been applied to very diverse depictions. Attempts to link the specific choice or appearance of a bird to function have been rare. Yet, such an undertaking is promising in order to elucidate the various roles assumed by different birds in the Aegean Bronze Age. In the next chapter we will concentrate on the prerequisite of this task, namely the development of a sound theoretical framework for identification.

2. Bird identification in iconography

2.1 Introduction

This chapter provides the methodological basis for the identification of the various bird depictions that follows in Chapters 4 – 8. Our review in the previous chapter made clear that there have only been a few attempts to identify systematically the bird images in Aegean Bronze Age art. The reasons for this were primarily due to the lack of a comprehensive catalogue, a supposed impossibility of identification because of a high degree of stylisation, or disputed identifications because of mixed features. Linked to the question of whether different species can be identified at all in the iconography is the issue of the applicability of the modern Western scientific system to ancient sources, because it seems reasonably unlikely that the people of the Minoan, Mycenaean or Cycladic world had a similar classification system.

In the following three sections we will see how a systematic yet flexible identification methodology can be developed by combining approaches and insights from iconography, ornithology and anthropology. We will first discuss the contribution of archaeological typology and knowledge of local artistic traditions to the identification process. Subsequently, we look at ornithological identification methods and see how far the particular structure of modern Western scientific taxonomy may permit animal identification in iconography. In the final section, we will discuss anthropological studies of folk taxonomies and examine ways they can help with refining our identification methods. To begin with, it is useful to analyse in what ways the study of the iconographical context can contribute to species identification.

2.2 Methodology of bird identification in iconography

2.2.1 Iconography and typology

In this section we discuss how studying the wider iconographical context of the bird images is a necessary first step for making reliable identifications. Two aspects are especially relevant for our purposes. First, the establishment of a typology of bird depictions, and second, the consideration of local artistic traditions and stylistic conventions.

When we attempt to identify a particular bird image, it is advisable to try and find as many other depictions of the same bird as possible. Therefore, birds showing the same combination of features, e.g. long legs, long neck, long spear-shaped beak, rounded back and down-ward hanging tail, should be grouped together in a typology based on the assumption that they are meant to represent the same kind of bird, e.g. a crane (Figure 1). The works of Furumark and Ruuskanen who established typologies of bird images on vase-paintings and seals are especially helpful in this regard and can serve as models for typologies in other media.

The analysis of multiple images serves three purposes. First, it reduces the risk of misidentifications because the consistent combination of the same elements makes it more likely that they indicate a particular species.[79] Second, complete images can be used to gain information about fragmentary depictions of the same type, which would otherwise have been unidentifiable. For example, there are many Mycenaean vase fragments which only show legs of birds. By comparing those to the legs of better preserved images of birds, we can quickly see that many belong to a certain type of bird which can be identified as a crane (Section 7.5) (Figure 2).

Third, more detailed or naturalistic depictions can be used to identify more stylized images of the same type. Often, a depiction may look like a certain bird to an ornithologist´s eye, but the typology and the development from a relatively accurate to a relatively stylized bird image can suggest another species. For example, an offering table from Tiryns (**I6**), dating to LH II, shows birds which resemble a kind of parrot, especially because of their beak shape (Figure 3). However, by looking at the overall shape and colour we can compare them to some likely predecessors such as a MM III wallpainting from the House of the Frescoes at Knossos (**E1**) and the LC I fresco of the Porter´s lodge at Akrotiri on Thera (**E5**) (Figure 4). Since the birds in these frescoes can be identified as rock doves because of their shape and plumage patterns, it is more likely that the birds on the offering table are also rock doves, albeit less accurately depicted ones (Section 4.4).

In the creation of such typologies, a comprehensive catalogue is an indispensable tool because images of the same types of birds often cross-cut media, regions or periods. A good example of where pitfalls may lie is the identification of a bird on a seal (**D464**) as a crowned crane by Warren.[80] When we look for other similar birds in the iconography which also exhibit an

[79] Also noted by VanPool – VanPool 2009, 537.
[80] Warren 1995.

elongated body, large wings, big feet, a relatively long neck with a strong beak, a crested head and a relatively long broad tail we find similar schematic ones on other seals (e.g. **D466**) and a detailed one on an ivory plaque (**I12**) (Figure 5). These features and especially the fan-shaped crest as shown on the most detailed bird are more indicative of a peacock than a crowned crane, whose crest is almost spherical (Figure 6) (Section 7.4). Thus, the consideration of various media provides valuable clues when attempting bird identification in iconography.

Another issue to consider in the study of the iconographical context is that certain artistic conventions can be misleading because they may resemble species-specific features. For example, the plumage of rock doves in frescoes is painted blue rather than grey which is why they were first identified as rollers (*Coracias garrulous)* (Figure 7).[81] However, the fact that other animals and plants that are actually green or grey are also painted blue suggests that this is a colour convention of Aegean fresco painters and thus does not preclude identification as rock doves. Moreover, it is necessary to discriminate between mainly decorative interior fillings and species-specific patterns. The frequent use of certain ornaments (e.g. dots) in the depiction of several different animals or for decorative borders increases the probability that this is an embellishment.[82] In contrast, if dots appear on an animal in an artistic tradition which rarely uses them for decoration, they may be more likely to represent species-specific features. For example, one could be tempted to see the striped rows on the birds on the Palaikastro cup (**G159**) as indicating the plumage of certain types of divers, as has been suggested by Benton (Figure 8).[83] However, when we look at other depictions of similar birds, e.g. on a vase from Kalyvia (**G160**), we find similar rows used for the decoration of other motifs such as rocks (Figure 9). This weakens the case for the identification as divers, which is only based on the striped rows.

In sum, the creation of typologies of bird images which can cross-cut media, regions or periods can greatly contribute to the identification process because more detailed and better preserved images can provide valuable information about stylized and fragmented depictions of the same kind of bird. Moreover, knowledge of the stylistic conventions can help to distinguish decorative elements from species-specific features. These steps need to precede the actual identification attempts to make sure we are aware of any deviations from "reality"

[81] Evans 1928, 454.
[82] VanPool - VanPool 2009, 537.
[83] Benton 1972, 172.

because of artistic conventions or stylistic developments. We can then begin to bring this perspective to the application of ornithological methods to bird identification in iconography.

2.2.2 Ornithology and scientific taxonomy

When confronted with bird images in iconography, archaeologists usually turn to ornithological field guides to see if they find a match between the bird depicted and any of the bird species illustrated or photographed. Alternatively, they consult ornithologists directly and ask for their opinion on the identity of the birds in iconography.[84] The methods used have systematically been laid out by the ornithologist Wyatt who worked on ancient Egyptian bird images.[85] Species identification in ornithology is made possible by focusing on the physical appearance of the bird such as size, proportions, fieldmarks (unique features which allow a certain species to be identified, e.g. the tail of a peacock) and especially colouring and patterns of the plumage.

Such an approach has fruitfully been used for the many bird depictions from Egypt, where the accuracy of proportion, and especially plumage colours and patterns often closely correspond to those of the bird species in an ornithological guide book.[86] Using this method, about 100 different bird species have been identified in Egyptian iconography.[87] As we saw in the previous chapter (Section 1.2.2), several scholars have successfully applied these principles to images in Aegean Bronze Age art, especially to depictions in frescoes. For example, as was mentioned earlier, rock doves can be identified in wallpaintings not only because of their blue/grey plumage, but also because of their red feet, red eyes and pink dots around the neck which correspond to the shimmering neck feathers (Figure 10).

Wyatt also emphasized that further ornithological information should be taken into account, for example the distribution range and/or migration behaviour of the identified species.[88] Species lists provided by birders for separate regions in the Aegean can be of great use for our purposes because they also include migrating birds.[89] Such information can also help to exclude certain species. For example, the identification of the birds on the cup from

[84] Cf. Ruuskanen (1992) who asked ornithologists to identify birds on seals. For the present study, several bird images were shown to Dr Andrew Gosler from the Edward Grey Institute for Field Ornithology, Oxford, who had kindly agreed to aid with the identifications.
[85] Wyatt 2012.
[86] Houlihan 1986; Wyatt 2012.
[87] Wyatt 2012, 83.
[88] Evans 2007, 2012.
[89] For example the website http://www.crete-birding.co.uk/, accessed 19/08/2017.

Palaikastro (**G159**) as great northern divers or black-throated divers is unlikely because these species only occur on the Atlantic coast, and not on Crete.[90] It must be noted that the past range of bird species may have changed over the millennia due to climate change and developments brought on by humans. For example, the collared dove (*Streptopelia decaocto*) which is now ubiquitous on Crete spread there only in the last century from its original habitat in India.[91] Therefore, it is unlikely that this species appears in Aegean Bronze Age iconography as has occasionally been suggested.[92] Due to the incomplete state of osteological material of birds from the Aegean Bronze Age, historical data are especially important in this regard, although they too have significant gaps.

Ornithological field guides usually present the bird species in an order according to its genus and family and then focus on morphological features relevant for distinguishing one bird species from another. This arrangement is a direct consequence of the structure of western scientific taxonomy and it is worth examining this classification system more closely to assess its applicability to ancient iconographical sources.

Scientific taxonomy is a globally used ranked classification system of biological entities with the species level (e.g. the Rock Partridge) as the basic module. Different species are grouped together within eight major ranks, which are in ascending order (using the Rock Partridge as example):

- species (Rock Partridge, *Alectoris graeca*)
- genus (Alectoris)
- family (Phasianidae)
- order (Galliformes)
- class (Aves = birds)
- phylum (Chordata = vertebrae)
- kingdom (Animalia = animals)
- life or domain level (Eukarya = life forms whose cells possess a nucleus)

The entities in these individual levels, for example Rock Partridge or Alectoris or Aves, are known as taxa.

[90] Benton 1972, 172; Buxton 1974; Svensson et al. 2009, 61-62.
[91] Stresemann – Nowak 1958.
[92] For example Cadogan 1977-1978, 71.

The species concept is subject to different definitions: termed the phenetic, the biological and the evolutionary species concepts. The most widespread in biology is the phenetic species concept, which pays attention to "inwardly continuous and outwardly discrete"[93] features, in other words, the basic morphological similarity which an individual of a species shares with other individuals of the genus level, but a different outward appearance (often plumage patterns). For example, the mallard (*Anas plathyrhynchos*) has a similar body shape as other birds of the genus Anas = dabbling ducks, but notably differs in its plumage patterns from other species of dabbling ducks, e.g. the gadwall (*Anas strepera*) (Figure 11). Biologists mostly focus on the phenetic species concept because of its relatively easy applicability for everyday identification tasks. With the help of binoculars, fine plumage details can be observed even from afar and compared to those illustrated in ornithological guide books. In cases where individuals of two different bird species happen to resemble one another very closely, for example the rock partridge and the chukar partridge (Figure 12), the phenetic species concept is complemented by the two other definitions, the biological species concept, which considers the production of fertile offspring as the decisive factor, and the evolutionary species concept, which emphasises common descent (in doubtful cases determined by DNA analyses).[94]

The phenetic species concept is the result of certain historical developments in scholarship and has specific limitations of which we need to be aware if we want to use it for identifying animals in iconography. The focus on the morphology of physical features of animals as primary classification criterion in western biology goes back to the work of the Greek philosopher Aristotle who first developed some of the basic principles of the scientific system in his works about animals.[95] Inspired by extensive dissection, he noted tiny differences between the anatomies of animals, for example the shape of the oesophagus in different birds.[96] By comparing and differentiating – or "division and assembly"[97] of – some essential organs of animals such as the wings of birds, which correspond to the fins of fish, he developed a classification system by which all kinds of animals could be arranged in a system

[93] Andersson 1990, 375.
[94] Andersson 1990, 376.
[95] Especially relevant are the following Aristotelian works: *History of Animals, Generation of Animals, Movement of Animals*, and *Parts of Animals.* See Atran 1985; Atran 1998, 564; Lunczer 2009, 12-20.
[96] Aristotle, *History of animals* 2, 509a 1–3.
[97] Atran 1998, 564.

according to similarity and dissimilarity of those essential organs. A good example of the Aristotelian classification criteria at work is presented by Atran:[98]

> "The generic species of each life form are then differentiated by degrees of "more or less" with respect to essential organs. Thus, all birds have wings for moving about and beaks for obtaining nutriments. But, whereas the predatory eagle is partially diagnosed by long and narrow wings and a sharply hooked beak, the goose – owing to its different mode of life – is partially diagnosed by a lesser and broader wing span and flatter bill."

The Aristotelian principle with its focus on morphology was readopted much later in the 16th and 17th centuries AD, following the discovery of new regions of the world.[99] Since thousands of unfamiliar plants and animals needed to be classified in relation to the familiar European counterparts, the distinction between species and genus was developed as morphological similarities and differences between scientific species became more apparent. Drawing on ideas of the Enlightenment, Linnaeus developed the modern taxonomic system – the Linnaean system – by consistently concentrating on the species as core module and labelling them in a binomial nomenclature, e.g. *Anas plathyrhynchos* for mallard.[100] Adanson and Lamarck created further higher-order ranks such as families and orders in the 18th and early 19th century.[101] Their groupings differed in details from the Linnaean system, but they also focused on anatomical features of species as classification criteria. Cuvier added the rank of the phylum (branch), which distinguishes organisms according to their general body plans.[102]

The focus on anatomical details of animals and plants in western biology led to an increasing tendency to view them in a decontextualised setting. In other words, illustrations concentrated on the entities themselves, separated from their surroundings.[103] Similarly, birds of different species are commonly shown in only one or two poses (mostly standing and flying), artificially positioned next to each other, in ornithological field guides, often with little reference to their natural environment (Figure 13). Scholars using such guides for the identification of birds in ancient iconography need to be aware that their structure is the outcome of particular historical developments and need not necessarily reflect the

[98] Atran 1998, 564.
[99] Atran 1998, 564.
[100] Linnaeus 1735, 1751.
[101] Adanson 1763; Lamarck 1809.
[102] Cuvier 1829.
[103] Jacobs 1980, 162.

composition of "non-scientific" taxonomies. In fact, the problems encountered when trying to identify depictions that are stylized or show mixed features of different species are due to fundamental differences between the structure and principles of modern western taxonomy and those of other "pre-modern" and/or non-western taxonomies, as we explore next.

In sum, western ornithological taxonomy traditionally focuses on morphological features and the scientific species concept. Such principles go back to Aristotle and were readopted in the Renaissance and the Age of Enlightenment. Ornithological methods can be of great help in cases where details given in the depiction allow us to find a close match with a certain scientific species. Also, information about past and present distribution ranges can provide corroborating evidence about the likelihood that a certain species was depicted. However, there are cases when this approach reaches its limits, especially if we encounter more schematic images or those showing hybridised features of various scientific species. In the next section we will examine possible solutions to these problems by looking at the structure of folk taxonomies.

2.2.3 Anthropology and folk taxonomies

The study of folk taxonomies, which is part of a growing field in anthropology called folk biology, is concerned with the everyday recognition of biologically different entities and how they are classified across cultures in relation to the scientific system.[104] Three types of methodologies are used to identify the structure of modern folk taxonomies. First and foremost, the names people of a given culture use for different animals and plants are recorded and then "translated" into the western scientific system.[105] Second, experiments have been undertaken to establish folk taxonomies by asking people to name animals on photographs or specimens and to tell which are "most similar to each other".[106] Third, studies with children can provide evidence for "non-scientific" ways of naming and grouping different animals and plants.[107]

All these studies have consistently shown that whereas the scientific system sees the species as the core module, a less detailed category is the primary focus of folk taxonomies. Studies done on folk names, for example those of the Kalam in New Guinea (Bulmer), the Tzeltal

[104] Berlin et al. 1973; Berlin 1992; Healey 1993, 19; Atran 1998; Medin – Atran 1999; Casagrande 2004, 352; for a history of ethnobiology as a discipline see Hunn 2007.
[105] Cf. Hunn 1975; Brown 1985; Berlin 1992.
[106] Cf. Atran 1998. For a critique of the experimental approach due to experimenter's bias see D'Andrade, 1995, 101.
[107] Cf. Waxman 1999; Hatano – Inagaki 1999.

Maya in Mexico (Berlin) and the Itzaj Maya in Guatemala (Atran) have shown that in folk taxonomies the species and genus of scientific taxonomy are usually combined in one category.[108] This grouping is called "generic species" and corresponds to English terms such as 'partridge', 'oak' or 'dog'.[109] In experiments described by Boster, people of different cultures who had no detailed knowledge of the scientific system (North American students and Jivaro Indians of South America) repeatedly sorted specimens of birds according to generic species.[110] Moreover, experiments with children of different cultural backgrounds have shown that they all seem to favour the generic species level (e.g. dog) when asked to make inferences about animals. This level is also developed earlier in infancy than non-basic levels (either higher: animal, or lower: poodle).[111]

Folk taxonomies seem to have a hierarchy of groups, comparable to the scientific ranked system.[112] Most often, different generic species are grouped into life forms (bug, fish, bird, mammal/animal, tree, herb/grass, bush) and folk kingdoms (e.g. animal, plant). Some experiments with children suggest that these groups are due to universal cognitive abilities because children usually distinguish animals and plants from non-living entities.[113] Similarly, quadrupeds, sea and air animals are usually differentiated by children, categories which correspond to the folk rank of "life form".[114]

The most common folk taxonomical ranks documented are, in ascending order and using the partridge as example:[115]

- Generic species (partridge)
- Life form (bird)
- Folk kingdom (animal)

In addition to these ranks, there can be further groupings between "generic species" and "life form" whose structure is more variable, e.g. ground-dwelling birds or game birds. Their classification criteria will be discussed in more detail below. Also, generic species can

[108] Bulmer 1967; Berlin 1992; Atran 1998.
[109] Hunn 1975; Berlin (1992, 19) called generic species"folk generics"; Atran 1998, 549-550.
[110] Boster 1987.
[111] Waxman 1999, 236.
[112] Berlin et al. 1973; Berlin 1992, 22; Atran 1998, 548-549; Hunn – Thornton 2009, 206.
[113] Cf. Hatano – Inagaki 1996 for experiments done with six, eight and ten year old children from Israel, Japan and the United States.
[114] Mandler 1992. Hatano – Iganaki (1996, 333-334), however, showed that this differentiation is difficult for second- and fourth-year graders in Japan.
[115] Berlin 1992; Atran 1999[a], 233-234.

sometimes be further subdivided into the so-called "folk specific" (e.g. rock partridge) or "folk varietal" (e.g. Cretan rock partridge), the groupings of which may or may not correspond to scientific species in western scientific taxonomy.[116]

Ranking seems to be a universal feature of folk taxonomies, but there are variations in scale. A comparative study conducted by Brown yielded evidence that biological taxonomies of small-scale agriculturalists – which he defined as societies where most people are involved in agricultural food production – are around three times larger than those of hunter-gatherers.[117] Also, the number of binomially labelled classes, e.g. 'white oak', is significantly larger in small-scale agricultural societies, and the ranks of folk specific and folk varietal are less often used by hunter-gatherers.[118] In other words, the breadth of folk taxonomical classification – and often the depth, i.e. the number of ranks – is generally higher in farming societies.[119] However, this does not mean that the biological knowledge of foragers is in any way inferior to that of agriculturalists. The results only suggest that this is not reflected in specialized lexical categories.[120] Agriculturalists, on the other hand, further differentiate their ranks, which sometimes leads to a closer correspondence to scientific species.

Experiments by Atran yielded informative results about differences between taxonomies of small-scale agriculturalists and people in modern nation-state societies.[121] Two groups of people were compared in the first experiment: Lowland Maya, who still maintain their traditional way of life in Central America, and Midwest American students. The folk taxonomies of both groups were established by asking them to sort photographs of animals and plants. Both groups of people used generic species when asked to make inferences about the likelihood of the spread of disease, but the Maya had names for the generic species while the higher life-form level was the preferred rank for the American students (i.e. they just called different kinds of trees 'tree'). Atran and others observed that the decline of direct

[116] Atran 2001, 316. See Sinclair et al. 2010, for a high accuracy in the recognition of species of Megapodes by Melanesian people and Hunn – Thornton 2010 for the high correspondence between local names of birds in Alaska and scientific species.
[117] Brown 1985, 47.
[118] Brown 1985, 43; for a summary see Holman 2005, 74-75.
[119] Holman 2005, 75-78.
[120] Ellen 1999, 108-109.
[121] Atran 1998.

contact with nature and agricultural food production seems to lead to a decrease of the number of labelled taxa in modern nation-state folk biologies.[122]

In a second experiment by Atran, a third group from one of the cultures, namely North American bird experts, was included. Again, the groups were first asked to do sorting tasks of North and Central American birds to evaluate the respective taxonomies.[123] The system of the bird experts was more similar to that of the Maya than to that of the American students. This shows that the degree of familiarity with the natural world varies considerably within a nation-state society where a layperson knows much less than a bird expert whose base of knowledge may be more similar to that of small-scale agriculturalists.[124] This fact should be borne in mind when making assumptions about the general degree of knowledge in past societies. In our context, it seems likely that the taxonomies of the people in the Aegean Bronze Age corresponded more to those of small-scale agriculturalists than to those of laymen in modern nation-states and we may thus expect that the generic species was used more commonly than the life-form level (e.g. bird).

Returning to generic species, the reasons for the cross-cultural similarities in the recognition and importance of this rank seem to be threefold. First, the distinction between genus and species becomes most apparent to people when many species of different regions are systematically compared to each other. As we have seen, this was done in the 16th and 17th centuries AD and ultimately led to the scientific species becoming the core principle of the Linnaean system (Section 2.2.2). Folk taxonomies are usually limited to a certain area – in contrast to the scientific system which aims at global validity – and the relevant differences may not be obvious to the respective societies.[125] An anthropological study by Berlin observed that it is more likely for folk taxonomies of animals to divide a generic species further if the local fauna includes more than one scientific species of one genus.[126]

A second reason for the prevalence of the generic species level seems to lie in the fact that folk taxonomies often use different visual classification criteria than the scientific system.[127] The shape and proportions of body parts of animals seem to be more important than the focus on fur or plumage patterns. For example, the Ketengban of New Guinea have been found to

[122] Brown 1985, 47; Atran 1987; Coley et al. 1997; Ellen 1999, 108.
[123] Atran et al. 2002.
[124] Anderson 1985, 53-54.
[125] Atran 1998, 12.
[126] Berlin 1992, 87; Holman 2005, 83.
[127] Berlin 1992, 9-11; Hunn 1977.

distinguish birds in the dense rainforest by their posture and shape in contrast to western ornithologists who primarily attend to fine plumage details (often with the help of binoculars).[128] Body shape and size is most variable between different genera, so attention paid to these aspects often results in the creation of generic species. An example would be the generic species of ducks and the generic species of swans in English folk taxonomy whose recognition seems to be due to their different body shapes because of the conspicuous variations in size and length of their necks.

Further to this point, compared with the modern taxonomy, under- and over-differentiation of scientific taxa are common. Different types of correspondence have been systematically identified by Seixas and Begossi.[129] An example of under-differentiation in English folk taxonomy would be the generic species 'geese', which includes species from two different scientific genera, those of Anser (Grey Geese) and Branta (black geese). The reason for this deviation of folk taxonomies from Linnaean taxonomy again seems to lie in the fact that they all have a similar body shape (Figure 14). Also, in many societies, songbird species whose body shapes are very similar to each other are not distinguished by name if they do not exhibit other special characteristics.[130] Less frequent are cases of over-differentiation which can occur when folk taxa differentiate between the life phases of one scientific species, e.g. the caterpillar and butterfly.

A third reason for the widespread use of the generic species seems to lie in behavioural and ecological considerations. Behaviour and habitat play a more important role in folk taxonomies compared to the primarily morphological criteria of scientific taxonomy. Like body shape, variations in lifestyle are most obvious on the generic species level. For example, most bears are large omnivore wood-dwelling mammals. Such criteria can lead to situations where generic species correspond to parts of higher scientific ranks such as 'families'.[131] For example, the family Accipitridae includes both eagles and vultures, whereas in folk taxonomies vultures are usually categorized as a different generic species, probably due to their conspicuous carrion-eating habits which sets them apart from most eagles.

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[128] Diamond – David Bishop 1999, 33-34.
[129] Seixas – Begossi 2001, 111-113. For a useful summary see VanPool - VanPool 2009, 534. For under-and over-differentiation of bird species by the Ketengban in New Guinea see Diamond – David Bishop 1999, 35-38.
[130] Hunn – Thornton 2009, 203-206.
[131] Atran 1999[b], 234-235.

An interesting observation in our context is that because the variability in physical, ecological and behavioural characteristics is greatest between different generic species, symbolic meanings are often linked to these rather than to scientific species.[132] A good example is the generic species of eagle, which includes several different scientific species such as the Bonelli´s Eagle, the Golden Eagle or the Steppe Eagle (Figure 15). Because the most important traits – large size, powerful beaks and claws, predatory habits, soaring flight – are shared by all those different species, the generic species eagle has often inspired symbolic associations, as can be seen on the German Euro coin (Figure 16).

Similar criteria to the ones responsible for the recognition of generic species are also applied to the creation of higher ranks in folk taxonomies. Shared habitat and behaviour seem to be especially important in this context. For example, the commonly encountered folk taxonomic group of "waterbirds" (words for which exist in various languages, for example German "Wasservogel", French "oiseau aquatique" or modern Greek "υδρόβιο πουλί") seems to include a wide variety of generic species living near (fresh) water such as ducks, geese, swans, as well as herons and egrets. Dupré has shown that whales have often been categorised as fish in folk taxonomies because of their way of swimming and their marine habitat, despite the fact that they are mammals in the scientific sense.[133] In some cases, such criteria can result in the exclusion of certain animals from the major rank of life form. These are called outliers in the studies of folk taxonomies. An example is that the cassowary is not considered to be a bird by the Kalam of New Guinea.[134] This may have to do with the fact that the cassowary is a large flightless bird and hence does not belong to birds whose prime attribute is their ability to fly. The same can be seen in ostriches in local African taxonomies.[135]

Another way that animals or plants can be grouped together or differentiated is according to criteria that pertain to a cultural function in the respective society, e.g. for medical or culinary purposes.[136] For example, ptarmigans, pheasants and partridges can be classified as game fowl because people eat them. In Atran's experiments it was found that for the Maya and American students, e.g. felines and canines were seen as more similar to each other than to other carnivores, which is not correct according to the Linnaean system. Other factors such as

[132] Compare the way Cocker (2013) organises his book about bird symbolism around folk taxonomical groupings rather than scientific species.
[133] Dupré 1999.
[134] Bulmer 1967.
[135] Atran 1999[a], 125.
[136] Cf. Morgan 1985, 6-7.

familiarity with humans were more important because both are common pets.[137] Moreover, usefulness for humans and animal habitat and behaviour can also be combined and result in categories such as 'edible fruit-eating tree birds' in Itzay Maya folk taxonomy.[138]

How can the results of anthropological studies of folk taxonomies help refine our identification methodology? Three aspects are especially important. First, since the generic species seems to be the focus of folk taxonomies, archaeologists trying to identify animals should aim primarily to identify them on the level of the generic species before trying to determine certain scientific species. A similar suggestion was made by Wapnish, who worked on translations of animal names in Near Eastern texts, and by Müller who discussed translations of bird names from ancient Hebrew.[139] Both scholars observed that translators should primarily concentrate on the generic species concept and translate names as 'eagle' or 'raven' rather than as 'steppe eagle' or 'fan-tailed raven'. Literary studies of past societies can thus serve as models for iconographical methodology.

In iconography, the generic species can primarily be determined by focusing on the proportions and shape of the body and its component parts. Characteristic features such as the size and shape of the body, the length and shape of the legs, neck, head and beak can be determined by looking at the silhouette of the bird depicted. For example, several birds on Minoan seals can be identified as cranes because of their shape (Figure 17) (Section 7.2). Plumage patterns or colour as they are used to identify scientific species should only be paid attention to after the generic species has been identified. The focus on the generic species and the body shape/silhouette helps provide a solution to bird depictions that are stylized and/or do not show colour.[140] With this method, we can go beyond the limits imposed by the structure of the scientific taxonomy and current ornithological approaches with their primary focus on plumage patterns and details.

The second insight is that behaviour and habitat need to be taken into account in the identification process because these criteria seem to be equally important in the recognition of generic species in folk taxonomies. Again, translators of Near Eastern texts have frequently applied this method when attempting to identify animals mentioned in the documents. For example, in Sumerian texts over 30 different bird species, such as grey heron, black francolin

[137] Atran 1998, 558.
[138] Atran 1999[a], 172-173.
[139] Wapnish 1985; Wapnish 1995, 235-236; Müller 1995, 146.
[140] Cf. Ruuskanen 1992, 53; Warren 1995; cf. emphasis on shape by Wyatt 2012, 85-87.

or hoopoe could be identified by taking contextual information about habitat and behaviour into account.[141] In iconography, we can focus on the posture, feeding and mating behavior, the setting, and the associated plants or animals. It should be borne in mind, however, that if the behavior or surroundings do not match that of the bird identified according to the silhouette, this is not a reason to reject the identification altogether because there may be other reasons for such deviations and they should be part of the subsequent analysis rather than the identification.

A third insight from the study of folk taxonomies can provide a solution to the conundrum of bird depictions showing mixed features of different species. As we have seen, generic species and higher groupings in folk taxonomies can include various different (generic) species, and such groupings may be directly reflected in art. A recent study by Van Pool and Van Pool in which they discuss animals on the ceramics of the Mimbres people in the American Southwest (ca. 1000 – 1250 AD), argued that anomalies in the appearance of the animals, for instance mixed traits and hybridism, can actually be used to identify the underlying conceptual framework.[142] For example, a bird which shows characteristics of a greylag goose and an Egyptian goose could be an indication that these two scientific species were seen as similar and thus put in one group, possibly as a generic species. Moreover, the flying birds on seals which presented a problem for the ornithologists in Ruuskanen's study because they showed features of passerines/corvids and birds of prey might be an indication that they reflect a folk taxonomical group including both kinds of birds (Section 5.4).

We need to be aware, however, that hybridized depictions of animals could also represent fantastical or mythological creatures.[143] In such cases, there may be some physical indications, for example if the attributes do not correlate with those of any biological taxa or traits are arranged in ways which do not occur in the natural world, e.g. a winged horse. Also, the corporeal combination of two taxa, for example those of a bird and a lion, which do not share any close morphological and behavioral similarities would suggest an imaginary creature (a griffin) rather than a folk taxon. The context can provide further clues: the griffin, for example, is often shown in Aegean Bronze Age art in association with certain people, often led on a leash, thus indicating a special status of this creature.

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[141] Contra Salonen (1973) who mainly used linguistic considerations. Veldhuis 2004, 117-122; 209-305, 331, see Mynott 2009, appendix 1, for a short list of generic species. According to Veldhuis (2004, 119) the ostrich´s eggs are said to be "bigger than a mountain".
[142] VanPool – VanPool 2009, especially 530, 534-536.
[143] VanPool – VanPool 2009, 537-538.

Ancient and modern folk taxonomical groupings may also be reflected by the ways different animals or bird species are combined with each other in iconography. Again, this has been convincingly demonstrated by studies of Near Eastern texts. For example, Wapnish deduced from the comparison of separate lists of various animals that the Sumerians had five major folk life-forms: fish, bird, snake, mammal and invertrebrates/amphibians.[144] Other Sumerian texts group animals according to their livestock or offering value.[145] A lexical list with bird names from Ebla allows a detailed reconstruction of an ancient classification system of birds: it is a list with 'flying animals' including several birds, but also locusts and bats. All raptors are mentioned first, followed by several dove species, other birds and then locusts, swallows, bats and raven/crows, an arrangement which allows the reconstruction of different groupings of birds and locusts.[146] The rationale behind these groupings seems to lie in behavioural characteristics, for example the small swallows have a similarly "flinching" flying style as locusts.

Similar groupings and combinations of different animals and birds can be identified in ancient iconography.[147] As a case study, VanPool and VanPool proposed that the frequent depiction of owls, rattle snakes and coral snakes on the same vessel indicates that they were grouped together in Mimbres folk taxonomy using the common trait 'nocturnal predator' as a classification criterion.[148] In Aegean studies, a similar approach was advocated by Morgan who suggested that classification as predators and prey, or according to the iconographic context (e.g. animals in rituals) might have been more important to the Minoans than morphological features.[149] Zeimbeki suggested that the combination of dragonflies and ducks as depicted in the Xeste 3 fresco (**E14**) was chosen not only because they share the freshwater habitat but also because they live in the narrow liminal zone between water and air.[150] She argued that this might have been a classification criterion in the context of a ritual taxonomy, given that they accompany an enthroned woman interpreted as a deity. Berg made a similar argument, proposing that the depiction of octopi, argonauts and shells on Minoan marine style

[144] Wapnish 1995, 270-272.
[145] Wapnish 1995, 243.
[146] Bonechi 2000, 253-254.
[147] VanPool – VanPool 2009, 531-533.
[148] VanPool – VanPool 2009, 540.
[149] Morgan 1985, 6-7.
[150] Zeimbeki 2005, 244-248.

vessels which were often found in shrines was due to their habitat on the bottom of the sea.[151] In her view, this might have been a relevant grouping criterion in a cultic taxonomy.

In sum, the study of folk taxonomies can help refine our identification methodology in many ways. In contrast to the scientific taxonomy which focuses on the scientific species level, in folk taxonomies the generic species level is more important. This difference seems to be due to both the geographically restricted validity of most folk taxonomies and the use of other classification criteria. Variations in shape and habitat/behaviour are the most relevant factors in the recognition of generic species as opposed to plumage details in scientific taxonomy. The importance of the generic species in folk taxonomies suggests that this level should be focused upon in identification attempts before trying to identify scientific species. In other words, attention needs to be paid first to the shape/silhouette of the birds before we focus on plumage details. Using this approach, it becomes also possible to identify stylized or colour-less bird images.

As noted above, generic species can sometimes be grouped together in higher ranks, the most widespread being the life form (birds) and folk kingdom (animal). In addition, folk taxonomies, in particular those of agriculturalists, can have more groupings of generic species below the rank of life form. Such groupings are very variable because different criteria (appearance, habitat/behaviour and cultural significance) can be applied and are also combined with each other. In iconography, bird images displaying features of different (generic) species can be identified as reflecting such ranks. In some cases, the groupings and associations can provide clues to the classification criteria relevant in a certain context, allowing a detailed reconstruction of the ranks of ancient folk taxonomies.

2.3 Conclusion

In this chapter, a systematic yet flexible methodology of bird identification in iconography based on insights and approaches from different disciplines was advocated. First, the wider iconographical context needs to be considered by grouping similar-looking birds into morphological typologies and analysing local artistic conventions. This allows the study of fragmentary and stylized depictions and avoids confusion of decorative colouring/patterning

[151] Berg 2011, 131.

with species-specific elements. A comprehensive catalogue cross-cutting different media, regions and periods is essential for the discernment of typologies.

For identification purposes, ornithological approaches such as focusing on plumage patterns as they are emphasised in field guides can be used for detailed and coloured depictions of single scientific species, especially in frescoes. Also, study of past and present distribution ranges can add valuable information. However, because of the traditional focus of scientific taxonomy on particular morphological features and the scientific species concept, ornithological methods are less suited for the study of stylized images or those displaying mixed features. For such depictions, insights from the study of folk taxonomies are more relevant.

In contrast to the modern western taxonomy, folk taxonomies usually focus on the generic species concept, a combination of the scientific species and genus. This is due to differing aims (local validity) and recognition criteria (shape, habitat/behaviour and relevance to humans), and these factors also govern the creation of higher ranks. By taking the generic species concept and other higher folk taxonomical ranks into account, our identification methodology can be refined. Thus, attention paid to the shape/silhouette should precede the focus on plumage patterns. This approach can permit the identification of stylized depictions or bird images displaying features of more than one species. We can thus circumvent a false dichotomy which sees bird depictions either as unidentifiable or as necessarily showing a certain scientific species. Furthermore, specific contextual arrangements of different (generic) species in iconography can help reconstruct the particular ranks of ancient folk taxonomies.

A fundamental insight that should be kept in mind from the above discussion is that the conceptual framework of past societies may have been notably different from that of modern western culture. In the next chapter, we further pursue the question how past perceptions of the natural world might have been different from our own and how insights from anthropology can help elucidate the particulars of ancient ontologies.

3. Ontologies and modes of human-animal relationships

3.1 Introduction

In discussions of Aegean Bronze Age iconography scholars traditionally have tended to assume that the people of the Cyclades, Crete and the Greek Mainland had a view of nature that was comparable to that of either Classical Greece or Egypt or to modern Western perceptions. Such assumptions have been challenged by some researchers, most notably Groenewegen-Frankfort, Morgan, Berg, Morris and Peatfield, Herva, Goodison, Shapland and most recently Crooks et al.[152] These scholars have argued that some Aegean Bronze Age societies had a worldview which was radically different from our own.

In the first part of this chapter, we explore the characteristics of different ontologies and see how they are reflected in iconography, following recent theories of the French anthropologist Descola. This will help us assess the arguments brought forward by scholars in their discussion of Aegean imagery, which will be the subject of the second part of this chapter.

3.2 Ontologies and their reflection in iconography

Different worldviews or ontologies have long been studied by anthropologists. The most recent and most comprehensive account of these various modes is the structuralist model developed by Descola.[153] His work provides a valuable systematic basis for our analysis because he aims to present all possible ontologies and their reflection in material culture, especially iconography.

According to Descola, there are four basic ontologies – naturalism, totemism, analogism and animism. One of these is usually dominant in a given culture, but elements or aspects of other ontologies may be present as well. The four ontologies differ from each other by the way interiority and physicality of other-than-human entities are understood as similar or different to those of humans (Table 2).[154] Interiority refers to the mind, intentionality, consciousness, feelings, vital energy and so forth, while physicality is concerned with anatomical characteristics, and external behaviour patterns, e.g. relating to diet or habitat.

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[152] Groenewegen-Frankfort 1951; Morgan 1985; Berg 2004; Morris – Peatfield 2004; Herva 2006[a], 2006[b]; Shapland 2009, 2013; Goodison 2011; Crooks et al. 2016.
[153] Descola 2005, 2006, 2009[a], 2009[b], 2010, 2013.
[154] Descola 2013, 116.

Table 2: The four modes of human-animal relationships after Descola 2013, fig.1.

	Physicality different	**Physicality similar**
Interiority different	*Analogism*	*Naturalism*
Interiority similar	*Animism*	*Totemism*

In the next four sections, we will examine each of these in more detail. We begin with analogism which has been suggested by Shapland to have had a particular relevance in the Aegean Bronze Age (Section 3.2).[155] Naturalism will be discussed next because it seems to have developed from a certain form of analogism in Europe. Finally, we move on to totemism and animism.

3.2.1 Analogism

Analogism sees both interiority and physicality of humans and animals (and plants etc.) as different from each other.[156] In this view, the world is composed of multiple radically distinct entities. Connections existing between these entities are conceptualized as various analogies/metaphors. The multitude of beings is often organized into a leveled, usually hierarchical, structure, according to principles of similarity and dissimilarity. The structuring criteria, however, can differ considerably. For example, in Linnaean taxonomy (Section 2.2), which resembles an analogical model, morphological features of various species are used to arrange them in a ranked structure. Medieval and Renaissance analogism, on the other hand, used the criteria of existence, life, and reason/spirit to create a stratified chain of being with rocks at the bottom (only possessing existence) and god at the top (being the highest spiritual entity).[157] Descola argued that human beings often occupy a privileged place in such systems because they can serve as a fixed standard for orientation in this web of affinities. In Chinese philosophy, for example, the different parts of the human body are linked to certain elements

[155] Shapland 2013.
[156] Descola 2006, 145, 152; Descola 2013, 201-231.
[157] Descola 2013, 202-205.

of the macrocosm such as zodiac signs.[158] Shapland has drawn attention to the fact that analogism is most prevalent in stratified societies, e.g. Ancient Egypt, Mesopotamia, Classical Greece, Imperial China or Medieval Europe, because the rigid hierarchy of human and non-human entities often mirrors a similarly stratified social structure.[159] As we will see (Section 3.3), this is the primary reason why he thought that this model was also applicable to the stratified societies of the Aegean Bronze Age.

Analogism can be reflected in art in various ways.[160] The analogical system may be directly illustrated as for instance in European medieval images of the Great Chain of Being, where the different entities (trees, quadrupeds, fish, birds, humans, angels and god) are shown in mutually exclusive hierarchical levels (Figure 18).[161] One could also expect the hierarchy of beings to be indirectly expressed, for example by differences in size between entities or by narratives showing some entities as clearly inferior or superior to others. In analogical imagery, entities often appear multiple times in identical fashion to emphasise the regularity of the prevalent order which is more relevant than the depiction of individual beings.

Other typical analogical motifs are depictions of composite beings which are constructed from distinct classes of entities, e.g. the Greek chimera.[162] Analogical hybrids appear rather static and the visual emphasis does not lie on dynamic metamorphosis.[163] Thus, the chimera is always composed of a lion's front part, a goat's head in the middle and a snake as tail, and there are no variations in appearance. Wengrow has drawn attention to the modular thinking reflected by such hybrids, i.e. the perception that entities are composed of multiple irreducible parts which can be combined with one another in an anatomically correct way.[164] Another characteristic of analogical hybrids is that these beings, their origin and/or their defeat, are often embedded in mythological/narrative scenes. For example, the Greek chimera is shown being killed by Bellerophon (Figure 19). This is necessary to such conceptualisation because such beings are usually viewed as "monstrous" given that they transcend the rigid inherent boundaries between entities.[165]

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[158] Descola 2013, 205, 218.
[159] Shapland 2013, 193-194. See also Lloyd 2011.
[160] Descola 2009[a], 34-36.
[161] Lovejoy 1936; Descola 2013, 439-458.
[162] Descola 2009[a], 34.
[163] Descola 2013, 213, 215-216.
[164] Wengrow 2013, esp. 21.
[165] Descola 2009[b], 811.

A third and more abstract way of expressing analogical notions is via the visual and contextual connections established between multiple heterogeneous beings in art. As there are many possible structuring criteria it can be difficult to identify the metaphorical relationships between different entities.[166] However, certain patterns should be detectable which might make it possible to reconstruct the structuring criteria.[167] For example, if a certain animal depicted in a scene is substituted by a human in an identical scene it could indicate that an analogy is established between this animal and the human being. European analogical notions provided the basis for the development of naturalism, an ontology which we will look at in the next section.[168]

3.2.2 Naturalism

Naturalism is the model prevalent in modern Western societies. As we have seen in the previous section, in the European analogical model humans held a special place in creation because they partake in the spiritual realm by way of god-given reason and other living beings were thus seen as a priori inferior.[169] Naturalism similarly insists that humans are inherently different from other entities by having feelings, consciousness, agency, language and culture. However, driven by progress made in the natural sciences from the 16th century onwards, naturalism also recognises that humans share a common physicality with animals by being subordinate to the same natural laws (e.g. chemistry or physics) or by way of evolution.[170] The idea of the internal human uniqueness because of reason was already formulated by Aristotle and became prevalent again in the 17th and 18th centuries, most notably in the writings of Descartes and Kant.[171] Descartes stated that – based purely on observation – an animal could be mistaken for a machine/automaton because:

> "internal movements of the appetites and passions, and finally the external movements of all the limbs […] follow from the mere arrangement of the

[166] Descola 2009[a], 34-36; cf. also Lloyd 2011 for differences between analogical Greece and China.
[167] Descola 2009[b], 812-813.
[168] Hurn 2012, 41; Descola 2013, 57-88.
[169] Genesis 1, 26; Descola 2013, 66-68.
[170] Descola 2013, 172-200.
[171] Regan - Singer 1989, 4-19; Katsafanas forthcoming, 14-18; Hurn 2012, 45.

> machine's organs every bit as naturally as the movement of a clock or other automaton follow from the arrangement of its counter-weights and wheels."[172]

Although Descartes maintained that animals seem to possess basic emotions such as hunger or fear (thereby implying that they are not really automata), he goes on to say that human beings are notably different because they alone are characterized by the possession of language, thought, a rational soul and self-consciousness.[173] As Katsafanas has observed, this human-animal divide had implications for the attribution of personhood to animals in naturalism.[174] Kant for instance stated that:

> "Beings the existence of which rests not on our will but on nature, if they are beings without reason, have only a relative worth, as means, and are therefore called things, whereas rational beings are called persons because their nature already marks them out as an end in itself, that is, as something that may not be used merely as a means…"[175]

As we will see, this limitation of personhood to humans in naturalism contrasts sharply with totemism and animism. Although recent scientific findings demonstrate that the interiority of some animals may not be so different from that of humans, humans are still seen as the standard other species must conform to (cf. the different treatment of pets vs. livestock).[176] Also, western zoologists are trained to see animals not as individuals but primarily as members of a species to avoid unscientific anthropomorphism.[177] That naturalism continues to be the dominant ontology in the modern western world needs to be taken into account when making statements about ontologies of past societies, which may not conform to this particular, historically developed mindset.

In art, naturalist ontology is reflected by a tendency to emphasise the presumed unique interiority of humans, for example by way of life-like portraiture of people (Figure 20).[178] The development of the central perspective in the Renaissance, most notably in landscape painting, also gives the human viewpoint primacy over others and defines it as an objective

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[172] Descartes [1985], vol. 1, 108, cited in Katsafanas forthcoming, 5.
[173] Cottingham 1978.
[174] Katsafanas forthcoming, 13-14, 17-19.
[175] Kant 1785/1998, vol. 4, 428, cited in Katsafanas forthcoming, 13.
[176] Russell 2010, 6.
[177] Barber 1994, chapter ten.
[178] Descola 2009[a], 29-31.

way to see the world.[179] Photographic realism – or artistic naturalism – in the depiction of all other entities, for example in still life paintings (Figure 21), serves to underline the notion of a shared physical reality.

Minoan art has often been characterized as 'naturalistic' because of life-like and truthful depictions of animals, but there is the danger of confusing this with 'naturalist' art. As we will see, Minoan art is anything but 'naturalist' because it lacks portraiture and visual perspective. Also, photographic realism is mostly absent and depictions with mixed features abound.[180] In the next section, we look at totemism, an ontology which is radically different from naturalism.

3.2.3 Totemism

The third ontology according to Descola is totemism, which is characterized by the view that both the interiority and the physicality of humans and animals are the same.[181] Here, both humans and non-humans can be considered to be members of a class which share a number of physical and spiritual/moral attributes of which a totem animal or plant is the embodiment. This view was first identified among indigenous people of Australia. Previous scholars such as Durkheim and Lévi-Strauss interpreted such notions as merely conceptualising metaphorical relationships between certain humans and animals which are "good to think", as Lévi-Strauss described the symbolic potential of animals.[182] However, such a model would be more similar to analogical notions. In more recent scholarship it has been argued that totems are more indicative of a perceived shared ontological continuity thereby emphasizing the common origin or kinship between two classes of entities.[183] In totemism, a person or a segment of society completely identifies with the totem and statements such as that of the Bororo of Brazil who say "we are red macaws" become possible, not as analogy but as a perceptual fact.[184]

In iconography, totemic notions are reflected by images which show the outer and interior features of humans and other beings in a similar manner with no important visual or contextual differences. The art of Australian Aborigines shows both human and animal

[179] Descola 2013, 57-63.
[180] Groenewegen-Frankfort 1951, 196.
[181] Descola 2013, 144-171.
[182] Durkheim 1915; Lévi-Strauss 1963.
[183] Fernandez 1991; Hurn 2012, 70-78.
[184] Hurn 2012, 70.

silhouettes with an accurate rendering of the skeleton and the organs in the so-called X-ray style, thus revealing both the outer and the inner similarities between human and non-human entities (Figure 22).[185] Ingold observed that totemic images appear relatively lifeless, emphasizing the eternal and consistent order of the world because the emphasis lies not on transformation, but on being.[186] In this regard it radically contrasts with animism, the ontology of the next section, which thinks that the world continually changes its appearance.

3.2.4 Animism

The final ontology, animism, has a particular relevance in our context and will thus be discussed at greater length.[187] Animism perceives non-human entities as having the same interiority as humans, but their physicalities are seen as radically different.[188] The concept of animism has a long history in anthropological research and goes back to Tylor who defined it as the belief that everything, even trees or stones, has a soul.[189] He characterised the idea as primitive and child-like, which led to animism – like totemism – as a concept being seen as "wrong" until relatively recently.[190] In 1960, Hallowell, after studying the ontology of the Ojibwa people of Canada and North America, evoked a new interest in animism which he defined as the view that personhood is not only possessed by humans, but also encompasses animals, plants, things, spirits, places and events.[191] Hallowell observed that animals are:

> "(…) believed to have essentially the same sort of animating agency which man possesses. They have a language of their own, can understand what human beings say and do, have forms of social or tribal organisation, and live a life which is parallel in other respects to that of human societies."[192]

In this sense (as in totemism too), there is no dichotomy between nature and human culture such as in naturalism because animals have culture and humans are part of nature.[193] This perception can also be observed in Amerindian Perspectivism, as argued by Viveiros de Castro, which holds that all animals see themselves as having human culture and in turn

[185] Descola 2009[a], 32-33; Ingold 2011, 116-121.
[186] Ingold 2011, 116-118.
[187] Herva 2006[a], 2006[b].
[188] Descola 2006, 140-141, 2013, 3-25, 129-138; Hurn 2012, 42-54, 70-78.
[189] Tylor 1871.
[190] Bird-David 1999, 67-70.
[191] Hallowell 1960; Harvey 2005, 17-20; Ingold 2011, chapter 6, 90-92.
[192] Hallowell 1926, 7.
[193] Descola 2013, 3-25.

consider humans as animals.[194] It is only their different outer forms that separate them and determine their varying life styles and perspectives.

Animist ontologies seem to be most prevalent in societies which can be described as hunter-gatherers.[195] But animist ontologies or parts thereof can also be found in other societies, e.g. itinerant pastoralists (Saami of Lapland) or horticulturalists (Achuar of Amazonia).[196] The Japanese religion of Shinto which has many animist aspects is an important part of a decidedly modern society.[197] Shinto teaches that a life force (ki) affects and connects all entities.[198] The sacred (kami) is not limited to an absolute deity or deities beyond the world (transcendent) but can be subjectively experienced within the world (immanent), in all sorts of entities such as trees, stones, mountains, but also spirits, humans, ancestors or animals and birds.[199]

Bird-David and Harvey have stressed that in animism, although the potential for personhood may be shared by all entities, it is constituted in individuals primarily by mutual relations with other individual persons.[200] For example, the Ojibwa say that not all stones are alive but only when they are speaking to humans.[201] For them, it is usually a one-on-one encounter that establishes these relationships.[202] According to Harvey, birds in animist societies are not only seen as important omens but "(…) the unusual physical proximity that sometimes occurs in encounters between particular birds and particular humans can be considered to be deliberate acts of communicative intimacy."[203] Similarly, Shinto adopts an action-centred relational approach which is mediated by the senses (touching, seeing, listening, tasting and smelling) and speaking.[204]

Seeing is especially important for establishing relations between non-humans and humans. Berger observed how important the capability of animals to return the human gaze is to reveal

[194] Viveiros de Castro 1998, 470. Descola (2013, 138-143) sees perspectivism as a subset of animism.
[195] Bird-David 1999, 78; Hurn 2012, 42-44.
[196] Hurn 2012, 51-54; Descola 2013, 37-44, 46-47.
[197] Williams 2005, 7; Jensen - Blok 2013.
[198] Williams 2005, 33-34.
[199] Williams 2005, 9-11, 28-32, 131.
[200] Bird-David 1999; Harvey 2005.
[201] Hallowell 1960, 24; Harvey 2005, 106-107.
[202] Descola 2013, 141.
[203] Harvey 2005, 102-103.
[204] Williams 2005, 56-59.

how they are both like and unlike humans.[205] For the Nayaka of South Asia, an individual elephant which "looked straight into his eyes" was seen by the informant as a person.[206] The effect of visual contact established between an individual human and animal which might help us elucidate animist feelings is captured by Woolfson in her book about living with corvids. She described an encounter between her and a magpie as follows: "He would hold my gaze, look at me straight for a long time, and when he did I knew him in every respect my equal, more than my equal: (…)"[207] In addition to the visual sense, specific communicative abilities of various animals as conveyed by their voice, song or body language can be perceived as attempts to relate to people.[208]

Another way to establish relations with non-human entities is to shed one's physicality and to interact directly with the spirit world, a task which is usually undertaken by certain ritual practitioners (shamans).[209] As a consequence of such beliefs, animist societies usually have no fixed pantheon of supernatural deities (such as in analogical societies) and the focus lies rather on interaction with various spirit beings which pervade every aspect of life.[210] Headdresses, costumes and masks (Figure 23) are often used to help transform the shaman so that (s)he can adopt the abilities and perspectives of animals and spirits.[211] As we have seen, the senses are important in gaining knowledge about and relating to other persons. To gain access and insight into the spirit world the senses of the shaman need to be extended and amplified, something which can be reached by altered states of consciousness (ASCs).[212] Trance can be achieved through using psychoactive substances and untertaking activities such as fasting, meditation, or certain body postures and/or through rhythmic movements, sounds and songs. During the first stages of trance people can have auditory and visual hallucinations, e.g. they see certain abstract shapes called entoptic forms in neuropsychology

[205] Berger 2009, 4.
[206] Bird-David 1999, 75.
[207] Woolfson 2008, 206.
[208] Barber 1994, 34-35.
[209] Eliade 1964; Vitebsky 1995, 10-21; Harvey 2005, 139-152; VanPool 2009; For Shinto see Williams 2005, 30, 115-117.
[210] According to Harvey (2005, 135), spirits are "other-than-human persons who are either immaterial or whose particular physicality or embodiment is temporary".
[211] Vitebsky 1995, 82-84.
[212] Vitebsky 1995, 64-73; VanPool 2009, 180.

(Figure 24).[213] In the course of a trance experience, iconic visions are often interpreted as encounters with spirit beings.[214]

Somatic sensations such as moving or shape-shifting can occur, which are thought by animists to enable the shaman to adopt the abilities and perspective of a non-human person.[215] Sensations of falling or flying are common experiences during trance.[216] Lewis-Williams suggested that such physical perceptions are the reason why shamanic societies often conceptualize the world as having a tripartite structure with some spirits inhabiting the upper world/sky, humans the middle one and other spirits inhabiting the underworld.[217] Special liminal places such as mountains, caves or springs or a combination of them, i.e. caves on mountains, are often thought to be the entrances and connectors to the upper or lower parts of the world and are the foci of rituals.[218] Special structures such as altars and shrines can also "serve as entry points into the spirit world".[219]

Journeys to the spirit world serve various purposes, for example to see things as they "really are", but also to seek help or knowledge for healing, manipulating weather, divination, or ensuring fertility.[220] Such shamanic journeys and transformations are usually considered dangerous and require the help of tutelary entities.[221] Significantly, tutelary animals are often those which inhabit liminal zones, such as land–water, land–sky or underground–land, like the shaman him/herself.[222] Flight is often made possible with the help and guidance of birds or by changing into a bird.[223]

The above mentioned characteristics of animist ontology can be variously reflected in iconography. According to Bird-David, animist ontology "educates the attention, to perceive and specify the environment".[224] Similarly, Shinto teaches that because kami can be experienced everywhere and nature itself is seen as sacred, attentiveness to all things natural

[213] Lewis-Williams – Dowson 1988; Lewis-Williams 2010, 142-146.
[214] Lewis-Williams 2010, 146.
[215] Lewis-Williams 2010, 147-149; Boric 2007, 92.
[216] Lewis-Williams 2010, 168-170.
[217] Lewis-Williams 2010, 162-164.
[218] Lewis- Williams 2002, 165; Pearson 2002; VanPool 2009, 183.
[219] VanPool 2009, 182.
[220] Grim 1983; Myerhoff 1976; Vitebsky 1995, 96-119; Harvey 2005, 139-152; VanPool 2009, 180.
[221] Vitebsky 1995, 66-69; VanPool 2009, 181-182; Ingold 2011, 114-115.
[222] Whitley 1994, 25; Vitebsky 1995, 70, Pearson 2002, 69–70; VanPool 2009, 182.
[223] Wilbert 1987; Vitebsky 1995, 68; VanPool 2009, 182.
[224] Bird-David 1999, 77.

is a condition of being in the world.[225] In consequence, specific characteristics, poses, actions and habitats of animals/plants are not only noticed but can also be truthfully depicted in iconography, as a way of defining these persons and their perspective, thus resulting in rather "naturalistic" images.[226] An example can be seen in carvings of animals and birds made by the Inuit of Canada and the Evenki of Siberia which are inspired by direct observation of specific movements, e.g. an ice bear gliding through water or a swan flying with outstretched neck (Figure 25).

Moreover, the shared interiority of non-human entities is often emphasised. As Ingold put it, animist images serve to show the "powers of agency, intentionality, and sentience embodied in a living, moving being."[227] In this sense, an animist depiction is understood to show the true and real underlying nature of things.[228] Many animist societies consider movement to be a primary expression of animacy and Ingold has observed that depictions tend to concentrate on the movements and actions of animals.[229] For example, a seventeenth-century Japanese screen depicting a lively flock of crows (Figure 26) was interpreted by Marzluff and Angell as capturing the sentient essence of the birds, thereby reflecting animist traits in Shinto.[230]

In contrast to 'naturalist' art, where realism is the goal, animist art can also deviate from a strictly mimetic intention to express shared interiority of non-human persons.[231] It has been observed that Japanese paintings of Mount Fuji show the mountain in an idealized fashion which contrasts with the more realistic rendering of its surroundings (Figure 27).[232] It has been suggested that this idealization can also be observed in the rendering of other natural phenomena and shows the essence of the sacred mountain-person because kami-ness is experienced as awe-inspiring, beautiful or wonder-full. Thus, one could speak of this art style as a kind of 'idealized naturalism'.

Another way to illustrate the shared interiority of human and non-human entities is the depiction of ambiguous images. For example, a Peruvian pot may be seen as a living or

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[225] Williams 2007, 71-72.
[226] Ingold 2011, 122.
[227] Ingold 2011, 121.
[228] Boric 2007, 91-92; Ingold 2011, 130.
[229] Ingold 2011, 115-121, 126-128.
[230] See Marzluff – Angell 2005, 128-130.
[231] Boric 2007, 91-93; Descola 2009[a], 31.
[232] Yoshihiko 2013.

animated entity, a view which can be expressed by attaching features of humans to it.[233] Depictions of hybrids, especially those showing the metamorphosis of an animal into a human (or other entity), express similar notions.[234] In Amerindian perspectivism, metamorphosis is seen as a condition of all "human" life, in humans and other animals.[235] An interest in shape-shifting and transformation between human and non-human can also be detected in Shinto, which freely merges humans, animals, spirits and even machines/robots.[236]

The animist focus on establishing and maintaining mutual relationships between individual persons is also reflected by material culture. Three-dimensional effigies of specific animals, for example those made by Inuit people, may be carried close to the body to keep the relationship with these persons alive. In two-dimensional media various different entities (humans, animals, trees, stones) can be shown in the same scene, with a focus on their relations. An example is a painting by a Greenlander which shows a hunter in a boat encountering a gull-person who is teaching him how to calm the storm (Figure 28).[237] The relations between them are made clear in the picture by the visual contact and the fact that the gull has turned its head back to look at the man. In such scenes the animals appear as individual and equal participants – an aspect which contrasts with analogical iconography.[238] Descola has observed that animist depictions do not privilege one "objective" viewpoint as naturalist imagery does in landscape painting but try to adopt those of non-humans as well, often resulting in nature scenes lacking perspective and a coherent sense of space.[239]

Shamanism may be expressed by images showing people on a magical journey, e.g. carried by a special boat, as seen in images of Canadian shamans (Figure 29). Depictions may also be directly inspired by trance experiences. They commonly contain entoptic imagery and spirit animals – usually liminal creatures such as birds or non-naturalistic entities – which help guide the shaman.[240] People with features of an animal or bird can also be interpreted as showing shamans transforming into a spiritual entity or merging with their tutelary animals,

[233] Jensen - Blok 2013, 105; VanPool – Newsome 2012, 9-15.
[234] Descola 2009[a], 28; Kristoffersen 2010, 265; Simandiraki-Grimshaw 2010, 98; Lindstrøm 2012, 156-161; Descola 2013, 135-138.
[235] Boric 2007.
[236] Jensen - Blok 2013, 98.
[237] Vitebsky 1995, 7.
[238] Ingold 2011, 121.
[239] Descola 2009, 6-7.
[240] Freidel et al. 1993; VanPool 2009, 182.

thereby adopting a non-human perspective (Figure 30).[241] Shamans are special people because they have managed to control the transformation by mastering certain techniques and/or having special relations with tutelary animals. Therefore, in contrast to metamorphosis from animal to human which expresses the shared interiority, the change from human to animal is a sign of the control over the transformation which is typical for shamans.[242]

To sum up, Descola's structuralist scheme set out above has provided us with a useful epistemological tool to recognise different ontologies and their reflections in iconography. Also, it makes clear that the view commonly adopted by western scholars, naturalism, is only one of many possibilities of human-nature relationships. Because of naturalism's particular historical trajectory it seems important to consider that prehistoric societies had a different attitude towards animals. In the next section, we will examine how the assumption of different worldviews has shaped interpretations of Aegean Bronze Age iconography.

3.3 Ontologies of the Aegean Bronze Age

In discussions of Aegean Bronze Age imagery scholars have tended to assume that the societies in question either followed an analogical (such as the Egyptian or Classical Greek) model or a naturalist perspective. This becomes especially relevant in the interpretation of scenes where natural objects take centre stage. In this section, we will see how the perspectives of past scholarship have influenced interpretations and how considering alternative ontologies could help understand these scenes better.

As a good starting point, we will examine interpretations of the cult scenes on Minoan gold rings (e.g. **D11**, **D12**, **D86**). These scenes usually show humans engaged in activities such as shaking a tree or hugging a boulder.[243] Shrines and pithoi may be depicted in the background. Small floating objects also appear, such as spikes, eyes, wavy lines, rayed objects, double

[241] Dobkin de Rios 1976, 61–62, 73; Schaafsma 1994; Vitebsky 1995, 66-69; Whitley 2000; VanPool 2009, 182; Boric 2007, 90-93; Lahelma 2007; Descola 2009, 4.
[242] Descola 2013, 136.
[243] Niemeier 1989; Warren 1990; Thomas - Wedde 2001, 5.

axes with tassels, blobs with dots and chrysalises.[244] Often these scenes also involve the appearance of tiny human figures – male and female – in the upper register.[245]

Interpretations of such cult scenes have usually focused on the small human figures, which sometimes hold a staff and seem to float as suggested by the flying hair and feet which point downwards.[246] Since flying is considered a supernatural skill from the western viewpoint and the people on the ground seem to express their excitement by different gestures such scenes have usually been interpreted as showing the epiphany of a divinity, invoked by the ecstatic activities of adorants.[247] In some scenes a larger seated female figure is shown, which receives objects by people or is accompanied by certain animals (monkey, griffin, lion, birds). Comparing such scenes with polytheist/analogical models such as either the Egyptian or the Classical Greek worldview, scholars have considered her to be a deity with her animal companions who is attended to by her worshippers.[248]

However, there are some structural arguments against seeing these flying and seated figures necessarily as divine:

- The "deities" are not substantially different from their "adorants" – they wear similar clothes, make the same gestures and have no consistent attributes.[249]
- The attention of the "adorants" is not always focused on the floating figure, rather they appear self-absorbed, and in some scenes the figure is absent.[250]
- The gestures are not only seen in the presence of a floating or seated figure.[251]

In traditional interpretations, the boulder-hugging and tree-shaking are seen as a means to an end, namely to summon a supernatural entity. This follows from an understanding of religion as a belief system connected with (anthropomorphic) deities and rituals as a way of summoning and worshipping them.[252] Such a definition may encompass analogical monotheistic or polytheistic religions but it has no validity for example in the context of Shinto, which does not know the concept of something "supernatural". Thus, when taking into

[244] Kyriakidis 2005[a], 140-143.
[245] Wedde 1992, 185; Thomas - Wedde 2001, 5-6.
[246] Cain 2001, 34.
[247] Matz 1958; Marinatos 1989, 136; 1993, 175–92; Niemeier 1990, 166-167; Warren 1990; Wedde 1992, 185-186; Vasilicou 2000, 33, 38; Rehak – Younger 2008, 167.
[248] E.g. Thomas - Wedde 2001, 6-9; Vasilicou 2000, 40-45.
[249] Also noticed by Groenewegen-Frankfort 1951, 212-215; Dickinson 1994; Thomas - Wedde 2001; Cain 2001; Peatfield 2001; Berg 2004; Blakolmer 2010; Day 2012, 14-15.
[250] Groenewegen-Frankfort 1951, 199; Wedde 1992, 188.
[251] Wedde 1999; Wedde 2001, 7; Morris 2001.
[252] Warren 1988, 34-36; Dickinson 1994, 257- 260; cf. Peatfield 2001, 51-54.

account other ontologies, there are some points which speak against considering the floating and seated persons automatically as divine agents:

- Flying is not always the prerogative of a divinity, but altered states of consciousness can also induce feelings of flying, thus shamans are able to fly in animist cultures.
- Sitting could be the prerogative of a powerful human, not just a deity, and the association with powerful or liminal creatures such as griffins or birds could indicate that these people are shamans.

Morris and Peatfield have argued for the depiction of shamanic practices on the Minoan gold rings.[253] They have found parallels in the gestures and movements of the people on the rings to those shown by human figurines from peak sanctuaries (Figure 31). Rather than seeing them as adoration gestures, ethnographic parallels suggest that they show various 'trance-inducing' postures which influence heart rate and blood circulation; thus, they could be reflections of altered states of consciousness.[254] This may also explain the dream-like floating objects, which could be entoptic phenomena.[255] Enlarged photos of the snake, chrysalis, etc., show similarities to the wavy line, drop etc. often reported to be seen in trance (Figure 32).[256]

Activities such as boulder-hugging and tree-shaking could also be interpreted alternatively when we consider different modes of human-nature-relationships. Berg, Herva, Day and Crooks et al. all suggested that these actions show people communicating with sentient non-human persons and are thus indicative of an animist framework.[257] As we have seen, in animist societies, some stones are said to be alive, and touching the stones can be a respectful way to ask stone-persons to speak with humans.[258] Similarly, trees can be non-human persons and they can be communicated with by speaking and/or touching.[259] Thus, taken together with the previous observations of evidence for shamanism, the cult scenes appear consistent with characteristics of animist imagery.

Interpretations of the so-called nature scenes in Minoan art which show animals, plants and stones taking centre stage (e.g. **E1**, **E14**) have also been influenced by the the more familiar

[253] Morris – Peatfield 2004.
[254] Goodman 1986; Morris – Peatfield 2004. The validity of these claims were tested in experiments done by McGowan (2006), which suggested that five Minoan gestures consistently resulted in various stages of ASC in the participants.
[255] Also suggested by Morris – Peatfield 2004, 44-45.
[256] Kyriakidis 2005[a] shows detailed pictures of these objects which are are argued to be constellations.
[257] Berg 2004; Herva 2006[a], 592-595; Day 2012; Crooks et al. 2016.
[258] Harvey 2005, 37.
[259] Harvey 2005, 104-106.

analogical or naturalist models. The frequency and importance of nature scenes in Minoan (fresco) art have long intrigued scholars and whereas earlier views considered them as merely secular decorations[260], more recent interpretations have seen them as symbolically referencing a divine agent, e.g. a nature goddess.[261] This latter view, however, is influenced by questionable readings of the cult scenes, as discussed above. Implicit in these interpretations is the assumption that humans or divinities with their presumed unique interior potential (agency, will and culture), and not doves, monkeys or plants, should be the protagonists of large-scale wall paintings.[262] Also, the western concept of a division of culture and nature becomes apparent in labeling these images "nature scenes", a classification which fails to take into account the various combinations of "pure" nature scenes with those including humans.[263]

Such theistic interpretations were critiziced by Herva who considered the prominent place of natural phenomena and the emphasis on movement in Minoan art as evidence for animist traits.[264] The frequent and "naturalistic" images of animals and plants were seen by him as active 'agents' in gaining environmental knowledge by drawing attention to the variety and wealth of the non-human, but sentient, environment.[265] He interpreted deviations from reality as serving the purpose of revealing the true interior nature of things which is otherwise hidden by outer appearances. For example, hybrid images of plants merging various species could indicate both the "wonderfull-ness" of nature and the fluidity of categories because all species share a common essence.[266] As we have seen, fluid hybrids are indeed a central feature of animist iconography and Herva's interpretation thus seems to be consistent with what we know of animist iconography. Such images could thus have been another way of engaging with other-than-human persons rather than merely being symbolic referents of the power of deities.[267]

Herva's animist hypothesis was not accepted by Shapland. Although he noted that the naturalism of many Minoan 'inanimate' objects served to "substitute" and make animals

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[260] Evans 1928[b], 446.
[261] Immerwahr 1989, 46; Marinatos 1993, 149-151; Chapin 2004, 54-59. For an overview see Herva 2006[b], 225-226.
[262] Groenewegen-Frankfort 1951, 195-196; cf. Chapin 2004, 47.
[263] Angelopoulou 2000.
[264] For movement as hallmark of Minoan art, see Groenewegen-Frankfort 1951, 185-216; Herva 2006[b], 224.
[265] Herva 2006[b], 233; Cf. also Gell 1998.
[266] Herva 2006[b], 234.
[267] Herva 2006[b], 234-235. Similarly, Goodison (2011, 187-192) remarked that the Cretan attitude towards animals seems profoundly different from both our modern and the (analogical) Christian stance.

present in certain contexts, he argued that the type of human-nature relationship prevalent in the Aegean Bronze Age was Descola's "analogism".[268] He observed that animist concepts are more commonly found in small-scale communities, a characterization that does not apply to Minoan Crete.[269] Thus, he argued that analogism which is usually dominant in hierarchical societies would be a more appropriate concept for both Minoan Crete and Mycenaean Greece. He explained representations of Minoan cult scenes and Mycenaean hunting scenes within analogical frameworks as having "emerged to associate an elite group with restricted practices such as lion-hunting or rock-hugging."[270] In other words, they were developed to serve a primarily legitimising purpose because they were associated with and possibly limited to members of the elite.

There are several problems with this argument, especially regarding the Cretan evidence. First, although they are usually more egalitarian, animist societies can be complex as well, e.g. in Japan. Crooks et al. have also suggested that animist rituals such as boulder-hugging could also have served legitimising purposes, especially in the Neopalatial period, because baetyls were erected in the courtyards of palatial centres and images of rocks, mountains and trees were consistently associated with elite contexts.[271] The possible links of such imagery to the elite need thus not preclude their interpretation as reflecting an animist worldview. Second, Shapland did not take into account the profound differences between the Cretan and Mainland cultures and their distinct iconographies relating to nature which makes it unlikely that they had the same ontology.[272] Also, the historical trajectories of power relations were much more variable in these regions than Shapland's hypothesis implies. For example, there seems to have been a greater incipient emphasis on communal ethics and heterarchical notions on Crete as opposed to a more hierarchical structure on the Greek Mainland.[273] Such a hypothesis is based on an architectural emphasis on large central courts where many people could gather in the Cretan palaces as opposed to the architectural features of the Mycenaean palaces which deliberately restrict access to the central throne room. Third, he may be right in arguing for the use of lion-hunting images in an analogical framework in the Early Mycenaean period by establishing a metaphorical relationship between a powerful warrior and a powerful lion because the link between lion-hunting and powerful persons is common

[268] Shapland 2009, 267, 2013.
[269] Shapland 2009, 31-32; Shapland 2013, 193-197.
[270] Shapland 2013, 195-197.
[271] Crooks et al. 2016.
[272] Also emphasised by Groenewegen-Frankfort 1951, 188-190.
[273] Schoep - Knappett 2004.

in many societies. But, this explanation remains unsatisfactory for the Minoan cult scenes because it does not clarify why special activities such as boulder-hugging and tree-shaking per se had a legitimatory potential for the elite. A new analysis is thus in order considering both different ontologies and regional variations in nature imagery.

3.4 Conclusion

To conclude, it is important to consider different ontologies in the interpretation of Bronze Age images involving natural phenomena. Descola's structuralist scheme of the four ontologies and their reflections in art provides a valuable methodological basis for our study of bird images. Each ontology exhibits different iconographical characteristics, especially regarding the depiction of species-specific features, the importance of movement and agency, the presence of symbolic/metaphorical links, the nature of relationships between animals and other entities, and the character of hybrids. However, we need to bear in mind that some artistic conventions, for example naturalism, can be employed in the iconography of disparate ontologies. Therefore, both form and content of imagery need to be studied and only by paying particular attention to the combined presence of such features, may it become possible to identify what kinds of ontologies were prevalent in the societies of the Aegean Bronze Age. By specifically concentrating on one group of animals, in our case birds, and their varying depictions through time and across regions, previous studies of ontologies, which primarily concentrated on animism or analogism, can be complemented and expanded.

In the following chapters we will study each group of bird depictions in turn. According to the principles laid out in chapter 2, the bird images will first be identified as closely as possible. After that, the functions of the respective images will be analysed by focusing on any recurrent features and/or associations. Particular attention will then be paid to the question what ontologies were prevalent in the respective time and/or region. Our study will proceed more or less chronologically. Within chapters, a new section is started when we can see changes or innovations in the meaning and function of bird images. We start with images of columbids which seem to be the earliest birds represented in the Bronze Age.

4. Columbids

4.1 Introduction

In this chapter, we will examine columbids (doves). Doves seem to have been the birds first depicted regularly in Aegean Bronze Age art. Doves are characterised by a stout body shape, a rounded breast, a relatively short neck and a rounded head with a short conical beak (Figure 33). Three dove species were present in the Aegean Bronze Age (Figure 34): the rock dove (*Columba livia*), the wood pigeon (*Columba palumbus*) and the turtle dove (*Streptopelia turtur*). Bones of all three species have been found in Minoan layers at Kommos.[274]

This chapter has four sections tracing the development of dove depictions from the beginning of the Early Bronze Age until the final stages of the Late Bronze Age. We first discuss the earliest depictions of doves in EB I – MB II, before we address images dating to MM II – MM III in the second section. A discussion of dove depictions in MB III – LB II, when they are most frequent, will follow in the third section. In the final section we look at dove images dating to LB II – IIIC.

In each section, the relevant depictions are first introduced in a list according to object type. After that, we identify the birds as closely as possible and evaluate the degree of artistic naturalism. We then discuss the functions of the objects and consider the question of what kind of ontology might be reflected by these images.

4.2 EB I – MB II

In EB I – MB I, most images of doves are three-dimensional, either vessels or figurines. The vast majority come from Crete or the Cyclades, while only one image has been found on the Greek Mainland. The following 66 objects will be discussed in this section:

- 26 vessels in the shape of doves (**A1**-**A9**, **A11**-**A27**) dating to EB I – MB II from Lebena, Ayia Photia, Koumasa, Platanos, Pyrgos Myrtos, Knossos, Mallia and Phaistos on Crete; and the Cycladic island of Ano Kouphonisi.
- 1 relief vessel (**A10**) dating to EC II from the Cycladic island of Amorgos.

[274] According to Reese et al. (1995, 194-199), rock doves were the most common species (23 bones/14 individuals) at Kommos from MM II - LM IIIB. Wood pigeon bones were found in LM II-III contexts and a turtle dove bone comes from a LM I context.

- 6 figurines (**B1**-**B6**) dating to EC I – II from Akrotiraki on the Cycladic island of Siphnos.
- 12 vessels with figurines of doves attached (**B7**-**B18**) dating to EB II – MB I/II from the Cycladic islands of Naxos and Keros; and Phaistos, Palaikastro and Phourni on Crete.
- 17 pieces of jewellery[275] (**C1**-**C17**) dating to EB II – MB I from Chalandriani on the Cycladic island of Syros, Pyrgos on the Cycladic islands of Paros, Zoumbaria on the Cycladic island of Despotiko; Ayia Triada, Mochlos, Knossos, Phourni and Psychro on Crete; and Lerna on the Greek Mainland.
- 4 seals in the shape of doves (**D1**-**D4**) dating to EM III – MM II from the Trapeza Cave, Ayios Onouphrios, Koumasa and Mallia on Crete.

The identification as doves is primarily based on the shape of the birds' heads which are rounded with short conical beaks.[276] Although the necks of the birds on the earliest vessels (**A1**-**A9**) vary in length, the shape of the head remains the same (Figure 35). Thus, this variation is more likely due to their function as handles or lugs rather than to the indication of different species. One vessel from Platanos (**A20**) has wings decorated with impressed dots which resemble the plumage patterns of turtle doves (*Streptopelia turtur*) (Figure 36). One figurine from Palaikastro (**B17**) has red eyes which may indicate that it is a rock dove (*Columba livia*). Three vessels (**A15**, **A16**, **A22**) seem to show chicks because the beaks are relatively large in comparison to the small bodies (Figure 37).[277]

When we turn our attention to aspects of style, we can note that there is a tendency towards more detailed depictions through time. The earliest vessels from Lebena dating to EM I (**A1**-**A7**) show rather schematic dove heads. Similarly schematic appear some dove-shaped pins (**C4**-**C6**) and figurines (e.g. **B1**, **B5**) dating to EC II. It needs to be noted, however, that these images closely correspond to the natural proportions of doves despite their simplified appearance. Other objects dating to EB II and especially those of EB III – MB I are more detailed. The shape of the EB II – III vessels seems to emulate the body of a dove (Figure 38) and in the EM III – MM II vessels, avian features are regularly emphasised by the addition of modelled eyes, wings, tails and feet. Also, some pins and pendants (e.g. **C1**-**C3**, **C7**, **C14**) indicate feathers and wings in relief.

[275] For bird-shaped jewellery from Crete and the Cyclades in this time see Evans 1921, 102; Thimme 1977, 540.
[276] Evans 1921, 102; Branigan 1970, 119; Marinatos – Hirmer 1973, cat.no. 9; Warren 1984, 56.
[277] Evans 1921, 115.

Similar variations in precision can be observed with regard to the poses and behaviour. Most dove-vessels are not shown in a specific pose, whereas some pendants and figurines masterfully capture the appearance of resting or standing doves (Figure 39). Dove figurines attached to two MM I vessels (**B15**, **B17**) from Phaistos and Palaikastro appear quite lively because they are shown with their wings displayed as if in flight. Two vessels in the shape of young birds (**A15**, **A16**) are depicted with wide open beaks as if they are begging for food.[278] Although these images are not detailed, they successfully convey the essence of demanding young nestlings.[279] A figural seal from Koumasa (**D3**) shows a large dove flanked by two smaller ones. It seems to be an adult bird with chicks, maybe sitting in a nest. The adult dove is turning its head towards one of the chicks as if about to feed it, a movement which lends a decidedly narrative quality to this image.[280]

When we consider the function of these objects, it is striking that the earliest depictions of doves are vessels. In addition, 39 objects, i.e. over half of the dove depictions from this period, are either vessels or figurines attached to vessels (Table 3).

Table 3: Types of dove vessels and figurines attached to vessels dating to EB I – MB II from Crete and the Cyclades.

	Bird-shaped vessels	**Figurines attached to vessels**
Closed storing vessels	10	1
Closed pouring vessels	17	1
Open vessels	0	9
Unknown	0	1
Total	27	12

The frequent association with vessels may indicate that doves were thought to have a special connection to liquids. The bird protomes of the earliest storage containers (**A1-A10**) seem to be decorative embellishment of the lugs, but it is possible that they also had another function. The orientation of the dove heads to the outside lends a certain protective attitude to them so maybe they were thought to safeguard the contents in the belly of the vase. In the later

[278] Evans 1921, 115.
[279] Branigan 1988, 144.
[280] Evans 1921, 117; Xanthoudides 1924, 30.

pouring vessels, the connection between doves and liquids becomes more pronounced because the whole body of the pouring vessel is turned into a dove. An opening in the back or the flattened tail usually serves as a spout. Some vases (e.g. **A17**, **A21**) were transformed into rhyta, i.e. the beak served as another spout in addition to the opening in the back. These modifications significantly transformed the function of the bird features in relation to the content. Rather than storing/protecting the contents held in the "belly" of the bird, the dove`s tail or head/beak directly mediated the pouring and flow of the liquid. In two vessels from Knossos and Mallia (**A22**, **A23**), the beak of the bird is positioned above the spout so that it seems as if the dove is drinking from the liquid which is poured from its own body. In MM II, the connection between doves and the pouring of liquid was further intensified, as shown by a bird-shaped jug from Phaistos (**A27**) because the head is completely merged with the spout.

A close connection between doves and liquids becomes also apparent when we take a look at the figurines attached to vessels. Several doves are attached to a jug from Phaistos (**B15**). Some round marble trays from the Cyclades (**B8**-**B14**) have a row of sitting doves carved across the middle. Getz-Preziosi suggested that the flat trays may have held grain and were used to entice real doves.[281] The vessels may indeed have had a connection to the feeding/drinking of doves. Doumas noted that the shape of these vessels closely resembles that of the contemporary so-called frying pans which – as some scholars have suggested – may have held some kind of liquid, possibly water, since many bear images of spirals (waves) and boats.[282] If this hypothesis is correct and the dove trays were filled with water, the figurines would have conveyed the impression that the doves are drinking and/or sitting in a bird bath.[283] A similar effect would have been created in the case of the dove figurine in the Palaikastro bowl (**B17**) because the vessel would have been turned into a bird bath when liquid was poured into it.

The intimate link between the birds and the flow of liquids observable in these objects begs the question why doves of all birds would have been considered suitable in this context. A special skill of the dove family might provide an explanation for this choice. Usually, birds drink by regularly stopping and raising their heads to swallow, but doves are different in this respect. Unlike all other birds, doves are able to take up water in a continuous motion.[284] They

[281] Getz-Preziosi 1996, 124-125.
[282] Doumas 1968, 173; Goodison 2008, 423.
[283] Goodison (2008, 423) remarked that in this case "the birds would seem to float."
[284] Svensson et al. 2009, 214.

seem to ingest much more water when drinking than other birds and may thus have been viewed as the birds which are most capable of both storing and distributing liquids, possibly prompting these depictions.

The general importance of liquids and their manipulation in prepalatial Crete is also attested by some other figural vessels.[285] For example, vases can take the shape of women holding jugs (cf. the Goddess of Myrtos).[286] There are vessels from Mallia and Mochlos in the shape of women whose breasts are pierced so that the liquid which was poured out appeared like milk (Figure 40).[287] It seems not too far-fetched to suggest that these vessels show a concern with the nourishing aspects of both liquids and women. Thus, the dove-shaped vessels seem to tie in with a general ideological complex encompassing the fertile flow of liquids (water and milk). In this context, we may note another unique feature of doves in relation to liquids which may have played a role in these images. Doves, unlike most other birds, produce a semi-liquid secretion from their crop.[288] During the first week, chicks are entirely fed with this highly nutritious crop milk which is produced by both adults. The elaborate figural seal from Koumasa (**D3**) which possibly shows chicks being fed by an adult may allude to this ability. The two vessels in the shape of chicks (**A15**, **A16**) would even have conveyed the impression of being fed when liquid was poured into their beaks.

We may ask if such vessels were used in rituals, maybe to ensure the continuing flow of water/rain or milk. A double axe is painted onto the body of one of the vessels from Lebena (**A1**), but we do not know if this symbol already had the cultic connections it had in later periods. Branigan interpreted the figural pouring vessels from the Cretan tombs as libation vessels whose form was dependent on the nature of the deity embodied by the birds.[289] The Cycladic dove trays were also thought to have a ritual function.[290] Doumas observed that the carved row of birds on the marble vessels made a practical use of these objects difficult.[291] Getz-Preziosi considered it likely that the doves were depicted because they were sacred to the Cycladic goddess.[292] Although there is no evidence for such a hypothesis, given that the

[285] Peatfield 1995, 223.
[286] Warren 1972, 209-210.
[287] Branigan 1988, 101-102.
[288] Svensson et al. 2009, 214.
[289] Branigan 1970, 118-120.
[290] Doumas 1968, 174; Branigan 1988, 101-102; Renfrew et al. 2007[a], 327.
[291] Doumas 1968, 174.
[292] Getz-Preziosi 1996, 125.

doves are not directly associated with any female figure in this period, it is possible that the dove vessels from Crete and the Cyclades had a ritual connotation.

It is notable that most of the EB I – MB I objects come from tombs, which may indicate a funerary significance. However, excavated settlements from this period are scarce, making a comparison of distribution patterns difficult. Also, some of the MM I – II vessels, which are similar to the prepalatial ones from tombs, were found at the palaces of Phaistos, Mallia and Knossos. Thus, they may have had a more general ritual significance. The Cycladic dove trays all seem to come from the site of Dhaskaleio Kavos on Keros.[293] This site has been found to be unusual because of the exceptionally large number of specially shaped pottery, marble vessels and figurines. Furthermore, the amount of deliberate breakage of artefacts brought to the site is remarkable and may suggest that this place was used for special rituals. Renfrew noted that the identification of the site as a sanctuary in the classical sense is not justified since there are no unequivocal indications for veneration of a transcendent entity (e.g. a cult statue). Rather, active performance (such as the breaking of special artefacts) and engagement with the "spirit of the place" (Renfrew) may have played a more important role.[294]

The emphasis placed on performance at Dhaskaleio Kavos recalls characteristics of sites which are ritual foci in animist societies. As we have seen (Section 3.2.4), animist rituals centre on the establishing of relations between human and non-human elements, often by engagement with a special natural locale. Animist notions may also have influenced some special traits of the dove vessels and figurines. The merging of naturalistic avian features with structural elements of the vessels creates ambiguous hybrid entities blurring the boundaries between doves and vessels. As Koehl has noted, ambiguity and fluid transformations can also be observed in other Cretan imagery of this period.[295] Such compositions seem to animate both the bird and the vessel.[296] In the process of handling, this effect would have been intensified because of the complex physical interplay between the the dove and the liquid. Such an arrangement seems to reveal the bird's active role as mediator of the flow of life-sustaining water or milk. Both the creation of hybrid entities and the emphasis placed on agency of non-human entities are consistent with animist imagery.

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[293] Renfrew et al. 2007[a], 430-442.
[294] Renfrew et al. 2007[a], 431.
[295] Koehl 2016.
[296] This impression fits observations made by Shapland (2009, 230) about the way naturalism in Minoan art often aims to make an animal directly present during ritual performance.

In sum, depictions of columbids dating to EB I – MB II from Crete and the Cyclades show both generic doves and possibly turtle or rock doves. Some images appear schematic, although proportions are accurately rendered. Over time, we find increasingly detailed depictions of avian features and species-specific behaviour. The frequency of vessels in the shape of doves or dove figurines attached to vessels suggests a connection with the storing and the flow of liquids. This could have been based on some special skills of doves such as the ability to drink in a continuous motion and to produce crop milk for their young. The deposition of such objects in tombs and at the special natural site of Dhaskalio Kavos suggests a ritual significance. Significantly, we can observe an effort to physically merge the vessels with features of the birds and to make the doves appear alive (drinking, bathing, begging) during the process of handling. These arrangements may reflect animist notions because they attribute agency to non-human entities such as doves, which were possibly thought to ensure the continued flow of life-sustaining liquids.

4.3 MM II – MM III

In MM II – III, images of doves consist mainly of figurines. In contrast to the earlier objects, they exclusively come from Crete and the island of Kythera. The following 36 objects will be discussed:

- 1 relief vessel (**A28**) dating to MM II from Phaistos on Crete.
- 25 individual figurines (**B19**-**B38**) dating to MM I – III from the peak sanctuaries of Petsophas, Iuktas, and Vrysinas on Crete and Ayios Georgios on Kythera.
- 4 models involving dove figurines (**B39**-**B42**) dating to MM II from the peak sanctuary of Atsipadhes, and Knossos and possibly Ayia Triada on Crete.[297]
- 6 vessels with dove figurines attached (**B43**-**B48**) dating to MM II – III from Kamilari and Mallia on Crete.

Most figurines can be identified as generic doves because of their elongated bodies, fan-shaped tails, rounded heads and short beaks.[298] At least some of them (**B19**-**B21**) might be identified as rock doves (*Columba livia*) because they preserve traces of white and/or dark

[297] The figurines from Ayia Triada (C8) were found in a LM III context, but their stylistic date could be much earlier.
[298] Bosanquet 1901-02, 294; Evans 1921, 151-153; Rutkowski 1991, 35; Gesell 2006, 315-316.

paint on the bodies. The birds on a small relief vessel from Phaistos (**A28**) seem to be turtle doves (*Streptopelia turtur*) which are characterized by dotted plumage and rings on the necks (Figure 41).

The representation of both generic and particular dove species signals a fair degree of variation in detail. Similar variations can be observed in the poses, because whereas most of the more schematic birds are simply shown standing/sitting, others (e.g. **B20**, **B21**, **B27**) are represented rising, landing or flying with their wings displayed (Figure 42). Bird figurines found at peak sanctuaries often come in groups (e.g. at Iuktas, Petsophas or Ayios Georgios). Thus, they might have originally appeared as a flock, which accurately reflects the social habits of (rock) doves. The fact that figurines from the same sites can display different poses also suggests an awareness of the individual actions of birds.[299] Some of the dove images from Iuktas (**B27**) show two birds placed upon each other.[300] Possibly, they are mating.[301] The doves in models from Knossos and Ayia Triada (**B41**, **B42**) have their heads turned back as if preening their plumage (Figure 43). We may thus note an increase in liveliness and variety of poses as compared to the dove images of the preceding period. A model from Atsipadhes (**B39**) depicts a bird perched on a boulder maybe giving an indication of their habitat.

As in the preceding period, some dove figurines were attached to vessels. While most MM II figurines have been broken from their supports, hindering the identification of the vessel types, one figurine is attached to a double vase from Kamilari (**B43**).[302] Double vases consist of two jugs which are connected by a hollow tube and a handle. One of the jugs has punctured openings, possibly serving as a strainer, while the other jug is closed. Double jugs were first deposited in EM – MM I tombs, e.g. at Koumasa and Archanes, but the vase from Kamilari is the first one with a dove.[303] The purpose of double jugs has been debated and while some scholars considered a practical function (e.g. to strain oil, to keep the liquid hot or to prevent flies from entering the vase)[304], others have suggested a rather vague ritual function.[305] The peculiar design of double jugs, characterized by two vases connected only by a narrow tube and the presence of multiple small openings, seems to complicate and lengthen the act of handling, pouring and distributing the liquid. This may have been desirable in a ritual context

[299] Gesell 2006, 315.
[300] Karetsou 1976, 415. In the Heraklion Museum the figurines are displayed in this way.
[301] Gesell 2006, 316.
[302] Levi 1961-62, 37-38; Levi – Carinci 1988, 107.
[303] Karayiannis 1984, 31; Levi – Carinci 1988, 107.
[304] Bosanquet - Dawkins 1923, 40; Knappett – Cunningham 2012, 99.
[305] Karayiannis 1984, 33; Andreadaki-Vlazaki et al. 2008, cat.no. 218.

and the position of the dove next to the strainer section of the Kamilari double vase seems to signal that doves remained associated with the flow of liquids.

The great majority of dove figurines, however, were not attached to vessels in this time. Instead, they were deposited as individual figurines at peak sanctuaries.[306] Various other animal and human figurines have also been found at these sites, often put into crevices and deposited at special rock formations.[307] Due to the 'worshipping' gestures shown by the human figurines, they have usually been interpreted as adorants of deities (Section 3.3).[308] Most numerous are figurines of animals such as bovines. They have been seen as votives showing domestic animals whose fertility was prayed for by the visitors.[309] The dove figurines were also seen as representing domestic birds which were deposited to ensure their flourishing.[310] Some scholars even interpreted figurines representing wild animals as being indirectly connected to domestic animals. Rutkowski, for example, identified beetle figurines as scarab beetles, whose abundant presence signifies the well-being of livestock because they lay their eggs in sheep dung.[311] Figurines of weasels were interpreted as showing pests from which protection was sought from the deities.[312]

However, the domestic or wild status of the animals represented often remains uncertain. There is no positive evidence for the domestication of doves in the Aegean Bronze Age. As Masseti rightly noted, the plumage of the rock doves which are the ancestors of today's domestic doves does not show any modification in the later frescoes.[313] The interpretation of weasels as pests is equally questionable because these animals present a danger mainly for smaller livestock such as chickens or rabbits. As we will see below (Section 8.6), there is no indication that chickens were kept on a large scale in the Aegean Bronze Age. Thus, figurines of wild animals could have been deposited as well, which casts doubt on the hypothesis that the well-being of livestock was the primary reason for rituals at peak sanctuaries.

Moreover, evidence for deities supposedly venerated at the peak sanctuaries is notably scarce. Comparable to the site of Dhaskalio Kavos discussed in the previous section, large-scale cult

[306] Peatfield 1990, 120; Jones 1999, 45-46, 77-83; Kyriakidis 2005[b], 149. The exact number of dove figurines from peak sanctuaries is unknown due to vague and/or unpublished reports.
[307] Peatfield 1990; Peatfield 2001, 54.
[308] Branigan 1988, 107; Peatfield 1990, 121; Peatfield 1992, 68, 76.
[309] Rutkowski 1986, 85-87.
[310] Rutkowski 1991, 35; Gesell (2006, 316) also argued that the mating behavior of the Iuktas figurines signified fertility.
[311] Rutkowski 1986, 89-91; Davaras 1988.
[312] Rutkowski 1986, 89-91; Branigan 1988, 106.
[313] Masseti 1997, 357.

statues or any other unequivocally divine images are lacking. Moreover, the 'worshipping' gestures shown by the human figurines could also be trance-inducing poses (Section 3.3) and may thus indicate the performance of shamanic practices at peak sanctuaries.[314] The fact that the figurines were deliberately put into crevices and special rock formations suggests that these natural features themselves were the foci of rituals rather than a transcendent anthropomorphic deity. They may have been seen as powerful entities with which it was important to establish and maintain relations. The physical deposition of naturalistic human and animal figurines may have been seen as a way to achieve this. In animist societies, statuettes of animals are sometimes kept close to the body in an attempt to guarantee the ongoing communication between people and animals (Section 3.2.4). We may thus argue that the figurines were left at these sites to keep the relationship between human and non-human entities alive also when people or animals were not physically present.

It is notable that the artistic focus did not limit itself to the depiction of relationships only between humans and non-humans. Relations between two different non-human entities may have been equally important. This is suggested by two models (**B39**, **B40**), which show doves perched on boulders and baetyls.[315] In this context, the location of these sites on mountains seems to parallel the importance of liminal places in animist rituals which are thought to connect the world of humans with the world of spirits. Furthermore, the position of the dove figurine attached to the double jug (**B43**) next to the spout would have animated the dove when water was poured out of the vessel. Such an active role of animals is another feature of animism.

In sum, images of doves dating to MM II – III from Crete depict both generic doves and turtle/rock doves. The indication of diverse behaviour (mating, preening) and the frequent flying poses indicate an interest in liveliness and species-specific variety. As in the previous period, some figurines were attached to vessels in a way that allows a physical engagement of the bird features and the content, which may reflect the notion that doves were able to ensure the flowing of liquids. More frequent are individual dove figurines which were deposited with other human and animal figurines at peak sanctuaries. The close physical connection between these figurines and local natural features suggest that they were supposed to form and maintain relationships with other human or non-human spirits. Such practices are known from

[314] Morris – Peatfield 2004.
[315] For the Atsipadhes model see Peatfield 1992, 76 and Gesell 2006, 316.

animist societies (Section 3.2.4). Other aspects of peak sanctuaries consistent with animist notions are the possible presence of shamanic practices and the liminal location.

4.4 MB III – LB II

In the MB III – LB I period, images of doves appeared in a variety of media, ranging from seals and figurines to ivory carving and frescoes. In contrast to the figurines discussed in the previous section, which were limited to Crete and Kythera, some dove depictions are now also found on the Cyclades and the Greek Mainland. We will be looking at the following 42 objects:

- 1 clay disc (**I1**) dating to MM III from Phaistos on Crete.
- 8 figurines (**B49**-**B53**) dating to MM III – LM I from from Poros, Ayia Triada and the cave sanctuary of Patsos on Crete.
- 7 vessels with dove figurines attached (**B54**-**B60**) dating to MM III – LM I from Psychro, Mallia, Poros, Palaikastro, Knossos and Zakros on Crete.
- 1 bronze plaque (**I2**) dating to MM III – LM I from the cave sanctuary at Psychro on Crete.
- 3 inlays (**I3**-**I5**) dating to MM III – LM I from the peak sanctuary of Iuktas, and Knossos on Crete.
- 3 gold jewellery pieces (**C18**-**C20**) dating to MB III – LB I from Mallia on Crete and Mycenae on the Greek Mainland.
- 10 seals/sealings and rings (**D5**-**D14**) dating to MB III – LB II from Ayia Triada, Chania, Tylissos, Knossos, Kalyvia and Sellopoulo on Crete, and Mycenae and Dendra on the Greek Mainland.[316]
- 8 frescoes (**E1**-**E8**) dating to MB III – LB II from Knossos and Archanes on Crete, and Akrotiri and Ayia Irini on the Cycladic islands of Thera and Kea.
- 1 dagger (**F1**) dating to LH II from Prosymna on the Greek Mainland.

Most of the figurines show generic doves, comparable to the ones discussed in the previous section. Similar doves appear among the signs on the MM III Phaistos disc (**I1**). A wood pigeon (*Columba palumbus*) seems to be depicted on a plaque (**I2**) as the rather plump shape

[316] Ruuskanen 1992, 56 (type B2).

in combination with a marking on the neck suggests (Figure 44).[317] A wood pigeon or a turtle dove (*Streptopelia turtur*) may be shown on a gold ring (**D12**) because of the relatively long tail.[318] In the frescoes (**E1**-**E8**), the birds can be identified as rock doves (*Columba livia*) due to their blue bodies, white wing feathers and red eyes (Figure 45).[319] The silhouette of the flying doves on inlays (**I3**-**I5**) and seals (**D5**-**D14**) closely resembles that of flying rock doves in frescoes, but since these images do not give coloured plumage patterns, we cannot be certain that they are rock doves as well. In the frescoes from Knossos and Archanes (**E1**, **E3**), the necks and breasts are adorned with collars consisting of reddish drops which indicate the iridescent neck feathers of rock doves. On the Prosymna dagger (**F1**), this feature is shown by a broad gold band around the neck of the rock doves.

Although many depictions exhibit rather naturalistic details of the plumage of rock doves, it needs to be noted that their rendering is not realistic. For example, if we look at the rock doves in the frescoes, the bodies are painted blue, not grey, and the ratio of white seems too high compared to that of a real rock dove.[320] In a way these modifications enhance and simplify the appearance of the doves; they appear idealized.[321] It seems that these deviations from reality were tolerated because it was more important to capture the essence of the bird`s character. As Mynott observed in his discussion of bird art, less accurate but lively depictions of birds can often be more true to life than overly detailed images.[322]

A distinct emphasis on liveliness is also observable in the various poses assumed by the doves.[323] Although some doves are shown sitting, the majority are depicted in flight. Multiple birds in the same scene usually assume varying poses, which creates a rather dynamic effect. The reconstructed wall painting from the House of the Frescoes at Knossos (**E1**) shows such a flock of rock doves whose nests are raided by monkeys.[324] Two groups of birds are fleeing in opposite directions, a pattern which seems to be based on direct observation of nature since rock doves often rise simultaneously in groups when they are sensing danger. At least two doves are sitting on rocks, seemingly unaffected by the events; yet, the bird shown in unusual frontal view might be about to rise, having turned its head towards its fluttering neighbours.[325]

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[317] Evans 1921, 632; Reese 1995, 198-199.
[318] For identification as dove see Ruuskanen 1992, 56 and Wachsmann 1998, 113.
[319] Cameron 1968, 8; Masseti 1997, 356-357; Harte 2000, 689-690; Chapin 2008, 55-56.
[320] Groenewegen-Frankfort 1951, 196; Harte 2000, 689.
[321] Immerwahr 1989, 41.
[322] Mynott 2009, 73-79.
[323] Immerwahr 1989, 41.
[324] Cameron 1968; Shaw - Chapin 2006, 66-67.
[325] Krüger 1940, 31-32; Cameron 1968, 20.

A similar flock of flying rock doves is shown in a fresco from Akrotiri (**E5**). Although they are only preserved in fragments, we can say that the birds were also flying in opposite directions.[326] The Miniature Fresco from the same site (**E7**) shows a group of flying rock doves, but here they are arranged in a frieze. This composition seems to be due to the fact that they are painted on the hull of a ship. Despite the minute scale and the restricted space, however, the birds are slightly individualized, for example the bird at the end is smaller and seems to be rising, while the larger ones in the middle have their wings displayed as if gliding. A fragmentary fresco from Ayia Irini on Kea (**E8**) shows several (over 22) rock doves, which are all depicted in different poses, some on the ground and others rising/flying. The overlapping composition of three birds in one of the fragments provides a realistic sense of the density in the flock. The constant and varying movements of doves are well portrayed: one bird is preening its plumage with the head turned back and another one is apparently searching for food with its head lowered (Figure 46).[327] Similarly varied poses are adopted by the rock doves on a dagger from Prosymna (**F1**).[328]

In addition to the variety of specific poses and movements, there are further species-specific details shown. In the Knossos fresco (**E1**), the doves and monkeys appear in front of red, yellow and white areas, surrounded by a rocky terrain, including a stream with colourful pebbles and various bushes and plants which – unlike in reality – flower simultaneously (e.g. crocus, iris, mint, pomegranate and hybridized flowers).[329] The nests are located on the lower border of the painting, probably in rock niches. The small river which is bordered by sedges and rocks could indicate the typical features of a gorge where wild rock doves roost and nest. The presence of two eggs in the nests corresponds to the clutch size of rock doves.[330] According to Masseti, nest-raiding is a typical foraging strategy of green monkeys (*Chlorocebus aethiops*), thus the depiction of this behavior may have been inspired by direct observation of these animals.[331] The fragmentary fresco from Akrotiri (**E5**) might have shown a similar gorge landscape with flowers, rocks and a stream.[332] On two double jugs with doves, plants and lilies are painted on the bellies of the vases.

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[326] Vlachopoulos 2007[a], 133.
[327] Coleman 1973, 288.
[328] Blegen 1937, 332; Dickinson 1997, 45-47.
[329] Immerwahr 1989, 42-46; Beckmann 2006.
[330] Cameron 1968, 8.
[331] Masseti 2000, 90.
[332] Vlachopoulos 2007[a], 133.

The variations in poses and compositions as well as the cross-cutting of different media at first glance seem to hinder attempts at identifying particular ideological roles of doves. In past scholarship, they have been seen as symbolizing human actions, or abstract concepts such as speed. Shapland suggested that the actions of the monkeys in the Knossos fresco (**E1**) allude to human activities such as collecting eggs.[333] The doves on the ship in the Akrotiri fresco (**E7**) have been interpreted as symbols of speed.[334] Rock doves are indeed fast and agile flyers – they can even be used as racing pigeons - and may therefore have been considered suitable motifs on the fast Minoan ships.[335] However, the scarcity of the associations with monkeys or ships in the iconographical record suggests that they do not constitute the most important ideological aspects of doves.

We have some images consistently creating links between doves and certain elements. As in the previous MM II period (Section 4.3), dove figurines are attached to some Cretan pouring vessels, most notably double jugs (**B57**-**B59**). As we have seen, such vases were designed to manipulate the flow of liquid in a special way. The same can be said for a LM I vessel from Zakros (**B60**) which consists of several hollow rings through which the liquid had to pass. On the double vases, the figurines are consistently attached to the section with the multiple openings. Their beaks are positioned above them so that the liquid poured out of these vessels would have wet them (Figure 47). As in the previous periods, this suggests that doves were believed to have a special connection with liquids.

Other dove figurines (**B51**-**B55**) as well as a bronze sheet (**I3**) come from the peak sanctuary at Iuktas and the cave sanctuaries of Patsos and Psychro. Although these types of sites declined during the Neopalatial period, some remained in use and they exhibit similar features as the peak sanctuaries of the MM II period (Section 4.3).[336] As we have seen, dove figurines were associated with other – also human – figurines at these sites, often placed close to special natural features.[337] In the Neopalatial period, images appear which show doves for the first time directly associated with humans. The earliest scene is shown on a plaque from the cave sanctuary of Psychro (**I2**). Here, a male figure is depicted standing next to a large pair of

[333] Shapland 2009, 231. According to Reese (1995, 198) dove eggshell was found in a MM III context at Kommos, so eggs might have been eaten.
[334] Laffineur 1984, 135-136.
[335] For racing pigeons see Cocker 2013, 239.
[336] Peatfield 1990, 120.
[337] Branigan (1988, 107-113) linked Neopalatial images (e.g. the "snake goddesses") to the cult at the peak sanctuaries.

horns of consecration. He is turned towards a large dove which is perched on a branch growing from another pair of horns of consecrations. An oval object is shown in front of its beak. Two gold rings from Kalyvia and Sellopoulo (**D11**, **D12**) show individual male persons leaning over a boulder while a dove is flying towards them. On the Kalyvia ring (**D11**), a female figure is also depicted, clutching the trunk of a tree. On the Sellopoulo ring (**D12**) the man has raised his arm and the dove seems to drop an oval object in front of him. The Dendra ring (**D13**) shows two women going towards a shrine building with two flying doves inside. Two ornaments from Mycenae (**C19**, **C20**) show women with a dove shown on/above their heads. A seal from Knossos (**D10**) depicts a dove carried by a robed man. In addition to these objects, there are two images where the relation between the dove and the people remains unclear. The doves in the fragmentary fresco from Akrotiri (**E5**) are shown in the same scene as a shrine building with monkeys and a seated female figure. A LM I terracotta dove (**B50**) from Ayia Triada was found associated with six female and one male figurine with raised arms, possibly belonging to them.[338]

The birds in such scenes were usually interpreted as divine messengers, attributes, or avian epiphanies (temporary embodiments of otherwise anthropomorphic deities) (Sections 1.2.3 and 3.3).[339] However, as was argued above, such theistic interpretations of cult scenes are far from certain, largely because of the difficulty unequivocally to identify divinities. This is reminiscent of the absence of clear images of deities at peak (and cave) sanctuaries. Moreover, natural features such as boulders play an important role as foci of rituals both at the open-air sanctuaries and in the cult scenes of MB III – LB I date. We may therefore suggest that the rituals shown in the cult scenes had a similar purpose as those performed at the peak sanctuaries, arguably to establish relations with non-human entities. As we have seen (Section 3.3), a similar interpretation of the cult scenes in relation to boulders and trees was first put forward by Herva.[340] When we return to the scenes with doves, we can note that doves and people are usually turned towards each other. Moreover, the doves appear in close proximity to the people, either near the heads (**C19**, **C20**) or held in the hands (**D10**) (Figure 48). Significantly, the birds do not seem passive, but they fly actively towards the humans and

[338] Halbherr 1903, 71-73.
[339] Evans (1921, 635) interpreted the doves as "vehicles of divine possession" and his interpretation was followed by Nilsson (1950, 81); Persson (1942, 133); Morgan (1978, 185-198) and Gesell (2006, 317). The doves in the Mycenae ornaments (B6, B13) were thought to be attributes of (Near Eastern) deities by Schliemann (1880, 209-210); Nilsson (1950, 287); Dietrich (1987, 175); Böhm (1990, 9-17) and Voutsaki (1997, 180 and 1999, 114).
[340] Herva 2006[a].

appear to have come voluntarily (**D11**, **D12**). The dove on the Knossian seal (**D10**) was said to be "perching freely" (Crowley) on the hand of the man.[341] Thus, voluntary proximity between humans and doves is emphasized in these depictions.

Such features recall the emphasis placed on relational encounters between human and non-human persons in animist art. As we have seen (Section 3.2.4) relations between different entities can be formed either in 'real' life or when in trance. To encounter doves in a comparably close physical way as shown in the depictions is indeed possible in reality because doves are inherently synanthropic birds. This is illustrated by the spread of feral pigeons in urban environments, but even wild doves forage near human habitation and they can easily be enticed by food, a fact which probably helped in their domestication.[342] Two images (**D5**, **E6**) show doves caught alive in nets (Figure 49), suggesting that they were kept as pets or for other (ritual?) purposes in LB I.[343] Doves also have astonishing cognitive capacities, especially in the areas of memory and learning abilities, which may have made them appear as sentient persons. For instance, they can reach high levels of abstraction and are able to distinguish the concept "human", even if individuals of different sex/age are shown to them.[344]

Another aspect shared by objects from the peak sanctuaries and the MM III – LM I cult scenes are the gestures made by people. As we have seen (Section 3.3), these poses may be interpreted as trance-inducing gestures.[345] Moreover, floating objects on the gold rings could be compared to entoptic phenomena as seen in trance. Thus, it is equally possible that such images show doves encountered by people in trance. Altered states of consciousness not only serve to reveal the personhood of animals, but often have a particular aim, such as healing or ensuring fertility. If doves were thought to be especially capable of ensuring the flow of water/rain/milk, it may have seemed desirable to communicate with these powerful entities

[341] Crowley 2013, 146. The man was identified as a priest due to his garment by Evans (1928[b], 785) and Marinatos (1993, 127-129).
[342] According to Lunczer (2009, 87-88), the synanthropic characteristics of doves were also emphasised by Aristotle.
[343] Shapland (2009, 230, 2010, 117) and Papageorgiou (2014, 120-121) took these depictions as evidence that doves were hunted for consumption. Dove bones found at Kommos were listed by Reese (1995, 194-199). According to Trantalidou (2013, footnote 15) eleven bone fragments come from Ayios Georgios on Kythera. Forstenpointner et al. (2010, 739-740) reported that six pigeon bones were found mixed with food refuse at MH II Kolonna on Aegina. According to Gejwall (1969, 47-48) and Von den Driesch - Boessneck (1990, 115) only one rock dove bone comes from Lerna and Tiryns respectively. It needs to be noted, though, that the birds in the depictions are shown alive.
[344] Barber 1994, 8-9; Cook 2001; Shimp et al. 2001.
[345] Morris – Peatfield 2004.

during trance.[346] In this context, it can be considered whether the drop-shaped objects shown next to the doves in two depictions (**I2**, **D12**) might be related to water.

The frequent naturalistic features of dove images of MB III – LB I date might be taken as indication of a naturalist ontology. However, the dove depictions are not realistic – as we would expect them to be in this case - because they subtly emphasise certain features while ignoring others, in effect idealising the birds and underlining movement.[347] Moreover, the doves, monkeys, plants and rocks in the Knossos fresco (**E1**) are not set in a definite perspective relationship to each other, as they would be in naturalist painting. Neither are they differentiated by size or relative position, as we would expect them to be in analogical imagery. Instead, all elements are set on the same flat plane, surrounded by and enveloping each other.[348] In the words of Groenewegen-Frankfort, they are "caught in a web of a living world that has indefinite orientation and indefinite multiple relations".[349] Such an arrangement suggests that the perspectives of the different entities are deemed to be of relatively equal status, which is a feature of animist imagery.

In addition, the observation that the doves appear as persons with agency in the cult scenes is typically found in animist art. A similar impression is created by the dove figurines which are attached next to the spouts of double jugs. As we have argued before (Sections 4.2 and 4.3) such attempts to make the doves interacting with the ritual use of the vase attribute agency to the doves. Moreover, the doves in the Cretan and Cycladic frescoes appear highly individualised by the variety of (species-specific) poses and movements.[350]

In sum, images of doves dating to MB III – LB I, most of which come from Crete and the Cyclades, show generic doves, but also wood pigeons and rock or turtle doves. Many images reach a new height in the naturalistic depiction of habits, poses and habitat. Liveliness and movement are especially emphasised and the birds are deeply embedded in a world of relations with other plants and animals. There are also indications that doves had specific roles. Figurines positioned at the openings on double vases indicate that doves were thought to ensure the flow of liquids. Scenes with humans and doves which emphasise physical proximity and voluntary appearance indicate rituals focusing on the establishment of relations

[346] For the importance of water-related fertility in premodern economies see Peatfield 1995, 227.
[347] Also noted by Groenwegen-Frankfort 1951, 185-216.
[348] Groenewegen-Frankfort 1951, 196.
[349] Groenewegen-Frankfort 1951, 201.
[350] As Masseti (2000, 89) noted, the Minoans could be described as one of the earliest ethologists.

between human and doves, comparable to the activities observable at peak sanctuaries. Doves are highly synanthropic birds, known for their learning and recognition abilities, attributes which may have facilitated their being perceived as sentient persons with whom it seemed possible and desirable to establish contact. Another reason for their importance in such (trance) rituals might have been their traditional connection with life-sustaining liquids, which goes back to EB times. Both relational encounters and trance rituals are typically found in animist imagery, as are the emphasis placed on agency, movement and species-specific details seen in images of doves. Moreover, the relatively equal size and the position of different entities on the same plane in wall painting seem to indicate that no single animal or plant has an a priori precedence over the others, which is another feature of animist thinking.

4.5 LB II – LB IIIC

In LB II – IIIC, dove images were shown on various types of objects, most commonly terracotta figurines. As in the preceding periods, most depictions come from Crete, but a few were also found on the Cyclades and the Greek Mainland. The following 40 objects will be discussed:

- 1 painted offering table (**I6**) dating to LH II – IIIA from Tiryns on the Greek Mainland.
- 1 palace-style jar (**G1**) dating to LM II from Knossos on Crete.
- 1 larnax (**H1**) dating to LM IIIA1 from Knossos on Crete.
- 5 ivory inlays (**I7**) dating to LH IIIB from Mycenae on the Greek Mainland.
- 1 fresco (**E9**) dating to LH IIIB from Pylos on the Greek Mainland.
- 10 vessels with dove figurines attached (**B61**-**B70**) dating to LM II – LM IIIC from Katsamba, Isopata, Vathypetro, Myrsini, Isopata, Palaikastro, Chania (also waterbird) and Kommos on Crete; Melos on Phylakopi; and Ialysos on Rhodes.
- 14 human figures with dove figurines attached: (**B71**-**B84**) dating to LM IIIA2 – LM IIIC/Subminoan from Knossos, Gortys/Kannia, Gournia, Gazi, Kavousi Vronda and Karphi on Crete.
- 7 individual figurines (**B85**-**B91**) dating to LB IIIB – IIIC from Ayia Triada on Crete; and Tanagra on the Greek Mainland.

The birds on the offering table from Tiryns (**I6**) and the fresco from Pylos (**E9**) are rock doves (*Columba livia*) because their colouring is comparable to those in the earlier Cretan and

Theran frescoes. The inlays (**I7**) in the shape of doves have incised v-shaped marks on their breasts, possibly indicating the iridescent neck feathers of rock doves.[351] The birds painted on the jar and the larnax (**G1**, **H1**) show similar doves, but they do not give any species-specific details so they may also be generic doves. The terracotta figurines with their rounded heads, short beaks and fan-shaped tails also seem to be generic doves.[352] The figurines attached to a figure from Gazi (**B79**) appear to have more slender bodies and stronger beaks compared to the birds on other figures. Therefore, Marinatos and Banti considered it possible that they are corvids and we will discuss them again in the context of corvids (Section 5.4).[353]

Although the figurines of doves from this time are less detailed than in the Neopalatial period, they maintain a relatively high degree of naturalism in their proportions. Also, they appear rather lively because of the frequent flying poses. The bird figurine from Tanagra (**B91**) may be a dove, but its wings are not curved as in the Cretan examples, but rounded in a rather unnatural way. Other objects from the Greek Mainland exhibit a similar decrease in naturalism. The birds on the offering table (**I6**), for example, can be identified as rock doves but they are notably different to the earlier Cretan and Cycladic images because their plump shape and parrot-like beaks have little to do with real members of this species (cf. Section 2.2.1). Moreover, the flying birds are not shown in a coordinated motion, but appear randomly distributed across the surface and the effortlessness of their movements has gone. Similarly plump doves come from Mycenae in the form of ivory inlays (**I7**). The fresco from Pylos (**E9**) depicts two rock doves flying in a frieze. The birds appear rather rigid and they are not individualised.[354]

Differences between regions can also be observed regarding the relationship between the doves and their environment. On the Knossian jar (**G1**), the dove is shown among a dense composition including elements such as lilies, fish and a large argonaut. Although these associations cannot be readily explained by any natural links between these entities, their depiction on the same spatial plane recalls characteristics observed in the earlier Knossos fresco (**E1**). By contrast, the rocks shown on the Tiryns offering table (**I6**) and the Pylos fresco (**E9**) appear simplified and the plants have been reduced to a few thin branches (Figure 50). Rather than being surrounded and embedded in each other as on the Cretan jar, the doves

[351] Macroscopic examination of these pieces by the author has revealed such a pattern.
[352] Dawkins – Currelly 1903-1904, 220; Levi 1961-62, 37; Alexiou 1967, 43; Marinatos – Hirmer 1973, cat.no. 210. Although Foster (1982, 93) listed every feature of the figurines that is indicative of doves, she maintained that identification is not possible.
[353] Marinatos 1937, 281; Banti 1941, 9.
[354] Also noted by Immerwahr 1989, 79.

and rocks/plants are clearly separated by the blank spaces left between them. In the Pylos fresco (**E9**), the doves appear much larger than the rocks/plants, thereby creating a visible hierarchy between these elements.

When we turn our attention to function, we can note that several terracotta doves were attached to vessels in this time, most notably double (or triple) vases (**B61**-**B66**), which seems to be a legacy from earlier periods (Sections 4.2-4.4). The position of the doves at the openings of the double vases was maintained and suggests that doves were still viewed as active mediators of the flow of liquid. A bronze image of a dove attached to a vessel rim was found at Phylakopi on Melos (**B68**). From Rhodes come two other vessels (**B69**, **B70**), a ring-shaped kernos and a basin, with doves attached to them. Some of these vases have further animal images attached to or painted on them, which also emphasise a connection to (water-related) fertility. A waterbird among lush vegetation is shown on the Chania double vase (**B64**) and bulls' heads are modelled in relief on the Myrsini jugs (**B65**). The ring-shaped kernos (**B69**) has some miniature cups and a bull's head attached to it. Cattle are known for their preference of wetlands for pastures so this might be one of the reasons for their depiction in these contexts. Furthermore, the head of a hare or rabbit is modelled in relief on the handle of a double vase (**B64**). Since rabbits are notorious for their reproductive capacities this element might also allude to fertility.

Most double vases were found in funerary contexts (e.g. Vathypetro, Kamilari, Myrsini). Therefore, it has been suggested that their significance might have been linked to burial rites.[355] However, the frequent deposition in tombs ties in with a general renewal of the social and ideological importance of the funerary sphere in LM II – III. Moreover, some vessels with dove figurines attached (**B66**-**B68**) were found in sanctuaries (Palaikastro, Kommos and Melos on Phylakopi), so they seem to have had a more general ritual significance.[356]

The remaining images of doves are usually shown together with humans, an association which recalls the MB III – LB I cult scenes (Section 4.4). The earliest one is a larnax from Knossos (**H1**) dating to LM IIIA1/2. It shows a tree and a hovering figure with a staff on the short sides and two women in panels on the long side. The women have raised their arms and hold a lily in one hand and possibly a vessel in the other. A dove is shown flying closely above one of them, nearly touching her hair. The scene is directly comparable to those

[355] Karayiannis 1984, 31-32.
[356] Cf. the find context of several dove figurines from Ayia Triada: the open-air ritual site of the 'Piazzale dei Saccelli'.

interpreted as relational encounters in the previous section.[357] The woman and the dove are turned towards each other and they even seem to look at one another, as is suggested by the gaze of the woman (Figure 51). The close proximity between the woman and the dove is also notable. Moreover, the vessel (a conical rhyton?) possibly held by the woman could be another indication that it was the association of doves with liquids which led to their important status in Cretan rituals. In LM IIIA2, dove figurines were directly attached to human terracotta figures. The earliest figures (**B71**, **B72**) were found in the Shrine of the Double Axes in the palace of Knossos. The female figure from this context (**B72**) was accompanied by two similar, but slightly smaller, female figures. A dove is shown on her head and she has raised her arms, while the others have put their hands to their breasts. Both the gestures and the position of the dove on the head are comparable to those in the earlier gold ornaments from LH I Mycenae (**C19**, **C20**) (Figure 52). The male figure from the same context at Knossos (**B71**) is holding a dove in his hands. This image is related to that of a robed man holding a dove on a LM I seal (**D10**) (Figure 53). As argued in Section 4.4, these scenes could be interpreted as relational encounters.

The later LM IIIB – IIIC figures with doves on their heads (**B73**-**B84**) are exclusively female and they have their arms raised and bent at a 90° angle with their palms facing the viewer. This gesture is also comparable to some trance-inducing gestures shown by people in the Neopalatial cult scenes. A few images also recall the voluntary aspect of encounters between doves and people because the doves have their wings displayed, as if they had just landed or are about to rise. On a figure from Kannia (**B73**), a dove has landed on the neck of the woman. In addition to the doves, other elements can also be attached to the heads of the female figures, for example palettes, disks, horns of consecration, poppy heads or snakes.[358] Some of the figures from Kannia (e.g. **B73**) are handling snakes in a way that recalls the images of the 'Snake Goddesses' from LM I Knossos.

These similarities were also noted in previous studies and they have prompted scholars such as Nilsson and Levi, to interpret the female figures as cult images of deities and to call them Goddesses with Upraised Arms.[359] Consequently, the bird figurines were seen as avian

[357] The similarity to Neopalatial art was also noted by Morgan (1987, 184, 192), although she did not directly link the images on tha larnax to the LM I cult scenes.
[358] Gesell 2010.
[359] Similarities in gestures were noted in detail by Alexiou (1958, 231, 236-237). Nilsson (1950, 285) and Levi (1959) mostly called the figures from Knossos and Kannia idols, whereas Gesell (2004, 143–144) consistently called them Goddesses with Upraised Arms.

epiphanies or divine attributes (Section 1.2.3).[360] Different elements attached to multiple figures from a single context were explained as indicating different deities or different aspects of one goddess.[361] Thus, the figures with snakes were seen as symbolising the chthonic aspect, while the birds may have stood for the celestial side of the deity.[362] However, some figures have no attributes at all and the doves, snakes etc. can be rather randomly combined, even on the same figure (e.g. **B73**), thus casting doubt on the identification as (separate) deities. In the light of such observations, other scholars have interpreted the figures as votaries, priestesses or votives.[363]

Given the emphasis placed on physical proximity and voluntary appearance in these images of humans and doves, it seems feasible to suggest that animist relational encounters as identified in images of MB III – LB I date survived into LM II – IIIC. The trance-inducing gestures shown by the figures may indicate that they represent ritual practitioners (shamans), engaging with non-human persons such as doves. The frequent presence of these birds signifies their important status, which may be due to their special association with water and fertility. As we have seen, dove figurines were still attached to vessels in this time, thereby confirming the continuation of this traditional role.

In the light of these observations, we may argue that the dove images dating to LM II – IIIC indicate a continuation of relational encounters and trance rituals on Crete. Further evidence for a continued prevalence of animism is provided by the emphasis on lively poses and certain features which make the birds appear as active agents in rituals (cf. the double vases). The palace-style jar showing doves in close visual connection with other elements of roughly equal size suggests that different entities possessed a relatively equal status. This aspect is consistent with animist imagery which avoids giving precedence of a single perspective over others. By contrast, the modifications taking place when images of doves were adopted in Mainland iconography such as the decrease in liveliness suggest that animism was not the prevalent ontology in this region. Rather, the visual separation of the birds from their environment and the establishment of a hierarchy between doves and rocks/plants by differing size are more consistent with analogical imagery.

[360] Alexiou 1958, 252-263; Moss 2003, 90; Prent 2005, 181; Rethemiotakis 2001, 133; Gesell 2006, 319-321.
[361] Evans 1901-1902, 83-84; Evans 1935, 140-149.
[362] Gesell 2010, 80-81.
[363] Renfrew 1985, 387; Prent 2005, 190–192; Gaignerot-Driessen 2014.

In sum, dove images dating to LB II – IIIC from Crete and the Greek Mainland show both generic doves and rock doves. Despite a reduction in species-specific detail, the Cretan images with their frequent flying poses still imbue a sense of movement to the doves. Moreover, the particular way in which a dove on a Cretan jar is shown embedded within the environment seems to reveal the deep links existing between different entities. Double vases and some other pouring vessels with dove figurines indicate that the association of animated doves with the flow of liquid continued beyond the Neopalatial period. Moreover, scenes with doves and humans focusing on physical proximity and voluntary appearance recall the Neopalatial cult scenes probably showing relational encounters in an animist framework. The few images from the Greek Mainland exhibit some important modifications, an observation which suggests that animism was not the prevalent ontology here. Instead, the few doves appear rather unnatural and less lively. Furthermore, other environmental elements such as plants or rocks are relegated to background features, a composition which creates a hierarchical relationship between the doves and other elements. Such an arrangement is more consistent with analogical imagery.

4.6 Conclusion

Doves were depicted throughout the Aegean Bronze Age, from the EB I to the LB IIIC periods. The earliest images dating to EB I – MB I appear in the form of vessels and figurines from Crete and the Cyclades. Although these depictions are for the most part generic, some of them attest to an incipient artistic naturalism regarding proportions, postures and behavior. Their frequent depiction as askoi/rhyta or as figurines attached to vessels suggests a connection with the storing and flow of liquids. Doves possess certain skills such as the ability to drink in a continuous motion and the production of crop milk which might have inspired such an association. Significantly, in some of the vessels the doves appear animated during the process of handling. This might reflect a need to make the doves directly present because they were thought to be responsible for the flow of life-sustaining liquid such as rain. Such thinking is typically found in animist societies.

In MM II, dove-shaped vessels were largely abandoned and dove figurines made of terracotta became more frequent on Crete. Some of these exhibit species-specific features and behaviour such as mating or preening and there is a pronounced emphasis on individualised and lively (flying) poses. Some terracotta figurines attached to vessels demonstrate the continuation of the association of doves and liquids, albeit on a smaller scale. Individual figurines of doves –

without any obvious connection to liquids – were more frequent. Deposited at peak sanctuaries together with other animal and human figurines, they may have played a role in animist (trance) rituals with the aim of establishing relations between human and non-human entities.

In the Neopalatial period, dove depictions are elaborated on a grander scale than before and they appear in frescoes, ivory carvings and gold rings. The cross-cutting of various media/contexts suggests that the artistic naturalism of these images was often not directly dependent on a certain function. Dove depictions of the Cretan style were adopted on the Cyclades and to a lesser extent the Greek Mainland. The depictions from Crete and the Cyclades betray a shared interest in the truthful representation of certain dove species, their habits and lively poses. In these depictions, doves are shown embedded within a world of relations with other plants and animals. Significantly, these images can not be described as realistic because they are subtly idealized and emphasise movement.

A group of double vases and other pouring vessels attest to the continued importance of the association between doves and liquids on Crete. The consistent position of the figurines at the openings attests to the need to animate the dove figurines during handling. Moreover, scenes involving both humans and doves can be interpreted as relational encounters. In a typically animist fashion, these scenes emphasise physical proximity, voluntary appearance and gestural or visual communication between a human and a non-human person. The traditional connection of doves with the flow of life-sustaining liquids might have been one reason for their important status in such rituals.

In LM II – IIIC dove images can be found on Crete and the Greek Mainland. On Crete, the doves appear more generic than in the Neopalatial period, but they retain some naturalistic features such as the emphasis on flying poses. Moreover, the environment continues to play an important role. Double vases with dove figurines attached continued to be made, providing evidence for the association of animated doves with the flow of liquid. An emphasis on animist rituals centring on relational encounters between humans and doves can be observed in some images during LM IIIA1 – Subminoan, most notably in the female figures with doves. The few images of doves from the Greek Mainland exhibit distinct modifications which suggest that animism was not the prevalent ontology in this region. The depictions do not seem to be inspired by direct observation of nature and emanate a sense of rigidity. The

birds and their environment are visually separated and a hierarchy is established between them. Such traits are more consistent with analogism.

5. Birds of prey and corvids

5.1 Introduction

In this chapter we discuss two groups of birds, raptors and corvids, and trace their varying roles through time. Birds of prey include members of the family Falconidae (hawks and falcons) and the family Accipitridae (eagles and vultures). Corvids (family Corvidae) include ravens, crows and choughs. As we will see, some images of birds of prey seem to have been developed from images of corvids, which is why we discuss them both in the same chapter.

Birds of prey are characterised by their hooked beaks and powerful claws (Figure 54). Falcons have slender wings, which allow them to fly fast, while eagles and vultures have broad wings which are more suitable for soaring. Corvids have slender bodies and heads with strong, but not hooked, beaks and large feet (Figure 55). In contrast to doves, they have almost no discernible neck and the breast is less rounded. Their wings are broad and elliptical.

We will trace the development of images of corvids and raptors in three sections. The earliest depictions of birds of prey and corvids date to EB II – MB II. These will be discussed in the first section. In the second section, we will look at the MB III – LB II period when images of these birds became most frequent. In the final section, depictions of corvids and birds of prey dating to the LB II – IIIC period will be discussed.

5.2 EB II – MB II

In EB II – MB II, birds of prey and corvids were depicted in various media, but mostly on seals and vase-paintings. They come from Crete and the Cyclades, while only one image was found on the island of Aegina. The following 41 objects will be discussed:

- 1 silver diadem (**C21**) dating to EC II from the Cycladic island of Syros.
- 2 seals in the shape of birds' heads (**D15**, **D16**) dating to EM III – MM IA from Ayia Triada and Gournia on Crete.
- 23 seals/sealings (**D17**-**D39**) dating to EM III – MM II from Palaikastro, Adromyloi, Mallia, Olous Elunda, Neapolis, Mochlos, Moni Odiyitria, Phaistos and Knossos on Crete.

- 14 vase-paintings (**G2**-**G15**) dating to MB II from Phylakopi on the Cycladic island of Melos; and Kolonna on Aegina.[364]
- 1 relief vessel (**A29**) dating to MM II from Mallia on Crete.

The bird on the EC II diadem (**C21**) seems to be a bird of prey because of its curved beak.[365] Similar raptors appear on the Cycladic vase-paintings (**G2**-**G14**). Two figural seals from Crete (**D15**, **D16**) show falcons' heads (Figure 56). Related falcons are depicted in relief on a vessel from Mallia (**A29**).[366] On most of the Cretan seals discussed here, sailing ships are depicted (**D21**-**D39**). Attached to their bows are bi-or trifurcated elements which resemble flying birds.[367] The same element can possibly be seen on a ship on a pithos from Kolonna (**G15**).[368] As we will see in the subsequent section, these generic birds are turned into falcons in MB III – LB I. Corvids are depicted on four Cretan seals dating to MM II (**D17**-**D20**). One of the birds (**D17**) can be identified as a raven (*Corvus corax*) based on its large beak.[369] A sealing from Ayia Triada (**D18**) may show a baby crow because of the relatively long legs of the bird.

The Cycladic raptors (**C23**, **G2**-**G14**) appear relatively schematic and this applies even more to the generic birds attached to ships on Cretan seals (**D21**-**D39**). By contrast, the figural seals showing falcons (**D15**, **D16**) are remarkably accurate in their proportions, a feature which recalls the contemporaneous seals in the shape of doves (Section 4.2). Various species-specific poses are adopted by the corvids on Cretan seals dating to MM II. For example, the raven (**D17**) is preening its plumage with its head turned back and one wing raised, which accurately portrays the bird's movements (Figure 57). The baby crow (**D18**) is shown next to an oval object, possibly an egg. Another seal (**D19**) depicts a corvid next to a resting goat. Corvids often forage near grazing animals because of the insects which are attracted by the mammals.[370] It has also been reported that ravens search through the feces of herd animals which are left after resting.[371] The fourth seal (**D20**) shows a corvid flying next to a plant. All the images seem to have been inspired by direct observation of corvids.

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[364] Barber 1987, 146-148; Renfrew et al. 2007[a], 195.
[365] Goodison (2008, 425-427) considered the possibility that the birds on the diadem are people dressed as birds, but there are no human feet visible.
[366] Porter 2011, 41-42.
[367] Basch (1987, 107, 116-130, cat.no. D1) considered the element to be a bird. Wedde (2000, 45-50, Platanos Type) did not identify the element as a bird.
[368] Wedde (2000, 41-45, 121, Kolonna Type) called this element an arrow or a bird (cat.nos. 512, 514).
[369] Evans 1921, 274.
[370] Marzluff – Angell 2005, 238-239.
[371] Brehme et al. 2001, 19–32.

The diadem from Syros (**C21**) shows a bird of prey next to sun symbols and dogs, associations which cannot be readily explained by any natural relationships between these entities. It may therefore be a conceptual association that inspired this image. The vase-paintings from this period are too fragmentary to see if these associations were repeated in the other early raptor images from the Cyclades. However, we will find that falcons and sun disks are frequently combined in the vase-paintings from the MC III period. We will therefore discuss the significance of this association in the subsequent section, but it is important to keep in mind that the relationship between raptors and sun disks was already present in the EC II period.

While the corvids on Cretan seals are shown in rather diverse poses, hindering attempts to reconstruct a particular role of corvids in this period, the generic birds do appear in repetitive compositions: they are always shown in flight and they are attached to sailing ships (**D21-D39**, **G15**). Sailing ships with their typical crescent-shaped hull and additional oars were invented by the Minoans by the EM III period.[372] Before this time, the Cycladic longboat seems to have been used, as EM boat models from Palaikastro attest.[373] These longboats, images of which appear on some frying pans from EC II Syros, were paddled, not sailed, and had a fish emblem attached to their bow or stern (Figure 58).[374] The simultaneous appearance of the sailing ship and the bird as emblem indicates that the newly invented ship type inspired the new motif. It seems likely that the new propulsion technique was directly linked to the choice of a bird as opposed to the earlier fish. The fact that the birds are consistently shown in flight suggests that sails were considered similar to bird´s wings, something which is also known from Archaic times.[375] The wings of a bird have a comparable role to the sails of a ship and the wind helps both the bird and the ship to make progress and stay on course.

In the vast majority of cases, the birds seem to be shown at the bow of the ship; hence, the directionality of the movement of the bird and that of the ship is the same.[376] Usually, the body of the birds appears to be identical or fused with the bowsprit.[377] Thus, the bird's wings

[372] Basch 1987, 120-121; Marangou 1990, 260; Wachsmann 1998, 88-94; Wedde 1996, 128-130; Wedde 2000, 80.
[373] Wedde 1996, 127-128; Wedde 2000, 50-52.
[374] Basch 1987, 77-93. For the debate about the directionality and bow versus stern cf. Van Effenterre 1978 and Wachsmann 2011.
[375] Cf. Hesiod, *Works* 628.
[376] A few ships on seals seem to have two bird symbols, one on the bow and one on the stern. Basch (1978, 107-117) thought it possible that the bird element was either at the bow or the stern, whereas Wachsmann (1998, 103) and Wedde (2000, 122, 189) agreed that it was always at the bow, at least from MM II onward.
[377] Basch 1987, 107-108; Koutsouflakis 1999, 134, distinction between type I and II; Wedde 2000, 136-137.

are a direct continuation of the bow and they seem to be an organic part of the ship's structure (Figure 59). Such a fusion of the features of birds and objects recalls the merging of doves and vessels in the same period on Crete (Section 4.2). This observation could indicate that the ship was seen as transforming into a bird when it was gliding over the waves. In turn, the birds themselves may also have been animated when the the ship was moving. We could argue that such an arrangement accords agency to non-human entities. Similar are the images of corvids which show the birds with an emphasis on their varying species-specific movements, thereby expressing both agency and individuality. We may therefore suggest that these depictions are consistent with our argument for animism as the prevalent ontology on Crete.

In sum, images dating to EB II – MB II from Crete and the Cyclades show both generic raptors and corvids (ravens and crows). While most images appear schematic, others focus on varying species-specific behaviour and associations. Whereas one Cycladic image associates a raptor with sun symbols and dogs, the majority of Cretan images reveal a recurrent link between flying birds and the newly invented sailing ships. This may have been inspired by the similar role of birds' wings and the ship's sail. Significantly, the close physical connection between the ship's structure and the bird seems to animate both entities when the ship is moving. Such an artistic focus on the agency of non-human entities seems consistent with animist imagery.

5.3 MB III – LB II

In MB III – LB II, images of birds of prey and corvids became much more frequent and they appeared in a great variety of media. In contrast to the images discussed in the previous section, corvids and birds of prey were now also depicted on objects from the Greek Mainland. The following 260 objects will be discussed:

- 1 clay disc (**I1**) dating to MM III from Phaistos on Crete.
- 84 vase-paintings (**G16-G99**) dating to MB III – LB I from Akrotiri on the Cycladic island of Thera; Phylakopi on Melos; Ayia Irini on Kea; Agriokastro on Antiparos; Mike Vigla on Naxos; Kolonna on Aegina; Pyrgos and Knossos on Crete; and

Mycenae, Asine, Argos, the Samikos Mound, Eutresis, Korakou and Kirrha on the Greek Mainland.[378]

- 154 seals/sealings/signet rigns (**D40**-**D193**) dating to MB III – LB II from Lyttos, Mirabello, Lasithi, Knossos, Zakros, Phaistos, Palaikastro, Smari, Moni Odiyitria, Phylaki, Eretria, Mallia, Ligolimni Mouchtaro, Chania, Kritsa, Poros, Ayia Pelagia, Mochlos, Zakros, Krasi, Eileithyia, Kamilari, Ayia Triada, Heraklion, Liliano, Anemospilia on Crete; the Cycladic islands of Naxos and Syros; and Brauron, Thebes, Pylos, Athens, Mycenae, Aidonia, Phychtia and Tiryns on the Greek Mainland.[379]
- 14 jewellery pieces (**C20**, **C22**-**C31**) dating to MB III – LB II from Crete (unknown provenance); Mycenae, Pylos and Peristeria on the Greek Mainland.
- 1 model involving a figurine (**B92**) dating to MM III – LM I from Ayia Triada on Crete.
- 1 vessel with figurines attached (**B93**) dating to LH I from Mycenae.
- 1 relief vessel (**A30**) dating to LM I from Zakros on Crete.
- 1 ivory plaque (**I8**) dating to LM I from Zakros on Crete.
- 2 frescoes (**E7**, **E10**) dating to LC I from Melos on Phylakopi; and Akrotiri on Thera.
- 1 inlaid sword hilt (**F2**) dating to LH I from Mycenae.

These images show different kinds of raptors and corvids which we will discuss in turn. In MM III – LM I, the shape of the generic bird element at the bow of ships on Cretan seals (**D40**-**D85**) changes.[380] In contrast to the earlier depictions, the wings of the birds now have a sharp bent, comparable to those of falcons (Figure 60).[381] The same can be seen on sign 86 of the Linear A script and Linear B sign **86*.[382] A similar, but more detailed, bird can be found attached to the bow of a ship in the Miniature fresco from Akrotiri (**E7**) (Figure 61). Here, the bird with its slim bent wings, wedge-shaped tail and hooked beak clearly is a falcon. Harte suggested that it represents the dark variety of Eleonora's falcons (*Falco eleonorae*) because

[378] Atkinson et al. 1904, 118-123; Mylonas 1969, 211; Andreou 1974; Davis 1976, 81-82; Crouwel 1989; Papagiannopoulou 1990; Nikolakopoulou et al. 2008, esp. 317-318; Mathioudaki 2009; Nikolakopoulou 2010.
[379] According to Shapland (2009, 135-136, 140), some of the seals dated to LM I – II by CMS more likely date to MM III – LM I.
[380] Cf. Wachsmann 1998, 118-119, Figure 6.62; Koutsouflakis 1999, 135-139; Wedde 2000, 122, 327, cat.no. 604, 665-670, 6010, 6011.
[381] Van Effenterre (1978, 594) and Onassoglou (1985, 29, 33) did not recognise these elements as birds, but called them "fleur-de-lys" or hooks. The reasons for this may lie in the ambiguous nature of many motifs on talismanic seals; see for example Morgan 1989 and McGowan 2011. Basch (1987, 107) first called them birds and the depiction of a head with a beak on one seal (**D59**) seems to confirm this. Wachsmann (1998) and Wedde (1996 and 2000, 121-122, Akrotiri and Talismanic Type) followed this identification as birds.
[382] Wedde 2000, 319. For Linear A see Godart – Olivier 1976-85.

the body is painted a dark brown (Figure 62).[383] Eleonora's falcons, which are common on the Cycladic islands, have two colour morphs, one light with a reddish belly and the other one dark.[384] Falcons may also be depicted in another fresco from Phylakopi on Melos (**E10**) which preserves the narrow wings of two birds. The wings have rows of small triangles, resembling the plumage patterns on falcons' wings (Figure 63).[385]

The birds on most vase-paintings (**G16**-**G72**, **G92**) are similar to the raptors on Cycladic vases discussed in the previous section.[386] As was noticed by Porter, the necks and faces show dark curved or straight lines, which resemble the "moustaches" and striped plumage patterns of some falcon species, e.g. the peregrine falcon (*Falco peregrinus*), the Eleonora's falcon (*Falco eleonorae*) or the common kestrel (*Falco tinnunculus*) (Figure 64).[387] The wings are pointed and consist of a slightly curved line with short feathers. On several vases, the birds have round[388] red or brown bellies, while the remaining body parts are painted black.[389] The red colour might correspond to the plumage patterns of common kestrels (*Falco tinnunculus*) or the light variety of Eleonora's falcons (Figure 65). Cycladic-style falcons seem to have influenced bird designs on vases from the Greek Mainland (**G73**-**G90**, **G93**-**G99**).[390] Although there are similarities to the Cycladic models regarding colouring and composition, the appearance of these birds is notably different. They have lost the features which had made them identifiable as falcons (e.g. hooked beaks and talons) and were turned into rather unnatural generic birds (Figure 66).[391]

As in MM II, we have some unequivocal depictions of corvids (**A30**, **B29**, **C20 – the two birds at the elbows**, **C24**, **D86**-**D89**, **I8**). The most detailed images can be seen on the LM I

[383] For identification as Eleonora's falcons see Harte 2000, 688-689 and Porter 2011, 39. Morgan (1988, 66-67) called the bird as a dove, whereas Wachsmann (1998, 111) identified it as a swallow, but the bird is notably different from either bird species.
[384] Svensson et al. 2009, 118.
[385] Porter 2011, 40-41.
[386] Atkinson et al. (1904, 120), Evans (1921, 558-560) and Oulié (1926, 56) also noticed similarities to the foreparts of griffins - hybrids combining the forepart of a bird of prey and the body a lion - and raptors such as hawks or falcons.
[387] Porter 2011, 43.
[388] The round shape of the bodies led Nikolakopoulou (2010, 214) to deny that the birds can be identified at all, whereas MacGillivray (1983, 153), ignoring the predatory features, identified them as partridges.
[389] The falcons on vases from Knossos and Pyrgos are very similar to the ones from Phylakopi, although the colour of their bodies is more brown than red.
[390] Buck 1964, 300; Andreou 1974; Davis 1976, 82; Dietz 1980, 84-85; Davis 1981; Crouwel 1989; Mathioudaki 2009.
[391] Modifications were also noted by Dietz (1980, 84); Crouwel (1989, 160-161) and Mathioudaki (2009, 460).

Zakros rhyton (**A30**).[392] The birds have long tails, a slender build and rounded wing-tips which resemble those of alpine or red-billed choughs (*Pyrrhocorax graculus* and *Pyrrhocorax pyrrhocorax*). The relatively strong beaks, however, are more similar to those of hooded crows (*Corvus cornix*) or ravens (*Corvus corax*) (Figure 67). Even though these images might have been intended to show a certain scientific species, it remains impossible for us to determine this species because we lack coloured images of this corvid type thus far.

In addition to these depictions, there are numerous images of birds on Cretan seals displaying features of both corvids and birds of prey (**D90**-**D192**).[393] Similar birds are depicted on a diadem from Mycenae (**C23**) and a vase from Thera (**G91**). The birds have tube-shaped bodies, rounded heads, broad wings[394], elongated heads with strong beaks and fan-shaped or more rarely forked[395] tails. The slender shape of the bodies, the absence of necks, the strong straight beaks, the elliptical shape of the wings and the ruffled fan-shaped tails are characteristics of corvids (Figure 68). Furthermore, the beaks are straight and the feet do not resemble the sharp talons of raptors (Figure 69). At the sime time, the long broad wings of the birds on some seals (e.g. **D117**-**D120**) resemble more those of eagles or vultures in soaring flight.[396] The observation that these birds show mixed features may indicate that corvids and some birds of prey were put in one category in Minoan folk taxonomy. Such a classification would not be surprising since these bird groups have some characteristics in common. For example, many corvid species eat carrion just like kites or vultures. Also, corvids can frequently be observed mobbing birds of prey.

Some birds appear similar to the upper parts of griffins – creatures combining a raptor's head and wings with a lion's body – on contemporary seals (Figure 70). A few birds (e.g. **D95**, **D96**, **D99**, **D100**) exhibit features directly adopted from the anatomy of griffins, for example spirals on their necks (Figure 71), or more rarely crests.[397] This may suggest that

[392] Masseti (1997, 358) noticed the similarities of the Zakros birds to corvids (magpie and red-billed chough), but dismissed this identification because the depictions did not correspond exactly to either species and decided to identify them as cuckoos instead.
[393] Onassoglou 1985, 141-144; Ruuskanen 1992, 21, types 4b, 4c and 4d. Ruuskanen (1992, 56-58) noted the mixing of features and identified several birds as passerines/crows or birds of prey. The birds are mostly on seals of the talismanic or cut style (cf. Krzyszkowska 2005[a], 133-137 and Boardman 1972, 45-48).
[394] The birds have been grouped into three different types by Onassoglou (1985, 141-144) and Ruuskanen (1992, 21, types 4b, 4c and 4d) because of differently-shaped wings. However, these variations closely correspond to the seal shape (longer wings on amygdaloids, shorter ones on lentoids), thus, they are probably not species-specific attributes.
[395] The occasional forked tails seem to be abbreviations of fan-shaped tails; thus, they do not necessarily mean that the birds are swallows.
[396] Evans 1930, 410-411.
[397] Onassoglou 1985, 143.

corvids/raptors partly adopted the ideological connotations of griffins and we will come back to this point when we discuss the function of these birds.

The remaining birds can be unequivocally identified as birds of prey (**B93**, **C25-C31, D193**, **F2**). As in the ambiguous Cretan images, some of the birds have spirals on their necks resembling those of griffins, but the predatory features are much more emphasized. They have stream-lined bodies, hooked beaks, staring eyes and sharp claws (Figure 72). This type of fierce raptor can only be found on objects from the Greek Mainland. The jewellery pieces from Mycenae (**C25-C27**) and the Tiryns ring (**B193**) could show falcons or small eagles.[398] The wings of the birds on the so-called Cup of Nestor (**B93**) resemble those of an Egyptian-style falcon from Crete (**C22**) (Figure 73). On the sword hilt from Mycenae (**F2**), the elongated shape of the silhouetted heads and the large curved beaks are similar to those of eagles (Figure 74).

The degree of artistic naturalism observable in these images fluctuates widely. While the rather schematic falcons on Cretan seals (**D40-D85**) are only depicted in one recurrent association with ships, the falcons in a fresco from Phylakopi (**E10**) are shown flying in a more natural setting, surrounded by rocks which possibly allude to their habitat on (coastal) cliffs.[399] In the Cycladic vase-paintings of falcons (**G16-G72, G92**), the frequent appearance of perfectly circular bellies seems to offset any naturalistic effects. However, this shape does not appear in all the vase-paintings (e.g. **G21**, **G22**, **G92**) and some birds are associated with vegetation such as branches or palm trees (**G17**, **G18, G23, G25**). On one vase (**G21**), a falcon seems to be clutching an insect, possibly a locust.[400] Both Eleonora's falcons and common kestrels frequently eat insects, thus this image is an accurate description of falcon behaviour. Moreover, there is a fragment showing a falcon standing on a fish (**G60**) and another one associates the falcon with a waterbird (**G59**). These associations might allude to lakes or the sea, environments where falcons are frequently found in the Aegean. While the Cycladic falcon images occasionally reveal direct observation of nature, the related birds on vases from the Greek Mainland (**G73-G90**, **G93-G99)** appear unnatural because of additional wings or abstract plumage patterns. Moreover, they lack any indication of specific actions or habitat. Only one vase (**G80**) seems to show birds with their young. For the most part, however, the birds are simply shown flying in a frieze.

[398] For eagles see Karo 1930-33, 50, 52, no. 44, 60; for falcons see Lenz 1995, 135 and Porter 2011, 39-40.
[399] For their habitat see Dimalexis et al. 2008.
[400] Doumas (2005) and Papagiannopoulou (2008, 442-443) identified this animal as the chick of the bird, but raptors would never hold their own chicks in this way because they would kill them with their sharp claws.

In the Cretan images of corvids (**A30**, **B29**, **C20**, **C24**, **D86-D89**, **I8**), the birds are usually depicted flying or landing/taking off. Two images (**A30**, **I8**) show them in rocky landscapes with other animals (goats) or birds (swallows). Among the depictions of corvids/birds of prey on seals (**D90-D192)**, there are two images (**D114**, **D160**) possibly alluding to specific behavioural patterns of these birds because they seem to be driven away by waterbirds.[401] Both species are known for eating the eggs and chicks of (water)birds.[402] The adult birds defend their offspring against these predators and such encounters may well be depicted here. All the other images with corvids/birds of prey, however, focus on the depiction of a single flying bird, sometimes surrounded by plants. When we turn to the fierce raptors on objects from the Greek Mainland (**B93**, **C25-C31, D193**, **F2**), we can note that they may appear naturalistic at first glance because of the accurate depiction of predatory features. However, this impression is compromised by frequent antithetical compositions and identical rendering of multiple birds.

This survey demonstrates that the Cycladic and Cretan images occasionally depict the birds in natural poses, actions and environments, while the ones from the Greek Mainland usually lack such depictions. In addition to these variations in the degree of naturalism, the birds of prey and corvids are shown in different repetitive poses (e.g. flying), compositions (e.g. antithetical) and/or associations (e.g. with ships). Such clusters suggest that diverse roles and functions were attributed to the different kinds of birds in MB III – LB I and we will now address them in turn.

As we have seen, generic flying birds were attached to the newly invented sailing ships in EM III – MM II, a choice probably prompted by the analogous function of wings and sails. In MM III – LM I, complete sailing ships on seals became rarer and were substituted by ships of the CMS "Kajütenschiff" type, showing only the bow and a vertical structure which has been identified as the captain`s cabin (**D47-D85**).[403] As observed by Van Effenterre and Onassoglou, they are abbreviated versions of the sleek ships shown in the Miniature fresco (**E7**) which could be both rowed/paddled and sailed.[404] The more specific choice of falcons

[401] In addition, there are two other seals (**D104, D233**) which show a corvid/raptor on one and a waterbird on the other seal face.
[402] Marzluff – Angell 2005, 232-235; Cocker 2013, 393.
[403] Marinatos 1974, 35, 54; Onassoglou 1985, 28-34; Wedde 2000, 52-54.
[404] Van Effenterre 1978, 595; Onassoglou 1985, 29-30.

may thus be due to the agility and speed unique to these birds (the Peregrine falcon can reach up to 200 mph).[405] This is also evident in the prominent depiction of the bent wings which resemble those of a swooping falcon.[406] The ship with the Eleonora's falcon in the fresco (**E7**) seems to be part of a local naval procession or festival.[407] This species may have been chosen because Eleonora's falcons can be commonly observed over the sea when they are hunting small migrating songbirds, thus establishing a firm link between this falcon species and the Aegean Sea.[408] As in the sailing ships of the EM III – MM II period, the falcons' wings are physically connected to the structure of the ship, which may have created the impression of the ship transforming into a living falcon when moving.

When we turn to the Cycladic vase-paintings of falcons (**G16-G72, G92**), some of which were also found at Pyrgos and Knossos on Crete, we can note that they emphasise certain features by consistent repetition. For example, all falcons seem to be shown in flight, most with their wings elevated, some with their wings displayed (Table 4).

Table 4: Identifiable poses of falcons on vase-paintings dating to MB III – LB I from the Cyclades and Crete.

Pose	Number of vases
Flying	35
Flying, wings elevated	20
Flying, wings displayed	3
Total	58

This suggests that the depiction of wings and the ability to fly were of special importance. However, the shape of the wings of the depicted falcons does not imply fast flying since they are not sharply bent as those of the swooping falcons on the Cretan ships. Rather, they are spread wide, as if rising or flying high in the sky (Figure 75). A detail visible on three vases (**G21**, **G22**, **G92**) may allow further specification of the flying style: the wings of these birds have a protruding feather in the middle which can be seen on the wings of falcons when they are hovering in the air while locating prey (Figure 76). Some falcon species (especially common kestrels) have perfected this skill and they can stay for minutes in the same spot.

[405] Porter 2011, 39; Cocker 2013, 164.
[406] For the speed that could be reached by these ships, see Wedde 1996, 142.
[407] Morgan 1978, 641; Morgan 1988, 144-145; Niemeier 1992, 99-100.
[408] For the connection of this falcon species to the Aegean Sea see Ferguson-Lees – Christie 2001, 871.

Another frequently recurring feature is the red circular shape of the bodies. Significantly, similar red disks can appear above or next to the birds (Table 5).

Table 5: Identifiable body shape and association of falcons on vase-paintings dating to MB III – LB I from the Cyclades and Crete.

Body shape/association	**Number of vases**
Circular body	25
Association with disk	15
Total	40

Sometimes, the disks have a wavy outline, implying rays (**G16**, **G21**), which make them resemble astral bodies, either the stars or the sun. Since falcons are diurnal birds, it is more likely that they are sun disks – an identification also made by Papagiannopoulou and Porter.[409] Since some of the associated disks are shown in an arc over the birds (**G63-G68**), Porter suggested that they represent the movement of the sun across the sky over the day.[410] On one vase (**G21**), two disks with wavy outline are depicted under the spread wings of a huge falcon. A similar arrangement could be observed on the EC II diadem (**C21**), where the raptor was also shown next to sun symbols (Section 5.2).[411] The frequent presence of sun symbols in these scenes might corroborate the observation made above that the falcons are shown flying high in the sky – next to the sun from a human`s perspective.

When we look at the types of vases the falcons are painted on, it is notable that these are frequently round beaked jugs and jars. These traditional Cycladic pouring vessels date back to the EC IIIB period.[412] Significantly, they have a spout resembling a bird`s beak, a feature which gives the vases a certain avian appearance. One bridge-spouted jar from Akrotiri (**G16**) has eyes painted on either side of the spout, intensifying this effect. With their globular shape and the raised spout, these vases closely resemble the round-bodied birds with raised heads painted on them. Thus, the connection between birds/falcons and sun/disks is expressed both on a two-dimensional and a three-dimensional level.

[409] Papagiannopoulou 2008, 442; Porter 2011, 45. Cf. also (rayed) disks in Minoan iconography which appear together with a crescent – most probably the sun and moon.
[410] Porter 2011, 45.
[411] The similarity was also noted by Papagiannopoulou 2008, 444.
[412] Barber 1987, 143, 149.

The close physical connection between the sun and the falcons emphasized by these vases cannot be explained by any directly observable natural association. It may therefore indicate an ideological connection between these two entities. An association of birds with heavenly phenomena or astral bodies can be observed in many cultures. For example, in the North American myth of the thunderbird(s) powerful birds (of prey) are thought to cause thunder, wind, rain, and hail with their wings.[413] In East Asia, certain corvids are believed to live in multiple suns – represented by a crow in a sun disk.[414] In the light of such myths, Goodison suggested that the association of the raptor with sun disks on the diadem (**C21**) indicates that the birds' wings were thought to help the sun moving across the sky.[415] In fact, the peculiar body shape of the falcons on several MC III – LC I vases does seem to visually transform the wings of the falcons into the wings of the sun. If falcons were indeed thought to help the sun moving, they were awarded an important active role in the cosmological order. Such a central task may also have led to a cultic significance of these birds.[416] A vase from Akrotiri (**G21**) associates a large falcon next to sun symbols with two young men who are holding a jug and a cup over a large branch growing from the earth. Thus, the falcons may have been occasionally incorporated into an ideological complex centering on fertility.

Porter suggested that the association of the falcon with the sun on the Cycladic vases was adopted from Egypt because the falcon as embodiment of the Egyptian sky god Horus was often shown with a sun disk (Figure 77).[417] Egyptian-style falcon images were known on Crete, as is possibly attested by a relief lid showing falcons from MM II Mallia (**A29**) and a gold and enamel Egyptian-style falcon from MM III Crete (**C22**).[418] Despite the familiarity with such images, however, there is no evidence that the Horus falcon was adopted on a large scale in Cretan or Cycladic art. Also, the Cycladic falcons are notably different from the Horus falcon because they appear livelier but less detailed, not to mention the frequent circular shape of the bodies. Moreover, the diadem from Syros (**C21**) dating to EC II suggests that the falcon-sun connection existed in the Cyclades before the first Egyptian-style images appeared on Crete. As was mentioned above, it is not unusual for humans to see a link between birds and heavenly phenomena, thus, it seems equally likely that the falcon image and its connection with the sun could have developed independently on the Cyclades.

[413] Harvey 2005, 38-40.
[414] Ball 2004, 241.
[415] Goodison 2008, 427.
[416] The special shape of the beaked jugs led scholars, for example Nikolakopoulou (2010, 219-220) to suggest that they were ritual vessels used for libations.
[417] Porter 2011, 45-48. For the Horus falcon see Houlihan 1986, 45-48.
[418] According to Aruz et al. (2008, 88-89), the relief vessel also has parallels with Anatolian iconography.

Cycladic vases with falcons and sun disks were also found together with various ritual objects in the Temple Repositories of the palace at Knossos (**G63**-**G72**).[419] This context could indicate that the cultic significance of the falcons was understood by the Cretans, although they apparently did not adopt the falcon-sun association in their own iconographic repertoire. Panagiotaki proposed that these vases were included because their decoration fitted the general iconographic theme of the Temple Repositories.[420] According to her, this theme primarily centred on depicting human relationships with the natural world, as seen in the snake handling of the so-called Snake Goddesses.[421] Thus, the Cycladic vases with falcons and sun disks may have been incorporated into Cretan ideology. By contrast, the related birds in the Mainland vase-paintings (**G73**-**G90**, **G93**-**G99)** are associated with disks only once (**G93**). Circular bodies are rare (they are more ovoid) and the birds no longer appear only on globular beak-spouted jugs. Vases mostly come from funerary contexts, for example the shaft graves at Mycenae and other tombs in the Argolid, Attica and Elis.[422] All these differences indicate that the Cycladic falcon-sun-connection remained alien to the people of the Greek Mainland.

When we turn our attention to the depictions of corvids and corvids/birds of prey, most of which come from Crete, we find that they also exhibit some recurrent traits and associations. Similar to the falcons on seals and vases, they are mostly shown in flight. However, in contrast to the falcons, several birds are represented in the moment of landing or taking off (e.g. **A30**, **C24**, **D88** – **D95**). This indicates that it was not only their ability to fly which was of importance but also the moment of arrival or departure. Moreover, birds identifiable as corvids usually appear in a special association with humans (Figure 78). On a gold ring from Poros (**D86**) a sitting female figure is shown carried by two flying corvids. A ring from Pylos (**D89**) shows a corvid having landed on the rail of a throne on which a large female figure is sitting. On another ring from Pylos (**D88**), a woman with a staff is hovering between two corvids having landed on rocks. On a sealing from Knossos (**D87**) two flying corvids are shown below a female figure with a staff, apparently carrying her through the air. A cut-out ornament from Mycenae (**C20**) shows a nude woman being carried by two flying corvids which are attached to her elbows. Other images show single humans sitting in boats shaped

[419] Jones 1978, 478; MacGillivray 1983, 154; Panagiotaki 1999, 133-139; Sherratt 2000, 362-363. MacGillivray (1983, 153) mentioned four complete and two fragmentary vessels from the Temple Repositories, several more sherds from the MM III cists and some sherds in the Stratigraphical Museum. Sotirakopoulou (2010, 835) mentioned about 40 Cycladic vessels in total from the Temple Repositories.
[420] Panagiotaki (1999, 136) suggested that the vases were used for liquid offerings.
[421] Panagiotaki 1999, 148-151.
[422] Mathioudaki 2009, 459-460. Some of them seem to have been exported to the Cyclades (e.g. **G76, G78**).

like corvids/birds of prey (**D189-D192, I1**) (Figure 79).[423] Although bird features predominate in these boats, there are also parts of other – special – creatures (griffin, sea horse). This hybridisation recalls the griffin features of some flying corvids/birds of prey on seals mentioned above. Other images show corvids in association with shrines/horns of consecration without a direct presence of humans (Figure 80). On the Zakros rhyton (**A30**), a pair of corvids is sitting/landing on horns of consecration of a complex building, which was identified as a tripartite shrine.[424] A closely comparable composition with birds landing on shrines is seen on the cut-out-ornaments (**C24**) from Mycenae. A figurine from Ayia Triada (**B92**) shows a corvid sitting on horns of consecration.

The birds in these scenes have usually been interpreted as attributes of deities.[425] However, as we have seen (Section 3.3), deities cannot be unequivocally identified in Cretan iconography and the events shown in these scenes may have more to do with animist and shamanic practices.[426] Moreover, the birds are not passive emblems; rather, they adopt a specific active role – that of carrying and accompanying an individual person.[427] Such a task recalls the responsibilities of birds in animist societies which often include the carrying and accompanying of shamans on their trance journeys (Section 3.2.4). As we have seen, special boats can also be used by shamans for their journey to the spirit world. Often, the spirit animals and the boats are merged, resulting in zoomorphic vessels, comparable to the bird-shaped boats described above.[428] As was demonstrated by Lahelma in his discussion of rock art images from Finland, shamans can also merge with the vehicle and the tutelary animal during trance, reflected by images combining a human, a boat and an elk.[429] An observation made by McGowan about a sealing from Ayia Triada (**D191**) may be significant in this context. She noticed that the bird-shaped boat with the man inside is transforming into a bird with its feet holding onto a branch, if the seal is turned 90 degrees (Figure 81).[430] This

[423] Levi 1925-26, 126-128; Marinatos 1933, 223-233; Koutsouflakis 1999, 144; Wedde 2000, 173-194.
[424] Platon 1971, 167. For tripartite shrines see Shaw 1978, 432-440; Alusik 2003, 62-63.
[425] The boats have been called fantastical creations by Sakellarakis (1971, 218) and Koutsouflakis (1999, 144). For the boats as belonging to deities see Marinatos 1933, 223-227; Sakellarakis 1971, 219 and Boulotis 1989. For the interpretation of the birds as attributes of deities in these scenes see Dimopoulou – Rethemiotakis 2000, 44-50 and Davis – Stocker 2016, 644-645.
[426] Wedde (1996, 148-149, 2000, 175-194) was sceptical about the interpretation of the people in zoomorphic boats as deities.
[427] There are indications that the griffin had a similar role of carrying or accompanying a single person. For example, a gold ring from Archanes shows a woman flying with the help of a griffin (Sakellarakis – Sapouna-Sakellaraki 1997, 651-653).
[428] Cf. Lahelma 2007, 118, Figure 4, for shamanic elk-shaped boats in Finnish rock paintings.
[429] Lahelma 2007.
[430] McGowan 2011, 56-67.

ambiguous image might express the somatic transformation of a shaman into a bird as undergone during trance.

We may ask why corvids of all flying birds were deemed suitable for carrying and accompanying shamans. This may be due to the fact that corvids are characterized by a high degree of liminality – as the shamans themselves. Unlike many other birds, they actively seek human proximity and are able to communicate effectively with people. Corvids can be kept as pets developing deep emotional bonds with particular humans.[431] Considering the riskiness of a trance journey when the shaman is most vulnerable and needs guidance, corvids have further unique assets which can help in this regard. They are highly intelligent, can recognize people, objects and situations, can be taught to speak, have theory of mind, are extremely curious and can use tools.[432] These exceptional characteristics have not only been observed by the classical Greeks and Romans but all over the world which is why corvids are often described as clever and cunning in stories and myths.[433] For animists, e.g. in North America, corvids often have a special status among other sentient beings due to the fact that they can actively communicate with other entities by their expressive body language.[434] Such traits could also have been recognised by the Cretans and they may have led to the important role of corvids in shamanic practices.

When we finally turn our attention to the birds of prey from the Greek Mainland (**B93**, **C25-C31, D193**, **F2**), we may note that they are related in their morphology to the Cretan corvids, for example by the shape of their wings. However, they are consistently modified towards a more explicit predatory appearance, notably by hooked beaks and talons. Recurrent antithetical compositions, for example in the falcons on the gold cup (**B93**) and the eagle protomes on the sword hilt (**F2**), underline their aggressive stance. The birds on ornaments from Mycenae (**C25-C27**) are depicted in a mirror reverse composition as if looking warily around.[435] Their curled raised claws may allude to the pose adopted shortly before catching their prey (Figure 82).[436] Since such fierce images of raptors have no direct parallels in Cretan

[431] Barber 1994, 34-35; Woolfson 2008; Cocker 2013, 388.
[432] Marzluff – Angell 2005; Schmidt et al. 2011.
[433] Toynbee 1973, 273-276. Cf. also the extraordinary importance of the raven as a trickster in native North-American mythology emphasised by Cocker (2013, 384-385, 392-395).
[434] Harvey 2005, 100; Marzluff-Angell 2005, 30, 49-50; Cocker 2013, 395.
[435] They are called "wappenartig" by Karo 1930-33, 302.
[436] Porter 2011, 40.

or Cycladic iconography it is likely that they were invented to suit local Mainland preferences.[437]

In addition to the emphasis on aggression, we can observe that the raptors are consistently depicted on certain high-status objects such as a gold vessel, gold jewellery and a richly decorated elaborate weapon. The find contexts of these objects are richly furnished graves of the Argolid and Messenia. The deposition of great riches and the sudden appearance of figurative art in the shaft graves at Mycenae after a comparably poor and largely aniconic Middle Helladic period has been explained by Voutsaki as an act of "conspicuous consumption" as a strategy in local power struggles between different groups or factions.[438] She considered the shaft grave phenomenon as indication that the social situation was unstable and required the use of powerful and symbolically charged actions and images by those who wanted to gain or maintain control.[439] A similarly unstable situation may have existed in Messenia because the use of comparably rich tombs is restricted to a short period in LH II.[440] Here, the people of Peristeria seem to have contended with those of neighbouring Pylos for hegemony, a hypothesis formulated by Bennet and Davis based on the apparently competitive elaboration of several tholoi at both sites which served as visible power markers.[441] Shortly afterwards the incipient tensions were apparently relieved in favour of Pylos: the tholoi at Peristeria went out of use while the first palace was built at Pylos.

The proliferation of weapons and the frequency of battle/hunting scenes in Early Mycenaean imagery suggest that legitimation in these power struggles could primarily be achieved by adherence to a warrior ethos.[442] Jewellery seems to have played an important part in this context because it has been found that male burials associated with many weapons were also rich in jewellery.[443] The sword (**F2**) with eagles from shaft grave IV and the necklace from shaft grave V (**C25**) at Mycenae were both associated with male burials and would have been used and worn in life. Thus, a direct relationship between powerful birds of prey and people who strove for power and claimed predatory qualities for themselves was created. In his

[437] For modifications of Cretan iconography in Early Mycenaean objects see Vermeule 1975; Dickinson 1977, 52-57; Laffineur 1993.
[438] Voutsaki 1997; Voutsaki 2010.
[439] Voutsaki 1999, 112.
[440] Voutsaki 1998, 51-55.
[441] Bennet – Davis 1999, 105-106.
[442] Deger-Jalkotzy 1999.
[443] Kilian-Dirlmeier 1988; Dickinson 1997, 45-47.

analysis of Mycenaean swords, Malafouris argued that objects such as swords and jewellery are directly included in the cognitive body schema of people.[444] He saw the sword and its decoration "as a dynamic integral component of the emerging Mycenaean embodied cognitive system."[445] Thus, the sword and the man together became a new hybridized entity.[446] Seen in this light, the sword hilt decorated with eagle protomes (**F2**) adds a third dimension to this close relationship between the warrior and his sword, namely the eagles and especially their heads with the powerful beaks.

Whereas the necklace (**C25**) and the sword (**F2**) seem to have been used by male warriors, the relatively flimsy cut-out-ornaments from the slightly later shaft grave III (**C26**, **C27**) were probably made for funerary use and they could have been associated with the women and children buried here.[447] The inclusion of women and children in Grave Circle A and their rich grave goods – as opposed to earlier Grave Circle B – has been interpreted as expression of an increasing emphasis of hereditary status and the family.[448] Thus, the birds of prey may also have functioned as a kind of emblem of the people of Grave Circle A.[449]

The Tiryns ring (**D193**) seems to support the view that birds of prey had become symbols of authority by LH II. A raptor of the shaft grave type is shown behind the throne of a seated figure holding a chalice. The bird has the head turned back and thus exactly copies the pose of the raptors in the earlier mirror-reverse compositions. Although the bird has its wings folded, no perch is shown and it appears more like an emblem than a real bird. Several Minoan genii are shown in a procession carrying jugs towards the sitting person, making it likely that he or she is a person of authority. The bird seems to have become an emblem of authority by that time or even a coat of arms. Such a function would be comparable to those of many other birds of prey, e.g. the double-headed eagle on the imperial banner of the Holy Roman Empire.

After having discussed the various roles and functions adopted by corvids and birds of prey in MB III – LB II, we may now reflect on what they can tell us about the prevalent kinds of

[444] Malafouris 2008.
[445] Malafouris 2008, 5.
[446] Malafouris 2008, 8.
[447] Dickinson 1977, 48; Laffineur 1993, 257; Voutsaki 1997, 172. For an overview of the chronology of the shaft graves, see Graziadio 1991, table 4.
[448] Graziadio 1991, 436-437.
[449] Similar interpretations of the birds as power symbols were suggested by Schliemann (1880); Karo (1930-33, 302-303); Lenz (1995, 135) and Laffineur (1995).

ontologies. The discrepancies observable between the Cyclades and Crete on the one hand and the Greek Mainland on the other hand suggest that different ontologies were dominant in these regions. Although most of the Cretan and Cycladic images of falcons and corvids/birds of prey concentrate on certain aspects, they occasionally depict other species-specific poses and behaviour as well. Moreover, the frequent flying poses create a pronounced sense of movement. As we have seen (Section 3.2.4), liveliness is an important aspect of animist imagery. Another feature consistent with animist depictions are hybridised objects such as the Cycladic beaked jugs or the falcons physically merged with parts of the ships' structure on Cretan seals. Such ambiguous images reveal the transformational capacity of morphologically different entities due to a shared interior essence. Moreover, they seem to ascribe agency to non-human entities. Both the Cycladic falcons and the Cretan corvids adopt important active roles in the respective ideologies, either moving the sun or carrying/accompanying shamans on their trance journeys.

In comparison, bird images from the Greek Mainland consistently abandon features typical of animism. Depictions tend to show rather unnatural birds, usually without any indication of species-specific behaviour or habitat. Principally, the representation of single naturalistic details such as predatory features is closely linked to a symbolic function. The depiction of species-specific elements is not an end in itself. Any impression of liveliness and variety is offset by artificial and identical poses or compositions. The birds do not appear as active agents but they are passive symbols, either of physical strength or social power. Such a function of animals as analogies or metaphors is typically found in analogical imagery (Section 3.2.1).[450]

In sum, depictions of birds of prey and corvids dating to MB II – LB II come from the Cyclades, Crete and the Greek Mainland. We can identify falcons, probably common kestrels and Eleonora's falcons, as well as eagles. A large group of bird images from Crete shows mixed features of corvids and birds of prey, allowing the reconstruction of a folk taxonomical category including members of both species. While some Cretan and Cycladic images show varied species-specific poses and behaviour, the depictions from the Greek Mainland notably lack such features. This suggests that the two regions differed profoundly in their perception of nature.

[450] Shapland (2013) interpreted the creation of analogies between lions and warriors in Early Mycenaean iconography as indicative of analogism.

Differences between regions were also made out with regard to roles and functions of bird images. On Crete, falcons were associated with sleek ships, probably due to their fast flying skills. Notable is the close physical connection between the bird and the ship's structure resulting in the impression that the bird became alive and/or the ship turned into a falcon when moving. Corvids are shown accompanying and carrying individual people. Close parallels to animist imagery suggest that they may have been spirit helpers accompanying shamans on their trance journeys. The fact that corvids are highly synanthropic and intelligent birds might have contributed to such specific ritual roles.

A similarly active role is adopted by the falcons on Cycladic vase-paintings because they seem to be moving the sun across the sky with their wings. This interpretation is based on the consistent flying or hovering poses and the close physical connection of the bird features with sun disks. The merging of avian features with globular jars and the sun results in ambiguous images, according agency to non-human entities in an animist fashion. When we examined the appearance and contexts of falcon vases from Crete and the Greek Mainland, it was observed that whereas the Cretans might have understood their (ritual) significance and integrated them into other nature imagery at Knossos, the people of the Mainland seem to have rejected the Cycladic notion of the falcon-sun connection altogether as evidenced by the distinct transformation of Cycladic-inspired bird images.

On the Greek Mainland, images of fierce birds of prey seem to have been used as symbols of male physical strength and social power. This reading is primarily based on the fact that they appear on certain objects such as jewellery and weapons which are immediately linked to the bodies of their male owners and the find contexts in tombs of the aspiring elite in the Argolid and Messenia. Later on, the association of raptors with women or children and an enthroned person of authority suggest that they had become symbols of the ruling family or class. The creation of such analogies is typical for imagery of analogical societies.

5.4 LB II – LB IIIC

In LB II – IIIC, birds of prey and corvids were less frequently depicted than in MB III – LB II. The images appear in different media both from Crete and the Greek Mainland. On the Cyclades, images of raptors seem to have disappeared in this period. The following 24 objects will be discussed:

- 8 seals (**D194-D201**) dating to LB IIIA from Armenoi, Mallia and Knossos on Crete; and the Greek Mainland (unknown site).
- 1 model (**B94**) dating to LM II from Ayia Triada
- 1 sarcophagus (**H2**) dating to LM IIIA2 from Ayia Triada on Crete.
- 1 mould for an ornament (**C32**) dating to LH IIIA – IIIB from Mycenae on the Greek Mainland.
- 1 human figure with figurines attached (**B79**) dating to LM IIIB from Gazi on Crete.
- 1 fresco (**E11**) dating to LH IIIB from Pylos on the Greek Mainland.
- 11 vase-paintings (**G100-G110**) dating to LB IIIA2 – IIIC from Pachia Ammos, Kamilari and Kalami on Crete; and Mycenae, Tiryns, Athens and Korakou on the Greek Mainland.

In contrast to the preceding periods, no falcons can be identified in the images of LB II – IIIC. Only images of corvids, corvids/birds of prey and raptors were continued. Corvids with their slender bodies, large straight bills and fan-shaped tails are only shown on images from Crete (**B79**, **B94**, **D201**, **G100-G102**, **H2**). A bird on the long side of the Ayia Triada sarcophagus (**H2**) with a thick neck, large beak and black plumage seems to be a raven (*Corvus corax*) (Figure 83).[451] The number of ambiguous corvids/birds of prey on Cretan seals decreased sharply and the few birds of this type appear even more generic than before (**D194-D201**). Some birds dating to LB IIIA2 – IIIB, on a mould from Mycenae (**C32**), a fresco from Pylos (**E11**) and the short side of the Ayia Triada sarcophagus (**H2**), seem to be raptors although they appear less fierce than in the Early Mycenaean period (Figure 84). They only have a curved beak, not a hooked one and the claws are no longer as prominent. Their appearance changed once more in LH IIIB – IIIC, when some Mainland vase-paintings again show fierce raptors with hooked beaks (**G103-G110**). Two birds on a jar from Mycenae (**G110**) seem to be vultures because of their large bodies, kinked necks and relatively small heads with prominent beaks (Figure 85).

The degree of artistic naturalism in these images presents a rather mixed picture. The raven on the sarcophagus (**H2**) seems accurate not just in its appearance but also in its pose with drooping wings which is seen when the bird is about to call. Such naturalism is reminiscent of some Cretan corvids discussed in the previous section (Section 5.3), for example the birds on the Zakros rhyton (**A30**). Ravens are also shown on the other side of the sarcophagus, but

[451] Evans 1921, 440.

their plumage shows a rather unnatural black and yellow colour. The rather generic corvid images on seals and vase-paintings also indicate a decrease of precision in this period. On five seals (**D195-D199**), corvids/raptors are shown above quadrupeds (goats or bulls) with their young. Birds of prey and corvids are often found on pastures especially when there are newborns. Thus, it might be an accurate observation of a natural association, but the fact that it is the only one shown (e.g. waterbirds are no longer depicted with corvids) suggests that there was less interest in showing the variety of bird life. The few raptors dating to LH IIIA2 – IIIB (**C32**, **E11**, **H2**) also appear less naturalistic than those of the Early Mycenaean period. They are rather plump and the features alluding to griffins are intensified.[452] A raptor from Pylos (**E11**) shows a leaf-like crest on the head and a yellow spiral pattern on its neck.[453] A raptor on the short side of the Ayia Triada sarcophagus (**H2**) has a crested head and the colouring of the white body and the blue and yellow wings is similar to the two griffins directly below. The raptors of LH IIIB – IIIC date (**G103-G110**) appear less fantastic and their behaviour seems more inspired by observation of nature. On one vase (**G108**), raptors are shown hunting hares and another vase-painting (**G110**) depicts vultures next to a foal. Maybe, they are looking for the placenta of the newborn or the foal is sick and will die.

The roles and functions assumed by corvids and raptors again display differences according to the type of bird. There are indications that corvids continued to act as shamanic helpers in Cretan rituals (Section 5.3). A LM II terracotta model from Ayia Triada (**B94**) seems to show a woman on a swing, the strings of which were suspended from the bodies of two birds on columns, creating the impression that they carry the woman.[454] Two figurines of birds, possibly corvids, are attached to a female figure from Gazi (**B79**), flanking horns of consecration, and a similar female figure in a shrine flanked by corvids is shown on a seal (**D201**). Such compositions resemble the LM I scenes of corvids flanking a woman (Figure 86). Another seal (**D200**) shows a corvid/bird of prey between two griffins, which recalls the hybridization of corvid and griffin features in some earlier images. Moreover, two vase-paintings from Pachia Ammos and Kamilari (**G100**, **G101**) show corvids sitting on horns of consecration and next to incurved altars. On a pyxis from Kalami (**G102**), a flock of flying corvids is surrounding a man who is holding a lyre in one hand and a branch in the other. One of the corvids is pecking at the branch. This scene recalls Neopalatial images of humans and

[452] McCallum 1987, 128-130.
[453] Younger (1998, 69) even identified the bird as a griffin, but it seems to have a bird's tail.
[454] Rethemiotakis (2001, 119) interpreted the woman as a deity.The birds are not sufficiently preserved to identify them unequivocally as corvids and they may also be doves.

doves which we have interpreted as relational encounters (Section 4.4). Similarities include the sudden and voluntary appearance of the birds, and the close proximity emphasised between the birds and the male figure. The raven on the LM IIIA2 Ayia Triada sarcophagus (**H2**) seems to be included in a similar scene. The limestone sarcophagus depicts people and animals involved in rituals, sacrifices and offerings. The raven is perched on a double axe standing between an altar and a structure topped by horns of consecrations and a tree.[455] Its peculiar pose with the drooping wings could be compared to certain body postures of ravens conveying feelings (anger, threat, recognition, greeting, courting) and/or when the bird is about to call.[456] The gaze of the woman in front of the altar is directed towards the bird because the woman`s pupil is positioned on the top right of the eye, in contrast to other people on the sarcophagus whose pupils are in the middle. Also, the artist emphasized the raven`s eye with a white ring, possibly to underline the fact that the bird is returning the gaze. This suggests that the woman is shown in an act of visual communication with a non-human person, comparable to the scene on a contemporaneous larnax with a woman and a dove (**H1**) (Figure 87).

Whereas such images may attest to a continuity of roles of corvids on Crete beyond LM IB, there is one depiction which indicates change. In addition to the black raven on one side of the Ayia Triada sarcophagus (**H2**), there are two more birds shown on the other side, perched on double axes (Figure 88). Although they can also be identified as ravens due to their silhouette, their plumage is black and yellow. They may be figurines made of bronze because their colouring resembles that of the double axes. Moreover, they are markedly different than the lively raven on the other side, because they look nearly identical, show a stiff posture and are facing away from the approaching humans. Thus, their role seems to be reduced to that of the double axes to which they are attached: to demarcate a sacred space in which ritual activities happen.

This function of ravens as passive cult symbols is unparalleled in Cretan iconography and we may attribute this shift to certain historical developments on the island. The destruction of most palaces except Knossos at the end of LM IB was followed by increased influence from the Greek Mainland in LM II and subsequent periods. A novel script, Linear B, written in

[455] The bird was usually interpreted as avian epiphany, for example by Evans (1921, 440); Nilsson (1950, 285, 294); Long (1974, 36-39, 66, 73) and Vanschoonwinkel (1982, 31-38). Rethemiotakis (1979, 247) and Watrous (1991, 293) compared the birds on the Ayia Triada sarcophagus to other birds on Minoan larnakes without taking note of the different species (waterbirds vs. corvids).
[456] Marzluff – Angell 2005, 166-168.

Mycenaean Greek appeared at Knossos and Chania and new cemeteries were established, often including distinct Mainland features (e.g. weapons).[457] At Ayia Triada, architectural changes are visible in LM IIIA such as the construction of a megaron of the Mainland type.[458] According to Burke, the iconography of the sarcophagus is a deliberate attempt of the local leaders to merge traditionally Cretan customs (cf. the ancient Kamares jug) with new features originating from the Mainland (e.g. the chariots on the short sides and the bull on the sacrificial table).[459] We may therefore suggest that the function of the ravens as symbols reflects notions originating from the Greek Mainland.

When we turn to the few images of raptors dating to LB IIIA2 – IIIB from the Greek Mainland and Crete we may argue that they continued to function as power symbols. This is indicated by the find contexts. The mould (**C32**) for an ornament in the shape of a raptor comes from the palace at Mycenae. At Pylos (**E11**), a raptor was painted on the northeast wall of the throne room, the centre of royal power. Usually, this bird was interpreted in connection with the phorminx player who is shown next to it.[460] Philippides compared the man to later epic singers and suggested that the bird was a visual illustration for the poetic expression "winged words".[461] However, the bird is exceptionally large in relation to the musician and this interpretation does not explain the rather specific choice of a raptor-like bird. Moreover, the bird is orientated towards the throne, comparable to the large-scale griffin and lion on the other side (Figure 89).[462] This composition recalls the arrangement of the earlier LH II Tiryns ring (**D193**) where the falcon was shown behind an enthroned person (Section 5.3). Furthermore, in the Linear B Ta-series from Pylos, one of the chairs used on the occasion of the appointment of a high-status official by the wanax has golden back pieces described as 'with birds' (o-ni-ti-a-pi).[463] Possibly, we may imagine those to be similar birds of prey as the one in the throne room. The morphological assimilation to the griffin may also indicate a partial adoption of the function of this creature. In LB II – III, griffins seem to have had a special association with royal power (cf. their prominent association with the thrones at Knossos and Pylos). Another raptor is shown on the short side of the Ayia Triada sarcophagus (**H2**). It is flying above a chariot with two women inside, drawn by griffins. Similar chariots

[457] E.g. Popham 1970, 1974; Hood 1985, 171, 173-177; cf. Preston 2004[a], 138-140 and Miller 2011 for changes in the funerary record. See Haskill 1997, 191-192 for changes in architecture (megara) in LM IIIA.
[458] McEnroe 2010, 128-131.
[459] Burke 2005. Immerwahr (1989, 100-102) also noted the mixture of Cretan and Mainland features.
[460] Cf. Lang 1969, cat.no. 43 H 6.
[461] Philippides 1985; also Kohl 2009, 199.
[462] McCallum1987, 124-130.
[463] Bernabé – Luján 2008.

are known from seal images, most of which appear on metal rings from elite burials on the Greek Mainland and it has been suggested that they were insignia of local leaders.[464] All these aspects indicate that raptors continued to be power symbols of the Mainland elite.

Despite this continuity in function, we have noted that predatory features appear less pronounced than in the Early Mycenaean period (Section 5.3). This may have to do with the consolidation of power in LB IIIA – B on the Greek Mainland. In this period, social relations seem to have been primarily negotiated by other mechanisms (most notably feasting) rather than the display of physical violence and warrior ethics.[465] There is an interesting parallel between this development and a much later one: democratic Germany adopted the eagle as a national symbol which had also been used by the Nazis but its features were modified and the earlier lean and fierce raptor was transformed into a more complacent looking bird with an emphasis on the body and wings (Figure 90).[466]

With the demise of palatial power at the end of LH IIIB2, images of stately birds of prey were abandoned. Instead, aggressive types of raptors reappeared (**G103-G110)** and violence is again emphasized by scenes of raptors hunting hares (**G108**) or vultures (**G110**) whose presence next to a foal creates an ominous atmosphere. The renewed emphasis on predatory features concurs with signs of an increasingly unstable situation in LH IIIB2 (cf. the construction of defensive structures at the palaces). Again, images of aggressive birds of prey may have been used to associate individual people or groups with these powerful animals to underline their power.

After the fall of the palaces, a power vacuum seems to have developed in LH IIIC. A recurrence of warrior ethos is indicated by the proliferation of (sea) battles and soldiers on LH IIIC vases.[467] Palatial structures at Mycenae were partly rebuilt and several megara were constructed at Tiryns in an attempt to reinstate palatial rule.[468] In this context, we may note that the Tiryns ring (**D193**) with its symbol in the shape of a fierce falcon was included in a hoard dating to LH IIIC and possibly connected to the newly built megaron W.[469] This treasure which also encompassed other precious items from several periods up to LH IIIC

[464] Schon 2007. Cf. a chariot with griffins on CMS II, 8 193 or CMS VS1B 137, a chariot with agrimia on CMS VI 285.
[465] Cf. Deger – Jalkotzy 1999, 126-127.
[466] Cocker 2013, 156.
[467] Deger-Jalkotzy 1999, 129-130.
[468] Maran 2000.
[469] Maran 2006.

seems to have been used in an attempt to claim leadership by a deliberate reference to the past.[470]

When we consider the question of ontologies, we can say that the differences in form and content of corvid and raptor images between those from Crete and those from the Greek Mainland indicate that different ontologies were prevalent in those regions. Cretan images seem to demonstrate that animist practices were continued beyond LM I. Scenes with corvids and humans can be interpreted as shamanic rituals or relational encounters. Only one image of corvids, that on the Ayia Triada sarcophagus, is more compatible with analogical notions because it shows the birds as passive religious symbols (Section 3.2.1). Since this depiction is seen on an object deliberately mixing traditionally Cretan and Mainland-style elements, this function seems to be due to influence from the Mainland. Here, the birds' appearance is closely tied to their function as power symbols because the emphasis on predatory features of raptors varies with the extent of social stability and differences in power mechanisms over time. These images are fully consistent with analogical ontology.

In sum, images of corvids and raptors dating to LB II – IIIC come from Crete and the Greek Mainland. Most depictions are rather generic and only one image clearly shows ravens. Some Cretan corvids maintain the emphasis on liveliness and variety as known from earlier periods. Moreover, there are indications that animist rituals involving corvids – either focusing on relational encounters or shamanic trance practices – continued beyond LM IB. Increased influence from the Greek Mainland may be responsible for images deviating from these patterns. These depictions show the birds as religious or power symbols. On the Greek Mainland, birds of prey continued to be symbols of power. In contrast to the raptors dating to LH I – II, their appearance was modified towards a more peaceful look. This seems to concur with a palatial ideology which was mainly concerned with the maintenance of the existing social hierarchy through e.g. feasting rather than a particular emphasis on a warrior ethos. In LH IIIB2 – IIIC, the unstable political situation seems to have called for a brief renaissance of aggressive raptor images, which could serve to underlie the claims to power. Since the consistent creation of analogical links seems to have been the main purpose of these depictions they are fully consistent with analogical imagery.

5.5 Conclusion

[470] Maran 2006, 142-143.

Birds of prey and corvids were depicted from EB II to LB IIIC. We observed significant developments through time and differences between regions. The earliest depictions of raptors appear on the Cyclades in EB II. Still rather schematic, one of these images associates a raptor with sun discs. This association is intensified in MC III – LC I when more specific falcons were regularly depicted on vases. Though some of the falcon images betray an interest in naturalistic details of their lives (diet, habitat), they mostly focus on certain features such as their flying/hovering skills. The frequent circular red bodies which closely resemble the associated sun disks might suggest that falcons were thought to move the sun with their wings. Such an important active role of the birds seems to reflect animist notions as do the beaked jugs which merge the features of birds with those of vases. The ritual significance of the falcon-sun connection seems to have been partly understood by the Cretans given that such jugs were found in a ritual deposit at Knossos. On the Greek Mainland, by contrast, the Cycladic-style falcons were transformed into highly generic birds and both the sun disks and the avian features of jugs disappeared, indicating that animist beliefs remained alien to the people of the Mainland.

On Crete, the earliest images of corvids and falcons date to EM III – MM II. Most seem to depict generic flying birds, but the few images of corvids are characterized by a comparably naturalistic rendering, both in proportions and the varied depiction of their behavior (preening, association with quadrupeds). While the corvids cannot yet be linked to a certain function, the generic flying birds are consistently associated with newly invented sailing ships. The functional analogy of bird`s wings and sails could have been the reason for this choice. In MM III – LM I, the association with ships was maintained, but the generic birds seem to have been turned into swooping falcons with bent wings. Probably, their special flying abilities inspired this association with the sleek Cretan sailing ships. The close physical connection of the bird features with the ship’s structure seems to have conveyed the impression that the bird becomes alive, while the ship turns into a flying bird when it is gliding over the waves. Both the observation of naturalistic details/variety in the images of corvids or falcons and the attribution of agency to non-human entities again may reflect animist notions.

In addition to falcons, corvids and corvids/birds of prey are depicted in Cretan iconography of MM III – LM I. Some images focus on their natural behaviour (e.g. with waterbirds or goats),

but most depictions emphasise flying/landing poses and a special role of carrying and accompanying single people. Given the close parallels to shamanic imagery, these scenes could be interpreted as depicting shamans with their spirit animals. Corvids may have been deemed suitable for such an important task because of their synanthropic behavior and exceptional mental capacities. These observations suggest that animism was the prevalent ontology on Crete. Increasing influence from the Greek Mainland in LM II – IIIC may have led to the unique, analogical, function of corvids as cult symbols, but the continuation of shamanic rituals and relational encounters involving corvids indicate that animism remained prevalent on Crete.

On the Greek Mainland, images of birds of prey appear for the first time in LH I – II. Although typologically developed from the Cretan corvids/birds of prey, their appearance is modified towards an emphasis on predatory features (curled claws, hooked beaks and staring eyes). Depictions on jewellery and a weapon – objects which are directly incorporated into the body schema – from rich tombs suggest that some male warriors directly associated themselves with aggressive birds of prey. The depiction of a falcon behind an enthroned person on a gold ring suggests that birds of prey had become a symbol of authority or even a coat-of-arms of a leading family by LH II. The direct connection between power and birds of prey was maintained in LH IIIA – IIIB, based on their contextual association with palatial society, for example the representation of a raptor next to the royal throne at Pylos. While the stance and appearance of the raptors in the palatial periods had become less aggressive – something which might have to do with the consolidation of power – fierce images of birds of prey reappeared in LH IIIB2 – IIIC. Since this phase seems to have been rather unstable with different groups competing for leadership, aggressive raptor images were again needed to underline their claim to power. The observation that depictions of raptors were consistently used as emblems indicate that Mycenaean ontology can be categorized as analogism.

6. Waterbirds

6.1 Introduction

In this chapter we discuss depictions of waterbirds, i.e. members of the family Anatidae including the generic species of ducks, geese and swans. Waterbirds have elongated bodies,

long necks and long flat bills. Ducks, geese and swans can primarily be differentiated according to body size and neck length (Figure 91). Plumage colour or patterns allow the identification of single scientific species such as mallards, ferruginous ducks or Egyptian geese.

Although waterbirds share the wetland habitat with wading birds such as herons and egrets (discussed in Chapter 7), they are notably different not only in their appearance, but also regarding diet and behaviour. Waterbirds have shorter legs and differently shaped bills, eat aquatic plants and insects, and they can swim on water, whereas waders have long legs, eat fish and usually walk through water or mud.

Waterbirds are the most numerous bird motifs in Aegean Bronze Age art. In contrast to both doves and corvids/raptors, they are most frequent from LB II onwards. Their frequency allows a detailed analysis of chronological developments which we will discuss in five sections. The first section concentrates on waterbird images dating to EB I – MB II. The second section discussed images dating to MB III – LB I. The third and fourth sections look at waterbirds in imagery of the LB II – IIIA1 and LB IIIA2 – IIIB periods. In the final section, LB IIIB – IIIC images of waterbirds will be discussed.

6.2 EB I – MB II

The earliest images of waterbirds date to EB I – MB II and they appear on jewellery, figurines and seals from the Cyclades and Crete. The following 23 objects will be discussed:

- 2 pendants in the shape of waterbirds (**C33**, **C34**) dating to EC I – II from Akrotiri on the Cycladic island of Naxos; and Zoumbaria on Despotiko.
- 1 vessel in the shape of a waterbird (**A31**) dating to EC II from Dhaskalio-Kavos on Keros.
- 6 human figures with waterbird protomes attached (**B95-B100**) dating to EC II from the Cycladic islands of Keros and Amorgos.
- 8 seals/sealings (**D202**, **D209-D215**) dating to EB II – MB II from Ayia Irini on Kea; and Mallia, Palaikastro, Neapolis, Phaistos, Rotassi on Crete.
- 6 seals in the shape of waterbirds (**D203-D208**) dating to EM III – MM II from Kali Limenes, Moni Odiyitria and Phourni on Crete.

Although the monochrome nature of these images makes it impossible to differentiate scientific species, it is usually feasible to differentiate the generic species of ducks, geese and swans. The Cycladic pendants (**C33**, **C34**) may be identified as geese due to their elongated ovoid bodies, long necks, elongated heads and long bills. The head of a bird-shaped vessel from Keros (**A31**) has the curved bill of a waterbird and the short neck of a duck. On a seal impressed on a hearth rim from Kea (**D202**), another duck is shown. Similarly curved bills appear on the frames of harps held by Cycladic figurines of male musicians (**B95**-**B100**). The length of the necks/frames may suggest that they were intended to represent swans. Harps with bills of waterbirds are also shown on two Cretan seals (**D19**, **D209**). The other seals from Crete (**D203**-**D215**) show ducks, geese and swans.

The fact that we can differentiate various generic species suggests that these early images are rather naturalistic in their proportions. Naturalism can also be observed in some species-specific poses and associations. For example, an EC II pendant from Despotiko (**C34**) shows a long-necked waterbird preening its feathers with the head turned back. This motif anticipates a depiction dating to LB I (**E16**) (Section 6.3). The EM III – MM I seals in the shape of ducks and geese (**D203**-**D208**) show them with their heads reverted and resting on their backs. This pose is the typical sleeping position of these birds (Figure 92). The birds on the remaining seals from Crete (**D209**-**D215**) adopt a variety of poses such as swimming, walking or sitting, also with the head turned back (**D214**). On one sealing (**D210**), a duck is associated with a fish which probably alludes to the shared aquatic habitat.

The variety of poses shown by ducks, geese and swans on the faces of Cretan seals hinders any attempts to define certain ideological roles of these birds. The recurrent resting pose of some bird-shaped seals (**D203**-**D208**) may have a special significance. However, it is equally possible that this pose was favoured for figural seals because it reduced the risk of breaking the seal at the neck when the seal was impressed into clay. Another repeated feature is the association of some waterbirds with vessels. A duck-shaped sauceboat comes from Keros (**A31**) and a sealing from Kea (**D202**) associates a duck with a sauceboat. On a seal from Palaikastro (**D210**) a duck is shown next to a jug. This recurrent link with drinking/pouring vessels may indicate that ducks were connected with the flow of liquids. Such a role seems plausible given that these birds have a close affiliation with water due to their aquatic habitat. The duck-shaped sauceboat (**A31**) comes from the special place at Dhaskalio Kavos, the same site where the dove trays were found (Section 4.2). Possibly, both doves and ducks were thought to mediate the ritual flow of liquids in EB II – MB I.

Other images of waterbirds dating to EC II and MM II (**B95-B100, D19, D209)** connect waterbirds/swans with musical instruments, more specifically harps (Figure 93).[471] This association could have been inspired by the long elegant necks of swans which may have suggested themselves as decoration for the slender arms of a harp. Moreover, it has been argued that the call of the whooper swan (*Cygnus cygnus*) motivated the association of swans with music, which we can also find in Classical Greece.[472] However, the call of the whooper swan, a species which is only rarely seen in the Aegean, resembles more the sound made by a trumpet rather than that made by a stringed instrument.[473] Mute swans (*Cygnus olor*) which are native to the Aegean do not have a special song (hence the name), so it is unlikely that their vocalizations inspired these designs. However, the powerful wings of mute swans make a high-pitched rhythmic sound in flight, which is indeed similar to the sound of a stringed instrument. We may therefore suggest that this was the characteristic which inspired this association.

When we turn to the question of ontologies, we may note that the varied species-specific poses give the birds a sense of individuality and agency. Moreover, the life-like rendering of waterbird heads attached to vessels or harps and the smooth transition between object and bird features creates ambiguous entities oscillating between inanimate and animated beings. Both aspects are characteristics of animist imagery because they suggest the personhood of animals and the inherent capability of entities for transformation (Section 3.2.4).

In sum, images of waterbirds such as ducks, geese and swans dating to EB I – MB II come from the Cyclades and Crete. Some are remarkably naturalistic and show the birds in different species-specific poses. We could identify two roles adopted by waterbirds in this early period. The recurrent association with pouring vessels could indicate that ducks were connected with the flow of liquids. The swan-shaped harps may owe their appearance to the sound made by the large wings of swans which resembles the sound made by a stringed instrument. Both the emphasis on the variety of species-specific poses and the merging of naturalistic bird features with those of other entities such as vessels or harps are characteristics of animist imagery.

6.3 MB III – LB II

[471] Dragona-Latsoudi 1977; Getz-Preziosi 1987, 261-262 (duck or swan); McCallum 1987, 126, footnote 70; Lenz 1995, 96-103; Younger 1998, 18-27.
[472] Getz-Preziosi 1987, 261. Cf. also Lunczer 2009, 41.
[473] In Egypt, the whooper swans might have been depicted according to Houlihan 1986, 53.

In MB III – LB II, images of waterbirds became much more frequent and they appeared on vase-paintings, jewellery, frescoes, vessels and weaponry. Most depictions come from the Cyclades and Crete, but a few objects were also found the Greek Mainland. We will discuss the following 143 objects:

- 9 vase-paintings (**G111**-**G118**) dating to MC III from Phylakopi on Melos; and Akrotiri on Thera.
- 2 figurines (**B101**, **B102**) dating to MM III – LM I from Psychro and of unknown provenance on Crete.
- 11 jewellery pieces (**C35**-**C41**) dating to MB III – LB I from the island of Aegina; Knossos and Poros on Crete; and Mycenae and Kirrha on the Greek Mainland.
- 110 seals/sealings (**D114**, **D160, D217**-**D324**) dating to MM III – LM II from Knossos, Ayia Triada, Zakros, Moni Odiyitria, Chania, Mochos, Kavousi, Praisos, Poros, Vathypetro, Kalo Chorio, Partira, Sklavi, Phylaki, Mirabello, Archanes, Episkopi Pediados, Angelliana and Apesokari on Crete; Akrotiri on Thera; and Anthia, Vaphio, Routsi, Mycenae, Kazarma, Prosymna, Mitopolis, Nichoria, Pylos, Asine and Chora on the Greek Mainland.[474]
- 1 seal in the shape of a waterbird (**D216**) dating to LM I from Palaikastro on Crete.
- 4 vessels in the shape of waterbirds (**A32**-**A35**) dating to LB I from Akrotiri on Thera; and Mycenae on the Greek Mainland.
- 5 frescoes (**E12**-**E16**) dating to LC I from Akrotiri on Thera.
- 1 inlaid dagger (**F3**) dating to LH I from Mycenae on the Greek Mainland.

Compared to the relatively homogeneous images of the preceding period, depictions dating to MB III – LB II vary widely in their naturalism. The vase-paintings from the Cyclades (**G111**-**G118**) seem to show ducks or geese. Two fragments (**G117**, **G118**) may depict certain species of geese (Egyptian geese?) because they differentiate plumage patterns by red and black paint.[475] Two bird-shaped seals/pendants from Crete (**C39**, **D216**) show dead plucked and trussed geese. They find close parallels in Egyptian iconography, so Phillips suggested that they were imported.[476] In the figurines, the jewellery pieces, seals and vessels we can differentiate ducks, geese and swans. In a few cases, plumage details permit the identification of particular scientific species. For example, birds with single raised feathers on the base of

[474] Ruuskanen 1992, type E, 31-37, 59-62.
[475] Morgan 1988, 65.
[476] Phillips 2008, cat.no. 436 and 437.

the tail or rings around the necks (**C38, D219, D224, D238, D256**) may show male mallards (*Anas platyrhynchos*) or Egyptian geese (*Alopochen aegyptiacus*).

The waterbirds in the Theran frescoes (**E12-E16**) are carefully differentiated by plumage patterns and colour contrasts, which also allows the determination of sex and age.[477] A mallard (*Anas platyrhynchos*) with a dark neck with a white ring and curled feathers at the tail in the Reed Fresco (**E14**) is obviously a drake (Figure 94). Other birds in the same fresco have brown and white plumage and they are identifiable as female mallards (Figure 95). The juvenile mallards in the same painting are not only characterized by their smaller size, but also by various shades of brown and red in their plumage. Another duck species is shown in the East Frieze (**E16**) where a bird with dark and bluish plumage and white wing underparts is shown flying. It can be identified as a ferruginous duck (*Aythya nyroca*) and the white eye is typical for an adult male (Figure 96).[478] Another fragment (**E12**) shows a third duck species, possibly a male pochard (*Aythya ferina*) or a shelduck (*Tadorna tadorna*). The large bird in the East Frieze (**E16**) has been identified as various species of geese.[479] The colourful plumage with yellow and blue parts, red legs, the brown eye and the red collar at the base of the neck could suggest an Egyptian goose (*Alopochen aegyptiacus*) (Figure 97). The same species could also be depicted in another fresco (**E15**). With their colouring, the birds resemble the adult Egyptian goose in the East Frieze (**E16**), but they have larger monochrome parts and lack the brown eye patch, a typical feature of juveniles (Figure 98).[480] Although the ducks on a dagger from Mycenae (**F3**) seem to be inspired by frescoes, the lack of internal patterns hinders a closer identification. A tendency towards more generic images of waterbirds can also be observed in a bird-shaped vessel (**A35**), some ornaments (**C40**) and a pin (**C41**) from Mycenae and Kirrha.

Although the Theran frescoes usually permit the identification of certain scientific species, the rendering of the plumage cannot be described as fully realistic. For example, Vlachopoulos has noted that the mallard's plumage (**E14**) fails to exactly reproduce the colour patterns of the real bird.[481] Similarly, contrast seems to have been more important than detail in the rendering of the Egyptian geese (**E16**).[482] The main aim seems to have been to convey the

[477] Harte 2000, 683-688.
[478] Harte 2000, 685.
[479] Harte (2000, 686-687) identified it as a greylag goose, but this species has no collar and is less colourful. Morgan (1988, 63-64) interpreted it as a hybrid of greylag and Egyptian goose.
[480] Svensson et al. 2009, 22.
[481] Vlachopoulos 2000, 641.
[482] Morgan 1988, 63-64.

essence of the birds. Despite the absence of fully accurate images, efforts are usually made in Cycladic and Cretan depictions to give naturalistic details of avian morphology. For example, duck-shaped rhyta from Akrotiri (**A32**, **A33**) have feathers painted on their bodies. A swan-shaped rock crystal bowl from Mycenae (**A34**), which seems to be a Cretan work, has nostrils indicated on its beak.[483]

Specific details are also emphasized in the depiction of poses and behaviour.[484] A great variety of poses is adopted by ducks, geese and swans on Cretan seals (**D114**, **D160, D217-D324**). Standing, sitting, swimming, walking, rising or flying waterbirds are shown alone, in pairs or in larger groups. Usually, they are arranged next to each other, sometimes overlapping in a rather naturalistic way. Flying waterbirds can also be shown in lively compositions with several individuals overlapping, thus creating the impression of a quickly rising flock, perhaps startled by a predator (Figure 99). Significantly, if more than one bird is shown on the seal face, the individual birds display slightly different poses, for example one bird has its wings folded, whereas the second bird has raised its wings (e.g. **D223**, **D236**, **D278**). A numerical analysis of the poses on seals in this period reveals a remarkable species-specific accuracy (Table 6).

Table 6: Identifiable poses of different types of waterbirds on Cretan seals dating to MB III – LB II.

	Standing	**Sitting**	**Swimming**	**Walking**	**Flying**
Ducks	3	1	3	2	6
Geese	10	10	3	11	2
Swans	5	1	17	2	8
Total	18	12	23	15	16

For example, geese are often walking (e.g. **D231**, **D251**), whereas swans are most frequently swimming (e.g. **D260**, **D278**). In fact, this closely reflects their behavior as geese walk a great deal in search for their food which consists of plant matter from river banks or meadows, while swans mostly remain on the water.

[483] For identification as a swan see Phillips 2008, 185-186.
[484] Kenna (1968, 26, 31-34, 38) also emphasised the naturalism in LM I depictions of waterbirds on seals.

A similar variety of flying, walking or swimming poses can also be observed in the Theran frescoes and other objects from Crete, not just the seals. More specific actions can also be identified. A figurine (**B102**) depicts a swan with the head and the long neck resting on the back as if sleeping. Ducks and geese on cut-out ornaments (**C38**) and in a fresco (**E16**) are preening their plumage with the heads turned back (Figure 100). Mating behavior of geese or swans might be represented on two seals (**D238**, **D274**) because one seems to be biting the other bird`s neck (Figure 101).

The variety and liveliness characteristic of the poses adopted by waterbirds in the Cretan and Cycladic images is notably lacking on some depictions from the Greek Mainland. For example, the four cut-out ornaments from the shaft graves at Mycenae (**C40**) show identical waterbirds in artificial antithetical compositions (Figure 102). A pin from Kirrha (**C41**) depicts the heads of waterbirds in a symmetrical mirror reverse composition, similar to the contemporary birds of prey from Mycenae (Section 5.3).

Discrepancies between the regions also extend to the rendering of the habitat of the waterbirds. The cut-out ornaments from Poros on Crete (**C38**) show mallards surrounded by densely growing lilies. About half of the waterbirds on the Cretan seals are shown surrounded by wetland vegetation, mostly reeds (e.g. **D228**, **D234**, **D236**) (Table 7).

Table 7: Types of habitat of waterbirds on Cretan seals dating to MB III – LB II.

Habitat	Number of seals
Reeds	26
Plants	13
Water	6
Papyrus/sea daffodils	4
Total	49

Various kinds of wetlands are shown in detail by the Theran frescoes. Large reeds and dragonflies form the environment of the mallards (**E14**), while the Egyptian geese are shown on palm trees (**E15**). The latter association indicates direct observation of these birds because they can often be seen on trees, where they also nest, unlike the waterbirds which are native to the Aegean.[485] The most varied surroundings are shown in the East Frieze (**E16**). In this

[485] Alderton 2011, 65.

fresco, a wavy blue band forms a river and sedges, papyrus/sea daffodils and date palms grow on its banks. A similar riverine landscape with papyrus/sea daffodils is shown on the Mycenae dagger (**F3**). However, the plants appear smaller in relation to the birds when we compare this image to the East Frieze (**E16**). The waterbirds on ornaments from Mycenae (**C40**) and a pin from Kirrha (**C41**) are not associated with any vegetation.

The majority of waterbirds are combined with their own kind, but some images show other birds or animals. On two seals (**D114**, **D160**), waterbirds are associated with corvids/birds of prey, possibly in an attempt to defend their offspring (Section 5.3). Several scenes show felines attacking waterbirds (Figure 103). This motif appears on a jewellery piece from the Aegina Treasure (**C36**), seven Cretan seals (**D293**-**D299**),[486] the East Frieze from Thera (**E16**) and the Mycenae dagger (**F3**).[487] There is a great variety of compositions and some birds are just stalked or chased (**C36**, **D293**, **D295**-**D297**, **E16**), whereas others are being pounced at and bitten (**D294**, **D298**, **D299**, **F3**). Not all the Cretan scenes show the birds as clearly inferior because they can appear relatively large in comparison to the feline and struggle vigorously (e.g. **D294**, **D298**, **D299**). At least two geese are about to be attacked by a feline in the East Frieze from Akrotiri (**E16**). Only one bird is completely preserved and its head is turned back towards the running cat, but busily preening its plumage it seems oblivious to the danger. The wing of a second bird which is preserved suggests that this bird has sensed the danger and is now trying to escape. The result of the imminent attack is left to the viewer`s imagination. This is notably different from the scene on the Mycenae dagger (**F3**) (Figure 104).[488] Here, two felines are attacking four ducks, either flying or rising, as they are trying to escape. Two birds have already been caught – one of the felines is even stepping on the duck`s head – and blood is trickling down their breasts. Such an emphasis on physical violence recalls other Early Mycenaean bird imagery, for example the depictions of birds of prey from the same context (Section 5.3). In the ornament from Aegina (**C36**), several small ducks are flying away from a large feline head which is in the centre. The rather conspicuous difference in size between the different animals is another feature which does not appear in the Cretan and Theran images.

The variety of poses and compositions and the cross-cutting of various media of most waterbird images in MB III – LB I seem to hinder the identification of certain roles or

[486] Ruuskanen 1992, type E.7.
[487] Phillips 2008, 202.
[488]This difference was also noticed by Vermeule (1975, 25); Xenaki-Sakellariou (1985[b], 298) and Vanschoonwinkel (1990, 338).

functions. However, some waterbirds are shown with recurrent associations. The frequent appearance of wetland vegetation and/or felines described above has often been compared to Egyptian wall paintings, e.g. in the 12th dynasty tomb of Khnumhotep at Beni Hasan or that of Nebamun at Luxor (late 18th dynasty) (Figure 105).[489] These paintings depict various birds in a papyrus thicket in fowling scenes involving people and sometimes cats. Shapland therefore suggested that the Aegean scenes with felines might also be hunting scenes with trained cats.[490] However, no hunters are present in the Aegean scenes[491] and there are further differences from Egyptian depictions of waterbirds. For example, the species of waterfowl shown in Egypt differ from those shown in Aegean art. Mallards or ferruginous ducks were not depicted in Egypt, while the most common species in Egyptian paintings, the pintail, was apparently not represented in the Aegean.[492] In general, the plumage details are depicted in greater detail in the Egyptian waterbirds. By contrast, the Cretan and Theran birds appear much livelier.[493] Some Aegean scenes of MB III – LB I date show Egyptian species (papyrus, Egyptian geese), but these are depicted in a specifically Aegean way, thus casting doubt on the assumption that they were directly adopted from Egyptian iconography.

Another – though less frequent – association is that of waterbirds with vessels. Two open bird-shaped vessels were found at Mycenae (**A34, A35**) and two duck-shaped pouring vessels come from Akrotiri (**A32**, **A33**). The latter ones are rhyta with the beaks functioning as spouts, thus the connection between waterbirds and the flow of liquids seems more direct (Figure 106). As we have seen (Section 6.2), the aquatic habitat of waterbirds may have inspired this association with the flow of liquids. The lack of comparable duck-shaped vessels from Crete indicates that the role of ensuring the flow of liquids was here only assumed by doves, not waterbirds.

On Crete, the waterbirds seem to have been assigned a different task. In addition to the association with felines, there are some Cretan seals showing waterbirds with other animals. On four seals (**D300-D303**) waterbirds are combined with large fish/dolphins and other seals (**D302**, **D304-D306**) depict them next to corals and argonauts. The association with marine flora and fauna seems unusual because waterbirds are more commonly seen in a freshwater

[489] Evans 1921, 330; Vermeule 1975, 21-22; Immerwahr 1989, 71; Laffineur 1998, 65-66; Hiller 1996, 88.
[490] Shapland 2009, 243.
[491] Also noted by Groenewegen-Frankfort (1951, 207) and Laffineur (1993, footnote 111, 1998, 65).
[492] Houlihan 1986, 50-73, for the pintail see 71-72.
[493] Also noted by Kenna (1968, 31-34).

environment. The frequent appearance of reeds and papyrus plants on seals suggests that this was also recognised by the Cretans. An even more curious association is depicted on another seal (**D306**) where a waterbird and an argonaut are shown next to a large butterfly or moth. Moreover, four seals associate waterbirds with griffins (**D307**-**D310**) and seven seals show them together with lions (**D311**-**D317**).[494] In contrast to the scenes with cats, the waterbirds are not reacting to the other animals but are simply juxtaposed. Such a composition may indicate that these associations are conceptual rather than alluding to relationships directly observable in nature.

We may find what connects all these animals, when we turn our attention to a few scenes involving waterbirds and humans. A fresco from Xeste 3 at Akrotiri (**E13**) shows waterbirds forming a necklace around the neck of a large woman.[495] The woman is sitting on a platform and a monkey is offering her crocus stigmas (saffron) which were gathered by young women shown in an adjacent painting.[496] Significantly, the waterbirds on her neck are complemented by a second necklace consisting of hovering dragonflies. A large griffin whose leash is tethered to the window is also accompanying the woman. Thus, we may note that the animals associated with the woman are similar to some of those combined on the seals. Usually, the animals have been interpreted as symbols of the different spheres controlled by a nature goddess.[497] However, the way the ducks and dragonflies move around the woman suggests that they are not symbols, but living (though diminutive) animals.[498] In the words of Simandiraki-Grimshaw, the ducks look as if they are "diving from the necklace".[499] Although there is a certain amount of control exercised by the woman over the animals – alluded to by the leash of the griffin – there is also a sense that the animals have come voluntarily (the griffin could easily tear the thin leash with its powerful beak if it wanted to).[500] A similar scene is shown on a Cretan seal (**D318**), where a waterbird is perching freely on the arm of a woman.

The special characteristics of the relationship between humans and animals emphasized in these images recall the kind of relationship existing between shamans and their spirit animals (Section 3.2.4). Although shamans need to exercise some control over the animals, they are

[494] A griffin is also shown in the East Frieze from Akrotiri.
[495] Harte (2000, 687-688) identified the ducks as cormorants/shags, but their backs would be flatter in this case.
[496] Marinatos 1987[a], 73-81; Chapin 1997-2000; Vlachopoulos 2008.
[497] Vlachopoulos 2000, 642.
[498] Vlachopoulos – Georma 2012, 39
[499] Simandiraki-Grimshaw – Stevens 2012, 603.
[500] Zeimbeki 2005, 245.

also dependent on their abilities and knowledge, making it necessary to treat the animals with respect. The importance of saffron in the image from Xeste 3 (**E13**) may provide further evidence for the identification of the woman as a shamaness. Vlachopoulos has drawn attention to the fact that crocus/saffron can have psychotropic effects, if taken in a high dose.[501] Seen in this light, the offering of saffron by the monkey to the woman might enable her to embark on a trance journey. Indications for altered states of consciousness may also be provided by a few seals, two of which (**D319**, **D320**) show women holding onto the large wings of flying swans as if being carried by them (Figure 107).[502] Two other seals (**D321**, **D322**) depict pairs of waterbirds either flanking a hybrid woman with the head of a quadruped or flanking a tree next to a woman-bird hybrid (Figure 108). As we have seen, shamans are able to intentionally turn into other entities during trance and they often use birds to help them fly (Sections 3.2.4 and 5.3).

A further aspect typically found in depictions of shamans is the consistent association with liminal animals or creatures. In this context, we may note that the animals accompanying the woman in the fresco (**E13**) are all characterized by a high degree of liminality. The monkey, for example, may be seen as the perfect embodiment of a liminal creature standing between humans and animals. Although not native to the Aegean, the Cretans and Therans seem to have fascinated by this animal as is suggested by the relatively frequent – and often unusual – depictions.[503] The griffin is another liminal creature because it combines a raptor with a lion in its morphology. Zeimbeki has drawn attention to the liminal aspects of both ducks and dragonflies due to their habitat on the surface of the water.[504] Argonauts – as seen on the seals – often swim on the surface of the sea, so they may also fit into this category. Zeimbeki and Morgan have drawn attention to the transformative capabilities of dragonflies during their maturation (from egg to nymph and adult), and the same can be said for butterflies.[505] In some cases, shamans may choose especially strong and powerful animals which are supposed to protect them during the dangerous trance journey. Griffins and especially lions may have assumed these roles on Crete.[506]

[501] Vlachopoulos 2016, 382.
[502] Chrestou 1968, 75-77.
[503] Marinatos 1987[b].
[504] Zeimbeki 2005, 244-245.
[505] Zeimbeki 2005, 245; Morgan 2016, 195.
[506] Compare scenes of lions/griffins flanking people with snake frames or staffs.

While these observations suggest that waterbirds adopted an active role as spirit animals of shamans on Crete and Thera, there are a few depictions of waterbirds and humans which are notably different. These are shown on the Aegina pendant (**C35**) and two seals (**D323**, **D324**), one of which comes from Vaphio on the Greek Mainland (Figure 109). On the Aegina pendant (**C35**), a man is shown holding geese by their necks. Similar waterbirds held by their necks – albeit by women – are depicted on seals (**D323**, **D324**).[507] The birds have their wings folded and seem almost paralyzed, which notably contrasts with the lively appearance of the waterbirds in the Cretan and Theran depictions.[508]

The motif of a person forcefully subduing waterbirds can be compared to the Master/Mistress of Animals as known from Near Eastern iconography. It is usually interpreted as a symbol of human or divine power over wild animals.[509] The Aegean master/mistress of waterbirds has sometimes been seen as expressing the power of deities, either over the water or the sky.[510] However, it needs to be emphasized that this motif was not only used for deities in the Near East, but also for heroes, priests and/or kings – in fact, all persons who wanted to be associated with symbols of super-human power.[511] The iconography of the Aegina Pendant (**C35**) combines elements from different artistic traditions, mixing Cretan (e.g. kilt), Egyptian (boat with lotus flowers) and Anatolian (face in frontal view) features.[512] Its find context – allegedly a rich tomb – and the associated objects which have parallels in the shaft grave objects from Mycenae suggest that it was made as a prestige item for a Mainland leader.[513] Both the pronounced emphasis on physical strength and the context recall the scene of felines and ducks on the Mycenae dagger (**F3**). Moreover, similar features could be observed in the contemporary fierce birds of prey from the Greek Mainland (Section 5.3). We may therefore argue that they had a similar function, namely to serve as analogies to warriors and metaphors of social power.[514]

When we turn to the question of ontologies, we may note that the Cretan and Cycladic images share many features regarding both form and content. The focus on species-specific

[507] Spartz 1962; Chrestou 1968; Crowley 2010; Ruuskanen 1992, type E.6.
[508] This change was also observed by Barclay (2001, footnote 38) and Zeimbeki (2005, 248).
[509] Spartz 1962, 12-17; Crowley 1989, 28-35; Barclay 2001, 374-377, 379; Costello 2010.
[510] Chrestou 1968, 69, 188; Crowley 1989, 36; Crowley 2010, 87-89.
[511] Cf. Costello 2010, 26-27 for shamans and priest-kings depicted in this way in Mesopotamia in the 5th and 4th millennium.
[512] Gates 1989; Aruz et al. 2008, 102-105; See Gauss 2006 for relations between Crete and Aegina in MM III.
[513] Gates 1989, 215-217.
[514] Dickinson 1997, 45-47.

morphology, behaviour, habitat and associations suggests a profound interest in the lives of non-human animals. A revelation of the essence of different waterbirds seems to have been more important than to give a fully realistic account of plumage patterns. This kind of idealized naturalism is sometimes found in animist imagery (Section 3.2.4). Moreover, the depictions express a concern to animate the birds by lively poses and to individualise them by varied movements, which may indicate that they were seen as sentient beings with agency. Such an impression is also created by the naturalistic waterbirds in the shape of rhyta which would have seemed to come alive when the vessel was handled. A similarly active role is adopted by waterbirds as companions of shamans. Animist notions also seem to stand behind the images of waterbirds with plants and felines because care is taken to assimilate all these entities in size and to avoid giving a priori precedence of one perspective over the others.

The few waterbird images from the Greek Mainland usually appear more generic, rather rigid and they are shown in more artificial compositions, which suggest that agency was not attributed to birds. Rather, images of waterbirds seem to function as symbols of social power because a recurrent emphasis on violence is closely linked to some high-status find contexts. The creation of symbolic associations between animals and abstract concepts is a typical feature of analogical thinking (Section 3.2.1). Moreover, differences in size and a clear power bias in images of waterbirds with plants, felines and humans create hierarchical differences between these entities.[515] The categorization of entities along the lines of hierarchical structures is another characteristic of analogism as ontology.

In sum, images of waterbirds dating to MB III – LB I come from Crete, the Cyclades and the Greek Mainland. Characteristic of the Cretan and Cycladic depictions are the representation of certain scientific species such as mallards or Egyptian geese, although their rendering is not fully accurate in the plumage details. Images often focus on specific behavioural patterns (mating, flying in flocks) and environments (different types of wetlands). Significantly, the birds in these scenes are individualized by varied lively actions and movements. Relations with other animals, most notably felines, are depicted in diverse scenes and the eventual outcomes of such encounters often remain open. Waterbirds seem to have adopted two different roles in Cycladic and Cretan imagery. Duck-shaped rhyta from Thera indicate that some waterbirds were thought to ensure the flow of water, a legacy from earlier periods

[515] The decreased importance of the surrounding vegetation in Mainland images was also noted by Groenewegen-Frankfort (1951, 202).

(Section 6.2). Another specific role of waterbirds consists of accompanying or carrying a single woman. Circumstantial evidence such as the emphasis on liminal aspects and voluntary appearance of waterbirds, the importance of possible psychotropic drugs (saffron) and the association with human-animal hybrids suggest that waterbirds can be interpreted as shamanic helpers. The active role adopted by the birds, the emphasis on liveliness and variety, the equal status of different animals as well as the presence of shamanic imagery all indicate that an animist ontology was dominant on Crete and the Cyclades.

Waterbirds on some objects from the Greek Mainland exhibit significant modifications such as a tendency towards more generic and stylized appearance, poses and compositions, features which suggest that animism was not the prevalent ontology in this region. Some objects indicate that waterbirds were thought to have a symbolic connection to water. Scenes of waterbirds with felines and humans exhibit a pronounced emphasis on violence and a clear power bias. The find contexts of such objects in rich tombs suggest that these images functioned as metaphors for prevailing or desired social relations. Both the function as symbols and the establishment of a hierarchy between different entities are consistent with analogism.

6.4 LB II – LB IIIA1

In LB II – IIIA1, images of waterbirds became less frequent. With the decline of seal engraving and wall paintings on Crete, most waterbirds were depicted on vases and as vessels. No depictions of waterbirds dating to this period have been found on the Cyclades; they all seem to come from Crete or the Greek Mainland. The following 67 objects will be discussed:

- 2 relief vessels (**A36**, **A37**) dating to LB IB/II – IIIA1 from Katsamba on Crete; and Dendra on the Greek Mainland.
- 1 comb (**I9**) dating to LH II – IIIA1 from Routsi on the Greek Mainland.
- 3 sealings (**D325**-**D327**) dating to LB II – IIIA from Knossos on Crete; Mycenae and Thebes on the Greek Mainland.
- 32 vase-paintings (**G119**-**G150**) dating to LM II – IIIA1 from Knossos, Chamalevri, Palaikastro, Pachia Ammos, Ayia Triada, Kommos, Chania, Kastelli Pediada on

Crete; Kolonna on Aegina; Argos, Asine, Mycenae, Tiryns and Kirrha on the Greek Mainland.[516]

- 8 pendants (**C42**-**C44**) dating to LB II – IIIA1 from Aidonia and Dendra on the Greek Mainland; and Nea Halikarnassos on Crete.
- 10 vessels in the shape of waterbirds (**A38**-**A47**) dating to LB II – IIIA1 from Knossos, Sellopoulo, Zapher Papoura and Archanes on Crete; Ialysos on Rhodes; and Nafplion, Mycenae and Asine on the Greek Mainland.
- 11 figurines (**B103**-**B113**) dating to LH IIIA1 from Mycenae, Krisa, Ayios Stephanos and Tiryns on the Greek Mainland.

In comparison to the preceding period, images of waterbirds seem to return to a rather generic appearance. The birds on the relief vessels (**A36**, **A37**) and the comb (**I9**) can be identified as ducks and geese. The sealings (**D325**-**D327**) seem to show ducks, but this is not always certain due to the poor state of preservation. The waterbirds on vase-paintings (**G119**-**G150**) can either be identified as ducks (Figure 110) or geese based on neck length and body size (Figure 111). Ducks and geese are also shown on jewellery pieces (**C42**-**C44**). Most bird-shaped vessels (**A38**-**A44**) seem to be swans (Figure 112) because the best preserved vessel from Ialysos (**A39**) has a lid to which chicks would have been attached and swans are the only waterbirds which carry their offspring on their backs.[517] A hydria from Sellopoulo on Crete (**A45**) and two bowls from the Greek Mainland (**A46**, **A47**) show generic waterbirds (Figure 113), as do the figurines (**B103**-**B113**), although these are too fragmentary to be certain.

The impossibility of identifying scientific species in these images contrasts with the more precise depictions characteristic of the preceding period.[518] This impression is corroborated by the plumage patterns of the waterbirds on Cretan vases (**G119**-**G150**) which consist of stipples, wavy lines or cross-hatched areas that do not correspond to any features of real birds. Moreover, some of the ducks on vases share morphological features (fan-shaped tails, rounded breasts) with birds identifiable as partridges (Section 8.4). The waterbird parts on vessels from Sellopoulo and Nafplion (**A45**-**A47**) appear stylized and they do not show any internal features (not even eyes). The pendants (**C42**-**C44**) and swan-shaped vessels (**A38**-

[516] Some of the Cretan vase-paintings were rather vaguely dated LM II – IIIA2, but their style suggests that they date to LM II - IIIA1.
[517] Phillips, 185-186 contra Adler (1996, 64-69) who argued against swans. For carved vessels with chicks on the back see Adler 1996, 40-46, for type PIA; Phillips 2008, 198-192.The only exception is **A38** which was probably a ladle, not a pyxis.
[518] Vollgraff 1904, 379-380; Evans 1921, 334-336; Mackeprang 1938, 547-548.

A44) appear relatively naturalistic in comparison because they give rather accurate details such as nostrils or incised feathers. This disparity seems to be due to the fact that these objects were imported from Egypt or the Levant.[519] Thus, they cannot be directly used to reconstruct Aegean perceptions of birds and do not contradict the trend towards more inaccurate depictions in LB II – IIIA1.

Despite the decrease in morphological accuracy in LM II – IIIA1 images of waterbirds, we should emphasise that most Cretan depictions retain the liveliness observable in LB I scenes (Figure 114).[520] In the words of Betancourt, the "Minoan romance with nature is still very much alive."[521] A goose on a relief pyxis (**A36**) is shown flying with the wings raised, comparable to some waterbirds in the earlier frescoes. In the Cretan vase-paintings (**G119**-**G150**), waterbirds can be depicted standing, walking, rising or flying.[522] The geese on a palace-style jar (**G124**) are shown in rather naturalistic overlapping compositions.[523] In addition to the emphasis on liveliness, the waterbirds appear individualized by differences in movements. For example, some birds have their heads turned back as if looking around watching for predators, whereas others are pecking at flowers or foliage (e.g. **G121**, **G124**, **G125**). Some have their wings folded, while others are flapping their wings. This variety creates a vivid picture of a flock of waterbirds. Almost all the waterbirds on vases are shown surrounded by dense vegetation consisting of large papyrus flowers/sea daffodils or other flowers/plants. The flying goose on the Katsamba pyxis (**A36**) is embedded within a rocky landscape with trees. A bull is hunted below, which could be an indirect hint towards a wetland area, which is usually preferred by cattle.

While most Cretan images again focus on liveliness and variety of poses and the natural habitat of waterbirds, this is different in some other images, most of which come from the Greek Mainland. The ducks on seals from Knossos, Mycenae and Thebes (**D325**-**D327**) are rendered in identical fashion, symmetrically flanking a protome or a column. The flying geese on a silver bowl from Dendra (**A37**) do not exhibit any individual variations in their movements. Moreover, the vegetation on the bowl appears abstract and each goose is separated from the others by a stylized pattern consisting of trefoil plants integrated in

[519] Sakellarakis 1971 (erroneously interpreted the vessels as showing barques); Adler 1996; Phillips 2008, 190-191.
[520] Crouwel-Morris 1995, 176; Laffineur 1998, 64-67.
[521] Betancourt 1985, 164.
[522] Mackeprang 1938, 547; Betancourt 1985, 163-164.
[523] Vollgraff 1904, 380; Oulié 1926, 70; Niemeier 1985, 126; Crouwel – Morris 1995, 53-54. Crouwel – Morris (1995, 173) emphasise the connections of the Argos vase to LM II Cretan vase-paintings.

quadrangular panels. Persson aptly described this pattern as a "rigorous conventionalization and geometrizing of the pictorial field round the bodies of the birds".[524] The Routsi comb (**I9**) shows a scene with felines attacking ducks, similar to those popular in MB III – LB I. In contrast to the Cretan scenes, however, the animals are set into a rather nondescript environment consisting of multiple wavy lines.[525] The generic waterbirds on vessels from Sellopoulo and Nafplion (**A45**-**A47**) are shown in similar poses looking straight ahead.[526] In contrast to the Egyptian/Levantine swan-shaped vessels (**A38**-**A44**) they are not depicted with the head reverted, which would have given them a more natural attitude.

Considering the function of these images, we find that there are some repeated associations. The frequent combination of waterbirds with papyrus on the vases (**G119**-**G150**) again finds parallels in contemporary Egyptian paintings (e.g. of the palaces at Malkata and Amarna).[527] Moreover, the vase-paintings of waterbirds usually appear on high-quality cups and pyxides (used for storing jewellery and other precious items), which suggest a close connection to elite practices.[528] Hiller therefore argued that the Knossian elite adopted such nature scenes from Egypt in an attempt to associate themselves with images symbolizing the reviving and creational powers of the pharaoh.[529] However, we have seen that the close relationship established between waterbirds and wetland plants is simply a continuation of local Cretan traditions. Moreover, the distinct focus on movements in the Cretan scenes again sets them apart from any superficially similar Egyptian paintings.[530] Thus, an adoption of Egyptian iconography and functions appears rather unlikely.

More relevant seems the association of waterbirds with some open vessels (**A45**-**A47**) from Sellopoulo and two sites on the Greek Mainland. As we have seen, a connection of waterbirds with liquids was already present in previous periods both in the Cyclades and the Greek Mainland (Sections 6.2 and 6.3). The findspot of one vessel – a bronze hydria – (**A45**), the Sellopoulo tomb, belongs to a group of several tombs from the Knossos area characterized by architectural features and offerings (usually weapons or bronze vessels) with close parallels

[524] Persson 1942, 139.
[525] Also observed by Xenaki-Sakellariou (1985[b], 295-300).
[526] Popham - Catling 1974, 250; Matthäus 1979, 172.
[527] Evans 1921, 330-338; Åkerström 1987, 73-74, 76, 97; Hiller 2001, 2006[a] and 2006[b]; Kemp – Weatherhead 2000, 498-508.
[528] Bosanquet - Dawkins 1923, 94; Kanta 1980, 281-283; Hiller 2006[b], 150-151; Shaw 2011, 249.
[529] Hiller 2006[b], 154-155. Crouwel – Morris (1995, 171, 172) considered birds the most common pictorial motif in LM II-IIIA2 vase-painting at Knossos.
[530] Crouwel – Morris 1995, 174-176. Phillips 2008, 205; Vlachopoulos – Zorzos 2014, 183-185.

on the Greek Mainland.[531] We may therefore suggest that the association of the waterbird with the bronze hydria reflects Mainland notions.

The Egyptian/Levantine pendants (**C42**-**C44**) and swan-shaped vessels (**A38**-**A44**), which probably contained cosmetics, seem to have been prestige items which circulated among the elite in the eastern Mediterranean.[532] This is corroborated by the materials used, namely ivory or precious stones such as alabaster, agate or carnelian. On the Greek Mainland, the find spots of these objects are wealthy burials or palatial contexts, such as Mycenae or Asine.[533] The Cretan ones were found in the necropoleis at Nea Halicarnassos, Phourni and Zapher Papoura, which – as the Sellopoulo tombs – are characterized by pronounced Mainland features.[534] We may therefore suggest that these objects symbolized the participation of the Mainland-style elite of LB II – IIIA1 in wider privileged networks of the eastern Mediterranean.[535]

The recurrent association of ducks with bulls, lions and columns on three seals (**D325**-**D327**) may also have a special significance. In contrast to the goose on the Katsamba pyxis (**A36**), the ducks are not flying above the animals as one could observe in nature. Rather they are shown in unnatural symmetrical position on the backs of the mammals. Their identical and passive appearance creates the impression that they are symbols rather than living birds. The column and the rampant lions recall the composition of the later Lion Gate at the palace of Mycenae; thus, the waterbirds may also be part of a coat of arms. The image of cats and ducks on the comb from the Routsi tholos (**I9**) may be interpreted along similar lines. In this image, two cats are attacking two smaller birds. Although the birds have their wings displayed and seem to be fluttering in an attempt to escape, this appears rather futile. Unlike in the earlier Mycenae dagger (**F3**), no birds manage to escape the strong grip of the paws of the felines (Figure 115) and there is no doubt that the felines are shown as superior animals. We may suggest that the felines stand for the elite owners of the tomb, whose authority seems to have been less contested in this time than in LH I, reflected by the clearer power bias in favour of the felines.

Turning to ontologies, most of the Cretan images of waterbirds maintain the emphasis on lively and varied poses from LM I, despite a distinct decrease of accuracy in their

[531] Preston 2004[a]; Miller 2011, esp. 26. Weapons were also found in this grave.
[532] Adler 1996; Aruz et al. 2008, 330-334.
[533] Sakellarakis 1971.
[534] See Miller 2011, 23-33 for newly-built tombs at Zapher Papoura and Nea Halikarnassos; see Sakellarakis – Sapouna-Sakellaraki 1997, 171 for evidence of Mycenaean-style sacrifices at tholos B at Phourni.
[535] Philips 2008, 190-191; Nightingale 2008, 74.

morphology, suggesting the attribution of agency to the birds in an animist fashion. Moreover, the peculiar embeddedness of the birds within the surrounding vegetation may indicate that birds and plants were thought to possess a fairly equal ontological status. By contrast, images on objects from the Greek Mainland or Cretan contexts exhibiting a particular influence from the Greek Mainland often show rather lifeless waterbirds which appear very similar to each other. In contrast to the naturalistic duck-shaped rhyta from LC I Akrotiri (**A32**, **A33**), waterbirds on vessels from the Mainland are too schematic to create the impression that the birds become alive when the vessels are handled. Plants are consigned to background features of secondary importance, establishing a hierarchical relation between waterbirds and vegetation, which is a typical feature of analogical imagery (Section 3.2.1). Again, depictions of waterbirds seem to function as symbols in an analogical way – either of water-related fertility or social power – rather than aiming at making the birds present so that they can adopt an active role in the order of things.

In sum, images of waterbirds dating to LB II – IIIA1 come from Crete and the Greek Mainland. Although there is some overlap in the trends observable in depictions from both regions due to an increased influence from the Greek Mainland on Crete, we may still differentiate trajectories more characteristic of either Crete or the Greek Mainland. Notable in the Cretan depictions is a significant decrease of specificity because the birds can only be differentiated as ducks, geese or swans. Despite this reduction of accuracy, both liveliness and variety is maintained as well as the importance of plants which usually surround the birds. These traits suggest that animism continued to be prevalent on Crete. Features of images more characteristic of the Greek Mainland include a greater tendency towards stylization and unnatural compositions. Waterbirds often appear identical and a hierarchical ranking is established between plants, birds and felines. Some images of waterbirds suggest that they had certain functions. Waterbird features attached to bowls seem to indicate a link to liquids, whereas waterbirds associated with columns and bulls or lions may be power symbols. Similarly, Egyptian-style pyxides or pendants may have stood for the participation of the elite in an international iconography of wealth. The passive function of animals as emblems and the rigidity and symmetrical compositions suggest that analogism was the dominant ontology on the Greek Mainland.

6.5 LB IIIA2 – LB IIIB

In LB IIIA2 – IIIB, images of waterbirds again became much more frequent. Although there are some frescoes, jewellery pieces, and ivory carvings, the vast majority appears on vase-paintings, larnakes and as terracotta vessels. As in the preceding period, waterbirds only appear on objects from the Greek Mainland and Crete. The following 229 objects will be discussed:

- 1 model (**B66**) dating to LM IIIA2 from Palaikastro on Crete.
- 3 figurines (**B114-B116**) dating to LH IIIA – IIIB from Asine and Korakou on the Greek Mainland; and Aphaia on Aegina.
- 3 frescoes (**E11**, **E17**, **E18**) dating to LB IIIA2 – IIIB from Ayia Triada on Crete; and Pylos on the Greek Mainland.
- 18 jewellery pieces (**C45-C49**) dating to LB IIIA2 – IIIB from Lazarides on Aegina; and Mycenae and Thebes on the Greek Mainland.
- 30 larnakes (**H2-H29**) dating to LM IIIA2 – IIIB/C from Ayia Triada, Palaikastro, Knossos, Vasilika Anogia, Armenoi, Dramia Apokoronou, Rethymnon, Kyparissi, Archanes, Metochi Kalou, Prevelianon, Kavrochori, Episkopi, Kastelli Pediada, Milatos, Giofyrakia, Mallia, Kalochoraphitis, Klima, Pankalochori and Tourloti on Crete; and Tanagra on the Greek Mainland.[536]
- 152 vase-paintings (**B64, G151-G301**) dating to LM IIIA2 – IIIB from Chania, Ayia Triada, Sitia, Phamakokephalo, Karphi, Palaikastro, Zakros, Kalyvia, Pigi, Knossos, Phaistos, Heraklion on Crete; Ialysos, Trianda, Vatoi, Kalavarda on Rhodes; Karpathos; Kolonna on Aegina; Melos on Phylakopi; and Mycenae, Tiryns, Brauron, Eleusis, Brauron, Athens, Pylos, Delphi, Thebes, Dendra, Nafplion, Argos, Spata, Midea, Aigion, Sparta, Ayios Stephanos and Asine on the Greek Mainland.[537]
- 20 vessels in the shape of waterbirds (**A48-A67**) dating to LH IIIA – IIIB from Nafplion, Prosymna, Tiryns, Mycenae, Attica (unknown findspot), Vourvatsi, Kallithea, Eleusis, Asine, Ayios Vasilios and Kokla on the Greek Mainland.[538]
- 1 mirror handle (**I10**) dating to LH IIIB from Mycenae on the Greek Mainland.
- 1 ivory inlay (**I11**) dating to LH IIIB2 from Tiryns on the Greek Mainland.

[536] For larnakes see Rutkowski 1966, 135; Preston 2004[b], 182-183, 186-192.
[537] Bosanquet – Dawkins 1923, 92-94; Furumark 1941, 250-251, FM 7.1b, c, e, f, g; FM 7.2-14, FM 7.22-27, 30; Åkerström 1987, 68-73; Crouwel – Morris 1995, 174; Paschalidis 2001, 102. Some vases with birds were apparently exported to Cyprus and the Near East. Their origin on the Greek Mainland (Berbati) was proved by analyses undertaken by Mommsen and Maran (2000-2001, 102).
[538] Blegen 1937, 454; Papadopoulos 1979-1980, 101-103; Matthäus 1979, 172-173; Matthäus 1980, 253; Koehl 2006, cat.no. 62 – 70.

Some waterbird images dating to LB IIIA2 – IIIB represent particular generic species. A figurine (**B66**), two frescoes (**E11, E17**) and the Ayia Triada sarcophagus (**H2**) show the serpentine necks and elongated heads of swans on the frames of lyres/phorminxes (Figure 117). The jewellery pieces (**C45-C48**) depict ducks and geese, similar to the ones discussed in the preceding section. Ducks or geese may also be shown on a mirror handle from Mycenae (**I10**). A fresco fragment from Pylos (**E18**) depicts part of the head of a duck or goose with white plumage. This colour, which is not seen in any wild duck or goose species, may suggest that it is a domesticated bird (Figure 116). Some vases from Mycenae and Thebes (**G297-G301**) could show ducks based on their very short necks. Similar are the short-necked bird-shaped vessels (**A48**-**A67**), which might be ducks or geese.

All the remaining images can only be identified as generic waterbirds because they mix features of ducks, geese and swans. The shape of their bodies varies widely. The birds on some Cretan vases (**G153-G162**) and most larnakes (**H5-H28**) have ovoid bodies (Figure 118). Other vases from Crete (**G163-G171, G234**) and all the vases from the Greek Mainland and the Dodecanese (**G172-G233, G235, G236, G272-G296**) show waterbirds with large rounded bodies (Figure 119).[539] Some beads from Mycenae (**C49**) and an inlay from Tiryns (**I11**) depict similar large-bodied waterbirds. A few other vases from the Mainland and the Dodecanese (**G237-G271**) show waterbirds with elongated bodies (Figure 120).[540] At first glance this could be taken as indication that they are different species. However, both the ovoid type and the elongated type seem to evolve from the large-bodied type, thus they all seem to be waterbirds.[541]

The large number of images only roughly identifiable as 'waterbirds' indicates a further decrease of morphological accuracy. Some rather naturalistic images identifiable as ducks, geese or swans seem to defy this trend at first glance. However, the swan-shaped lyres (**B66**, **E11, E17**, **H2**) and many of the jewellery pieces (**C45-C48**) directly imitate Egyptian models, comparable to the swan-shaped pyxides and pendants of the preceding period.[542] Other images seem to copy Cretan waterbird depictions of LM I date. For example, a gold cut-out ornament from LH IIIB Thebes (**C47**) is directly comparable to an ornament from LM I

[539] Furumark 1941, FM 7.1b, c, e, f, g; FM 7.2-14. Furumark (1941, 250-251) implied that the Cretan large-bodied waterbirds were developed from the geese on the Argos vase.
[540] Furumark 1941, FM 7.22-27, 30.
[541] Large-bodied waterbirds primarily appear on kraters while the elongated ones are mostly shown on kylikes, thus it seems likely that the vase shape and the available space influenced the shape of their bodies.
[542] Dragona-Latsoudi 1977; McCallum 1987, 126, footnote 70; Lenz 1995, 96-103; Younger 1998, 18-27; Phillips 2008, 187.

Knossos (**C37**). These images seem to be sporadic remnants of foreign or much earlier traditions and they do not contradict the general development towards more generic depictions in this period.

The generic waterbirds from Crete (**G153-G171, G234, H5-H28)** appear relatively schematic compared to those from the preceding period.[543] Many birds have thin or strangely shaped wings which seem uncapable of carrying a bird. Others are shown in the air, but no wings are visible. An even greater tendency towards stylization and morphological features deviating from nature can be observed in the images from the Greek Mainland. On the vases (**G172-G233, G235-G296)**, their bodies are variously filled with parallel striped bands, circles, u-patterns, stipples, arcs, chevrons or cross-hatched areas. Bird-shaped vessels from the Greek Mainland (**A48-A67**) are decorated with parallel stripes and there are no indications of naturalistic avian features such as wings.[544] The breasts of the waterbirds can be extremely bulging and some birds have become grotesquely[545] rounded with the feet barely touching the ground (e.g. **G283**).[546] Necks of waterbirds on vases often appear to be contorted in a rather unnatural way (e.g. **G272, G273**) and some birds (e.g. **G274**) have bills with vertical stripes, possibly indicating teeth.[547] A few waterbirds have the legs bent the wrong way (e.g. **G272**), i.e. they are flexed like human legs and not like those of birds. Other birds with elongated bodies (e.g. **G250, G259, G260**) often have curious additional elements between the elevated wing and the tail and/or between the wing and the neck. These elements consist of a stem-like line, topped by an ornament (e.g. lozenge) or a stylized flower or palm tree.[548]

Despite their rather schematic appearance, many waterbirds on Cretan vases and larnakes are shown in rather lively poses.[549] Most birds are depicted in flight or standing with their wings elevated. The development of the ovoid body shape may even have been due to the preference of flying poses. This could be indicated by the LM IIIA2 Vasilika Anogia larnax (**H5**) which shows waterbirds of the large-bodied type sitting on the lid, while only waterbirds with ovoid bodies are depicted flying. Moreover, several birds are pecking at plants (e.g. **G155**, **G160**, **H5, H9, H12**), comparable to scenes dating to LM II – IIIA1. On a cup from Palaikastro

[543] Betancourt 1985, 164-166.
[544] Blegen 1937, 454.
[545] The extreme shape of their bodies led Marinatos (1964) to consider a mythological role of these “monsters”.
[546] Åkerström 1987, 121-122.
[547] Although waterbirds have small spikes lining the inside of the bill and their tongue which resemble tiny teeth, the `teeth` of the birds on the vases look more like real teeth.
[548] Furumark 1941, 252.
[549] Betancourt 1985, 162-163, 171-177; Merousis 2013, 137.

(**G159**) and a larnax from Kalochoraphitis (**H24**), the birds seem to be feeding with their heads lowered as if dabbling. A similar cup from Rhodes (**G168**) shows two waterbirds with their heads tucked under their back feathers as if sleeping. Furthermore, we can note that the birds are usually differentiated by varying actions or movements. Even in the cases where two waterbirds are flanking a plant, the painters sought to avoid an impression of perfect symmetry. The habitat – albeit it appears much more schematic – consists of aquatic plants such as papyrus/sea daffodil, palm trees and other flowers or fish. As in the preceding periods, the waterbirds are surrounded by these elements and they appear no less important than the waterbirds themselves (e.g. **B64, G160, G161, G234**).

Most of the generic waterbirds on images from the Greek Mainland are simply shown in rather calm standing or sitting poses.[550] Flapping of wings or flying poses are rare and more specific actions are only occasionally encountered. A few birds (**G297-G299**) are depicted with their heads reverted in a curious pose which does not occur in nature: the base of the bill is pointing up as if the bird had turned the head straight back. Possibly, the painter attempted to show a sleeping duck, but did not observe the behavior of a real duck which would lay the bill on the back feathers or tuck the bill under them. Some other waterbirds (e.g. **G262, G271**) may be holding food in their beaks, indicated by wavy lines resembling algae. In contrast to the majority of Cretan depictions, there is a distinct effort to depict multiple birds which closely resemble each other both in appearance and poses, and some of the waterbirds appear almost identical.[551] Such indistinguishable waterbirds are then arranged in friezes or more rarely in antithetical and symmetrical compositions, which creates a rather formal impression of peaceful regularity. Floral and plant elements such as triangles, rosettes, stylized (papyrus) flowers or palm trees can appear, but they are simplified and appear relatively small (e.g. **G173**, **G174, G176**).[552] In most cases are they pushed aside by the large waterbirds, which notably contrasts with the importance of vegetation in contemporary Cretan depictions (Figure 121).

Waterbirds dating to LB IIIA2 – IIIB seem to have had several different functions, which we will address in turn. As was mentioned above, the swan-shaped lyres (**B66**, **E11, E17**, **H2**) were apparently adopted from Egypt, but we know swan-shaped harps from earlier Aegean depictions (Section 6.2). Like harps, lyres are stringed instruments and we may therefore

[550] Akerström 1987, 121-122.
[551] Vermeule - Karageorghis 1982, 82; Paschalidis 2001, 102.
[552] Paschalidis 2001, 100.

propose that the similarity between the sound made by the wings of flying swans and a lyre may again have inspired this association. The contexts of images of swan-shaped lyres – the Ayia Triada sarcophagus, and frescoes in a monumental building at Ayia Triada and the throne room at Pylos – provide evidence that these special instruments were primarily used at ceremonial, probably high-status, occasions. A similarly close association with the elite can be observed in the jewellery pieces in the shape of waterbirds (**C45-C48**). Again, many seem to have been imported from Egypt and they are found in rich tombs and palaces at Mycenae and Thebes. As the Egyptian-style pyxides in the shape of swans (Section 6.4), these objects seem to have been used by the elite to associate themselves with an international iconography of wealth.

As was mentioned above, the Cretan images usually depict waterbirds in flight. Moreover, they are often associated with cult symbols such as horns of consecration and double axes (e.g. **G156, G157, G167-G170)** (Figure 122). Waterbirds also appear on ritual vases such as conical rhyta from Knossos (**G171**), Palaikastro (**G157**) and Karphi (**G156**)[553] or on funerary containers (larnakes). In addition to cult symbols (e.g. **H17, H21, H22**), waterbirds on larnakes can also be associated with marine animals such as octopi, sea urchins and argonauts (e.g. **H13, H16, H24**).[554] On one larnax (**H26**), this connection between waterbirds and marine fauna is even taken further by an ambiguous depiction because the waterbirds might also be seen as argonauts. On another larnax, a waterbird is shown next to a griffin (**H3**). A conical rhyton from Kalavarda on Rhodes (**G222**) shows waterbirds associated with lions, a mirror and a kylix.[555] On five larnakes (**H6, H18, H19, H23, H24**) other motifs such as dogs, bulls and goats in hunting scenes or humans in chariots are also depicted, but the waterbirds themselves are not hunted and they are often visually separated from such elements and most closely associated with aquatic or marine flora and fauna.[556]

This recurrent associative cluster seems to have had a special significance.[557] Grumach interpreted the scenes with waterbirds and marine creatures as alluding to the land of the

[553] Seiradaki 1960, 28; see Briault 2007, 255, for cult symbols on pottery in LM III.
[554] For discussions of Cretan larnakes in general see Rutkowski 1966; Mavriyannaki 1972; Watrous 1991; Marinatos 1997; Preston 2004[b], 186-187.
[555] Lenz 1995, 90; Karantzali (1998, 96) identified the lions as hybrids due to their pose, but there are no other human features.
[556] Briault 2007, 255-256; Karetsou – Girella 2014, 75.
[557] Rethemiotakis 1979, 258; 1997[a], 420, 2013, 14; Kanta 1980, 306-307; Betancourt 1985, 162; Vlachopoulos 2003, 228; Karetsou – Girella 2014, 83-94.

blessed which lay beyond water/the sea, comparable to Egyptian beliefs.[558] Watrous likewise read the 'Nilotic scenes' with birds, papyrus and marine creatures as scenes from the world of the dead.[559] However, as was argued before, the links of Cretan waterbird images to Egyptian iconography seem tenuous; hence, an adoption of Egyptian mortuary notions are equally doubtful. Instead, the rather unusual association of waterbirds with marine animals recalls their association on LM I seals (Section 6.3).[560] The same can be said for the combination with griffins or lions. As we have seen, waterbirds are characterized by a high degree of liminality. Papyrus and palm trees can also be seen as alluding to the border zone between land and water, which is the habitat of waterbirds. Argonauts or nautili live in the sea, but they often swim close to the surface of the water. In antiquity, it may have been believed that they use their tentacles as sails because argonaut actually means "sailor". Octopi swim in the sea but they are also able to crawl on land and search for food in the shallow pools formed on coastal rocks.[561] Sea urchins can often be found on rocks just under or slightly above the waterline. As was said before, griffins are liminal creatures due to their hybrid nature.

As we have seen in Section 6.3, the liminal characteristics of these elements may have inspired their role as spirit animals accompanying shamans on their trance journeys. In contrast to earlier images, humans are not directly shown in association with waterbirds in LM IIIA – IIIB. However, the larnakes would have received the dead bodies of people and the flying waterbirds would thus have given the impression of surrounding the deceased.[562] Given the small percentage of decorated larnakes, it could be suggested that these were used by shamans. It is more likely, however, that in LM IIIA2 the role of waterbirds and some other liminal animals changed and they were thought to accompany dead people.[563] Death is often thought to take place in a liminal zone, so such an ideological shift seems feasible.[564]

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[558] Grumach 1968, 24. Evans (1921, 337-338) also identified Egyptian influence.
[559] Watrous 1991, 296-298.
[560] Other scholars, for example Karetsou – Girella (2014, 79) considered the motifs on the larnakes to have a more general religious significance since they were adopted from Neopalatial cult imagery (birds, bull leaping, bucrania, double axes etc.).
[561] Belcari et al. 2002.
[562] Marinatos (1997, 282-283, 288) thought that the seascapes which surround the body are a symbolic reference to sea burials which may have taken place in the Neopalatial period.
[563] Joly (1928, 156-157), Morgan (1987, 184) and Karetsou – Girella (2014, 100) saw the birds on larnakes as mediators between life and death or soul birds. The regenerative power of octopi has also been emphasised in this context by Alberti (2013, 76).
[564] For death as a liminal state see Van Gennep 2000 and for the role of birds as companions of the dead see Cocker 2013, 80-81 and Serjeantson 2009, 338-339 (see p. 345, for archaeological examples where wings of birds were placed in graves).

In contrast to the Cretan images, the majority of depictions from the Greek Mainland shows the birds neither in flight nor associated with marine animals. Instead, the waterbirds on mixing and drinking vessels are simply depicted in friezes or in symmetrical compositions (e.g. **G174, G203, G205, G221, G227**). On some vases, the waterbirds are densely packed in larger groups (**G221, G225, G233**) and occasionally offspring such as eggs or chicks are depicted (**G200, G221, G260**, **G283**).[565] Striking is their size and the large bulging breasts, which are also observable in some beads (**C49**) and an inlay (**I11**). These traits may indicate an interest in their use as food source because of the high fat content which is concentrated in the rounded breasts.[566] According to archaeozoological reports, waterbirds were eaten in Laconia, the Argolid and Aegina during the MB – LB periods.[567] The fresco fragment from Pylos (**E18**) may also indicate that ducks and geese were domesticated on the Greek Mainland.[568] Yet, the waterbirds are never shown in trapping scenes or as dead birds, hence neither the act of hunting nor their consumption seems to have motivated these depictions.[569] Rather, the preference of rounded birds mirrors the preference of rather plump types of raptors observable in the same period (Section 5.4). We may therefore suggest that the images of large birds in calm poses and orderly compositions reflect the same ideological shift. As we have seen, the consolidation of palatial power in this period seems to have required other – more harmonious – mechanisms such as feasting to maintain the status quo. With their visual focus on abundance and stability, images of waterbirds may thus have symbolised the solidity and economic prosperity as guaranteed by the Mycenaean palaces. A representation on a LH IIIB mirror handle from Mycenae (**I10**) may be interpreted along similar lines. It shows two women holding waterbirds, probably geese, over their shoulders. Although the birds try to fly away, the women who are turned towards each other in a casual way seem oblivious to their action. In contrast to the earlier LB I Mistress of animal images (Section 6.3), there seems to

[565] Marinatos 1964, 7; Crouwel – Morris 1996, 213. Vermeule – Karageorghis (1982, 82-83) interpreted the depiction of eggs as showing the reproductive potential of geese or hens.
[566] Serjeantson 2009, 231-235, tables 10.1 and 10.2; Cocker 2013, 80-86.
[567] According to Gejwall (1969, 47-48) and Reese (2008) all strata from Lerna I (EH) to Lerna V (MH) yielded remains of various duck species as well as the occasional goose or swan bone. According to Duhig et al. (2008, 513) bones of various duck species have been found in layers dating to MH II - LH at Ayios Stephanos. At Tiryns, the mallard was the most frequently encountered bird species during all periods, and greylag geese were added in LH IIIB1. According to Forstenpointner et al. (2010, 739) bones of greylag geese were found in a MH II context at Kolonna/Aegina, but aquatic species were overall less frequent than in the Argolid. Cf. also Trantalidou 2000, table on p. 715 for an overview of the presence of mallards and greylag geese at Neolithic and BA sites.
[568] The possibility of domestication of waterbirds in Greece was discussed by Vickery (1936, 66-67); Trantalidou (1990, 402), Fischer (2007, 129) and Serjeantson (2009, 293). According to Becker (1986, 204), at LH IIIC Kastanas in Macedonia, a goose carpometacarpus was found which was unusually large, possibly indicating a domestic animal.
[569] Vickery 1936, 80, 84.

be absolutely no doubt as to who is in charge – also based on the clearly smaller size of the waterbirds (Figure 123). Thus, this image may also symbolically reflect the solidification of the social hierarchy.

The existence of a complementary – more specific – function of waterbirds is indicated by some bird-shaped vessels from the Greek Mainland. Open vessels similar to those discussed in the preceding section come from Kokla and Tiryns (**A66, A67**) (Figure 124).[570] Moreover, there are some vessels in the shape of waterbirds (**A48-A65**) (Figure 125).[571] They are actually hollow figurines, but their shape and the fact that they have a handle on their backs clearly assimilate them to contemporary flat-based askoi. The connection between waterbirds and liquids is also attested by two conical rhyta (**G233, G236**) which show several waterbirds (Figure 126). Significantly, waterbirds are the only type of figurative motif depicted on this vessel shape on the Greek Mainland.[572] Pairs of waterbirds are also shown on some other pouring vessels such as jugs and stirrup jars (**G244, G259, G260, G293**).[573] On these vases, the visual connection between the flow of liquid and the waterbirds is intensified because they are painted directly below the spout and opposite the handle so that water poured out of the vessel would have flown above and between them (Figure 127). Importantly, a plant is growing between the birds as if it was sprouting because of the water poured out of the vessel.[574] This suggests that water-related fertility was the concern of these vases. On a few other stirrup jars (**G297-G300**), the plants are substituted by sphinxes which are flanked by waterbirds. On some vases we can observe a close physical or visual convergence between waterbirds and plants. For example, the bodies of the birds can be filled with branches and floral elements (e.g. **G283**) or floral stems are directly attached to the bodies of waterbird (e.g. **G250, G259, G260**). On a stirrup jar from Midea (**G260**), the birds are shown next to a plant whose leaves mirror the body and wing of the birds.[575]

The contexts of some vases with waterbirds seem to indicate a ritual function. The stirrup jar from Midea (**G260**), for example, was found together with part of a large female terracotta figure and a bovine figure, possibly remains of a shrine, on the Lower Terraces of the

[570] Popham – Catling 1974, 250; Matthäus 1980, 252-254, 1981.
[571] Desborough (1972), Misch (1992) and Guggisberg (1996) all included them in their discussion of bird-shaped vessels. Desborough (1972, 274-275) thought that the waterbird shape of the vessels merely served a decorative purpose.
[572] Paschalidis 2001, 96-98, 100-101.
[573] McMullen Fisher – Giering 1994, 10-13.
[574] On **G260**, two smaller birds (chicks?) are also flanking the plant.
[575] McMullen Fisher – Giering 1994, 12.

palace.[576] The stirrup jars with ducks and sphinxes from Mycenae (**G297-G300**) may also come from a shrine.[577] The majority of the bird-shaped vessels (**A48-A67**) come from tombs, sometimes associated with female figurines and/or miniature vessels. They may have had a funerary significance, possibly connected to notions of regeneration.[578] However, Desborough has drawn attention to the fact that not all such vessels come from morturary contexts.[579] Some were found in settlements (Tiryns) or sanctuaries (Ayios Vasilios). Thus, the connection of waterbirds and liquids may have had a more general ritual significance.[580]

Further evidence for the significance of waterbirds in (palatial) rituals could be provided by Linear B tablets from Thebes.[581] In these tablets, various animals such as dogs, mules, pigs, snakes, but also birds (*o-ni-si* on Fq 123, Fq 169, Fq 342), cranes (*ke-re-na-i*, Greek γέρανος, on Fq 126, Fq 169, Gp 176,) and geese (*ka-si, ka-no,* Greek χήν, on Ft 141, Ft 217, Ft 220, Ft 234, Ft 246, Ft 268 and possibly Fq 205, Ft 143, Ft 151, Ft 219) are mentioned.[582] All these animals are – together with other individuals and groups of persons – recipients of foodstuff (olives, wheat, wine, flour, barley and cyperus). Killen has demonstrated that the small quantities and the kinds of food are indicative of a religious context.[583] He compared the overall structure of the Thebes tablets to that of the Pylos Fn series and the Thebes Av records which record provisions for ritual banquets.[584] The presence of the animals seems puzzling because they receive food which is usually not eaten by them.[585] Thus, it has been suggested that they were either theriomorphic deities or sacred animals which received offerings.[586] However, other individuals mentioned as recipients are probably not divine.[587] A possible solution to this problem was offered by Weilhartner who suggested that the animal names denominate groups of persons who played certain roles in the rituals and/or during the

[576] Walberg 1994.
[577] Sakellarakis 1992, 110-111.
[578] Lemos (1994, 233-234) noted that some of the vessels have been found with children burials, maybe they were also used as toys.
[579] Desborough 1972, 274.
[580] Cocker 2013, 81. See Peatfield 1995, 227 for water-related fertility.
[581] Aravantinos et al. 2001.
[582] The forms are dative plural. Aravantinos et al. 2001, 319-321.
[583] Killen 1999; Killen 2006, 83-89.
[584] Killen 2006, 90-100.
[585] Weilhartner 2007, 343.
[586] Rousioti (2001, 308-311) argued for sacred animals.
[587] Palaima (2003, 115) thought that the animals are normal animals. Killen (2006, 82) was sceptical about the interpretation of ma-ka as Demeter as suggested by Aravantinos et al. 2001, 188-190.

banquet.[588] In any case, the mention of 'geese' in these tablets seems to confirm the ritual significance of waterbirds in palatial society.

When we turn to the ontologies reflected by images of waterbirds we can again note that there are profound differences between depictions from Crete and those from the Greek Mainland. The Cretan images appear rather generic, but the depiction of unnatural features seems limited and lively and varied poses prevail. As they reveal the sentient status of non-human entities, these features are consistent with animist imagery (Section 3.2.4). As in earlier periods, waterbirds are shown surrounded by plants which are of equal or larger size. As companions of shamans and/or the deceased, waterbirds continued to adopt active ideological roles..

In contrast, the images of waterbirds from the Greek Mainland are characterized by extensive stylization and the conspicuous depiction of unnatural features. Vegetation is of a much smaller size than the waterbirds, thereby emphasizing its inferior position. A hierarchical relation is also created between humans and waterbirds.. The stylization and rigid compositions seem to a priori preclude any impression that the birds may come alive or actively intervene in the order of things. Instead, the waterbirds seem to have functioned as symbols, either of the consolidated palatial order or water-related fertility. All these traits suggest that analogism was the prevalent ontology on the Greek Mainland.

In sum, depictions of waterbirds dating to LB IIIA2 – IIIB come from Crete and the Greek Mainland. Although some can be identified as ducks, geese or swans, the overall tendency towards more generic depictions is continued in both regions. Nevertheless, there are differences. The Cretan depictions continue to emphasise liveliness, varied poses/movements and the embededdness in the vegetative environment. The association with aquatic and marine elements seems to indicate a renewed interest in their liminal status. The frequent depiction on funerary containers may suggest that this ability became important not only in shamanic rituals but also in a mortuary context. The active role adopted by the birds (and other animals) points towards a continuation of animist notions on Crete. Images of waterbirds from the Greek Mainland are often characterized by more stylized appearances. Objects such as Egyptian-style beads or lyres seem to have been used to signal participation of the elite in an international imagery of wealth and luxury. The calm poses and uniform appearance of well-nourished waterbirds on vases suggest that they stood for abundance and fertility as guaranteed by the palatial society. Other objects such as bird-shaped askoi, rhyta, jugs and

[588] Weilhartner 2007, 343-346.

jars seem to intensify the connection between waterbirds and the (ritual) manipulation of liquids. Since the waterbirds do not appear as active mediators but function as symbols, these images seem to be indicative of analogism.

6.6 LB IIIB – LB IIIC

In LB IIIB – IIIC, waterbirds continued to be very frequent motifs in Aegean art. The vast majority is depicted on vase-paintings and as vessels. They come from Crete, the Greek Mainland, but also from the Cyclades and the Dodecanese. The following 341 objects will be discussed:

- 1 larnax (**H30**) dating to LM IIIB from Gazi on Crete.
- 12 figurines (**B117-B128**) dating to LH IIIB – IIIC from Tanagra, Tiryns, Kynos, Mycenae, Perati on the Greek Mainland; and Ayia Triada on Crete.
- 1 gold diadem (**C50**) dating to LH IIIB – IIIC from Pylos on the Greek Mainland.
- 1 relief vessel (**A68**) dating to LH IIIB – IIIC from Pylos on the Greek Mainland.
- 286 vase-paintings (**G302-G587**) dating to LB IIIB – IIIC Episkopi, Chania, Karphi, Kastelli Pediada, Phaistos, Knossos, Chamalevri, Kato Syme, Kastri/Palaikastro, Katsamba on Crete; Ialysos and Zukalades on Rhodes; Vathy and Pothia on Kalymnos; Langadha and Seraglio on Kos; Kamini, Aplomata and Grotta on Naxos; Monolithos on Thera; Phylakopi on Melos; Perati, Mycenae, Tiryns, Pylos, Midea, Eutresis, Korakou, Asine, Thebes, Patras-Lopesi, Elateia, Athens, Trypes, Sparta, Palaiokastro, Kynos and Kladeos on the Greek Mainland; Skyros (findspot unknown); Kolonna on Aegina; and Lefkandi on Euboea.[589]
- 39 vessels in the shape of waterbirds (**A69-A107**) dating to LB IIIC – Submycenaean/Subminoan from Kamini on Naxos; Ialysos on Rhodes; Klauss, Kanghadi, Kallithea, Tanagra, Athens and Tiryns on the Greek Mainland; Lefkandi on Euboea; Knossos, Kavousi Vronda, Vrokastro, Chamaizi, Axios, Adele, Adromyloi and Karphi on Crete.
- 1 knife in the shape of a waterbird (**F4**) dating to LH IIIC from Perati on the Greek Mainland.

[589] Cf. Furumark 1941, Late Mainland Type FM 7.47-52 and Late Eastern Type, FM 7.40-46.

The vast majority of vase-paintings from Crete, the Dodecanese, the Cyclades and Attica (**G302-G420, G422, G423, G585-G587**) show generic waterbirds with ovoid bodies (Figure 128).[590] The figurines which are well enough preserved to be studied (**B124-B126, B128**) have similar drop-shaped bodies. The bird-shaped vessels from the Cyclades and the Greek Mainland (**A69-A91**) can be identified as ducks or geese due to their relatively short necks. The rather similar vessels from Crete (**A92-A107**) cannot be identified with certainty because the heads are usually substituted by spouts. In theory, it may thus be possible that they are doves and not waterbirds (Section 4.5). A large group of birds on vases (**G421, G424-G545**), especially from the Argolid, seem to be swans because they have large bodies, long curved necks, large triangular wings and long straight bills.[591] Their silhouettes closely resemble mute swans (*Cygnus olor*) which have a higher back than whooper swans (*Cygnus cygnus*) and are more common in the Aegean (Figure 129). Other images on vases (**G546-G584**), terracotta models (**B117-B119**), a larnax (**H30**), a diadem (**C50**), a bronze vessel (**A68**) and a knife (**F4**) show bird protomes.[592] They consist of a neck with an elongated head and an upward curved beak (Figure 130). They are similar to the necks and heads of generic waterbirds. Some waterbird protomes are attached to the bows of ships and they have occasionally been identified as hybrids and/or sea dragons due to the appearance of spikes (e.g. **G581**) and a vertical projection resembling a horn or ear (**G580**).[593] However, they closely resemble the other waterbird protomes.

When we analyse the images with regard to the degree of naturalism, we find rather disparate trends. The ovoid-bodied generic waterbirds are stylized in their appearance. As the Cretan waterbirds of the preceding period, their thin wings appear much too weak for carrying a bird. In the words of Betancourt "most have completely lost sight of their origins in the natural world."[594] However, the Cretan bird-shaped vessels sometimes have wings indicated in relief or in paint (e.g. **A92, A101**), thus we may note that there is an effort to represent natural avian features. Also, most waterbirds on vases appear again in rather lively flying poses or they are

[590] Evans (1921, 338) thought that the LB IIIC bird type developed from larnakes. Alexiou (1954, 407) and Kanta (1980, 258-260 and 272-275) similarly noted the connection to waterbirds in earlier depictions.
[591] For identification as swans see Wace 1921-1923, 45-46 and Lenz 1995, 7-8. According to Furumark (1941, FM 7.31), Güntner (2000, 56-57), Crouwel (2007, 74) and French (2007, 177) there are two variants of the swans. The most frequent variant can be seen on vases of the so-called Close Style (e.g. **G432**): the birds have striped or solid necks and stacked semi-circles painted on the bodies. The other variant (e.g. **G435**) shows solidly painted and more compact bodies, striped necks and wings which are solidly painted or rendered in outline.
[592] Blegen – Rawson 1973, 231; Furumark 1941, 254; Matthäus 1980, 192-195. Koutsouflakis (1999, 140-144) mentioned a bird-headed ship on an unpublished Tanagra larnax.
[593] Petrakis 2004, 2-4; Petrakis 2011, 211-213; Yasur-Landau 2010.
[594] Betancourt 1985, 179.

flapping their wings, as if about to rise. One stirrup jar from Perati (**G405**) even shows a waterbird flying with its wings displayed, a very rare pose in this period. Vases from Crete and Perati (**G302, G409**) depict family scenes with young birds. Moreover, the waterbirds are often adopting diverse movements or positions of body parts, which results in a rather individualized picture of moving birds. On the Cretan vases, the birds are usually surrounded by stylized plants such as flowers, rosettes, branches and (palm) trees (e.g. **G305, G320, G322**).[595]

In the LH IIIC images from the Greek Mainland (except Perati), the appearance of the waterbirds is not only generic but can also be rather unnatural. For example, the wings of two bird-shaped vessels (**A71, A79**) are decorated with fish or quadrupeds. Although the birds on vase-paintings can usually be identified as swans, their bodies are sometimes artificially elongated (**G428-G431**), which makes them appear more like decorative shapes rather than living birds.[596] The protomes (**G546-G584**) – which are never found in Cretan images – reveal a further development towards stylization. The heads develop from a variety of abstract ornaments such as lozenges, triglyphs and bands or spirals. The artificial quality of the protomes is also emphasized by their arrangements, either as a continuous frieze of multiple identical heads or as pairs in mirror reverse compositions.[597] In some cases, the waterbird protomes were used for more playful decorations. For example, a fragment (**G549**) depicts protomes arranged as to resemble a chariot and another sherd (**G578**) shows antithetically placed protomes with stacks of semi-circles on their backs, thus resembling a ship. According to Furumark, they can be described as pictorialized forms because they demonstrate "the process by which an abstract design is made pictorial, i.e. through some similarity it is associated in the artist's mind with the idea of some physical object and is accordingly completed".[598] In other words, pictorialized images do not stem from observation of nature, but abstract forms are visually modified to resemble a natural element. In turn, this could also indicate that waterbirds were perceived as being built from abstract shapes such as lines, circles and curves. This perception becomes especially evident when we look at a four-handled jar (**G547**) which shows a frieze of complete birds whose bodies are shaped like semi-circles.

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[595] Seiradaki 1960, 32-37; Betancourt 1985, 178-182. On Cretan domestic pottery, the birds are depicted in the so-called Fringed Close Style
[596] Lenz 1995, 9.
[597] Lenz 1995, 9; Crouwel 2009[a], 43-44.
[598] Furumark 1941, 133.

The majority of swans on vases from the Greek Mainland (**G421, G424-G545**) are shown in relatively calm poses, either sitting or swimming in friezes. Sometimes (**G464-G474**), they are flanking a large rosette, occasionally pecking at it. Yet, a depiction of the natural habitat of swans was apparently not intended because the rosettes – which are unnaturally large – are part of the overall miniaturist decoration of the vase into which the birds are closely integrated by scaled triangles or concentric semicircles of the so-called Close Style. The action of the birds seems to be another strategy to enliven the decoration by merging figural and abstract motifs. From Lefkandi come two family scenes of swans (**G462, G463**) (Figure 132).[599] One fragment (**G462**) shows a large bird running towards a smaller one which is shown struggling to climb a panel.[600] Another fragment (**G463**) probably depicts swans feeding their nestlings. In other images, especially from the Argolid, the swans are shown on the ground with their wings elevated. This pose is typical of swans which often flap their wings, but it is also used as a threat display. The more aggressive aspect of this behavior is sometimes underlined by antithetical compositions (e.g. **G435, G451-G461**) (Figure 131).[601] Swans belong to the most aggressive kind of waterfowl, especially during the breeding season. They were notorious for this in antiquity and the Romans even believed that swans kill and eat each other.[602]

When we try to interpret the functions of waterbirds in LB IIIB – IIIC we find diverse associative clusters. The rather lively ovoid-bodied waterbirds from Crete, for example, are often shown with cult symbols such as horns of consecration or double axes (**G325-G333**).[603] Moreover, they usually retained the connection to aquatic plants and occasionally fish or an octopus (**G320-G324, G339**) from the preceding period (Figure 133). Some appear on Mainland-style serving and drinking vessels such as kraters and deep bowls. Larnakes became less frequent, but the characteristic association of lively waterbirds with marine animals such as octopi or fish was continued on numerous stirrup jars from regions which had close maritime trade links with Crete in LB IIIC[604] such as the Dodecanese (**G340-G365, G378, G379**), Naxos (**G380-G393**) and Perati in Attica (**G402-G406**) (Figure 134).[605]

[599] Crouwel 2006, 242-243; Rutter 2014, 200-201.
[600] Rutter 2014, 201.
[601] Rutter (1992, 65) also noted the popularity of antithetically placed birds in LH IIIC.
[602] Toynbee 1973, 259-261.
[603] Borgna 1997, 275-294; Warren 2005.
[604] Bennet 1987, 87; Vlachopoulos 1999, 82-83
[605] For Octopus Stirrup Jars see Desborough 1972, 6-16; Kardara 1977; Kanta 1980, 251-257; Mee 1982, 32-34; Crouwel 1984; Benzi 1992, 83-84; Benzi 1993, 286; Mountjoy 1997-1998, 154; Iakovidis 2003; Crouwel 2006, 18; Crouwel 2009[b]; Vlachopoulos 2003, 228 and Vlachopoulos 2006.

The Cretan vases were sometimes found in settlement and/or ritual contexts.[606] The material from Phaistos comes from a feasting context consisting of fine table ware, pyxides, alabastra and juglets.[607] The same context also yielded a Psi figurine.[608] At Chamalevri, sherds with birds were found among other pictorial pottery in special pits together with bones and ash. The pits have been interpreted as dumps for the remains of a ritual event.[609] According to Seiradaki, the pyxides from Karphi, some of which show waterbirds, have a similar distribution as kalathoi, possibly suggesting that they held offerings.[610] Moreover, a rhyton showing a waterbird and horns of consecration dating to LM IIIA from Karphi (**G156**) was found in a LM IIIC context (Section 6.5).[611] As the earlier Cretan larnakes, the Octopus Stirrup Jars usually come from funerary contexts and may have contained precious perfumed oils used to embalm the dead body.[612] These disparate find contexts may suggest that waterbirds retained a more general ritual significance on Crete, whereas the waterbirds on octopus stirrup jars from elsewhere were mainly companions of the dead.

Other waterbird images are again associated with the flow of liquids. Several bird-shaped vessels from the Greek Mainland (**A69-A91**) have cylindrical beaks which serve as spouts (Figure 135).[613] They have sometimes been seen as inspired by Cypriot vessels which are similar.[614] Yet, they can be connected to local shapes, for example the askos-like vessels from the preceding period (Section 6.5).[615] The contemporary Cretan vessels (**A92-A107**) completely merge the bird features with the function of pouring by substituting the head with a round spout (Figure 136).[616] This characteristic goes back to much earlier Cretan practices in MM II when the head of a dove vessel was also substituted by a spout (Section 4.2). Three bull rhyta (**G338, G567, G568**) from Katsamba on Crete and Amyklai in Laconia are decorated with waterbirds or waterbird protomes (Figure 137). The contexts of these objects

[606] Seiradaki 1960, 22-23; Rethemiotakis 1997[b], 318-320; D`Agata 2001; Borgna 2003; Vlachopoulos 2006, 198-200; Andreadaki-Vlazaki – Papadopoulou 2007, 30.
[607] Borgna 2003, 414-425.
[608] Borgna 2003, 418-425.
[609] Andreadaki-Vlazaki – Papadopoulou 2005; Andreadaki-Vlazaki – Papadopoulou 2007, 28-30.
[610] Seiradaki 1960, 40.
[611] Seiradaki 1960, 25.
[612] Betancourt 1985, 182-184; Vlachopoulos 2003, 221-223; Kanta 2005, 229-232; Crouwel 2009[b], 199; Alberti 2013, 72-76.
[613] Desborough 1972, 246.
[614] Desborough 1972, 266-273; Bouzek 1985; Papadopoulou 1979-80, 103.
[615] Papadopoulos 1979-80, 103; Papadopoulos 1980, 170; Guggisberg 1996, 248, 251, 263. Lemos (1994, 229-230) drew attention to some LH IIIC terracotta (water)bird figurines from Greek sites which indicate the local significance of waterbirds.
[616] Seiradaki 1960, 27; Desborough 1972, 252; Lemos 1994, 232.

suggest a ritual function because they have been found both in tombs and at sanctuaries (Amyklai, Spring Chamber at Knossos).

The swans (**G421, G424-G545**) appear on vases from Mycenae, Tiryns, Korakou and Lefkandi. The majority are depicted on fine table ware (deep bowls, stirrup jars and kalathoi) of the high-quality Close Style.[617] They attest to the short period of relative stability during LH IIIC middle when some groups deliberately used elements of the palatial past to underline their claim to power (cf. Section 5.4). The peaceful impression conveyed by friezes of large-bodied swans recalls images of large-bodied generic waterbirds of LH IIIA2 – IIIB1 date (Section 6.5). We may suggest that such depictions of swans hark back to similar ideological notions: to conjure up an image of abundance and stability. The two images of family scenes of swans from Lefkandi (**G462, G463**) seem to corroborate this. At this site, they also find parallels in other animal depictions, for example griffins tending their young in nests or goats mating and suckling their kids.[618] This observation led Rutter to suggest that the leaders of Lefkandi employed power strategies in which they consciously emphasized the family, fertility and parenthood.[619] While this ideological focus might have been especially emphasised at Lefkandi, the friezes of calm swans from the Argolid seem to reveal a related concern.

In addition to a distinct emphasis on peaceful scenes, however, there are also some confrontational compositions (**G435, G451-G461**). An unambiguous depiction of aggressive swans is shown on the Warrior Krater from Mycenae (**G452)**. Here, two pairs of birds are shown under the handles with their feet raised towards the other birds as if attacking.[620] The appearance of fighting birds on this krater seems to suggest that they functioned as analogies to the warriors which are shown marching and fully armed on the front sides. As we have seen in Section 5.4, the reappearance of aggressive birds of prey on vases of the postpalatial elite could be interpreted as being due to a renewed interest in the warrior ethos and the occasional images of aggressive swans seem to tie into this ideology.

Some LH IIIB/C depictions show waterbird protomes attached to the bows of ships (**B117-B119, C50, G579-G584, H30**) (Figure 138).[621] The function of the figure-headed bows has

[617] Crouwel 2006, 16; Crouwel 2007, 73-75; French 2007.
[618] Evely 2006, 242-243; Crouwel 2007, 80-81; Rutter 2014, 189-199, 202.
[619] Rutter 2014.
[620] Vermeule - Karageorghis 1982, 132; Crouwel 2007, 80.
[621] Dakoronia 1990, 120; Wachsmann 1996; Wachsmann 1998, 130-197; Wedde 2000, 123-125; Wedde 2002. Dakoronia 2006, 24-28.

been explained by Wachsmann and others as warding off evil.[622] Although such an apotropaic purpose may have been relevant since many figural elements on bows have such a purpose, this rather vague explanation does not account for the specific choice of a waterbird. Other scholars have identified the heads as those of migratory ducks, which were deemed vitality and fertility symbols, possibly connected to a sea goddess (comparable to Aphrodite?).[623] However, this specific identification does not seem warranted by the rather generic appearance of the waterbird heads. Also, the connection of waterbirds and fertility only makes sense in their connection with fresh water, but not with salty sea water.[624]

The ships can be identified as oared galleys, a newly invented type which seems to have replaced the Cretan sailing ship with a falcon at the bow (Section 5.3) by LH IIIA – B.[625] The galley could be sailed, but was mostly moved by rowing and it has been estimated that the ships could hold up to 25 rowers on each side.[626] Apparently, good maneuverability regardless of wind conditions was deemed more important than quick travel over long distances.[627] Given that the change of preferred propulsion method – from sails to oars – seems to have necessitated a new emblem, we may suggest that the analogy of paddling feet of waterbirds to the oars may have inspired this association.[628] On the kraters from Kynos (**G581, G582**), the incorporation of a deck as fighting platforms for warriors attest to the military functions of these ships.[629] It cannot be excluded that the aggressive connotations of waterbirds described above may also have played a role in this choice.[630]

Turning to ontologies, we note that images from Crete and some other sites in the Aegean which seem to have received an influx of Cretan ideas show rather lively and occasionally individualised waterbirds. They seem to have retained the traditional associations with (animist?) rituals and may also have adopted an active role as companions of the dead. Bird-shaped vessels occasionally exhibit avian features which resemble the traits of earlier ambiguous dove-shaped vessels. Animist notions may thus have still been present on Crete,

[622] Wachsmann 1998, 194; Yasur-Landau 2010, 402.
[623] Wachsmann 1998, 195-197; Yon 1992, 400.
[624] Cocker 2013, 81-82.
[625] Wedde 1996, 131, Type V of the Skyros cluster and Type VI of the Tragana Cluster. Wachsmann 1998, 130, 155-157.
[626] Wachsmann 1998, 155-157.
[627] Wedde 1996, 142-144, 150.
[628] Wachsmann 1998, 195.
[629] Wachsmann 1998, 155; Dakoronia 1990, 1996, 1999; Lenz 1995, 147; Wedde 1996, 155-156; Mountjoy 2005; Papadopoulos 2009, 75-76. See Petrakis 2011, 205-209, for military matters connected to seafaring in the Linear B tablets.
[630] A knife from Perati (F4) has a handle in the shape of a waterbird's head, possibly corroborating the association of waterbirds with aggression.

but the relative rarity of waterbird images from the island in this time makes it difficult to be more certain. The rather abstract waterbird protomes which were popular on the Greek Mainland suggest that natural entities were perceived as beings composed of certain parts that can be variously assembled and disassembled, a notion commonly found in analogism (Section 3.2.1). The frequently observable connection of waterbirds to liquids can be characterized as symbolic because the bird-shaped vessels appear too stiff and exhibit too many unnatural features to convey the impression that they become alive when the vessels are handled. The appearance of swans on vases is closely linked to their function as allegories of the desired social order and the concurrently employed power strategies (harmony vs. confrontation). Both aspects suggest that analogism was prevalent on the Greek Mainland.

In sum, images of waterbirds dating to LB IIIB – IIIC come from Crete, the Cyclades, the Dodecanese and the Greek Mainland. Most images can only be roughly identified as waterbirds, but there are also some ducks/geese and swans. Depictions from Crete and some sites on the Cyclades, Dodecanese and the Greek Mainland which had close links to Crete show rather lively waterbirds with an emphasis on variety. On Crete, they are usually accompanied by plants and cult symbols. The association with marine animals on the Octopus Stirrup Jars seems to be taken over from the Cretan larnakes discussed in the preceding section (Section 6.5). Their consistent funerary contexts indicate that the birds were believed to be companions of the dead. We may suggest that this continuity in the emphasis on liveliness and an active role of birds signifies a continuation of animist ontology.

Images from the Greek Mainland (except Perati) depict rather unnatural waterbirds, for example in the form of protomes which are closely integrated in the abstract decoration scheme on vases. Bird-shaped rhyta indicate that the traditional link existing between waterbirds and the flow of liquids continued beyond the collapse of the palaces. The function of waterbirds as metaphors for social relations known from the palatial periods also seems to have persisted and may have reemerged in LH IIIC middle. Swans are either shown with an emphasis on regularity and peace or focusing on aggressive and confrontational behavior. The depiction of swans on the warrior vase suggests that they served to underline the warrior ethos of the postpalatial elite in the Argolid, while family scenes from Lefkandi seem to put a stronger emphasis on cooperative relations. The connection of waterbirds with (war) ships may have been inspired both by the analogy of paddling feet with oars of the Mycenaean galley and their occasional aggressive connotations. The consistent use of waterbird images as

symbols/metaphors/analogies seems to indicate that analogism was the dominant ontology on the Greek Mainland.

6.7 Conclusion

Waterbirds were depicted throughout the Aegean Bronze Age from EB I to LB IIIC. Although there is some overlap in style and motifs employed across different regions, we could make out trends that seem more characteristic of the one or the other area. The earliest images come from the Cyclades dating to EC I – II. Although schematic, the birds are shown in different species-specific poses (swimming, preening). Ducks are linked to the flow of liquid as the connection with pouring vessels suggests. Such an association is probably due to the aquatic habitat of waterbirds. Swans are shown on harps, possibly inspired by the similarity of the sound made by their large wings to the sound made by a stringed instrument. Significantly, the close physical connection created between the naturalistic bird features and the vessels or harps results in ambiguous hybrid images as they are typically found in animist imagery. In MC III, waterbirds are shown on vase-paintings and as vessels with an emphasis on lively poses and attention paid to avian details (feathers). Two duck-shaped rhyta suggest that waterbirds are again linked to liquids. The naturalism apparent in these vessels creates the impression that the birds become alive in order to actively mediate the flow of water. The adoption of such an active role by animals suggests that animist notions were prevalent on the Cyclades in this time.

On Crete, the earliest images of waterbirds date to EM III – MM II. They appear naturalistic because of the accurate rendering of sleeping, walking or swimming ducks, geese and swans. Harps with swans also appear on Cretan seals, comparable to the earlier depictions from the Cyclades. However, there is only one image associating waterbird with liquids so that we may say that doves were more commonly associated with the flow of liquids on Crete. In LB I, images of waterbirds from Crete and the Cyclades – most notably Akrotiri on Thera – are virtually indistinguishable. The depictions are remarkably naturalistic with a distinct focus on species-specific appearances (mallards, ferruginous ducks), behavioural patterns (e.g. chick-rearing, walking, swimming, mating) and environments (riverine, reedbed, palm trees). Importantly, the birds in these scenes are individualized by different lively actions and movements, which seem to reveal their status as beings with agency. Relations with other animals such as corvids/raptors or felines are also depicted. Often, the eventual outcome of such encounters remains unclear, thereby avoiding the creation of an absolute hierarchy

between different animals. Scenes with waterbirds and humans emphasise the importance of psychotropic drugs (saffron), the association with human-animal hybrids, the liminal aspects of waterbirds, their voluntary appearance and their role of carrying a single person. Such scenes suggest that waterbirds were thought to be spirit animals of shamans and they thus indicate that an animist ontology was prevalent on Crete and the Cyclades.

After LM II, images of waterbirds disappeared on the Cyclades. On Crete, influence from the Greek Mainland increased, as is evident in the tendency towards more generic depictions observable in LM II and continuing into LM IIIC. Nevertheless, the Cretan depictions of waterbirds continue to emphasise liveliness, varied poses/movements and the embededdness in the vegetative environment. In LM IIIA2 – IIIB, waterbirds are not only associated with cult symbols but also with aquatic and marine elements which seem to indicate a renewed interest in their liminal status, comparable to scenes of the Neopalatial period. The depiction of these associations on funerary containers may suggest that the role of waterbirds as companions was no longer limited to shamans but may have been extended to the dead in general. In LB IIIB – IIIC, similar waterbirds and animals (octopi) are depicted on numerous stirrup jars from tombs, especially at some sites on the Cyclades, the Dodecanese and the Greek Mainland with close links to Crete. The consistent funerary contexts seem to indicate that the birds now have an exclusively mortuary role, possibly as companions of the dead. These observations point towards a continuation of animist notions beyond LM IB.

On the Greek Mainland, waterbirds appear for the first time in imagery of LH I and they become very frequent motifs in LH III. In comparison to Cretan and Cycladic images, they display profound modifications such as a tendency towards much more generic and stylized appearances, identical poses and unnatural compositions – features which significantly increase over time. Several objects from the Greek Mainland consistently create a link between waterbirds and liquids. This connection starts in LH I when waterbird features are attached to open vessels but becomes much more pronounced in LH II and LH IIIA – IIIC when askoi and rhyta are shaped like waterbirds or waterbirds are painted onto pouring vessels such as jugs, jars, and conical rhyta. Find contexts suggest that these objects could be used in a ritual setting. In contrast to the Cycladic bird-shaped rhyta, the waterbirds appear too stylized to create the impression that they become alive when handled. Thus, they seem to be symbols rather than sentient persons which actively intervene in the order of things.

Another function attributed to waterbird images from the Greek Mainland is that of symbols/metaphors of social order. Comparable to depictions of birds of prey, form and content of the waterbird images seem to fluctuate with the concurrently employed power mechanisms. In LH I, scenes of waterbirds being attacked by felines or held by people exhibit an emphasis on violence or physical force. This seems to reflect the warrior ethos of this time when social power was primarily attained by real or implied physical strength. In LH II – IIIA, images of waterbirds in the form of Egyptian-style pyxides or pendants from rich tombs signify the consolidation of power by the participation in an established international elite iconography. Moreover, waterbirds and other animals are shown flanking a column – signifying palatial power – in a subservient manner. In LH IIIA2 – IIIB, power was further consolidated and required the employment of an ideological focus centering on stability and abundance as guaranteed by the palaces, for example by state-sponsored feasting. Images of multiple well-nourished waterbirds shown in an almost identical manner seem to have been suitable visual expressions of such notions. After the collapse of the palaces, a short period of relative prosperity existed in LH IIIC middle. In a deliberate attempt to conjure up images of past stability, swans are shown in similar compositions as the earlier waterbirds and peaceful relations are particularly emphasized by some family scenes from Lefkandi. At the sime time, the reemergence of warrior ethos seems reflected by some images focusing on the aggressive behaviour of swans. The consistent use of waterbird images as analogies/allegories/metaphors again suggest that Mainland ontology can be categorized as analogism.

7. Wading birds

7.1 Introduction

Wading birds include large waders such as herons and egrets (family Ardeidae), flamingoes, pelicans, cranes and great bustards (family Gruidae), and small waders such as stilts, rails or crakes (family Rallidae). Although the birds in these two groups differ in size, they share many behavioural features, especially the habit of wading, i.e. slowly walking through mud or water searching for fish or other animal prey. Their habitat usually consists of marshy or lake environments or wetland pastures, depending on the species. This also connects them to waterbirds such as ducks, geese and swans (Chapter 6), although they have longer legs and are not able to swim.

Wading birds are identifiable based on elongated bodies, long necks, long legs and long bills (Figure 139). Most of them have large feet with which they can hold on to slippery and muddy surfaces. Variations in size and silhouette, especially regarding beak shapes, can help identify the family or generic species. Single scientific species can be determined if colour or plumage patterns are indicated.

Wading birds are less frequently depicted than waterbirds, although they are also popular in LB III. The first images date to EB III – MB II and they will be discussed in the first section. Depictions dating to MB III – LB IIIA1 are analysed in the second section. In the final section we examine the more numerous images of waders dating to LB IIIA2 – IIIC.

7.2 EB III – MB II

In EB III – MB II, images of large waders appeared on vases and seals from the Cyclades and Crete. No depictions have been found on the Greek Mainland. The following 138 objects will be analysed:

- 20 vase-paintings (**G588-G607**) dating to EB III – MB II from Phylakopi on Melos and Gournia and Zakros on Crete.
- 118 seals (**D34, D328-D444**) dating to EB III – MM II from Lasithi, Mallia, Phaistos, Milatos, Avdou, Ayios Charalambos, Artsa, Petras, Moni Odiyitria, Neapolis, Palaikastro, Knossos, Anavlochos, Mochlos, Messara (exact findspot unknown),

Gouves and Lastros on Crete; Phylakopi on Melos; and Exarchos and Epidauros on the Greek Mainland.[631]

The birds can be identified as large waders based on their long necks and bills and their very long legs. The birds on most vases (**G588-G606**) have leaf-shaped bodies resembling those of herons or egrets. Two birds (**G591, G606**) have long feathers growing from their heads. These feathers are similar to the neck plumes of some species of herons or egrets (grey heron, purple heron, little egret). The fact that the remaining birds display a similar shape but have no such feathers might indicate that the birds are little egrets (*Egretta garzetta*) because this species only grows head feathers in summer (Figure 140).[632] Most waders on seals (**D328-D444**) and the bird on a Cretan vase (**G607**) have hump-shaped bodies, large two-toed or three-toed feet and downward hanging bushy tails which resemble those of common cranes (*Grus grus*) (Figure 141).[633] Eight seals (**D331, D334, D336, D347, D393, D394, D431, D443**) might show pelicans or ibises because the birds have especially large or curved bills (Figure 142).[634]

Comparable to other Cretan and Cycladic bird images from this period, the early depictions of large waders are characterized by a rather accurate rendering of proportions. When we look at their poses, we find that the waders on Cycladic vases are simply shown standing on two legs, probably in friezes. At first glance, the waders on seals appear relatively stiff and similar to each other.[635] On three seals (**D369, D417, D418**) two headless birds are fused together at their necks, which seems rather unnatural. However, on the majority of seals the waders adopt several different naturalistic poses such as standing, walking, sitting and flying.[636] A sense of movement is also created by variations in the poses of the heads. While several waders are shown with their heads reverted as if looking vigilantly around (e.g. **D389-D394**), others are looking up or down (e.g. **D368, D386**). Cranes on seals are often standing on one leg (**D328-D382**), which is a characteristic relaxed posture of large waders (Figure 143). Other cranes are depicted walking on two legs (**D383-D402**) (Figure 144). Sitting cranes are shown with their legs bent under them (**D403-D410**). This posture is called 'hock-sitting' and it is a typical posture of juvenile cranes (Figure 145). At least eight seals show cranes flying with

[631] Ruuskanen 1992, 15-20, type A "Wading birds".
[632] Svensson et al. 2009, 82.
[633] Levi (1957-58, 109) noted the link between the bird on the Gournia jug and a a crane on a seal from Phaistos. For identification as cranes see Kenna 1960, e.g. cat.no. 7 (**D381**) and Ruuskanen 1992, 15-20, 53-55. Shapland (2009, 133) and Anastasiadou (2011, 183-185, 197-200) just called them "waterbirds" or "waterfowl".
[634] Ruuskanen 1992, 54-55.
[635] Anastasiadou 2011, 297-299.
[636] Naturalism on these seals was noted by Kenna 1960, cat.no. 7 (**D381**).

their wings displayed (**D419-D429**) (Figure 146). When multiple birds are shown, there can be variations in the poses adopted by individual birds. The frequent rotational compositions also add a certain sense of movement to these images.[637]

As far as we can tell, no vegetative setting is indicated on the Cycladic vases with egrets and stars are shown only once (**G588**). The Cretan wading birds are either shown alone or together with their own kind, but on some seal faces they are combined with other elements commonly found on MM II seals (Table 8).[638] Anastasiadou has argued that these elements are not necessarily landscape features because they are often shown upside down in relation to the bird.[639] However, a strict dichotomy of top and bottom may not have been perceived as such by the Cretans because the seals were probably turned around when handled.[640] Thus, these elements might be landscape features after all.

Table 8: Associations of wading birds on Cretan seals dating to EM III – MM II.

Associated element	Number of seals
Branch	13
Quadruped	6
Vessels	5
Spiders/scorpions	4
Fish/dolphin	2
Man	1
Total	31

Most frequently, the waders are combined with branches (e.g. **D387, D407**) which may signify vegetation. Other frequently associated elements are quadrupeds such as goats or bovines (e.g. **D385, D365**). On the vase from Gournia (**G607**), a wader is shown next to a goat. According to Shapland, the most common motifs on the other seal faces of multi-sided seals with waders are men and quadrupeds.[641] The persistent association with quadrupeds

[637] Cf. Groenewegen-Frankfort 1951, 198-200.
[638] Anastasiadou 2011, 332-334.
[639] Anastasiadou 2011, 352.
[640] Morgan 1989, 156-158; McGowan 2006.
[641] Shapland 2009, 133.

seems inspired by direct observation of nature, since wetland pastures with herd animals are favourite feeding grounds of large waders. The fish/dolphins shown on two seals (**D362, D411**) seem to allude to the wetland habitat of waders. Possibly, the occasional association with vessels (e.g. **D361**) is another indication for this link to water.

The remaining associatiated elements – spiders and scorpions (e.g. **D395, D396**) – cannot be readily explained by any environmental or behavioural links.[642] Other 'unnatural' elements, namely signs of the Cretan Hieroglyphic script, appear next to waders on two hard-stone seals (**D34, D366**). This association has led Jasink to argue that the birds on seals may have occasionally functioned as script signs, although they do not appear in clay documents written in Cretan Hieroglyphic.[643] Anastasiadou has drawn attention to the visual resemblance of several motifs on MM II soft-stone seals to the signs of Cretan Hieroglyphic which were usually shown on hard-stone seals.[644] She argued that the rather unnatural combinations of elements on the steatite prisms – such as that of birds and spiders/scorpions – suggest that they were meant to imitate Cretan Hieroglyphic.[645] The possible function of wader images as pseudo-script signs may explain the more unusual combinations, but the fact remains that the majority of birds are shown in poses and associations directly observable in nature.

When we try to characterize the images with regard to ontologies, we can note that they reveal an interest in the behavioural specifics and various poses adopted by waders. Also, both the accurate proportions and the sense of movement observable in some depictions seem to be traits of animist imagery. At the same time, the presence of almost identical poses and some unnatural associations may suggest that images of waders were used as pseudo-script signs, a symbolic function actually more compatible with analogism.

In sum, images of waders dating to EB III – MB II from the Cyclades and Crete show egrets, cranes and possibly pelicans and ibises. Most of them are depicted in a variety of species-specific poses and associations, but occasionally the sense of movement and naturalism is offset by identical appearance or unnatural associations. While the former characteristics

[642] Anastasiadou 2011, 341-358.
[643] Jasink 2009, 140-141. This is the reason why they are not included in CHIC.
[644] Anastasiadou 2011, 356.
[645] Anastasiadou 2011, 353-358. In her view, the soft-stone seals could have belonged to people of lower social status. Cf. also Poursat 2000, 189-190.

seem to be consistent with animism as ontology, the latter traits could be explained by the sporadic – analogical – function of wader images as pseudo-script signs.

7.3 MB III – LB IIIA1

In MB III – LB IIIA1, wading birds were depicted in more diverse media. In addition to seals and vase-paintings, we also find images in frescoes and ivory carving. Depictions mostly come from Crete and the Greek Mainland, less often from the Cyclades. The following 40 objects will be discussed:

- 2 frescoes (**E19, E20**) dating to MM III – LM I from Knossos and Archanes on Crete.
- 2 ivory plaques (**I8, I12**) dating to LM I from Palaikastro and Zakros on Crete.
- 1 faience figurine (**B129**) dating to LM I – IIIA from Knossos on Crete.
- 26 seals/sealings (**D445-D470**) dating to LB I – IIIA from Tylissos, Sykia, Sitia, Avgos, Knossos and Mallia on Crete; and Eleusis on the Greek Mainland.
- 9 vase-paintings (**G608-G616**) dating to LB I – IIIA1 from Akrotiri on Thera; Mycenae, Nafplion, Asine, Thebes, Argos and Berbati on the Greek Mainland; and Isopata on Crete. [646]

After MM II, cranes were no longer depicted on Cretan seals. Instead, most seals (**D445-D462**) seem to show herons or egrets due to their more elongated bodies.[647] The birds on one seal (**D456**) have neck feathers; possibly they are grey herons (*Ardea cinerea*) or little egrets (*Egretta garzetta*). Another seal (**D455**) depicts a heron-like bird with a very short neck, thus it could either be one of the larger herons with a contracted neck or a short-necked night heron (*Nycticorax nycticorax)* or squacco heron (*Ardeola ralloides)* (Figure 147). A small wader, probably a member of the Rallidae family, is shown on another seal (**D463**) (Figure 148). Small waders, possibly black-winged stilts (*Himantopus himantopus*), are also depicted in a fresco fragment from Archanes (**E19**) and a sherd from Akrotiri (**G608**) (Figure 149). A fragmentary figurine from Knossos (**B129**) shows a bird's head with a long, sturdy neck and a relatively short bill. It could be a great bustard (*Otis tarda*) (Figure 150).

[646] Furumark 1941, FM 7.n and 33.
[647] Ruuskanen 1992, 55.

Another type of wader is shown on a fresco (**E20**), two plaques (**I8, I12**) and some seals (**D464-D470**). The most detailed image of this type is preserved on a plaque from Palaikastro (**I12**). It shows a large bird with broad wings, a long neck, a long sturdy neck, an elongated head and a long bill. These features suggest that it is a common crane (*Grus grus*).[648] However, the bird also has a very long tail and a raised fan-shaped crest composed of three tapering feathers. These elements make the bird resemble a male Indian peafowl (*Pavo cristatus*) (Figure 151).[649] The fresco fragment from Knossos (**E20**) may corroborate this identification. It shows the large wings of a bird and the base of a broad tail. Brownish yellow feathers form the tail, while the wings have rounded blue feathers, some of which have black eyes in their centre. Such eyes are typical of the plumage pattern of a peacock.[650]

The presence of peacocks in LM I iconography would be surprising, however, because these birds whose origins lie in India are not native to the Aegean. The exact date of their introduction to Greece is uncertain. Peafowl were known in Athens by the 5th century BC and there are indications that a peacock appeared even earlier on Samos.[651] In Mesopotamia, these birds were known by the 3rd millennium BC because a literary document clearly mentions them.[652] Peafowl can be kept easily in captivity and some birds may have reached the island of Crete already in the Neopalatial period, possibly via the Levant. Peacocks with their exuberant plumage must have been a fascinating sight for the Cretans. Their exotic origin may explain the particularities of the depictions which mix the most characteristic features of peafowl (long tail, crest) with those of a crane.[653] Apparently, the Cretans considered the crane to be most similar to the peacock, probably because they share some morphological and behavioural features. Both species are large birds with big feet and conspicuous tails. Moreover, they walk a lot and mostly forage in open areas, eating seeds, but also insects and small animals. In this case, Cretan folk taxonomy seems to have deviated from scientific taxonomy, which classifies peafowl as belonging to the order galliformes (like chickens or partridges).

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[648] Warren (1995) identified this type of bird on **D464** as a crowned crane (*Balearica pavonina*), which lives in Africa south of the Sahara. However, there is no evidence that the crowned crane was known beyond its native range (e.g. the Egyptians did not depict it).
[649] Dawkins et al. 1904, 284; Vickery 1936, 84; Nilsson 1950, 289.
[650] Evans (1921, 540-541) called the bird a pheasant, although he had identified peacock plumes in the Priest King Fresco.
[651] Nair 1974, 93.
[652] Veldhuis 2004.
[653] Some scholars, for example Marinatos – Hirmer (1973, cat.no. 113); Warren (1995, 979); Vanschoonwinkel (1996, 367) considered the possibility that it a fantastical bird due to the mixed features.

While the Cretan and Cycladic images seek to differentiate wading birds according to species, this is notably different in the case of some Mainland vase-paintings (**G609-G616**) the earliest of which comes from LH I Mycenae.[654] The birds with their elongated bodies, long straight necks and long bills seem to be large waders but they cannot be identified more closely (Figure 152).

When we turn to the degree of naturalism we can find further differences. In the Cretan and Cycladic images, most waders are shown in rather naturalistic ways. For example, one heron (**D455**) is depicted hiding in the reed, probably waiting for prey. Another seal (**D457**) depicts the raised head of a heron (or pelican?) with a fish caught in its bill.[655] It is a masterfully executed image of the moment before the fish is turned around in the bill to be swallowed head first (Figure 153). Three seals (**D450-D452**) show herons in a seemingly unnatural position with their bodies on their backs and the feet in the air. It is possible that they show bathing herons, which can seem rather helpless when they are partly submerged and treading the water with their feet (Figure 154). The peafowl/crane is also shown in varied poses, either flying (**E20**, **I8, I12, D466-D470**) or walking (**D464, D465**).

While the above images focus on the liveliness and variety of behaviour, wading birds on the Mainland vase-paintings (**G609-G616**) are always shown in the same pose with displayed wings and no attention is paid to other more species-specific actions. Simply shown in a frieze, the birds appear very similar to each other. In contrast to the Cretan images which show varied types of waders, the birds on the Mainland vases appear almost copied, although they come from different sites (Mycenae, Asine, Prosymna, Berbati, Nafplion, Thebes, Isopata).[656] Moreover, their appearance is not only generic, but also rather unnatural because they have wavy legs and the thin band-like wings are shown above and below the birds in a rather twisted position. In some cases (e.g. **G614, G615**) the wings which are attached near the head appear like neck feathers.

In the Cretan images, the environment of the waders is often alluded to by branches and the herons can be surrounded by wetland plants such as papyrus or reeds (e.g. **D455, D457**). On the Archanes fresco (**E19**), the small wader appears in front of dark and light brown areas,

[654] Åkerström (1987, 65) and Crouwel – Morris (1996, 212-213) also compared the bird on the Berbati fragment to similar birds on vases from Asine and Thebes.
[655] For a remarkably similar depiction in Egpytian iconography see Houlihan 1986, 15.
[656] Åkerström 1987, 115; Mountjoy 1993, 127; Crouwel – Morris 1996, 213.

possibly signifying mud banks.[657] The peafowl/crane is surrounded by rocks on the plaques (**I8, I12**). The herons can be combined with fish (**D463**) or quadrupeds, e.g. bulls (**D460, D461**). As was said above (Section 7.2), large waders are often seen together with cattle on wetland pastures. Some species of waders such as cattle egrets have specialized in this habitat and primarily feed on the insects stirred up or attracted by herd animals. On the Zakros plaque (**I8**) the peafowl/crane may have been associated with other flying birds (corvids and swallows). The fresco fragment from Knossos (**E20**) showing a rising peacock might belong to the same scene as a nearby found head of a cat.[658] Possibly, the bird is fleeing an imminent attack, comparable to the waterbirds chased by felines in scenes discussed in the previous chapter (Section 6.3).

While the Cretan depictions place particular emphasis on showing the wading birds embedded in their natural environment, the same cannot be said for the vase-paintings from the Greek Mainland (**G609-G616)**. Vegetation or other elements are rarely shown on the vases; one associates the wader with a single lily (**G614**) and another one shows an argonaut next to the bird (**G611**). The only exception to this is an alabastron from Isopata on Crete (**G613**) which depicts a generic wader of the Mainland style surrounded by dense vegetation and ornaments.[659] Given its findspot it seems likely that this image was influenced by local Cretan traditions.

As to the functions of the wading birds, we can note that two Cretan seals show large waders in association with women. On a LM I seal (**D458**) a wading bird is depicted next to a female figure with a staff whose head is turned towards the bird. Another seal (**D459**) dating to LM IIIA might show a similar composition although the seal is quite worn. The woman with the staff recalls the hovering figures in Cretan cult scenes (Sections 4.4 and 5.3). As we have seen, such figures were often carried and accompanied by corvids, an arrangement which finds parallels in shamanist imagery. Waterbirds seem to have had a similar role as shamanic helpers, possibly due to their liminal status (Section 6.3). Since wading birds share the liminal habitat with waterbirds they may have occasionally adopted a comparable role in shamanic practices. The waders on the Mainland vases (**G609-G616**) are never associated directly with humans. Since they all come from tombs, they may have had a funerary significance, but the

[657] Sakellarakis – Sapouna-Sakellaraki 1997, 499.
[658] Evans 1921, 540.
[659] Cf. Preston 2004[a].

lack of more specific poses or recurrent associations makes it impossible to reconstruct their exact function.

When we turn to ontologies, there are again distinct regional differences. The Cretan and Cycladic images of waders depict the birds in various lively species-specific poses and actions. Moreover, the scenes with waders in shamanic rituals appear to emphasise the relations to humans (by the turning of the head) in a typically animist fashion. Plants are frequently shown surrounding the waders in a dense composition, as if emphasising their shared ontological status. In comparison, the waders from the Greek Mainland appear stylized and often identical to each other without the indication of vegetation. They may have had an analogical function of unknown sort.

In sum, the images of waders dating to MB III – LB IIIA1 come from Crete, the Cyclades and the Greek Mainland. Depictions from Crete and the Cyclades show specific species, while those from the Greek Mainland only depict generic waders. The exotic peafowl seems to have been classified as belonging to large waders, not galliformes as in modern taxonomy. The Cretan and Cycladic images reveal a profound interest in the elaboration of different poses, behavior and habitat of waders. Possibly, these birds were thought to act as shamanic helpers due to their liminal habitat, reflecting animist notions. By contrast, the Mainland vases do not show such associations and depict the waders in a repetitive and rather rigid fashion,features more typically found in analogical imagery.

7.4 LB IIIA2 – LB IIIC

In LB IIIA2 – IIIC, images of wading birds became more frequent again, especially in vase-paintings.[660] Most depictions come from the Greek Mainland, fewer from Crete. The Cyclades have not yielded any images of waders from this period. The following 240 objects will be discussed:

- 3 seals (**D471-D473**) dating to LH IIIA – IIIB from Knossos on Crete; and Midea on the Greek Mainland.
- 1 lapislazuli inlay (**I13**) dating to LH IIIB1 from Thebes on the Greek Mainland.
- 3 frescoes (**E21-E23**) dating to LH IIIB2 from Tiryns on the Greek Mainland.

[660] Güntner (2010, 14-15) estimates that they comprise over 50% of all bird depictions in LH IIIB2. According to the numbers compiled in this thesis, this figure may even be higher.

- 233 vase-paintings (**G110, G227, G260, G617-G846**) dating to LB IIIB1 – IIIC from Knossos, Chania, Armenoi, Kalami on Crete; Tiryns, Berbati, Mycenae, Midea, Teichos Dymaion, Argos, Thebes, Athens and Kokla on the Greek Mainland; and Kolonna on Aegina.[661]

A fresco fragment (**E23**) from Tiryns shows a bird similar to the herons on Cretan seals discussed in the preceding section. Its orange head with a long red bill may indicate that it is a purple heron (*Ardea purpurea*) (Figure 155). Peafowl/cranes seem to be represented on two seals (**D471, D472**) due to their long tails. A peacock with a fan-shaped crest is also shown in a fresco (**E22**) from Tiryns. Similar crested heads are shown in another fresco from Tiryns (**E21**) and a lapis lazuli inlay (**I13**) from Thebes. In LH IIIB1, generic waders of the type discussed in the preceding section were no longer depicted on vases. Instead, several vases (**G110, G260, G619-G682**) show birds with elongated bodies, relatively short necks, large two-toed feet, short tails and long and triangular bills.[662] They seem to be some kind of small heron or egret (Figure 156). Since birds of this type are shown pecking at the necks of bulls they may be identified as cattle egrets (*Bubulcus ibis*) (Figure 157).[663] Numerous vases (**G227, G617, G727-G838**), mostly dating to LH IIIB2, show waders with large bodies, bulging breasts and broad tapering tails hanging down. The tails resemble the long drooping tails of common or demoiselle cranes (*Grus grus* or *Grus virgo*) (Figure 158).[664] Some other vases (**G695-G717**) depict waders with serpentine necks and strongly curved bills which resemble flamingoes (*Phoenicopterus roseus)* (Figure 159).[665]

In addition to these rather specific depictions, there are several images of more generic large waders on the vases. To these belong some depictions on Cretan vases (**G687-G694**) which show the protomes of generic waders (Figure 160). Such vases were only found in the region around Chania and at Armenoi in West Crete which seems to have received a particularly strong influence from the Greek Mainland in LM IIIB.[666]

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[661] Furumark 1941, FM 7.36, 37, 39 and FM 7.17 and 16, 29.
[662] The same type of bird is shown on well preserved vases from tombs on Cyprus. Their Mainland origin is attested by scientific (Mommsen – Maran 2000-2001, 98-99, table 1, 102-103) and stylistic analysis (Güntner 2006).
[663] Benton 1961, 44.
[664] Vermeule – Karageorghis (1982, cat.no. IX.109) used the term "marsh birds" for the birds on **G769** as did Mcmullen Fisher (1998, 109) for the birds on **G764**.
[665] Vermeule – Karageorghis (1982, cat.no. IX. 110 - 112) called the birds on **G695, G698** and **G700** "flamingos".
[666] Betancourt 1985, 171-177; Bennet 1985, 1987, 82-83.

The degree of naturalism in these images varies widely. The heron in the Tiryns fresco (**E23**) as well as a crane on a vase from Knossos (**G617**) and some of the cattle egrets (e.g. **G619**) and flamingoes (e.g. **G695, G700**) on vases from the Greek Mainland appear relatively naturalistic. However, more numerous are images of waders whose morphology displays unnatural features. For example, the two peacock/cranes in frescoes from Tiryns (**E21, E22**) are painted yellow, not blue or green as we would expect. Moreover, their crests in one of the frescoes (**E21**) and an inlay from Thebes (**I13**) resemble those of griffins rather than those of peacocks, due to the small black spirals at the base (Figure 161).[667] The bodies of large waders on vases can be decorated with circles, wavy lines or rows of dots running alongside the inner silhouette and the middle axis of the body. None of these patterns corresponds to any natural plumage patterns of waders. The wader protomes on Cretan vases (**G687-G694**) can be seen as confirming this tendency towards deviation from nature because they are not complete birds. However, it needs to be said that they appear less abstract than the waterbird protomes discussed in the previous chapter because they do not develop from abstract forms such as triangles. More unnatural features are found in the cranes on the Mainland vases dating to LH IIIB2 (**G727-G838**). Their bodies are not developed in an organic manner, but appear as if assembled from separate body parts. Often, the necks are attached opposite the legs and the bulging breasts appear especially exaggerated. The tails can be unusually long, sometimes even overlapping the ground line.

When we analyse the poses and compositions of the waders, we find similar trends. The images of peafowl/cranes (**E21, E22, I13**) are for the most part too fragmentary to identify their poses or actions. However, the heron in the Tiryns fresco (**E23**) is shown in a rather natural scene because it seems to be poking with its bill in the mud next to the base of a (papyrus?) plant. Some of the wader protomes on Cretan vases (e.g. **E691**) have their beaks opened as if calling, which gives them a rather lively attitude. The (cattle) egrets from the Greek Mainland are often depicted with their heads lowered and turned back as if scanning the ground for food (e.g. **G619-G621**). A few waders have turned their heads back (e.g. **G639, G640, G757-G760**). However, the poses of the birds appear standardized and usually there is no sense of individual movements. These aspects are much intensified in depictions of cranes and flamingoes in LH IIIB2 vases.[668] Only a single flamingo is shown standing on one leg (**G716**), although this is a typical pose of these birds. Mostly they are simply shown

[667] Rodenwaldt 1912, 139.
[668] Vermeule and Karageorghis (1982, 102-103) similarly observed standardisation of compositions and types.

standing in friezes of multiple birds, with only two birds possibly arranged in antithetical composition (**G734**). They do not differ from each other, neither in their poses nor actions. Apparently, it was not the intention of Mycenaean vase-painters to show the great variety of poses observable in a lively flock of cranes or flamingoes.

The heron in the Tiryns fresco (**E23**) is the only wading bird from this time shown in a natural environment, alluded to by the plant next to the beak. The waterbird protomes (**G687-G694**) are sometimes integrated into abstract decorative schemes which do not include plants. On the vase-paintings of large waders from the Greek Mainland, no vegetation is shown at all and the birds are set in blank spaces. As was mentioned above, some waders are associated with cattle (Figure 162).[669] The cattle egrets are shown pecking at the animals (**G625-G627**) or standing between or under them (**G626, G628**). Cattle egrets eat insects which are disturbed by the movements of the animals, but they can also stand on the mammals picking ticks or fleas from their fur.[670] This close relationship benefits both animals, providing food for the egret and preventing parasites and diseases from spreading in the cattle herd. Thus, the association of waders with cattle is not entirely due to fancy, as was implied by Åkerström when he said that the bulls are "left with a bird or fish to play with",[671] but accurately reflects the symbiotic relationship between these species. Cranes and flamingoes are also directly associated with cattle on five vases (**G716, G725, G761-G763**). One crane (**G763**) even seems to be standing on a bull. Although these wader species prefer similar wetland habitats as cattle, they are never seen in such a close proximity to the mammals.[672] The observation that there is some overlap in the associations of several species of large waders (egrets, cranes, flamingoes) might indicate that they were combined in a folk taxonomical category, maybe as "cattle birds".[673]

As regards the functions of wading birds in this period, we can note that the similarities of the peafowl/crane to the griffin (**E21, I13**) may indicate that the bird became an imaginary or mythological creature. On a sealing from Knossos (**D472**), peafowl/cranes are also shown above a scene with griffins. The peacock in the Tiryns fresco (**E22**) seems to be carried in a procession.[674] In this scene, several elaborately dressed women are shown under parasols, some of which are carrying smaller female figures (either cult images or young girls) which

[669] Åkerström (1987, 64) highlighted the frequent associations of birds with bulls.
[670] Cocker 2013, 133.
[671] Åkerström 1987, 71.
[672] Svensson et al. 2010, 82; McInerney 2010, 6-7.
[673] The cattle egret is also known as cow crane.
[674] Papadimitriou et al. 2015.

are holding pomegranate branches. Papadimitriou et al. interpreted the scene as alluding to initiation rites of young girls under the protection of the goddess Hera (hence the pomegranates as fertility symbols).[675] Although the exact significance of this scene remains unknown, the incorporation of an image of the bird in a ceremonial procession suggests that it had a religious meaning. Moreover, the possible association with a festival related to Hera could indicate that the peacock was an attribute of this goddess already in Mycenaean times.

On the Mycenaean vases, mostly kraters and deep bowls, we can note that the plump shape and the conspicuously rounded breasts of the cranes (**G723-G838**) are emphasised, especially in LH IIIB2. This might allude to their palatability. Cranes have been seen as important sources of protein and they were sought-after game birds in the ancient Mediterranean and in the Middle Ages.[676] In Egypt, they were even force-fed with grain to fatten them and to make their meat more palatable.[677] Evidence from bone finds on the Greek Mainland suggests that cranes were eaten in Macedonia and Thessaly[678], Laconia[679] and the Argolid[680]. The emphasis on size and fatty body parts are reminiscent of the features highlighted in waterbirds on roughly contemporary vases (Section 6.5). The similarity extends to the compositions consisting of uniform friezes of identical birds. We may argue that such images of waders convey a similar impression of affluent and peaceful regularity. An intensifying of the emphasis on uniformity is observable in LH IIIB2 because the single birds do not show individual decorative fillings anymore and all show the same rows of dots. This increased interest in 'orderly' depictions may mirror the solidification of palatial society in this period. In contrast to LH IIIA2 – IIIB1 vase-paintings of waterbirds, LH IIIB vases showing waders exclusively come from palaces, especially in the Argolid, which also suggests that their significance was more closely tied to palatial ideology. The limited repertoire of motifs on vases which in this time consists of bulls, chariots with horses, fish, boxers, helmeted warriors, stags, goats, hunting scenes and large waders is another indication that elite ideology played a role in the selection of themes.[681]

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[675] Papadimitriou et al. 2015, 197-206. Hera is also attested in Linear B, e.g. on PY Tn 316.
[676] Toynbee 1973, 243-244; Cocker 2013, 185-187.
[677] Houlihan 1986, 83-86.
[678] According to Becker (1986, 212-216), several crane bones have been found at Kastanas and Pefkakia Magoula.
[679] According to Duhig et al. (2008, 513), a crane bone dating to LH IIA was found burnt at Ayios Stephanos.
[680] According to Gejwall (1969, 47) cranes were eaten at Lerna I and the excavations at Tiryns have yielded crane bones in LH IIIB2 layers.
[681] Steel 1999, 806; Stockhammer 2009, 164-165.

Other elements associated with waders also seem to corroborate their close connection to palatial society. For example, waders are shown next to chariots on three vases (**G629, G630, G694**). The frequent association with cattle can also be seen in this light (Figure 162). According to Linear B sources, cattle were valuable animals for the palace economy. At least some cattle herds were probably under the control of the palaces because several cowherds are mentioned in the documents and individual animals were apparently dispersed from these herds to be used as traction animals.[682] The fact that these ploughing oxen were given names and described in the documents also suggests that the palace controlled these animals.[683] Cows and bulls were sacrificed and consumed, probably on high-status occasions. This is evident from the lists of animals for banquets from Pylos, where one bull is destined to be sacrificed on the occasion of the initiation of the king (Un 2), while Un 718 and Un 853 list cattle for feasts in honour of Poseidon.[684] Further evidence for the important role of cattle in palatial society comes from the archive room 7 in the palace at Pylos which contained several deposits with burnt cattle bones, apparently feasting refuse.[685] Furthermore, a large bull is depicted in a procession on the wall of the vestibule of the megaron at Pylos which corroborates the close connection of this animal with the highest ranks of the palatial hierarchy. The social and ideological importance of the cattle herds for the palace might have been extended to the large waders because their positive effects on the herds were noticed and their presence may even have been encouraged by the cowherds.[686]

There are a few indications that large waders had a ritual significance in LH IIIB (Figure 163). A pyxis from the Cult Centre at Mycenae (**G758**) shows a crane standing below a sphinx.[687] On the Midea Stirrup Jar (**G260**), cattle egrets are sitting on double axes attached to horns of consecration (Section 6.5). According to Briault, there are indications that when the double axe was transferred to pottery in LH II its cult symbolism was understood, marking ritual pottery, but its function was more directly linked to power.[688] A few waders are shown on pouring vessels such as jugs or jars. A double jug with a hare modelled in relief on the handle comes from Chania (**G693**). As we have seen (Section 4.5) these vessels were probably used in rituals centering on water-related fertility. It needs to be noted, though, that

[682] Halstead 1998-1999, 169; McInerney 2010, 63-65.
[683] Killen 1993; Halstead 1998-1999, 161, 168; McInerney 2010, 50-51.
[684] Halstead 1998-1999, 167; McInerney 2010, 53, 65-66.
[685] Isaakidou et al. 2002; Stocker – Davis 2004; McInerney 2010, 60-62.
[686] According to Cocker (2013, 133-134) in Egypt and other Arabic-speaking countries the cattle egret is called "friend of the farmer".
[687] Rutter 2014, 203.
[688] Briault 2007, 256-258; Briault 2008, 252-253.

the waders are painted on the body and not near the openings, a position which on Crete seems to have been reserved for dove figurines. On the Midea Stirrup Jar (**G260**), waterbirds – not waders – are directly associated with the flow of liquid (Section 6.5). Thus, it seems more likely that the waders' symbolic links to palatial society inspired their occasional association with ritual pottery.

Another attestation of the connection with palatial religion might be found in some Linear B tablets from Thebes which were already mentioned in connection with waterbirds. In addition to mules, snakes, dogs, birds and geese, the word *ke-re-na*, which has been translated as cranes (γέρανος, probably mentioned on Fq 126, Fq 169 and Gp 176), appears listed as the recipients of various foodstuffs on the occasion of a ritual banquet.[689] The same word also appears on a tablet from Knossos (KN M 719) in connection with a theonym mentioned as the recipient of certain commodity (**146*). Del Freo has drawn attention to the later status of cranes as the sacred birds of Demeter because they often eat grain and their migration cycle correlates with the agricultural year.[690] Following Aravantinos et al., he suggested that the word *ma-ka* which also appears in the Thebes tablets can be identified with Demeter and thus cranes were possibly sacred to this divinity already in Mycenaean times.[691] However, the identification of *ma-ka* as Demeter has not been universally accepted.[692] Moreover, the association with palatial cattle herding seem to have been more pertinent than that with agriculture. Another indirect indication of the close connection between the waders and palatial society is the fact that after the collapse of the palaces at the end of LH IIIB2, images of waders – with and without cattle – disappeared almost completely. Only one vase from Mycenae (**G110**) showing waders on horses seems to be a faint echo of the recurrent associations of cattle egrets with large mammals on earlier vases. This rarity of waders notably contrasts with the contemporary popularity of waterbirds in LH IIIC (Section 6.6).

As to ontologies, we need to point out first that there are not enough wader images from Crete to allow a reconstruction of the prevalent mode of human-animal relationship. Nevertheless, we can note that the wader protomes on Cretan vases seem rather lively, a feature characteristic of animist imagery. The wading birds in images from the Greek Mainland often appear as if assembled from several irreducible parts (tail, body, legs, neck) rather than being developed in an organic fashion. Such modular thinking seems to be typical of analogism

[689] Aravantinos et al. 2001; Del Freo 1999, 301; Neumann 2006, 128.
[690] Del Freo 1999, 301-304.
[691] Aravantinos et al. 2001, 188-190.
[692] Killen 2006, 82; Duhoux 2006.

(Section 3.2.1). Moreover, the extent of species-specific features or associations given seems to be heavily dependent on the symbolic function of the birds (mythical attribute of a deity or symbols of palatial society).

In sum, some images of waders dating to LB IIIA2 – IIIC come from Crete but most from the Greek Mainland. Although they are often identifiable as a certain species (cranes, cattle egrets, flamingoes), most of the birds appear stylized or they display unnatural features. The peacock/crane seems to have been assimilated to the mythical griffin and the bird may already have functioned as an attribute of the goddess Hera. While some wader protomes from Crete appear rather lively due to their open beaks, the great majority of wader images from the Greek Mainland focus on the depiction of identical birds shown in regular friezes. The only relations of waders emphasized are those with cattle or chariots and both elements are intricately linked to palatial economy and/or society. Therefore it was argued that the uniformly arranged birds reflect the solidification of palatial society occurring during LH IIIB. The constant use of bird images as allegories or metaphors is consistent with analogical imagery.

7.5 Conclusion

Wading birds appear in iconography of the EB III – LB IIIC periods. The earliest images dating to EB III – MB II come from the Cyclades and Crete. Various generic species such as egrets, cranes, pelicans or ibises seem to have been distinguished, especially on Crete. Despite a certain sense of rigidity and some unnatural associations, features which are probably attributable to the function of some images as (pseudo)script signs, most waders are shown in varied species-specific poses and associations. This becomes even more pronounced in MB III – LB IIIA, when various waders are shown in Cretan and Cycladic imagery with an emphasis on the variety of poses, behaviour and relations with other animals. A special bird mixing the features of a peacock and a crane was interpreted as revealing a Cretan folk taxonomical grouping which included the exotic peafowl in the same category as cranes due to morphological and behavioural similarities. Two images seem to associate waders with women in scenes comparable to shamanic imagery as can be found in the art of animist societies.

The first depictions of wading birds from the Greek Mainland appear in LH I – IIIA. In contrast to the contemporary Cretan and Cycladic images, they show identical generic waders

with a pronounced disregard of behavioural and environmental diversity. In LH IIIB – IIIC, we can identify different species but stylization and unnatural features prevail. Rather than showing variety of poses and behaviour, these images focus on peaceful images of identical large-bodied birds. Their frequent associations with cattle or chariots link the waders to other symbols of palatial economy and society. We can therefore argue that the scenes of uniformly arranged multiple waders reflect a firmly established palatial order and associated notions of stability and abundance. In addition, the peafowl/crane seems to have become a mythical bird, possibly functioning as an attribute of the goddess Hera. Both the function of bird images as metaphors for the social order and as divine attributes is consistent with analogical imagery.

8. Miscellaneous

8.1 Introduction

In this chapter, we look at depictions of various birds which are overall less frequent and more scattered – both in space and time – than those discussed in the previous chapters. These are owls, hoopoes, galliformes (chickens and partridges), human-bird hybrids and combinations, swallows, and seabirds (gulls and cormorants).

We will analyse the miscellaneous images of birds in a rough chronological order, beginning with owls, the earliest image of which appears in EM III – MM I. In the second section, we look at depictions of hoopoes which appear in EB III – LB II. The third section discusses images of galliformes, which date to EB III – LB IIIC. In the fourth section, we look at images of human-bird hybrids and combinations dating to MM II – LM I. Swallows are the focus of the fifth section because images of these birds date to MB III – LB I. The final section is dedicated to seabirds which appear in MB III – LB II/IIIA1.

8.2 Owls (EB III – LB II)

Owls (birds of the order Strigiformes) are among the most easily identifiable birds due to their elongated bodies, round faces and large staring eyes (Figure 164). Originally motifs on Cretan seals, owls were subsequently depicted on jewellery found on the island of Aegina and the Greek Mainland. We will discuss the following 21 objects:

- 1 seal in the shape of an owl (**D474**) dating to EM III – MM IA from Crete.
- 7 seals and sealings showing owls (**D475-D481**) dating to MM II and LM I from Knossos, Phaistos and Ayia Triada on Crete.
- 12 jewellery pieces (**C51-C56**) dating to MB III – LB II from the island of Aegina and Pylos, Peristeria and Kakovatos on the Greek Mainland.
- 1 gold sheet showing an owl (**I14**) dating to LH I – IIA from Pylos.

While the earliest depiction of an owl in the shape of a figural seal (**D474**) does not yet show species-specific attributes, the later birds can be further differentiated. One MM II seal (**D478**) shows an owl with small ear tufts, possibly a scops owl (*Otus scops*). The remaining three MM II seal images (**D475-D477**) depict owls with long appendages growing from their head, sometimes turned into spirally structures resembling horns. They are identifiable as “horned

owls" of the family Strigidae which have characteristically large ear tufts.[693] More specifically, long-eared owls (*Asio otus*) may be meant (Figure 165).[694] In MM III, images of birds with ear tufts disappeared and the owls are smaller and more elegant. The birds on a sealing from Knossos (**D481**) may be barn owls (*Tyto alba*) based on their heart-shaped faces. The birds on the remaining Cretan seals (**D479, D480**)[695] and gold ornaments from Aegina and the Greek Mainland (**C51-C56**) can be identified as little owls (*Athene noctua*) (Figure 166).[696]

The change in species from long-eared owls in MM II to little owls in MM III/LM I might be due to behavioural differences between these species. Whereas the former species is a forest dweller which only hunts at night and seldom comes near human settlements, little owls often perch and/or breed in a landscape created by humans (e.g. pastures, fences, ruins) and even in houses/barns (Figure 167).[697] In contrast to other owl species which are nocturnal and shy, little owls are often seen during the day and can also become accustomed to humans. We will return below to the question of why such attributes might have been of interest.

When we turn to the degree of artistic naturalism, we can state that – apart from the exaggerated ear tufts on some MM II depictions – all the owls are depicted in naturalistic ways. Mostly, they are shown standing or sitting with their legs flexed (**C54-C56, D474-D479, D481**). This reflects the common poses assumed by owls, which are usually seen in a calm posture in a tree, either resting or waiting for prey. Some owls (e.g. **D478, D479**) are shown in a hunched posture, i.e. a pose they adopt when perching or when discovered by a human. Thus, it seems that some depictions of owls were inspired by direct observations of these birds. Flying poses are adopted by the birds on a Cretan seal (**D480**) and the owls in the ornaments from the Aegina Treasure (**C51-C53**). Owls on Cretan seals can be associated with a branch (**D475**), oval objects, possibly eggs (**D477**), and a rosette or rocks (**D481**).

The variety of species, poses and associations of owls on Cretan seals makes it difficult to identify any meaningful patterns. As with other bird images from EM – LM I Crete, the primary aim of owl depictions may have been to show the diversity of bird life rather than highlighting any primary function of the birds. With the adoption of owl images on Aegina (**C51-C53**) and the Greek Mainland (**C54-C56**), however, this seems to change. The owls are

[693] Ruuskanen 1992, 58, type C.
[694] The eagle owl, which is the other owl with such ear tufts, is not native to Crete.
[695] Ruuskanen (1992, 58) identified some birds on seals as little owls.
[696] Masseti (1997, 358) identified the owls on objects from the Aegina Treasure as little owls.
[697] Svensson et al 2009, 232.

now consistenly depicted on gold jewellery from rich funerary contexts.[698] This is reminiscent of the media and contexts of contemporary images of raptors from the Greek Mainland (Section 5.3). Similarities also extend to the multiple depictions of identical birds – the cut-out ornaments in the shape of owls from different tombs in Messenia were even made from the same mould.[699] In contrast to images of raptors, however, predatory features are not emphasized at all in owl depictions. They appear more defensive because the hunched posture of the owls in cut-out ornaments (**C54-C56**) is typical of the "bobbing" behavior of little owls.[700] Such alternate stretching and hunching is usually displayed if the owl is alerted by something: a strange noise, a shadow or a potential predator. Since the cut-out ornaments were probably stitched onto the clothes or the shroud of the deceased, the owls would thus have conveyed the impression that they are protecting the body. The radial composition of the owls on the earrings of the Aegina Treasure (**C51**) and their pose with outstretched wings are also suggestive of a protective attitude. Therefore, we may agree with Laffineur who interpreted the owl images as apotropaic symbols due to the deposition in tombs and the association of owls with the night.[701]

As regards ontologies, we can note that the preference of synanthropic and sociable bird species such as little owls seems typical of Neopalatial bird art (cf. rock doves, corvids or swallows). Animist notions can result in the preferential depiction of synanthropic bird species because they might be seen as non-human persons seeking contact with humans (Section 3.2.4). Whereas the owls on Cretan images are shown in varied poses, the depictions from the Aegina and the Greek Mainland emphasise certain postures. The identical rendering of defensive owl images from funerary contexts suggests that they were used as protective symbols in an analogical way.

In sum, images of owls come from Crete and the Greek Mainland. The Cretan depictions show different species in varied naturalistic poses which prevent the identification of any particular function. However, the preference of synanthropic birds (little owls) in the Neopalatial period may concur with an intensification of animist rituals such as relational

[698] Marinatos (1965, 118) and Pantelidou (1970, 134) considered the relative frequency of the owl motif in Messenia (Peristeria, Pylos, Kakovatos) as evidence that this bird may have been an emblem of the rulers of Pylos. However, Peristeria and Pylos seem to have been rivals at that time and owl images are also found on objects from the Aegina Treasure. For relations between Pylos and Peristeria see Bennet – Davis 1999.
[699] Christine de Vree, personal communication.
[700] Svensson et al. 2009, 232.
[701] Laffineur 1981, 1985, 251-252; Gates 1989, 124. According to Cocker (2013, 271-281) owls have frequently been associated with wisdom and secret knowledge.

encounters. The owl images from Aegina and the Greek Mainland focus on specific protective poses adopted by identical birds. Since they come from funerary contexts such owl images may have had an apotropaic function, something which is consistent with analogical imagery.

8.3 Hoopoes (EB III – LB II)

One of the most characteristic and conspicuous Greek birds is the hoopoe (*Upupa epops*), which has an elongated body, a long curved bill and a crest (Figure 168). The bird was only rarely, however, depicted in images from Crete and one image from the Greek Mainland. Hoopoes are shown on the following 6 objects:

- 1 ivory plaque (**I15**) dating to EM III – MM I from Phourni on Crete.
- 1 figurine (**B130**), dating to MM III from Mallia on Crete.
- 3 frescoes (**E24-E26**) dating to MM III – LM I from Katsamba and Knossos on Crete.
- 1 dagger (**F5**) dating to LH II allegedly from Pylos on the Greek Mainland.

The birds can be identified as hoopoes due to their slender bodies, short feet, small heads with long bills and crests.[702] In the frescoes (**E24-E26**), the birds have yellow bodies with black (or blue) and white wings, which corresponds to the plumage patterns of hoopoes (Figure 169).

The earliest image of a hoopoe is possibly shown on a fragmentary ivory plaque dating to EM III – MM I (**I15**). Here, the bird is simply shown standing between rosettes with its crest folded. A MM III figurine of a sitting hoopoe (**B130**) was probably attached to a vessel. As with other bird images, liveliness and variety peaks in the Neopalatial period. In a LM IA fresco fragment from Katsamba (**E24**), two hoopoes are shown flying with outspread wings.[703] The depiction of two birds could suggest that they are a breeding pair because hoopoes usually forage alone outside the breeding season.[704] The birds are flying behind each other; maybe the male is chasing the female which is a common behavior during the mating season. Shaw remarked that the birds appear slightly too large in relation to the plants below.[705] It must be said, however, that hoopoes appear much larger in flight than on the ground because they have surprisingly broad wings.

[702] The figurine was identified as hoopoe by Pelon (1970, 447, cat.no. 86).
[703] Shaw 1978; Immerwahr 1989, 67.
[704] Also suggested by Shaw 2005, 102.
[705] Shaw 1978, 29-30.

The most elaborate depiction of hoopoes is shown in the Partridge and Hoopoe Fresco from Knossos (**E26**). The frieze depicts two hoopoes and a flock of partridges (Section 8.4).[706] One hoopoe is sitting in a low bush with small round leaves (an acacia?) and the other one may be standing on a rock. Several flying hoopoes are shown on the blade of a Mycenaean dagger (**F5**) which may come from a tomb near Pylos and dates to LH II. In contrast to the naturalistic depiction of a flying pair as shown in the Katsamba fresco, the birds appear here in an unusually large group and they are shown in a repetitive fashion. This unnatural arrangement seems partly to be due to the elongated form of the blade.

In the Cretan frescoes (**E24-E26**), the hoopoes are closely associated with plants. In the wallpainting from Katsamba (**E24**), the pair is flying between reed-like vegetation. In the Knossos fresco (**E26**), the birds are surrounded by undulating rocks, grassy undergrowth and possibly a stream with colourful ovoid pebbles. The rocks, grass and the low shrubs accurately reflect the dry open country which is the habitat of both hoopoes and partridges.

In the one image from the Mainland (**F5**), the background of the hoopoes appears greatly simplified since it only consists of stylized wavy lines (Figure 170). This contrasts sharply with the depictions from Crete with their much more elaborate settings.

The painting from Knossos (**E26**) which ran along the upper wall of a stepped pavilion in the so-called Caraveranserai[707] was interpreted by Evans as decoration of a dining hall for travellers because of the partridges which are considered palatable birds in many cultures.[708] Although partridges may have been eaten in the Neopalatial period[709], hoopoes are usually not considered game birds because they are relatively small and bony.[710] Moreover, the birds in the fresco are neither hunted nor dead.[711] Similar to other wall paintings of birds in elaborate landscapes, the Knossos fresco (**E26**) has been interpreted as showing the exuberance of nature.[712] Shaw suggested that the hoopoes symbolise spring because they are migratory birds. While this may be true, such a reading does not account for the presence of the partridges which are resident birds. The hoopoe in the Knossos fresco has often been

[706] Shaw 2005, 102-103.
[707] Immerwahr 1989, 78-79; Shaw 2005. The building possessed multiple water installations and bathing facilities which led Evans (1928[a], 103-140, for fresco see 109-116) to interpret it as a caravanserai for travellers, while Schofield (1996) considered it a spa/therapeutic institution.
[708] Evans 1928, 114-116; also Shapland 2009, 206.
[709] Some bones have been found at Kommos (Reese 1995, 195), Mochlos (Soles et al. 2003, 18), Ayios Georgios on Kythera (Trantalidou 2013, 64) and Kolonna on Aegina (Forstenpointner et al. 2010, 739).
[710] Shapland 2009, 206.
[711] Vickery (1936, 83) similarly noted that the birds are shown neither hunted nor dead.
[712] Shaw 2005, 103, 111.

compared to a painting from Beni Hassan in Egypt (Figure 171) which similarly shows a hoopoe perching in a low acacia bush.[713] While the motif itself is indeed comparable, there are some important differences. For example, the plumage of the Egyptian hoopoe is shown in more detail, but the bird appears markedly stiffer than the Cretan example. Moreover, the combination of the hoopoe with various other songbird species perched in the same acacia tree in the Beni Hassan painting is decidedly less naturalistic than the association with partridges in the Cretan fresco. Such differences suggest that an adoption of the symbolism of hoopoes directly from Egyptian iconography is unlikely.

Difficulties in identifying a particular function of Cretan bird depictions have been encountered before and we may argue that such images which simply focus on the variety and species-specific liveliness of birds were designed to reveal the sentience and agency of non-human entities.[714] The Knossos fresco (**E26**) displays some peculiarities which seem consistent with animist notions. Light and dark blue areas as well as colourful rocks seem to surround and envelop the birds and the plants rather than forming definite background features. Similar to the Knossos fresco with rock doves (**E1**), such a composition gives the impression that various natural entities are closely inter-related, as if in a web, recalling animist ideas of a shared essence of all things natural (Section 4.4). According to Summers, the Knossos fresco (**E26**) has the "birds stand among swelling, particularized contours, the undulations of which seem to be cut off by the upper and lower edges of the frieze"[715] This has the effect that the viewer for a moment focuses on the lives of certain elements of nature, in this case partridges and hoopoes, which however form only part of 'the bigger picture'. This zoom-in effect helps the viewer temporarily to adopt the perspective of the birds. As we have seen, this is one of the main concerns of animist rituals – to adopt the perspectives of other-than-human persons. By contrast, the hoopoes on the Mycenaean dagger (**F5**) have lost the sense of agency and other natural elements are relegated to simplified background features. Both the passivity of animals and the creation of a hierarchy between different natural elements are again typical aspects of analogical imagery.

In sum, images of hoopoes come from Crete and the Greek Mainland. The Neopalatial frescoes show these birds with a particular focus on liveliness, variety and species-specific actions (e.g. chasing in breeding pairs) and habitat (low bushes). Artistic techniques applied in

[713] Evans 1928[a], 110-111; Immerwahr 1989, 79. For the Egyptian fresco see Houlihan 1986, 118-120.
[714] Cf. Herva 2006[b].
[715] Summers 2003, 440, cited in Shapland 2009, 211.

the Knossos fresco create the effect that the viewer may temporarily adopt the perspective of the birds, a feature which is consistent with animist concerns. An image of hoopoes from the Greek Mainland displays notable differences: the birds appear in a rigid and identical manner, and the environment is of secondary importance. These changes are consistent with our argument that not animism but analogism was the prevalent ontology on the Greek Mainland.

8.4 Galliformes (EB III – LB IIIC)

Galliformes are characterised by round bodies, short legs and short beaks (Figure 172). Further details, such as the length of tail feathers, the presence of combs or plumage patterns can allow the identification of certain (generic) species such as chickens, partridges or francolins. Galliformes appear in various different media from Crete and the Greek Mainland. The following 76 objects will be discussed:

- 2 vessels (**A108, A110**) dating to EM III – MM I and LM IIIA1 from Ayia Triada and Nirou Khani on Crete.
- 1 relief vessel (**A109**) dating to MM II from Phaistos on Crete.
- 1 seal (**D482**) dating to LM I from Ayia Triada on Crete.[716]
- 2 frescoes (**E26, E27**) dating to MM III – LM I and LH IIIB from Knossos on Crete; and Tiryns on the Greek Mainland.
- 69 vase-paintings (**G100, G101, G847-G913**) dating to LB II – IIIA2 and LB IIIB – IIIC from Katsamba, Knossos, Kamilari, Kalyvia, Mochlos, Pachia Ammos, Mallia, Ayia Triada on Crete; Ialysos on Rhodes; Karpathos (exact findspot unknown); and Berbati, Tiryns, Mycenae, Thebes and Thorikos on the Greek Mainland.
- 1 figurine (**B131**) dating to LH IIIC from Amyklai on the Greek Mainland.

The birds in these images can be identified as galliformes due to their round bodies and small heads with short beaks. A bird-shaped vessel from EM III Ayia Triada (**A108**) and a MM II relief vessel (**A109**) show birds with high curved tail feathers which resemble those of male chickens (*Gallus gallus*) (Figure 173).[717] The birds on several LH IIIB – IIIC vase-paintings from the Greek Mainland (**G873-G913**) might also be male chickens because some fragments show long and curved tail feathers (Figure 174). Combs seem to be depicted on two fragments

[716] Evans (1895, 73) identified a chicken on a MM II seal (**D342**), but the image seems to fit into the typology of large waders.
[717] Branigan 1970, 81. The lack of the combs may also mean that they are castrated males (capons).

(**G880, G881**).[718] A figurine from Amyklai (**B131**) has a comb painted on its head. The partridges in the LM I fresco from Knossos (**E26**) discussed in the previous section in the context of hoopoes (Section 8.3) are probably chukar partridges (*Alectoris Chukar*) since their bodies are brown with a black and white striped area on their lower sides and the necks and faces are white with a black contour line (Figure 175).[719] In LM II – IIIA, birds on Cretan vase-paintings (**G100, G101, G847-G872**) and a bird-shaped vessel from Nirou Khani (**A110**) can only be identified as generic partridges because their spotted or banded interior fillings do not correspond to any real plumage patterns.[720] A stout bird with dark plumage is shown on a fragmentary fresco from LH IIIB Tiryns (**E27**). It might be a black francolin (*Francolinus francolinus*) (Figure 176).[721]

The identification of chickens in Aegean Bronze Age iconography is surprising because they are not native to Greece, unlike partridges. The geographical origin of the wild ancestor of chickens, the red junglefowl, lies in Southeast Asia.[722] Until recently, the date of the introduction of chickens to the Aegean was unclear.[723] While we have literary and pictorial evidence for the presence of chickens in Egypt probably by the Middle Kingdom and at least by the New Kingdom, chickens could previously not be unequivocally identified on Greek vases before the 8th and 7th centuries BC.[724] Hood suggested that chickens became extinct in the Aegean after the collapse of the palaces and were reintroduced later, a theory which would also explain the absence of chickens in the Homeric poems.[725] Chicken bones have been found in excavations of Bronze Age sites in the Aegean (e.g. Lerna,[726] Kommos,[727]

[718] Vermeule – Karageorghis (1982, cat.no. X.62) called the birds on **G873** "quails".
[719] Evans 1921, 110, footnote 3; Pollard 1977, 149; Lunczer 2009, 30. Oulié (1926, 67-70) even identified males and noted the exact characterisation of individual birds. Masseti (1997, 357-358) identified them as rock partridges because of the absence of dots which can be seen on the necks of Chukar partridges. However, these species look very similar ("sibling species") and can only be distinguished by minute plumage details, which means that they were probably not seen as different in the past.
[720] Furumark 1941, FM 7.i and j; Hood – De Jong 1952, 108; Alexiou 1967, 68; Popham 1970, 24; Marinatos – Hirmer 1973, cat.no. 128; Vermeule - Karageorghis 1982, cat.no. VIII.20; Åkerström 1987, 74; Gesell 2006, 319.
[721] The distribution of black francolins is nowadays limited to the eastern Mediterranean (Turkey, Cyprus).
[722] Serjeantson 2009, 268-269.
[723] Vickery 1936, 68; see Reese 1995, 201-202, for a good overview; Serjeantson 2009, 270.
[724] Chickens are probably meant in a text, which according to Houlihan (1986, 80) and Serjeantson (2009, 269) states that Thutmosis III (1479-1425 BC) "received from Syria four birds which lay every day". According to Houlihan (1986, 79, 80) the image of a rooster is shown on an ostrakon from the Valley of the Kings, probably dating to the 19th dynasty. Other pictorial evidence may date even earlier, possibly to 1840 BC.
[725] Hood 1971, 91.
[726] According to Gejwall (1969, 47-49) and Reese (1995, 202) one of the earliest chicken bones comes from Lerna, from levels dating to EH III – MH.
[727] According to Reese (1995, tables 5.9 and 5.10) two chicken bones have been found at Kommos, one of them in a context dating to MM III.

Chalkis,[728] Ayios Stephanos,[729] Mycenae,[730] and Tiryns[731]), but they were usually explained as later intrusions. However, recent excavations at the peak sanctuary of Ayios Georgios on Kythera yielded several chicken bones in undisturbed MM strata.[732] Thus, there is now sufficient osteological evidence for the presence of chickens in the Aegean Bronze Age.

The early depictions from Crete simply show the chickens standing on their short feet. The pellet eyes of a bird-shaped vessel (**A108**) give it a rather lively appearance, which recalls the appearance of some prepalatial dove vessels (Section 4.2). In the Knossos fresco (**E26**) (Section 8.3), the partridges are depicted in a flock of ten birds, which accurately reflects their sociable habits. The variety of poses is striking: some are standing with their wings folded, while others are flapping their wings. Some birds are overlapping and others are looking in opposite directions. As we have seen, the rocky terrain with a small stream and maquis vegetation alludes to their habitat in rocky grasslands (Figure 177).[733] Some scholars, for example Evans or Shaw, have remarked upon the relatively stiff appearance of the birds.[734] However, this impression may be due to the character of the birds depicted. Partridges are stout birds which either walk in a stately fashion or stand still on the lookout for predators. Thus, the artist captured the essence of the partridges as well as the painter of the Spring Fresco (**E29**) captured the spirit of swift barn swallows (Section 8.6).

After LM IB, partridges were depicted on vases and possibly as a vessel.[735] Overall, there is a decrease in accuracy – reflected by the difficulty to identify scientific species.[736] Some birds have beaks that resemble more those of parrots than those of partridges (e.g. **G101**).[737] However, natural avian features such as feathers are still indicated on a bird-shaped vessel (**A110**). In the vase-paintings (**G100, G101, G847-G872**), liveliness and variety of poses are largely retained from the Neopalatial period (Figure 178). Movement seems highlighted, especially when we consider the fact that the frequent flying poses do not correspond to the

[728] According to Dietz – Moschos (2006, 183) the Bronze Age layers at Chalkis have yielded eight chicken bones, although the excavators emphasised that they could also be later intrusions.
[729] According to Duhig et al. (2008, 513) a chicken femur with deep cut marks was found in a deposit at Ayios Stephanos, containing MH I, LH IIIA and possibly Medieval sherds.
[730] According to Wace (1949, 106) one chicken bone was discovered at Mycenae.
[731] According to Driesch – Van Boessneck (1990, 114-116) chicken bones occur in nearly every layer from MH II to LH IIIC late. Interestingly, most (9 bones) date to LH IIIB2, which is also the date of the vase-paintings.
[732] Trantalidou 2013, 63-65.
[733] Shaw 2005, 104.
[734] Shaw 2005, 103. Evans (1928[a], 114) called the fresco "conventionalized".
[735] Popham 1970, 24-26, 378-379, 1984, 1994, 90; Kanta 1980, 276-278; Hiller 2006[b], 151.
[736] Hood – De Jong (1952, 109-110), Levi (1961-62, 34-36) and Alexiou (1967, 68) also noted similarities and differences in accuracy.
[737] Levi 1961-62, 37.

behaviour of real partridges because they usually prefer walking or running, even when they are in danger. Many partridges are pecking at flowers (e.g. **G850-G852**), a behaviour also observable in the contemporary vase-paintings of waterbirds (Section 6.4). Rather than giving a detailed account of their behaviour, these actions are another way to emphasise motion. The partridges are surrounded by a varied vegetation of low flowering plants (iris, crocuses, poppy, and lilies). When we compare the kinds of plants to those on the contemporary vase-paintings of waterbirds (Section 6.4), it is notable that papyrus is less often depicted. Thus, this diversity accurately reflects species-specific differences in habitat. On one vase (**G853**), the partridges are shown together with baskets and shelves from which flowers grow. The close association of partridges with fish on two vases (**G847, G854**) seems puzzling since they are not able to swim and do not eat fish.[738] Possibly, they were kept in gardens.[739]

In LM IIIA2, cult symbols are sometimes shown on the same vases as partridges. On a pyxis (**G100**), a frieze of partridges pecking at poppies is depicted next to a panel with corvids sitting on horns of consecration (Section 5.4). A stemmed jar (**G101**) shows flying partridges between a panel depicting incurved altars and corvids. On a pyxis from Mochlos (**G856**), a griffin and a lion are depicted in addition to a pair of partridges. On another pyxis from the same site (**G872**), a partridge pecking at a plant is set next to a scene involving plants, a mirror, horns of consecration and three human figures.[740] Despite the presence of such cultic elements on the same vases, the partridges are not directly associated with them. Unlike corvids or waterbirds (Sections 5.4 and 6.4), they are not sitting on cult symbols such as horns of consecration or double axes. Moreover, unlike waterbirds (Section 6.5) partridges were never depicted on larnakes. It is therefore unlikely that they had a specific ritual or funerary function.

After LM IIIA2, partridges largely disappeared from Aegean Bronze Age imagery. Instead, francolins or chickens were depicted in a fresco (**E27**), on some vases (**G873-G913**) and a figurine (**B131**) from the Greek Mainland. The galliform bird in the fresco from Tiryns (**E27**) is standing on a date palm tree. The beak is open as if calling. This behaviour is common during the breeding period when the male is drawing attention to itself with its loud call. On the vases (e.g. **G873**), chickens are shown in small flocks in a frieze, with their wings folded or slightly elevated. They seem to be standing or walking and some have one foot raised off

[738] Furumark 1941, 197, contra Åkerström (1987, 74-75) who thought that the bird is catching the fish.
[739] Levi 1961-62, 34, 37; Crowley – Morris 1995, 177.
[740] Banou 2005, 161-162, 163-164. Because these pyxides were found in tombs, they have been interpreted as showing funerary scenes. However, similar partridges occur on vases from domestic contexts.

the ground as if leaping. Individual birds are depicted in differing positions and many have open beaks as if calling. This may allude to the loud crowing calls of roosters which serve as territorial displays. Roosters are known for their fierce disposition and the leaping and crowing behaviour of the birds on the vases could allude to such aggressive displays.[741] The Classical Greeks and Romans used galliformes as fighting birds.[742] Due to their inherent aggressiveness, male galliformes are often seen as symbols for the ideal of combative masculinity.[743] As we have seen (Sections 5.4 and 6.6), depictions of fierce raptors and aggressive swans also appeared on other Mainland vases at the end of LH IIIB and in LH IIIC. They seem to reflect a reemergence of the warrior ethos as a way to claim power, alongside other strategies. We may thus argue that the depictions of chickens in combative and vigorous poses seem to tie into this ideology which again emphasized male physical strength.

As regards ontologies, we can note that the Cretan fresco of partridges dating to LM I with its emphasis on liveliness, variety and close relationship with the environment seems to be fully consistent with animist imagery. Despite a decrease of accuracy in LM II and IIIA, dynamic and varied poses are retained which indicates that agency was still attributed to non-human entities. The LH IIIB – IIIC images of galliformes from the Greek Mainland seem to focus only on certain aspects (territorial displays and aggressive behavior), indicating that the birds functioned as symbols or allegories of male physical power, thereby reflecting analogical thinking.

In sum, images of galliformes such as chickens, partridges or francolins come from Crete and the Greek Mainland. The identification of chickens complements the archaeozoological data and provides further evidence for the existence of this exotic bird in the Bronze Age Aegean. The Cretan depictions of galliformes are usually naturalistic, although we can note a decrease of accuracy on LM II – IIIA vases. Significantly, liveliness and variety are maintained, which suggest that animist notions continued to be prevalent on Crete beyond LM IB. Images of galliformes from the Greek Mainland appear in LH IIIB – IIIC. Since the birds are often shown with an emphasis on territorial or aggressive displays they may be seen as metaphors for male aggression, an observation which concurs with the renewed interest in a warrior

[741] Serjeantson 2009, 325-326.
[742] Toynbee 1973, 255-257.
[743] Serjeantson 2009, 330-331.

ethos in this time. Such a function of bird images as analogies or metaphors is typically found in analogical imagery.

8.5 Human-bird hybrids and combinations (MM II – LM I)

Several depictions show birds or birds' parts physically combined with humans, animals, plants and objects.[744] Such images appear primarily on seals and they come almost exclusively from Crete. Only one such depiction was found on the Greek Mainland. The following 104 objects will be discussed:

- 102 seals/sealings/rings (**D321, D483-D515, D517-D584**) dating to MM II – LM I from Mallia, Phaistos, Zakros, Knossos, Palaikastro, Tylissos, Ayia Triada, Kommos, Axos and Embaros on Crete; possibly 1 ring dating to LH II-IIIA1 from Aidonia on the Greek Mainland.
- 1 shell plaque (**I16**) dating to LM I from Phaistos on Crete.

The depictions can be grouped into two categories.[745] First, there are hybrids whose body plan follows the anatomical structure of a human, with some body parts substituted by the equivalent parts of birds or other animals (**D321, D483-D550, I16**). For example, arms become wings or the human head is substituted by a bird's head (Figure 179). The other category, called combinations, freely merge parts of humans, birds, animals or inorganic objects with each other in a way that does not follow a consistent anatomical order (**D551-D584**) (Figure 180).[746] For example, fantails can appear above a head or a human head without a neck is set onto bird's wings with the legs of a quadruped directly attached to the span of the wings.[747] There is no natural transition point anymore (such as the waist in hybrids), but the elements merge indiscriminately into each other.[748]

Human-bird hybrids first appeared on some MM II seals from Phaistos, Mallia and Zakros (**D483-D486**).[749] The hybrids have birds' heads and/or wings and male or female bodies. The popularity of human-bird hybrids increased significantly in the LM I period when they were

[744] A discussion of the Aegean griffin (a lion-bird hybrid) and the much rarer sphinx is beyond the scope of this study. Unlike the hybrids/combinations discussed in this section, these creatures were adopted from Syrian and Egyptian iconography and are therefore less suitable to identify the specifically Cretan perception of birds.
[745] The categorisation is adopted from Anastasiadou 2016, 80-81 (here called organic vs. non-organic).
[746] Weingarten (1983) called the latter ones "monsters". The CMS calls them "phantastische Kombinationen".
[747] Weingarten 1983, 65-77; Cf. Crowley 2013, T12.
[748] Simandiraki-Grimshaw 2010, 98.
[749] Weingarten 1983, 91-95; Simandiraki-Grimshaw 2010, 95.

depicted on several seals from Knossos, Ayia Triada, Mallia and Zakros. The majority of LM I hybrids are female – these are the so-called bird-ladies (**D321, D487-D515**).[750] They are by far the most frequent type of human-animal hybrids in Neopalatial iconography (Figure 181). Several bird-ladies are among the designs on the sealings from the LM IB Archive Complex at House A, room VII, at Zakros (**D523-D540, D542-D550**).[751] In general, they seem more variable in their appearance than the bird-ladies from elsewhere (Figure 182). For example, human arms or bird claws can appear instead of or in addition to wings. The bird`s heads are often substituted by the heads of other animals, e.g. a bull, goat or ram, or a helmet.[752] Also, a female upper body with a beaked head can have a feathered tail instead of a skirt. Female characteristics such as breasts and thighs are especially emphasized and some hybrids wear jewellery.[753] There are also a few male hybrids with wings (**D519-D522**). Although such variations appear especially intensified on the Zakros sealings, some seals from other sites exhibit similar fluctuations. For example, three seals (**D502, D514, D515**) show bird-ladies with the head of other animals (Figure 183) and a hybrid similar to those on the Zakros sealings is shown on a seal from Knossos (**D541**) (Figure 184). After LM IB, images of human-bird hybrids disappeared, with the sole exception of a gold ring from Aidonia (**D516**) which depicts three women with bird's or animals' heads. In LB II – IIIA, novel hybrids appeared which merge the frontal parts of goats, stags or bulls with male bodies (the so-called minotaurs).[754]

Combinations are almost exclusively found on sealings from the LM IB archive at Zakros (**D551-D582**).[755] In contrast to the hybrids, not only the heads and wings of birds appear in these combinations but also fan-shaped tails, protomes, bodies and even complete birds. Bird parts are the most frequent element in these creations, although there are a few combinations which do not contain any bird parts. The birds' wings and tails which usually appear in the combinations resemble those of corvids/birds of prey, while the heads, protomes and complete birds are either birds of prey/griffins (**D568, D569**) or waterbirds/large waders (**D570-D577**). A few seals (**D579-D581**) show plant tendrils arranged as to resemble the faces of owls. Two combinations (**D583, D584**) may possibly come from elsewhere on Crete, so the

[750] Simandiraki-Grimshaw 2010, 95. Only one goat-man is shown on a LM I seal (CMS II,3 331).
[751] Hogarth 1902; Levi 1929; Weingarten 1983.
[752] Weingarten 1983, 63-64.
[753] Weingarten 1983, 60-62; 2007, 140; Simandiraki-Grimshaw 2010, 95-96.
[754] Simandiraki-Grimshaw 2010, 98.
[755] Weingarten 1983, 1985.

rather conspicuous distribution pattern with Zakros as primary site for such images may be due to preservation bias.

Turning to the function of human-bird hybrids and combinations, they have sometimes been interpreted as legendary/mythical creatures comparable to the griffin or the sphinx.[756] As we have seen (Section 3.2.1), such monsters are typically depicted in the iconography of analogical societies, often involved in narrative situations. However, neither the human-bird hybrids nor the combinations are shown in narrative scenes.[757] In almost all cases, they are shown alone on the seal face. Exceptions to this pattern are the shell plaque from Phaistos (**I16**) and the Aidonia ring (**D516**) where three hybrids are shown together. Another characteristic of analogical monsters is the stability and consistency of their appearance – thus, the griffin is always composed of the frontal part of a raptor and the rear part of a lion. The frequent variations in the morphology of hybrids and combinations described above clearly contradict this principle and thus cast doubt on their identification as analogical monsters.

Instead, both the hybrids and especially the combinations seem to avoid the impression of permanence and regularity at all costs. The seemingly arbitrary merging of birds, humans, animals and things in the combinations have even led some scholars to argue that they must be the creations of a madman, a schizophrenic mind.[758] In fact, the multiplicity of different entities creates the effect of an unlimited combinatory experience. Several Zakros sealings seen together create the impression of a moving being in the process of transforming from a human to a bird to a human-bird hybrid, then transforming into a quadruped and finally dissolving into a waterbird-plant-human-combination. The effect was aptly described as "kaleidoscopic" by Shapland.[759] The effortless merging of humans, animals, birds, plants and objects suggests that these entities were thought to share a similar interiority, a notion which considers transformation and metamorphosis as an essential capability of all entities.[760] Such notions form the basic premise of animist ontology which holds that all beings share the same

[756] Cf. Hogarth 1902, 92 and Levi 1925-26, 192-201 for extensive comparisons of human-animal hybrids with Egyptian, Near Eastern and later Greek monsters. Evans (1921, 701-707) considered the bird lady to be a figure of "folk-lore". Weingarten (2009, 145) interpreted them as demonic creatures of the underworld.
[757] Aruz et al. 2008, 173-174.
[758] Gill 1969, 91, 1981, 85-86; Weingarten 1985, 167. Nilsson (1950, 370) called them the "product of an over-heated fever-stricken imagination". Hogarth (1902, 91) thought they were "pure fancy" without any religious meaning.
[759] Hogarth 1902, 91; Shapland 2009, 236.
[760] Similarly, Evans (1921, 702-703) and Simandiraki-Grimshaw (2010, 98) emphasised the importance of metamorphosis in the Zakros series.

interiority despite their vastly different outer forms (Section 3.2.4).[761] In animist societies, trance experiences may make it possible to directly see such metamorphoses taking place, which might explain their "dream-like" quality.[762]

While the varied hybrids and especially the combinations seem to advocate a general metamorphic potential shared by different entities, we may ask how the more stable aspects of some of the bird-ladies may fit into this. Although they are not as consistent in their appearance as we would expect them to be if they were analogical monsters, they nevertheless concentrate on a more specific transformation – that of a human into a bird. The importance of bird features is further corroborated by the poses (Table 9).

Table 9: Poses of human-bird hybrids dating to MM II – LM I.

Pose	Number of hybrids
Flying	21
Squatting/leaping	18
Standing/walking/running	17
Unidentifiable	13
Total	69

Mostly, the hybrids are flying with the wings displayed and the heads raised (e.g. **D495, D496**). In other depictions, which are primarily found in the Zakros sealings, the hybrids are shown with their wings displayed and their legs flexed as if squatting (e.g. **D499, D524-D527**). It seems possible that this was meant to resemble the leaping pose of a bird. The importance of wings is underlined by the fact that they are also displayed when the hybrid is standing or walking on the ground as is suggested by the feet which are held horizontally (e.g. **D484, D487-D489**).

This preponderance of birds and the importance of wings recall traits of shamanic trance journeys. As we have seen (Section 3.2.4), shamans often need the help of birds to be able to fly during trance. We have argued that different species of birds could act as shamanic helpers in Cretan iconography (Sections 5.3, 6.3 and 7.3). Most important seem to have been corvids (sometimes merged with griffins), followed by waterbirds and occasionally large waders.

[761] Boric 2007, 85-86; Kristoffersen 2010, 265.
[762] Evans 1921, 702. Goodison (2011, 185-187) also interpreted the hybrids and combinations as being inspired by trance experiences.

Strikingly, a similar ranking can be observed when we take a look at the types of birds incorporated in human-bird hybrids (Table 10).

Table 10: Types of birds in human-bird hybrids dating to MM II – LM I.

Type of bird	Number of hybrids
Corvid/griffin	51
Waterbird	8
Wader	5
Dove	1
Owl	1
Unidentifiable	5
Total	71

Most frequent are parts of corvids/birds of prey (e.g. **D501, D505, D520**) similar to complete corvids/birds of prey on seals (Figure 185). Some hybrids, especially from the Zakros sealings, have curved beaks or wings with spirals on the span (e.g. **D537**) resembling those of corvids/griffins (Figure 186).[763] Another type of hybrid has large wings which seem to hang down a little as if they were heavy (e.g. **D486, D487**). They seem to be those of waterbirds and large waders (Figure 187). Another seal (**D517**) shows two creatures with linear feathers, large frontal eyes and flexed legs. They resemble owls, but their beaks are turned and the legs are bent the way human legs would be, which might suggest that they are owl-human hybrids (Figure 188).

These similarities suggest that the human-bird hybrids may represent shamans merging with their spirit helpers so that they can adopt their flying abilities. This interpretation is corroborated by the contextual associations of a few hybrids. On the shell plaque (**I16**), hybrids are shown carrying staffs similar to those which are often held by flying people in cult scenes.[764] On the gold ring from Aidonia (**D516**) a bird-headed hybrid is possibly shown in a procession with other hybrids with animal heads between two shrine buildings with horns of

[763] As was already noted by Hogarth (1902, 92) and Evans (1930, 411, footnote 1), who interpreted the wings on the Zakros sealings as those of birds of prey, and Weingarten (1983, 50-51, 58), who compared them to those of eagles/hawks.
[764] Pernier (1902, 130-132) thought that they are women and noted the connection to ritual ceremonies. Hogarth (1902, 91) denied any relationship of the Zakros monsters to votaries or priests. According to him (1902, 92) the shell plaque is Egyptian.

consecration.[765] The hybrids in these images are thus incorporated into the wider Cretan ritual iconography. It may be that the relative stability observable in the hybrids was due to the control that the shamans performed over the transformation rather than their identity as analogical monsters.[766] Thus, both the combinations and the human-bird hybrids are consistent with the argument that an animist framework was dominant on Crete.

In sum, human-bird hybrids and combinations appear almost exclusively in images from Crete. In contrast to analogical chimaeras and mythological creatures, hybrids and combinations exhibit significant variations in their appearance. Moreover, they do not appear in recurrent narrative contexts. The combinations draw on a multiplicity of both organic and inorganic forms, thereby indicating that boundaries between entities were not considered insurmountable. Such a metamorphic potential inherent to various entities despite their different outer forms suggests that these creations are inspired by animist notions. The hybrids, most of which are composed of female and bird parts, emphasise a more specific transformation namely that of a woman turning into a bird. The importance of flying and the prevalence of certain types of birds such as corvids/griffins, waterbirds and large waders suggest that the hybrids represent shamans embarking on a trance journey with the help of spirit animals.

8.6 Swallows (MB III – LB I)

Swallows are identifiable by their silhouettes showing slender bodies, narrow curved wings, small feet and forked tails (Figure 189). Plumage details can allow the identification of certain species. Despite the scholarly attention swallow images have received in the past, they are much less numerous than those of other bird species. Swallows are mainly depicted on vases and in frescoes from the Cyclades and Crete. Only two images have been found on the Greek Mainland. We will discuss the following 31 objects:

- 18 vase-paintings (**G914-G931**) dating to MC III – LC I from Akrotiri on Thera; Phylakopi on Melos; and Mycenae on the Greek Mainland.
- 6 frescoes (**E6, E28-E32**) dating to MB III – LB I from Knossos on Crete; Akrotiri on Thera; and Phylakopi on Melos.

[765] Krzyszkowska (2005[a], 152) and Foster (2016) considered it possible that the hybrids are people with costumes and masks.
[766] LindstrØm 2012, 156-158; VanPool 2009, 182, 184-187.

- 2 seals (**D585, D586**) dating to LM I – II from Moni Odiyitria and of unknown provenance on Crete.[767]
- 2 plaques (**I8, I17)** dating to LM I from Zakros on Crete; and Mycenae on the Greek Mainland.

All the birds on these images can unequivocally be identified as swallows.[768] Where the medium allows the use of colour, the swallows are either painted completely black or black with white underparts. Most swallows on the frescoes and vases are barn swallows (*Hirundo rustica*) because they have red heads and necks (Figure 190).[769] On a seal (**D586**), this plumage pattern may also be indicated by a dot on the neck/breast. Despite the fact that these plumage patterns correspond to those of real barn swallows, some depictions exhibit subtle deviations from the natural morphology because the tail streamers terminate in small loops (e.g. **D585, I8, E29**). Harte suggested that this feature was invented by the artist to make the birds appear more elegant.[770] Thus, it seems to be another instance of idealized naturalism.

All the swallows are highly naturalistic in the depiction of poses and behaviour and it seems to have been vital to convey a realistic sense of their movements.[771] Thus, the majority of swallows are shown in full flight, either with their wings displayed or raised. Their flying style, which is characterized by quick flinching and darting movements, is truthfully expressed by composite views of the swallows' bodies (e.g. **E29, G914**).[772] This fast way of flying is perfectly adapted to their diet which mostly consists of swift insects. Fittingly, one fresco (**E30**) shows them hunting dragonflies which are also known for their fast movements.[773] In the frescoes, the birds are highly individualized by the great variety of poses.

The social habits of swallows are accurately and elaborately portrayed. For example, barn swallows are highly gregarious birds, often appearing in flocks, a behaviour which is reflected by the depiction of large groups of birds (if the space allows this). In a few cases (**E29, E30,**

[767] Ruuskanen (1992, 21, 56) and Marthari (2009) identified more swallows on seals, but most of these birds fit neatly into our typology of corvids/birds of prey.
[768] Onassoglou 1985, 141; Platon 1987; Ruuskanen 1992, 21, 56, type B; Foster 1995; Marthari 2009.
[769] Svensson et al. 2009, 260-261. Marthari 1993, 250-252; Foster 1995, 412-413; Harte 2000, 690-695; Marthari 2009, 426.
[770] Harte 2000, 693.
[771] Immerwahr 1989, 41.
[772] For their flying style see Cocker 2013, 416.
[773] For their diet see Turner 2010, 57-60.

G918), pairs of swallows can appear in antithetical composition, a pose which has been the subject of previous scholarly debate (Figure 191). Two pairs of swallows, one in the so-called Spring Fresco (**E29**) and another one on a vase (**G918**), are arranged in a semi-circle with the lower bird showing its belly while the upper bird is swooping down towards it. Marinatos interpreted these pairs as showing courting behavior, but courting of barn swallows does not entail such acrobatic aerial displays.[774] Therefore, Hollinshead suggested that the pair in the Spring Fresco (**E29**) represents a parent feeding a fledgling on the wing, but Harte rightly pointed out that there is no food in the beaks.[775] Foster then noted similarities of the actions shown (clenched feet, tumbling flight, striking with the bills) to aggressive behaviour of barn swallows.[776] Such fights are either related to defending the territory or to competition over females.[777] The latter reason may be dominant in the Spring Fresco (**E29**) since Harte identified all but one swallow as adult males because of their streamers which are longer in males than in females or juveniles.[778]

It is notable that the aggressive display on the Theran frescoes and vases does not entail open violence (no blood is drawn, bills do not touch), but is rather acrobatic and appears highly ritualized. This reminds one of the scenes with male antelopes from complex Beta at Akrotiri, where aggression is primarily expressed by subtle cues and visual threat displays rather than brutal force.[779]

On the other hand, a physical assault may be depicted on the gold plaque from Mycenae (**I17**) which shows two swallows flying closely behind each other with the second bird possibly biting the other`s tail (Figure 192).[780] This difference might again reflect Mainland preferences, but because this is shown only on a single piece this interpretation has to remain tentative.

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[774] Marinatos 1971, 50- 52; for a similar interpretation see Immerwahr 1989, 46-47. See Turner 2010, 78-80, for courting in barn swallows.
[775] Hollinshead 1989, 342-343; Harte 2000, 693.
[776] Foster 1995, 413-414.
[777] Turner 2010, 60-61.
[778] However, Harte (2000, 690-691) does not give measurements of the streamers of the depicted swallows. According to Turner (2010, 25-27), the differences in length between sexes seem to be more pronounced in northern birds than southern ones.
[779] Masseti 2000, 91-95.
[780] Foster 1995, 415-416. Marinatos (1969, 68) thought the plaque was locally made after Theran models, whereas Televantou (1994, 305-308) considered it a Theran import.

Breeding and chick-rearing are further subjects of Cretan and Cycladic depictions of barn swallows.[781] On one seal (**D585**), a swallow seems to be carrying a circle composed of small dots in its beak.[782] We may suggest that this represents mud pellets which are the main building material of barn swallows' nests (Figure 193).[783] On one of the Theran frescoes (**E30**), barn swallows are shown flying towards some cup-shaped nests with yellow chicks inside. The open beaks and the erect posture of the hungry nestlings are empathetically portrayed, comparable to the much earlier Cretan vessels in the shape of dove chicks (Section 4.2). Some adult swallows bring red dragonflies for the chicks, while others feed them, stopping at the nest with fluttering wing beats (Figure 194).[784] This is an accurate rendering of feeding habits since large prey such as damselflies or butterflies are often brought to chicks, while smaller insects are immediately eaten.[785] A swallow fledgling may be depicted in a recently discovered fresco from Knossos (**E28**) because the bird seems to have much shorter streamers in comparison to the two other flying swallows (Figure 195). The juvenile may be waiting to be fed by its parents.[786]

Another typical behaviour of barn swallows, namely migration, might be shown in another fresco from Akrotiri (**E31**). Three swallows are depicted flying above a rocky landscape with crocus and some young quadrupeds. While the swallows in other wall-paintings are shown darting in different directions as if hunting for insects (e.g. **E6**), the birds in this fresco are all flying in the same direction.[787] Since barn swallows migrate in loose groups low over the ground, these birds may be depicted during migration.[788] The association with young animals, probably calves, could indicate that it is the time of spring migration when barn swallows return from their wintering grounds in Africa.[789]

Most scenes with swallows show them associated with colourful rocks often covered by flowering plants such as lilies or crocus (e.g. **E6, E29, G919, G922**) (Figure 196).[790] They indicate low vegetation reflecting the open landscapes which barn swallows prefer for hunting

[781] For breeding in barn swallows see Turner 2010, 61-62; Alderton 2011, 245.
[782] Foster (1995, 418-419) suggested that the dots indicate the song of the bird.
[783] Turner 2010, 117-119.
[784] Cf. Turner 2010, chapter 2, for the diet of barn swallows.
[785] Turner 2010, 40-41.
[786] Turner 2010, 26-28.
[787] Hollinshead (1989, 345-346) thought they were painted by a different artist.
[788] See Turner 2010, 195-196 for swallow migration.
[789] Turner 2010, 186-187.
[790] Sinuous bands on some vase-paintings may also indicate rocks.

insects.[791] The association with dragonflies in one fresco (**E30**) signifies the nearby presence of wetlands, which provide mud for nest-building and nutritious insects as food for chicks.[792] The nests shown in this fresco are located on rocky outcrops. This observation is significant because it may indicate that barn swallows did not yet use man-made structures (such as barns) for breeding. It has been noted that the fact that most swallow images come from Akrotiri contrasts with the relative rarity of barn swallows on Thera nowadays.[793] However, this species could have been more frequent in prehistoric times when the climate was apparently wetter, ensuring that there was enough mud for nest building.[794]

The frequency of swallows in Theran iconography and the fact that they often appear on traditional Theran vase shapes has been seen by some scholars, e.g. Immerwahr, as indicating a local origin of the swallow motif.[795] However, the recently discovered fresco of swallows from Knossos (**E28**) may date as early as MM III, i.e. contemporary with the first Theran images.[796] That swallows were painted on Theran vases, but not on Cretan pottery at this time, is probably due to the fact that the Cyclades already had a tradition of bird depictions on pottery, while Crete, where abstract and floral patterns prevailed on vases, had not. Moreover, it is notable that the compositions of the swallow vases with their free-flowing horizontal unified arrangement have a lot in common with Cretan wall paintings.[797] Thus, the swallow may have been one of the new motifs adopted from Cretan imagery, comparable to the rock dove, the dolphin, barley or pulses.[798]

As to the functions of these images, swallow depictions have primarily been seen as symbolic expressions of spring, the seasons or fertility in previous scholarship.[799] Although it is correct that migrating swallows signal spring in many cultures,[800] such sweeping interpretations do not do justice to the varied and elaborate depictions. We may again propose that the images, which place a particular emphasis on movements, reveal the agency and equal status of non-

[791] Papatsaroucha 2014, 207.
[792] Marthari 2009, 420-423.
[793] Harte 2000, 691-692.
[794] Papatsaroucha 2014, 200.
[795] Immerwahr 1990, 241; Marthari 1984, 131. Further special local shapes are a strainer (**G922**), a kymbe (**G923**), and a bath tub (**G919**). For strainers and kymbai see Kriga 2014.
[796] Roussaki 2014.
[797] Marthari 1984, 131; Papagiannopoulou 1990, 64.
[798] Georma et al. 2014, 176-177.
[799] Marinatos 1971, 50- 52; for a similar interpretation see Immerwahr 1989, 46-47; Lovelace (2015) interpreted the fresco as showing different life stages of swallows and lilies.
[800] Lieckfeld – Straaß 2002, 164-165. According to Cocker (2013, 414-417, 420-421), swallows and martins are almost universally seen as harbingers of spring.

human entities in an animist framework.[801] Such an interpretation may find further support when we look at the types of media. In addition to frescoes, swallows were frequently painted on a special kind of vessel on Thera (Figure 197). These are small round beaked jugs which often have eyes added in relief.[802] As we have seen (Section 5.2), such jugs are traditional Cycladic vessels and during MC II – III large beaked jugs were decorated with images of falcons. In LC I, the falcons largely disappeared from Cycladic iconography and swallows became more frequent on vases. Moreover, the beaked jugs with their avian features were modified by the addition of female traits such as nipples and jewellery in relief and paint.[803] The white slip, which is especially frequent on Theran ceramics[804], also resembles the white skin of women in wall paintings and serves as backdrop for the flying swallows.[805] These objects thus hybridise the features of pots, women and birds/swallows in a way which might again indicate that the boundaries between species were not considered insurmountable.[806]

Indirect links between people and swallows are also established by the spatial associations of frescoes. The fresco with swallow chicks (**E30**) was found in Xeste 3 at Akrotiri on Thera. As we have seen (Section 6.3), the same building also included frescoes showing mallards with their young (**E14**) and juvenile Egyptian geese (**E15**). Such a consistent emphasis placed on the juvenile state and adult care for their young in scenes of three different bird species is mirrored by the frequent images of young humans in the same building.[807] Both male and female persons are depicted in various stages of age, carefully differentiated by hair styles and/or breast development.[808] In a way, the human offspring is enveloped by frescoes showing various animals, a spatial relationship reflecting the idea that humans are embedded into a world of relations with other-than-human persons. Moreover, the close thematic similarity – childhood and adolescence – of the Xeste 3 images combined with the pronounced diversity of outer forms (e.g. humans vs. ducks, rocky crocus landscape vs. reedbed) seems to convey the underlying idea that humans and animals share an essential inner similarity despite their vastly different outer appearances (Figure 198).

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[801] Herva 2006[b].
[802] Papagiannopoulou 1990, 62-63; Marinatos 1990, 371-372; Russell 2006, 147-148; Marthari 2009, 427.
[803] Marinatos 1990, 371-372; Goodison 2008, 421-423.
[804] Marthari 1990, 453-454.
[805] Russell 2006, 148.
[806] Crowley (2013, 364) interpreted the bird in Aegean iconography as the domain of female power.
[807] Also noted by Morgan (2016). For parallels between humans and animals in Aegean iconography, see Morgan 1995. For general parallels between humans and birds see Barber 1994, 17-21, 54-56.
[808] Marinatos 1987[a]; Chapin 1997-2000; Vlachopoulos 2008.

Another fresco from Xeste 3 may help corroborate the hypothesis that animist thinking stood behind these images. In room 2 on the first floor, a wall painting shows several anthropomorphised monkeys engaged in quintessentially human activities such as brandishing a sword or playing a lyre (Figure 199).Animist imagery can depict animals with attributes of humans to express the essential similarities between human and non-human persons (Section 3.2.4). Another fresco from the corridor of the upper floor of Xeste 3 (**E6**) shows a procession of adult women (Section 4.4), one of whom wears a skirt with several lively barn swallows on it, framed by rocks.[809] The position of the animated swallows on the skirt transforms the woman´s body into a moving environment of the flying birds, establishing an ontological link between these two entities.[810]

In sum, images of (barn) swallows mostly come from Crete and the Cyclades, less often from the Greek Mainland. The former images betray an acute awareness of characteristic details of swallow life stages, behaviour (ranging from male territorial aggression to chick rearing and possibly migration) and their relations with other natural entities (e.g. dragonflies). There is a distinct emphasis placed on lively individualised movements and some vases merge the features of females, swallows and vessels in a way as to create the impression of ambiguous hybrid entities, as they are known from animist imagery. Moreover, several frescoes in the Xeste 3 building juxtapose images of young birds (swallows, ducks, geese) and young humans (boys, girls) in a way as to reveal their shared ontological status despite their vastly different outward appearances and life styles. This notion is again consistent with the argument that animism was the prevalent ontology on Crete and the Cyclades.

8.7 Seabirds (MB III – LB II/IIIA1)

Seabirds such as gulls or cormorants/shags were only rarely depicted. This rarity may seem surprising because they must have been familiar birds for the seafaring Aegean people. This rather inexplicable imbalance, however, is also seen later in Classical Greece.[811] Gulls are characterized by long slender wings and strong beaks (Figure 200). Cormorants have elongated bodies with broad tails, long kinked necks and long straight bills (Figure 201). Images of seabirds come from the Cyclades and Crete. The following 5 objects will be discussed:

[809] Marinatos 1987[a], 62-64; Chapin 2000; Vlachopoulos 2008, 454.
[810] Chapin 2008; Simandiraki-Grimshaw – Stevens 2012.
[811] Lunczer 2009, 127-129.

- 3 vases (**G932-G934**) dating to MC III – LC I from Akrotiri on Thera.
- 1 fresco (**E33**) dating to LM I from Ayia Triada on Crete.
- 1 seal (**D587**) dating to LM II – IIIA1 from Crete (exact provenance unknown).

The birds on the vases (**G932-G934**) have elongated ovoid bodies, short legs, very long saber-like wings and long bills whose tips curve downwards. These features suggest that they belong to the family of slender-billed gulls (Laridae) (Figure 202). The bird on the seal (**D587**) can also be identified as a gull due to its long straight wing, short legs and long bill. The bird in the Ayia Triada fresco (**E33**) has an elongated body with a long broad tail. Its identification has posed some problems because the head is partly lost. Evans and others identified the bird as a common pheasant (*Phasianus colchicus*) due to its long tail.[812] However, this species was not introduced to Greece before the 5th century BC and it has never been present on Crete.[813] Masseti drew attention to the kinked neck which can be noticed at the edge of the fragment and thus identified it as a member of the cormorant/shag family (Phalacrocoracidae).[814] The colour of the dark body and long dark brown tail feathers seems to corroborate this identification. The lighter area on the wing could possibly indicate that it is a juvenile shag (*Phalacrocorax aristotelis)*, whose plumage is more mottled than that of adults (Figure 203).

The identification of gulls and a cormorant/shag adds two more bird species to the repertoire of Cretan and Cycladic iconography of MB III – LB I date. Although the gulls on the vases (**G932-G934)** appear stylized, a sense of movement is noticeable because they are all shown flying. Wavy lines visible beneath may indicate the waves of the sea. The most elaborate depiction of gulls is shown on a pithos jar (**G934**). On this vessel, three gulls are flying among a group of dolphins which artfully evokes their marine habitat. The birds are individualized by their position and the shape of their bodies. On the other side of the vessel, a bull and goats are shown amid plants. This contrasting arrangement could be taken to reflect a (folk-taxonomical) distinction between sea-animals and land-based animals.[815]

[812] Halbherr 1903, 57; Evans 1921, 539; Oulié 1926, 63.
[813] Masseti 1997, 360; Arnott 2007, 186.
[814] Masseti 1997, 360.
[815] Marthari 2000, 873-880; Papagiannopoulou 2008, 444.

The cormorant/shag is shown in a fragmentary fresco from room 14 of the villa at Ayia Triada on Crete (**E33**).[816] On the south wall, (three) birds and cats are shown, possibly originally in a repetitive fashion, amid quadrupeds (agrimia?). The bird, which is preserved only once, is perched on a rock, surrounded by ivy, and approached by the cat. The erect posture of the bird is typical of cormorants/shags which usually sit on rocks near the shore or a lake. This riverine/lakeside/maritime habitat might also be indicated in the fresco by the depiction of ivy, a plant which needs a lot of water, and the feline which was identified as a swamp cat (*Felis chaus*) by Phillips.[817] The cat is depicted quietly stalking the bird which seems oblivious to this danger. The artist skilfully managed to capture the tense moment before the quietness is disturbed by the pouncing of the cat onto the bird which will try to fly away with flapping wingbeats or struggle vehemently if caught. If the identification as a young bird is correct, it would add another naturalistic detail to the fresco since inexperienced youngsters are easy targets for predators.

Comparable to some LM I scenes of waterbirds with felines (Section 6.3), the eventual outcome of the encounter between cat and juvenile shag remains uncertain. As was said before, such compositions avoid the typically analogical categorization of animals into inherently superior versus inferior entities. Moreover, special emphasis is placed on the rendering of the habitat. Similar to other Neopalatial frescoes showing birds, the birds and cats are surrounded by rocks, plants and other animals. All elements are shown on the same spatial plane as if the artist wanted to avoid giving precedence of one viewpoint over the others, suggesting that their perspectives deserve equal respect. Regrettably, the fragmentary state of preservation hinders the exact reconstruction of the relationship of the cat and bird fresco to the scenes on the adjoining two walls.[818] On the north wall a kneeling woman in front of a boulder and possibly a second (standing?) woman are shown amid flowers, while on the east wall another woman is slightly crouching as if dancing in front of a stepped structure, turned towards the south wall.[819] The spatial juxtaposition of the cat and bird fresco with possible ritual scenes seems to integrate the encounter of two different animals into the larger animist framework revolving around the relations established between human and non-human entities (woman and boulder).

[816] Militello 1998; Jones 2007, 2014.
[817] Phillips 2006, 204-205.
[818] Jones 2014, 495.
[819] Militello – La Rosa 2000, 993; Jones 2007; See Jones 2014 for a recent reconstruction.

The latest image of a seabird is seen on a seal (**D587**) dating to LM II – IIIA. It shows a sailing ship with a large man in the centre and the helmsman in the background. The large man has raised his hand and a flying bird is shown under his arm, looking back towards him. Boulotis and Lenz interpreted the man as a god because of his large size, but he could also be the captain of the ship.[820] Morgan identified the bird as a dove and saw it as a navigation aid.[821] While the bird is more likely a gull (it does not have the curved wing of doves), its use as aid in seafaring seems plausible. As noted by Morton for Classical Greece, gulls and other seabirds were especially important for sailors because they were present all year round in contrast to migrating birds such as swallows.[822] Observation of their behavior allowed short-time weather forecasting. For example, flocks of gulls flying from the sea to the land could mean that a storm was coming, inducing the ship to seek a safe harbour as soon as possible. Such a situation may be illustrated on the seal, given the visual communication between the man and the bird and the gesture of the man pointing towards a certain destination (on land?).[823] This image may suggest that gulls had a specific role by LM IIIA1.

In sum, images of seabirds (gulls and cormorants) come from the Cyclades and Crete. Gulls may have been classified as seabirds given their association with dolphins on a vase from Thera. A Cretan seal might allude to their role in maritime weather-forecasting. Some depictions of seabirds emphasise species-specific poses and associations. The Cretan fresco with the cormorant stalked by a cat leaves the outcome of this encounter unclear, thereby avoiding the creation of an ontological hierarchy between the different animals. Such an emphasis on the equality of interiorities of different entities is consistent with animist imagery.

8.8 Conclusion

Images of miscellaneous birds date to EB III – LB IIIC. As in previous chapters, we could observe profound differences between bird images from Crete and the Cyclades on the one hand and those from the Greek Mainland on the other hand. The Cretan and Cycladic depictions of such birds date to EB III – LB IIIA. Images of owls, hoopoes, galliformes, swallows and gulls usually show rather specific species (little owl, chukar partridge, barn swallow). Characteristic are a sense of liveliness and individualized movements achieved by

[820] Lenz 1995, 143-145.
[821] Morgan 1988, 67.
[822] Morton 2001, 293.
[823] Koutsouflakis 1999, 146.

the depiction of varied and dynamic poses, and the focus on various species-specific actions (e.g. breeding, fighting, chasing, chick-rearing, migrating) and habitats (dry grassland vs. low vegetation vs. waves). In LM II – IIIA, liveliness and variety are maintained in images of partridges, although we can note a decrease of accuracy in the depictions. Possibly, this change is due to influence from the Greek Mainland.

The lack of recurrent and/or unnatural associations usually prevents the identification of any particular function of the Cretan and Cycladic bird images. There is only one image of a gull, which might allude to a specific role in maritime weather-forecasting. The remaining images can be more generally interpreted as reflecting an animist framework. Indirect evidence is provided by a Cretan fresco with a cormorant stalked by a cat which leaves the outcome of this encounter unclear, thereby avoiding the creation of an ontological hierarchy between the different animals. Furthermore, the preference of synanthropic birds (little owls, barn swallows) in the Neopalatial period seems to concur with an increased significance of animist rituals where voluntary proximity to humans became important (relational encounters or shamanic practices). Moreover, particular traits of a Cretan fresco showing hoopoes and partridges create the impression that the viewer is led to temporarily adopt the perspective of the birds. Some Theran frescoes juxtapose images of juvenile birds and young humans in a way as to indirectly suggest their shared ontological status. Further persuasive evidence for animism as the prevalent ontology on Crete and the Cyclades is provided by images merging birds, humans and other entities. Cycladic vases fuse the features of females, swallows and vessels in a way as to create the impression of ambiguous hybrid entities. The metamorphic potential expressed by these vases is extended to various other organic and inorganic forms in the Cretan combinations. In addition, human-bird hybrids emphasise a more specific transformational capacity that may have been the domain of shamans. All these images indicate that animism was the prevalent ontology on Crete and the Cyclades.

Images of miscellaneous birds from the Greek Mainland which date to LH I – IIIC lack the liveliness and diversity characteristic of depictions from other regions. Images of owls, hoopoes and swallows show the birds in identical fashion without an indication of their species-specific habitat. Recurrent emphasis on certain poses, behaviour and contexts allows the identification of certain functions of these bird images. Owls may have had an apotropaic role since they adopt a protective attitude in funerary contexts of LH I – II. The depiction of hoopoes on a dagger and swallows in a scene of physical assault may recall the ideological emphasis placed on a warrior ethos in this period. Images of galliformes focusing on

territorial or aggressive displays likewise reflect the renewed interest in the depiction of male physical strength in LH IIIB – IIIC. The consistent use of bird images as symbols/allegories/metaphors for people or abstract concepts strongly suggests that analogism was the prevalent ontology on the Greek Mainland.

9. A bird`s eye view – human-bird-relationships in the Aegean Bronze Age

Having analysed various depictions of birds we will now summarise the overall results of our discussion. Since we have identified notable differences between regions regarding the prevalent kind of ontologies, the summary now follows a geographical order. We first focus on the Cretan depictions and then consider the Cycladic ones in the second section. The final section examines bird images from the Greek Mainland.

9.1 Crete

Cretan images of birds display traits consistent with the art of animist societies, as discussed in Section 3.2.4. The following characteristics have been identified:

Species and morphology:

- A large variety of bird species is depicted (rock and turtle doves, wood pigeons, falcons, corvids, ducks/geese/swans, herons, cranes, peafowl/crane, small waders, horned and little owls, hoopoes, chukar partridges, swallows, a gull and a cormorant).
- The birds' morphology is in keeping with the natural proportions.
- Species-specific details such as plumage patterns are frequently shown.
- The accuracy of plumage details can be compromised to achieve an idealising effect.
- Unnatural physical features (e.g. additional wings) are absent, except in hybrids and combinations.

Behaviour and habitat:

- Diverse species-specific behavioural patterns are depicted, e.g. dove chicks begging for food in EM I – MM II, hock-sitting cranes in MM II, mating waterbirds in MM III – LM I and feeding partridges in LM IIIA.
- A large variety of poses conveys a sense of movement and liveliness.
- Diverse poses and movements adopted by different birds in the same scene convey the impression of individuality.
- There is frequent depiction and elaboration of species-specific habitats, e.g. rocks and rock doves in MM II or reed/papyrus and waterbirds in MM III – LM IIIB.

Roles and relations:

- Birds have active (ideological) roles, e.g. doves were connected with ensuring the flow of liquid in EM I – LM IIIB and falcons may have been thought to enable the fast travel of ships in MM II – LM I.
- Bird figurines were ritually deposited at special natural sites, e.g. peak sanctuaries, possibly to ensure the ongoing communication with human and non-human entities.
- In the depictions, rocks, plants, and other animals are of a similar size and they are shown on the same spatial plane as the birds, emphasising the equal status of diverse perspectives.
- Depictions of encounters with predators (felines, raptors/corvids) are characterised by an uncertain outcome, conveying a sense of instability.
- Depictions of encounters with humans emphasise close visual and physical contact with an emphasis on the voluntary appearance of synanthropic birds, e.g. doves in MM III – LM IIIC or corvids in LM IIIA.
- Depictions of human-bird hybrids and combinations convey the shared interiority of entities with vastly different outer appearances.
- Images involving birds frequently display shamanic imagery such as entoptic phenomena, trance postures, special boats or human-bird hybrids.

The combined presence of these aspects makes it likely that Cretan worldview was significantly influenced by animist notions; however, we need to stress that the Cretans were also familiar with some inherently analogical elements, for example script. Although the above listed animist elements can be observed throughout the Bronze Age on Crete, there are some variations between periods. Compared with the EM I – MM II period, we observe an intensification and extension of some aspects in the Neopalatial period (MM III – LM IB). An expansion of media coincides with an increase of the variety and accuracy in the depiction of species-specific features, possibly reflecting a refinement and expansion of the folk taxonomy, e.g. the inclusion of the exotic peacock. We can also note a marked increase of flying poses, resulting in a more pronounced emphasis on movement, and a significant increase in scenes directly showing birds together with humans in relational encounters and/or shamanic imagery. Although some differences between the Pre- and Protopalatial on the one hand and the Neopalatial period on the other exist, they seem to reveal an intensification of animist practices rather than the introduction of profoundly new ways of thinking. We may

speculate that this was connected with social developments during the Neopalatial period such as a tightening of social control, but more specific research is needed to elaborate on this hypothesis.

After the destruction of all palaces except Knossos at the end of LM IB, we see profound changes in bird imagery compared to earlier periods, which may be due to the advent of another – analogical – ontology on the island (Section 3.2.1). The following changes can be observed:

- A marked decrease in the variety of bird species; only doves, partridges and especially waterbirds are depicted regularly.
- An increase of stylized images and artificial compositions, e.g. symmetrically flanking a plant.
- A decline of observational accuracy and variety of species-specific habitat and behaviour.
- An increase of specific passive functions of birds, e.g. the figurines of ravens on the LM IIIA2 Ayia Triada sarcophagus used to denominate a sacred space; or swan-shaped Egyptian-style objects dating to LM II – IIIA symbolise the participation of the Cretan nobility in international elite networks.
- A decrease of shamanic imagery and the appearance of a new set of scenes showing birds as subservient to humans (Mistress of Animals), conveying a sense of hierarchy.

Notwithstanding the appearance of such analogical traits in the post-LM IB bird imagery from Crete, which may have to do with an increasing influence from the Greek Mainland (cf. Section 9.3), the changes seen are gradual and are especially pronounced in LM IIIB – LM IIIC. Moreover, traits of animist art such as the emphasis on liveliness, agency and relational encounters continued well into LM III. In this period we can thus observe a complex interplay between traditional and novel ideas. A good example of such ‘hybrid’ depictions are images of waterbirds which continue to associate these birds with other liminal creatures, possibly echoing their earlier role as shamanic helpers, but which are now limited to the mortuary sphere. Waterbirds may thus have adopted a new significance as attendants of the deceased through the borderland between life and death.

These observations could prompt the question why animist notions were able to persist for such a long time on Crete, despite contacts with the neighbouring predominantly analogical

cultures of Egypt and the Near East. We may speculate that the specific island location played a role in forging a particularly Cretan identity, which in turn may have perpetuated the deliberate decision to 'do things differently'. In this context, we can take note of other specifically Cretan traits such as communal burial rites, heterarchical elements in social organisation, the absence of ruler iconography and a decentralised administration, which do not find direct parallels in these neighbouring cultures.

9.2 Cyclades

Bird depictions from the Cyclades also exhibit traits suggestive of an animist ontology. The following characteristics were identified:

Species and morphology:

- A variety of bird species is depicted (rock doves, falcons, mallards, Egyptian geese, herons/egrets, small waders, barn swallows and gulls).
- Bodily proportions and plumage details are rendered in an accurate manner.
- The accuracy of appearance is sometimes compromised to achieve a livelier or idealizing effect, e.g. the addition of rounded tail streamers and the modification of plumage patterns in barn swallows.

Behaviour and habitat:

- Images are frequently characterised by a focus on species-specific poses and behaviour, e.g. swallows shown in territorial fighting/chick-rearing or waterbirds fleeing from felines in LC I.
- A large variety of poses conveys a sense of movement and liveliness.
- Diverse poses and movements adopted by different birds in the same scene convey the impression of individuality.
- Frequent depiction and elaboration of species-specific habitats is seen, e.g. rocks/lilies and swallows, or reed and mallards in LC I.

Roles and relations:

- Birds have active (ideological) roles, e.g. doves were connected to the flow of liquid in EC II, while falcons may have been thought to keep the sun moving with their wings in MC III or ensuring the fast travel of a ship in LC I.

- In the depictions, rocks, plants and other animals are of a similar size and they are shown on the same spatial plane as the birds, emphasising the equal status of diverse perspectives.
- Depictions of encounters with predators (felines) are characterised by an uncertain outcome, conveying a sense of instability.
- Ambiguous images combining features of different entities convey a shared interiority of entities with vastly different outer appearances, e.g. the MC beak-spouted jugs merging avian and vessel features, or the swallow vases of LC I date merging avian and female features.
- The juxtaposition of elaborate narratives involving both human and animal offspring in the LC I Xeste 3 at Akrotiri conveys the notion of shared personhood.
- Shamanic imagery may be identified in Xeste 3 where an enthroned woman is depicted in association with liminal creatures (waterbirds, dragonflies, griffin and monkey) and trance-inducing saffron.

We may note a considerable overlap with animist traits identified in the Cretan repertoire of birds (Section 9.1). Therefore, it seems likely that the two regions shared a similar form of animism. However, there are variations and – although the general ideas may have been similar – they were expressed in different ways. For example, the round marble trays with doves dating to EC II are limited to the Cyclades, possibly expressing a specific idea linked to doves and the flow of liquids. Also, the falcons depicted on vases in EC II – MC III are a local invention. They were not adopted into the Cretan repertoire, although the general idea may have resonated with the Cretans as suggested by the deposition of such vases at Knossos.

In MC III and LC I/II, connections between the two regions intensified and Cycladic bird images from this time are especially similar to contemporary Cretan ones. Nevertheless, there are local particularities from this period, such as the swallow vases with female features. Moreover, relational encounters or hybrids and combinations as seen on the Cretan seals are notably lacking in Cycladic imagery. After LC II, bird images became rare in the Cyclades and the only notable depictions date to LH IIIC. The Naxian stirrup jars depicting waterbirds in connection with octopi seem to follow a Cretan and wider Aegean trend. Their mortuary contexts suggest that they had a similar role as the images on LM III Cretan larnakes, accompanying the dead as liminal creatures.

9.3 Greek Mainland

Bird images from the Greek Mainland are mostly limited to MH III – LH IIIC. They display characteristics suggestive of an analogical ontology, as presented in Section 3.2.1. The following traits have been identified:

Species and morphology:

- A variety of bird species (rock doves, raptors, generic waterbirds, swans, cattle egrets, cranes, owls, hoopoes, galliformes, chickens and swallows) is depicted, but there is a considerable numerical bias in favour of waterbirds and wading birds.
- The rendering of the birds' morphology frequently does not follow an organic understanding of anatomy, but conveys the impression of having been assembled from separate irreducible elements (legs, head and neck, body, tail), e.g. the appearance of waterbirds and waders of LH IIIA – IIIB, or waterbird protomes in LH IIIC.
- Generic depictions are often preferred to species-specific images, e.g. the generic birds developed from Cycladic falcons in MH III – LH I.
- The depiction of species-specific features is dependent on a directly discernible function, e.g. the depiction of predatory features of raptors from MH III – LH I elite tombs.
- Unnatural features frequently occur in morphology, e.g. additional wings/tails or legs bent the wrong way.

Behaviour and habitat:

- Species-specific behaviour can be depicted, but diversity is not the aim, e.g. cattle egrets are shown on cattle in LH IIIA – IIIB, but other habits of this species are not shown.
- Monotonous calm poses, the absence of flying poses, and symmetrical or rapport compositions convey a sense of rigidity and stiffness.
- Repetitive poses and often identical appearance of birds hinder the impression of individuality.
- The habitat is rendered in a non-specific and/or insignificant manner.

Roles and relations:

- Birds have passive (ideological) functions, e.g. depictions of raptors served as analogies of warriors in MH III – LH I, images of waterbirds were symbols of water-related fertility in LH IIIA – IIIC, and depictions of roosters may have served as metaphors of virility in LH IIIC.
- If depicted, rocks and plants are simplified and of smaller size than the birds, creating a hierarchical relationship between these entities.
- Depictions of encounters with predators (felines) are characterised by an outcome in favour of the predators, establishing a hierarchical relationship between waterbirds and felines.
- Depictions of encounters with humans are rare; the few scenes (Master/Mistress of Animals) establish a dominant attitude towards the birds.
- Depictions of ambiguous entities, human-bird hybrids or relational encounters are largely absent, suggesting the existence of clear ontological boundaries between entities.
- Shamanic imagery involving entoptic phenomena, trance postures, special boats or human-bird hybrids is absent.

As in the other regions, there are variations over time. The earliest bird depictions, dating to MH III – LH II have been found in tombs in the Argolid, Messenia and on Aegina. They are characterised by a relatively close adherence to Cretan or Cycladic models, both in the kinds of birds and their appearance. However, they already exhibit modifications which are consistent with analogical traits, such as a tendency towards stylised features, repetitive poses and unnatural compositions. In LH IIIA – IIIB, such tendencies intensified and continuously characterised the iconography of the Greek Mainland until the end of the Bronze Age.

Significant variations between periods concern the kind of analogies created between specific bird images and the current social order. The bird depictions of the MH III – LH I/II period display a conspicuous emphasis on predatory features and/or aggressive compositions, probably linked to a society characterised by a warrior ethos. In LH IIIA – IIIB, aggressive aspects became less important and the bird depictions exhibit an emphasis on calm and formal poses, complemented by peaceful scenes with cattle. Such images may be due to an ideological emphasis on social stability and affluence, following the establishment of palatial hierarchies with the wanax at the top. When the palaces collapsed around the end of LH

IIIB2, symbolic links to the former palatial social order needed to be modified. The appearance, poses and associations of birds show a renewed interest in aggressiveness and their use as analogies to warriors, linked to renewed interest in a warrior ethos during the unstable times after the collapse.

9.4 Conclusion

To conclude, the study of bird depictions from the Aegean Bronze Age has yielded several significant results for all our research aims. The exhaustive catalogue proved an invaluable basis for this work. First, we developed a systematic identification method which aims to find a middle ground between overambitious attempts of species identification and the presumed impossibility of identification. Our methodology was based not only on iconographical and ornithological techniques but also on the principles of folk taxonomies, which allowed us to move beyond this false dichotomy. Second, we interpreted the functions and meanings of bird imagery in different regions and periods by taking into account both the biological characteristics of the depicted species and contextual information. Such an approach furthered a narrative underlining the – often extensive – biological knowledge of past people and offered a deeper understanding of the significance of avian variety in iconography. Third, we studied the bird images with regard to ontologies, following Descola's fourpartite ontological scheme consisting of naturalism, analogism, totemism and animism. This work partly complemented past research, but several further criteria for the identification of the prevalent ontology by way of iconographical analysis were examined. Moreover, we explicitly addressed regional similarities and differences in the perception of nature, providing a better understanding of cultural diversity and interactions in the Aegean Bronze Age.

These findings have opened new avenues for future research. For example, the identification methodology developed for this thesis can be applied to depictions of other animals as well. Refining species identification can not only advance our awareness of the conceptualisation of the non-human world by past people, but may also allow an important reassessment of ideological roles and functions of other animals in iconography. Furthermore, ontologies permeate ways of thinking in many diverse areas, such as burial rites, gender relations and social organisation, and their study will shed new light on the heterogeneity of world views in the Aegean Bronze Age.

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