SKYLINES: BORDERS OF MATERIALITY, THRESHOLDS TO HEAVEN

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ABSTRACT

Skylines partake in the "public image," as symbols of an urban collective. They are urban signatures that present an abbreviated image of the city's identity. In the Minoan world skylines can be approached only indirectly: firstly, by inferring how buildings emerged in the vertical and secondly, through the depictions of architectural compounds in Minoan art. Finally, skylines are about visual entities and perception hence some of the basic principles of Gestalt theory can provide valuable tools of thought.

In a typical Aegean skyline of the prehistoric era, horizontality and soft gradations prevailed, punctuated with only a small number of vertical elements, such as the projecting tops of the main staircases leading up to the roofs and the Horns of Concecration. Moreover, people depicted on the flat roofs give proof to an inhabited skyline, in close juxtaposition to the life taking place at ground level.

To write about what is missing in the archaeological records is a bold venture, to say the least. It is a challenge, nevertheless, worth taking, especially in the context of a Festschrift in honour of Nanno Marinatos whose resolute and daring nature has guided her intellectual path into the intangible spheres of the Minoan world. Archaeology, after all, and even more so prehistoric archaeology, is largely about working with the absent, fully aware that we cannot always define with certainty what is missing and what was never there.

Prehistoric skylines, of course, are intangible and absent only in that they have not survived. In most prehistoric sites of Crete and the Aegean Islands, very little of the upper parts of the buildings are to be seen. There is ample evidence, however, of the existence of one or more upper stories, going back to the Early Bronze Age, as well as of flat, functional roofs (Marthari 2005, 44-45). But there is no physical evidence of the way buildings ended above, not even at Akrotiri, Thera, despite its stunning preservation of two and three-story buildings still standing to a large extent. All the roofs have collapsed, with a rare exception of a single story room with its flat roof and low parapet wall still intact (Palyvou 2005a, 128-129). Evans too was mindful not to reconstruct upper floors at Knossos in a way that would imply a complete skyline, though he did order graphic reconstructions of fully restored Minoan buildings showing their tops and hence

their silhouette against the sky.

When walking through most excavated prehistoric sites in Crete, therefore, our perception of the built space is basically that of a two-dimensional plan, with free view to both the interior of the building and its surroundings simultaneously. So how are we to discuss what the real buildings looked like, as enclosed three-dimensional volumes with clear outlines, textures and colours, projected against a background that consisted of both man-made and natural elements?

Grim though the situation may seem, there are ways to approach this question. First, if we observe carefully how buildings stand on the ground, we might be able to infer how they emerged in the vertical and how their volumes cast their shadows against the emptiness of the sky. Secondly, we have the benefit of real images of buildings, compounds and even townscapes produced by the Minoans themselves. They are real, in the sense that they are depicted on authentic Minoan material - wall paintings, seals, rings, vases, models - but they are not "true" in a pragmatic sense, in that they do not stand for reality; they are, by definition, condensed, abstract and encoded representations of it. Notwithstanding the restrictions and ambiguities deriving from their media, their artistic conventions and contextual intentions, these works of art constitute a powerful iconography of a totality we can never experience.

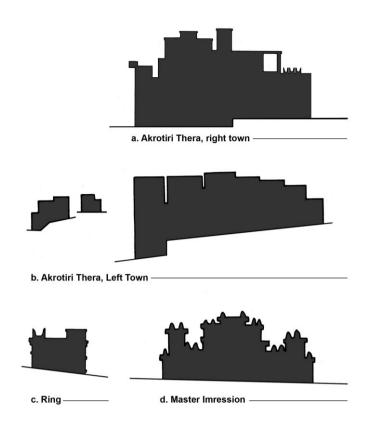


Figure 1: Minoan urban skylines (C. Palyvou)

THE SKYLINE

Before we embark in an imaginary reconstruction of the Minoan skyline, a brief reference to the properties and the importance of the skyline is pertinent. The word skyline meant initially "the line where earth and sky meet." It was synonymous, in other words, with the horizon. It was extended to include the man-made environment in the 1890s, about the time skyscrapers came into being (Kostof 1991, 279).

In architectural terms, the skyline corresponds to the uppermost edge of a building or compound of buildings. It is the delimiting line that distinguishes the materiality of man-made forms and their natural setting from the emptiness of the sky. It is what defines the figure against its background, the mass versus the void.

As a line, it only describes planes; it provides no direct clues in regard to the depth of the volumes it delimits. This two-dimensional, frontal aspect is the result of distance: a skyline is perceived from far away (coming to Akrotiri, Thera on the boat from Crete, for example), where perspective is compromised and all looks flat. Scale is compromised: not all details are equally visible or recognizable, nor do they partake in our perception of the skyline. Distance also affects light and colour and the buildings end up looking like flat, dark shades projected against a bright sky (Figure 1). Hence, Damisch's scepticism: "Does the city remain 'real' when considered from such distances, as a spectacle, a scene?" (Damisch 2001, 12). Furthermore, apperception of a building's

skyline relies on the way it is viewed and approached (see Letesson and Vanteenhuyse 2006 on the importance of direction of movement), while sequential revelation redefines the viewpoints and the figure to background relationship. ²

Above all, however, skylines partake in the "public image", "carried by large numbers of a city's inhabitants" (Lynch 1960, 7), as symbols of an urban collective (Figure 2). They are urban signatures that present an abbreviated, shorthand image of the city's identity: a kind of fingerprint, that marks out the townscape of each city, as a fondly familiar figure for the local people to return to, or a condensed ideogram of what is to be explored for the newcomers. This is what makes skylines so attractive. Yet, as Kostof points out, "The skyline, in the end, is a negotiated symbol. What stands out as the city's official silhouette was given license to do so" (Kostof 1991, 296). This is why, in our modern, highly competitive era, skylines are exploited for place branding, marketing and promotion, as image communication directed to a target market. The more identifiable and visually unique the skyline, the more powerful the result, as in this often quoted catchphrase: "New York is a skyline, the most stupendous, unbelievable, man-made spectacle since the hanging gardens of Babylon," (Jacques Barzun, quoted in Krupat 1985, 23). Or the pyramids in Egypt, one may add, whose skyline can still be experienced, standing out thousands of years now on the flat setting of the desert as a powerful symbol of eternity and of man's urge, and ability, to produce forms that imitate and challenge nature.

AEGEAN SKYLINES

Since the skyline of Aegean prehistoric urban compounds eludes us, a starting point would be to recapitulate what we do know about the natural setting and the architecture of the time. The land of Crete, as experts tell us, was not very different from what we see today: ragged mountains coexist with soft hillsides, narrow gorges with broad valleys, deep bays, cliffs and long stretches of sandy coasts. On this versatile and highly undulated landscape, human habitation in Minoan times seldom rested on flat land, though strong inclinations were equally avoided. Even when inhabiting highlands, up on the mountains, as at Zominthos or Syme, the buildings themselves stood on a pocket of relatively temperate and gently sloping land.

Upon this land, box-like buildings with flat roofs were set in close conformity to the relief of the ground. This is confirmed both in the horizontal and in the vertical: the former, by the indentations of the street facades along main arteries, a typical feature of the Minoan townscape. In the vertical, this is reflected in the way all buildings, houses and formal compounds alike stand on the ground: neither elevated nor sunken, they follow the contours of the land by adjusting the levels of their ground floors accordingly. The West House at Akrotiri, Thera, for example, has all six ground-floor rooms at different levels (Figure 3): starting from the entrance, one gradually descends from one room to another, through a few steps attached to each door, till the lowest



Figure 2: The skyline of the city of Chicago

level is reached, 1.80 m below the level of the entrance (Palyvou 2005a, 46-53). Thereafter, one starts ascending again to the remaining rooms. Interestingly, this gradation is repeated on the upper floor and the roof of the building, reduced to three different levels instead of six. Had it not been for Akrotiri, such a hypothesis would have been difficult to accept because changing levels on the upper floor is technically very demanding.

Judging from Akrotiri, therefore, but also from Crete (at least in regard with the ground floors), change of levels was common and frequent, even within the same building. If we add to this the existence of two or three upper stories in some of the buildings, then the result is a stepped skyline that corresponded closely to the land contours and, at the same time, projected the inner structure of the buildings and the individual volumes they consisted of (Figure 4). A Minoan townscape, in other words, would have appeared as a rather gentle, gradual metamorphosis of the free forms of the natural landscape into a geometrical pattern of vertical and horizontal, stepped lines.

This first attempt to envisage the Minoan townscape has produced a general idea of its ambience. In this skyline horizontality and soft gradations prevail, punctuated with only a small number of vertical elements, such as the projecting tops of the main staircases leading up to the roofs, a distinct feature of the Minoan urban townscape, well attested in the archaeological records. Main staircases are as a rule situated at the entrance of the building and lead all the way up to the roof (Figure 5). This means that they are embedded in the front facade of the building, hence they had a strong presence in the skyline formation, as we see them on the faience plaques of the Town Mosaic (Figure 6).3 On the other hand, if numerous and repetitive, vertical elements turn into horizontal, as is the case with columns versus colonnades, for example. Even New York tends to absorb the verticality of its competing skyscrapers, when clustered together in large numbers, hence the urge to build even taller buildings that will stand out in the skyline with their unmatched height as true landmarks. Landmarks, according to Lynch, are effective if they have a clear form, if they contrast with their background, and if there is some prominence of spatial location (Lynch, 1960). Distant landmarks, like those participating in a skyline, are used in symbolic ways more frequently than for orientation and contribute to the "imageability" of the city (Lynch, 1960, 9).

ARTISTIC DEPICTIONS OF SKYLINES

At this point, we need to turn to the depictions of architectural compounds in the art of the period for this is as far as one can go with the available hard evidence of the archaeological records. As Kostof points out, "since to be conceptualized it has to be imaged, the skyline of cities ... had always been indebted to the artist's representation of it" (Kostof 1991, 283).

Fortunately, architecture was popular in the Minoan artistic repertoire in the form of isolated structures, individual buildings, compounds and even townscapes. Most valuable in the context of the present discussion on skylines are the two Towns –Left and Right - of the Miniature Frieze from the West House at Akrotiri, Thera, for they depict urban environments as totalities and are well preserved (Figures 7 and 8). Other pictures that can also provide useful information are the Master Impression from Chania and the gold ring from Poros (Figure 9), as well as the Zakros Rhyton (Figure 10). All are small in size and, for some, there is ambiguity as to what they represent: palace or town?⁴

The scale of representation is a determinant factor. To depict a whole town – or a palatial compound, for that matter – through a few lines incised on a surface 2cm by 2.67cm, as in the case of the Master Impression from Chania, is a very difficult task, mental rather than technical. It is an intellectual eclectic process, based on prior corporeal experience, that results in grotesque renderings of realities, a kind of caricature that asks for many details to be omitted while others are exaggerated.

As Morgan points out, "Iconography does not present an inventory of the natural world but a selection from it. This selection is itself diagnostic" (Morgan1985, 10). If we assume that these depictions were meant to be recognized as representing specific towns, then the choice of individual elements composing the picture must have been carefully weighed against the complex and multi-stratified reality they corresponded to. Only the most prominent and distinct features, typical or peculiar to the actual townscape, should find their way into the picture. What's more, these individual features must relate to each other in a manner that would convey the actual principles of composition. The miniature townscape thus produced should be able to reveal at first glance the identity of the real place. In this challenging task of image communication the skyline plays an important role as a powerful agent of identity.

A GESTALT APPROACH TO SKYLINES

Skylines are about visual entities and perception; hence Gestalt theory is a logical field to turn to. Gestalt theory offers tools of thought that can guide one's way in understanding perceptual organization, making it ideal for studying skylines, as Booth points out in his thesis, on the assumption that the built environment can be broken down and analyzed visually, according to size, color and configuration of the shapes that constitute its townscape (Booth 2012, 15). Following this line of thought, we will attempt to "read" Minoan skylines depicted in art with the aid of some of the basic principles of Gestalt theory.

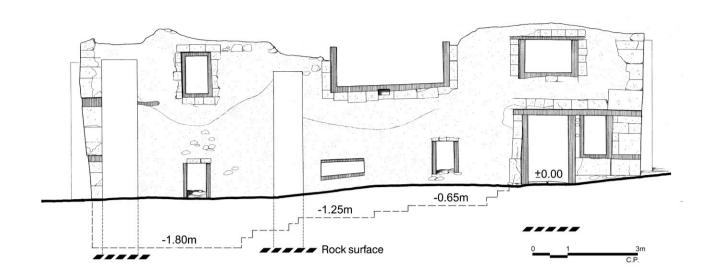


Figure 3. The West House at Aktrotiri, Thera: elevation of south facade (C. Palyvou)

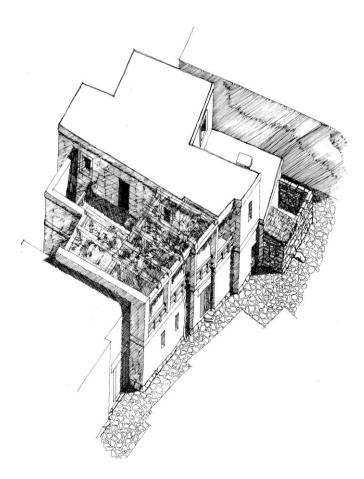


Figure 4: Indentations of house facades that project the inner structure of the buildings, while subduing their individuality to the street facade (Hallager 1990, fig. 6)

A first principle is the urge for simple and regular forms. All skylines are, indeed, simple and consist of clearly defined forms. Repetition enhances their identity. Some may not be intelligible to us – for example, the triangular black elements crowning the rooftops in the Theran wall painting (Doumas 1992, 14) – but they can be clearly described as triangles and were certainly recognized for what they represented by the spectators of the time.⁵

The figure to background relationship is a fundamental Gestalt principle: in most cases, the background is the blank area corresponding to the sky while the figure is described by the outline of the built masses and the terrain upon which they stand. The sky is blank and uneventful, a void that allows for the materiality of terrestrial figures to stand out. Interestingly, however, in a wall painting from Kea there are clouds depicted in the sky in a very naturalistic and emphatic manner (Morgan in press).⁶ Here, the sky is no longer an empty space or a neutral background to be ignored, it has acquired a presence of its own, almost competing with the urban image. The cloudy sky adds to the picture what the building masses cannot convey: movement and time, matching the ephemeral and mutable nature of the animated scene depicted below, at ground level.

In the two towns of the Akrotiri frieze the situation is slightly more complex (Figures 7 and 8). Due to the cartographic rendering of a wider territory there are two skylines: the topmost refers to the natural mountainous horizon beyond the city, projected onto the white background of the sky. The towns at the lower level, on the other hand, imply a skyline of their own, following the upper edge of the buildings. To enhance the notion of the urban skyline, the artist has left a white area above the buildings (typically representing the sky) that blends gradually into the colors of the natural environment at the higher level. This

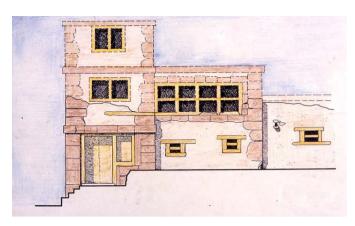


Figure 5: Building Delta-East at Aktrotiri, Thera: elevation of east facade (C. Palyvou)



Figure 6: House facades from the Town Mosaic (Δημοπούλου-Ρεθεμιωτάκη 2005, 330-331).

white space – especially evident in the Left Town as a white band – allows for the eye to read the upper edge of the buildings as the urban skyline projected onto the sky. These simple, yet effective tricks of design facilitate greatly our perception of what is, in reality, a very complex visual entity.

Another Gestalt principle is that similar things appear to be grouped together. This may explain why certain buildings have a tendency to stand out, and why some cityscapes are perceived as homogenous, and others diverse (Booth 2012, 17). The Left Town is indeed distinguished for its uneventful, flat profile and homogenous skyline that shows no tensions or landmarks. Only the tower-like building to the left seems to be distinguished from the other buildings, though this is not expressed in the urban skyline. Quite the contrary, the artist – through the skyline – guides the viewer to read the urban compound as homogenous. Compared to the Right Town, the two skylines convey distinctly different townscapes.

Proximity or nearness states that things that are near each other appear to be grouped together. Moreover, things are more likely to form groups if they appear familiar or meaningful. As Booth points out, this explains the perceived rhythm and flow of skylines, and how disjoined areas contribute to that perception (Booth 2012, 17). The Poros ring is a good example of this (Figure 9b): one can easily group the elements depicted in this miniature picture in three parts. The left part is distinguished by the pair of Horns of Consecration on its top – the only one in this picture – and the "half-rosette" design below, whereas the right part is taller and stands out (note the projecting ends of the horizontal zones between stories). The in between part is rather neutral, but its presence is essential: by allowing for the two others to be distinguished, it provides a rhythm.

The effect of flow and rhythm is also observed in the Master Impression, in the way the three taller entities are separated by similar but much shorter elements (Figure 9a). The three entities though seemingly representing one building each, may well stand for more of the kind, if a town is depicted. In this highly condensed miniature picture one can identify and enumerate all the special features that distinguish Minoan architecture, several of which are conveyed by the skyline: multistory buildings, indicated by projecting horizontal cornices, flat stepped roofs and Horns of Consecration.

Horns of Consecration are depicted on all the roofs of this compound. They appear in other pictures as well, with the exception of the Left Town from Akrotiri. Such objects, made of stone, have been found in the archaeological records, both in palatial and urban context (D'Agata 1992). They are few in number and seem to be related to entrances. A single pair of Horns standing high on the roof above an entrance can be quite a commanding sight (Alexopoulos 2008, 395-396). When observed from a close distance, the two symmetrical projections, thrusting upwards to the sky, denote a strong axis corresponding to the axis of the entrance. Seen from far away, on the other hand, these single Horns punctuate the skyline with their verticality denoting the location of entrances to certain buildings. Some very large Horns of Consecration, over 2m high, such as those found at Knossos and Juhkta, were meant presumably to be seen from an even greater distance; their symbolic function as landmarks was clearly targeting the broader territory. At such distance, the urban skyline is reduced to its most basic elements, such as the stepped terraces and retaining walls (Driessen 1999, 123-124), and only a very large-scale sign would signal effectively the palatial identity of the town.

In art, Horns of Consecration often appear in rows crowning the tops of walls. If this was the case in reality as well (though not attested in the archaeological records), then they would no longer emphasize verticality, for repetition and row formation would have transformed this vertical figure into a horizontal undulating line. Rhythm and horizontality would have prevailed and the emblematic power of the venerated bull would have been amplified. Nanno Marinatos has recently proposed a different reading of these elements: namely as representing the cosmic

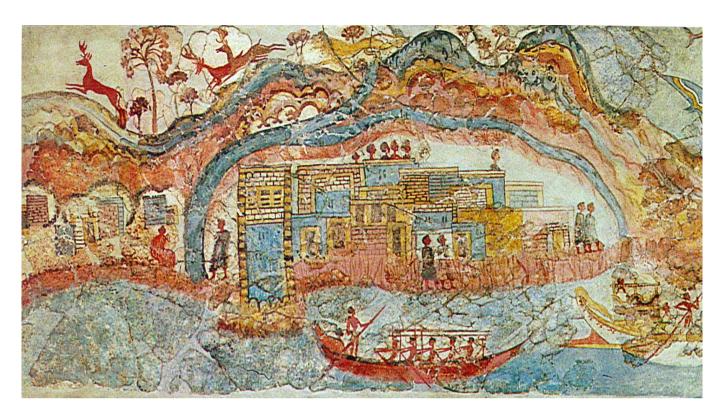


Figure 7: Wall painting from Akrotiri, Thera: Left Town (Doumas 1992, figs 26-48)

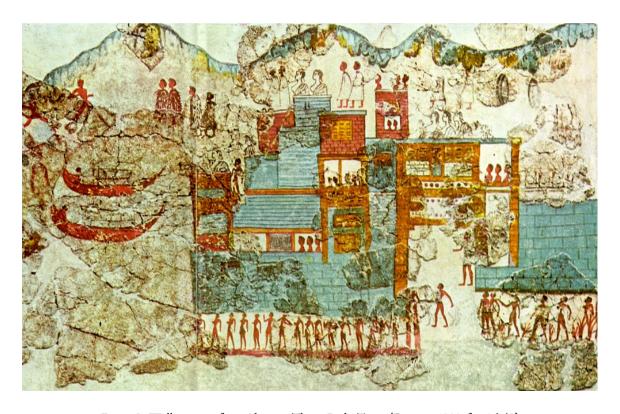


Figure 8: Wall painting from Akrotiri, Thera: Right Town (Doumas 1992, figs 26-48)

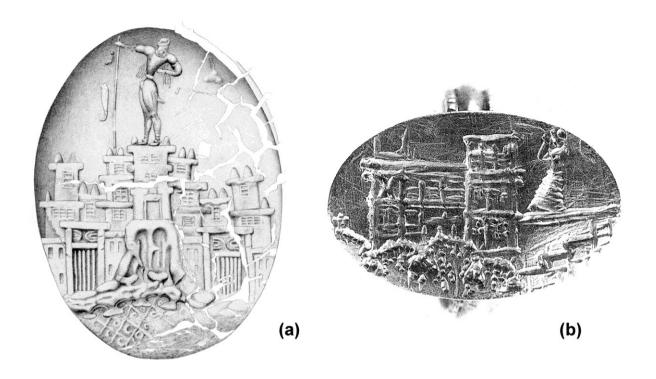


Figure 9: a. The Master Impression from Chania (Hallager 1985, fig. 11); b. the Sacred Mansion ring from Poros (Rethemiotakis and Dimopoulou 2003, tafel 1.1)

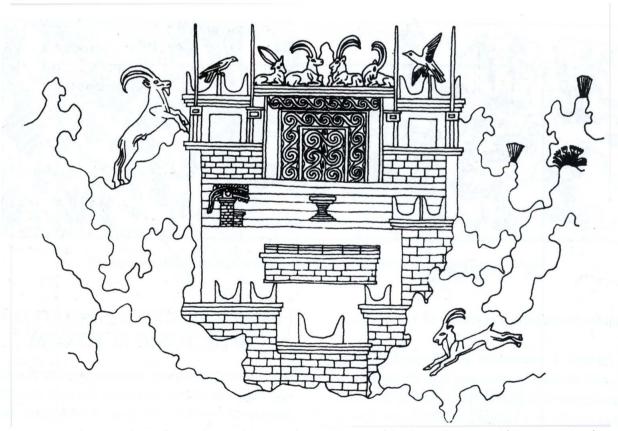


Figure 10: The stone Rhyton from Zakros: 3-dimensional reconstruction of the depicted compound (Shaw 1978, fig. 9)

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mountain (Marinatos 2010, 103-113). In such case, their repetition may imply mountain ranges, typical of Crete, and their position on the top of a building may relate directly to the real mountains framing most urban or palatial settings in Crete.

As Kostof points out, "often the nature of the skyline is not determined by one or more distinctive building shapes, as much as it is by the repetitive use of one architectureal feature: minarets, domes, spires, industrial chimneys, and the like." (Kostof 1991, 288). In the Minoan world of horizontal monumentality it appears that the equivalent is the Horns of Consecration, either as individual elements with emphasis in the vertical or in rows emphasizing flow and rhythm in the horizontal.

AN INHABITED SKYLINE

People on the roof is a popular theme in art, and there is ample evidence from Akrotiri, Thera, but also from Crete, of the various activities that took place there. A typical Aegean skyline of the prehistoric era, therefore, was an **inhabited skyline**, in close juxtaposition to the life taking place at ground level. People in the Right Town of the Akrotiri frieze, either walking on the streets, climbing up a hill side or looking out from the verandas and the roof tops are all participating in the same event, sharing the same experience. The effect this lively skyline would have had on the townscape can be best appreciated if compared to an uninhabited skyline, as would have been the case of a Mycenaean townscape consisting of pitched roofs.

The roof was an important functional annex to the house proper. Under the blazing sun of the Aegean, however, one cannot stay or work for long. It may safely be assumed, therefore, that most roofs had light shelters or pergolas made of timber and other perishable materials, like the one at the Archanes House model (Figure 11). As a component of the skyline, these pergolas would have been perceived as a kind of decomposed upper boundary, an interlocking element mediating between the enclosed bounded volume of the house and the unlimited space beyond. The Right Town from Akrotiri includes at least two such sheltered verandas, one of which is at the periphery of the townscape, to the right, and therefore participates in its outline (Figure 8).

At the other side of the urban compound of this Town, there is a balcony protruding conspicuously beyond the strict vertical line that delimits the town in this direction. It is similar to the balcony of the Archanes Model in that they both project in the horizontal as well as the vertical (two or three steps lead from the roof up to the balcony) and they both host a standing female figure. In this case, the balcony projects from the edge of the town, towards the incoming fleet. The strict vertical edge of the town in this direction emphasizes even further the prominence of the balcony in the image of the town. Whatever the interpretation of this scene, the projecting balcony was certainly included in the skyline purposefully and in a way that would emphasize its meaning.



Figure 11: The Archanes model of a house (Δημοπούλου-Ρεθεμιωτάκη 2005, 82-83)

CLOSING REMARKS

In his detailed account of skylines through history, Kostof observes that until the advent of the Industrial Revolution, the urban skyline celebrated institutional landmarks, buildings of communal importance having to do with religion and political power. This is what he calls hierachical cityscape. It was only later that skyscrapers celebrating private enterprise brought confusion in the skyline priorities (Kostof 1991, 282). He also assumes that exclusively secular skyline features before the Industrial Revolution began with the city walls (Kostof 1991, 305). This is further reflected in art: in townscapes commissioned for military purposes, to celebrate, for example, siege scenes.

The skylines of the Minoan world seem to comply with Kostof's observations. City walls, as true fortifications, are not securely attested in the archaeological records of Crete, but they do exist in contemporary Cycladic sites, in Melos and Kea. They also appear in art, in the Right Town from Akrotiri and the Master Impression, alongside urban settings with free access (Left Town). The only known siege scene appears in a Mycenaean context, depicted on the Silver Siege Rhyton. Like many other siege scenes in history, it probably served to commemorate a military event, in the context of what Kostof calls negotiated symbolism. Similar military scenes, much earlier in time, are common in Egypt and the Near East.⁹

Secular skylines in Minoan art, however, do not depend on city walls to declare their urbanity: they appear in the form of what Boulotis calls the "portrait of the city", an innovative Minoan idea that goes back to the Middle Bronze Age and encapsulates the image of the town both in its man-made elements and its natural setting (Boulotis 1990, 422). Most important, these townscapes



Figure 12: the Sacred Grove fresco from Knossos (Evans 1930, Pl. XVIII)

are all animated, hence the message they convey is primarily about people appropriating their environment.

The main visual effect of these secular skylines is horizonatlity. The only distinct elements that emerge in the vertical are the Horns of Consecration: either individual or in rows, they seem to signal places of special importance - religious, civic, or both. Their presence is conspicuous, though not as strong as a minaret or a spire. It is their unique form that distinguishes them rather than their verticality as such. At the end, they are assimilated in the urban image (see, for example, the homogenous effect of the Master Impression). Hierarchical space, as Kostof describes it, is not a strong objective in Aegean art, as it is in the Egyptian, for example. 10 Architecture and townscapes speak rather of urban coherence, where the secular and the profane coexist; it takes the strong presence of a human figure, male or female (Master Impression and Poros ring, respectively), depicted disproportional to the townscape, to evoke authority and hierarchy (Hallager 1985, 22-25).

Purely sacred skylines are also present in Minoan iconography. The Stone Rhyton from Zakros is most probably an artistic rendering of a peak sanctuary, like those at Juhktas and Syme. It presents a large open-air space on a mountainous peak bordered by a prominent wall made of ashlar. The enclosure wall

blends with the natural environment on all three sides, while the fourth, at the center, is seen from within. The wall does not participate in the skyline: rocks, goats and birds dominate the horizon, celebrating nature and its role as agent between the secular and the sacred domain, earth and sky. Architecture participates marginally in this skyline, in the form of two pairs of Horns of Consecration and four poles that strech out in the vertical like antennas ready to receive divine messages. This skyline marks a threshold to heaven, as the large "door" at the center also implies, while a bird about to fly away adds time and temporality to the picture, just as crossing a threshold is in itself an act of transition set in time.

Following Nanno Marinatos's line of thought on sacred mountains and the multilayer meaning of natural settings, one might conclude that, if the base of a building anchors the edifice to the realities of the earth, it is against the light and the emptiness of the sky that man-made forms acquire their strongest presence, and it is here that they meet with infinite space where the divine dwells. Hence, the treatment of the uppermost boundary of a building – its silhouette or skyline – is a significant part of its identity, heavily imbued with symbolic meaning. The importance of the sky as an integral part of the cosmos should not be underestimated, as Professor Marinatos and others have pointed

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out (see, for example, Goodison 2004, 346), warning against the western prejudice of dualistic thinking that sharply separates earth and sky, body and mind, matter and spirit.

As a closing scene, therefore, I propose to turn our attention to a different kind of skyline, consisting of people (Figure 12). In the Sacred Grove fresco from Knossos the scene is all about people engaged in various activities within what seems to be almost exclusively a natural setting. The sky is represented by a very narrow strip of blue on the top of the picture, just enough to provide the notion of a background. The skyline – "the line where

earth and sky meet"- is defined by the heads of a packed crowd of male figures, thrusting their hands upwards to the sky in joy, agitation or prayer. This is an extreme case of an ephemeral animated skyline composed of an anonymous crowd in full action. The stretched hands that punctuate the horizon randomly help alleviate the claustrophobic effect of the highly compressed zone corresponding to the sky, but also look like stitches that keep together earth and sky, connoting the human urge to annihilate the limits of materiality and reach out to the intangible domain that lies beyond.

NOTES

- Damisch 2001, ix. This interesting book is a philosophical and architectural study of spatial and visual phenomena of the city. Despite its title, however, it does not directly address the issue of skyline.
- ² See Letesson and Vanteenhuyse 2006, on the importance of direction of movement.
- For a tentative reconstruction of the Town Mosaic, see Palyvou 2005b, 187-188 and n. 14, pls 50, 59.
- To the question 'town or palace' Boulotis rightly responds that the two are inextricably bonded (Boulotis 1990, 439).
- ⁵ For a discussion on the various interpretations see Boulotis 1990, 436, n.57.
- I am indebted to Lyvia Morgan for sharing with me her thoughts on this topic, as they will appear in her

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- forthcoming book (Morgan, inpress). In this book the reader will find a detailed presentation of the finds and a meticulous discussion on the importance of this unprecedented find.
- For references to terminology (e.g. cartographic rendering), techniques and conventions, as well as the varying views regarding the interpretation of the miniature renderings of townscapes, see Palyvou 2005b.
- ⁸ For references, see Palyvou 2005b n. 43.
- For references and discussion on fortification walls and enclosures, both real and in art, see Boulotis 1990, 436-7, n. 61-64 and Palyvou 2005b, 192.
- See Bietak 2000. On relative scale see also Morgan 1988, 12

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