Part IV
From the Mesoscale to the Macroscale of Koumasa

Introduction

After analysing the microscale of the area of Koumasa and aspects of movement and architectural layout within it, as extension of the topography in Part III, in Part IV a larger scale of everyday activities will be studied, aiming to contextualise Koumasa within its surrounding neighbourhood – that is the wider expanse of its perceivable and traversable area of daily engagements – and beyond.

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9 The Adjacent Valley and Mountain as Part of the Mesoscale of Koumasa

The methodological questions regarding the region of the Asterousia and the Messara and the area's perception in the literature were presented in Chapter 3. In this chapter, the area around Koumasa will be studied in order to better understand its position within its immediate surrounding environment. This involves the region of daily activity around the settlement, with locations being encompassed in one day's work; i.e movement to and from within one day being realistic, taking into account the activities of herding, cultivation and trade. A separation of this area into mountainous and valley is often pursued, but this does not reflect the realities of everyday life with regards to proximity. It is an arbitrary separation reflecting the sensory differentiation of the parts of the immediate vicinity that are in the valley and within eyesight, and those on the mountain and hidden.

This section will begin with a new definition of the areas of the Asterousia, which is necessary for the discussion of areas with intensive interactions with Koumasa.

9.1 Redefining the Asterousia

As demonstrated in Chapter 3.2 (Figure 16), the division of the Asterousia into western and central regions, as well as the choice of an exact contour line for the definition of the mountain, is arbitrary, aligning with archaeological data and influenced by modern conceptions. For the discussion in this chapter, a separation of the mountain into five areas is considered more fitting, accounting for both archaeological evidence and the nature of movement. In Figures 78 and 79, the contour line is used to delineate much of the northern border, reflecting an arbitrary decision that excludes some areas from the Asterousia (e.g., Apesokari) and includes others (e.g., Panagia and Fournofarango), which could be considered in the grey zone between valley and mountain. This choice is maintained for consistency in the contour chosen. For certain sections of the northern border (e.g., the westernmost line toward Matala), and in the division lines between sections, major streams and natural gorges were considered (based on the watershed analysis in Chapter 5.5), along with empirical data from walking in the mountains, so that the five areas reflect an actual feeling of internal coherence. The vertical divisions follow gorges corresponding to streams of Strahler Order 6 and 7, as discussed in Chapter 5.5, which represent natural divisions of the landscape; thus, it is less surprising that

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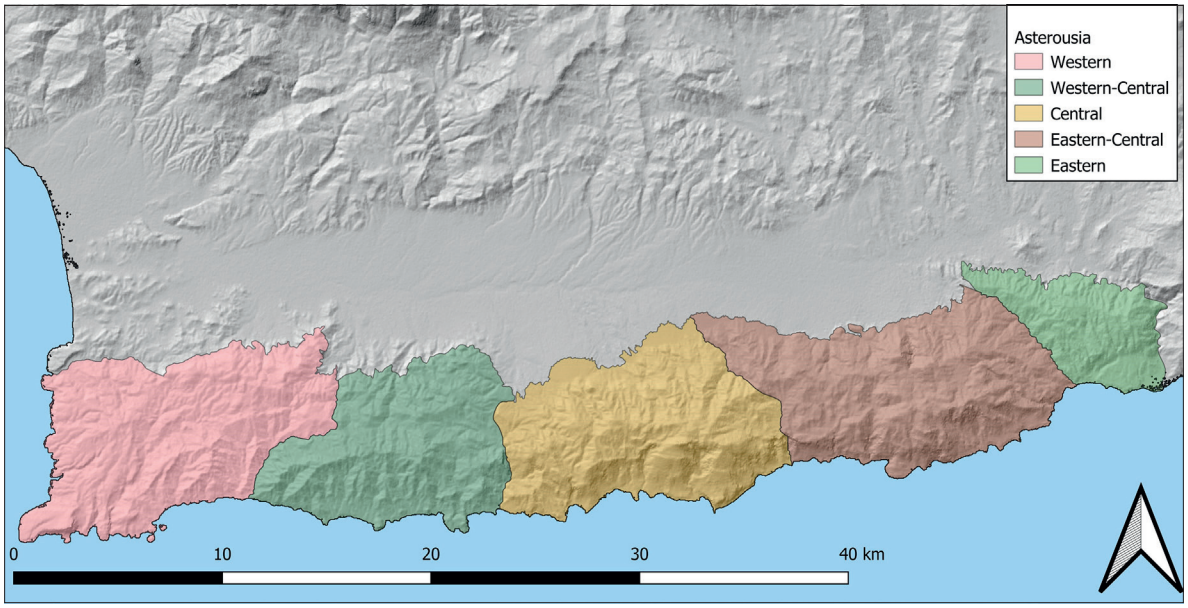


Figure 78: The five regions of the Asterousia.

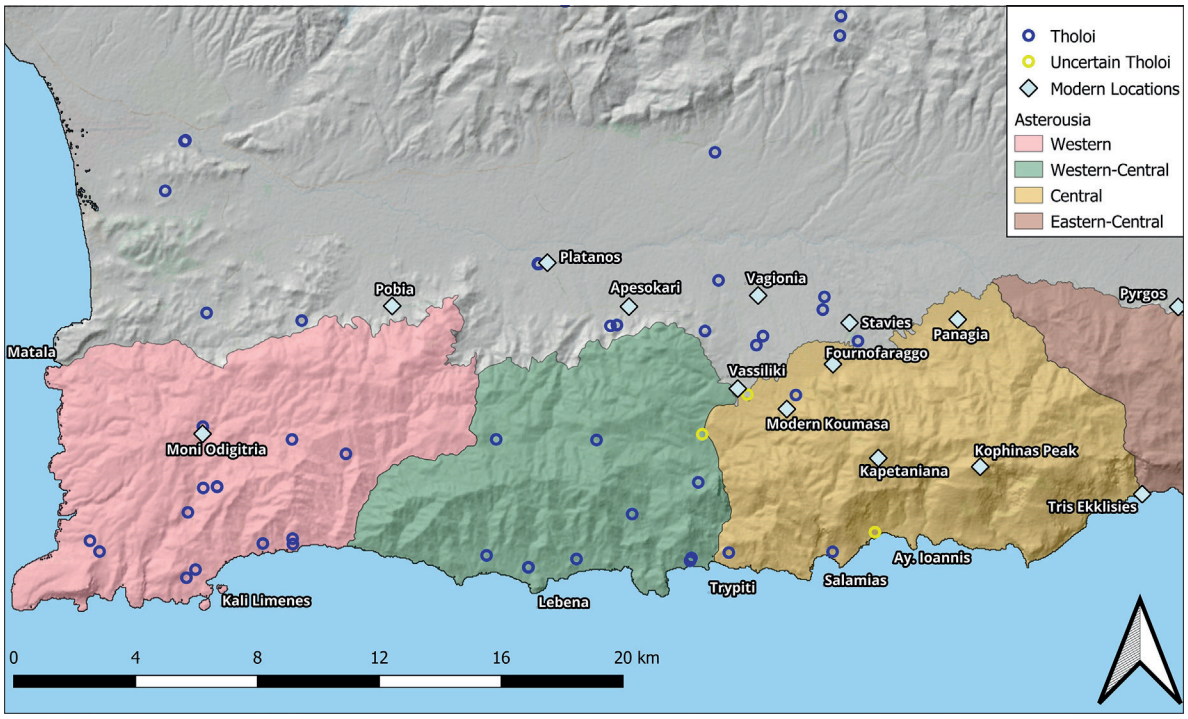


Figure 79: The western half of the Asterousia, in the middle of which the Koumasa Region is located.

they coincide very well with divisions between communities today. Finally, the proposed borders much some of the geological data discussed in Chapter 1.1.

The eastern Asterousia has an area of 33.3 km² and are bordered on their eastern side by the Anapodaris river until its output at Ayios Ioannis Pediados. On its western side, its division from the eastern-central area is defined by a local stream network and the Mindhri and Tsoutsouro gorges, and it meets the sea at Tsoutsouros. This line coincides with the modern border of the municipality of Pediada. The output of Anapodaris sees a concentration of sites, such as Ayios Ioannis-Plaka and Keratokampos mentioned above,[902] and the settlement at Aliori and the peak sanctuary at Chousakas.[903]

The eastern-central area is 94.7 km², and contains modern Ethia and its environs; to its north and northwest, the modern areas of Rotasi, Pyrgos and Charakas are located, which correspond to the output area of the paths leading there from Tris Ekklisies, the south-western corner of this area. These paths (as elaborated in Chapter 5) follow the network of streams and gorges that define the western side of this area and the border to the central area.[904] It is also noted that this separation aligns with the change of geological composition, from the carbonates in this area to the flysch tectonic and carbonate – karstic thrust sheets of the central area.[905]

The central area is dominated by the Kophinas peak, whose area is 88.7 km². It is the main mountainous part of the Asterousia, with only a handful of paths allowing its ascent.[906] The southern shore extends from Koudoumas to Ayios Ioannis; Salamias up to Trypiti are, therefore, arguably the most secluded harbours from the point of view of a walker in the Messara. To the north of this area, the documented tholoi begin to appear. Apart from Koumasa and Trypiti, located at the edges of this area, until recently, no tholoi were documented, but the recent documentation of the tholos of Salamias and another tholos near Ayios Ioannis suggests a change in this picture.[907] To these, the tholos at Tris Ekklisies could be considered.[908] The area of Koumasa is located to the north of this segment. The paths discussed in Chapter 5 that bypass the Kophinas peak concentrate on the edges of this central area, adding to the reasons it was defined as a cohesive subregion. Its western border is defined by the path network, and the Goulo-

902 See Footnote 83.

903 Vasilakis 2017, 79.

904 The features of this area include the calculated paths from the shore to the Messara, which demonstrate an accumulation of paths predominantly in the western part of this region, particularly those originating from the area of Tris Ekklisies and its surroundings it. The next possible artery to the west is those leading to the area of Koumasa. See discussion on pages 128ff.; iteration 4 in Chapter 5.2 Study 3 (Figures 29, 30 and 31); and page 151f.

905 For this and subsequent geological references, see Fig. 3.

906 The walking expeditions are presented in Chapter 11.1; Figure 92. For the computed paths, see Figure 29 and discussion in iteration 4 in Chapter 5.2, Study 3.

907 Based on a private discussion with Lucy Goodison; in addition to the tholos at Ayios Ioannis, two other round structures located near it are to be presented in her forthcoming revised tholoi catalogue.

908 At the area of Tragopiastis (Vasilakis 2017, 78).

farango gorges leading from Vassiliki to Trypiti (see Chapter 11.1.1). The northern edge of both the central and the eastern-central area corresponds with the fault ranging from Panayia through Charakas until north of Rotasi.

The western-central area remains mountainous but significantly less so than that of the central area.[909] Its area is 72,5 km². It is defined by Apesokari and Pobia to its north and by Trachoulas, Lentas and Gerokampos to the south. Movement-wise therefore, this section has contained connection networks from these harbour areas to the Messara and Gortyn in both the Bronze Age and the Hellenistic and Roman periods.[910] The area of Miamou, home to one of the earliest known settlements in the mountainous Asterousia, confirms this view.[911] Of the tholoi located on the mountains themselves (see discussion below), a local concentration of four tholoi (Ayios Kyrillos, Korakies near Miamou, Krotos and Christos), to which the uncertain Plakoura tholos could be added, form a group, divided from those of the western area. The western-central is divided from the western area by the line defined by a major local stream exiting to the sea at Platia Peramata. It follows the dividing line of the communities of Pigadia and Antiskari closely, the latter located in the western-central area and both closely fall along the geological divide of the flysch tectonic thrust from the schist area to the south.

The western area, 95.2 km², is defined by the sea on the southern and western seashore, with mount Lithino at its south-western edge and Matala at its northwest. It includes Lassaia and Kali Limenes to the south, and is topographically characterised by the Ayiofarango gorge in its central area, and Moni Odigitria to the north. The role of the Ayiofarango through the ages has been discussed elsewhere (refer to Chapter 3).

The whole area of the five regions comprises 384.5 km².

9.2 Koumasa's Neighbourhood

To understand the choice of Koumasa as a regional centre, the grammar of location, as put forth by Nixon, should be considered.[912] This pertains to the semicircular extension of the Messara southwards, an area which Koumasa directly oversees. The semicircle idefined by the contour lines of 330–360 m. comprises an extension of the valley southwards, passing through the immediate south of Vassiliki (Figure 80).

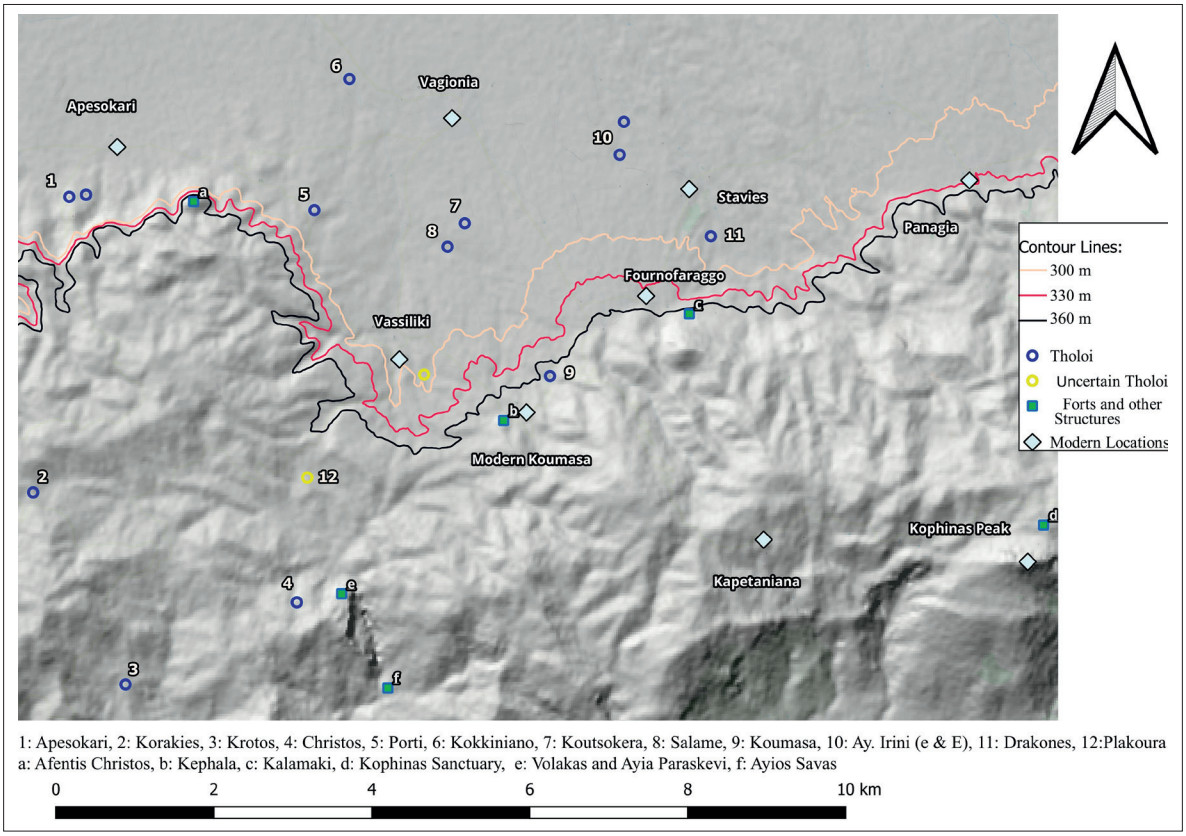
The insight into visibility within its main neighbouring region can be useful as a first step in this analysis. The area is characterised by a high degree of intervisibility (discussed below), and well-defined topographical limits (briefly presented in Chapter 3.3).

909 See section-cuts of Figure 18.

910 See discussion page 53ff.

911 See Footnote 99.

912 Nixon 2006, 92.



1: Apesokari, 2: Korakies, 3: Krotos, 4: Christos, 5: Porti, 6: Kokkiniano, 7: Koutsokera, 8: Salame, 9: Koumasa, 10: Ay. Irini (e & E), 11: Drakones, 12:Plakoura
a: Afentis Christos, b: Kephala, c: Kalamaki, d: Kophinas Sanctuary, e: Volakas and Ayia Paraskevi, f: Ayios Savas

Figure 80: Topography of the immediate vicinity of Koumasa.

This image presents a mapping of sites with archaeological information, including known tholoi and two *dubitanda,* as described below.[913]

The mean elevation of this valley extension is around 250 m., thus 100 m. lower than the Koumasa tholoi and more than 150 m. lower than the settlement plateau, allowing for a panoramic overview of this area.

9.2.1 The Adjacent Valley

At the northeast corner of the semicircle is the area of Fournofarango, where the ridge of Kalamaki is the northernmost extension of the Asterousia range into the valley, with its rugged slope indicating a clear transition from the valley to the mountain. Kalamaki produced some FN II–EM I ceramic sherds,[914] while the Drakones tholoi is situated less than 1 km. from it. This hill is very much perceived by Koumasa, as it blocks the view of

913 The site of Merthies SE of Vassiliki was not numbered, as its identification as a tholos is highly doubted. See Footnote 922.

914 Nowicki 2014, 160–161.

the smooth transition from the mountain to the valley (see Chapter 9.3). The shadow of the hill is cast on the settlement of Koumasa in the morning hours after sunrise during the summer months.

On the northwest corner of this semicircle is the area of Apesokari Vigla, the EM–MM settlement of Apesokari and Afentis Christos, a hill above Vasilika Anoyia which is visible from Koumasa. Apesokari Vigla and Afentis Christos show FN II–EM I settlement traces, with the one in Afentis Christos being characterised by Nowicki as one of the largest of this type of settlements on the northern side of the Asterousia, with mainly an advanced EM I phase. Material of the Greek-Roman period found in a round building is attributed to the effect of Gortyn, in a parallel to Pobia gria Vigla.[915] The Afentis Christos settlement is seen from Koumasa as the northernmost part of elevation before reaching the valley.

Another area of FN II–EM I presence is at the south of the topographical semicircle, on the hill of Kephala, which is clearly visible from Koumasa.[916] Thus, with regard to the earliest elements of habitation in the area, these three sites can be seen as strategically covering the whole semicircle while keeping a level of intervisibility between them. Also of relevance is the possible FN find in the Ossuary at Koumasa, which would make it part of this early network.[917]

The EM period is characterised by the tholoi culture, with few other built structures. 10 tholoi are found in a radius of less than 5 km. towards the north (downhill from Koumasa), without including 2 uncertain examples: from east to west, they are found in Drakones, Ayia Eirini, Loukia, Merthies, Koutsokera, Salame, Plakoura, Porti, Kokkiniano and Apesokari. Of those, the oldest, stretching back to EM I, tend to be in the lower parts of the valley.[918] The tholoi are as follows:

Two tholoi in Drakones south of Stavies: Drakones D with a diameter of 5.85 m., and Drakones Z with a diameter of 7.1 m., both with earliest period of use in EM III;[919] two tholoi in Ayia Irini, north of Stavies, mentioned in the bibliography as both Hagia Eirene and Ayia Eirene: Tholos E with a diameter of 7.7 m. and Tholos e with a diameter of 6.6 m., both with the earliest period of use in EM I or EM II;[920] a tholos at Loukia, considered uncertain. As the possibility of it being a mapping error is high, it is not includ-

915 Nowicki 2014, 159. See also discussion on page 51. This could also be seen as a parallel of the role of Koumasa in the Hellenistic and early Roman period.

916 Nowicki 2014, 159–160.

917 See Footnote 112.

918 Summarised in Legarra Herrero 2014, Fig. 9–10. Of all the tholoi around Koumasa, including those to the south, Koutsokera and Trypiti are dated with some certainty in EM I; Salame, Plakoura, Ayia Irini are probably, but not certainly, also EM I.

919 Xanthoudides 1924, 76–80; Pendlebury et al. 1935, 86; no. 16 and no. 18 in Legarra Herrero 2014, 173; no. 55 and no. 56 in Branigan 1993, 146; no. 17 and no. 18 in Goodison – Guarita 2005, 183.

920 Xanthoudides 1924, 51–53; no. 20 and no. 21 in Legarra Herrero 2014, 173; Branigan 1993, 146; no. 6 and no. 7 in Goodison – Guarita 2005, 180.

ed in the *dubitandae* tholoi in the map above.[921] Merthies, 500 m. southeast of Vassiliki, is also considered uncertain.[922] Koutsokera, south of Vagionia, with a diameter of 5.5 m., has the earliest period of use in EM I.[923] Salame, south of Vassiliki, with a diameter of 5 m., has the earliest period of use in EM I.[924] Two tholoi are located in Porti between Vassiliki and Vasilika Anoyia: Tholos Pi with a diameter of 6.6 m., and the small Tholos D with a diameter of 2.5 m., with the earliest period of use in EM II or EM III.[925] Kokkiniano, near Vasilika Anoyia, being at a distance of around 5 km., is considered by some as uncertain but not by Goodison – Guarita.[926]

Viewshed Analyses

Visibility has been suggested as an important aspect of communication and one of the main determinants when occupying certain areas to establish a settlement.[927] As for the Messara in general, implementing the connectivity index shows that Koumasa's position is less than optimal with regards to visibility, when compared with Apesokari, although it is larger in terms of area covered.[928]

As discussed in Chapter 5.4, the viewshed from Koumasa offers a wide view of the central Messara (Figures 45 and 46 in Chapter 5.4 and corresponding discussion). Koumasa exhibits a higher viewshed of the valley overall, while Apesokari provides a broader view to the west and east, though less in the north-south axis. This comparative analysis sheds light on the visual connectivity and landscape perception from these distinct locations. While relatively secluded, with the view to nearby tholoi, such as Drakones, being obstructed, a number of tholoi are visible beyond the immediate vicinity of the hill. The tholos of Korakies near Miamou is visible, as is Marathokephalo.

Based on these viewsheds and the one presented in Figure 81, the other tholoi mentioned in the valley near Koumasa, with the exception of Drakones and Ayia Irini, can be visible in a line of sight from Koumasa.

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921 *Knossos II,* 71; under the category of dubitanda in Legarra Herrero 2014, 306; no. 52 in Branigan 1993, 146. Listed as a mapping error in Goodison – Guarita 2005, 208.

922 Pendlebury et al. 1935, 87; no. 90 in Legarra Herrero 2014, 196; no. 50 in Branigan 1993; Goodison – Guarita 2005, 202–203.

923 Xanthoudides 1924, 72–73; no. 71 in Legarra Herrero 2014, 190; no. 53 in Branigan 1993, 146; no. 37 in Goodison – Guarita 2005, 188; where exact coordinates are provided.

924 Xanthoudides 1924, 73–74; no. 130 in Legarra Herrero 2014, 208; no. 54 in Branigan 1993, 146; no. 61 in Goodison – Guarita 2005, 194.

925 Xanthoudides 1924, 54–69; no. 126 and no. 126 in Legarra Herrero 2014, 207–208; no. 59 in Branigan 1993, 146 who takes only Tholos Pi into account, as does Goodison – Guarita no. 60 in Goodison – Guarita 2005, 194.

926 Pendlebury et al. 1935, 87; no. 58 in Legarra Herrero 2014, 186; no. 60 in Branigan 1993, 147; no. 32 in Goodison – Guarita 2005, 186–187.

927 On the subject, see Mytum 2013.

928 The Connectivity index, analytically developed in (Hammond – McCullagh 1978), is a method utilised to yield the number of links in a network as a ratio of the maximum number of theoretical links between all nodes.

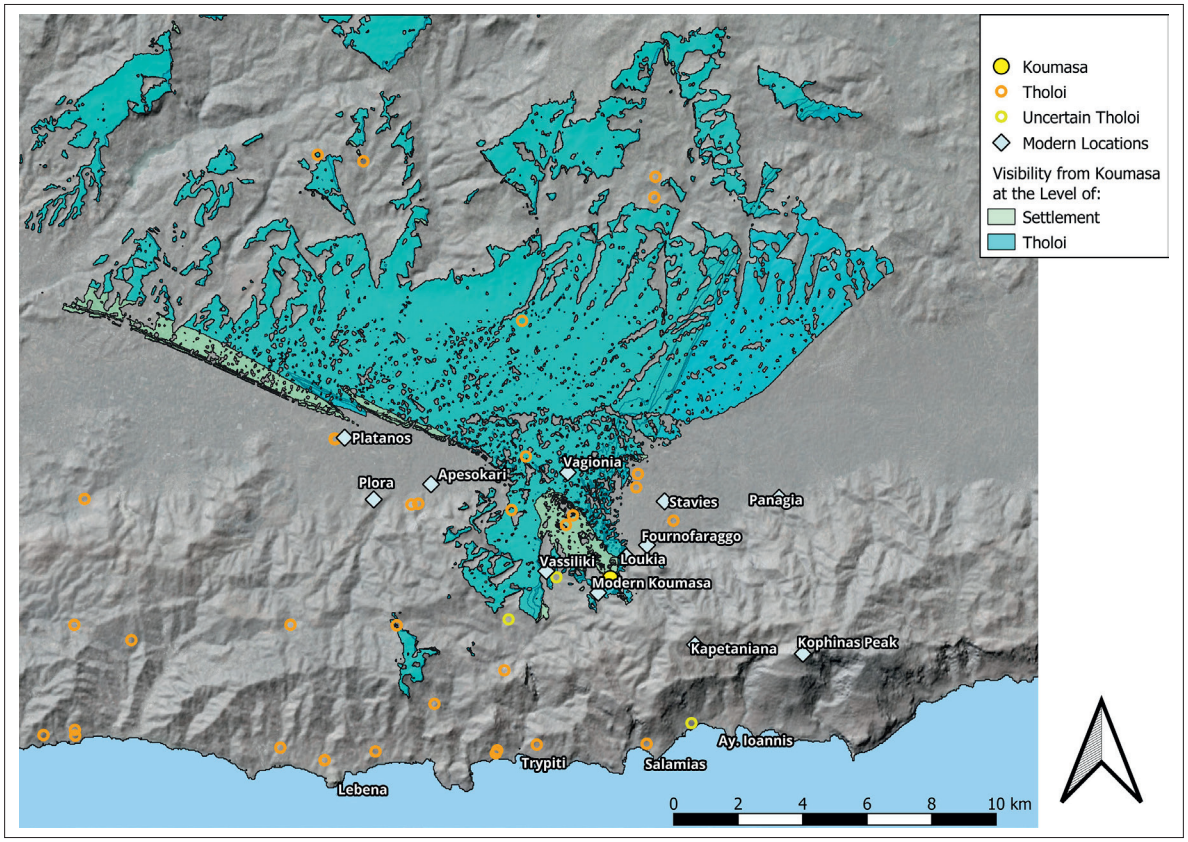

Figure 81: Viewshed from the Koumasa settlement and from the level of the Koumasa tholoi and settlement.

Visible from Koumasa at the level of the tholoi are Porti, Kokkiniano, Gagales and Marathokephalo, and from the settlement also Salame Koutsokera and Korakies by Miamou, or at least its area. In the case of Marathokephalo and Korakies, selective visibility is observed, as, interestingly, only the area in a radius of 70 m. around Marathokephalo is visible from that tholos, and similarly for Korakies. If visibility from the top of the Korakies hill is taken into consideration, then the tholoi of Salame, Koutsokera, and partially Korakies, are visible. For the last one, again, selective visibility is observed, i.e. only the area of the tholos is somewhat visible.

When Drakones, or Salame-Koutsokera, are considered as viewing points, the viewshed result shows zero viewshed with other tholoi. In fact, for the tholoi in the vicinity of Koumasa, only the viewshed of Porti shows a high degree of visibility, which covers Koumasa, Kokkiniano, Salame-Koutsokera and to the north Gagales, and, as in the case of Koumasa, Marathokephalo.[929]

929 These viewsheds are not illustrated.

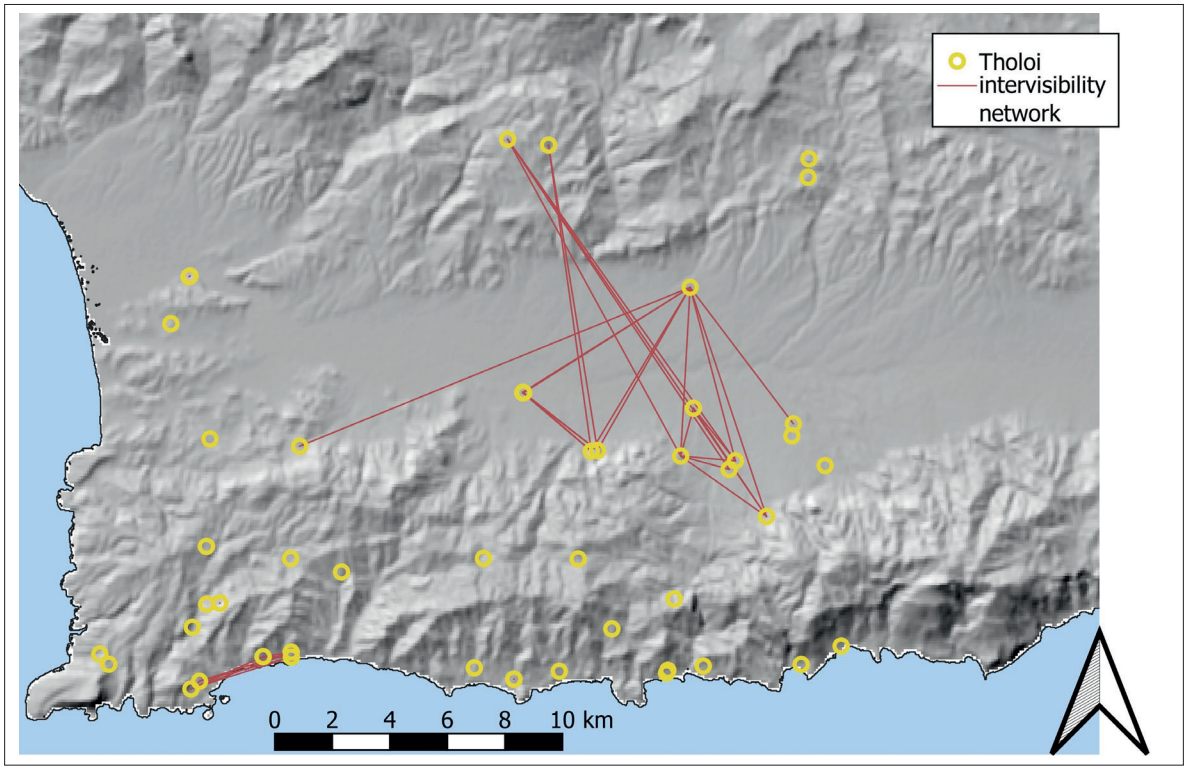

Figure 82: Intervisibility network between the tholoi.

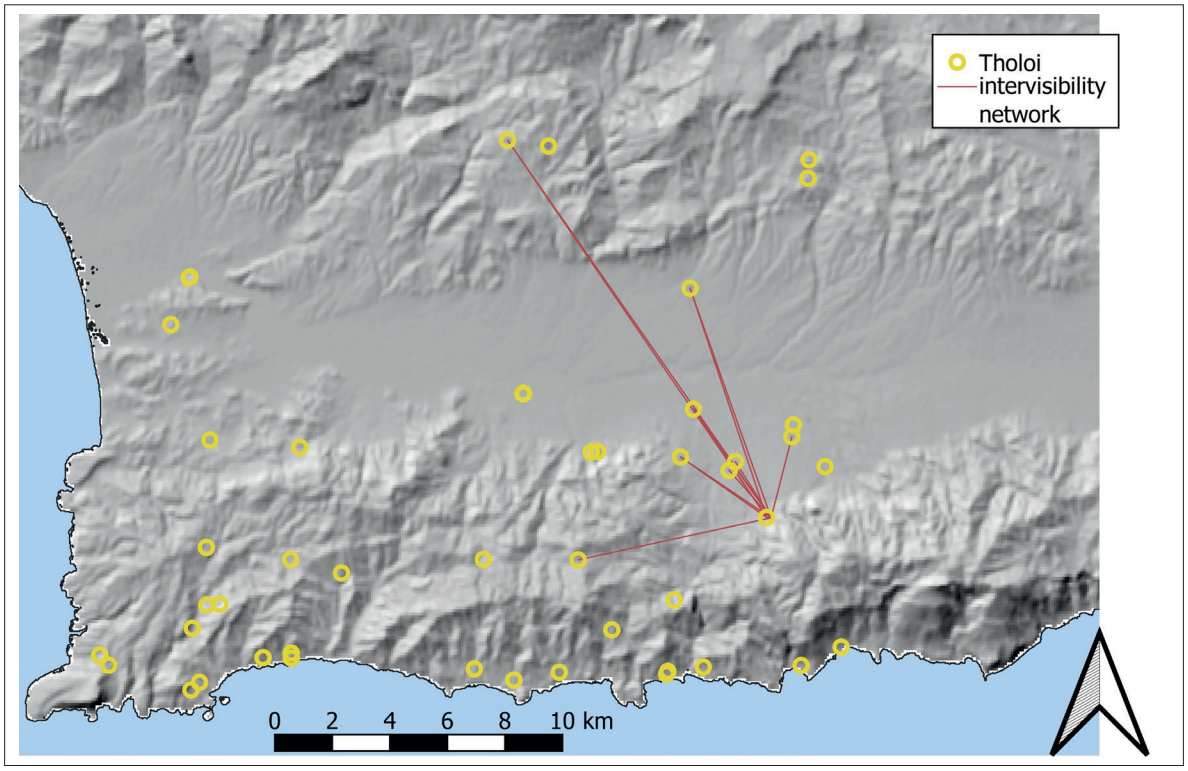

Figure 83: Intervisibility Network from Koumasa, seen from the tholoi and the Korakies hill.

The Intervisibilty of the tholoi are minimal, as seen in Figure 82, which is restricted in the area of the Lassaia bay for the tholoi of Lassaia and Kali Limenes and in the central Messara.

The intervisibility network in the Messara is solely based on six tholoi with elevated locations that overlook central Messara: Apesokari, Koumasa, Porti to the south of Messara; and Marathokephalo, Kalathiana, and Gagales to the north. The only other tholos-location with a line of sight is the one Sopata-Kouse, due to its line of sight to Gagales.

When considering only Koumasa, with viewpoints from the tholoi level as well as from the settlement level, the number of observable tholoi increases (Figure 83). The intervisibility map of what is here called "mountainous tholoi" offers an interesting addition (see Figures 84 and 85).

The results are in agreement with Nixon's observation that the tholoi are not located according to intervisibility, a fact changing in the Protopalatial period.[930] From Koumasa, Platanos is located barely on the invisible side.[931] However, some locations, such as Marathokephalo, Apesokari and Koumasa, offer a view that could be argued was a result of the settlement in their vicinity. However, this point is not proven for Koumasa, as the tholoi preceded the settlement, at least based on the archaeological data thus far.[932]

9.2.2 The Mountainous Region

Traditionally, tholoi have been geographically categorised into those located or associated with the valley and those situated on the Asterousia mountain, including those along the coastline (e.g., Trypiti, Salamias, Lebena-Geropotamos). Tholoi along the coastline, positioned near the sea on relatively flat terrain with expansive viewsheds toward the sea, exhibit distinct geographical characteristics compared to those on the mountain, such as Ayios Kyrillos, Christos, Korakies, and Krotos, which are situated in the central-western Asterousia. Therefore, for the purpose of this analysis, and as discussed above, a refined distinction is proposed: tholoi along the coastline, tholoi on the mountain, and tholoi in the valley.

Looking at the mountainous region, in the area of central Asterousia, the Kophinas sanctuary is of interest, and in the western-central Asterousia four tholoi are located, (excluding the uncertain Plakouras), as follows:

Krotos, with a diameter of 4 m., was used in EM II–III.[933] Christos, with two tholoi, Tholos X, 6–6.5 m. in diameter, and in use in MM IA–MM IB, possibly founded in

930 Nixon 2009, 275. See also Footnote 1001.

931 It is noteworthy that Platanos, being central in the Valley is on the line of sight of only two necropoleis: Gagales and Apesokari.

932 See discussion in Chapter 2, and bellow Chapter 9.4.

933 No. 72 in Legarra Herrero 2014, 190; no. 44 in Branigan 1993, 146; no. 40 in Goodison – Guarita 2005, 189.

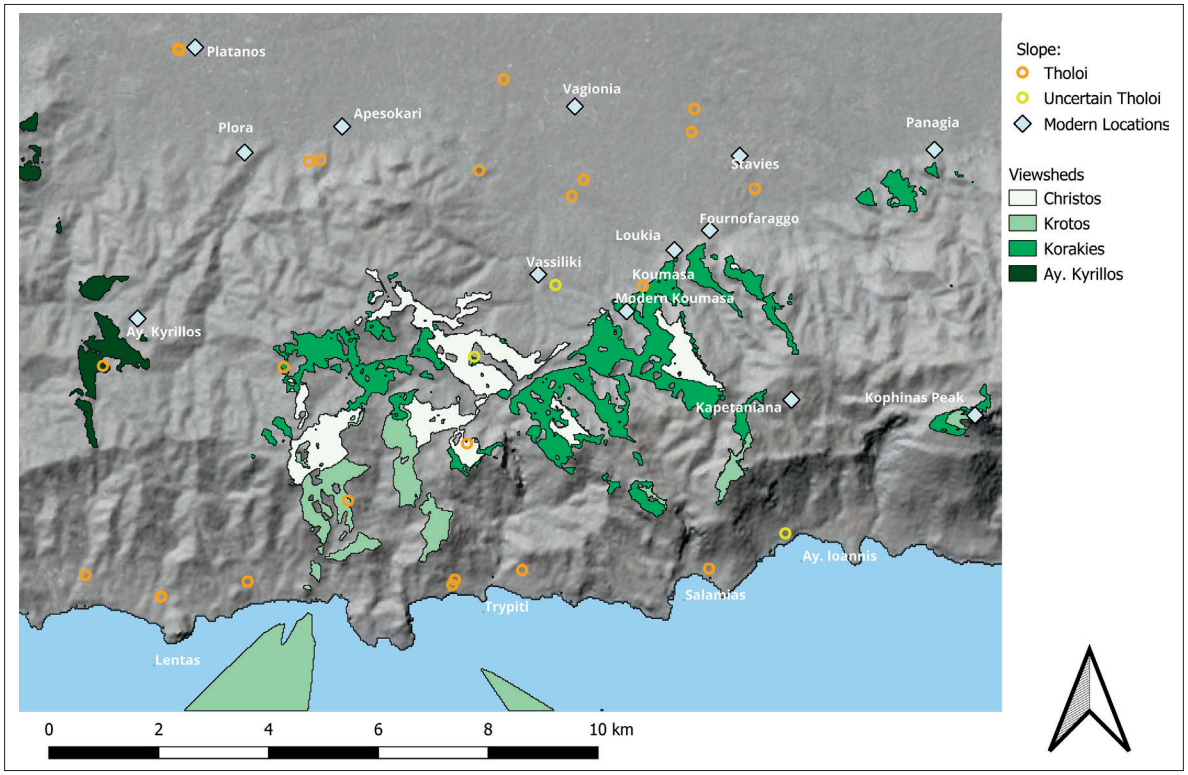

Figure 84: Viewsheds of the four mountainous tholoi of western-central Asterousia.

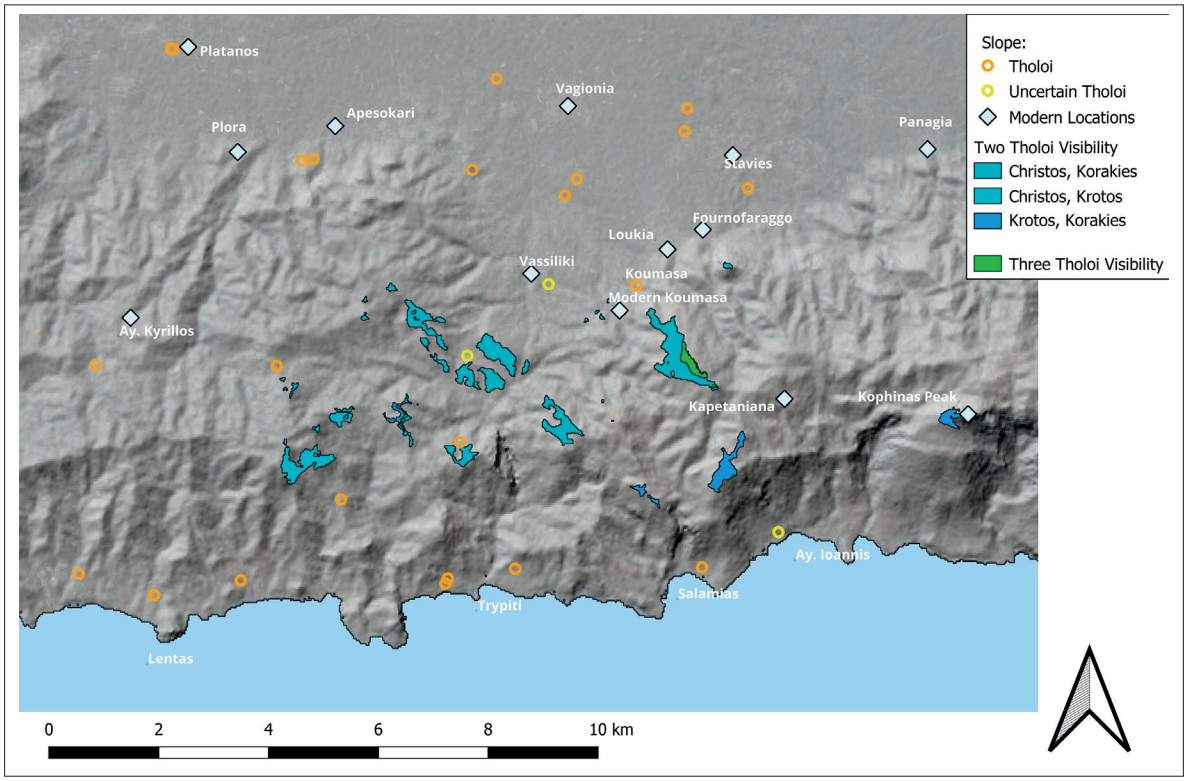

Figure 85: Intervisibilities of the tholoi mentioned above. 1: Korakies, 2: Christos, 3: Krotos.

EM III.[934] Korakies near Miamou, with a diameter of 5.2 m., is dated in MM I.[935] Ayios Kyrillos, 5.85 m. in diameter, could be as early as EM I but most concordance is for the period EM II–MM IA.[936] Plakouras near Vassiliki is considered as uncertain.[937] Its location, even if it is not a tholos, should be seen in correlation with Krotos and Christos and the path network they lie in, as it is located on the path leading from the valley towards them, at the junction of the road.[938]

These tholoi belong to a common environment situated on the mountain, topographically between those along the shoreline and those in the valley. Chronologically, their use overlaps only in EM III and perhaps partially in the case of Korakies, which was possibly founded in MM I, which is also the main period of use of Christos. A common characteristic of these is the lack of visibility either to the valley or to the shore (with the exception of Krotos, which offers a partial view of the sea; see Figure 84). Their location has been characterised as close to settlements (e.g. Korakies),[939] but in other cases, this is uncertain.[940]

For the four mountainous tholoi of western-central Messara a study of intervisibility was performed, with the results summarised in Figures 84, and 85.

For some of the tholoi, visibility extends beyond the valley to the slopes of Mount Ida, which is not visible in the Figures above, and is deemed as not essential information. Ayios Kyrillos is the most secluded of the group, with no intervisibility with the others. Korakies, Christos and Krotos have some but very little overlap.

Mostly, the visibility areas on the mountain range for Krotos and Korakies are complementary rather than overlapping. This is the case with Christos also, but to a lesser extent. The areas with the widest overlap of visibility are located on the western slope of the central Asterousia, while the areas where visibilities do not overlap, but rather complement each other for greatest sight-coverage, are in the area they are located, i.e. the western-central Asterousia.

Overlapping the intervisibility from the four tholoi, the covered area comprises only 0.11 km², of which a negligible area of 0.017600 km² (or 1.7 hectares) is on the western-central Asterousia and not on the Kophinas slope.

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934 No. 11 and no. 12 in Legarra Herrero 2014, 171; no. 45, 46 in Branigan 1993; no. 29 and 30 in Goodison – Guarita 2005, 186.

935 No. 59 in Legarra Herrero 2014, 186; no. 42–43 in Branigan 1993; no. 33 in Goodison – Guarita 2005, 187.

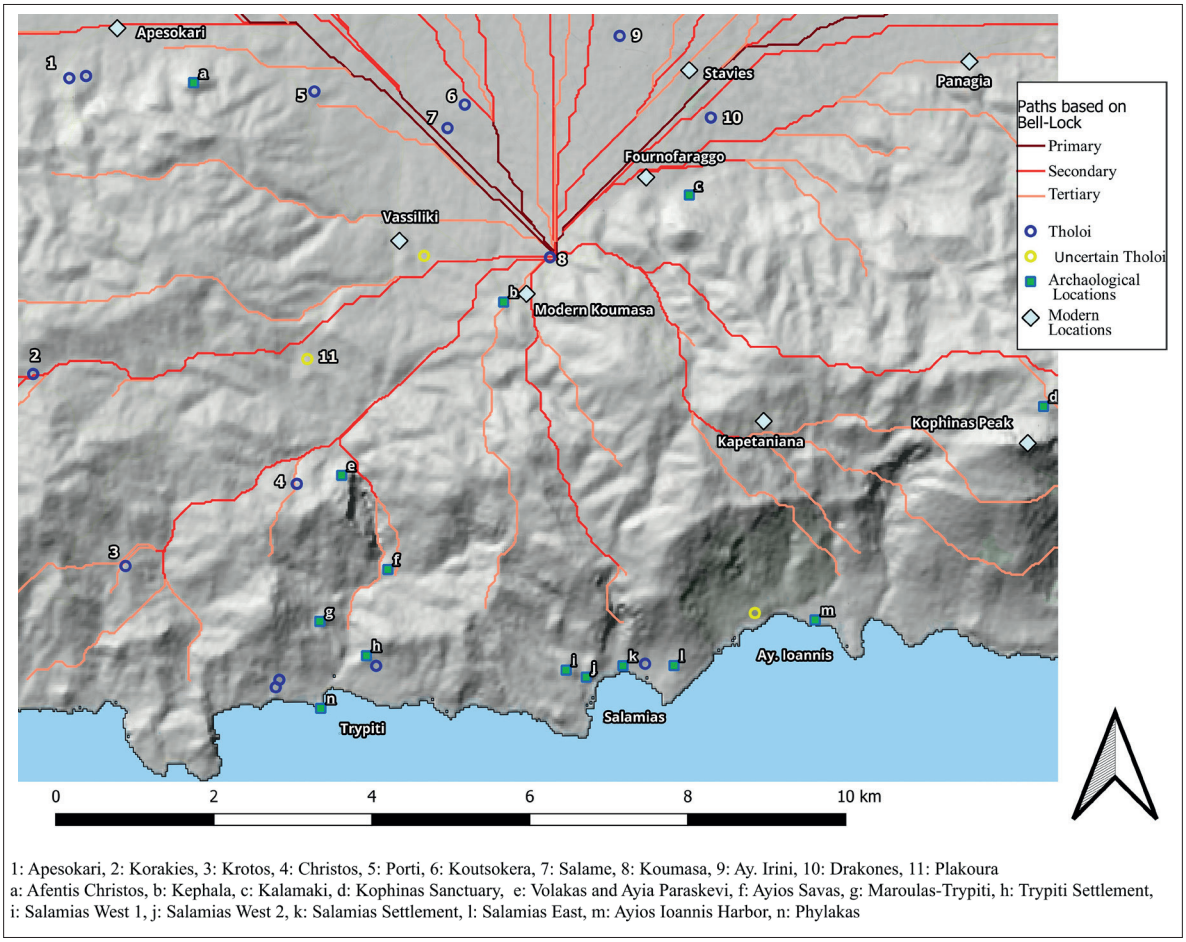
936 No. 37 in Legarra Herrero 2014, 180; no. 41 in Branigan 1993; no. 16 in Goodison – Guarita 2005, 182–183.

937 Pendlebury et al. 1935, 87; no. 111 in Legarra Herrero 2014, 203; no. 51 in Branigan 1993, 146; disregarded in Goodison – Guarita, as the remnants and most of the sherds "do not look Minoan" Goodison – Guarita (2005, 204–205).

938 "on a small spur at a point where the [track] to Miamou branches off from that to Christos and the south coast" (Pendlebury et al. 1932–3, 87). See also discussion on page 289ff.

939 See Branigan 1998, Table 1.; also Chapter 9.3.1.

940 The settlement at Volakas hill referred to by Xanthoudides seems to belong to a settlement of late LM III or later, perhaps belonging to the category of refuge (see Footnote 1124).



1: Apesokari, 2: Korakies, 3: Krotos, 4: Christos, 5: Porti, 6: Koutsokera, 7: Salame, 8: Koumasa, 9: Ay. Irini, 10: Drakones, 11: Plakoura
a: Afentis Christos, b: Kephala, c: Kalamaki, d: Kophinas Sanctuary, e: Volakas and Ayia Paraskevi, f: Ayios Savas, g: Maroulas-Trypiti, h: Trypiti Settlement, i: Salamias West 1, j: Salamias West 2, k: Salamias Settlement, l: Salamias East, m: Ayios Ioannis Harbor, n: Phylakas

Figure 86: Flow accumulation from Koumasa with an overlap of locations of interest.

This is similar to the results of Déderix's study of the tholoi of the Ayiofarango,[941] and could be expanded in a study of the other mountainous tholoi of the western Messara, including Kaminospilio and Skotomenou o Charakas, which are two sites in the western Asterousia not concentrated along the Ayiofarango.

Before referring to the discussion in Chapter 9.4, a further interesting insight showcasing the nodal role of Koumasa can be gained from flow accumulation analysis (as discussed in Chapter 5.3.2), showing the connectivity networks based on Koumasa.

In Figure 86, the flow accumulation based on Koumasa is superimposed on the locations of the tholoi, showing an optimal connectivity to the locations of these mountainous tholoi. As discussed in the case of flow accumulation, Bell-Lock yields more *natural looking* results for mountainous areas, and is thus utilised here.[942]

941 Déderix 2023.

942 See the comparison of the Tobler and the Bell-Lock functions on page 147. The negative aspects of the Bell-Lock in the valley are illustrated in the paths generated in the valley, whose long linear segments are not realistic. On the contrary, the implementation of Tobler shows paths on the mountain that are *less natural.*

A first observation is that the mountainous tholoi are located along natural paths stemming from the central Messara. A second is the high connectivity of Koumasa towards the tholoi of the region, as well as other areas of interest, which extends to those on the mountain.

It is of note that Korakies, as well as Ayios Kyrillos (not shown in the Figure above), are connected to Koumasa through the same secondary path, without the need of going through the Apesokari or Pobia regions, as suggested by the modern street network. This would give Koumasa direct access to these locations. Overall, all primary and secondary paths are very accurate in relation to the reality of walking, and the tertiary ones are very close to actual paths, carrying an indicative value of the access possibilities.

9.3 Locations of Tholoi: A Topographical Approach

9.3.1 The Problem of the Tholoi Distribution and Location

Although the area around Koumasa is the focus of this work, for the question of the tholoi distribution a wider perspective needs to be considered. Historically, the location of tholoi has been connected with that of settlements. As the tholoi form our main source of information for this period, ranking the settlements according to their nearby tholoi or even their number has been tempting.[943] Assigning settlements to tholoi has been strongly pursued, as Branigan's table summarises.[944] More than two thirds of the tholoi are seen to have a settlement, located at a distance of approximately 10 to 400 m., with a unifying trend in the direction of settlement (though significantly more to north and south than anywhere else).[945] Most are within a five minute walk, some even immediately next to each other, and this seems to have been deliberately planned.[946] However in other cases, such as Sopata Kouse and Ayios Kyrillos, it could be 1 km. or more, as presented below.

Tholoi are usually not built on a prominent landmark in order to be visible or stand out, or in special relation to one (e.g. with a view of Mount Ida), but rather in the middle of a slope or on low ground (Krotos, built on a white rock is an exception).[947] It is to be noted that the Ayios Ioannis tholos and Korakies tholos, the only ones on the

943 Watrous 1994, 705; Sbonias 1999, 29. On the Prepalatial settlements, see also Legarra Herrero 2014, Fig. 5.

944 Branigan 1988, Table 1.

945 Branigan 1998, 15–16. On the erroneous mention of Koumasa settlement, see Footnote 965 below.

946 Branigan 1998, 18.

947 Branigan 1998, 13–14. See also Footnote 930 above.

Asterousia in view of the Kophinas peak, are deliberately oriented to it,[948] thus arguably deviating from this rule.

Based on this observation, discussion on the choice of locations for building the tholoi has assumed their function as territorial markers, as maintenance of the tholos would legitimise control over the resources around it.[949] A double effect was assumed by Murphy for choosing a location on a "raised area or a slight hill": to show where people worked, and that they were present in the landscape, and to provide partial visibility over the landscape.[950] Cultural parallels in ethnographic studies give examples of tombs that mark the ancestors who are buried as owning the land, and therefore the inhabitants inherit rights and responsibilities over the land via their ancestors.[951]

With regards to the location of the tholoi, Xanthoudides concluded that settlements are due west, and he assumed this manifested a certain belief system. He based his observations on Koumasa, Porti, Platanos, Marathokephalon and the Pyrgos Cemetery.[952] The information is, however, contradicted in the publication of the vaulted tombs, as, for Porti, the assumed settlement is mentioned to the south and elevated, and in Kalathiana, a settlement is to the north.[953]

One can also add the rectangular buildings and vessels identified to the north of Vorou A on the hilltops overlooking the area;[954] to the south of Lebena Papoura, on the hill of Aginaropapouro a Protopalatial settlement is assumed;[955] Livari is connected to various settlements;[956] for Megali Skini A, Tholoi A and B, Alexiou mentions a Prepalatial settlement to the south,[957] and Legarra Herrero one probably 60 to 100 m. northwest of the tholoi;[958] in Apesokari, the Vigla building is located to the south and on a higher location;[959] 1 km. from Ayios Kyrillos, an EM settlement is mentioned;[960] similarly

948 For Korakies Miamou orientation, see Goodison 2018, 280–281, Fig. 1.a; for the yet unpublished Agios Ioannis, observed by the author and based on oral communication with L. Goodison; see also forthcoming updated catalogue of Goodison.

949 Murphy 1998, 27–28.

950 Murphy 1998, 30.

951 Murphy 1998, 31.

952 Xanthoudides 1918, 169.

953 Xanthoudides 1924, 54; 84–85; for Porti see also Vasilakis et al. 2016; Alušík et al. 2019.

954 Marinatos 1930–31, 166–167.

955 Alexiou – Warren 2004, 14; Nowicki identified an early settlement on Lentas Kephali (FN II–EM I) and beneath it, by Anginaropapouro, a later one (EM I–EM II) (Nowicki 2014, 192–93).

956 Tholos close to Final Neolithic fortified acropolis, large EM settlement towards the shore, and MM–LM settlement at the coast, all in bay and coastal region of Livari (Schlager 2018, 251), as summarised from (Schlager et al. 2010, 295–310). See also Papadatos – Sofianou 2012.

957 Alexiou 1967, 483.

958 Legarra Herrero 2014, 195–196.

959 Flouda 2023, 66–67.

960 Legarra Herrero 2014, 180.

1.5 km. from Sopata Kouse, elements of a settlement were seen;[961] at Miamou-Korakies the settlement is 60 m. south of the tholos, overlooking it;[962] Ayia Triada A may possibly be connected with the settlement of Hagia Triada;[963] Moni Odigitria A and B have four possibly associated hamlets dated to EM II and two larger settlements in MM I.[964] To conclude this by no means exhaustive list, the settlements of Trypiti, Phylakas and Salamias have tholoi to their southeast, north and east respectively.

Almost no settlement was described as being to the east of tholoi;[965] this correlates with the theory that the tholoi doorways almost always face east or south-east (in the case of those tholoi for which settlements are known). There seems to have been a certain aversion to having a settlement face the tholoi entrances: "(…)whilst the living can see, and oversee, the dwellings of the dead, the dead cannot reciprocate."[966] As Branigan shows, the orientation is not precise but varies in all directions, except the east[967]; this might be the essence of what Xanthoudides initially wanted to convey.

Apart from settlements, little is known about other features of "man-made landscapes", such as pastures and cultivated land, which are untraceable, or shrines and other sites of cultural or ritual activity. Within this unknown landscape, most tholoi are on elevated ground, sometimes on a slight slope that required cutting a terrace, and with a likely proximity to a contemporary settlement (at least as early as MM I). There were originally one to two tholoi per settlement, located to one side of it.[968] In most known cases, the settlement is further uphill and can look down on the tholoi. There are also examples the other way around, so the Megali Skini tholoi look over their corresponding settlement, and sometimes they are at the same elevation, as at Kamilari, Lassaia,[969] and Salamias.

The chronology of the tholoi-settlement pairs should, however, be revisited. Of Branigan's catalogue, some settlements, such as those near Megali Skini, Christos, Koumasa and Kalathiana, seem not to be contemporary with the nearby tholoi, or at least not with its early stages. Xanthoudides' description of a settlement near Christos might be of a much later refuge settlement, and that near Koumasa has not, to date, shown

961 Chatzi-Vallianou 1979, 384.

962 Alušík et al. 2019, 125, Figs. 8, 14.

963 Legarra Herrero 2014, 177–179.

964 Legarra Herrero 2014, 197–201.

965 Branigan mentions Platanos as an exception (where, at the time, the location of the settlement was only assumed) but this is applicable also in Koumasa, which is erroneously mentioned in Branigan 1998, Table 1 as having the settlement to the south.

966 Branigan 1998, 19.

967 Branigan 1998, Table 1. On the discrepancy in the case of Koumasa and the implication this might have had in the choice of orientation, specifically in the case of Tholos B, see Ayash 2023, 152.

968 Branigan 1970, 9–11.

969 Branigan 1998, 15.

Prepalatial elements.[970] Furthermore, the settlement north of Kalathiana yielded MM dating.[971] But these old references are still used in the evaluation of the connection of tholoi in their first stages to specific settlements; for example, Murphy's discussion of the choice of location, beside specifying a hilly area not suitable for farming, focuses on vicinity and also visibility from the settlement, using, among other sites, Koumasa and Christos as examples.[972] Taking the later chronology of these settlements, this relationship would still hold, but only by inverting cause and effect: making the tholoi a reason for choosing the area for settlement.

The absence of evidence of contemporary settlements near a number of tholoi is of course not proof of their absence. In fact, many of the tholoi do show the feature of a nearby settlement, as shown above.[973] But it requires a more careful approach.

All of the above has also prompted speculation that tholoi may not be intrinsically tied to specific settlements, and that those settlements without their own tholoi might have utilised the nearby ones established by neighbouring villages.[974] Another perspective that could offer an explanation for the clustering of settlements around tholoi is the role of the latter as cultural focal points, which would have served successive short-lived settlements.[975] However, these conjectures predominantly centre on the issue of tholos ownership, striving to establish a one-to-one correspondence between tholoi and settlements to explain their locations. The notion that successive settlements emerged around enduring tholoi – despite its analogy to similar tendencies in other historical epochs – relies on establishing an unequivocal correlation between tholos and settlement.

9.3.2 A Non Settlement-Centric Approach

Hence, while acknowledging the correlation between settlement and tholoi datasets, a pivotal step undertaken here involves taking an approach that prioritises understanding the topography of the tholoi first, disentangling these two phenomena. Indeed, the conjectures presented warrant reconsideration through an analysis of the topographical attributes characterising each tholos separately. While general factors like defensibility, and site-specific criteria, have been pursued for settlements, tholoi may not conform to a uniform explanation, as the distinct sociological contexts and topographical deter-

970 See Footnotes 1123, 1124.

971 Xanthoudides 1924, 84–87.

972 Murphy 1998, 28–30.

973 See Megali Skini, Vorou A, Krasi to name a few.

974 Blackman – Branigan 1977, 70.

975 For a summary of this discussion, see Relaki 2004, 179. This observation could also extend to Livari (see Schlager et al. 2010, 295–310; Papadatos – Sofianou 2012; Schlager 2018, 251).

minants particular to each locale may have given rise to different requirements. At the same time, understanding the special logic – or grammar of location – of this dataset should go beyond just the monocausal settlement association.[976]

Tholoi are built during a very long time period,[977] which can be split at least into the periods of EM I–IIA and EM III–MM IA (as presented in Chapter 3.1), two periods with social structures sufficiently different that they need to be studied separately.[978]

The social context remains the subject of ongoing debate, whereas the topographical aspect can be argued with greater certainty and would apply to both periods. A common topographical trend seems to be highlighted, allowing for a justification for the position of the tholoi.

The consensus around the topographical characteristics of tholoi can be condensed down into the following criteria: **(1)** not in a prominent position; **(2)** often near a settlement, which in many cases dates later than the first phase of the tholoi; **(3)** with no great visibility and intervisibility with other tholoi; **(4)** pertaining to those on mountainous terrain, near or along communication paths, **(5)** and almost always near streams.

For the visibility, as the analysis above showed particularly well for the mountainous tholoi, there is a focus on complementary visibility, meaning that the viewsheds from the tholoi tend to cover the widest possible area while minimising overlap in their respective viewsheds. Each tholos encompasses a specific region, extending beyond its immediate vicinity to include more distant locations in the mountains. This reflects a delicate balance between isolation and maximum coverage. Simultaneously, however, certain tholoi, including Koumasa, diverge from this trend and are situated so that their visibility cover encompasses a significant number of other tholoi, even those situated at a considerable distance. However, the principle of lack of intervisibility could be seen applied to the Koumasa and Platanos viewsheds if, for these, a central role is considered.

The last criterion involves proximity to waterways, a fact often ignored or taken for granted. This is the subject of the analysis in the next section.

9.3.3 Insights from Watershed Analysis

In the early mentions of tholoi, nearby streams were observed but described mostly in a peripheral manner; for example, the Khlios stream near Lebena Papoura[979] and Kalamitsi near Lebena Yerokampos,[980] and to the west of Megali Skini, a gorge.[981] By

976 Nixon 2006, 92–96.

977 Relaki 2004, Fig. 9.1.

978 Legarra Herrero 2014, 161.

979 Alexiou – Warren 2004, 14.

980 Alexiou – Warren 2004, 15.

981 Alexiou 1967, 483. This being the Ayiofarango gorge.

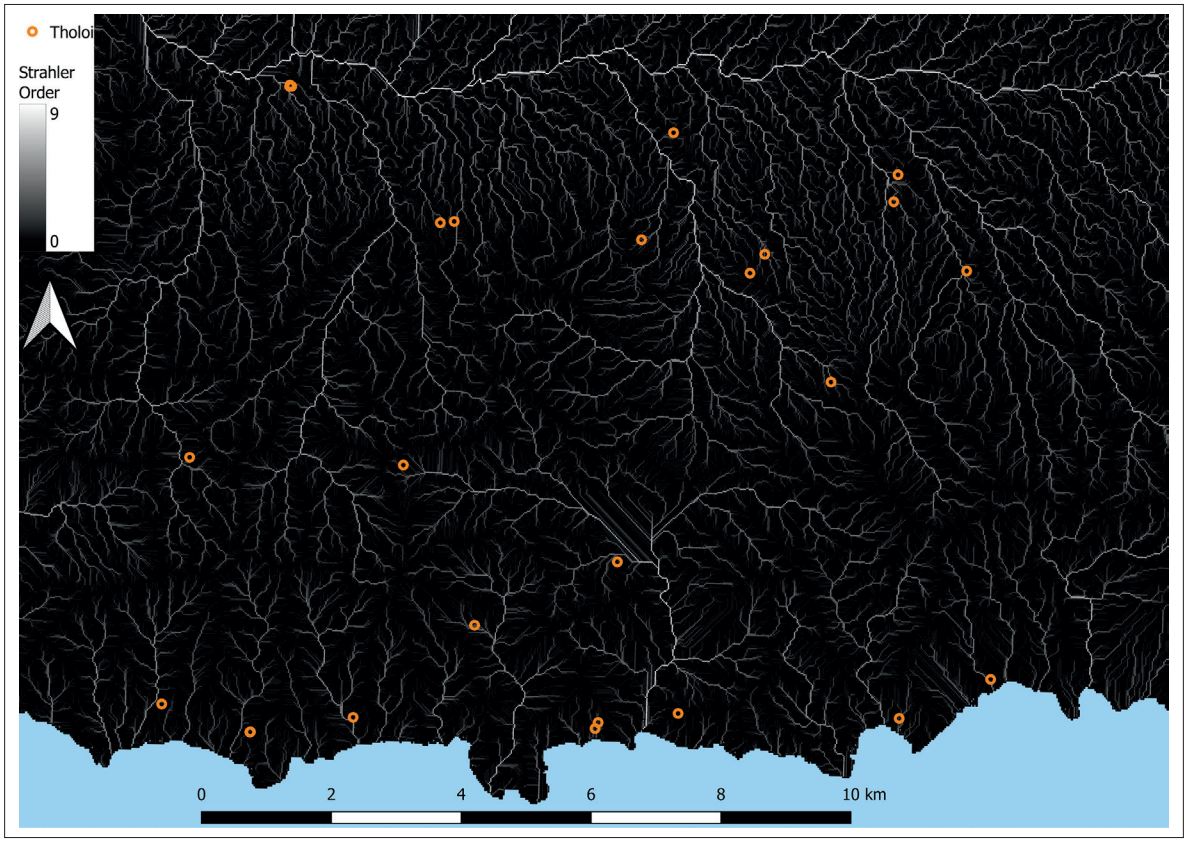


Figure 87: Water drainage channels of central Asterousia and southern Messara; computed on 30m.-DEM.

Drakones, the brook was strong enough to wash away part of the tholos wall,[982] and as early as 1937 neither tholos was recognisable due to looting and also erosion by the nearby stream.[983]

It is here that modern methodologies provide an innovative means to shed light on the hitherto underexplored phenomenon of the spatial distribution of EM tholoi in relation to waterways. This is done by studying the water flow accumulation as extracted from the catchment of the valley of Messara, utilising GIS tools on a DEM, as demonstrated above (Chapter 5.5, Figures 53–56). Here, the focus is on the area from the foot of the Asterousia mountains up to the Geropotamos river, with the results illustrated in Figures 87–90.[984] The results, which have been analysed elsewhere in greater detail,[985] could not only offer an indication of the position of the tholoi but also act as an input to the question of their relations to nearby settlements.

982 Xanthoudides 1924, 76.

983 See Pendlebury 1932, 86. Belli (1984, 111) could only find traces of stone concentrations.

984 On the methodology and definition of the categorisation per Strahler Order, see Chapter 5.5.

985 Ayash 2025.

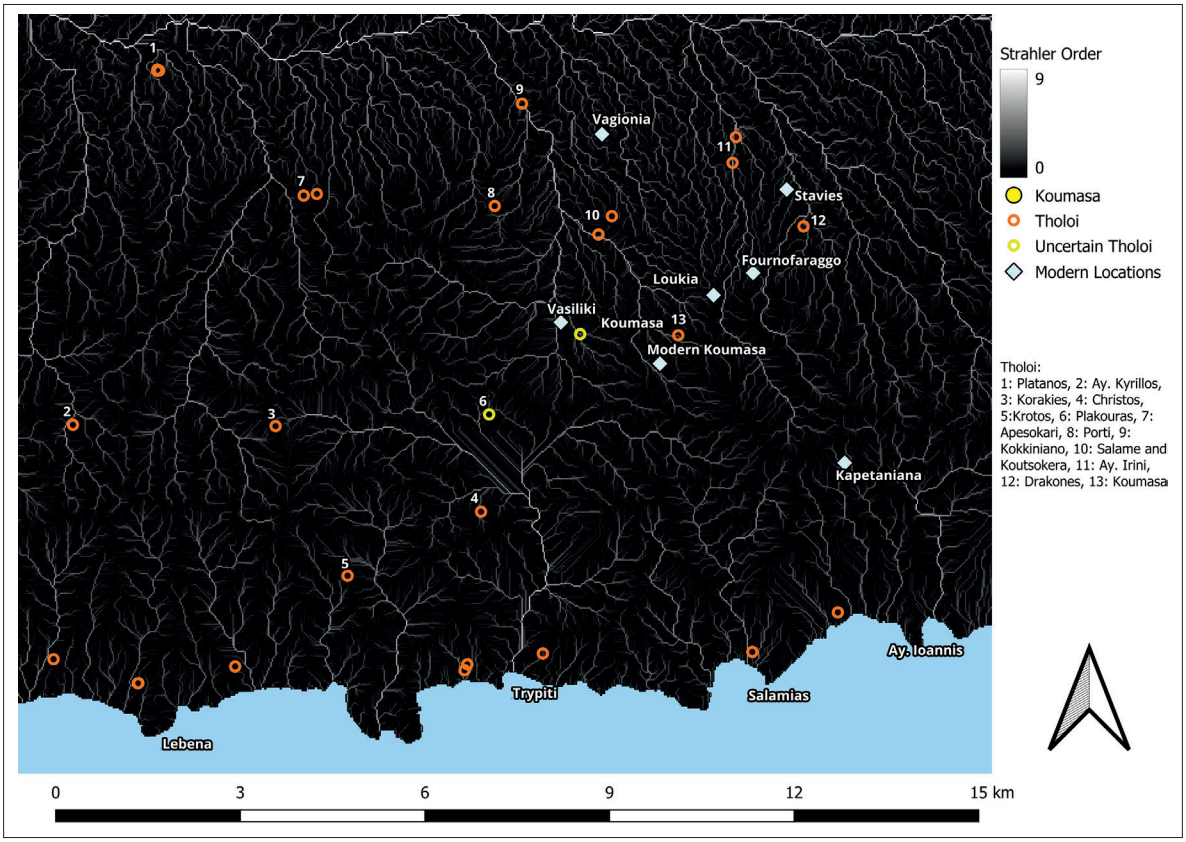
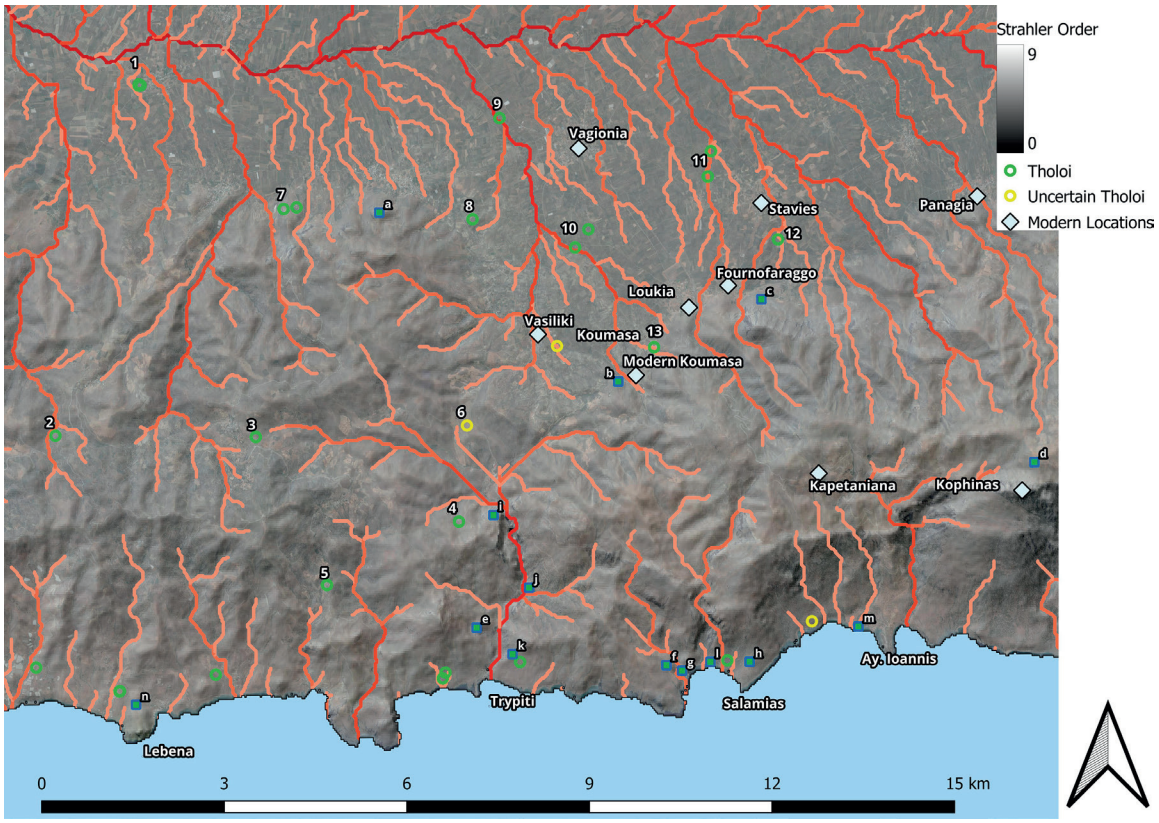


Figure 88: Water drainage channels of central Asterousia and southern Messara; computed on 20m.-DEM.

Most of the areas of interest, including modern locations, can be seen to be in the vicinity of possible streams, which in itself is unsurprising. In the case of the tholoi, however, this correlation is far more pronounced. Of those depicted in the area of interest for this chapter, Porti has a distance of 180 m. from the closest stream of Strahler Order 4 and 570 m. from a stream of Strahler Order 5. Porti also lies 1 km. west of the point at which the Koumasiano stream meets with that from Vassiliki, forming a stream with value 6 in the Strahler Order, on the path on which Kokkiniano is located, at a distance of 50 m. from the stream. Koutsokera is 400 m. from the Koumasiano stream (which is of Strahler Order 6 at that location), and the nearby Salame is almost on it (with a distance of less than 50 m.). Towards the east, Drakones and Ayia Irini (around the modern village of Stavies) are also located near streams of value 5 of the Strahler Order, based on the approximate location given to them.[986] The two tholoi of Ayia Irini show a distance of less than 50 m., and with distances of 190 m. and 570 m. respectively from a stream of value of 6. Drakones is around 150 m. from a stream of value 5, and less than 40 m. from one of value 4, which should be the one causing its partial destruction, as

986 For insights on their approximate location, I am thankful to Déderix and Goodison for their input.



Tholoi **Unscertain Tholoi**

1: Platanos, 2: Ayios Kyrillos, 3: Korakies, 4: Christos, 5:Krotos, 6: Plakoura, 7: Apesokari, 8: Porti, 9: Kokkiniano, 10: Salame and Koutsokera, 11: Ayia Irini, 12: Drakones, 13: Koumasa

Forts and other Structures

a: Afentis Christos, b: Kephala, c: Kalamaki, d: Kophinas Sunctuary, e: Maroulas Trypiti, f: Salamias Vourlidhia, g: Salamias, East; h: Salamias, West; i: Volakas and Ayia Paraskevi, j: Ayios Savas, k: Trypiti EM Settlement, l: Salamias coastal buildings, m: Ayios Ioannis coastal buildings, n: Lentas-Kephali

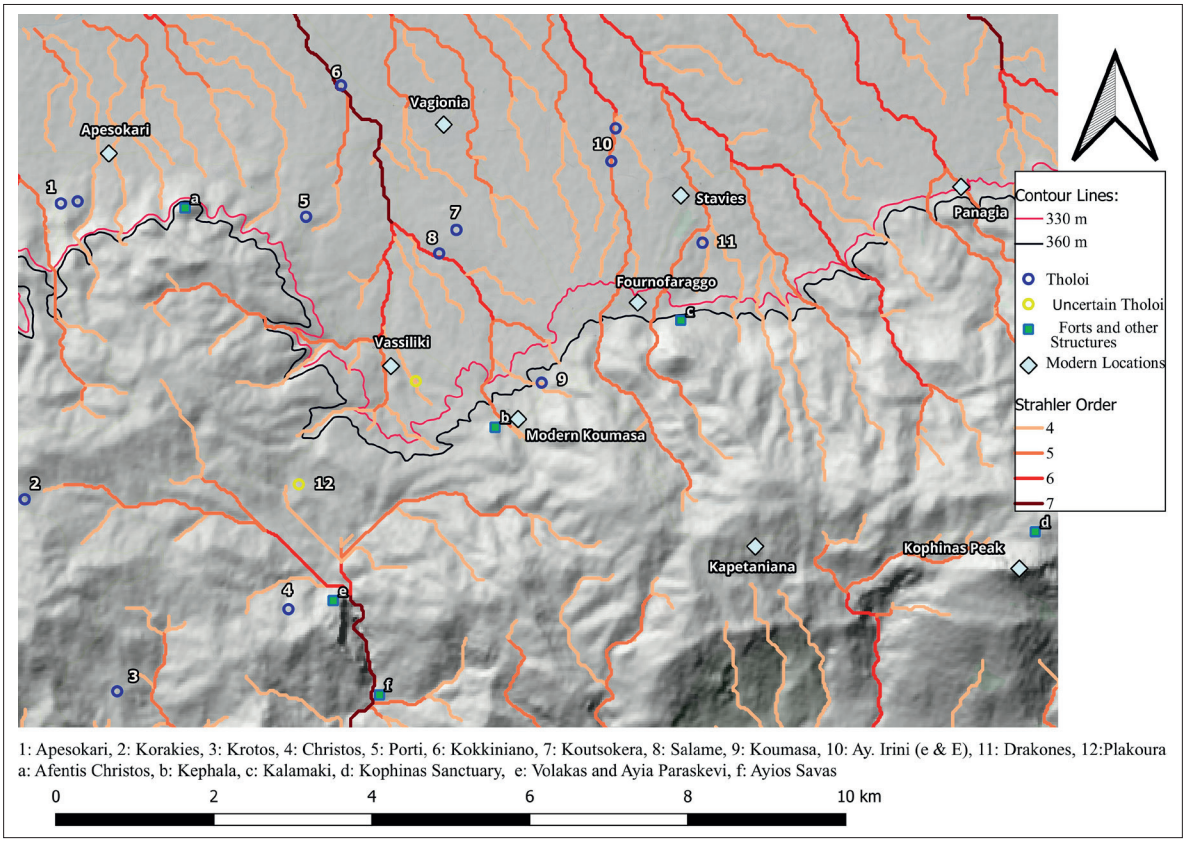
Modern Locations

Figure 89: Water drainage channels of values 4 and above as per Strahler Order in the region around Koumasa, including places of interest.

mentioned above.[987] Koumasa is also in the direct vicinity (less than 50 m.) of a stream classified with Strahler Order 4, and 670 m. from the Koumasiano stream, which at that location has a value of 5 in the Strahler Order.

Moving to the mountainous tholoi, Ayios Kyrillos is at a distance of 100 m. from a stream of Strahler Order 5. Korakies is seen as strategically located with regards to streams, with access to two on the east and west, at 250 m. and 350 m. respectively from streams of order 4, that grow to order 5 at distances of 500 m. and 650 m. from it respectively. From Christos, it is 350 m. to a stream of Strahler Order 4, and 550 m. to a

987 See Footnotes 982 and 983.



1: Apesokari, 2: Korakies, 3: Krotos, 4: Christos, 5: Porti, 6: Kokkiniano, 7: Koutsokera, 8: Salame, 9: Koumasa, 10: Ay. Irini (e & E), 11: Drakones, 12:Plakoura
a: Afentis Christos, b: Kephala, c: Kalamaki, d: Kophinas Sanctuary, e: Volakas and Ayia Paraskevi, f: Ayios Savas

Figure 90: Water drainage channels with places of interest, interpolated with the view of Figure 80.

stream of Strahler Order 5. Krotos is approximately 370 m. from two streams of Strahler Order 4, that grow to Strahler Order 5 at distances of 450 m. and 650 m. from the tholos.

The mean distance to the closest stream with the minimum of value 4 is 160 m., a distance reduced even further when the coastal tholoi are also considered, as Salamias and Trypiti for example lie very close to their closest stream. If streams with only a minimum value of 5 are considered, the mean distance is 260 m. It should also be noted that streams of Strahler Order 3 could have enough water to make an impact and provide water in the rain seasons, but were not regarded in this computation to stress the proximity to streams of higher orders. To be noted, that due to the small distance from the mountain line and the shore and the high inclination, geographically it is more seldom for streams of Strahler value greater than 4 to appear; nevertheless, the one at Salamias is of value 5. Finally, if the closest distance to the nearest stream for each tholos is measured (accepting stream values of 4 and more), the average distance is 153 m. with a median of just 75 m.

Following this close examination of the Koumasa mesoscale, it is valuable to make a comparison with the pattern all tholoi in the Messara show. The first step is to define the distances from a random point on the map to a stream network of 4 and above, and

then 5 and above. This allows for comparing the distance from the tholoi to streams with that of random point to them to examine the extent of deliberation in the choice of location for the tholoi versus randomness. To approximate a random point, two methodologies for producing a quantity of numbers were tried out, namely a grid of points and utilising the random point generator of QGIS. No significant variations were seen between the two methods, but the number of points was crucial, with 10,000 being sufficient and also computationally possible.[988]

These 10,000 random points were created in the area that the Messara and Asterousia tholoi cover, and then the distances to their closest stream were measured with the add-on "Nearest neighbour join (NNJoin)". The distance to a stream network for an approximated random point is represented by the mean value, which for streams of Strahler Order 5 and above is 450 m., and for that of Order 4 and above is 242 m.

After determining the random point distance from the streams, the distances for all the tholoi of the Messara and Asterousia, based on their known locations, were measured from streams with values of 4 and above and 5 and above. Tholoi have an average distance of 430 m. to the closest stream of value 5 or above. This value is close but still less than the average of the approximated random point. The average distance to the closest stream of value 4 or above is 167 m. This value is less than two-thirds of the distance of a random point.[989] The idiosyncrasy that pertains to the coastal tholoi mentioned above was not rendered, which would further minimise the average distance of tholoi to their closest streams. A more analysed discussion of these results has been presented elsewhere.[990]

Another aspect to be considered is the error the liminations of the method introduce. In Figure 91, the Gaussian distribution (bell curve) of the distances from the tholoi, grouped in their respective necropoleis, to streams of Order 4 and above is displayed.

On the left side of the bell-curve, the graph flattens instead of the expected downwards curve, depicted with orange dashed line. This concerns small distances of less than 50 m and is attributed to the pixelation effect, as each pixel measuring 20 or 30 m in the DEM raster influences short movements in an unrealistic manner.

So, although a concentration around streams of Order 5 and above is observed statistically, a clear divergence from the average representing a quantifiable concentration of tholoi is significant for channels of type 4. This emphasises choice rather than chance.

It should furthermore be noted that here proximity to only one stream was followed, ignoring the fact that very often a tholos is located close to more than one. Considering this factor only underlines the correlation of tholoi to waterways. To be noted,

988 For example, the average distance from the streams of Strahler Order 4 and above is 214 m. when calculated for 1,000 random points, and 191 calculated with the grid of 500. The value flattens around 240 m. at 10,000 points and remains generally stable.

989 With the median value being also beneath the mean distance of the tholoi to streams.

990 Ayash 2025.

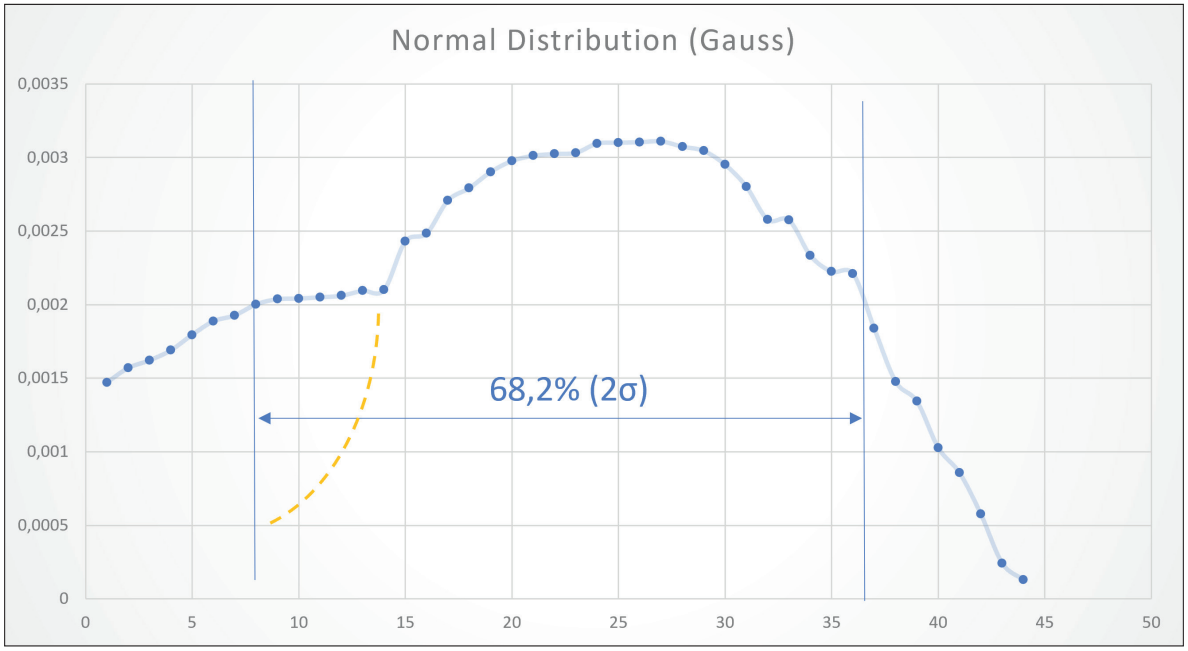


Figure 91: Bell-curve of the distances of Necropoleis to streams of value 4.

that Strahler does not equate to stream strength but as an indicator of it. As noted, especially in areas of high inclination, such as the slope of the southern Asterousia, a Stream of Strahler value 3 could carry more water than one of value 4 in the valley. An analysis of these streams in situ would be a desideratum.

The presence of streams should, therefore, be considered in the selection of tholoi locations. In the cases of Trypiti, Phylakas and Salamias, the respective tholos is closer to a stream than the settlement it belongs to. Approaching the tholoi based on visibility and proximity to major streams would remove the need to seek a corresponding settlement. This relationship could be inverted, suggesting that, at least in some cases, the choice of an optimal tholos position gave the area an air of prestige, while offering the settlement a proximity to waterways. Consequently, later in their period of use, the decision to build a settlement on that spot followed the founding of tholoi. This is most obviously the case with the Trypiti settlement, which was built there after the tholos,[991] and is also applicable for Koumasa.

One possible interpretation of this relation to water is that it corresponds to the need for water in activities related to the tholos. A further point to be considered, within the framework of an archaeology of the senses, is the impact flowing water and its sound would have on the sensory landscape of the tholoi.

991 McEnroe 2010, 24–26.

9.4 Discussion

Above, a decoupling of the assumed relationship between tholoi and settlements was proposed as a starting point for an investigation into the topography of the tholoi. The second step was to reexamine the question of settlements and their relation to the tholoi with a shift in focus: visibility and waterways were highlighted among the criteria that determine the location of tholoi. While the connection to settlements may explain both, the first raises intriguing questions; for example, if the restriction of intervisibility also extends to settlements.

This could be contemplated if isolation were a primary concern. Alternatively, and especially if tholoi are not necessarily connected to a specific settlement, it might be an element specific to the tholoi and the rituals associated with them, to ensure that each tholos has a unique viewing area.

In cases such as Koumasa, a local centrality could be postulated. The fact that seemingly isolated tholoi, such as Korakies and Marathokephalo, would have fires lit there that were visible from Koumasa (even if the tholoi themselves, and the people present, were not discernible), would render the latter an overseer. The chronology of Korakies in MM I is key here, as it, therefore, falls into a period more open to visibility, as discussed above.[992] This would link the observers of these activities in various regions near and far in a "network of relevance".[993] At the same time, they keep their isolation from other tholoi. Again, Platanos and Koumasa are only just mutually invisible. This could allude to a purposeful choice of location, or at least implies an awareness thereof, and emphasises the uniqueness of each of these two primary centres of tholoi as they grew into what Murphy has dubbed as sacral focal points.[994]

As per the definition of Koumasa's position within the Messara, revisiting the distribution of the main tholoi clusters offers a nuanced view, based on visibility and focal network analysis. As discussed above (see Chapter 3.1.2), the EM II period brought stability and growth, especially in the Messara, where many of the known sites have more than one tholos and control the better part of the Messara, with a certain distance between each site to allow for their growth.[995] The presence of hamlets is noted though, at least in the west of the Messara.[996]

The fundamental association of tholos location in relation to streams adds a further dimension to the initial choice of location. But what prompts the evolution of only some of the centres, such as Koumasa? Various socioeconomic factors can denote which

992 See Footnotes 930, 1000.

993 Relaki 2004, 173.

994 Murphy 1998.

995 Sbonias 1999, 28.

996 As part of the survey of Watrous 1994, 705.

cemetery would endure and become bigger.[997] The growth that Koumasa experienced, which seems to coincide with the activity in Korakies and Christos, locations that are demonstrably connected with it, could therefore be seen as disentangled from the initial choice of location for the tholoi in that region, but nonetheless spurred on by it. It could be perceived in terms of the increased public use that is observable for the tholoi during EM III–MM I,[998] not only in terms of material but also of visibility and connectivity.

Although new sites with tholos tombs appear in EM III, the importance of the sites which already had two or three tholoi seems to increase.[999] It is noted that very seldom does a second tholos appear in the same cemetery complex of one of the new sites. For locations established at later periods, Nixon observes the rising importance of viewing earlier places of significance, rather than being placed upon them.[1000] This would include the tholoi of Christos and Korakies, with visibility access to the gorge below in the case of the former and to a range including the region of Koumasa and the Kophinas peak in the case of the latter. The continuous use of Koumasa in the LM period also supports the theory that visibility or access to the old graveyards became more important in this period.[1001] This could explain cases such as Koumasa, where the viewing, especially from the 'sanctuary', seems to have been deliberately encouraged by the architecture, as was presented in Chapters 7 and 8.

Following the examination of the mesoscale of Koumasa in this chapter, distinguished by an arbitrary twofold classification of mountain and valley, a portrait emerges of a central hub with strategic potential in overseeing movement between the valley, the western-central Asterousia, and the central Asterousia. The latter expanse encompasses the harbour regions of Ayios Ioannis, Salamias and Trypiti. These were self-sustaining settlements, but with connections enabling the import of products.[1002] The expanse of connectivity and its strengthening, at least in the Protopalatial period, would naturally connect the shore with pre-existing systems of the Messara, established as Koumasa expanded. A detailed exploration of these regions and the pathways leading to them will be expounded upon in chapter 11, which is devoted to the exploration of the mountainous terrain of central Asterousia. Although this concerns the mesoscale, it will be analysed alongside a discussion of the mountains, with which it is thematically linked.

997 Murphy 1998, 32–39; Sbonias 1999.

998 Legarra Herrero 2014, 163.

999 Legarra Herrero 2014, 73–74.

1000 Nixon 2009, 272.

1001 Nixon 2009, 275.

1002 McEnroe 2010, 24.

10 The Regional Role of Koumasa: The Macroscale

Before delving further into the exploration of the Asterousia in Part V, this chapter brings to a close the *zoomed-out* perspective adopted in this study, characterised by an examination from the micro- to the meso- and macroscale. While the macroscale is not within the primary focus of this work, its significance in shaping the broader understanding of Koumasa cannot be overlooked. Internal developments, including urbanisation[1003] and specific archaeological finds at the site, are influenced by broader trends extending across the entire island of Crete. Additionally, the study of Koumasa's role within the larger context of the Cretan environment is essential for a comprehensive understanding, as previously discussed in Chapter 2 regarding the chronological sequence.

10.1 Characteristics of a Settlement with Regional Role: Approaching the Macroscale

The political geographies of Crete constitute a central topic within Aegean archaeology.[1004] One of the key dichotomies involves the definition of between palatial centres and local elites, with the implications of Koumasa's location being explored in Chapter 3. GIS analyses have shown Koumasa not being on the main axes of the Messara, which was verified in the analysis above.[1005] The unanswered question is to which cultural environment Koumasa is closest. The flow accumulation analysis (Chapter 5.3.2; Figure 36) shows mainly three axes, the one leading the Phaistos (following the Geropotamos path) continuing to Amari valley, the second going northwards, and the third (following to some extent the Anapodaris) leading to the Pediada, with a node near Dhamantri, and from there northwards, offering a link with areas such as Galatas and eventually Archanes and towards the greater Knossos area. The geography would imply the possibility of influence from the Pediada area, as well as from the Phaistos.

1003 The question of the processes of urbanisation benefits from approaching a larger geographical region rather solely as an ad hoc development (Buell 2015).

1004 E.g. Cherry 1986, 20–26, Fig. 2.2; Renfrew 1986; Relaki 2004; Bevan 2010, 31–37; Schoep 2010, 116–117; Rethemiotakis – Christakis 2011a, 213–215; Knappett 2012, 389; Cadogan 2022; Driessen 2022.

1005 See Figure 42 in Chapter 5.3.3 and also Footnote 432.

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The least-cost-path analysis conducted for Phaistos indicates that accessing Monastiraki from Phaistos incurs a higher cost compared to accessing Koumasa from Phaistos.[1006] Interestingly, the cost of accessing the Kophinas sanctuary is similar to the cost of accessing Monastiraki.[1007] Much has been discussed on the dependence of Monastiraki and Apodhoulou on Phaistos.[1008] The similarity of materials found at Koumasa, Monastiraki, and Apodhoulou supports the idea that these sites may belong to the same sphere of influence as Phaistos.[1009] Furthermore, the topographical layout of the site, with the elevated central rock, which seems to receive different treatment, and the general capacity of the site to overlook a wider area, would act as further similarity of the two locations.

The Inclination of the bibliography towards this connection is, as discussed in Chapter 3, partially influenced by ascribing Koumasa to the Phaistos sphere of influence. But such a monosemantic dependency – as a Phaistian outpost – does not have to be exclusive when the closeness to other regions should also be taken into consideration.

As mentioned above, the pottery of Koumasa shows a similarity with that from Skinias, for which a connection to production with local characteristics, but with connections to the Galatas area from the one side and Pediada and beyond is assumed.[1010] The distance from Phaistos to Monastiraki is higher than that of the distance between Koumasa and Skinias by 16%, and almost double the distance of Phaistos to Koumasa.[1011] Taking the Neopalatial Dhamantri complex as a reference, which is considered to be a major palatial centre,[1012] the distances to it from Koumasa indicate it as the closest palatial centre.[1013] This centre is, in turn, seen as pivotal for its connection between Galatas to the north and the less known east Messara, in which both Skinias and Koumasa could be seen as part thereof.[1014]

The reasons for allowing Koumasa to grow are identified with its relation to the mountainous region, as sketched in Chapter 9 and further elaborated on in Chapter 11.

1006 See Figure 25. The path from Phaistos to Monastiraki is 1.6 times more costly than the path to Koumasa based on the Tobler unction, and 1.4 based on the Ox-Cart function.

1007 Monastiraki is 2% more difficult to access based on the Tobler.

1008 See Footnote 182 and discussion on page 44f.

1009 For example, the micromorphological analysis of plaster (see Footnote 761) but also the technique, with a black line separating the white from the red zone (compare the plaster piece from Monastiraki: Kanta 2006, Tab. 13.b with Panagiotopoulos 2018, Fig. 13).

1010 Mandalaki 2011, 381; 391; Knappett 2011, 393.

1011 Calculation was made with the Tobler's Function.

1012 Vasilakis 2017, 80–81, Figs. 41–43.

1013 In the least-cost-path analysis towards eight selected destinations, Dhamantri is 4th in terms of least-cost to access with the Tobler function; 5th with the Ox-cart; 2nd with the Bell-Lock; and 1st with the exponential. See Table 1 and discussion in Chapter 5.2. In the isochronous lines of Figures 34 and 35, the time distance to Dhamantri and Phaistos are comparable, with Dhamantri being slightly closer.

1014 Knappett 2011, 393–396.

This peripheral location would allow for assumption beyond direct dependencies, which would allow for input from more than one cultural and social circle. A homogeneity of the region of Asterousia, as has been argued based on the analysis of seals,[1015] would increase the role of centres in this periphery.

Following Knappett's definition regarding the localisation of sites, they should not be viewed in isolation but rather as integral parts of larger communities devoted to agricultural exploitation and surplus storage. Many of these sites, like Myrtos on the southern coast, evolved quite naturally from earlier settlements and were an essential part of the Neopalatial economic system.[1016] A similar thought is pondered for areas such as Skinias, for which no significant Prepalatial phase exists.[1017] However, this is not the case in Koumasa, where a transition to a Knossian control seems possible.

The Neopalatial building in Pyrgos (Pyrgos 4) is situated on the top of the hill, with viewing possibilities up the river valley to the Lasithi mountain.[1018] As for the Protopalatial phase, a similarity with Gournia is observed so that Knappett involves it with the theory of the birth of a Protopalatial state – in this case the assumed one for Mallia.[1019] Similarly, the internal topography with an elevated hill in the middle of the settlement for which a special meaning is interpreted is seen in the case of Monastiraki. It is tempting to seek a parallel of the development and layout of the Koumasa settlement, better expressed at this point as the Koumasa complex, in relation to buildings of the palatial type. Although the grid could be seen as comparable with that of Gournia, the rooms' layout and the grid's utilisation pose similarities with other building complexes, such as Pyrgos IV and Petras.[1020]

In the Neopalatial period, at least in the western Messara, there seems to be a decrease in the number of settlements, as well as a reduction in their size.[1021] For Koumasa to receive the elaborate treatment indicates that its role, already established in the previous periods, and in this work identified as the exclusivity to a segment of the southern shore and the central part of the mountain still remains, with the Kophinas peak sanctuary adding to the relevancy of its position.

Some of the finds in Koumasa were discussed in Chapter 7.3. Regarding the pottery, for example, given the lack of examples from the area of the Asterousia, similarities and influences have been sought with the Phaistos area. However, also towards the east, the similarities of the LM I main phase of Koumasa with the LM IB Skinias building at the

1015 Pini argues for a local seal workshop in the Asterousia and a local tradition based on the distribution of special seal types (Pini 1990, 126).

1016 Cadogan 1978; Niemeier 1997, 15–17; MacGillivray 1997, 23–25; Knappett 1999.

1017 Knappett 2011, 393–396.

1018 Cadogan 1978, 77–82, Fig. 21.

1019 Knappet 1999, 629–667, Fig. 4.

1020 Niemeier 1997.

1021 Watrous et al. 2004, 291.

easternmost outskirts of the Messara are of great interest. The excavation at Skinias, Kolokythi, near the village of Lagouta, henceforth Skinias, is located centrally in the Messara, at a distance of 2 km. to the Anapodaris stream. This location would make it topographically similar to Dhamantri. Furthermore, Skinias, as Koumasa, does not lie on the main network of the island, specifically the road from Knossos to Phaistos, but rather, like Koumasa, is seen to be part of the connectivity networks towards the south and the sea coast, in this case alongside the Anapodaris stream to Tsoutsouros.

The main building excavated produced 900 vases of which 650 are conical cups.[1022] The similarity of many of the forms as well as clay quality to those from Koumasa (including cooking jars, alabastron, and undecorated conical cups)[1023] raise a need for a closer investigation and the possible anchoring of the LM IB dating for the main phase of Koumasa, pending the pottery analysis.

The similarities of the motives from Galatas and Skinias led to assumptions of a local tradition; a centralised production somewhere in the Pediada area providing Knossos rather than the opposite.[1024] The similarity seen in the Koumasa production would allude either to an integration of Koumasa in this network or to the need to expand the area of common use of Pottery in central-southern Crete.

Attempting to incorporate these finds into an accepted narrative of regional development, the interpretation hovers between two contrasting perspectives that can be summarised as the assimilation – integration dipole. On the one hand, there is a tempting inclination to perceive Koumasa as part of the periphery of the Phaistian and then Knossian spheres of influence, serving as the eastern counterpart to Monastiraki and Apodhoulou – to focus on the Protopalatial period. Conversely, there is the possibility of emphasising the role of local elites, designating their habitat as Phaistian.[1025] This interpretation suggests that the efforts to integrate Koumasa's architecture into a Phaistian style reflect an assertion of regional importance. Rather than viewing this development as a form of assimilation or external control, it could be seen as an endeavour to assert autonomy or self-identification – an effort of integration, already from the Protopalatial period.[1026] The somewhat forced implementation of certain palatial elements into confined spaces, such as the disproportionately large column base in a relatively small 'sanctuary' area or the grandiose retaining wall for magazine facilities, may allude to this dynamic. However, an opposing argument could underscore the imperative of security, as these magazine facilities are not easily accessible or visible from the valley below, and they manage to create storage facilities in a well-defended location.

1022 Mandalaki 1998; 2011, 380.

1023 Mandalaki 1998; 2011, 387; Figs. 18, 22, 32.

1024 Rethemiotakis – Christakis 2011a, 212–218; Rethemiotakis – Christakis 2011b, 225–227.

1025 On a summary of the discussion of territories, see Driessen 2022, 6–8, Fig. 3.

1026 See the schematic territorial demarcations in Cherry 1986, Fig 2.2; and discussion in Cherry 1986, 20–21. On the influence of this model in subsequent studies, as well as modern perception, see Driessen 2022, Fig. 3 and analysis on pages 69ff. See also Schoep 2010, 116–117.

These two seemingly extreme cases can be effectively reconciled within a qualitative evaluation and understanding of state formation. This perspective views state formation as a dynamic process rather than adhering to the traditional understanding of a state as static lines on maps. It incorporates multiple factors, accommodating local trajectories within a unifying whole. The subsequent chapter delves into the concept of state formation, approaching it from a less traditional standpoint.

10.2 A Theoretical Model for State Formation

In the realm of Aegean archaeology, macroscopic studies of the societies and their complexity have been extensively researched, interpreting the finds within the context of sociological and anthropological models.

The role of locations perceived to be marginal is traditionally seen through the lens of the poles of the periphery-centre, in which the periphery is the passive recipient of central trends. As the archaeological record primarily offers elements of the prevalent regional power, researchers have overemphasised the dynamics of change in a peripheral region as external, generalising the elements of material remains of art and typology to a holistic influence scheme extending to social and political transformational processes, downplaying the internal developments.[1027]

The marginal regions are defined by the natural environment of their settlement spaces for which ad hoc strategies were developed. Hence, the effort to define more than one 'marginality'.[1028] In this view, the analysis of local development is seen primarily as a local phenomenon and less as a passive recipient of external input. Using a term from the discipline of biology, it is seen as ancologyical niche rather than their simplifying categorisation as satellite societies of a prevalent centre.[1029] These methods offer an alternative to the traditional analyses done primarily through the mod of directionality, seen to expand influence from the more advanced centre, seen as the core, to less complex polities.[1030]

The analyses of peripheral regions are often transferred in the discussions of the economic growth of complex societies, which is especially crucial for societies for which no written evidence is available. The large-scale interregional exchange networks are

1027 Stein 2002, 903.

1028 In (Bebermeier et al. 2016) marginality is analysed as spatial, economic, ecological and social, and proceeds of analysing this concept in areas traditionally seen as remote in their corresponding disciplines (Petra, as per the Graeco-Roman world; the Kushite Musawarat as per the Egyptian influence; and Conana as per the Hittite influence).

1029 Bebermeier et al. 2016, 2–5, 7.

1030 Stein 2002, 904–905.

primarily perceived as networks of several competing polities, a view that is bounded by the directional model.[1031]

Another angle of looking into the characteristics of a given culture, especially the economic one, is viewing it as subject to the second rule of thermodynamics. This theoretical model can be used to lift some of the constraints in looking for a political structure to assign Koumasa into. This methodological framework is not a new tendency in the study of cultures, but it is hardly mentioned in Aegean archaeology.[1032] The methodology explicitly developed the study of their collapse[1033] but extends to a holistic perception of cultures.[1034] The driving power of formation and dissolution of any state can be seen as in any other closed system, as a battle against entropy.[1035] In this perspective, we view a state as any other self-sustained system in nature, be it biological or physical. This avoids some of the weaknesses of the established "life cycle" approach to cultures.[1036]

The use of the word 'entropy' as a summation of the second law of thermodynamics has proliferated steadily outside the department of physics, such as the famous Shannon's entropy law in informatics, but also to theoretical disciplines such as in arts, social anthropology, or even in theology, where eschatological principles are thought to be enforced by the finality that seems to be expressed by the principle of entropy. One downside to the mainstream use of the term is the misunderstanding of its true meaning, rendering it from a fundamental law of the universe to merely a metaphor or figure of speech. The Second Law, which the philosopher Charles Sanders Peirce has argued to be amongst the finest achievements in science, expresses much meaning in an eloquent and seemingly abstract way.[1037] This made the idea accessible and is exactly what made it appealing in the first place in academic discourse, often focusing on it as a quip rather than appreciating the fundamentality of it.[1038]

1031 Hopkins – Wallerstein 1982.

1032 One such mention in Knappett 2012, 389–390.

1033 Famous targets for such studies can be assigned to two types; the first is that of the historic impactful, or perceived abrupt or final collapse, such as that of the Roman Empire, Mayan culture. The second includes the ones that literary fit the concept of isolated ecosystem: The Easter Island culture, and the Greenland Viking settlements.

1034 For a view of the holistic study of human cultures see Leslie 2005.

1035 Tainter 1988; 2011; Diamond 2005.

1036 Referencing the tripartite division of the life span of cultures which traditionally was applied to many civilisations post facto and introduced as a given form in Crete as pre, middle and late Minoan. The negative point of this tripartite division of the life span of cultures views is the closed cycles principle, as well as the isolation in which cultures are viewed as a monolithic entity, to be preserved, mature and ultimately perish. Whereas the energy preservation models rely less on the vague concept of cultural identity that implies ethnogenesis and more on the pragmatic nature of interconnections and economic and social entanglements.

1037 The quote is from the philosopher Charles Sanders Peirce, who was referring to the statistical interpretation of Bolzmann's entropy low (Reynolds 1996, 413).

1038 On the various often erroneous uses of the word entropy, see Davis 2011, 121.

Bearing these methodological pits in mind, the focus will be on the evolution of some ideas of entropy in economic systems and entropy in society.[1039]

First, a brief introduction to Entropy is in order, although it is clear that any short definitions presented here are only indicative and cannot be assumed to even approach the proper definitions that would require much elaboration, as one can see presented in specialised literature.[1040] Despite the first law's stipulation that the total energy of the universe is stable (Law of conservation of energy), the amount of useful energy is diminishing, a fact that can be seen as a drive to homogeneity or equilibrium. This causes a defined energy course in any process development, defining thus the arrow of time. The effect is that heat cannot be transferred spontaneously from the colder to the warmer body, directly or indirectly, as an equilibrium is the system's desired state. Similarly, a broken glass or a shuffled deck of cards will not return naturally to their original, sorted state. This tendency towards an equilibrium means less order. Enclaves of lower entropy are possible, such as order and symmetry in a garden or in a built structure). Still, it needs external energy in the form of labour to preserve it and, if left alone, will deform towards a more homogeneous forest (in the case of the garden) or a rabble of stones (in the case of the structure). A defined culture is then here seen as a closed system with cultural developments resembling an external energy source, impacting the closed system.

The application of this mechanistic approach to observing civilisations takes into consideration the vital external energy required to sustain the closed system of a civilisation, with such a source often being identified in the political economy. Soddy and Georgescu-Roegen discussed the second law of thermodynamics in relation to the economy of a society in the first half of the 20th century.[1041] Soddy's view that real wealth, as well as any closed system, is subject to the second law of thermodynamics has gained traction in the last decades and has been proliferated in the bibliography mainly stemming from – or in reference to – Tainter's analysis of the collapse of empires and complex state formations.[1042] In these analyses, it is observed that the constant rise of complexity adds benefits to a society at a gradually slower rate, faster at the beginning and ever slower as the complexity rises until a turning point, after which the rise of complexity diminishes the benefits and even becomes harmful. In other words, the exploitation of resources, production, and the growing network – comprising middlemen and bureaucracy facilitating the flow – has a strongly nonlinear relationship with the complexity of the system. In a diagram with complexity in the y-axis and benefits in

1039 Trigger 1990.

1040 As an introductory example, chapter 24 in Shankar 2019, 411–441.

1041 Soddy, a Nobel prize winner for chemistry, applied the way of thinking from his field to the social problems (Soddy 1926). His book was mostly discarded at that time (Avery 2012, 167–168).

1042 Tainter 1988 used ca. 15 case studies from different areas and time periods to illustrate his thoughts, such as the Roman and the Maya empires, but with the background being applicable in any large-scale organised state.

the x-axis, the simple model is an inverted U shape.[1043] This complexity is assumed to be proportional to the size of the bureaucracy, hence applicable to smaller or bigger structures. After the turning begins, the decision-makers try to address the crisis by measures that increase complexity even more, creating a self-enhancing loop.[1044] So, the counterintuitive phenomenon appears, that overexploitation of the resources leads to collapse[1045] even if said resources are available or renewable, given that the rate of the rise of the internal complexity is not balanced.[1046] Another crucial factor indicated for population growth is that, when it is not accompanied by corresponding hierarchical and bureaucratic structures, it may trigger a collapse.

These views of the life cycles of greater human structures has a long history that began with observations regarding the collapse of states with literally hundreds of causes, that range from case specific to more holistic approaches.[1047] Seeing from the perspective of thermodynamics, where the energy accumulated corresponds to the rise of bureaucracy, the need of army and infrastructures, and the rise of tensions within classes or local elites in the growing state, has the benefit of viewing a state as yet another system, beside the concept of a singular living organism, where the primary forces are reduced to energy accumulation versus the ever existing entropy, or force for simplification. Based on this, the following analysis can be pursued.

Looking back at the "start" of certain hierarchical cultural groups, seen here as relaying order within a closed system, entropy falls, and thus, energy must be spent in compliance with the second rule of thermodynamics. In other words, a formation of a concentrated hierarchy is diminishing the entropy of the system. This energy infusion in the case of a political institution is cost in material and manpower. In other words, political structures are costly and although the formation of one is seen as relatively easy, as it is profitable in the short term, a long term sustainable political structure needs not only a stable environment, i.e. economy, but to find expansions to replenish the initial energy influx needed to sustain the more complex system.[1048] As the second

1043 Tainter 1988, Fig. 19.

1044 In Tainter's words, the "diminishing effects of complexity causing the problem-solving strategy to yield declining marginal return" (Tainter 1988, Fig. 118–120). On this point, a historical example used was that of the Diocletian reforms, which, by enhancing the bureaucratic apparatus and further restrictions left the empire not able to further adaptation after the 4th century. It is to be noted here that some elements of the analysis are following a more traditionalist and not necessarily aligned with modern views of the Late Roman history (Tainter 2011, 92–93).

1045 With state collapse, the definition preferred is that of a drastic decrease in human population size accompanied by the reduction of political and social complexity, and for an extended time. This leads naturally to economic downsize in regions where settlements may be abandoned and/or less secure. (See Diamond 2005).

1046 Tainter 1988, 121; Bard et al. 2019, 13.

1047 In the Western literature this quest starts with the efforts to explain the causes of the fall of the Roman Empire (Gibbon's Rise and Fall of the Roman Empire) and more recently (Demandt 1984) on the same issue where numerous causes are addressed. These were readdressed by for a global range (See also Tainter 2008).

1048 Tainter 1988, 22–37.

rule of thermodynamics dictates, lack of doing so will lead to a decline and simplification of the accumulated energy to its building parts, i.e., dissolution of the union, if we are referring to a union of isolated settlements. Similarly, the gears of the bigger system, such as the new connections, elite buildings and ceremonies, central authority and bureaucracy are all energy-costly, the preservation of which is dependent on the political economy, as a mechanism of constant provision of the system with energy, without which said system will collapse.[1049]

A manifestation of such energy accumulation would be the emergence of cities and elite symbolism, expressed in costly houses, clothes and habits which must not only be of a collecting nature but also include donations.[1050] Expression of this kind of affluence as such an expression of wealth accumulation can also be in architectural design and it is this type that will concern us with the Protopalatial Koumasa, such as in the area of the 'sanctuary', where the elites seem to look inland towards Phaistos for inspiration in materiality.[1051] For the influx of income, an establishment of trade routes seems to have been one answer, as seen from the Messara exports in other places on Crete, as well as the southern Aegean.[1052] Also, connection with foreign lands is proposed as securing the inflow of energy in the form of goods and trade.[1053] Messara Pottery, for example, was found in Knossos, Malia and Myrtos Pyrgos.[1054] The port of Kommos seems to serve in the MM IB and MM IIB for at least the regional exchange.[1055]

An interesting question is if this applies to the other Messara-Asterousia Harbours, in the southern part of Asterousia. With the shepherds' presence seemingly starting at the end of the neolithic, Branigan argues for an egalitarian society EM II, until the expansion starts.[1056] To understand this expansion one can turn to sociological studies of civilisations that share this characteristic, in the absence of strong property rights, wealth distribution is governed by bargaining between clans or communities.

1049 Use of the term political economy, has been introduced to Aegean archaeology, as it was used by Knappett in the description of the Protopalatial states (Knappett 2012, 2012) noting that this analogy could be considered as too mechanistic. Viewing states and formations as closed systems, applying basic rules of entropy to understand and explain their existence at a theoretical level, should not be a tabu in the Minoan archaeology. Humanities as portrayed above have long used it as it provides a solid scientific framework for a holistic interpretation of a given entity, that although not perfect, it has some benefits over the traditional tripartite life span of civilisations. (Here Platon's palatial system of chronology is seen rather as an effort to refine the periodisation of Evans).

1050 If one thinks of the Homeric leader prototype one of his main characteristics is gift giving which is competitive in nature towards equals and expected towards faithful supplicants (Quiller 1981, 113–117).

1051 See Footnote 1066.

1052 Knappett 2012, 390.

1053 For connections of the Messara to the Near East in the Protopalatial period, see Van de Moortel 2007; for aspects concerning administration and sealings, see Weingarten 1994.

1054 A considerable proportion of the MM II Kamares Ware consumed at Knossos was imported from the Messara (Day – Wilson 1998).

1055 Knappett 2012, 390.

1056 Branigan 1985, 61.

Bargaining power is influenced by the threat of waging war, and thus benefit from population growth that in the long run puts pressure on the small clan that will need to expand or transform.[1057] These results, as mentioned above, are not proportionate on the wealth itself, i.e. not based not on the value of the equation of wealth, but its first and second derivatives.

10.3 Discussion

This analysis shows that a site's trajectory between spheres of influence and belonging to a certain *state*, or better put, dependency network, constitutes an interplay between the local needs and events on the site's macroscale.

The impact of the ordered structure expanded from Phaistos on some regions of the central Asterousia involves material prosperity that used the Phaistian examples as its cultural archetype and a general *palatial* one in the Neopalatial period (see discussions in Chapter 7). One of the reasons such affluence was to be expressed in Koumasa, is the nodal function of this location within the trade networks; too remote to be just a strategic location. A comparison could be made with the role of Koumasa in the heyday of the Hellenistic and early Roman Gortyn (see Chapter 2.5.1). Judging from the finds in Koumasa, which include sherds of pottery makes Koumasa a typical satellite region of Gortyn, which is much closer and, in terms of growth, was at its peak much bigger and thus more impactful on Koumasa as Phaistos ever was.

For the Protopalatial *state* (or dependency network), the disruption of the connection lines would lead to a system collapse. MacGillivrey proposes the turbulence in Egypt and the Middle East as the factor for the decline.[1058] This specific notion would not affect the central Asterousia only by proxy but also directly in its nodal function. The fluctuation brought upon the broader Phaistos region in the turn of MM III to LM I is summed up in the survey results by Watrous, which stated that the Neopalatial period there saw a slight decline in the number of settlements and cemetery sites and also for those which continued, in almost all cases, there was a reduction in settlement size.[1059] Despite this apparent drop in population, agricultural activity expanded, a fact that may correlate with political reasons rather than demographics, as the demand of the elite for surplus was the motivating factor for the expansion of the agricultural farm areas.[1060]

1057 de la Croix – Dottori 2008, 53–55.

1058 The time around ca. 1750 BC marked turbulent periods in the East: In Egypt, there was a transition between the 12th–13th Dynasty, and by the Euphrates River, Mari was destroyed by Hammurabi. Those events either coincide with the end of the Protopalatial or before it. In either case these events could be seen to cause destruction of commercial links with these areas, linking them with the collapse of the first palaces, or shortly before (Knappett 2012, 392).

1059 Watrous et al. 2004, 291.

1060 Adams 2017, 119–120; Watrous et al. 2004, 297.

This image seems to fit the greater Messara-Asterousia region, at least for the settlements that continued in the LM period. In Koumasa, the Protopalatial architectural elements seem to stop being used before most of them are reused in the expanded Neopalatial phase of the settlement. Direct evidence for a drop in population that would put Koumasa in the grid of settlements following this pattern is not apparent, but the abandonment of the Protopalatial structures is indicative of a crisis or at least of a transition period. In Apesokari the most significant ceramic groups in terms of chronological and typological coherence are the ones in which most of the specimens are datable to MM II through to early LM I.[1061] Another example that might form a pattern is the settlement of Doukiania, which existed in the Prepalatial and Protopalatial periods, but with a significant growth in the Neopalatial period. The new location, consisting of approximately 30 houses, was not precisely upon the older settlement but in the vicinity of the older, repeating a trend also seen in Trypiti and continuing up to the LM III period.[1062]

In this period in the Messara plain, a rise in the urban and rural villas spaced across the whole central region may serve as an indication of an elite's hold on the redistributive system.[1063] The villa of Mitropolis Kannia is assumed to benefit from its location on the route to Knossos, thereby bringing the Knossian question to the forefront once again.[1064] Even if this is the case, it cannot hold for all villas seen in the Watrous survey, which argues for a Neopalatial Phaistian State.

Perhaps the study of the Asterousia region of the Neopalatial period would benefit from an approach that is, on a first level, disentangled from the question of Knossos's influence in the Messara. The scale of its existence could, at a second level, be regarded within the question of the region's broader political trajectories and the balance between Phaistos and Knossos.[1065]

The role of the elite dynamics should be considered in this antagonism of centre-periphery. Two types of aristocracy have been mentioned: one oriented outward, beyond the island, and another focused inland, emulating the material culture of the former.[1066] This distinction may be linked to the broader political context of the period. Knappett suggests a turn to inland trade materiality after the disruption of the connections to the East, relating to the later phase of the Protopalatial period.[1067] This could

1061 Flouda 2023, 127–132.

1062 Vasilakis – Sbonias 2018, 285.

1063 It is for this period that an expansion to the eastern Messara is assumed (Watrous et al. 2004, 295). Watrous further discusses this elite system running parallel to a central authority with anachronistic values, seeing analogies with the situation in Egypt during the New Kingdom.

1064 Adams 2017, 119–120.

1065 The relation in LM I is described as hegemony, even by advocates of the indirect Knossian influence in general. (Puglisi 2003, 146).

1066 Shoep 2006, 58.

1067 The appeared increase of influence of Malian elite on that of other locations of eastern Crete is stressed, with the example of Cretan Hieroglyphics in Petras and fine wares in Myrtos Pyrgou (Knappet 2012, 392; Cadogan 2022, Fig. 1).

be seen as an effort to replenish the prestige-carrying import influx or seen within the theory of energy preservation presented in Chapter 10.2 as a way to hinder further collapse. The effort in Koumasa to emulate the Phaistian style is clearly an example of the second type of aristocracy, according to Schoep. It is only logical for various nearby states to do be associated with the prevailing one, and there are examples where this is analysed, such as Monastiraki.[1068] This trend to emulate the palatial elite becomes more than a mere reflection of the imitated ritual, and becomes part of a renewed identity.[1069] Beyond the underlying reasons, a smaller society adopting the lifestyle of a larger one can be understood from an energy perspective. This alignment enables a higher energy potential to be achieved, facilitating the flow of energy to the smaller society.[1070]

Koumasa is seen by Watrous as a possible part of this state due to the "large structure" built there, which passes well with the scheme of local semi-independent elites.[1071] This view emphasises the top-down hierarchical structure and has a different narrative than the bottom-up view of the integration of marginal societies in a certified system. It furthermore takes the idea of "state" for granted. On the other hand, the proposed territories discussed above often split the Messara diagonally so that Koumasa is on the edge of the western part, assigned to Phaistos, and an eastern one, assigned to Dhamantri or Knossos.[1072] Within this perspective, the affluence of Koumasa aligns with the view of the sociopolitical structures in the Messara being collective rather than hierarchical, in which the local agents would shape the regional dynamics and as a result, the palaces would act as integrated actors in the regional systems with roles of coordination and emitting political message, rather than an absolute hierarchical system.[1073] Of course these two views need not be viewed as antagonistic to one another *per se*.[1074] Within this perspective, one needs not to seek homogeneity in the whole Messara; instead, it should be viewed as a collection of interacting localities. The connections between each locality, such as Koumasa, and regions like Phaistos or even the Pediada to the east should be understood as bilateral relationships, represented by a bilateral arrow between the two areas and not as a one-point arrow, in the traditional directionality model of cultural expansion.[1075]

1068 Kanta 1999, 391–393.

1069 Vavouranakis 2020, 278.

1070 Petric 1991, 127.

1071 In this view, interestingly, the cult continuation in Kophinas at this time is seen as a measure of autonomy in the central Messara which contradicts the presence of a new palatial Phaistos power in Koumasa. (Watrous et al. 2004, 295).

1072 Driessen 2022, 6–8, Fig. 3.

1073 Puglisi 2003, 91; Christakis 2008, 5. See also discussion in the regional character of the Messara in Adams 2017, 126.

1074 The convergence of the theories of hierarchical and heterarchical society has been observed by Letesson – Knappet 2017, 5.

1075 Stein 2002, 903.

These connections function then as reciprocal exchanges between the two areas rather than adhering to a unidirectional model of cultural expansion. Furthermore, focusing on the local patterns is a key to understanding social change, as small societies can be seen as the drive behind big-scale patterns.[1076]

The aim of this chapter is to observe the location of Koumasa at a macroscopic level, indicating the challenges the possible networks pose in evaluating the role and the dependency of this location, as well as to reexamine the question of autonomy. Further, a nuanced approach to the bottom-up way of thinking of states and dependency networks was endeavoured to go beyond the presumed dichotomy with the more traditional perception, which studies cultures from above, as it also has many useful elements. It occupies a location apparently thriving from the EM period, as seen by the tholoi with a long period of usage, and continues evolving with time, adapting to the needs of the economically overlapping communities in which it exists. On the one hand, its function on a geographical level seems similar to other locations, such as Apesokari, but at the same time involves particular elements, such as the observation of the way to Kophinas and the only node for accessing some harbour bays. A pondered dependency on far away centres and cultural shifts island-wide, although impactful in the emphasis given to the region, remains less relevant for the day-to-day activities within the mesoscale and microscale.

1076 Sbonias 2012, 273.