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Marvels of the system. Art, perception and engagement with the environment in Minoan Crete *Vesa-Pekka Herva*

Abstract

This paper discusses the relationship between art, perception and human engagement with the environment in Minoan Crete through the depiction of landscapes and the 'natural world' in art. It is argued that the conventional approaches to Minoan 'nature scenes', based on the representation and expression theories of art, are overshadowed by modernist assumptions about art and human–environment relations. The paper then proceeds to discuss the workings of visual perception and the dynamics of human–environment systems. On that basis, the nature of human–environment relations in Minoan Crete is reconsidered and an 'ecological' approach to ancient art explored. A tentative suggestion is made that Minoan nature scenes might be understood as instruments for perceiving and knowing the environment, and some broader implications of the ecological perspective for the interpretation of the archaeological record of Minoan Crete are indicated.

Keywords

art; ecology; human–environment system; Minoan Crete; perception

Introduction

The relationship between mind and materiality has recently attracted interest in archaeology and material-culture studies, and it is recognized today, for example, that artefacts mediate social relations and are in some respects human-like or at least metaphorically comparable to organisms. Similarly, the relationship between humans and their environments is currently under vivid discussion in archaeology and various other disciplines. As of yet, however, this development has had limited impact on the interpretation of ancient 'art', which often maintains forms of dualistic thinking, especially because, as will be argued in this paper, art objects tend to be considered primarily as material expressions of the symbolic and the mental (but see e.g. Alberti 2001; 2002). Alfred Gell argued that art objects do not encode symbolic propositions about a pre-existing world, and the anthropology of art should therefore be 'preoccupied with the practical mediatory role of art objects in the social process' (Gell 1998, 6; cf. Pinney and Thomas 2001; Layton 2003). Yet there is no need to limit the practical mediatory role of art only in the domain of the social, and the present paper discusses, in a tentative

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and partly speculative manner, the link between art and engagement with the environment.

The depiction of the 'natural world' in Minoan art is the point of departure for the present paper, but 'nature scenes' are discussed primarily in order to address, in an admittedly theoretical manner, the functionality of art on the one hand and human–environment relations on the other. The aim of the present paper is, first, to scrutinize the established ways of interpreting Minoan depictions of the natural world. In particular I focus on how the centrality of the natural world in Minoan iconography is understood in the literature and what the 'fantastic' dimension of Minoan nature scenes is considered to mean. It will be argued that the established approaches to Minoan nature scenes (and other images as well) build on highly questionable modernist assumptions about art and the relationship between humans the surrounding world.

Second, I attempt to outline an alternative 'ecological' perspective, which regards visual images not as iconic or symbolic descriptions of some pre-existing world, but as instruments for perceiving and engaging with the environment. This ecological perspective is not a 'method' for interpreting specific images, but a matter of general attitude and way of thinking. Also, it has implications for broader issues beyond art, as any attempt to develop ecological thinking, in the sense discussed below, requires reconsideration of a wide range of questions and common-sense assumptions. Some of the issues touched upon in the following pages are very complex by nature, and the present paper does not seek to solve them. It is my intention merely to demonstrate, by anchoring the discussion in Minoan nature scenes, why the ecological perspective is needed, to provide a theoretical outline of such a perspective and to map some of its implications for the interpretation of art and the archaeological record in general.

The nature of the ecological perspective and its intellectual context

Ecology is a term that carries with it a heavy load of connotations in archaeology and anthropology, especially because it tends to be associated with the cultural ecology and infamous environmental determinism of the period from the 1950s to the 1970s. Of course, it is commonly recognized in archaeology today that the world is imbued with meanings, but it is not always clear how and why certain constituents of the environment acquired specific meanings and, in particular, what such meanings imply for perception of and practical engagement with the environment. This problem would seem to derive at least partly from the basic assumption of Western thinking that organism and environment – and mind and the world – constitute two distinct entities whose integrity does not depend on their mutual relationships (see further Ingold 2000, 18–19; this will also be discussed below). This dualism, as will be argued below, is ultimately the reason why both conventional ecological and humanistic thinking in archaeology fail to grasp properly the dynamics of human–environment relations in the past.

The ecological perspective discussed in this paper is, despite some superficial similarities, diametrically opposed to environmental determinism, and to conventional ecological thinking more generally, in that it rejects their

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fundamental assumptions. This perspective draws its basic ideas especially from ecological psychology and developmental systems theory (e.g. Gibson 1986; Oyama, Griffiths and Gray 2001), and it builds on two key premises. First, organism and its environment constitute one indivisible organism–environment system instead of two interacting systems (Gibson 1986; Järvilehto 1998; Ingold 2000). Second, all properties of all entities, whether organisms or things, are relational; organisms and things are subject to and the result of continuous development, which means that process is given primacy over form (Goodwin 1988; Ingold 2000; Oyama, Griffiths and Gray 2001; see also Gell 1998). On the basis of these premises, a number of issues concerning the relationship between humans, art and the environment must be reconsidered.

The ecological perspective represents a systems approach, but it attempts to envision rather different systems from those modelled in archaeology since the 1960s. The problem with conventional systems thinking in human sciences is that systems are considered in terms of simple, linear, cause–effect relations, as described by Newtonian physics: 'It is the bond to classical mechanics that is mainly the reason for the crisis in contemporary sociology' (Puuronen 2005, 46, my translation; see also Järvilehto 1994, 202–3). What is of particular interest here is that the mechanical world view inevitably makes us regard the life and agency of artefacts as mere metaphors or 'socially construed' phenomena reducible to the workings of the human brain. For if, say, Gell's (1998) theory of artefacts as extensions of human agency is taken to be literally true, we are left with a major violation of the mechanical world view, which builds on local causality and thus refutes any form of action at a distance. The ecological perspective seeks to expand the boundaries of systems thinking by approving non-local causality and recognizing that causal relations in human–environment systems are more complex than usually thought of in the social sciences.

The approach advocated in the present paper is original only in a relative sense. Scholars such as William James (1890), Maurice Merleau-Ponty (1962), Jacob von Uexküll (1957), Gregory Bateson (1972) and James Gibson (1986), to mention but a few, have sought to break down the dualism between organism and the environment (for an overview see Järvilehto 1994, 35–74). A number of issues brought up in this paper have also recently surfaced in archaeology and anthropology; reconsiderations of animism and animistic ontology (e.g. Bird-David 1999; Ingold 2000; Harvey 2005), in particular, deal with the questions raised here. However, it is usually in the context of hunter-gatherer studies that the issues central to the ecological perspective have been addressed, and they seem to have had little influence on the archaeology of 'complex' societies and especially on the interpretation of their art. Thus, while the concepts and ideas taken up here are hardly new in their own right, their potential and implications remain to be explored, among others, in the context of Minoan Crete.

Minoan nature scenes and their interpretation

The Minoan culture flourished in Crete during the second millennium B.C. and was the first 'civilization' in Europe comparable to those of ancient Egypt

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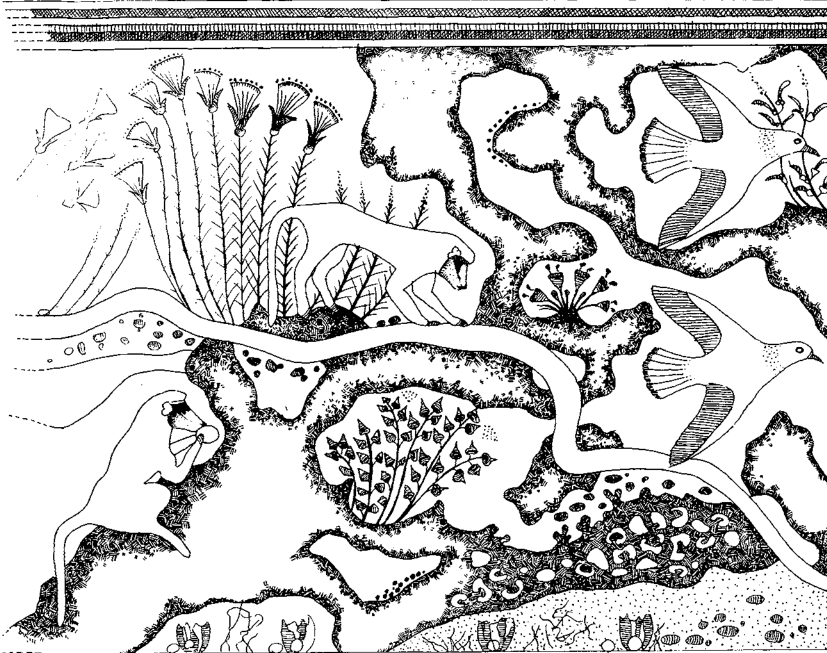

Figure 1 Part of the 'Monkeys and Blue Birds' painting from the House of the Frescoes, Knossos, as restored by Mark Cameron. The painting was approximately one metre high and seven metres long. Drawn by V.-P. Herva after Marinatos 1993a, figure 200.

and the Near East. The emergence of Minoan civilization is marked by the development of urban centres, the building of monumental 'palaces', and the introduction of writing systems. The Minoan culture is also famous for its art, which, particularly during the later Middle Bronze Age and earlier Late Bronze Age, is very rich in depictions of landscapes, seascapes and motifs taken from the 'natural world' (e.g. Immerwahr 1990; Chapin 1997). Obvious historical narratives and ruler-centred iconography, by contrast, are largely absent.

Among the more famous Minoan nature scenes are the wall paintings found at Knossos and other Cretan sites (figures 1 and 2), but the 'love of nature' is not limited to mural art. The iconography of seal stones, for instance, is rich in depictions of manifold plants and animals, as both isolated motifs and parts of more complex scenes, whereas floral motifs and marine fauna make a conspicuous appearance in decorated pottery. Human figures appear in nature scenes sometimes, but many images focus solely on the non-human world. This 'nature-centred' imagery and a lively style of execution make Minoan art notable in comparison to contemporary Egyptian and Mesopotamian art (Immerwahr 1990, 41).

Minoan depictions of landscapes and the natural world are often exotic and fantastic rather than realistic in character. Native flora and fauna are commonly depicted, but such exotic species as date palms, papyri and monkeys are also given much visibility (see figure 1). Another conspicuous feature in Minoan nature scenes is the regular appearance of hybrid and

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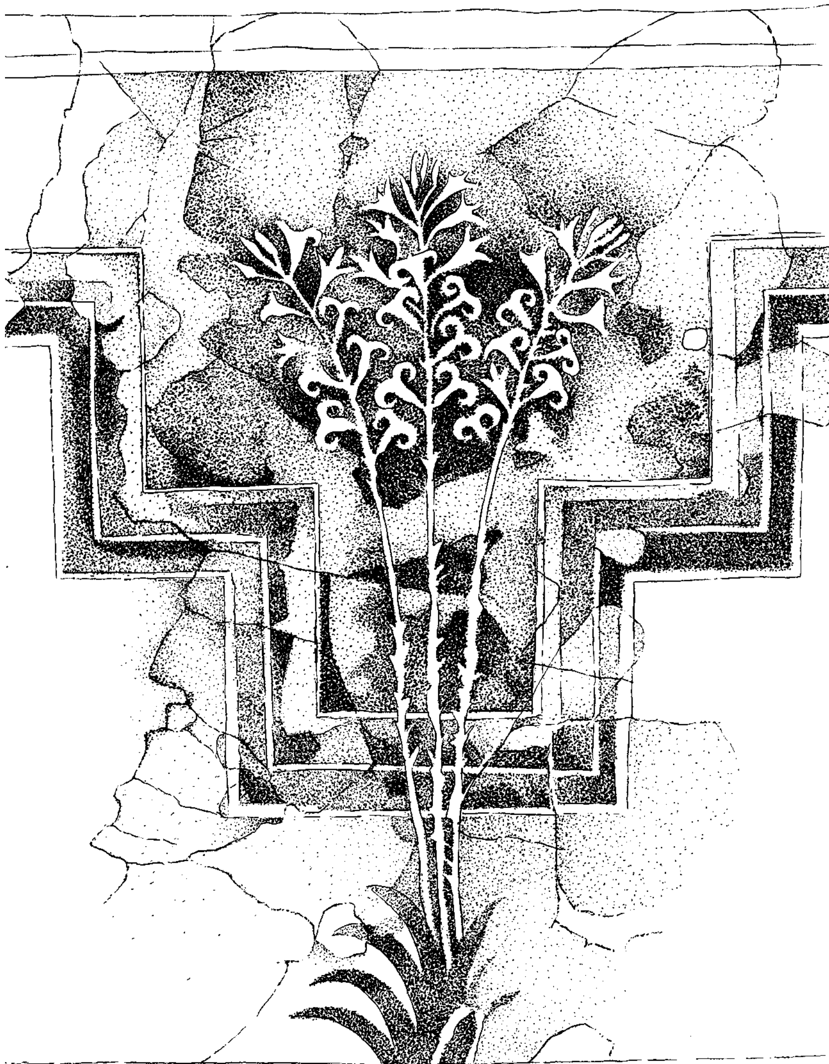

Figure 2 Panel of a large-scale wall painting from the 'villa' of Amnisos showing lilies and a stepped 'battlement' motif. Drawn by V.-P. Herva after Vasilakis 2001, 151.

ambiguous or unidentifiable motifs (figure 3). Some plant and animal motifs are identifiable by species whereas others defy identification because of their rudimentary form or because they manifest characteristics of several species (e.g. Ruuskanen 1992; Chapin 1997, 15–19; Mylona 2000, 565). Moreover, nature scenes can combine environmental elements in ways that are not found in nature (e.g. Vlachopoulos 2000, 642).

The centrality of nature in Minoan art has often been understood as part of 'a mystic communion with the great Minoan Goddess of Nature' (Immerwahr 1990, 46) and the expression of religious beliefs associated with her (e.g. Marinatos 1993a, 149–51; Panagiotaki 1999, 148–50), but not

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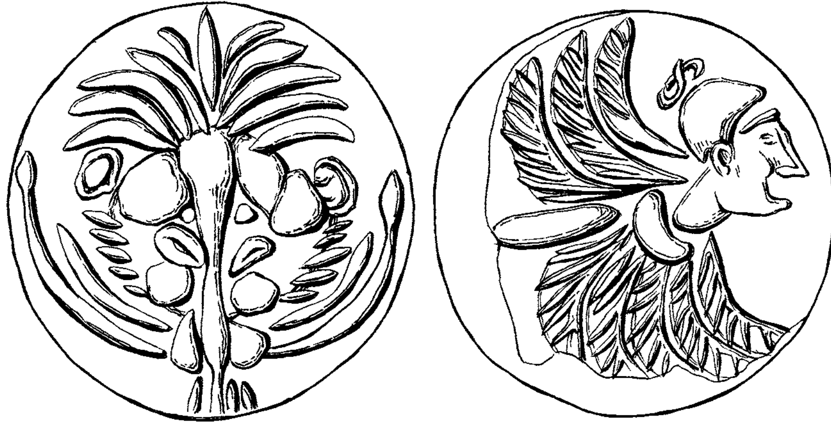

Figure 3 Seal impressions from Zakros. The ambiguous/hybrid motifs depicted in these scenes combine a palm tree with a lion-head (left) and an anthropomorphic figure (right). Diameter of both scenes is less than 2 cm. Drawn by V.-P. Herva after Platon, Müller and Pini 1998, nos. 121, 189.

all accept such a religious interpretation. A primarily aesthetic function is sometimes attributed to at least some nature scenes (e.g. Hollinshead 1989), but perhaps the most widely approved view today regards nature scenes – and indeed all images – as a system of visual communication, which is structurally and functionally comparable to verbal text. Blakolmer (2000, 393–96), for instance, argues that Aegean mural art 'came under the category of symbolism – not of practical use', and wall paintings must therefore 'be treated as a means of achieving certain purposes in a semantic architectonic system'. This approach assumes that symbolic messages or metaphors were intentionally encoded in art, whether or not they had a religious content (e.g. Angelopoulou 2000; Boulotis 2000; Marinatos 2000).

The exotic and fantastic dimension of Minoan nature scenes has also been explained in various ways. Perhaps the simplest explanation is that extraordinary nature scenes represented or were intended to convey an idea of exotic gardens or faraway lands (Shaw 1993; 2000, 271). For the advocates of religious interpretation, strange landscapes are not representations of the real world but of the domain of the nature goddess, and/or they indicate that realism was sacrificed to the religious symbolism of regeneration, fertility and womanhood (e.g. Marinatos 1984, 85–89; 1993a, 149–51; Vlachopoulos 2000, 642). Moreover, it has been argued that factors such as creativity, artistic licence and cultural or mental constraints may have contributed to the strangeness of the Minoan depictions of the natural world (Immerwahr 1990, 46–47; Chapin 1997, 21–23; Angelopoulou 2000, 549).

A certain group of images deserves a particular mention here, as it provides cues for the reconsideration of human–environment relations in Minoan Crete later in this paper. This group consists of seal images, especially on metal signet rings, and depicts activities that involve or centre on trees and pillars or boulders. The scenes in question show, for instance, human figures shaking or bending trees and hugging or clasping stones (figure 4). Trees are sometimes depicted in or on top of a structure (possibly architectural) and occasionally

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Figure 4 Activities directed towards trees and stones. The scenes are engraved on Minoan gold signet rings from Kalyvia (left) and Knossos (right). Drawn by V.-P. Herva after Rutkowski 1986, figure 125; and Warren 1990, figure 5.

even shown as being transported on a boat. Additional motifs in these scenes include celestial bodies, birds, butterflies and rather more enigmatic elements such as eyes 'floating' in the air.

Evans (1901) introduced the idea that trees and certain special stones (often referred to as 'baetyls' – that is, sacred stones) were central to the religion of the Aegean in the Bronze Age, and the images described above have usually been regarded as evidence of tree and baetylic cults. The activities focusing on trees and stones are, due to their 'distinctive and unusual nature' (Krattenmaker 1995, 124), understood as rituals that were performed in order to make a deity appear (e.g. Niemeier 1989, 175; Marinatos 1989, 136; 1993a, 175–92; Warren 1990). Warren (1990, 200), for example, reconstructs a baetylic ritual where the human protagonist 'summons the divinity to the stone by gestures', a bird or butterfly signifies the 'arrival and presence of the divinity', and the human participant then 'embraces and kisses the boulder in communion with it and the divinity'. The purpose of baetylic rituals, ultimately, was 'to achieve the fertility of the natural, including human world' (Warren 1990, 201).

As the above discussion indicates, the proposed interpretations of Minoan nature scenes differ widely. On closer inspection, however, they build on essentially similar assumptions about 'art' on the one hand and human–environment relations on the other.

First, it is assumed that nature scenes represent a pre-existing world, real or imaginary, and/or encode symbolic propositions about it. Iconicity, the ability of a thing to refer beyond itself, is regarded as the key to understanding the meaning of nature scenes. This attitude is a product of (post-)Renaissance art theory. The idea that art represents the world as it is characterized the art theory of the Renaissance and was also central to the formation of the modern system of the 'fine arts' in the eighteenth century (Carroll 1999, 22–33). The idea of art as an expression of the 'inner' world of the self, in turn, derives from the Romantic movement. In stressing the role of the subjective and the 'linguistic' properties of the visual arts, Romanticism marked a shift from concerns of representation to expression, and expression theories have had a decisive impact on the Western understanding of art (Barasch 1997, 10–24; Carroll 1999, 59–61). Due to historical reasons, then, the significance of representational and symbolic content of images tends to be overestimated

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when looking at non-Western art (see Gombrich 1969, 123; Errington 1991, 270; Ouzman 2001).

Second, because visual images 'by their very nature ... serve no practical function in providing either food or shelter' (Chapin 1997, 23), it is thought that they performed 'symbolically practical' functions (e.g. Blakolmer 2000, 393–96). The functionality of such artefacts as wall paintings is thus taken to be of a different kind than that of 'truly' practical things like axes. Within this view, it seems that art is necessarily a mental, psychological and social phenomenon, which is only trivially, or at very least indirectly, related to practical bodily engagement with the world. The depiction of things that are not found in nature would appear to underline this conclusion; things that do not exist out there in the 'real world' must be products of the 'inner' world of the human mind.

This reasoning reflects the Galilean–Cartesian understanding of the world. The world is split into quantitative and qualitative aspects of which only the former are properties of the 'real world' and the latter are produced by the mind. It is evident that Western dualism and rationality shape archaeological interpretation in an elementary way and restrain, among other things, our understanding of 'symbolic' artefacts and features (see Brück 1999; Herva 2005). The crucial question turns out to be, then, 'how can we achieve an ontology that points to meanings without determining them, that denies scientistic physicalism without adopting the sort of pseudo-scientific idealism that has always plagued the social sciences?' (Reed 1988, 111–12).

Perception and the dynamics of human–environment relations

It is a common assumption in the study of Aegean art that, as Morgan (1989, 158) puts it, 'art cannot be transcribed without first being taken apart and put together again'. This idea builds on certain assumptions about the workings of perception and how humans make sense of and relate to the world around them. In Morgan's view,

> Interpretation, like perception itself, is a multi-layered process in which attention continually shifts from individual structures to the relationships which build the image. Identification – matching the configuration with a known form from the world of objects – is followed by the process of the objects within a larger context in order to explain its significance.... In order to recognize an image 'as' something there must be a referent – a memory of a similar image and the usual or variant contexts in which it occurs. But the significance of an image depends first on accurate structural identification (Morgan 1989, 145).

For Sourvinou-Inwood (1989, 243), 'Making sense of a picture is a complex process involving continuous toing and froing between the picture and the reader's knowledge and assumptions which were called up by it and through which they made sense of it.' In Marinatos's (1993b, 79) view, 'Each spatial unit [of an image] has a special function, and the ancient viewer bore the function very much in mind when looking at its decoration.'

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These quotes presume that visual images are constellations of discrete units combined according to culture-specific logic. Thus, in order to find out what they are 'really' like, images must be broken down into the 'smallest definable units' (Morgan 1985). What is important here is that the deconstruction of images is clearly not understood only as an analytical tool, but is also supposed to mimic, in the reverse order, the process of perception, which involves building meaningful 'mental images' on the basis of 'neutral' external stimuli. Obviously, there are two worlds here: the 'real world' of autonomous things and the 'phenomenal' world of the mind.

James Gibson (1986) and others (e.g. Järvilehto 1994; 1998; 2000; O'Regan and Noë 2001) have described in detail why, despite their popularity, the sensation-based, cognitivist theories of visual perception and consciousness do not explain natural perception. In Gibson's view, humans do not passively receive information through the senses and perceive the world as sequential 'mental images', but engage actively with their surroundings through the whole perceptual system, which consists of a constantly moving body in a specific environment. Perception is a reciprocal process that is about the world and the self at the same time (Gibson 1986; see also Ingold 2000; Noë 2005).

The human–environment system and the development of organisms and things

The notion that organism and environment constitute two separate but interacting systems 'seems to be so self-evident that we usually do not see any reasons to doubt it; actually, it would be strange to maintain anything else' (Järvilehto 1998, 326). Consequently it seems inevitable that consciousness, for example, is a property of humans and not of the environment. The very difficult problems that arise as a result of the two-system model (for an overview see Järvilehto 1994, 17–26, 35–59; 1998, 321–29) can be solved by the adoption of an ecological perspective that collapses the two systems into one organism–environment system.

The basis of the one-system theory, which is here referred to as the 'ecological perspective', is that an organism is continuous with its environment, and the two constitute a meaningful unit of analysis only as an indivisible organism–environment system; this system comprises an organism and those parts of the 'external' environment that the organism is connected to (Gibson 1986; Reed 1988; Järvilehto 1994; 1998; Ingold 2000; Oyama, Griffiths and Gray 2001). 'Behaviour', therefore, 'does not mean movement or interaction of two systems, but action of only one system, reorganization of this system, or change of the relations between its elements' (Järvilehto 1998, 330). This also means that consciousness, agency and other supposedly 'human' properties are properties of entire human–environment systems and not localizable to the human brain or inside the body (see, further, Bateson 1972, 315–20, 486–95; Järvilehto 1994, 96–103, 106–8; 2000; O'Regan and Noë 2001).

Western thought assumes that things possess certain intrinsic and constant properties. Thus, due to the nature of their molecular constitution, humans and trees are regarded as living beings whereas stones are not. Similarly,

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humans are considered active, sentient and conscious agents, but trees and stones are not. This categorization is associated with the ontological priorities of Western thought: things are taken to be somehow more real than relationships between them and process merely as something that happens between definable states (see, further, Goodwin 1988; Ingold 2000).

The ecological perspective assumes different priorities: the organism–environment system is a continuous form-generating process where change is not 'something that happens to things as a consequence of forces from outside themselves in a pre-existing space–time framework' (Goodwin 1988, 106). Organisms and their environments are constantly coming into being rather than simply existing in the world, and the identity of any given entity in a human–environment system is defined by its relationship with other entities (Bateson 1972, 151–53; Järvilehto 1994, 77–80, 151–52, 191–92; Gell 1998, 99–101; Ingold 2000, 18–19, 132–51). In other words, all abilities and properties of organisms necessarily develop, and the course of development is not reducible to distinct biological or environmental factors, but determined by a complex set of developmental resources and influences (Oyama 2000; Oyama, Griffiths and Gray 2001).

In human–environment systems, developmental resources also include such entities as ancestors and 'spirits' that are not real in the natural-scientific sense, but shape the development of human–environment systems by affecting human behaviour (see e.g. Ingold 2000, 89–110; Harvey 2005, 99–114, 121–38; Natsoulas 2005, 309–11, 314–16). These non-human persons, Harvey notes, are not necessarily immaterial, disembodied beings whose existence is only subject to metaphysical reflection, but they express their presence by diverse means. People can encounter and engage with non-human persons in various ways and contexts, and such encounters are often part of everyday life (Harvey 2005, 122–27).

While it is clear in a general sense that organisms develop, it is probably less obvious that even inanimate things in human–environment systems are also subject to constant development. It is a familiar notion in archaeology today that artefacts are biographical entities with their specific histories, but the 'life' of inanimate things is usually conceived of in metaphorical terms (e.g. Langdon 2001; cf. Herva 2005). The ecological-relational perspective advocated here makes a stronger claim: all the relationships that a thing has had during its existence define the identity of that thing. In other words, things accumulate 'life-force', which 'is the net result or product of a lifetime's activity in the social world, not a species of mystical energy distinguishable categorically from ordinary life and activity' (Gell 1998, 226). On the basis of the ecological-relational perspective outlined above, human–environment relations in Minoan Crete can be reconsidered.

Engagement with the environment and the 'education of attention'

Rethinking human–environment relations in Minoan Crete It is now time to return to Minoan baetylic and tree 'rituals' and consider the nature of such activities and the role of trees and stones involved in them (figure 4). This topic has been a matter of some debate, which centres mainly on the question

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whether or not trees and baetyls were aniconic cult statues – that is, symbolic representations or temporary bodies of divine beings. Warren (1990, 197, 202), following the tradition established by Evans (1901), regards baetyls as 'forms of or vehicles for possession by divine power'. Marinatos (1989, 136–37, 142) departs from the Evansian conception in arguing that trees themselves were not worshipped, nor were they considered to be inhabited by spirits; rather, trees were sacred because they marked the place where a deity was expected to appear after appropriate rituals had been performed. For Marinatos, trees in Minoan art are also symbols of fertility and regeneration of the natural world.

Two points must be made here. First, the activities focusing on trees and stones are supposed to have been driven by unsubstantiated belief in supernatural beings rather than true knowledge and practical reason. In other words, the functionality of baetylic and tree 'rituals' is taken to be of a symbolic or communicative kind and not practical in the sense that, say, eating is thought to be. Second, it is assumed that the activities in question were not really directed to trees and stones themselves; the manipulation of inanimate objects was merely a means of getting into contact with divine beings that dwelt in some superhuman plane of existence, but manifested themselves by temporarily 'possessing' certain objects or appearing in their vicinity.

In the ecological-relational perspective, however, Minoan baetylic and tree rituals make perfect sense as affairs between people and inanimate things themselves; there is no need to assume the involvement of a third party. Instead, the possibility opens up that certain trees, stones and other features of the environment were non-human persons in the Minoan world – that is, potentially conscious and sentient beings (cf. Hallowell 1960; Gell 1998, 123; Bird-David 1999; Ingold 2000, 90–98; Harvey 2005, 99–114).

This means neither that all trees or stones were like that nor that people simply believed non-human things to possess 'human' qualities. Rather, if certain things were, for whatever reason, perceived to manifest such properties as intentionality and consciousness, they also allowed a degree of sociality and intimacy between people and themselves, and thus enabled people to engage with them in special ways. As a consequence of their prolonged involvement in the social world, certain non-human constituents of the environment developed into person-like beings. How things started to develop into social beings cannot be resolved here, but it is possible, for instance, that dreams or other 'altered states of consciousness' had a role to play (cf. Morris 2004).

Archaeological finds from the so-called Minoan nature sanctuaries provide further illustration to these notions. The deposits of artefacts found in Cretan 'sacred caves' and 'peak sanctuaries' are usually supposed to represent the worship of divine beings in places that the Minoans deemed appropriate for such an activity due to their 'mystical' or 'liminal' character (e.g. Rutkowski 1986, 47; Peatfield 1990, 120; Tyree 2001, 40–44). However, these deposits could equally well indicate that certain places or their features – such as fissures in rock, stalagmites or stalactites, and pools of water, which often received special attention (Rutkowski 1986, 50–52; Tyree 2001, 41; cf. Davies and Robb 2004) – were sentient beings in their own right. In this view,

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deposits in 'nature sanctuaries' can be regarded as the maintenance, in the form of 'offerings', of relationships with specific powerful places themselves (see also Herva 2005, 223–25). One possible venue for understanding the importance of certain features of the environment is the notion of creators and ancestors transforming into landscape elements while retaining their power, which could be shared if these beings were appropriately approached (Harvey 2005, 129).

What is being proposed here, in essence, is that the Minoans co-inhabited their everyday environment with manifold potentially living, conscious and sentient beings. Some were closer to humans in form and behaviour than others, but there is no reason to assume that the perceived agency of things was attributed to some 'supernatural' beings or forces external to things themselves – or that person-like non-human things were considered categorically distinct from the humans themselves. This view has obvious consequences for the interpretation of Minoan imagery, as the presence of, say, a griffin in a given scene does not indicate that the scene constitutes evidence of 'religion' – that is, a specific category of action and thought separable from the ordinary interests of the everyday world.

Environmental knowledge

Of course, the world never ceased to be relationally constituted or less rich in structure than it was at any given time in the past; it is just that modern science is based on very different assumptions about what the world is 'really' like and how valid knowledge about it can be acquired. The special qualities of person-like trees, for instance, are obviously not reducible to their physical constitution – they are social beings not because their molecules are organized in a specific way, but because they are enmeshed in a certain set of relationships with other entities of a given human–environment system – and a 'scientific approach' is therefore not very useful for getting to know them. Indeed, the separation of the knowing subject from the known object pretty much collapses the possibility of gaining knowledge about things as relationally constituted entities. How, then, do people acquire knowledge about person-like trees or other similar entities?

Abstract, propositional knowledge has been prioritized in the Western world, but there are different modes of knowing the environment and engaging with it. Knowledge about a tree, to take an example from Bird-David (1999, 77), can be gained by cutting it into parts (modernist epistemology) or 'talking with' it – that is, engaging with it and perceiving what changes certain activities cause in oneself and the tree (relational epistemology). The relational mode of knowing, while often associated with hunter-gatherer societies, is not limited to societies of certain types; relational knowing is in operation also in the Western world today, but it has largely lost its authority to the institutions of the modern state (Ingold in Bird-David 1999, 81). Indeed, perceiving and knowing are something that we do, ways of acting, and all knowledge is therefore relational and local, embedded in specific contexts and actions, rather than an abstract body of mental representations carried around in the head (for different aspects of perception, action and knowledge see Gibson 1986; Järvilehto 1994; 1998; 2000; Ingold and Kurttila 2000; Ingold 2001;

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O'Regan and Noë 2001; Noë 2005). In the final analysis, science itself turns out to be a mode of producing highly specialized local knowledge (Ingold and Kurttila 2000).

I would argue that 'talking with things' is the answer to the question of how to acquire knowledge about person-like non-human constituents of the environment. Active bodily engagement with things, acting towards them and being aware of the subsequent changes in both parties (Bird-David 1999, 77), is the key for knowing person-like non-human things, in Minoan Crete and beyond. Because Western rationalism does not accept non-human things as person-like entities, Minoan baetylic and tree rituals, for example, are necessarily conceptualized as symbolic, ritual and religious practices directed ultimately either to other people or to supernatural beings. From the ecological-relational perspective, however, they can be understood as a perfectly sensible way of engaging with the environment and acquiring knowledge about certain aspects of it.

Art as an instrument for perceiving and knowing the environment

The ecological perspective calls into doubt the widely held assumption that art is about encoding, transmitting and decoding information; encounters with art are not visual and mental events in the sense that cognitivist-based views would have it, but rather manipulate human–environment relations directly by manipulating perception. Art, in Gibson's (1986, 254, 258, 284) terms, is an external aid to perception, a means for the 'education of attention'. This means that the function of art is directive rather than descriptive; art invites people to explore and engage with the surrounding world through the perceptual system (Ingold 2000, 130–31; see also Boden 2000, 293–98; Lopes 2004). In other words, art affords new ways of connecting with the environment and reorganizing human–environment systems (Järvilehto 1994, 205).

Since any human–environment system is indefinitely complex and richly structured, there is always more in the world than is directly available to the human senses. As a result of their specific developmental histories, diverse entities can end up possessing qualities that are not inferable from their appearance or physical constitution – one palm tree, say, could have been special in the Minoan world and another not. Nature scenes provided a means of getting deeper into the dynamics of local human–environment systems and discovering the identity of things beyond surfaces.

From this point of view, the exotic and fantastic character of Minoan art can be taken to imply that the everyday world was full of marvels to be discovered. Nature scenes extended or 'fine-tuned' the perceptual system for the reception of those marvels by offering visual cues about the richness and complexity of the lived-in world, its 'deep structure' (cf. Taylor, Micolich and Jonas 1999). In the ecological perspective, then, nature scenes are neither something that 'pleased the eye' nor communication of pre-existing beliefs or knowledge. Since knowing 'is an *extension* of perceiving' (Gibson 1986, 258; emphasis in original), encounters with nature scenes generated environmental knowledge by guiding attention to such aspects of the world that would otherwise have remained hidden and beyond human experience.

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Hybrid imagery in Minoan art, for instance, could be interpreted as a means of focusing attention on the ability of some beings to take different shapes. Ambiguous and unidentifiable motifs more generally may point to a kind of 'uncertainty principle' of appearance and even identity (see figure 3) – that is, all things did not lend themselves to 'accurate' depiction in terms of biological taxonomy because their properties were non-fixed. A related idea of fluidity has also been considered by Alberti (2001; 2002) on the basis of Knossian human representations. The richness and variety of hybrid and ambiguous imagery could even indicate that transformation and fluidity were common and/or important features of different entities in the Minoan world.

Discussion

The centrality of the natural world in Minoan art The reconsideration of the function of nature scenes still leaves open the central question: why does the natural world feature in such a prominent manner in Minoan iconography? Conventional approaches would hold that the centrality of nature in iconography is somehow determined by culture or some part of it. Thus, for example, Sarpaki (2000, 658) believes that cultural conventions, and to a degree personal preferences, determined which plants were depicted in Aegean art and which were not. But whence did cultural (or personal) preferences and conventions come? If we accept the view that nature is central to Minoan art because it was central to Minoan religion, the question of nature-centrism is merely taken onto another level: why should (a goddess of) nature have played a central role in Minoan religion? This is also the problem with the views based on the expressive paradigm of art: why should symbolic messages have been conveyed through the imagery taken from the natural world? And why did specific motifs – say lilies, monkeys or papyrus-reed–marguerita hybrids – gain one symbolic meaning rather than another?

The archaeological record of Minoan Crete contains some interesting and well-known features that, I would argue, cast light on 'nature-centrism' in art. A first thing to note is that so-called nature sanctuaries (caves, peak sanctuaries, enclosures) were important and even typical Minoan 'cult places' (Rutkowski 1986; Dickinson 1994, 265). Second, monumental temples are absent although traces of supposedly religious activities are otherwise abundant in the archaeological record and appear in diverse contexts (Marinatos 1993a, 39). Interestingly, too, clear evidence of Minoan anthropomorphic divinities is very scarce. Several divinities have certainly been identified, but the pursuit of Minoan divinities may actually be driven by a 'theistic obsession' more than anything else (see Peatfield 2001, 51–52; see also Goodison and Morris 1998): 'If you assume that religion is primarily about gods, then you are forced to go looking for them' (Peatfield 2001, 54).

These features might indicate not only that the importance of gods and goddesses in the Minoan world has been drastically overemphasized, but also that much of supposedly religious activities are better understood as practical maintenance and manipulation of human–environment relations. That is, if the relationship with humans and certain non-human constituents of the environment were of a social character, it makes perfect sense that human

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encounters with such entities involved 'symbolic' artefacts and activities, as already discussed in the context of Cretan nature sanctuaries. A further implication is that the activities performed in 'nature sanctuaries' or other 'cult places' need not have been closely related, but different 'cult places' may well have served different functions that had nothing to do with worship in any meaningful sense.

In all, the centrality of nature in art and the other original features of Minoan 'religion' mentioned above would seem to point to the conclusion that the efforts of the Minoans to maintain relationships with various constituents of their environment are often misinterpreted as attempts to connect with divine beings dwelling in some superhuman plane of existence. Human–environment relations in Minoan Crete, I argue, were of an 'animistic' character, but 'animism' here is best understood not as a misconceived world view but as a form of two-way relatedness between humans and the non-human world (following Bird-David 1999; Harvey 2005). Moreover, it must be emphasized, the adoption of a non-dichotomous, relational approach to human–environment relations does not represent romancing life in the past – it simply seeks to avoid modernist bias (Pálsson 1996).

On the limits and possibilities of the ecological perspective Like the representation and expression theories of art, the ecological perspective discussed in this paper is concerned with the general attitude towards art and its functionality. At this initial phase, the ecological perspective probably raises more questions than it would seem to solve, as definite statements about the 'meaning' of specific images or objects cannot be offered here. Further reconsideration of research questions, analytical techniques and interpretative frameworks is needed in order to put the ecological perspective into practice.

But if it is all so difficult and complicated, why bother? I would argue that despite the practical complexities involved, the ecological perspective on art and the archaeological record in general are more optimistic than conventional views based on dualism. Namely, if art is taken as a manifestation of a system of concepts, beliefs and meanings located in the heads of long-dead people, there is little hope of ever understanding why, for example, human–bird hybrids were depicted in Minoan art but dolphin–human hybrids were not. If, on the other hand, we regard mind, consciousness and agency as properties of entire human–environment systems and 'think first of the relationships and consider the relata as defined solely by their relationships' (Bateson 1972, 153), we get rid of black-box explanations that characterize mentalist and culture-deterministic views on art.

Different images and art objects undoubtedly performed different specific functions in Minoan Crete – that is, they organized human–environment systems in different ways. But acknowledging that only underlines the need to put art not only in the appropriate 'cultural' context, but in the broader context of local human–environment systems (cf. Gell 1995). Winter (2000, 756) is probably on the right track in implying, although only in passing and rather hesitantly, that the differences between the Aegean and Near Eastern modes of visual representation may have had something to do with the differences in local ecosystems. That is, from the ecological point of view,

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the conception is mistaken that art had more to do with what is going on in the brain than outside it. Art is not primarily about 'mind' and 'culture' in any conventional sense, but rather a result of, and a developmental resource for, the unfolding of human–environment systems in specific contexts. This means that the 'external' world is an integral part of all aspects of the production, use and reception of art, and not merely something that sets some highly general 'guidelines' to human behaviour. Hutchins (1995, 356, quoted in Day 2004, 106), considering the nature of cognition, describes the problem in an illuminating manner:

> If we fail to bound the system properly, then we may attribute the right properties to the wrong system or (worse) invent the wrong properties and attribute them to the wrong system. In this attribution game, there has been a tendency to put much more inside than should be there.

Conclusions

It has been argued in this paper that, despite the best intentions, the interpretation of Minoan art still tends to be based on modernist assumptions about the functionality of art on the one hand and the nature of human–environment relations on the other. While the conventional approaches to Minoan art, based on representation and expression theories of art, can undoubtedly produce useful information about life in the past, they also run the risk of misrepresenting the nature of human encounters with art – and with the world in general. This is mainly because the conventional approaches are embedded in dualistic thought.

An 'ecological' perspective was introduced as an alternative approach to understanding the function of art. The ecological perspective assumes the position that organism and environment are not separate systems brought to interact with each other, but constitute one indivisible organism–environment system. This system is a continuous form-generating process, in which the identity of all things is relational. Consequently, in a human–environment system, such apparently inanimate things as stones can grow into person-like social beings. It was proposed in the paper that Minoan nature scenes were instruments for perceiving the rich texture of their world. Nature scenes thus directly guided bodily engagement with the environment that people co-inhabited with manifold non-human beings.

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