Minoan Lands? Some remarks on land ownership on Bronze Age Crete

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Abstract

This contribution explores the possibility of developing an archaeology of land ownership in Minoan Crete by taking as a starting point the methodological approach developed by anthropologist Timothy Earle. It is suggested that the concept of “land marking” may represent the most promising avenue for future research. In East Crete, recurrent spatial relationships between cemeteries and settlements are considered as possible markers of land tenure. Through the example of Late Bronze Age Palaikastro, it is also suggested that an exploration of Minoan land ownership may benefit from intra-settlement architectural studies.

Keywords (10 most important in bold)

Minoan Civilisation, House Society, Ownership, Community, Collaboration, Collectiveness, Corporate Group, Tenure, Property, Territory, Cemetery, Tomb, Monument, Settlement, Terrace, Harbour, GIS, Performance, Architecture, Palaikastro,
1. Introduction

“Owning” is one of many configurations of meanings projected onto the landscape. As these configurations of meanings depend on how individuals or communities are conditioned by social, politico-economic and ideological forces (Knapp and Ashmore 1999: 8), a first step towards the approach of past land ownership is the recognition of our own preconceptions of this notion. “Land ownership” indeed has connotations of possession related to varied aspects of modern and post-modern society such as law, economy, social organisation and individualism. Because “ownership” is conjoined with the notion of property in modern nation states, Gibson recently suggested to favour the term “land tenure” in pre-modern and non-Western contexts (Gibson 2008: 48). Hence, understanding how one could own land in the past is far from being explained in a straightforward manner by “contemporary minds” and should be treated with considerable caution (see Hunt 1998). It should, however, be proven and not assumed that ownership as such is a useful concept since the control of space which can be traced in our archaeological records is often merely an expression of its “use” rather than of “ownership” (Palyvou 2004: 208), especially since the latter implies aspects of alienation (Hunt 1998: 12). Nevertheless, a group or an individual who controls, uses, or owns a tract of land, usually sees its or his identity being embedded within it, whatever forms it takes. As such property may have played a role in the development of inequality, whether amongst the members of a single community, or between different communities. It is the traces left by the materialisation of this privileged access to and use of space (or conversely the existence of elements testifying of exclusive patterns of accessibility) that can give us valuable clues about land tenure. Of course, in some cases, such boundaries may well have been symbolical rather than physical, and therefore particularly difficult to identify. This said, we will maintain the term “ownership” in this paper, emphasizing that a diachronic perspective might shed light on practices that went way beyond the simple “use” of space. It
is also important to underline that different forms of land ownership may have existed, perhaps contradictory and taking place simultaneously at different scales: that of the individual, of the group, of the larger community or of even larger forms of social organisation. Hence some land may have been owned privately, and some commonly held – as is still the case in most communities of mainland Greece where uncultivated waste land is concerned (Forbes 2007: 165) – whereas access and use of other terrains may have been open to all (*res nullius*) (Hunt 1998).

**2. Previous research and aspects of Minoan societal make-up**

The present paper intends to develop these preliminary reflections in the context of Bronze Age (Minoan) Crete (*ca.* 3000-1200/1190 BC\(^1\)) (Figure 1).

[INSERT FIGURE 1 HERE]

Thanks to a rich iconography, the study of interactions between the Minoans and their environment (both built and natural) has largely relied on representational evidence such as found on seals and signet rings (Krzyszkowska 2010) or frescoes (Chapin 2004; Herva 2006a; 2006b). The symbolic character of these representations has, however, largely confined analyses to the domain of Minoan cosmology (see discussions in Herva 2006a; 2006b; Hitchcock 2007). Bioarchaeological/ethnoarchaeological (Halstead 1981; Isaakidou 2008), geoarchaeological (Jusseret 2010; Lespez *et al.* 2003; Moody *et al.* 1996; Pavlopooulos *et al.* 2007) and space syntactical/phenomenological (Letesson 2009; Letesson and Vansteenhuyse 2006; Soetens 2006; Wallace 2007) approaches provide complementary perspectives by discussing more mundane forms of human engagement with the environment (subsistence, use of built space). To our knowledge, no attempt has, however, been made to explicitly explore the workability of a concept such as land ownership in the context of

\(^{1}\) All dates according to Manning (1995: 217) (Bronze Age) and Tomkins (2008: 22) (Neolithic).
Minoan Crete. This research gap can at least be partially explained by the remarkable absence or scarcity of traditional indicators of land ownership such as field boundaries, rock art, agricultural terraces or clear natural borders coinciding with differences in material culture. Although some early works can be said to have explored aspects of territoriality through concepts such as agricultural catchment (Dewolf et al. 1963; see Bevan 2010; Jusseret 2010; Warren 2004; Whitelaw 2004a; 2004b for more recent applications) and “settlement chambers” (Siedlungsraeume) (Lehmann 1939), these studies remain confined to one strand of evidence (subsistence, although see Warren 2004) and the equation suggested between subsistence territory and land ownership remains open to debate. Similar difficulties arise from the examination of political (Bevan 2010; Knappett 1999), administrative (Schoep 1999a) and religious (Soetens 2006) territories.

Approaching more restricted forms of land ownership is probably the most complicated for Minoan Crete, since a quest for the individual also faces problems of appreciation and this at many levels. Even with regard to items which supposedly denote individuality such as seal stones or gold rings, it cannot be excluded that they were group affiliation identifiers rather than personal qualifiers (but see Laffineur 1990; Relaki 2009; in press; Sbonias 1999; 2000). The same may well apply to marks such as those found on pots (Poursat 1990; Relaki 2009: 364-365; Schoep 1999b) or stones (Begg 2004). Prestige objects, including jewellery, encountered in several Prepalatial tombs, such as at Mochlos, may not have accompanied primary articulated interments but seem to have been deposited at the moment of secondary burial and later interference by the community at large and thus rather intended for a general category of ancestors rather than specially venerated individuals (Driessen 2010b). Moreover, approaches centred on individuals are almost certainly related to biases introduced by modern thought (cf. Fowler 2004; Thomas 2004). Rather than assumed, the individual as a relevant social unit still needs to be demonstrated for Minoan Crete and it may be a case in point that a
clear ruler iconography as illustrated by contemporary societies is absent. This is why group or community ownership may represent a more promising venue than that of individuals. Similarly, Burford (1993: 16) noted that in the Greek world property rights ‘had come into being and always existed within the context of the community, whether this was the local settlement, consisting of relatives and immediate neighbours, or the larger, more comprehensive city-state’. Without denying the existence of nuclear families, it is in this context, and following Lévi-Strauss’s (1982) seminal discussion, that one of us has argued that Minoan Crete should be regarded as a House Society in which a co-residential corporate group, for which matrilinear descent rules and a matrilocal organisation have been conjectured, formed the basic societal component (Driessen 2010a; in press a). House groups distinguish themselves by specific elements of temporality, materiality and performativity. In the economic field, these Houses pooled labour and production and acted as a single economic unit. The hypothesis is that communities were essentially constituted by one or more House groups, social aggregates which arose from their association with one or more architectural structures – both for the living and the dead – and an intergenerational investment in a specific domain. The existence of such House groups on Crete can be inferred on the basis of mortuary and settlement evidence in which collectiveness, scale and intergenerationality play important roles (Driessen 2010a; in press b). The existence of such an intermediate level between the nuclear family and the settlement is suggested by the size and complexity of Minoan residential structures, a remarkable feature of the Cretan archaeological record since the Early Neolithic. The Minoan House as a social unit is hence an “enduring social group that is materially represented by a physical structure and the objects that go with it – furnishings, curated heirlooms, and graves – within a designated locus in the landscape” (Gillespie 2000: 3). It cannot be excluded that membership of Houses took the form of both co-residency and non co-residency: specific structures may have been
used by larger resident groups or have been focal points for both resident and non-resident groups, the latter distributed over several contiguous or non-contiguous structures or sites. Moreover, membership of a *House* may also have implied an absence of individual ownership apart from some ornamental elements that helped to advertise status within a *House* and beyond.

Against such a background, it seems acceptable to surmise that community strategies were essential and that tombs and residential structures from the Early Bronze Age onwards formed the focal points around which groups acquired and performed sociality (Branigan 1993; 1998; Hamilakis 1998; Legarra Herrero 2009; Murphy 1998; Relaki 2004; Vavouranakis 2007). Such a hypothesis has some consequences on our view on land ownership which is here explored. Dispersal of *House* members may imply that their agricultural plots gradually become scattered in the landscape with a distribution that possibly cross-cuts the traditional site territories defined through concepts such as “site catchment” and “*Siedlungsräume*” (Forbes 2007: 199) and resulting in the creation of imagined communities (Driessen in press b). Within such a larger landscape, *House*-related tombs and residential structures become *monuments, places of transmission* with an intergenerational power socially relevant to a succession of people for the simple reason that their human occupants did not have this power but longed for it. It is this which formed the essence of property through inscribing practices (Rowlands 1993: 142-146), relying on the inscription of meaning in a monument to sustain memory and ‘transmit’ culture (see also Knappett forthcoming). Land ownership is relevant in as much as it united people with place throughout time: place formed by “the union of a symbolic meaning with a delimited block of the earth’s surface” (Ingold 2000: 192), including *Minoan buildings* – both funerary and domestic – and also, as often argued, the surrounding landscape (e.g. Day and Wilson 2002). *Houses* – in the Lévi-Straussian sense – combine *intergenerational and locus-bound aspects*
that define property. The communality of labour and resources in such a system is evident.

3. “Owning” the Minoan land?

Within this framework, it may be stimulating to attempt to seize the intricacies of prehistoric ownership in a Minoan context following a series of criteria proposed by Earle (2000). His specific aim was to provide archaeologists with ways to study variation in property regimes from region to region and across time. According to Earle, land ownership implies a relatively stable association between an individual or social group and a particular tract of land. The concept also determines the exclusive right to hold or use land. This twofold definition is useful as notions of stability and exclusivity can be detected archaeologically through the identification of repeated use of particular locations as well as physical boundaries, such as walls and terraces. Among the different approaches proposed to explore prehistoric forms of land ownership, Earle discusses patterns of labour investment, warfare, settlement distributions and physical marking. These four criteria do not have clear-cut borders and do overlap at times yet they provide fruitful perspectives for future discussions. As Earle (2000: 40) states, each criterion is open to alternative interpretations, but combining them provides a forceful description of property regimes in prehistory. We first consider these approaches within the context of land ownership in Bronze Age Crete and then suggest a few other possibilities.

3.1. Landscape facilities

Earle’s first method is to identify so-called “landscape facilities” as defined by Adler and Wilshusen (1990: 133), structures or prepared spaces of which the use and maintenance suggests integration of individuals above the household level. These facilities would have necessitated such a level of labour investment that their instigators would install restrictions
in the use of these facilities and treat them as property (Bradley 2004: 112). At a more general level and before looking at archaeological correlates, we may start by bringing in the results of certain GIS applications (cost analysis, viewshed) which may hint at the existence of less tangible forms of Minoan territoriality. The idea is that accessibility and visual control would imply certain notions of property. Soetens (2006), for instance, carried out viewshed analyses of the Cretan peak sanctuaries and confirmed the importance of peak intervisibility and visual control over lowland settlements in the constitution of Minoan sacred landscapes. Although these visual aspects were already stressed by previous research (e.g. Peatfield 1983), Soetens was the first to propose a DEM-based representation of the peak sanctuaries’s visual territories. Using computed territorial models based on topography, subsistence and demography, Bevan (2010) attempted to define the extant of palatial territories during the Neopalatial period and again all his suggested models are based on terrestrial and/or maritime travel times established through cost-surface analyses. By comparing his computational results with the size of other Eastern Mediterranean polities and aspects of Minoan material culture taken as proxies of political and ideological influence (frescoes, exotic stones vessels), Bevan suggests that the administrative and economic hinterlands of the palaces were likely to have been relatively small (a day’s return journey?) in comparison with the more wide-ranging networks of political and ideological domination. These two examples suggest that performance may have formed, at least in some instances, a defining component of Minoan land ownership. Practical knowledge acquired by cultivating the land or travelling across it may have represented an important resource to legitimate territorial claims. Hence the materialisation of ownership rights through the construction and maintenance of landscape facilities may have been the exception and not the rule. As Bennet (2007: 215) reminds us, plan-view representations of landscapes criss-crossed by territorial boundaries – incidentally a remarkable feature of the modern Cretan landscape (Rackham et al. 2010) – are
historically contingent and often “merely enshrine verbal data describing the boundaries of various properties”. The studies collected by Brunet (1999) further demonstrate that these difficulties persist even in historical contexts where literary evidence is available.

To some degree this is confirmed by the archaeological correlates of landscape facilities. Regardless of the number of individuals actually involved in their construction, the monumentality of landscape facilities can be considered as instrumental in the process of memorialising past generations within a House group. By serving as a form of “kinship diagram written out on the ground”, landscape facilities link their owners to each other through their shared ancestry (Forbes 2007: 322, 402). The establishment, materialisation and maintenance of funerary zones, plazas, courts, roads, water provisioning, sewage disposal, centralising architecture (public religious, ceremonial, administrative and storage buildings) and other community facilities can all be regarded as landscape or landscaping facilities for which questions of ownership or at least usership need to be asked. Who was responsible for their conception, who participated in their actual construction and who had access (Driessen in press b)? That these reflect a collaborative effort seems clear but usually coercion by a central authority is implied and the possibility of a bottom-up self-regulating mechanism is rarely considered (cf. Banning 2010: 77). If we simply take the example of the specifically curated funerary zones which appear from the Early Bronze Age onwards, at times when no complex societal organisation is assumed, it is obvious that the concentration of the deceased of different social units (be it nuclear families or Houses) within a single cemetery implies the presence of commonly held land to which the community at large had access and for which specific rules were created. At the same time, at least some mental map must have existed through which specifically circumscribed terrain – a temenos – was set apart for a particular purpose. This also applies to peak sanctuaries, plazas within early settlements and communal storage facilities. It also opens the discussion on the existence of (the) commons,
natural resources used by many individuals in common but regulated by the community or some of its members (Driessen in press b). In economic terms, this may be dubbed regulated open access and it is usually connected to situation where there is no land scarcity (Peters 1989: 330). No man made the land, so no man can claim a right of ownership in the land, Henry George (1879) stated, only the gods have this right. It did introduce certain categorisations, however, in ownership: land owned by the living and land owned by the ancestors.

If we concentrate on the living, we may briefly examine the ways Bronze Age Cretans interfered in their landscape outside of the settlements. Unfortunately, most evidence for agriculture, hunting, fishing, pasture etc. is by proxy and mainly of a bioarchaeological nature or inferred from later Linear B documents. Only on Pseira is there convincing evidence for the construction of a dam (Betancourt et al. 2005: 257) and where general constructed boundaries are concerned, we only know of one possible but not confirmed example separating the Palaikastro and Zakros polities (Driessen and MacGillivray 1989: 104). Specially curated roads connecting some settlements, sometimes accompanied by road stations at regular spatial intervals (Pavlidis et al. 2002; Tzedakis et al. 1989) and sanctuaries (including mountain tops and that of Kato Syme) in which the investment by several settlements can be inferred suggest a level of collaboration that exceeds that of the local community. But again we need to ask whether this higher level should be identified with an external central authority rather than a cooperative effort by a community-based regulation body. Terraces and harbours, though conspicuous in the present Cretan landscape, are two landscape facilities for which the evidence remains elusive for the Cretan Bronze Age. A Minoan terrace system has been identified on the island of Pseira (Betancourt et al. 2005: 249-256; Rackham and Moody 1996: 143). The northern terrace wall of Chalinomouri provides another secure, excavated example (Soles et al. 2003: 123-124). Other possible
Bronze Age terrace walls have been reported by Pope (2004: 50-51, 56) in the Messara region and by Haggis (2005: 18) in the area of Kavousi. This dearth in data is probably partly due to a lack of study and interest in terracing technology although the situation is improving (Frederick and Krahtopoulou 2000: 80; French and Whitelaw 1999: 173-175; Krahtopoulou and Frederick 2008; Moody and Grove 1990: 190). Still, the continuing use of the Cretan landscape makes it unlikely that larger scale, undisturbed Bronze Age situations remain to be discovered. Where harbours are concerned, it is obvious that Crete features many natural bays which could have accommodated protected ports but, partly because of sea-level changes since the Bronze Age, we lack major evidence suggesting the existence of extensive constructions for anchoring and loading ships (Chryssoulaki 2005: 82-83) apart from perhaps the submerged Minoan structures and rock cutting described by Marinatos at Nirou Chani (see Shaw 1990: 423, 425-426). It is, however, likely that in most cases ships were anchored close to the shore or pulled onto it without requiring advanced harbour technologies (Shaw 1990: 427). In the case where lagoon harbours (Marriner and Morhange 2007: 159, 161) would have existed during Minoan times – and this hypothesis can now be ruled out for the coastal settlements of Malia (Lespez et al. 2003) and Priniatikos Pyrgos (Pavlopoulos et al. 2007) –, labour investment could have taken the form of the removal of sediments (through dredging [Marriner and Morange 2006] or land maintenance, for example). The only permanent installations that can be identified as landscape facilities and reflect a common investment are the ship sheds at Kommos (Shaw and Shaw 2006), Poros-Katsambas (Vasilakis 2010) and Gournia (Watrous 2010). In our bottom-up perspective, it may be assumed that these installations were constructed and maintained by the boat owners. Within our conjectured House society, it may imply that each House had its own boat and that the shipshed represents a collaborative effort. Other types of infrastructure and community-related buildings may have been created and maintained in a similar way. In the area of
Chrysokamino, for example, Haggis (2006: 226) suggests that a cluster of late Prepalatial sites may have commonly operated the metallurgical site of Chrysokamino and taken care of the maintenance of the harbour of Agriomandra (see also Betancourt 2006a: 254-255). As Betancourt (2006b: 240) puts it: “[b]ecause of its [the harbour at Agriomandra] regional importance, it is unlikely that any single community ever had exclusive use of this type of harbor; as with grazing land, one must consider the possibility of a shared resource”.

What seems evident from this brief discussion is that Earle’s landscape facilities criterion seems not, at least for the moment, to represent a useful tool to approach Minoan forms of land ownership. Moreover, the Minoan sense of environment seems to suggest that, rather than imposing artificial boundaries upon the land, the inhabitants tended to follow its natural constraints (cf. Betancourt 2006b). The topography certainly influenced the size and nature of communities and even Minoan architecture may have been adapted to follow the natural environment (Driessen 1999; Hitchcock 2007; Letesson and Vansteenhuyse 2006). It is, however, acknowledged that environmental constraints cannot alone account for the trajectories followed by Minoan settlements. This is perhaps best illustrated by the towns of Mochlos, Pseira and Zakros which, in spite of being located in agriculturally marginal environments, developed into flourishing emporia (see Whitelaw 2004a). It has been suggested that the Minoan land and its particular features (springs, caves, mountain tops, rocks, etc.) were more than the simple and passive backdrop of human practices (Herva 2006a; 2006b). On the contrary, they may have been instantiated as more active entities through specific practices, and therefore perceived by the Minoans as person-like beings. This means that the engagement with the Cretan landscape probably resulted from complex interactions and that some of its elements could have been considered as “sentient beings, with which people engaged in a social manner” (Herva 2006a: 592).
3.2. **Patterning of warfare**

Earle’s second suggestion is that the patterning of warfare should correlate with emerging property rights. Indeed, increased “property ownership and status inequality” does lead to more warfare (Van der Dennen 1995: 505) and territorially is seen as one of the origins of war (Van der Dennen 1995: 565). Disputes over ownership may have led to warfare although historical parallels suggest that it is rather the enclosure of land which leads to conflict (Peters 1989: 356-357). The apparent absence of clear-cut circumscribed land on Minoan Crete may then, in the case of dispute, simply have led to the emergence of more discrete regulating or arbitrage mechanisms in which territorial claims were settled through negotiation in selected arenas such as communal feasts and funerary rituals (Driessen in press b). The existence of such arbitrage devices may be suggested, in the case of Knossos, by the conjectured existence of drinking and feasting ceremonies, which seem to have taken place since at least Final Neolithic IV (ca. 3300-3000 BC) (Tomkins 2010: 42) and continued throughout later periods (ca. 3000-1700/1680 BC). Day and Wilson (2002: 148), for example, have argued that consumption rituals during the Prepalatial period held on the Kephala hill formed an important means by which surrounding monuments and natural features were given significance (Day and Wilson 2002: 148) and ownership rights possibly claimed. Macdonald and Knappett (2007) have reconstructed similar rituals for the Protopalatial period (ca. 1925/1900-ca. 1700/1680 BC). In a similar vein, Relaki (2003; 2004) has stressed the importance of food and drink consumption and funerary rites for the construction of regional identities and these practices may have contributed to the development of a sense of locality and served as a basis for the negotiation of ownership rights. Although it is now widely accepted that the Minoans were not the peace and flower lovers as Evans once saw them (on a revaluation of this concept in terms of human-environment relationship in an ecological perspective, see Herva 2006a), convincing
evidence for conflict remains very much debated and is largely based on proxy evidence: weapons, destruction layers and attention given to defensive aspects in site location and elaboration. Much of this evidence seems to concentrate on the Final Neolithic-Early Bronze Age (e.g. Nowicki 2008 *contra* Tomkins 2008) or the Late Bronze Age-Early Iron Age transitions (e.g. Nowicki 2000). Although fortifications are probably more common than originally assumed (Alexiou 1979; Alušík 2007), very few convincing cases dating to the other periods actually exist: there are fortress-like sites at Middle Minoan IA (ca. 2050/2000-ca. 1925-1900 BC) Agia Photia and perhaps already at Choiromandres (Tzedakis *et al.* 1990) and both Protopalatial (ca. 1925/1900-ca. 1700/1680 BC) Malia and Myrtos Pyrgos seem to have been at least partially fortified. Neopalatial (ca. 1700/1680-ca. 1490/1470 BC) Chrysokamino-Chomatlas (Floyd and Betancourt 2010: 472), Gournia (Watrous and Blitzer 1999: 906), Petras (Tsiropoulou 1991) and Sissi (Driessen 2009: 31-34; Jusseret 2011) have walls which through their position and/or their construction may have had defensive qualities. If the latter was not the primary objective, it does at least suggest a particular form of occupying and perhaps owning the land, which would have required its physical enclosure. Still, they do not seem to form a *standardised* signal to distinguish between lands or to characterise settlements. Nor do they seem to have been used, as in certain Mycenaean sites, as a status marker symbolically advertising military and hierarchical power. Enclosure walls seem especially to have been meant to separate the built from the ‘wild’. This said, they incrementally show up in advanced Late Minoan I sites, both on the country-side, within settlements and close to central buildings, an evolution which has been connected to changing socio-economic conditions following the Santorini eruption (Driessen 1995; 1997; Driessen and Macdonald 1997: 45-47).

3.3. *Distribution of people across the landscape*
As a third criterion Earle proposes the study of the distribution of people across the landscape, believed to reflect to a certain extent the restricted association and use of the land. Methods for describing settlement location patterns were primarily developed at the regional scale in the field of geography (see Garner 1967) and were imported into archaeology during the heydays of New Archaeology. Hence Vita-Finzi and Higgs’s site catchment model (1970), along with its proposed refinements (e.g. Bintliff 1999; Flannery 1976), as well as Thiessen polygons (Hodder 1972; Hodder and Orton 1976) are all examples of such techniques aiming to link people and the land. Methods proposed by New Archaeology were soon criticised as being deterministic and functionalist, and challenged by theoretical approaches with a particular focus on experiential, symbolic and ritual aspects of landscape. Central to most of these approaches was the objection that past people not only used the land, but also engaged with it emotionally, subjectively and variably (Bender et al. 2007; see also critique in Bintliff 2000). In the 1990s, the innovative spatial analysis tools of rapidly improving GIS technology were integrated into archaeology with the aim of providing insights into ancient territoriality. However, these methods, unless critically applied (see Wheatley and Gillings 2000), largely stayed as deterministic and functionalist as the aforementioned approaches of New Archaeology. Only recently have fruitful concepts and methods (see Llobera 2001; 2007) been introduced for GIS-based research of human landscape, which may ultimately confer a post-processual quantification tool title on GIS. Through GIS experiments, for example, Llobera (2001) has attempted to quantify how prominence felt at a particular location may have structured the prehistoric landscapes of the Yorkshire Wolds (northern England). From his study, it appears that topographically prominent locations were consistently selected for the construction of round barrows during the Bronze Age. GIS-based calculations further indicate that the Bronze Age monuments were meant to be experienced from afar and this leads Llobera (2001) to conclude that the
round barrows might have been used as territorial markers. He also pointed out (2001: 1007) that topographically prominent locations are often considered as important resources for the reproduction and transformation of a society’s structuring principles (e.g. hierarchical relations) (see also Barrett 2000: 65). Likewise, and as frequently argued for the Cretan Bronze Age, prominent natural landforms such as caves (Tomkins in press; Watrous and Widenor 1996), peaks (Peatfield 1983; Soetens 2006) and ridges (Vavouranakis 2007: 71-82) may also have materialised territorial boundaries between communities (see discussion in Betancourt 2006b). In many cases, modern administrative boundaries still follow natural landscape features such as valleys and ridges. An idea of the size of the corresponding territory might be given by determining the portion of the landscape within which these landforms would have been experienced as prominent. GIS tools provide a framework for the systematic assessment of such experiential modes of knowledge and computed results can in turn serve as input for orienting field-based observations.

3.4. Land marking

Among the four criteria proposed by Earle to recognize prehistoric ownership, land marking is perhaps the most useful for Minoan Crete. This seems to go back to Bintliff’s (1977: 636) suggestion that the circular tombs in the Asterousia Mountains (southern Crete) were seen to mark particular land holdings. Relaki (2003; 2004) too has underlined the role of these tombs in the Mesara in the definition and negotiation of social relationships among various communities. Her conclusions have a good chance to be valid also in the rest of the island and ongoing work by Déderix (forthcoming) within a GIS framework may help to substantiate such claims. The house tombs of eastern Crete, for example, are always closely associated with settlements (e.g. Gournia, Mochlos, Myrtos Pyrgos, Palaikastro, Sissi), stressing the close connection that existed between the world of the living and that of the
dead. Part of this relationship could vest the liminal space with rights of ownership. It is worth observing that in many East Cretan sites such as Malia, Mochlos, Myrtos Pyrgos, Sissi, Palaikastro, Gournia, Zakros but also in other regions, cemeteries tend to be located to the north or northwest of settlements. Although exceptions occur, such a configuration may perhaps reflect a social practice shared by East Cretan communities, whereby the northern limit of the land of the living was marked by the entrance to that of the dead. This common characteristic, however, does by no means exclude variation in funerary rituals among sites and across time. The Prepalatial dead could in this way have been buried in rock shelters (Gournia, Petras, Zakros), crevices (*Les Charniers*, Malia) or in built tombs mimicking domestic architecture — the so-called house tombs of eastern Crete (Gournia, Mochlos, Myrtos Pyrgos, Palaikastro, Sissi). The same variability can be detected where so-called ritual installations are considered: *kernoi* (ritual stone vases or slabs) or paved courtyards closely associated with burial sites are far from being ubiquitous. Local variability may best be interpreted as reflecting decisions by different *House groups*, looking for diagnostic markers that set them apart. As mentioned, diachronic variations are also noted (see also Legarra Herrero 2009): Mochlos house tombs I, II, IV, V and VI, for example, are no longer used as burial places during the Neopalatial period but solely for the deposition of objects. That some attempt in linking the living with the dead, the Neopalatial present with the Prepalatial past, is undertaken seems acceptable, perhaps again to legitimate particular ownership rights. Could this imply that it was important to maintain an explicit link between the living and the ancestors because it constituted the basis of a legitimate ownership of (a part of) the liminal land? As many have argued (Branigan 1993; Cucuzza 2010, Demargne 1932; Soles 1992), the paved court yards or *kernoi* facing some house tombs could in this way have served rituals where ancestral links were claimed and challenged. The question remains: if a particular type of ownership is implied by the location and elaboration of tombs
within a particular distance of the settlement, for whom is this signal? Other communities, or the ancestors themselves (Bradley 2000; Helms 1998)? Again in the very case of Neopalatial Mochlos, such a link is also strongly materialized within the settlement. In the set-back of the south facade of the large ceremonial building B2, a space was left open above Prepalatial architectural remains that builders probably exposed but were reluctant to destroy (Soles and Davaras 1996: 178). Furthermore, an altar-like structure (Soles 1999: 57) and an open area, a terrace paved with purple and green schist as well as sideropetra slabs among which was a kernos (Soles and Davaras 1996: 190), were closely associated with the Prepalatial remains in a concern to “honor dead ancestors and provide a cosmological link between the living and the dead” (Soles 2004: 159; Soles 2010).

3.5. Intra-settlement architectural studies: an example from Late Bronze Age Palaikastro

Earle (2000) was less interested in intra-settlement ownership but it may be worth drawing attention to some features, which suggest some kind of ownership practices that have a bearing on the discussion. Where Minoan Crete is concerned, the built landscape represents our richest evidence and a study of Minoan land ownership should therefore not necessarily be confined to a regional, inter-settlement scale or to lands surrounding settlements which have not preserved much diagnostic differentiating features. One of the characteristics which typifies House societies is permanence of place, the rebuilding on the same spot throughout time (Driessen 2010a). This is not simply a reuse of place (as e.g. in the case of Neolithic tells in Greece and the Near East) but a palimpsestic repetition of the plan of earlier residences. Many Cretan settlements illustrate this practice but we may cite the case of the East Cretan settlement of Palaikastro, where street divisions, town blocks and internal partition walls were laid out at the very beginning of the Middle Bronze Age and remained
basically unchanged throughout the Middle, early and advanced Late Bronze Age (Figure 2).

[INSERT FIGURE 2 HERE]

Building 4 at Palaikastro, for example, shows a succession of phases of which the walls retrace earlier lines. At least during Late Bronze Age I, some of the blocks in the centre of town (shaded on Figure 2) featured a similar internal layout taking the form of a few smaller units organized around a central structure, which had a so-called Palaikastro Hall system at its core, an impluvium-like sunken area surrounded by four columns. This (late) internal similarity, combined with the mentioned continuity in the use of town blocks, suggests that corporate groups persisted within the same locations as socio-economic units and, as a consequence, benefited from a particular form of land ownership. This said, there remains an antagonism between ‘privately’ owned and ‘public’ land within such towns, as illustrated by houses encroaching on open squares such as at Palaikastro, Chania, Gournia, Kommos and elsewhere (see also Wright 2007: 265).

Within settlements, it thus seems more fruitful to consider ownership within a continuum ranging from communal to private. Even if ‘there is always the danger of missing forms of expression of community and privacy that leave no tangible traces in the archaeological records’ (Palyvou 2004: 207), Minoan settlements nonetheless show a great variability in terms of open spaces more or less closely related to specific buildings and hosting more or less communal activities and practices. If one follows Palyvou (2004), this broad spectrum includes urban public areas (e.g. west courts of palaces), urban semi-public areas (e.g. central courts), group public areas (the open spaces within block C in Gournia – Privitera 2005: 192 – and to the north of the House with the Press in Kommos – Shaw and Shaw 1996: 105, pl.1.4 – being good examples of it) and group private areas (as the zones circumscribed by walls to the west of the North House in Kommos – Shaw and Shaw 1996: 18 and 32, pl.1.4 – around the houses of the Artisans’ Quarters in Mochlos – Soles 2003a: 36-37;
Palyvou’s (2004: 2009-2011) last two categories (family private and individual private) are not of interest here in the sense that they generally represent areas within the fabric of the buildings and therefore do not testify to some sort of control exerted by an edifice on a surrounding area. It is also worth noticing that this tendency to extend the control of the internal domain of a building on the neighbouring exterior world becomes stronger in Neopalatial times in contrast with previous periods when external spaces seem to be the driving force of the social dynamics and thus probably impacted strongly on the buildings surrounding them (Letesson 2009: 362-363 and 370). This is also suggested by the increasing presence of segmentation within the Late Bronze Age built environment (Letesson and Driessen 2008). This may then imply inherited exclusivity and as such opens the possibility for another criterion, namely the exclusive use of resources in the hinterland of the settlement (Hayden et al. 1996). If we can prove the exclusive association of particular raw materials or resources with specific buildings, this could imply that these residents held property rights on various resources in the surrounding landscape, including stone or minerals, fresh-water sources and vegetal and animal products. Basically, it asks for a detailed discussion of property rights and alienation or exchange mechanisms. How and why does obsidian, for example, occur in unequal quantities among and within certain settlements (Carter 2008)? Likewise, sandstone or gypsum are sometimes used as cut ashlar in a series of residences but not in every building: in Palaikastro, some of the largest and finest buildings do not use ashlar blocks from the Ta Skaria quarries whereas others do and a similar limitation in use can be observed at Malia, Mochlos, Knossos and elsewhere. To what extent does this evidence informs us on a particular form of ownership over these outcrops, on alienation and on consumption practices? To what level of social organisation can this selective use be related? That of a well-circumscribed group, such as the here conjectured House, to some more
restrictive category, often labelled ‘elite’, or another way of representing a status related categorisation? Only a close (re-)examination of the construction materials within the relevant settlements, taking into consideration other parameters, can help to answer such questions. Similar observations concern mineral resources: it would be interesting, for example, to see whether local clays are used by the entire community for the production of pottery and a similar exercise can be done for stone vases and perhaps even metals, wood, textiles and animal products.

4. Conclusion

The bottom line of this discussion is that, in the case of Minoan Crete, more questions exist than can be answered on the basis of the present data set. We need more explicitly problem-related research to approach ownership. If the objectification of perpetuity was what Minoan Houses were all about, it is to be expected that local, or spatial, attachment was the source of identification. As such, strategies would be devised to enhance the link between the physical places and the surrounding landscape in which the buildings – both funerary and residential – served as a localising hub for a spatial and social network. The ties to the land and the locality would create kinship (real or imagined) through the House. The reuse of domestic and funerary structures results in palimpsests of place with this locus-boundness or permanence of place especially denoting property claims. Life histories of monuments become sedimented and layered in a more or less conspicuous fashion through repair, adaptation and curation (see Knappett 2006). This rebuilding time and time again reinforces the localisation of the group and creates a House genealogy, long-lived entities imbuing the locus and turning it into a major social, political and economic actor. It allows us to see the Minoan House as the proprietor of long-lasting rights and duties, serving as the locus and focus of co-residential groups. The continuity shows that the corporate groups persisted within the same locations as socioeconomic units; this seems to imply that they maintained
ownership and use of these locations over a long period. What lacks from the present reconstruction is a clear identification of the higher level, the integrating and regulating authority that took care of the arbitrage. An anonymous, face-less palace where House representatives met?
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Captions for illustrations
Figure 1: Map of the island of Crete with sites mentioned in text.
Figure 2: Plan of the town of Palaikastro (inset: Building 4).

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