Part I
The Archaeological Landscape of Koumasa

1 Overview of the Site and the Challenging Aspects of Research

1.1 Localisation of the Site

Located in the southern Messara, the settlement of Minoan Koumasa can be found on and around the Korakies hill at the northern fringes of the Asterousia mountains (34°97′92″ [N] 25°00′97″ [E])[9] with a mean elevation from the sea of 400 m. Its western boundary is near the road between the modern villages of Koumasa and Loukia, and its eastern near the road leading from the village of Loukia to Kapetaniana.

Geologically, the area is characterised by flysch, a semi-hard sedimentary rock deposited during developments within the Hellenic orogeny.[10] As in the surrounding area, the soil is characterised by a significant erodibility (between 0.048–0.06 t ha/h).[11] This, and the steepness of the hill around its two main peaks, need to be taken into account when evaluating the instability of the plain around them, which seems to have contributed to the deformation of some of the remains on the slopes.

It is noted that it is situated near the transition to Pleistocene sediments of the valley proper and the Asterousia mountain to its south.[12] The Asterousia represents the uppermost tectonic unit in Crete, comprising metamorphic rocks and granites, and connects ophiolites, especially in the Miamou region west of Koumasa, and the so-called Mani unit which is made up of amphibolites, schists and marbles. The very west of the Asterousia, as well as the hills north of the Messara and a pocket around Vassiliki, is formed by Neogene deposits of middle to low permeability (yellow in Figure 3 below).[13] The latter region is centred in a pocket of ca. 2 km. diameter south of Vassiliki and extending from Koumasa to the east to Apesokari to the west and beyond where it narrows to ca. 500 m. Both Koumasa and Apesokari are located in the transition from of this area to the flysch mountainous areas.

9 Coordinates based on World Geodetic System 1984.

10 Faure 1965b, 27–63.

11 Pfeiffer et al. 2015, 3.

12 Kritsotakis 2009, Figs. 4–7, 5–28.

13 Kapsalis et al. 2017, 120–123.

Published in: Nasser Bovoleti Ayash: Approaching the Koumasa Settlement as a Case of Dynamic Topography: Internal Functionality and its Role as a Focal Point in the Messara-Asterousia Region. Heidelberg: Propylaeum, 2025. DOI: https://doi.org/10.11588/propylaeum.1573

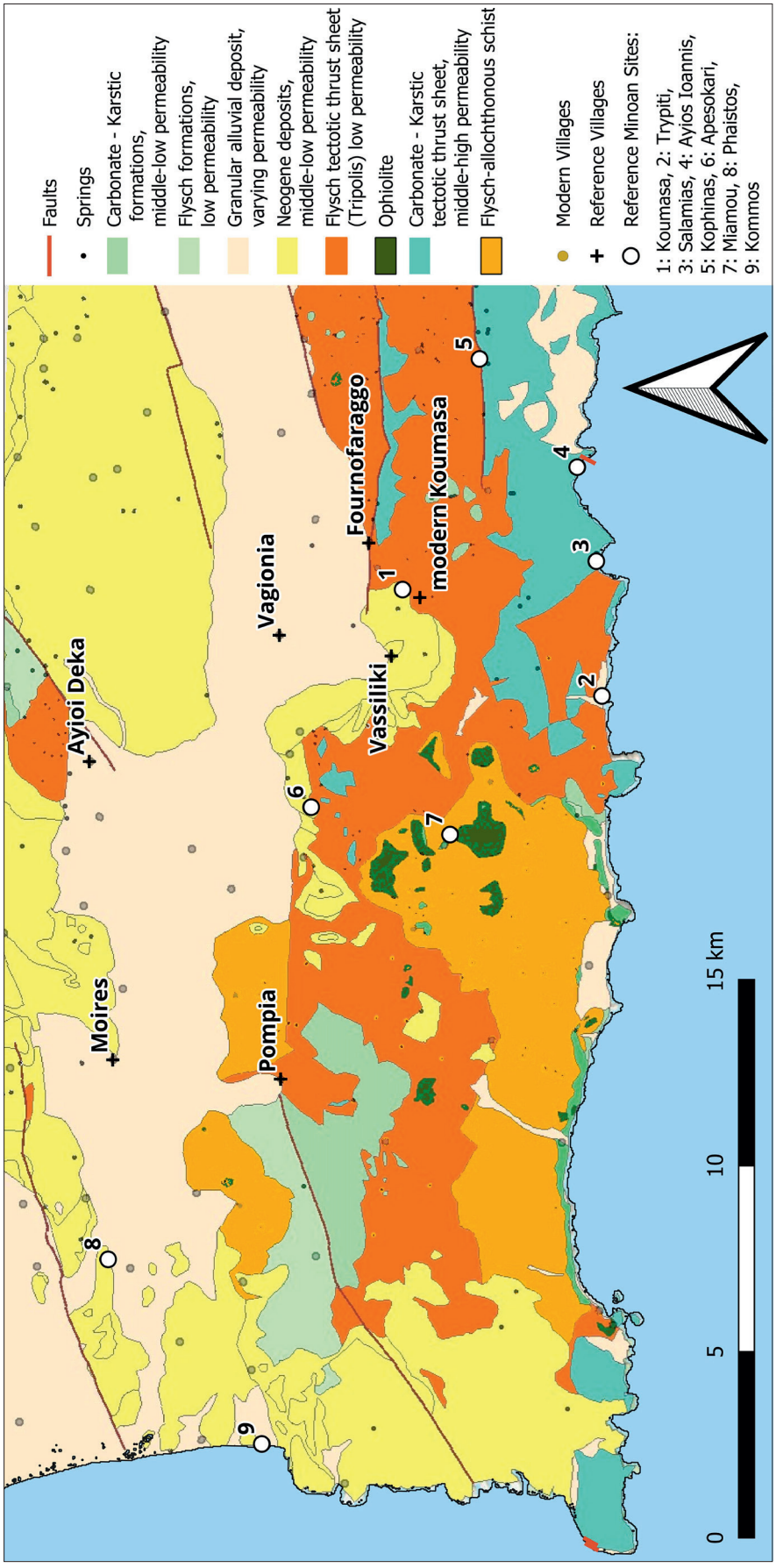

Figure 3: Geology of the west and central Messara-Asterousia.

The rest of the Asterousia, which includes the region south and east of Koumasa, falls within the Tripolis-Mani geological unit with low water permeability or flysch,[14] with pockets of ophiolite around Miamou.[15] The Tripolis formation (orange in Figure 3) is seen in the northern Messara, north of Ayioi Deka around the historical Gortyn. A notable variation is noted south of the main faults, one crossing the Fournofarango and the other the mountain peak, crossing Kophinas, south of which carbonite formations of high permeability are formed,[16] with a concentration of springs around these faults. North of Koumasa is the Messara plain, a Holocene and Pleistocene granular deposit of high permeability, atop marine sediments.[17] A visual summary of the geology in the greater area of intrest is provided in Figure 3.[18]

Rainwater volume is around the average of Messara and is centred on the drainage basin of Geropotamos, gathering the water from the Asterousia range.[19] The modern vegetation consists mainly of Euphorbio-Verbascion phrygana, also known as Greek Spiny Spurge, alongside other dry soil plants, such as the seasonal sea onions (*Urginea maritima*). In cleared areas, these re-emerge within a span of two years. In summary, the geological substrate of the region consists mainly of flysch and greyish limestone beds. Due to the increase in grazing in the last decades, the rate of erosion has risen significantly, causing land degradation, especially affecting the limestone.[20]

1.1.1 Topography and Expanse of Cultural Activity

A 2014 survey investigation determined that the evidence for cultural activity covers the entirety of the Korakies hill and reaches into the plain below. The suggested boundary of Minoan settlement activity encompasses 39.330 m². However, in total, the area of settlement should also include some areas which extend beyond the modern boundaries of the archaeological area, namely west and north of the modern road from Loukia to Koumasa. These areas span 13.303 m² and are located in olive fields; investigation was not possible as they constitute private property. From the outside, it could be determined that they also contain Minoan pottery. In total, the likely area of

14 Kapsalis et al. 2017, 124.

15 Papanikolaou 2021, 221–226.

16 Kapsalis et al. 2017, 128–130; 131–132.

17 Kapsalis et al. 2017, 114–116; Papanikolaou 2021, 84.

18 Edited image from the EMERIC project for the geological map of Crete, by the Decentralised Administration of Crete <data.apdkritis.gov.gr/el/dataset/γεωλογικός-χάρτης-της-κρήτης>. Interpolations of Minoan sites and reference villages, as well as adapting the Legend and Layout by the author.

19 Kritsotakis 2009, Figs. 1–12, 1–15.

20 Kosmas et al. 2015, 543; 546.

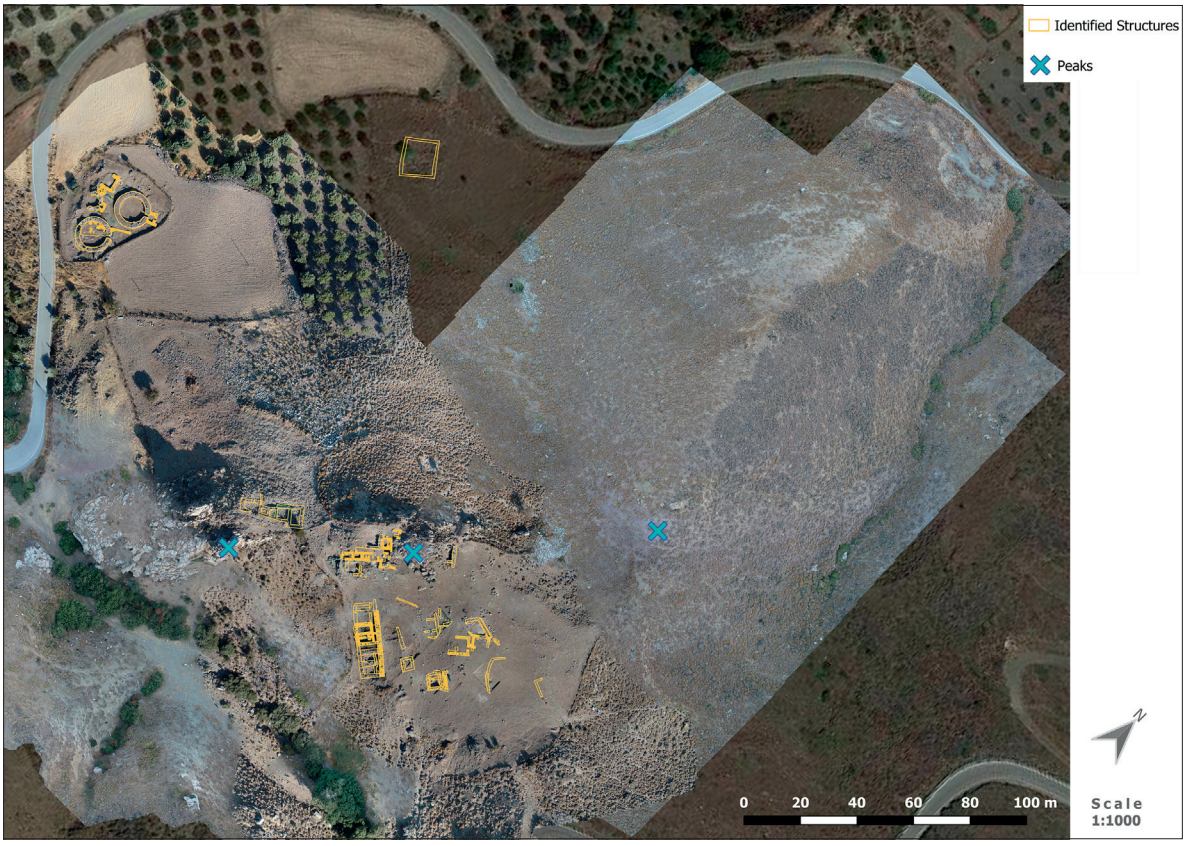

Figure 4: The area of Koumasa with a DEM produced Orthophoto.

Minoan activity on the Koumasa plain under investigation encompasses a minimum of 52.633 m². The hill of Korakies is in the middle of this area and constitutes the highest point topographically; this is where the main archaeological investigation centres.[21] Figures 4–7 illustrate the topography of the Korakies hill and its surrounding area.[22]

The site seems to encompass the whole Minoan sequence, with finds showing elements from the early EM in the tholoi area and in the settlement mainly Proto and Neopalatial.[23] The summit of the Korakies hill is marked by twin peaks, the northern of which (P1) is 428 m. above sea level, and forms its most central area. Around this northern peak the complex of the 'sanctuary' is located. The southern peak (P2) lies a little lower, at 420 m. The hill settlement extends on a relatively level plateau (see Figure 4) across an area of 6 ha.[24] Finally, a third peak (P3) is located to the north-east of

21 Pfeiffer et al. 2015.

22 The images were produced with a locally produced DEM. See details on page 171.

23 For the chronological sequence see mainly Chapter 3. For a brief summary, see Panagiotopoulos 2024, 443–445.

24 Rutkowski 1989, 48–50.

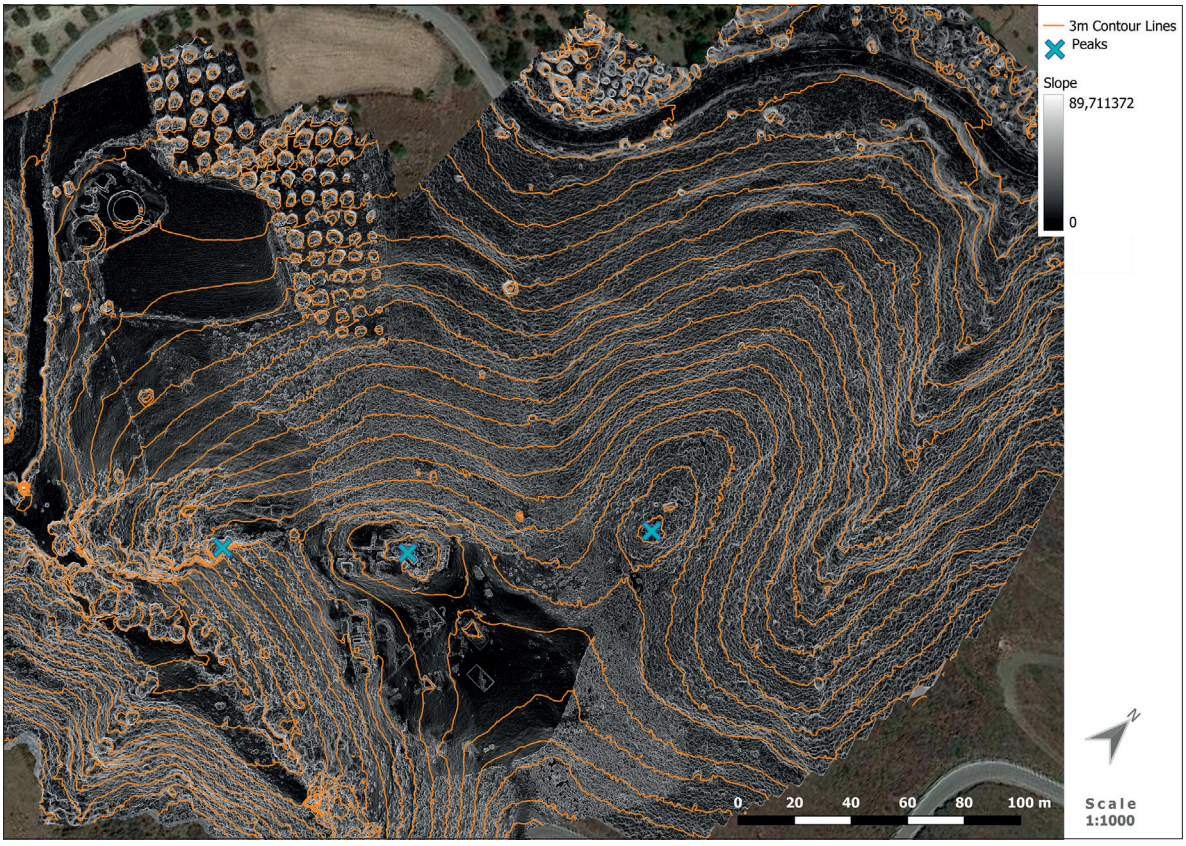

Figure 5: Slope of Koumasa in degrees and contour lines.

the Plateau, on a secondary elevation of the Korakies hill (415 m). The three peaks are visualised in Figure 7, line 3.

On the extent of the produced DEM, cross-section cuts aid in the visualisation of the hill's topography. As per the north axis, six parallel vertical section cuts were drawn 300 m. in length, numbered from south to north, with a northwards view, to represent a viewer looking from the south (Figure 6). Following the orientation of the western slope of the Korakies, five cross-section cuts were drawn with a length of 400 m. in length, numbered from west to east, with a southeastern view (Figure 7), representing a viewer in the valley looking to the southeast. The dashed lines in Figures 6 and 7 represent levels whose main extent is hidden from the assumed viewer's position.

The western side of the hill rises relatively steeply from the level of the tholoi and the olive grove north of them towards Peaks 1 and 2 (Figure 6: first 100 m. of sections 3–5; Figure 7: sections 1–3; Figure 8), then falls slightly until it reaches the hilltop plain (see Figure 5: dark area representing low inclination; Figure 6: sections 3–4 around the 200 m. mark; Figure 7: section 4 around the 150 m. mark; Figure 9).

The plain constitutes the central area of the settlement. It exhibits a lower degree of erosion due to its more even surface, compared to surrounding slopes. Consequently, the Minoan buildings there can survive to quite some height, as revealed during the

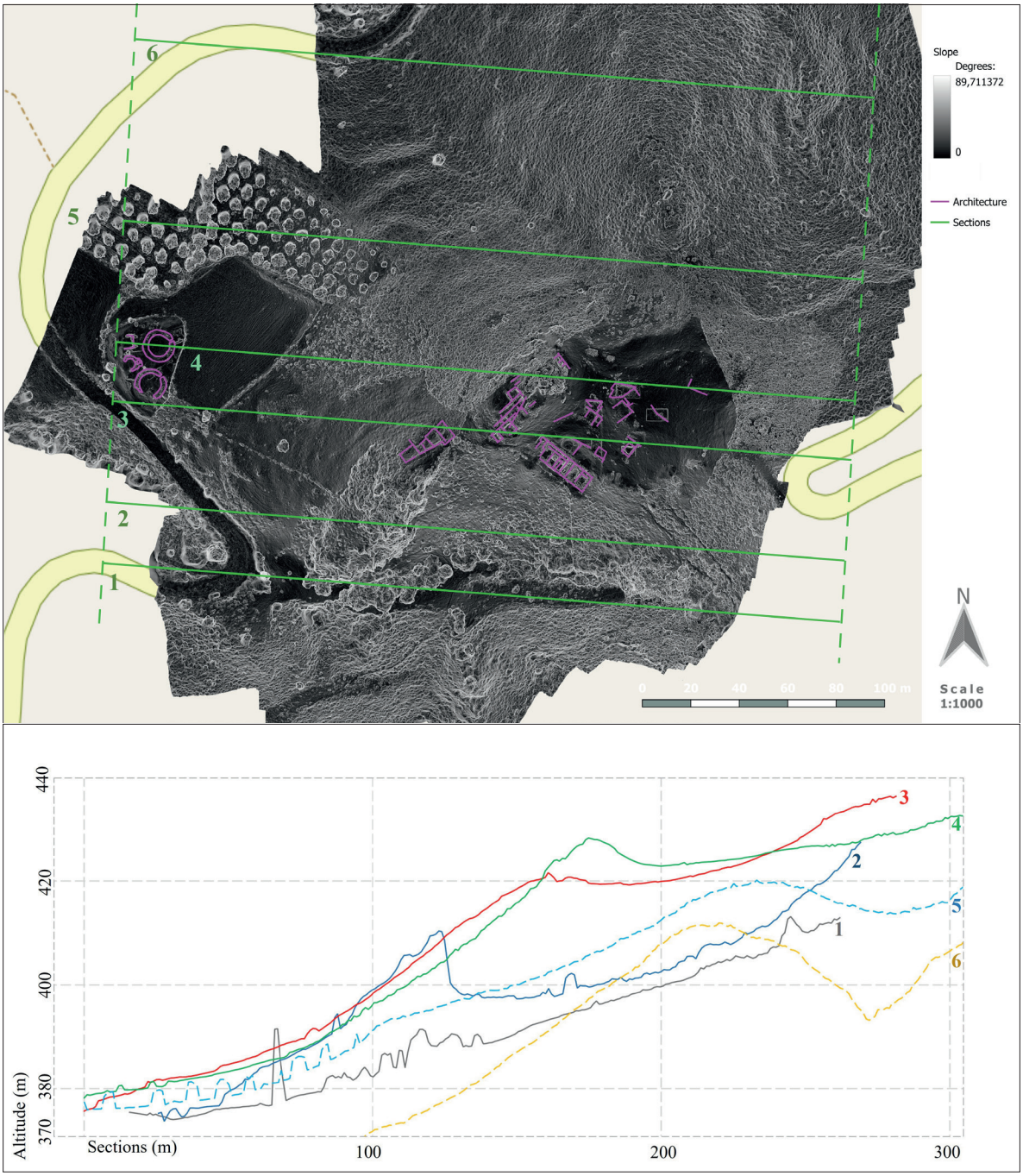

Figure 6: Six parallel section cuts of 300 m. with northwards view.

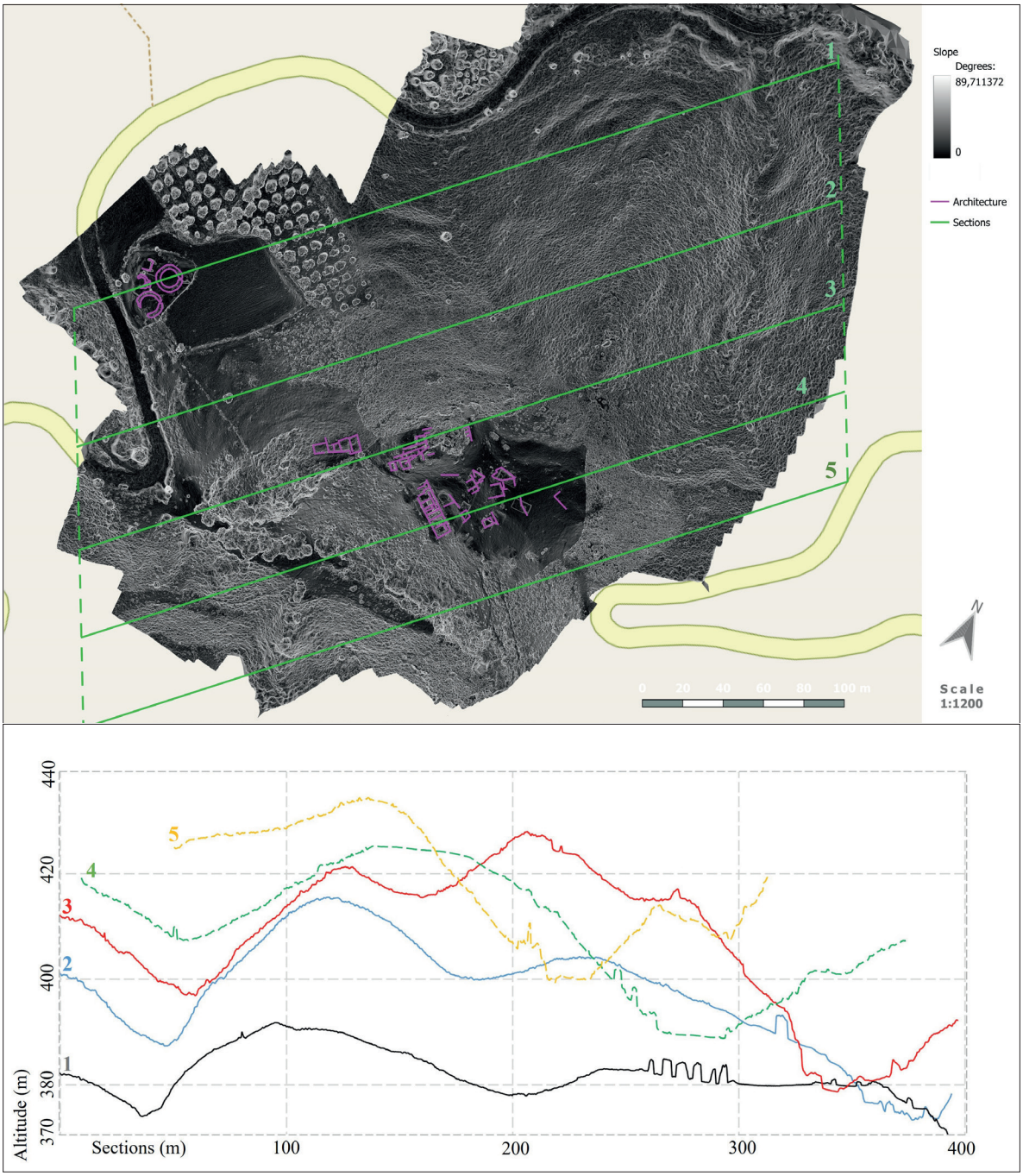

Figure 7: Five parallel section cuts of 400 m. with southwestern view.

Figure 8: View westwards from the Terrace area of the 'sanctuary' near Peak 1.

excavation.[25] This main plateau spans 100 m. on the west-east axis and 80 m. on the north-south axis. It is accessible from the western slope through a narrow path that passes between the two summits, and also from a steeper path, if one follows the bank of the seasonal gorge and climbs upwards, from the south of the southern summit.

The gorge, over which the southern peak (P2) presides, forms the southern slope of the hill. This southern slope forms a front (southern front) measuring approximately 100 m. that reaches all the way to the rise of the Asterousia mountains to the east.

At the foothill lies a small gorge, where a seasonal stream continues to flow today, fostering a local concentration of vegetation (see Figures 4–5; Figure 6: elevation differences in sections 1–3; Figure 7: the gorge traced through the low points in sections 3–5; Figure 9). The resulting slope, while walkable in certain areas, is notably steep, exceeding 30° of inclination across the whole slope and far steeper in many areas,[26] making it

25 Exceeding 1.5 m. in some cases: e.g. 1.8 m. in trenches 1, 16 (Panagiotopoulos 2022b, 325, 331) and even 3.5 m. at the magazine building (Panagiotopoulos 2022b, 324). See also Panagiotopoulos – Savvatianou 2022, 170.

26 See Chapter 6.2 and Figure 64.

Figure 9: The southern front and the gorge. View westwards (Courtesy Koumasa Project).

an unlikely primary access route to the settlement. However, this path would provide visitors with an especially striking view of the buildings atop the hill.

On its northern side, the main plateau overlooks the Messara Plain (Figures 10, 11), with the northern peak (P1) defining its western boundary and forming the northern front, which extends approximately 80 m. towards a third, lower peak. This third peak (P3), located at an elevation of 415 m. on a northeastern slope along the outer edge of the main plateau, has been identified as potentially archaeologically significant through survey work, due to the presence of surface sherds.[27]

The slope along this front has a similar inclination to that of the western slope, which descends from the 'sanctuary' area towards the tholoi. Both slopes are walkable, exceeding the 30° incline limit only for a short distance, thus not quite reaching the point at which a zigzag path (moving with switchbacks) would be favoured over a direct

27 The methodology of concentration evaluation was based on statistical methods, including inverse distance weighting interpolation (Pfeiffer et al. 2015, 9–10). Other aspects, such as the rapid erosion observed in the last 50 years, should also be considered in the dispersion of surface sherds (see Footnote 399).

Figure 10: View to the north from the settlement (Courtesy of Gregor Staudacher).

Figure 11: Settlement plateau, elevation of 'sanctuary'. View towards the north (Courtesy Koumasa-Project).

route.[28] The line of sight between the main plateau and the tholoi is obstructed by the two summits including the 'sanctuary' area. To the east, the main plateau continues upward, culminating in barren cliffs that merge with the rising Asterousia range.

The main plateau enjoys a level of isolation that renders it a strategically easily defensible position while remaining proximate to the Messara valley, enabling it to serve as an entry point from the Messara to the Asterousia. It lies along primary communication routes extending from Gortyn and the interior towards the elevated terrain of Kophinas in the southeast, as well as routes leading to the southern harbors. This pattern bears a resemblance to nearby locations of Apesokari and the Rotasi area, both positioned along the boundary between the Asterousia and Messara regions. Furthermore, building upon a hill on the edge of a plain is a characteristic choice of site for a Minoan settlement, offering obvious strategic benefits. A comparative analysis with similar configurations could provide further insights (see discussion on topographical parallels with selected sites in Chapter 10).

The site is dominated by the Asterousia range to the south, defined by a hill that extents to an azimuthal range of more than 40°. Its peak, defining the skyline to the south, is at a cartographic distance of 700 m. and ca. 600 m. of hight above sea level, acting as a local marker to be seen from the hill of the settlement, with an angular altitude of ca. 30° as seen from it. A visit to this site conducted in 2018 did not produce any finds. The local gorge described above divides the main mountain from the Koumasa hill.

To the west, at a distance of ca. 1100 m. and 530 m. of elevation, another small hill named Kephala, overlooking the modern village of Koumasa, is located, where a small survey showed Minoan pottery, possibly EM.[29]

To comprehend the earliest documented activity in Koumasa, i.e. the area of the tholoi, as well as the later expanse on the hill and its slopes, the relationship with its landscape must be scrutinised. The Korakies hill, with observable settlement activity, is adjacent to the immediate east of the tholoi, a feature not witnessed in front of the entrances of some of the larger tholoi necropoleis like Platanos, Ayia Triada, or Apesokari, making the "spatial text" of Koumasa almost unique.[30] The hill's distance impacts the local horizon, as it expands for approximately 160 m. from a point between the three tholoi up to the top of the hill on the northern summit, while the height difference to the two summits is approximately 45 m., with a maximum of 50 m. at the very top of the hill, depending on the height of the buildings found in the 'sanctuary' area (see Figure 6: sections 4, 8, 12). Viewed from the area of the tholoi, the hill appears to have

28 See Chapters 4.4, 5.2 for the effect of slope on the way paths are favoured. The paths in the area of Koumasa are analysed in Chapter 6.2.

29 Nowicki 2014, 159–160.

30 See Discussion in Chapter 9.3.

Figure 12: View to the Korakies Hill from the area of the tholoi.

an altitude of 16° to 17° at the peaks and generally more than 14° for an azimuthal arc of 40° due east.[31]

The summit is located centrally in the area in two respects. First, seen from a bird's eye view, the summit lies centrally, as the settlement expands on the slopes around it. To the north and west, the steep slope that continues until the level of the EM tholoi shows a densely built area with remains that mostly survive to some centimetres above the bedrock.[32]

The second level of centrality is topographical, as previously indicated, and becomes further evident upon closer examination of paths and movement within the area. Due to the cliff to the south, any route connecting the western and eastern parts of the settlement must pass through the narrow passage between the two summits, approximately 50 m. apart. This "bottleneck" begins 25 m. from the southern summit (P2) and is

31 These observations are based on measurements done using a total station combined with a 3D model of the site produced with a drone and georeferenced in a GIS programme. The angles were also separately measured with the clinometer. See Ayash 2023, 144–146; Figs. 2, 3.

32 This situation seems to repeat in the northern slope, albeit still no trenches have been opened yet.

less than 10 m. wide, and directs the walker past the southern portion of the 'sanctuary' complex. At the same time, the central summit (P1) provides an optimal view of the Messara plain and the settlement itself. To the north, visibility extends beyond Gortyn, located 10 km. away, reaching the Dikti (Dhikti) mountains, with the entirety of Mount Psiloritis in view. Towards the west, the view of the Messara plain is obstructed by the mountain ridge rising west of the villages of Vassiliki and Kandhila (a ridge that meets the Messara at Porti). To the northeast the view is blocked by the rising Asterousia south of Fournofarango. The angle of the direct line of sight to the Messara (from both 'sanctuary' and Messara front) is 100 degrees and allows for observing an area of ca. 110 km^2.[33]

Access to the 'sanctuary' area can, therefore, be regarded as the most crucial part of the settlement, at least from the perspectives of strategic and symbolic use. Any analysis of the 'sanctuary' must thus consider its relationship with both the broader area as well as the rest of the settlement in which it is located, as the building complex cannot be seen as existing in isolation. As already observed during the first campaigns, there is a SW-NE orientation in many of the buildings, both in the 'sanctuary' as well as in the rest of the main plateau – though the grid of the buildings within the 'sanctuary' area seems to be self-contained – indicating a common plan, based on a grid at least for the LM period.[34] However, contrary to the assumptions of early excavators, the area of the summit does not include any secure connection to the EM period, at least based on the finds thus far, with an overlap seen for the Protopalatial period, the last phase of the tholoi and the first documented on the settlement, including the 'sanctuary' area.[35] The Protopalatial activity on the hill could be seen in relation to the nucleation processes observed in the Asterousia region during the MM period, which resulted in a gradual regression in settlements and, therefore, in the strengthening of some areas that assumed the role of a main settlement.[36]

Before proceeding further, it is important to provide an overview of the history of research conducted at the site.

33 Analytically discussed in Chapters 5.4, 9.2, and Figures 45, 46 and 81. The calculations have been made with the open source QGIS, Hannover edition, and using the DEM model.

34 This was observed even in the first Report of 2012 (Panagiotopoulos 2012b, 88; 2012a, 207) and has been confirmed since due to new finds, that allow for more precise documentation. See Panagiotopoulos 2019b, 455; also discussion on pages 169, 187.

35 See Chapter 3.2.1.

36 Vasilakis – Sbonias 2018, 280.

1.2 Previous Archaeological Research in Koumasa

1.2.1 First Excavations Under Xanthoudides

The first mention – and indeed the first archaeological examination – of the Koumasa site was made by S. Xanthoudides. In the first preliminary report of 1905 in the Panathinaia magazine regarding the excavation of the Koumasa tombs, which took place in December 1904, Xanthoudides mentioned that, due to the number of human remains, it is to be deduced that the tombs belong to a densely populated settlement.[37] He further based this argument on the fact that in the adjacent area, many buildings' remains and retaining walls are visible. As a closing remark, he emphasised that the presence of antiquities in this area was hitherto unknown until he discovered the area in 1904 and expressed his certainty about the presence of a Protominoan town.[38] This preliminary report was made before any excavation on the hill itself began.

The brief 1906 report of the first excavation atop the hill in late 1905 describes the Koumasa summit for the first time as "the community sanctuary" at the western part of the hilltop.[39] It is briefly described as having many rooms, of which the most important was covered with slabs and with a column-supported roof.[40] Although not directly mentioned, it seems Xanthoudides also excavated in the area of the magazines, as observed by Kanta – Karetsou.[41]

The results of the Koumasa excavations are primarily included in the second chapter of his monograph "The Vaulted Tombs of Messara".[42] As in the case above, the settlement of the hill is dealt with superficially, and with contradictory statements and uncertainties. The first of these is in the very first paragraph, where it is stated that the two-peaked hill (Peaks 1 and 2, as Peak 3 is not actively perceived from the tholoi area) of the settlements lies 100 m. south, when in actuality the peak is due east.[43] Although this inaccuracy might be due to the translations and the indirect way the book was written, it is indicative of the attention the settlement receives. In the fifty pages of the Koumasa chapter, the settlement occupies only three paragraphs spread over the last two pages.

---

37 "Οἱ τάφοι ἀνῆκον εἰς συνοικισμὸν πολυπληθῆ ἢ πόλιν πολυάνθρωπον" (Xanthoudides 1905, 215).

38 Xanthoudides 1905, 215.

39 ἱερὸν τοῦ συνοικισμοῦ, Xanthoudides 1906, 32. Although the notion that the summit lies on the western side of the Koumasa summit is correct, the cardinal points mentioned should not be taken at face value, as Xanthoudides' orientation is generally erroneous (see below).

40 "Τὸ ἱερὸν συνίστατο ἐκ πλειόνων μικρῶν διαμερισμάτων. ἓν τούτων, τό ἐπισημώτερον ἦτο πλακόστρωτον, καὶ ἡ στέγη αὐτοῦ ὑπεβαστάζετο ὑπὸ κίονος, οὗ σώζεται κατὰ χώραν ἡ λιθίνη βάσις" (Xanthoudides 1906, 32).

41 Kanta – Karetsou 1991, 35.

42 Xanthoudides 1924, 3–50.

43 Another instance of inaccuracy is related to the orientation of the tholoi, which was reported to be due east, although the Tholoi B and E are due NE (Panagiotopoulos 2015a, 938; Ayash 2023, 139).

In some investigatory digs, which he called "trial excavations", he recognised the finds as mostly dating to MM and some to LM. The most important movable finds appear in Plate 33, for which however no context is mentioned. The finds in the room with a column were described in the 1906 report, including a steatite object that he characterises an offering table, and a stone object, described as a baetyl. Regarding the immovable finds, very little of the architecture is discussed. He mentions slabs as "carefully dressed stones".

As per the chronology, Xanthoudides assumed initially that the EM tombs belong to the settlement above the hill, as mentioned above. In the 1906 report, he had initially argued that the buildings on the settlement belonged to the EM period.[44] This was revisited in the 1924 publication, where he stated, "my exploration of the settlement was not complete, and I cannot affirm that there were not EM buildings, too, under the foundations of the later houses".[45] These statements form a picture of a rather hasty excavation, aiming to prove EM traces in the settlement, and being rather dismissive of the smaller MM and LM sherds, that were disregarded there (as the modern excavations have shown). It is, however, to be noted that – as in the case of the half-excavated Tholos B – it seems that Xanthoudides operated within some time constraints.[46]

These factors can be attested in the discoveries of the modern excavation campaigns; on the slopes of the hill within the 'sanctuary' area, debris was found containing a mixture of many sherds belonging to various epochs, while on the top of the hill in many places bedrock was reached with little to no finds. This interruption of the excavation site at the top of the hill needs to be addressed when discussing the small amount of pottery in contrast with the areas of the 'sanctuary' that were previously undisturbed (see Chapter 7.3).

It is to be understood that the assumed settlement extended on the slope of the hill of Korakies and, for Xanthoudides, according to established ideas of traditional archaeology, the two peaks and the area east of it constituted an Acropolis. It might be for this reason that stone rows beneath the peaks were interpreted as a part of the fortification.[47] For the 'sanctuary' area, the term "MM Shrine" was used, for which only the finds are catalogued, with no mention of the architecture or buildings, let alone their context.[48]

---

44 Xanthoudides 1906, 32.

45 Xanthoudides 1924, 49.

46 Panagiotopoulos 2015a, 939–940. Beyond the briefly mentioned settlement, similar inaccuracies in the measurements and descriptions are more obvious in the description of the tholoi, where the lack of detail in the description of the archaeological method by Xanthoudides is in clear contrast with his focus on the finds (see Traunmüller 2011–2012, 70).

47 See Footnote 59.

48 The objects from the shrine, for which interpretations of a sacred character were given, are shown separately in Plate 33 (Xanthoudides 1924, 50).

In summary, the views expressed within the first accounts of the area by Xanthoudides are mostly speculative in nature and should not be relied upon, but an interpretation of his idea is worth noting. The main elements on the hill mentioned are the settlement and the 'sanctuary', which he saw as distinctive elements united within a "cyclopean" fortification.[49] In light of the new data, these notions need be revisited. It seems that the settlement was spread across the whole hill of Koumasa, including the south and east slope, which reaches up to the tholoi, as indicated by survey finds of a variety of pottery.[50]

As for Xanthoudides' "cyclopean" wall, it refers either to vanished stones or more likely to the impressive – at least in contrast with the surrounding remains – building elements in the magazine area in the southeast of the settlement. "Cyclopean" is an epithet he used to describe the masonry of the tholoi, indicating elaborate building blocks rather than the LM or LH-specific building technique we refer to by this name today.

1.2.2 Accessibility of the First Excavation Data

Another difficulty for the interpretation of these short and sometimes vague statements arises from the fact that the diary of the excavation has been lost. One of the only sources of context derives from the inventory of the Herakleion Museum, referring to special areas such as the "corridor of the sanctuary". This terminology has logically been assumed to refer to locations further analysed in the lost diaries of the excavation.[51]

These uncertainties in the excavation itself, and also of its documentation and publication have posed interpretative challenges for the period to follow and also archaeological questions for the recent archaeological investigation of the site.

Lacking the notebooks, one must rely on preliminary reports such as Xanthoudides' entries in the Panathinaia magazine or as the early mention by Körte[52], where a "cyclopean" wall around a settlement is mentioned as surrounding many rectangular houses, each having many rooms and one with a staircase.

Another disruptive factor is the possible reuse of the material from the hill by the local community or passersby.[53] One case was the slabs missing at the beginning of the 2012–13 campaign, which had been documented by Kanta and Karetsou in 1992. This

49 In the 1924 publication, he presents the fortification relating to the summit of the hill where the settlement is located, whereas in his previous short report of 1906 Xanthoudides presented the fortification concerning both summits.

50 For indications of Neopalatial activity on the western slope, see Panagiotopoulos 2022b, 338.

51 Georgoulaki 1990, 12. In the modern excavations, there was an effort to identify the locations of the mentioned areas, but with some uncertainty. However, in some areas the traditional naming such as the "corridor", or even "sanctuary" have been carried forward.

52 Körte 1907.

53 This is a phenomenon which was widespread in the whole region of Asterousia-Messara (Vasilakis – Sbonias 2018, 276) and it is well attested in Koumasa (Branigan 1993, 49; Georgoulaki 1990, 6–8).

can mainly be seen, though, in the prominent example of a now missing column base and the material surrounding it. A reference to a column base in the 'sanctuary' was given both during and after the Xanthoudides excavation.[54] Two photographs of the column base *in situ* were taken in 1909.[55] Most of the slabs, thresholds and even stones on the walls, together with the base, have since vanished. Based on the few remains, rocks and skyline, the original position of where the two photographs were taken and also the initial position of the lost architectural elements, the position of the threshold and base could be approximated.[56] This could very well be the base mentioned because for Xanthoudides, the 'sanctuary' comprises the area around Peak 1, where the photographs were taken. The problem is its location, which is not central and not in the main 'sanctuary' room, as alluded to by Xanthoudides.[57] This seems more likely, as the main 'sanctuary' room (Room 1, as discussed in Chapter 7.2) is rather small, unless Room 3, whose dimensions would allow for a base, was meant.[58] Another possibility however is that this is a second column base that came to light after the end of the excavation, which Xanthoudides therefore did not mention. This assumption would mean that illicit activities took place and that the base mentioned by Xanthoudides has also vanished. Although less likely, this is the only possibility in which the mention of a base in the main 'sanctuary' building is not incorrect. But if the room that Xanthoudides mentioned as the main 'sanctuary' room was the one with the column, then there would be no contradiction. And this is what was assumed by Rutkowski.

The fact of the looting in the area might explain yet another detail from Xanthoudides: "On one of the peaks, where the Acropolis would have been, a section of polygonal or Cyclopean wall is preserved, but there is nothing to show to what precise period it belonged".[59] It is not clear if this is a reference to some of the structures at the foot of the southern peak, for which the term "Cyclopean" would be an exaggeration, or to worked stones surrounding the peak, of which today there is no evidence. However, the same term was used by Xanthoudides to describe the masonry of the tholoi and should be taken there to denote a thick stonewall 1m wide made of small stones, which is rather typical. The accuracy of the localisation or of the epithet, on the other hand, is not obvious.

---

54 Körte 1907, 108; See also Footnote 40.

55 The first photograph was first published by D. Fimmen 1921, and both of them together where first published by Rutkowski (See Rutkowski 1989, Table 5). The negatives are kept in the DAI Athens (photographs D-DAI-ATH-Kreta-0157, D-DAI-ATH-Kreta-0158).

56 For the differences between the modern situation and that in 1909 (also tackled in Rutkowski 1989, 48) and the method for identifying the positions of the lost elements, see discussion in Chapter 7.2.6 and Figures 71–73.

57 Xanthoudides 1906, 32.

58 Room 2, in its widest possible extent, could be around 25–30 m^2. For analysis of the rooms, see Chapter 7.2.

59 Xanthoudides 1924, 49.

1.2.3 Studies in the Area After Xanthoudides

After the end of the excavation, for most of the 20th century, Koumasa was not excavated further, probably because of its remote location.[60] Nevertheless, this abandonment did not reflect the academic community's stance regarding the site. It remained relatively present in archaeological discourse, mainly due to the EM tholoi and – to a lesser extent – to the 'sanctuary'. The summit and later buildings were often regarded by the *communis opinio* to play a role of a sacral nature, but without consensus as to what type. These hypotheses, however, seem to be solely based on the vague evaluation of the preliminary Xanthoudides' reports accompanied by occasional visits and assessment of the hill's architectural remains.

One of the first mentions was in 1907 by R.M. Dawkins, who characterised the area as a pillar crypt, based on the mentioned column base.[61] Another early notion was based on the topography of the region, proposing a peak sanctuary.[62] Often this term was used without scrutiny.[63]

These early opinions influenced many publications, such as that of N. Platon, who, in the 1950s, also mentioned both functions. In 1954, the crypt of Koumasa is briefly mentioned, referencing a column or a pillar; he stresses, however, the lack of additional information.[64] As for the role of peak sanctuary, Platon expresses his belief with certainty in 1951, alluding to the two peaks with one having the settlement and the other the sanctuary.[65] This picture contradicts the fact that Peaks 1 and 2 have a distance of only 50 m. between them, and therefore do not constitute separate locations but rather act as two topographical *loci* to the hill. Furthermore, the 'sanctuary' area is located centrally in the settlement rather than in isolation (Figure 4). Here the lack of observation of the site, in combination with Xanthoudides' vague description – that stressed the topographical criteria he deemed important – led to an inaccurate perception. Regarding the chronology question, Platon sought parallels with the peak sanctuaries of Petsofas and Youktas, following the initial suggestion of MM II for dating some of the finds.[66] Other

60 The only activity involved restricting access to the area and performing restoration activities (Alexiou 1973, 466; Lebesi 1977, 316).

61 Dawkins 1907–8, 457.

62 Rutkowski 1986.

63 Warren 1969, 62. The term is mentioned without further comments during the discussion of the item HM 1017 as a MM I libation table, and thus, the earliest up to that point. (Warren 1969, 63).

64 Ἀτυχῶς δὲν ἔχομεν περισσοτέρας πληροφορίας περὶ τῆς ἐνδιαφερούσης ταύτης κρύπτης. (Platon 1954, 457).

65 Βέβαιος εἶναι ὁ χαρακτὴρ του ὡς ἱεροῦ Κορυφῆς (Platon 1951, 146).

66 Namely, the dating of artefacts in MM II and LM IIIB lets him speculate about a possible MM I open courtroom, as with the other peak sanctuaries mentioned, and also to speak of the rekindling of the cult in the later period (Platon 1951, 146–147).

epithets used for the 'sanctuary' include the terms domestic sanctuary.[67] A further correlation of the whole settlement area only with the area of the 'sanctuary' is made by Faure, who stressed the LM III B date in addition to the MM II.[68]

As an assumed Protopalatial building, it is one of the few cult rooms in a non-palatial context for Gesell. The author regards the previous characterisations critically, and describes the room as a town sanctuary, an idea already brought up by Hood[69] and which goes back to the Xanthoudides report of 1906.[70] Gesell postulated further the possibility that a row of stones in the northern part of the 'sanctuary' could be a bench, thus including Koumasa in the broader bench sanctuary type.[71]

A critical stance on the variety of suggestions and the need for further investigation were put forward by Georgoulaki in 1990. She conducted the first thorough examination of the material finds of the Xanthoudides excavation, many of which were never published, and stressed the need for further archaeological study at the 'sanctuary' and of the material.[72]

As for the site, the first investigation was conducted by Rutkowski in the late 80s and produced some maps of the whole settlement with emphasis on the 'sanctuary'.[73]

Finally, the aforementioned Mycenaean phase and the LM dating influenced later ideas of habitation or the use of the site as a refuge. However, the LM III elements can be seen as part of the reuse of some areas, but with no elements to support the settlement type of refuge, as is understood within the LM III.

1.2.4 The Site in View of Modern Excavations

The next excavation activity on the hill of Koumasa was conducted by Kanta and Karetsou with investigatory digs in the area of the magazines southeast of the 'sanctuary' in 1991 and in the 'sanctuary' area in 1992, near Peak 1. Various finds in the magazines, including plaster, loom weights, stone and ceramic vases indicated the potential of this area which was proven correct in the modern campaign.[74] The works on the 'sanctuary' concentrated on cleaning and then beginning the excavations of the two main rooms (Rooms 1, 2). Red, blue and white-coloured plaster and an abundance of

67 *Knossos IV*, 147: The reference appears during Evans' discussion of the Koumasa snake tube as a primitive type of water pipe (see also Rutkowski 1989, 49). The conclusion is reached based on the fact that the objects identified as cultic of nature were few and concentrated in one room out of a multi-chambered complex.

68 Faure 1967, 125.

69 Hood 1977, 158; 163–164.

70 Xanthoudides 1906, 32.

71 Gesell 1985, 13–14.

72 Georgoulaki 1990, 6.

73 Rutkowski 1989, 48; Rutkowsiki – Nowicki 1990, 114–116; Fig. 4.

74 See Chapter 2.2.

ceramic was found during the initial cleaning. Further investigation was focused on the two main rooms and the area behind them to the east, the first of which was dubbed the corridor[75] – possibly referring to the initial reports of Xanthoudides – and the adjacent area. As the debris showed, it was an area Xanthoudides had already excavated.

Generally, one of the first observations was the existence of a complex beside the main two excavated rooms.[76] The architectural remains were characterised as Neopalatial, with evidence of a Protopalatial phase, as the ceramic of the deepest layers included pottery of the Kamares type and sherds of barbotine vases.[77]

A new interdisciplinary research programme on Minoan Koumasa commenced in 2012 under the auspices of the Greek Archaeological Society and with the cooperation of the University of Heidelberg's Institute of Classical and Byzantine Archaeology. This research programme, the Koumasa Project, is taking place under the direction of D. Panagiotopoulos and aims at the systematic excavation of the tholoi and the settlement. The excavation of the tholoi produced many new finds and anthropological remains, that have added to our understanding of the tholos building culture and their environment.[78] One of the areas of focus so far has been the areas of the magazines and the 'sanctuary' area, expanding to other trenches (see Figure 4). The summit area was excavated further, in and around the main rooms of the 'sanctuary'. Additionally, these excavations showed an extension of the 'sanctuary' complex to the southern side of the summit, which proved rich in finds. In the magazines' area, the long retaining wall has been found to extend to a total length of 27 m., encompassing at least eight rooms of various phases that extend to Protopalatial deposits and have yielded various artefacts. Particularly noteworthy is the standing profile of the retaining wall, boasting a height comparable to a building, reaching up to 3.5 m.[79] making it one of the tallest standing structures within Minoan archaeology. Moreover, ongoing excavation reveals additional walls and rooms, all consistently dating to the later phase of LM I. These structures exhibit a canonical grid pattern that extends across the entire plateau, suggesting the possibility of a single complex or building covering the entire area.[80]

75 Kanta – Karetsou 1992, 86.

76 Kanta – Karetsou 1992, 77.

77 Panagiotopoulos 2015a, 936.

78 E.g. Panagiotopoulos 2022b, 339–340; Panagiotopoulos – Savvatianou 2022, 173–177, See also Footnote 407.

79 Panagiotopoulos 2022b, 324.

80 Panagiotopoulos 2023a, 196.

1.2.5 Evaluation

Although the excavation of the tholoi has been completed, the plot directly to the east of the excavated area will be crucial for determining the extent of the built activity, as well as the relation with the material on the slope of Korakies.[81] As for the settlement plateau, while so far, only a small percentage of the settlement's buildings have been unearthed,[82] the Koumasa hill summit – on which the 'sanctuary' occupies a prominent spot – has been almost completely excavated and therefore the evaluation of the finds and the complex can commence.

Previous proposals that the finds stretch from Protopalatial to the Postpalatial period[83] were confirmed by the modern excavation campaigns, which has brought to light architectural remains, a large quantity of pottery (mainly dating to the range of MM IB/II A to the main phase of LM I, in at least two phases)[84] and finds such as fresco fragments, whose uneven distribution allows for an analytical study that could help determine the purpose or functionality of the rooms. Such an analytical study has yet to be undertaken,[85] so the finds and the remarks on the earlier excavations will be taken into account and re-evaluated.

From an archaeological perspective, the difficulty of assessing the function of the summit stems mainly from two factors. First, the material finds seem to suggest a specific importance of the building(s) on the summit, but with no clear indication regarding the function, or even the precise chronology of its usage, as was confirmed by the modern excavation campaigns. Second, the unclear indications of the campaign of Xanthoudides, and the usage of the slope as a fill of the excavation near the summit posed some difficulties in the modern campaigns.

A secondary focus point of this work is the evaluation of the architectural layout of the site in terms of stratigraphy and building phases, as – even in the excavated areas – this is still far from clear. Such an analysis of the excavation results needs to be done in order for a hypothesis to be formulated regarding the history and the building phases and whether the area constitutes a "complex", as the parallel arrangement of all the walls seems to suggest, or a gathering of independent rooms but under a common, well thought out masterplan.[86] This can be exemplified in the case of the area of the settlement that is almost fully excavated, that of the 'sanctuary'. In Chapters 7 and 8, this area will be described in light of the archaeological data.

---

81 E.g. Panagiotopoulos 2015, 539.

82 See Footnote 88.

83 Georgoulaki 1990, 12–21.

84 Panagiotopoulos 2024, 450–452.

85 The portable finds of the Xanthoudides excavations from the main rooms of the so-called 'sanctuary' have been studied, but without taking into account the pottery. They are also lacking precise contextual description due to the state of the first excavations' documentation.

86 See Footnote 80.

In Part III (Chapters 7, 8) the area of the ongoing excavation will be analysed based on the archaeological data and also within a topographical framework, in an effort to contextualise the insights of the excavation.

In Chapter 1 an overview of the site and the details of the history of research were presented. In the following Chapter 2, a diachronic overview will be presented, assuming a wider view of the area of Messara and Asterousia in the hope of illustrating the role of Koumasa in the tapestry of activities in which it is situated.

2 Summary of the "Political" Systems and Correlation with the Finds from the Area of Koumasa

In this chapter, a summary of the various political systems that have influenced the region of Koumasa will be provided, each impacting it in different ways as the area transitions, or rather oscillates, between periods of centrality and obscurity.

This is not intended as an exhaustive history of the region, but rather the aim is to contextualise the island's history, with a specific focus on the area of Koumasa.[87] For each period, the examination delves into Koumasa's material affluence as formed by its unique topographical characteristics and how these manifest in archaeological finds. Although the excavation is ongoing, with around a quarter of the excavated area of the settlement plateau unearthed so far, preliminary opinions can be formed on the basis of the these finds.[88]

This can be seen within investigations of island-wide settlement changes that have been undertaken within the research, here seen from the point of view of Koumasa.[89] To generalise upon the position of Gragson et al, it is not only one human activity, but the potential intertwining of pastoralism, agriculture and specific location between the ever-changing *needed*[90] networks that are "enmeshed in a complex interaction between broad-scale drivers, local resources, institutions, and individual agency",[91] thus affording the otherwise "static" topographical background a certain agency throughout the regional Anthropocene. A palimpsest which gets reused, as per the needs defined by the regional historical phases. Studies of transitions in land-use indicate that these changes are driven by exogenous innovations which originate outside the boundaries

87 It should be stressed that one element which will not be explicitly examined is the matter of precise chronology, as the nuances of the broader subject of Aegean chronology are beyond the scope of this work (see Manning 1995 for an introduction to the subject).

88 The percentage of the settlement area excavated is 1,420 m² (including the area of bedrock, which exceeds 200 m²), of a total of 6,300 m² comprising the whole settlement plateau; the excavated area corresponds to 22% of the total area.

89 Pollard 2022. See Ghilardi et al. 2019 for a diachronic analysis of a certain region, that of Phaistos and the western Messara. On using a diachronic approach as a means of a holistic understanding of a region, specifically the Sphakia region, as well as the "predisposition of a landscape", see Nixon 2006, 60–88, 109–116.

90 As opposed to *available* communication networks that are specified by the positions of the settlement and the terrain and that can be determined by application of DEM methodologies, the networks that actually form are those that cover or relate to the broader needs of the given society at a specific time period.

91 Gragson et al. 2020, 2.

Published in: Nasser Bovoleti Ayash: Approaching the Koumasa Settlement as a Case of Dynamic Topography: Internal Functionality and its Role as a Focal Point in the Messara-Asterousia Region. Heidelberg: Propylaeum, 2025. DOI: https://doi.org/10.11588/propylaeum.1573

of the local system.[92] The stark variation of relevancy is associated with the various phases of socioeconomic interdependencies that made use of the same landscape in different ways.

These phases will be examined with a particular focus on the development of network connectivity that commenced at the latest during the EM period and assigned Koumasa a central role, a phenomenon that reached its zenith in the palatial periods.[93] A local identity as seen in the distribution and context of the EM graves gives way to an era of Phaistian cultural domination in the region during the time that coincides with the first phase of the building programme on the Korakies hill. This is followed by the so-called Knossian (LM I) phase, that covers the establishment of most built structures on the hill. After all, built space can be viewed as an expression of many aspects of social and political organisation in which the building activity takes place.[94] Hence, examining the developments in the area in the EM period, and then the nature of this assumed Phaistian and later Knossian cultural dominion and to what extent it also constitutes a political one, is of great interest. It not only concerns agricultural control and the pathways to the harbours in the south explored in this work but also the Kophinas sanctuary and, ultimately, the choice of the Korakies hill as a settlement location; at a second level, it influences the portrayal and message the built environment tries to convey.

Given the central theme of this work, which explores the enduring utilisation of the same environment throughout shifts in cultural activity, the concise historical overview – while assessing the role of Koumasa within this context – will encompass all periods of habitation on the hill as indicated by the archaeological record. This extends beyond the Neopalatial period to encompass the LM III, Graeco-Roman, and Early Byzantine eras.

2.1 Prepalatial Period

Hypotheses on the settlement history in the region during the Prehistoric era are numerous, including but not limited to Relaki, Alexiou and Warren, Watrous, Tomkins, Nowicki, Vasilakis – Sbonias.[95] The information these theories are built upon is, unfortunately, based mainly on funerary evidence, gathered mostly from surveys and salvage

92 Lambin – Meyfroidt 2010.

93 Within the scope of the historical overview, the chronological system of Pre-, Proto-, and Neopalatial periods are used as traditional terminology, without commenting more than necessary on the modern understanding and revisions regarding the applicability of this terminology. See discussion in Panagiotopoulos 2021, 37–43.

94 Letesson – Knappet 2017, 5–6.

95 Watrous 1994; Relaki 2004; Alexiou – Warren 2004; Tomkins 2008; Legarra Herraro 2014, 35–64; Nowicki 2014a; 2018; Vasilakis – Sbonias 2018; Todaro 2023.

excavations, as discussed in Chapter 3.1.[96] The archaeological evidence of the tholoi, along with its apparent topographical isolation, has led earlier researchers to perceive the regions of Messara and Asterousia as a continuum of shared cultural homogeneity, suggesting an expression of common social structures.[97] However, viewing short-term processes and re-examining the region in smaller, overlapping units of varying scales offers a more nuanced approach that illuminates divergent regional dynamics and approaches.[98]

2.1.1 FN–EM I

In the Asterousia, the earlier phases of likely habitation seem to extend to the later phase of the Neolithic period, with a pastoralist character, as evidence from Ayiofarango or the Miamou cave suggests.[99]

FN presence is scarce, but nevertheless evident in the mountainous regions in strongholds, such as have recently been documented based on the surveys conducted by Nowicki.[100] New settlements appear in the FN II–EM I in defensible positions along the coastal region of the Asterousia, as well as the northern side of the Asterousia and some evidence from the Messara proper.[101] They mostly show a single deposition phase, as after this period, these sites are abandoned. The pottery yield of those sites, most of which – with the exception of Phaistos and (to a lesser extend) the Gortyn Akropolis – are surveyed rather than excavated, is rather poor.[102] EM I proves to be similar to FN, as it covers the same locations as before and favours similar settling pattern on hilltops. However, in the Asterousia, distinct EM I sites are less known.[103] For this reason, the common chronology used by Nowicki as FN II–EM I is here followed. In general, it is argued that the Asterousia region appropriated elements adapted to social practices pre-existing in the Messara, but deviated in the funerary practices, as the role of the

96 See page 71ff.

97 Manning 1995, 104–18; Sbonias 1999; Relaki 2004, 170–171.

98 Relaki 2004, 171.

99 Taramelli dates the finds to the Late Neolithic or very early Bronze Age (Taramelli 1897, 308–309), with Blackman and Branigan preferring the Late Neolithic dating. A presence in the area is assumed for the mid-4th millennium (Blackman – Branigan 1977, 66–67). However, a survey conducted in 2015 in the area of Miamou-Porti did not produce Neolithic finds, such as those located in the cave of Miamou. In contrast to EM finds, the evidence securely dated to the Neolithic is scant (Vasilakis et al. 2019, 16). See also Tomkins 2012, 66–69.

100 Nowicki 2018, 8–9; 29–39.

101 The three possible FN–EM I settlements on the edges of the semi-circle over which Koumasa presides are discussed in Chapter 9.2.2 (see Figure 86).

102 Relaki 2004, 176–177; Nowicki 2018, 9.

103 Relaki 2004, 177–179.

tholoi indicate, leading to a distinction between the plain and the Asterousia, which Relaki calls two sub-regions.[104]

The tholoi, to us the defining architecture of the period, have been shown to have different chronologies. In the valley, the appearance of the tholoi seems to be in EM II,[105] while the presence of the Ieroditis tomb – which is not a tholos – has been used as an argument for a presence of a different tradition in the western Messara before the arrival of the tholos tradition.[106] In contrast, in the Asterousia the tholoi can be dated to EM I which acts in favour for assigning the origin of this tradition along the southern coastline. For some of them, the existence of FN foundations has been argued for.[107] Even if not the case, building tholoi in the vicinity of FN sites is an observed trend, verified by new observations, as seen in the case of Salamias and Ayios Ioannis discussed below.[108] This tendency can be found even at the eastern extension of this coastline, at Livari in eastern Crete.[109] Further data – such the dispersion of certain types of pottery as well the pattern of settlements – show similarities with other coastal areas of Crete, arguing for the importance of the sea connections at the dawn of the EM era.[110]

The archaeological evidence available for the EM Koumasa area is mainly of the funerary type, namely the area of the three tholos structures at the base of the hill and their annexes, with a dated main use ranging from EM II to MM II. Tholoi E and B were built in EM II, with a possible earlier use of the area where Tholos B was built.[111] The earliest elements, namely Tholos A and the adjacent ossuary, have been confirmed by the current excavation with an EM I dating for Tholos A, and the deepest layer of the ossuary produced pottery dating to EM IA or FN, thus belonging to the earliest phase of the Koumasa cemetery.[112]

2.1.2 EM II–MM I

With the shepherds' presence at the foot of the Asterousia seemingly starting at the end of the Neolithic, Branigan argues for an *egalitarian* society in EM II, until the popula-

104 Relaki 2004, 179–180.

105 Branigan 1993, 13.

106 Relaki 2004, 178; Another, rather unlikely suggestion made is that the two burial types indicate differentiation in social status (Watrous et al. 1993, 226).

107 Vasilakis 1989–90. The case for this has been contested however, arguing for the mere vicinity of these EM I structures near the FN ones (Relaki 2004, 179).

108 See the consideration of dealing with the FN II to EM I within the same time reference above.

109 Used in EM IB to EM III, after Papadatos – Sofianou 2012, 51–52; no. 426 in Legarra Herraro 2014, 285.

110 See discussion on page 307ff.

111 Panagiotopoulos 2016, 562–563.

112 Panagiotopoulos 2018, 489. The analysis of the chronological phases in light of the finds of the recent excavations will be holistically presented in the future by Diamantis Panagiotopoulos.

tion starts expanding its radius of activity and eventually leading to settlements.[113] This expansion, and the reason behind it are linked with the theoretical studies that will be portrayed below. The term *egalitarian,* however, remains vague and difficult to interpret as applicable to the time and its people. As other data from the Asterousia and the Messara suggests, it could mean a larger role for a heterarchical structure, alluding to horizontal relations without excluding the idea of hierarchy.[114] The role of international trade, evident amongst other things from the obsidian cores in a Neolithic context at Phaistos,[115] can be considered to play a role in the formation of local traditions.[116]

The nucleation observed in the early stages at Phaistos, as noted by Branigan, was considered to prelude similar developments in the mountainous regions. This phenomenon was interpreted as a consequence of the valley's more suitable affordances.[117] The climatic criteria described in Chapter 3.4 may be seen as one reason for this development. Some have argued that this nucleation was an element of an emerging egalitarian organisational structure.[118] The appearance of areas with two or three tholoi are indicators of the growth of some settlements and for the emergence of inner sociological factors.[119]

In the EM II, the dwellings in the western Asterousia become generally more visible, in locations demarcated by possibly defensive walls.[120] This defensible aspect is seen in the central Asterousia as well, as at Trypiti.[121] The tholoi receive architectural formalisation and boundaries, with the addition of antechambers and paved areas, emphasising the activity outside the tholoi. Notably, many of them, including in the region of the central Messara, do not produce finds by the end of EM II or in the EM III.[122] Concerning the region of Koumasa: Tholos E at Koumasa,[123] Ayia Eirini E, Salame and

113 Branigan 1985, 61.

114 Legarra Herrero 2011, 325–342.

115 Vagnetti 1972–73, 92.

116 Vagnetti 1972–73, 131–134.

117 Branigan 1993, 114–15. On the non-linear but rather oscillating nature of the nucleation in Prepalatial and Protopalatial Phaistos, see Todaro 2023.

118 Relaki 2004, 180.

119 As Sbonias notes, a second tholos does not indicate a doubling of population, or rather, it is not necessarily linked with capacity issues but could denote a certain need for segregation or expression of status. In any case, an increase in the local population can be hinted at by the presence of a second or even a third tholos (Sbonias 1999, 27).

120 Blackman – Branigan 1977, 39–47.

121 See discussion on pages 242ff., 301ff.

122 This hiatus is frequently associated with cleaning activities in the cemeteries, which do not necessarily indicate a cessation of activity, but rather suggest changing patterns in funerary practices (Branigan 1970, 107–109).

123 On later finds in front of Tholos E, see Panagiotopoulos 2024, 224.

Koutsokera all seem to have discontinued use by then. To those, Drakones, Porti and Christos could be added.[124] This tendency is also observed in the western Messara.[125]

This lack of knowledge about this period in the region can be attributed to several factors. First, in addition to the evidence gap in the aforementioned cemeteries, the absence of east Cretan wares, which were instrumental in identifying this period in other parts of the island, is notable in the Messara region.[126] Additionally, there have been suggestions of misdated evidence,[127] as the gap in the funerary record makes the clear distinction of phases a challenging task. Instead, it hints at a transitional period between EM II and early EM III on the one hand, and late EM III and MM IA on the other.[128]

Within the EM II period, the grave goods increase in variety, indicating the establishment of connections with locations outside the island. Although the imports begin appearing in the EM I, it is in the EM II that they take hold.[129] Koumasa belongs to the rather few places that exhibit a possibility of EM I dating for many types of foreign goods.[130] At the same time, local variations appear. The characteristics of various locally created artifacts show a differentiation between the tholoi centres, such as Koumasa, Platanos or Ayia Triada. The presence of different variations of similar products can be highly localised, indicating different centres of craftsmen particular to some tholoi.[131] Another explanation is a variation in preferences. Of the various objects it is the seals, that have been seen a measure of regionality and the representation of a certain level of hierarchy.[132] This and other observations have led to the assumption that the spread of the tholos tombs is to be seen not as sign of homogeneity but rather as that of competition.[133] Thus, the extensive discourse on urbanisation and the emergence of a

124 See discussion on page 246.

125 Watrous 1994, 717–753; Relaki 2004, 181; Legarra Herrero 2014, 47. The list for the western Asterousia includes Kaloi Limenes A; B and Lassaia B.

126 Betancourt 1985, 53.

127 Referencing cemeteries in the vicinity of Koumasa, Legarra Herrero (2014, 49) proposed a correction of previously assumed EM III dating as follows: Finds from the cemeteries of Drakones and Porti should rather be dated to MM I, and from Christos to early EM III or even EM IIB.

128 Legarra Herrero 2014, 47–49.

129 This period could be adjusted from EM I to EM IIA when the whole of the island is concerned, as already in EM IB there is a decline in elements of trade with the Cyclades (Legarra Herrero 2011, 340). In any case it is in EM II that foreign goods from the East appear rather suddenly (Colburn 2008, 112). See also: Branigan 1970, 70–79; Branigan 1993, 151.

130 A variety of object types, such as gold, ivory, and imported seals, have a *terminus ante quem* extending back to EM I. Ayia Triada is the other place sharing this tendency (Colburn 2008, 112, Table 1, Fig. 5).

131 The observed differentiations include the metalwork; the types of seals in Platanos; or the preference of the tubular drill for the stone vases in Koumasa (Branigan 1993, 114; Sbonias 2010, 355–358).

132 Sbonias 2010, 350–351.

133 Sbonias 1999, 27–28.

hierarchically structured society during EM II should be approached cautiously.[134] At the same time, the nucleation into centres, spread out into the Messara allows for assuming local spheres of influences.[135] In any case, the significance of the local context remains paramount. When adopting this perspective, it becomes necessary to consider how precisely defined the competing parties or regions might be. This issue will be revisited later, taking into account visibility range as one element of the spheres where Platanos and Koumasa, respectively, exert more influence.

The EM III follows the abandonment of many places in Crete.[136] Concerning the tholoi this is seen by a discontinuity in the usage between EM II and MM IA.[137] A tempting interpretation framework is provided by the discussions of the effects of climate change, as presented below.[138] In this brief summary, we will not delve further into the complexities of EM III in south-central Crete.

In the context of MM I, heterarchical structures exhibit a more pronounced presence during the late Prepalatial period.[139] However, these local networks gradually diminished during the transition into the advanced Protopalatial phase, marked by the expanding dominance of the emerging states, which extend their influence beyond their initial, more confined boundaries.[140] Particularly in the vicinity of the Asterousia Mountains and the central-eastern Messara region, numerous settlements were abandoned, while a select few settlement sites where the population aggregated grew further. Notable examples of these areas include the vicinity of the palaces, and around Platanos and Koumasa.[141]

The MM I period introduces new technologies, and is the traditional date for the appearance of the palaces.[142] It is in this period that the rate of population growth, at least in Knossos, reaches its peak which leads to an assumed general population growth.[143] As for the area of Koumasa, the general trend of furthering the work at cemeteries or establishing new ones is observed. This includes the Annex at Porti, and the establishment of Apesokari and Drakones cemeteries, while on the Asterousia in general and the southern coast, no new tholoi seem to be founded and a minimal building activity in existing ones can be observed.[144] It is therefore an inversion of the roles of mountain

134 Summarised in Watrous 1994, 712–717; Whitelaw 2012.

135 Watrous et al. 2004, 267–268.

136 This tendency is seen as actually beginning in EM IIB (Legarra Herrero 2011, 340).

137 Watrous 1994, 717–720.

138 See discussion on pages 92ff.

139 Sbonias 2010, 359–360.

140 Sbonias 2010, 361.

141 Sbonias 1999, 31.

142 In MM I B (Legarra Herraro 2014, 50).

143 Whitelaw 2012, Figs. 4.12, 4.13.

144 Legarra Herraro 2014, 50.

and valley, as the main field of tholoi-activity. As for Apesokari and Drakones, both are located at the meeting point of the valley with the mountain and both almost symmetrical on the semi-circular expansion of the valley which Koumasa oversees.[145] In a diachronic parallel that may allude to the same strategic needs, the locations of these two coincide with that of the two known periods of habitation activity in the FN–EM I period, at Afentis Christos and Apesokari Vigla and the Kalamaki at Fournofarango, as discussed above.[146]

This seems to concern also Koumasa, which these two locations flank. In the cemetery, the preliminary reports indicate that Tholos A has an EM I dating, with Tholoi E and B following in EM II.[147] Although such an early utilisation of the settlement plateau cannot be excluded, no secure signs of activity in the upper Korakies hill have been reported to date. It should be noted, however, that the hill dominated the area of the EM tholoi below. Thus, even if not actively walked upon or containing built structures, it was at least indirectly – particularly visually – included in the ritual activities taking place there.[148] As for the tholoi themselves, although adapting to the broader tholoi culture, a certain amount of regionality is observed in them. This extends to the finds themselves,[149] as well as the adaptation of architectural characteristics, namely the orientations, to accommodate the needs specified by the local landscape characteristics, a fact perhaps leading to the establishment of local traditions.[150]

Another aspect of the tholoi, namely their distribution within their landscape and particularly regarding their vicinity to water sources, will be presented in Chapter 9.3, especially of those close to Koumasa in the discussion of the Mesoscale.

In the Prepalatial period, mountains were scarcely populated. The need for a Minoan sanctuary arose with the impetus of economic expansion to these mountains in the late Prepalatial Period (EM III–MM I), perhaps in conjunction with fitting climatic conditions.[151] But the peak sanctuaries themselves were in areas free of direct exploitation, such as Atsipades peak sanctuary or Kophinas, where apart from the sanctuary itself no built activity is observed, thus maintaining its symbolic aspect. This aspect of the peak

145 See discussion on page 241.

146 See Footnote 101.

147 Panagiotopoulos 2016, 562–563. For the possibility of an earlier dating for the ossuary, see Footnote 112.

148 The hill's distance impacts the local horizon, as it expands for approximately 160 m. from a point between the three tholoi up to the top of the hill on the northern summit. Viewed from the area of the tholoi, the hill appears to have an altitude of 16° to 17° at the peaks and generally more than 14° for an azimuthal arc of 40° due east, corresponding with the two peaks of the Korakies hill (Ayash 2023). In Tilley's discussion of the landscape as a "spatial text" (Tilley 1993), space can be seen as socially constructed, and therefore the monuments within it led to the creation a new landscape, which is bound to the local landscape characteristics.

149 Branigan 1993, 114.

150 On orientations of the tholoi and particularly that of Tholos E to the summer solstice sunrise, see Ayash 2023.

151 See Chapter 3.4.3.

sanctuaries can be codified as them being places of symbolic expression of the relation to the mountain, which was brought forth during the exploitation of the mountain.[152]

2.2 Protopalatial

As for the growth of centres in and after the MM I, the notable developments in the region concentrate on the establishment of the palace in Phaistos and the founding of Kommos. The formation of a *state* in the Messara region and its specific structure and the balance between palace or elite-centred models has been a subject of great consideration.[153] Nevertheless, the rise of these centres in the west Messara and the proliferation of their material culture in the central Messara, as observed in Koumasa, allows for the usage of the term "Protopalatial" to refer to this period, acknowledging the problematic nature of the term.[154] The local characteristics of pottery and seal practice, allows for an identification of a distinct district of central Crete, centred around Messara, with differences than that of the Knossos-Malia region.[155] The Phaistos palace, with its many building blocks founded in MM IB, appears as a candidate for consolidation of power in this region mainly in MM IIA, when the economic role of the palace seems to rise, with an additional emphasis on the cultic sphere. The latter might also be linked with the end of the tholos tomb tradition and indicates another level of change beyond the economic.[156] Understanding the cultural tendency in the region is vital in understanding the particulars of the local history. This period coincides with the decline of the great number of settlements in the Asterousia[157] as well as in the Messara plain; the nucleation of the population in Phaistos can be understood as a result of the elite's increasing land control pressuring the rural settlements in favour of a select few (as discussed below).[158] One must note, however, that a nucleation process already in EM III, or even earlier, has been argued for.[159] These circumstances would lead to the emergence of peripheral centres, the location of which could be explained by a continuation of a previous usage of the area, a point, which amongst others, might be relevant to Koumasa. There, the abandonment of the area of the tholoi by MM IIA (as seen by

152 Peatfield 1994, 25. See also Chapter 11.4.

153 Watrous et al. 2004, 253–276; Schoep 2010, 116–117; Rethemiotakis – Christakis 2011a, 213–215; Knappett 2012, 389.

154 On the evolution of the understanding of the terms Pre- and Protopalatial, and the radicality – or lack thereof – in the transition between them see Schoep 2012.

155 Anastasiadou 2016, 160–169. On the territorial question, see also Cadogan 2022, 210–212; Driessen 2022.

156 Militello 2012, 266.

157 Sbonias 2012, 273.

158 Watrous et al. 2004, 267–268.

159 Todaro 2023, 21–52.

the latest publication of finds from the area)[160] shows an overlap with the earlier phase of the buildings above the hill.

A series of events in the central Messara in MM II, such as the cessation of wealthy burials in Platanos, the abandonment of the Apesokari tholoi to the Vigles settlement, higher on the hill, and the apparently similar transition or expansion from the Koumasa tholoi to the plateau above the Korakies hill have been interpreted as signals for the expansion of Phaistos.[161] But as the modern excavation shows, this looks like a simplification. Watrous, in his argumentation for Koumasa, used the view of Xanthoudides regarding the *cyclopean* walls of Koumasa, as evidence of defensive activity, which is not the case. Furthermore, the final phase, at least, of the tholoi was used parallel to the earliest known elements of the settlement,[162] showing an expansion of activity rather that the dramatic abandonment of the plain, as in the case of Apesokari. Another perspective, based on the natural sciences, would help in analysing aspects of this *Phaistian* territory (Chapter 10.2).

Regarding the nature of the assumed Protopalatial state, a state-like settlement hierarchy is proposed by Watrous, offering a range of possible factors, but without defining a certain timespan for the developments, although the transitional period from MM IA to MM IB is crucial.[163] A main characteristic is the nucleation process around important centres, well documented for the area of western Messara around Phaistos, where the number of MM IA settlements dropped by 78 percent in comparison to those in EM II, and indicated in other areas to the east, where rural settlements may have been abandoned in favour of larger sites such as Koumasa, Porti, and Marathokephalon at the fringes of the Phaistos region.[164] One of the means for such an evaluation of the decentralised sites is the abandonment of the EM tombs, in all but a few exceptions such as Lebena. In Koumasa, however, the tomb activity, as indicated in the last campaigns, showed some MM material.[165] Although this does not necessarily speak of continuity in the usage, it does, however, fit with the pattern of possible relocation, as it suits the defensibility above the Messara plain.[166] Furthermore, the definitive abandonment of the

160 Panagiotopoulos 2024, 448.

161 Watrous et al. 2004, 286.

162 Panagiotopoulos 2024, 450.

163 Watrous et al. 2004, 261–273. The reasons presented include deterministic approaches, such as the neo-evolutionary theory that correlates the state formation with the growth in the Prepalatial period, and to various levels of social development. This pertains mainly to social competition among elite groups in urban centres. Underlying, in his view, is the political evolution in Egypt between the 6th and the 12th dynasties and the rise of the elite, as seen in the funerary praxis, which, for Watrous seems to be more than just a cultural parallel.

164 Watrous et al. 2004, 253.

165 The latest pottery examples stem from the area outside and between the tholoi and not from their interior, indicating a different ritual approach and perhaps a usage that extends beyond that of the funerary one. For the dating of finds (see Panagiotopoulos 2023b).

166 Watrous et al. 2004, 255.

tholoi in the direct vicinity of a flourishing settlement that extends well into Neo- and Postpalatial periods adds another level to the concept, as the lack of even circumstantial finds of those later periods in the area of the now-abandoned tholoi contradicts the idea of natural distribution of sherds in a site, and suggests instead a purposeful avoidance.[167]

The earlier evidence of use of the 'sanctuary' and the settlement plateau atop the Korakies hill, however, as mentioned above, coincides with the finds from the area of tholoi, hence indicating an overlap, at least in the MM II period:

In the tholoi area, the Protopalatial finds originate mostly from the open area of the cemetery and are of less volume in comparison to earlier phases.[168] Evidence of active usage in Tholos B stretches down to MM IIA.[169] As Panagiotopoulos observes, this final secure use coincides with that of Tholos A of Apesokari, but is earlier than the end of Platanos, Porti or Vorou, which continue in MM IIB.[170] It should be noted that much of the Protopalatial evidence in the tholoi stems from the areas in front and between them.[171] These open areas that are found in many tholoi necropoleis are considered as a ritual space that gradually arose over a longer period of time, as a collective nature was suggested for the social structures, even if this might stem only from the type of evidence available and hence might be misleading.[172]

Regarding the settlement, Protopalatial finds indicate "that the settlement must have also had earlier phases that correspond to those of the cemetery",[173] covering a rather extended area.[174]

In general, the Protopalatial features that are found beneath the Neopalatial layout or integrated with it in the settlement appear to involve a significant construction programme. This includes the construction of retaining walls, storage facilities, and other structures. Additionally, there is evidence of establishing more luxurious areas, such as in the vicinity of the 'sanctuary' (see Chapters 7 and 8).

---

167 This phenomenon appears to be attested in Neopalatial settlements on Crete (Panagiotopoulos 2019a, 368).

168 These include vases and fragments of polychrome and barbotine pottery from the Xanthoudides excavation and the modern one, dating to MM IB–MM IIA (Panagiotopoulos 2024, 445–448; Figs. 27.3, 27.4).

169 Some material, including the late phase of the MM IIA period, originates from the inside of Tholos B, as the preliminary reports indicate, suggesting the activities included usage of the tholos down to that period (Panagiotopoulos 2024, 448). The Protopalatial finds produced in Tholos B include a Protopalatial seal (Panagiotopoulos 2014, 431), a small structure analogous to MM IA parallels (Panagiotopoulos 2013, 327).

170 Panagiotopoulos 2024, 448–449.

171 Panagiotopoulos 2024, 447.

172 Relaki 2012, 292.

173 Panagiotopoulos 2024, 450.

174 MM I–II pottery was produced in more than one settlement building, such as the magazines building with more than one Protopalatial phases (Panagiotopoulos 2012a, 198–200; 2013, 315; 2014, 425–6; 2014, Figure 2; 2023b, 300–308) or in the rooms of trench 16, north of the magazines (Panagiotopoulos 2023b, 311–313) whereas in the 'sanctuary' – the area on the summit with optical view of the tholoi – Protopalatial pottery also was found, some of which dated to MM II (Panagiotopoulos 2014, 428; 2018, 488; 2019b, 450). See Panagiotopoulos 2024, 450–452, Fig. 27.7.

This gradually unfolding story from Koumasa seems to fit with similar processes of nucleation in the early MM that were also observed in other parts of the Asterousia region, although mostly documented for its western part, where after MM III a rapid decline was observed.[175] It is to be noted that few extensive surveys have been carried out so far in the Asterousia.[176] However, the extent of a state might not be considered as a given. Knappett refers to the uncertainty of any existence of such a state and that, in case it existed, it should be seen as temporary and ultimately failing. The data for the chronology of the assumed Phaistian state or Phaistian sphere of influence, for which the traditional name *state* is here used, seem to concentrate on MM IIB, i.e., late Protopalatial. This is much later than the traditional dating of Protopalatial institutions in MM IB[177] (when the palace was founded, but not necessarily its territory, as the surplus management systems may not have been established yet).

This sphere of influence need not in all cases be top-down in type, or politico-economic in nature. Sbonias, drawing on evidence for the manufacture and trade of seals and other objects, argues for a collection of interacting localities for the MM I and of a possible transition towards an overreaching territory after the MM II, where Phaistos could be involved in the management of large-scale agricultural surpluses.[178] But again, it might not have acted as an inducer of transformation in all social aspects, for example, in the tradition of sealing practice continues, albeit with adaptations to the new era.[179]

As for the relation of the centres with their periphery, it has been argued that it is political and ideological in nature,[180] following Knappett's term. This influence would nevertheless lead to similarities in materials and objects.

Regardless of the nature of such a state and its longevity or form of domination, its reach was wide and extends in and beyond the Messara as seen in the material culture of Monastiraki and Apodhoulou to the north, which is linked with the Phaistian tradition, but also to an even lesser extent to the east, to Apesokari and Koumasa, which is why this particular part of the academic discourse regarding Phaistos is relevant here. In Apodhoulou, the ceramic finds included Phaistian imports as well as a great number of local productions imitating other places, although mainly Phaistos.[181] Furthermore, the alignment expands in the phases of the three areas of Apodhoulou, Monastiraki,

175 Vasilakis – Sbonias 2018, 280–281. An example is around the area of Moni Odigitria where all settlements but two ceased to be used, and the burial complex went out of use by MM IB. One of the two exceptions was the settlement at Aloniou Kephali which seems to evolve into the main settlement, spanning 1.5 ha. (Branigan – Vasilakis 2010, 18–20; 26–27).

176 See discussion in following chapters.

177 Knappett 2012, 386–389.

178 Such an indication is that after MM II, the local glyptic style is replaced by an overarching palatial style (Sbonias 2012, 285–286).

179 Relaki 2012, 290–291, 314–320.

180 Venieri 2016.

181 Venieri 2016, 193.

Phaistos, namely MM IA, the beginning of MM IB, and the end MM IB.[182] A discussion of distances and the insight GIS offers for the relationship between these regions will be presented in Chapter 5, showing that Koumasa is not further than Monastiraki, in terms of path cost.

Koumasa belongs to the settlement type with EM and MM sites beneath LM ones, belonging thus to the third type of EM settlement as discussed by Legarra Herrero.[183] He noticed that the deposits are usually insufficient to provide a fuller picture. Furthermore, there is a lack of clear correlations between settlements and their cemeteries, as there is no extensive excavated material to allow an assessment of a Pre- or Protopalatial settlement in relation to a cemetery.[184] In both respects, the Koumasa excavation adds to this discussion, as the Protopalatial substratum beneath the Neopalatial level seems to allow for the formation of a coherent narrative, as future publications within the Koumasa Project will demonstrate.

2.3 Neopalatial

The transition of MM III to LM I centres decrease, both in their number as well as in their size. In the western Asterousia, at Ayiofarango a particularly sharp drop was observed.[185] This does not in itself mean a population drop, but perhaps rather relocation that Watrous associates with the LM IA earthquake destruction horizon. In fact, LM IB sees a rise in the settlement density, often in new areas.[186] The population density seen in Phaistos seems to rise, which could explain the abandonment of peripheral sites discussed above,[187] but it also is a phenomenon engulfing the greater area of western Messara.[188] The local nobility, or at least a group that lived in the outskirts or on the edges of palatial power, seem to benefit from a regional shift of power in LM IA. This includes those living at imposing *cyclopean* rural villas, such as Kouses, Kalamaki, Plakoures and Kannia, all indicating a local land-owing aristocracy. The urban Building X in Kommos and the Ayia Triada villa seems to belong to this change also. At the end of LM IA some areas, such as Plakoures, Kouses and Selli are abandoned,[189] a fact

182 Venieri 2016, 191–192. Further connections and the expanse of art styles will be discussed in Chapter 10.

183 Legarra Herrero 2014, 26.

184 Legarra Herrero (2014, 27) gives the examples of Trypiti and Ayia Triada as false positives, i.e. cemeteries that seemed to produce material of the same period, but it seems that the settlement was not in use when the tholoi were built.

185 Watrous et al. 2004, 291–295.

186 Watrous et al. 2004, 296–297; Mandalaki 2011.

187 Whitelaw 2011, Table 4.2.

188 Whitelaw 2011, Table 4.4, Fig. 4.17.

189 Watrous et al. 2004, 295–298.

associated with the expansion of Knossos in the area.[190] Ayia Triada seems to have become the centre of residence under the Knossian influence after the decline of the Phaistos Palace.[191] The eastern Messara showed early Knossian influence, perhaps due to its connection with the Pediada-valley (Pedhiada), through which the contact with the north was facilitated.[192] A population rate drop can be seen at the end of this period, however.[193]

In LM IA, the transition of the Messara to the dominion of Knossos is accompanied by the expansion of the Knossian style to rural areas.[194] The *palatialisation,* i.e. the process of emulating palace forms, is a characteristic of the LM IA period but decline through LM IB.[195] In the Messara region these include locations in the western part, such as main cities like Kommos and buildings of the villa type in Pitsidia.[196] The Gazeteer of Neopalatial sites by Driessen and Macdonald include eight sites in the western Messara, while the central Messara and Asterousia, aside from the mention of the peak sanctuary of Kophinas, appears empty, with the next LM occupation appearing outside of this area, such as around Chondros Viannou in the east and Prinias to the north of Messara.[197] Since the publication of this Gazetteer more than 20 years ago, there has been an expansion in our knowledge, including the sites of Skinias to the east of Asterousia, Koumasa, and Dhamantri in a central position of the Messara, as explained in Chapter 3. The later, being in the valley directly by Anapodaris (Anapodharis), indicates a relative level of peace and security.[198] The habitation along the Anapodaris and in the central-eastern Asterousia can be evaluated mostly on the base of chance finds, as will be presented below.[199]

After this period, the decline in LM IB is also implied by studies of population levels, and seen in the evidence for restricted cultivation.[200]

Traditionally, the assumption of a decline in settlement activity was assumed for the Asterousia coast after the Prepalatial period.[201] The record of Minoan finds in Egypt,

190 Watrous 2007, 103.

191 La Rosa 2010, 499.

192 Wiener 2007, 233; Warren 2004, 164.

193 Whitelaw 2012, Figure 4.12, 4.13.

194 Watrous 2004, 448; Wiener 2007, 234; Shaw 2009, 169.

195 McEnroe 2010, 99.

196 For Pitsidia Villa see an introduction in Adlung 2020, 71–74, Fig. 23.

197 Driessen – Macdonald 1997, 120–258.

198 Wiener 2007, 234.

199 See discussion on page 71ff.

200 Whitelaw 2012, Figs. 4.12, 4.13.

201 Vasilakis – Sbonias 2018, 10. As discussed above, unfortunately, the Asterousia harbours have not been holistically approached but rather locally studied within excavations or surveys; for example, the Anapodaris river meeting the sea or the western Messara seems to remain an active region.

a source which has to be approached with care, shows a gap in the evidence found between MM III and LM IA, which then picks again in LM IB.[202] To what extent could this be considered in relation with the use of harbours for these connections and to an extent with building activity, such as in Koumasa, for which a connection to some of these harbours (Trypiti, Salamias and Ayios Ioannis) is assumed?[203]

Before discussing the areas under study, the situation in the western Asterousia will be briefly presented, as it will put the discussion of the central Asterousia shoreline, discussed in the chapters below, in the right context. The western Asterousia has been analysed to a greater degree than the shoreline of the central Asterousia, particularly the area from the cape of Timios Stavros to Trypiti, for which the work of Vasilakis is inciting. The later was carrying on the work of the systematic survey by the University of Bristol that stretched from Ayiofarango towards the Lassaia region in 1971,[204] which was followed by a smaller scale one in 1975.[205] Further small-scale examinations include the ten-day excavation in Martsalos of a 150 m^2. coastal building, the inner wall surface of which carried plaster traces of good quality, with stripes in white, blue and red colours. The finds include Phaistian ceramics of good quality, dated to MM II B. Nearby by the coast, stones seemed to Vasilakis to be a marker of a harbour, which remained unstudied.[206] As will be presented below (Chapter 3.4.1), any structures by the "Minoan shoreline" in the region will be encroached on by the sea. So, in essence, the Martsalos building, alongside the Hadjidaki mapping of the Ayios Ioannis harbour, are the only efforts concerning clearly Minoan harbour buildings on the westernand central side of the Asterousia shoreline. Alongside these is what one sees in Salamias (see Chapter 11.3).

It appears that a new phase of growth occurred during the Proto- and Neo-palatial periods, likely linked to maritime connections along the southern coastline. Consequently, Moody's earlier hypothesis (see Chapter 3.4.3) of the gradual abandonment of the Asterousia region during the Protopalatial period and beyond should be reevaluated, as there seem to be differing developments between the interior and coastal regions of the Asterousia.

The general degree of homogeneity of LM architecture, that appears also in rural areas, indicate an element of external influence, at least in the need for experienced builders and artisans.[207]

---

202 Manning 1995, 221.

203 Beside the obvious care that such "intellectual gymnastics" require, the political situation and the changes prior to the beginning of the 18th Dynasty, whose start is assumed to correspond with LM IB (Manning 1995, 220ff.), have to be taken into consideration.

204 Blackman and Branigan 1977.

205 Blackman and Branigan 1975.

206 Vasilakis 1996, 644.

207 Shaw 2009, 169.

2.3.1 Koumasa in LM I

LM I constitutes the main architectural phase of activity at Koumasa. It extends not only on the settlement plateau but also onto the slopes, as evident from surveys and the identification of the LM building on the northern slope of the Korakies hill.[208] The structures on the plateau seem to have been built within a unified masterplan, as the parallel walls would indicate,[209] as well as the uniformity of finds. The increase in the proportion of drinking vessels, as a general phenomenon of the Neopalatial period,[210] is reflected in the finds of this period in Koumasa as well.

The Neopalatial period is characterised by the expansion of the Knossian style. Indeed, the first research interest in the Asterousia lay in determining the routes between Knossos and Phaistos.[211] Koumasa is seen to be very peripheral to the optimal road network.[212] Nevertheless it is in LM I that the main architectonic phase of the settlement is observed. The ceramics dating to this period shows similarities with other southern locations. Such an example is Skinias, a location with ceramic decorations posing similarity to Koumasa.[213] Of the excavated regions of southern Crete, Skinias offers a good parallel to Koumasa, not only due to the type of pottery recovered, but also due to its nodal location in the area, allowing a connection from the Messara to the Inatos region, along the Anapodaris stream.[214]

Here the open question concerning the contradiction between the extensive activity in the region and the evident lack of activity in the tholoi area, needs to be addressed. As mentioned above, while building activity from the LM period has been observed on the slopes of Korakies hill and beyond, there is no evidence of any activity in the now fully excavated region of the tholoi.[215] This is particularly intriguing given that the Protopalatial phase of the settlement aligns with the last phase of use in the tholoi area, suggesting a distinct cut-off point during the course of a seemingly continuous habitation of the area, after which the area of the tholoi is no longer utilised. Panagiotopoulos suggests that this is more than mere chance and proposes that the area was actively avoided.[216] The use of the tholoi was part of performative acts relating to the funerary rituals, designating the space in and around the buildings as heterotopic, distinguishing

208 Figure 4; Panagiotopoulos 2014, 424, Drawing 1.

209 Panagiotopoulos 2023a, 196.

210 Hamilakis – Sherratt 2012, 192.

211 *Knossos II,* 60–61.

212 Déderix 2016, 558–560.

213 Adlung 2020, 111, 163.

214 This region, in contrast to that of Koumasa, retains its strategical role in following time periods, as the city of Praisos in the Classical-Hellenistic period, and later with the Belvedere castle in Venetian times.

215 Panagiotopoulos 2024, 451.

216 See Footnote 167.

the areas of the living from that of the dead.[217] It has been argued that these areas were imbued with a degree of fear towards the liminal transition that death denoted.[218] It is tempting to consider such views were carried on in the LM I phase, after the abandonment of the tholoi.

2.4 Postpalatial

The termination of the main habitation phase marks the end of the large building programme which was followed by *ad-hoc* habitation of a more or less permanent character. The main evidence is scattered pottery in the surface layers in the ongoing excavation. Although the pottery analysis is still ongoing, certain periods are clearly represented. Continuing the analysis in chronological order, the LM III phase is clearly represented with a not insignificant amount of pottery sherds, which were found on the western slope,[219] and also with a certain concentration around the 'sanctuary'.[220] The most characteristic decoration type is red stripes on ochre or light red. Within the wider area of Koumasa, LM III is less well represented. The peak sanctuary of Kophinas witnesses a period of reuse in LM III C.[221] In Koumasa, beside pottery sherds, there are two clay objects of the category of snake tubes found by Xanthoudides in the area of the 'sanctuary', dating to LM III B.[222] It is tempting to assume a ritual significance for the site of the 'sanctuary' in this late period. After all the practice of repurposing earlier Neopalatial structures is quite common in Crete. This trend is particularly seen in places with religious significance, so it is tempting to follow this notion for Koumasa, assuming an important role of the area of the 'sanctuary'.[223] Furthermore the tubes have been considered part of the Postpalatial cult involving the goddess with upraised arms, alluding to open space communal rituals.[224] But this need not be the case, as these tubes are also seen as part of domestic shrines,[225] and the certainty of a cultic significance has been

217 The term was used by as per Foucault – Miskowiec (1986), to discuss the interior of the tholoi, here extended also to the performative area in front of the tholoi. For the implications of the methodological approach of archaeology of the senses in this matter, see also Hamilakis 2002a, 128.

218 Branigan 1970, 111.

219 Panagiotopoulos 2022b, 337.

220 Panagiotopoulos – Savvatianou 2022, 172–173.

221 Chatzi-Vallianou 1990, 429.

222 Published as four items in Xanthoudides 1924, Pl. 33, 5002–05, it seems they form two objects, as seen in Gesell 1976, Fig. 2, left; Fig. 19, middle; see also discussion in Georgoulaki 1989, 19.

223 For a recent summary of these ideas presented in the discussion of the LM III reuse of the building in Kannia, see Cucuzza – Palio 2019. The reuse of the Kophinas sanctuary mentioned above, constitutes an example of this tendency in the vicinity of Koumasa.

224 Peatfield 1994, 31.

225 Gesell 1976, 247.

doubted.[226] Although the dating for this type is inconclusive, the general agreement is LM III. The main *comparanda* from the broader region of Gortyn are 6 tubes from Kannia, which can be dated to LM III B and share a close resemblance.[227]

Those from Kannia are dated, based on their typology, to LM III B and C, although problematically one was located in an LM IB destruction layer.[228] Koumasa 5002–03, with their long form, are similar to the early example from Pyrgos, of LM IB dating, but can be assumed a development of the early form.[229]

In conclusion of the discussion of this period, the preference for remote, difficult to access settlements in the LM III period, dubbed as refuges[230] does not seem applicable for Koumasa, nor it is documented in the surrounding area.[231] It nevertheless can be seen as a fit on the decentralisation tendencies in the mid-late LM III.[232]

2.5 Post-Minoan Periods

The evidence for a presence in Geometric and Classical times in the region around Koumasa can be described as weak. Beside mentions of a Geometric settlement in Trypiti and the late Geometric activity at Kophinas peak,[233] one needs to reach Gortyn or Lebena for evidence predating the Hellenistic period.[234]

The next chronological phases to produce evidence are the Hellenistic and Roman eras. This holds true also for Koumasa, as the ongoing excavation shows a reoccurrence of material evidence only in the Hellenistic period. It is noted that in this time period this region should be seen as part of the wider Gortyn area, with its development denoted by it. For that reason, the brief summary in the following chapter spans the Late Classical, Hellenistic and Roman periods.[235]

---

226 Georgoulaki 1989, 19.

227 Gesell 1976, 251–252. Other comparanda to the Koumasa tubes are found in Ayia Triada (Gesell 1976; Fig. 5); Gournia (Gesell 1976; Fig. 3); Kannia (Gesell 1976; Fig. 6; Fig. 19 right); Pyrgos, Myrtos (Gesell 1976; Fig. 22).

228 Gesell 1976, 255.

229 On this earlier form, see Cadogan 2009.

230 See e.g. Nowicki 1987.

231 Nowicki 2002, Fig. 13. An exception could be the building near the area of the Christos Tholoi (see Footnote 1124 in Chapter 11.1.1).

232 On the settlement patterns and transitions in LM IIIB–IIIC, see Pollard 2023, 114–123.

233 For Kophinas: Platon – Davaras 1961–62, 287; Chatzi-Vallianou 1990, 429. Geometric evidence in Trypiti: Pendlebury et al. 1935, 88.

234 For Lebena and Gortyn, see the Chapters below.

235 For a settlement map of Asterousia in the Hellenistic and Roman times see Sanders 1976, 135; Sporn 2002, Table 3.

2.5.1 Hellenistic and Roman Periods

The main political development concerning the central and western Messara amidst the turbulent political developments and wars of the Hellenistic period is the expansion of Gortyn.[236] Gortyn's access to the western harbours seems to be an early development, as Matalon passed into the possession of Gortyn possibly already from 220 BCE.[237]

Trade centres and Asclepius cult

Despite its vicinity to Gortyn, the region encompassing Koumasa experienced a decline in its role as a central point within the trade network, a fact reflected in the absence of major urban centres in the area. The nearest settlement locations in the Messara, beside Gortyn, are the city of Rhytion to the east and the settlement of Pyranthos to the west, a ca. 25 km. distance in which the existence of small hamlets in strategically located areas is to be expected.[238] Evidence for these are coins, cisterns, scattered pottery and very few architectural elements that indicate a presence, possibly connected with local agriculture, and certainly to be assumed as part of the suburban Gortyn and its hinterland. The elements found in the immediate vicinity of Koumasa include, going from west to east, pottery sherds of Classical/Hellenistic periods found in the western slope of the hill of Afentis Christos,[239] and cisterns in Vagiona, Stavies, Panagia, Sternes and Ayia Photia.[240] Other scattered elements include Greek and Roman coins[241] and the Roman sherds seen by Pendlebury a little east of Fournofarango, north of Vassiliki and at the chapel of Ayios Savas, by the pass towards Trypiti.[242] Finally, at Ayio Sidhero, west of Porti, Roman sherds were seen and the presence of a Roman wall is assumed.[243]

These elements, especially the cisterns, indicate a settlement pattern laid out for maximum efficiency.[244] The urban centres seem to move from the mountain northwards to the valley proper within the Roman period, taking advantage of the political stability,[245] which left the mountain slopes even less urbanised. In this respect, the evaluation of the area of Koumasa as less prominent in this period can be seen as because of its

236 Sanders 1976, 136; Chaniotis 2022, 100–102.

237 Sporn 2002, 208.

238 Sanders 1976, 135.

239 Nowicki 2018, 26.

240 These were connected since their discovery with their agricultural role (see discussion of the 10–12 cisterns in Ayia Fotia in Xanthoudides 1916, 24), an opinion endorsed by Sanders (1976, 135).

241 In Panayia and Sternes, two coins of Gordian III and an earlier Aeginetan turtle were found, and a little east of Fournofarango, a number of Roman coins were seen (Pendlebury et al. 1935, 86; Sanders 1976, 135).

242 Pendlebury et al. 1935, 86–87. See also Chapter 11.1.1.

243 Pendlebury et al. 1935, 88.

244 Sanders 1976, 136.

245 Sanders 1976, 136–137.

vicinity to Gortyn not despite it. Another parameter is the change in trade characteristics, which differ from those in the Minoan period, requiring more stable and easily traversable roads for the use of carts, as well as well-founded harbours due to the volume of goods and associated bureaucratic requirements. This led to the establishment of primary harbour centres in the western part of the Asterousia region, leading to a clear trend that the majority of independent communities in this area are harbours.[246] These include, notably, Matalon, Amyklaion by Kommos,[247] and on the southern shore of the Asterousia, connected to the Messara through the Ayiofarango, Kali Limenes and Lassaia.[248]

The consequence of this transition was a period of economic growth, especially in the western part of the Asterousia, driven by intensified trade activities. This economic activity is noted around Kali Limenes with the presence of shrines, and also includes sites in Martsalos and south Ayiofarango, which attest to this growth.[249] Moreover, at the northern entrance of Ayiofarango, in Ayia Kyriaki, two votive inscriptions dedicated to Asclepius were discovered, dating from the 2nd century BCE; they show the early control of Gortyn and underline the existence of a dedicated cult to Asclepius in this region.[250] In Lassaia a main harbour region is detected, with habitation mainly in the Hellenistic and possibly in the Roman periods.[251] In contrast, Lebena did not function as a main trade node, although the presence of a polis there is indicated already from the 5th century; instead, it appeared to have been associated with a degree of privilege, potentially due to the presence of an Asclepeion.[252] The Asclepeion was considered one of the crucial centres for the cult of Asclepius, supported by both archaeological finds and historical sources. Its mention in the Delphic Theorodochoi Inscription illustrates a wider knowledge of this area, as well as of Lassaia, already in the early Hellenistic period.[253] In the Roman era it is recognised as one of the most significant sanctuaries of Crete, attracting visitors not only from the entire island but also from Libya, as

246 Viviers 1999, 231. For a discussion of harbour communities and their diachronic role in the social upheavals of the regions, see Watrous 2007.

247 As for the identification of Amyklaion with Kommos, see Chaniotis 1996b, 395–396.

248 See Sporn 2002, Table 3.

249 For the Naiskos Temple in Martsalos, see Chatzi-Vallianou 1979, 383. For the altar of the Hellenistic period in Ayiopharango as well as generally on the scattered Hellenistic pottery presence in the region, see Sporn 2002, 194.

250 Sporn 2002, 194.

251 Sporn 2002, 193. Though the acropolis of Lassaia seems to have been abandoned during the Roman period, this does not exclude a continuous use of the region in this period. In fact, as mentioned above, Lassaia is described as a harbour at the end of the 1st century CE (See Footnote 441).

252 Sporn 2002, 187–192.

253 Plassart 1921, 21, 61–62. Mention of Leben and Lassaia in col. IV.1 8; 9, after mentioning Gortyn and before Phaistos. It is to be noted that the dating of this list is controversial and varies in research between the middle of the 3rd century and the middle of the 2nd century BCE (for a summary of this debate, see Cherry – Davis 1991, 14).

suggested by the writings of Philostratus. The cult's prestige was reinforced by mythological references and accounts of miracles associated with Apollonius.[254]

The prevalence of the Asclepius cult was notable in the western Asterousia region, and taking into account another inscription at modern Apesokari, it becomes evident that the western Asterousia and Gortyn collectively contributed to four out of the 16 places in Crete featuring elements of the Asclepius cult.[255] While the representativeness of this percentage is a matter that warrants careful consideration, this representation in an area afflicted with high rate of illicit excavations underscores the significant influence of the cult within that area. This view is strengthened by some chance finds, such as the torso of an Asclepius marble statue from Miamou, that most probably originated in Lebena.[256]

While the Asclepius cult has been traditionally associated with the western part of the mountain, indirect evidence from later times suggests a possible presence in the central Asterousia as well. A dedicatory inscription in the Monastery at Ayios Ioannis, dating to the middle Byzantine period, mentions Asclepius with his ancient attribute, naming him "he who walks beside one in the dream".[257] Bougrat proposed that the part of this inscription mentioning Asclepius might be a copy of a Roman inscription found in Lebena. Not only is the language ancient, demonstrating a knowledge of the attributes of Asclepius, but it also seems to mention two dedicators found in a Roman inscription from Lebena.[258] Another inscription by the same dedicators was also discovered in Lebena, with the same wording as in the Byzantine dedicatory inscription, supporting Bougrat's theory of a copy.[259] Nevertheless, the possibility of an independent inscription in Ayios Ioannis dedicated to Asclepius, and part of another sanctuary for this deity there, cannot be dismissed. If Asclepius was considered an appropriate figure for a dedicatory inscription, perhaps within a syncretistic context, it would make sense to use the same area for establishing the monastery in that place in particular.

---

254 Philostr. vit. Apoll., 4.34; The link with Libya is stressed by the narration of Pausanias (Paus., 2.26), who assumes that the Lebena sanctuary was founded by the Asclepeion at Balagrai in Lybia.

255 Sporn 2002, Table 16. To this list could be added the inconclusive find of a Hellenistic temple north of the court of the palace of Phaistos, that Pernier regarded as dedicated to Apollo or Asclepius. See discussion in Sporn 2002, 197–98.

256 Platon – Davaras 1961–62, 289.

257 Patedakis, 2011, Pl. 13.3 The small letter text sample follows the main dedicatory reference and proceeds further with rules for the monks. The transcription is Ὑ ἀποίοιν νύνκανρος κ(αὶ) σωτοίοις ασκλήπιου | ooίρην σηνωδοιπόρω κατώναρ Patedakis, 2011, 207–208; Pl. 13.3; Bougrat 1982, 150.

258 The Roman inscription is dedicated to Hygeia rather than Asclepius. Οὔλπιοι Νείκανδρος καὶ Σωτήριος Ὑγείᾳ Σωτ[εί]- ρῃ Συνοδοι[πόρ]ῳ κατ' ὄναρ (IC XVII 26, A).

259 []λποιοι Νήνκανρος καὶ Σωτοίοις Ἀσκληπιο ooιρην συνωδοιπόρῳ κατ' ὤναρ (IC I XVII 26, comm). Bougrat discusses the variation in the orthography of the Byzantine inscription, especially the rendering of the name Ulpii, stemming from the lack of recognition of this name, obsolete in the late Middle Ages (Bougrat 1982, 150).

The running water in the area, later attributed with miraculous characteristics in the Post-Byzantine era, might not exclude such a function in antiquity.[260]

Asterousia range

In the search for references to Asterousia in classical antiquity, a starting point is the Kophinas peak and its cult, and the contested references to it. One proposed reference to the peak by Ptolemy can be disregarded.[261] After some use in the late Geometric period, the area was abandoned until the late Hellenistic times, and then an identification with the sanctuary of Zeus Skyllios has been proposed.[262] A possible reference to Skyllios Zeus has been suggested for a graffito with two letters that could be part of Zeus name.[263] The concordance being made is with Skyllios Zeus, a local cult of Rhytion, the closest city to Kophinas, that was already present in Greek times and continued to be honoured after the Roman conquest.[264]

Lactantius narrates the myth, as described by Ennius, that Pan took new-born Zeus to *caeli stela* where he founded an altar to Ouranos and sacrificed first to Zeus.[265] This reference can be translated either as the *column of heaven* or the *star of heaven,* depending on the presence or not of the second letter l in *stel(l)a.* Faure, favouring the reading *stella* assumes Asterousia is meant, as its etymology contains the meaning "star".[266] This view has, however, been contradicted on the base of the name being a crude translation of Asterousia, and on the fact that the term *pillar of heaven* is more appropriate for a

260 For the Ayios Antonios cave see below, and Footnote 1186. Further, some practices associated with healing are observed in this monastery. These include sleeping in the monastery to be cured (a practice being reported for the recent past) as well as the iconographical representations of Saint Damian, Cosmas and Ephraim the Syrian; saints associated with healing (Griffith 1989; Shemunkasho 2002). Ephraim the Syrian, in particular, is rarely depicted in Cretan iconography (Andrianakis – Papitsoglou 2012, 137). Also, Saint John, the saint of this monastery, is also the name of the church on the site of the Asclepeion of Lebena, and possesses attributes connected with healing. These factors, taken together with the mentioning of Asclepius, may allude to the awareness of the monks of this syncretistic approach to Asclepius. On this issue, see also discussion on page 63.

261 The mention of ἱερόν ὄρος by Ptolemy (Ptol. geogr., 3,15,2) has been proposed to be a reference to Kophinas (Sporn 2002, 186), which can be seen vaguely in Faure also (1965a, 438). This opinion is opposed by linking this reference with the Hermes-Aphrodite temple in Symi Viannou, based on the rich finds of the latter (Lebesi 1972, 202). Plotting the coordinates from Ptolemy (see Figure 13) in addition to the relative importance of the later temple almost conclusively disproves the correlation to Kophinas.

262 Chatzi-Vallianou 1990, 429; Platon – Davaras 1961–62, 287; Chaniotis 1996b, 70.

263 Sporn 2002, 187. The inscription TH was understood as an abbreviation of TH[νί]. The rendering of the name in the local alphabet with this form for the letter Z can be seen elsewhere, such as in the inscription of this region of Crete: IC IV 174, ll. 57–58; 73.

264 The Roman honours bestowed upon the cult of Skyllios Zeus are attributed to Metellus (IC I xxix, 23–24). This inscription, dating from the time of Trajan, was erected to commemorate the appointment of a new priest of this cult: Ἄμβρος ὁ [κατασ]ταθεὶς ἱερεὺς Διὸς [Σκυλίο]υ τῆς Ῥυτιασίων κώ[μης καὶ Πύ]ργου (IC I xxix, 6–8).

265 Lact. div. inst., I 63.

266 Faure 1965a, 438; 1967, 125.

mountain. It is further argued that Pan he should not be associated with Crete.[267] This is, however, not the case as Pan and the cult of Nymphs with which he was associated is well documented in Crete.[268] Sporn agrees with the identification of *caeli stela* with Asterousia, and assumes a connection with the cult of Skyllios Zeus in Rhytion. The myth blends the relatively seldom cult of Ouranos, and that of Pan, the representation of which in the Asterousia is at least probable.[269] Finally, as for Kitchell's observation that *caeli stella* would not be a proper translation of the Asterousia, the fact is that the toponym *Asterousia* appears in late Roman times and might be an evolution of a now-lost original name for the mountain range.

The mention by Ennius as transmitted by Lactantius, although weak, is the earliest possible mention of the mountain. This brings us to the greater problem of the mentions of Asterousia in ancient literature, or rather the lack thereof. A possible corruption of the name of the mountain *Atera* mentioned by Hesychius of Alexandria should be taken with caution.[270] If one searches the ancient geographies, one sees that the Asterousia remains obscure in Greek and Roman authors. Stephanus of Byzantium mentions it only as a name, and is the earliest reference that uses the modern name.[271] In Strabo although mountains and capes are significant for their function as reference points,[272] with regards to Asterousia the geographer remains silent, apart from the vague notion, while describing the white mountains, that there are others of equal height in the west as well as the south.[273] Finally, Peutinger's Tabula is considered as evidence for the late Roman period; there the Asterousia are also not depicted, while the internal layout of the Messara and its rivers is largely erroneous.[274] The absence of Asterousia in the

267 Kitchell 1977, 301–303.

268 In the Classical period, the deity Pan was introduced in Athens and thereafter he and the nymphs were very often worshipped together as a group. Starting in Attica, the combination of the nymphs and Pan becomes iconic and spreads throughout the Hellenic world (Kopestonsky 2016, 712; 714). 27 cult places are identified for Pan, Nymphs and Kouretes in the whole island of Crete, of which 11 contain a reference to Pan (Sporn 2002, Table 15).

269 Sporn also alludes to the relief of Nymphs sold in Vassiliki, for which he assumes an origin from Kophinas (Sporn 2002, 186–187).

270 Hesychius of Alexandria mentions the mountain Atera, indicated as an Eteocretan name; a reference that cannot be linked with any known mountain in Crete. For this reference, considered corrupt, Kitchell sees, amongst other alternative interpretations, the corruption of the word Asterousia (or even the original version of the name?). Beside the phonetic similarity, he strengthens his argumentation by noting that the word *gorgon* is also mentioned in Hesychius; the gorgon is mythologically associated with Asterius, who, in turn, could be considered associated with the name of Asterousia (Kitchell 1977, 310–311).

271 Steph. Byz. A,139.5.

272 The Krioskephalon cape held significance as a reference point in Strabo's description of Crete, especially for measuring travel distances from Cyrene (Strab. geogr. 10,4.5).

273 Strab. geogr. 10,4.4.

274 The Peutinger map as a source for ancient geography and cartography is controversial, as is its actual date. Furthermore, geographical accuracy was not the aim of this map, therefore, its mention here is supplementary (see Salway 2005).

literature is in sharp contrast with the other three mountain ranges in Crete, which were entangled with symbolism and myth in literature.

Cities and Settlements around Asterousia

Generally, historical records are sparse for the southern Asterousia, with Lebena and Lassaia to the west, mentioned above, being notable exceptions. In the Hellenistic period, a vague reference to the Eileithuia sanctuary at Inatos appears in a fragment of Callimachus, who mentions the goddess with the epithet Einatia, derived from the toponym of the city Inatos, in the area of which the sanctuary is located.[275]

From the geography of Ptolemy, a list of 13 toponyms with their coordinates is transmitted for southern Crete, beginning from the NW of Messara to Itanos.[276] The analysis of those coordinates illustrates some elements of these locations. In Figure 13, the coordinates of Ptolemy are plotted in an x,y chart (adaptation to a modern coordinates system is irrelevant for the plotting of the points.) The highest degree of inaccuracy is noted for the turning around cape Lithino at the westernmost of Asterousia, as Matala appears to be further south than the Asterousia. However, the shoreline of the southern Asterousia until the edge of the SE end of Crete at Xerokampos is fairly accurate, with a discrepancy being introduced east of Hierapytna, and the next major error occurring by Inatos, considered by Ptolemy to be also on the southern coast. The distance from Lebena to Inatos and from Inatos to Hierapytna is fairly accurate. Further, *hieron Oros* is located between Inatos and Hierapytna, which mirrors the reality, with the difference that Syme Viannou is further inland.[277] Also, a further correction to this map is the fact that the coordinates for the river outlet of Lethaios (Geropotamos) correspond to that of Anapodaris.[278] Uncertain are the locations of the Erythraion promontory, and that of the Katarrhaktos river outlet. The later appears to be between Leben and the Anapodaris outlet – Inatos area, and to be somewhat closer to Inatos than to Lebena. Its name implies a strong ravine. Possible identifications of this area include: the Trypiti valley, where water pours violently during the winter season. An analysis of rivers and subbasins in Crete shows an important output into the sea only in the area of Trypiti, with no other such output until Inatos.[279] Other possibilities are the Salamias gorge and

275 Εἰνατίην ὁμόδελφυν ἐπ' ὠδίνεσσιν ἰδοῦσα (Call. fr., 524); Eileithuia with this toponymic adjective appears in the treaty concerning Priansos with the nearby territories (IC IV 174, ll. 61; 76).

276 Ptolemy 3.15.4. See Figure 13 below.

277 Lebesi 1972.

278 This error was carried forward in the mapping in https://topostext.org/work.php?work_id=209.

279 See Chapter 5.5, Figures 53–55; Chapter 9.3.3, Figures 88, 89. The stream at Trypiti is the only one in the area with Strahler Order of 8–9, followed by one in Ayios Ioannis and one in Trachoulas with Strahler Order of 7. See also the drainage basins and streams calculated in Malagò et al. 2016, Fig. 4. (As this map was not annotated, the identification of the region that gathers three streams with Trypiti was possible by georeferencing the map in GIS based on the coordinates of the geographical features of Crete, showing a concordance with the data of the method presented in Chapter 5.5).

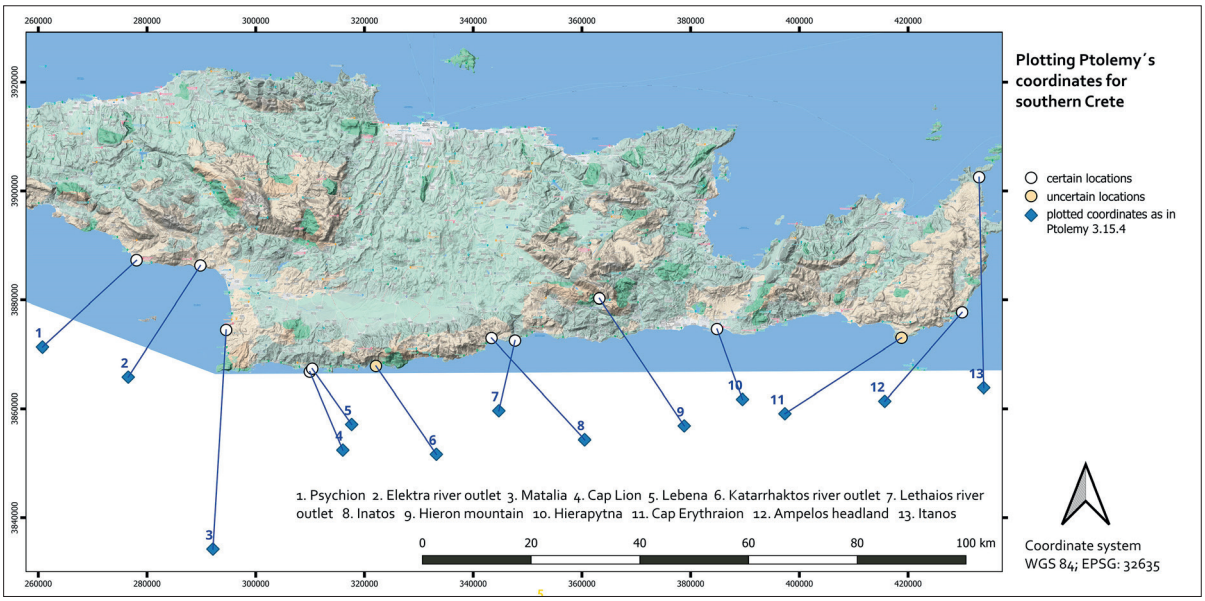

Figure 13: The plotted locations of the toponyms mentioned by Ptolemy (Ptol. 3.5.14) (bottom, with blue diamonds on the white background) and the concordance with the actual locations (white points, on the modern map above).

Gerakia ravine, west of Ayios Ioannis,[280] where the water flow after rain has led to a colloquial name of cataract, used today by the locals. The Aba waterfall by Tris Ekklisies is also an obvious candidate, no less because it is closer to Inatos than to Lebena, with the downside that this is not visible from the sea, as is the case with Gerakias ravine.[281]

As for the northern slopes of the Asterousia, following the Anapodaris, after passing Priansos, Rhytion is the main city that acts as node between the valley and the mountain for the eastern part of the range. The city was populated in the Geometric and Archaic periods,[282] and must have been of some importance as it was listed in the ship's catalogue in the Iliad.[283] The next habitation period is shown for Hellenistic and Roman times with mainly funerary evidence. However, a wide expanse of habitation is to be seen from the broad fortification on three hilltops.[284] Rhytion appears to have come early under the dominion of Gortyn, as evident by an early Hellenistic treaty.[285]

280 See Chapter 11.3.2–3.

281 The sequence of the locations, as well as their names, are as in Ptolemy (author's translation). The Ptolemy's coordinates are plotted in an XY axis, independently of the actual coordinates. The identification of most of the locations is done based on topostext: <https://topostext.org/work.php?work_id=209> with a correction in the case of Lethaios river outlet, as explained above.

282 Galanaki et al. 2017, 105–106.

283 Hom. il. 2, 648.

284 Galanaki et al. 2017, 106–108; map 4.

285 The treaty in the inscription IC IV 174 dates to ca. 200 BCE. (Chaniotis 1996b, 255).

That part of the valley and west of it has produced only surface chance finds (regions of Charakas and Dionysi), showing also activity in the Classical period.[286]

In the Hellenistic era, the whole of Messara proper comes gradually under the control of Gortyn. The cult of Skyllios Zeus mentioned above provides such evidence.[287] Mentioning the cult in a peace treaty indicates that Gortyn had Rhytion under its control.[288] The early expansion of Gortyn westwards mentioned above, and the eventual conquering of Phaistos, allowed for the use of harbours that, although further, had easier access to Gortyn. In the trade-off of distance versus difficulty, the road difficulty would render a road as rather unsuitable to support the growth of trade networking in this period, especially concerning one rapidly growing city, thus favouring harbours that are more distant, over those that are close but difficult to reach. This, in turn, favoured cities such as Lassaia and Matalon rather than locations in central Asterousia with high terrain profile.[289]

However, the presence of various autonomous nuclei of habitation in the southern coast has been noted, such as sanctuaries near Kali Limenes and the Villa at the Gerokampos Plateau around Lebena,[290] and Trypiti.[291] Furthermore, Hellenistic or Roman concentrations of pottery were observed during surveys in a number of sites along the coastline, extending to Trypiti, to Ayios Ioannis and the area Stous Ayious, near the modern Koudhouma Monastery.[292] The regional small settlements however diminish over time.

Even within the Asterousia, its central area, when juxtaposed with the western region, was perceived as somewhat of a hinterland. From the new centres on the northern side of the Asterousia region, the city of Pompeia (Pyranthos) stands out as the sole urban centre located to the south of Gortyn, located near the middle of the road from Ayiofarango to Matalon towards Gortyn, as well as Rhytion in the east and Priansos further east of it, which, located on the Anapodaris, acts as a nodal position between

286 Such as an Archaic pithos fragment at Dionysi (Platon 1956, 420), a Sigillata fragment at Livadi near the village (Alexiou 1964, 443) and a coin hoard at Dhamantri (Thompson et al. 1973, 17–18; Inv. Number 109.) containing more than 70 coins of the late 4th century BCE.

287 See discussion on page 54.

288 Anapodaris is mentioned as part of the borders between the states of Priansos, Gortyn and Hierapytna (IC IV 174, ll. 25–27; Chaniotis 1996b, 252). Further, the oath undertaken including Skyllios Zeus, implies the position of Gortyn over that region rather than that of Priansos (Chaniotis 1996b, 254). Strabo mentions it as part of the Gortynian dominion: "Γορτυνίων δ' ἐστὶ καὶ τὸ Ῥύτιον σὺν τῇ Φαιστῷ" (Strab. geogr. 10,4.14). His source is assumed to be the Hellenistic writer Apollodorus, which would date this statement to the Hellenistic times (Sanders 1976, 131; Chaniotis 1996b; Sporn 2002, 185).

289 See cross-section profiles of the Asterousia (Chapter 3.3, Figure 18).

290 Chatzi-Vallianou 1989, 9.

291 Vasilakis 1992, 561–562. A Roman cistern was located there (Pendlebury et al. 1935, 88) as well as early Roman structures. (See Footnote 1170).

292 Some of these locations are based on surface surveys, such as between Salamias and Ayios Ioannis (See chapter 11.3.3), on the eastern edge of Asterousia around Tsoutsouros (Nowicki 2018). Regarding the area Stous Ayious, see Sanders 1976, 134.

the valley and the sea, at the eastern end of Asterousia, where the Anapodaris outputs. This city is mentioned here in contrast to the relative seclusion and lower level of urbanisation around Koumasa, as this region gradually receded from its prior central role in the trade network.

The economic activity that could potentially explain the role of the Koumasa area in this period is closely tied to animal husbandry in the areas around Gortyn. This was a central aspect of the economic organisation and a key component of the self-sufficient model of Cretan *poleis.* It is also a driving force in political instability, as in contrast to agriculture, herding required movement of people beyond the accepted borders between the various territories.[293] City treaties, exemplified by agreements such as the one between Praisos and Hierapytna, highlight the importance of the right to graze flocks in the land belonging to neighbouring poleis.[294] Concentrating on the macro-scale of Koumasa, further evidence from the eastern slopes of the Asterousia is informative: an early 2nd century treaty between Praisos and Hierapytna, explicitly stated that pasturing in each other's land would be exempt from tax.[295] This underscores the significance of long-distance grazing, as flocks would need to traverse the territories of Biannos and Malla to reach the territory of Priansos from Hierapytna.[296] Such long-distance movements are akin to modern transhumation practices where herders stay in another area for several months in huts (*mitata* and *katounes*). Taking again an example from the Asterousia region, herders from Mount Ida find winter quarters in the area of Kali Limenes.[297] Although direct references to transhumation may be lacking, elements of covering long distances are discernible in narratives that reach back to Archaic and Classical times.[298]

Based on the discussion above, Koumasa has the benefit for the Gortynians of being in their own back-yard, with no confrontation or treaties with nearby *poleis* being necessary.[299] At Koumasa itself, pottery sherds, especially black furnished ware, were found in abundance across the whole area, including a possible Hellenistic or Roman spindle whorl in the middle of the settlement and Hellenistic and Roman pottery on the western slope.[300] One of the areas of pottery concentration was around the 'sanctuary'

293 Viviers 1999, 222.

294 Chaniotis 1996b, no 5 B 33–68.

295 κατὰ ταὐτὰ δὲ καὶ εἴ τίς κα νέμ[ηι ἀτε]λὴς ἔστω IC III, iii 4, lines 27–28.

296 Chaniotis 1996b, treaty no. 28; Chaniotis 1999, 199.

297 Chaniotis 1999, 191.

298 Such is the legend of Epimenides, whose adventure in the Ida cave occurred as part of his quest to find his lost sheep, beginning from his home in Knossos (Diog. Laert. 1, 199) or Phaistos (Strab. geogr. 10,4.14). This tale may act as a traditional indication of long distances covered. Chaniotis further summarises the strong cultural indications of the importance of herding in Archaic and Classical period which was carried forward in the Hellenistic period (Chaniotis 1999, 192–197).

299 The other closest city to Koumasa would have been Rhytion.

300 Panagiotopoulos 2022b, 337.

and the central region above the magazine area, and much of it was found in heaps left by Xanthoudides. Most numerous are black glazed sherds, often glazed on the exterior and the interior, and to a lesser extent sherds with light red slip. These belong to the typical Hellenistic pottery found in other regions of Crete.[301]

Another element is the abundance of grinding stones of the saddle type and oblong type.[302] Most circular or oblong stones appear scattered around the peak. Their even distribution there allows for the assumption of a common use of the area in a time when the room demarcations by the walls were obsolete after the LM I destruction. As these stones were not found in clear contexts but rather identified near bedrock, relying on relative chronology is not easy. However, the Hellenistic or Roman periods seem, along with LM III usage, to be the most likely periods, as the find spots of these grinding stones correlate to a certain extent with the location of the Hellenistic pottery.[303]

As for the early and middle Roman period there is no concrete evidence yet. Given the gradual growth of Gortyn, which reached the apex of its size and regional importance as capital of the province of Crete and Cyrenaica at this point, the seeming abandonment of the Korakies hill is a contradiction that requires an explanation. The peripheral role the hill possessed in the Hellenistic period might have been abandoned, as a result of the rapid urbanisation of the metropolis of Gortyn, or due to the rise of the importance of the peripheries to the west and the coastal areas described above. Also worth considering is the phenomenon observed by Sanders of moving the centres from the mountain to the valley,[304] with the role of agriculture increasing over that of shepherd herding, as implied by the systematic presence of cisterns mentioned above, that are spread at the foot of the mountain range, at the level beneath Koumasa.[305]

The evidence shows a level of habitation on the site, which should be understood as part of the greater suburbs of Gortyn. The sarcophagus relief from Vassiliki and the Asclepius dedication at Apesokari, as well as the cult activity at Kophinas, indicate a cultural sequence in the area of central Asterousia which is, at any rate, of lower impact than other regions of the mountain range, to its east or to its west.

In the late Roman period, activity in the area recommences: two Roman graves were found by Xanthoudides, one above Tholos B and another between Tholoi B and A.[306] A coin of the period of Constantine was also found on the rock atop Tholos B, dating

301 The black glaze has parallels in examples from Ayia Irini near Rethymnon (Nota 2010, Figs. 5, 6) or in Antikythira (Johnston et al. 2012, Figs. 9, 26, 88); the red slip is paralleled with Nota 2010, Fig. 8. For *comparanda* to the vessel types from those indicative locations see Nota 2010, Fig. 8; Johnston et al. 2012, Figs. 9, 13, 27, 28, 65, 73.

302 See discussion on pages 191ff.

303 The notion that the round grinding stones could be dated to early EM times (Nowicki 2011–12, 15) seems less likely.

304 See Footnote 245.

305 The cisterns mentioned above (see Footnote 240), are located within a radius of ca. 5 km. from Koumasa.

306 Xanthoudides 1924, 4.

most probably to the period of these Roman graves.[307] At the foot of the hill east of the location of the tholoi Roman elements including fragments of *terra sigillata* and Roman bricks indicate a use of the area in the Roman times.[308] On the settlement itself, a ca. 4 m^2 structure with two phases was erected, the earliest of which is dated to the late Roman or early Byzantine period; it was built atop of earlier material, which includes a lamp of the late 1st or early 2nd century CE.[309]

2.5.2 Byzantine Period

The Messara region experienced relative prosperity during the early Byzantine period, known in Crete as the first Byzantine period, with the city of Gortyn maintaining its wealth and influence despite the destruction caused by earthquakes and a subsequent period of decline, at least when compared to its peak in the early Roman period. This period of prosperity is shown archaeologically to have extended until the earthquake of 794 CE,[310] and eventually to the conquest and destruction of Gortyn by the Arabs in 824 or 828 CE which ended the first Byzantine period in Crete.[311] The relocation of the island's capital to modern-day Heraklion marked the end of the urban phase for the region of central Messara.[312]

During the early Byzantine period, churches were constructed on the northern slopes of the Asterousia, at sites such as Rotasi and Rizokastro by Anapodaris that had evidence of habitation dating back to the Roman period, as already described, indicating a continuity of settlement and religious activity in the region.[313] Furthermore, the first elements of monasticism, better known from the second Byzantine period onwards, may appear already in the first Byzantine period.[314] Looking at the churches built in the first Byzantine era, a construction phase is to be seen in the area in and around Messara in the 6th–7th centuries. The gazetteer of Volanakis include a church at Gergeri, one at Matala, and in Gortyn churches of saint Titus and two others in the city itself are listed, along with some other evidence from the surrounding area towards Mitropoli, Ampelouzos and in Ayii Deka, which surround ancient Gortyn to the south, west and east respectively. Also, two basilicas on the Gortyian acropolis to the north are

307 Possibly 315 CE; Panagiotopoulos 2016, 559.

308 Panagiotopoulos 2022b, 337.

309 Panagiotopoulos 2023b, 319–320.

310 Hammond 2017, 121.

311 Treadgold 1997, 436. For a thorough analysis of this event and its consequences, see Christides 1984.

312 Gortyn, the capital city of Crete up to that time was left to fall into decline, but it is unlikely to have been actively destroyed (Christides 1984, 92–94).

313 Pendlebury et al. 1935, 85–86.

314 Voulgarakis 2017.

documented, with a date also in the 6th–7th centuries for at least one of them. From the area of the eastern edge of the Messara, two possible churches are located in Kasteliana and near Inatos. Finally, from the southern coast of Asterousia, a possible early basilica is to be found at Lassaia, and also the mentioned early basilica at Lebena.[315] There, the Ayios Ioannis chapel (Saint John) is built on the ruins of a basilica dated to the 5th or 6th century, in the area of the former Asclepeion.[316]

In the previous chapter the possibility of the continuous adaptation of Asclepius in the Christian tradition is mentioned, albeit with no certainty whether this tendency existed in the first Byzantine period also.[317] It is to be noted that, one of the earliest basilicas in Greece, the church built north of the temple of Asclepius at Epidaurus, was dedicated to Saint John in its later phase, and he could have been its original saint.[318] Another example to be taken into consideration is the Saint John chapel in Athens. The chapel, built also in the 6th century, incorporates a Corinthian column which penetrates its ceiling.[319] The chapel is associated with healing attributes and is built on the area of an Asclepeion.[320] This evidence allows the possibility that there was a conscious effort to integrate aspects of the ancient cult into that of Saint John already in the early Byzantine times.

Regarding water management, the period of the 5th–6th centuries witnesses a spreading of bathhouse-type structures in or around churches, with the suggestion of religious role (*bapristeria*), as at Ayios Pavlos near Phaistos, in Gortyn and the church of Ayios Georgios near Phournofaraggo.[321]

In Koumasa scattered pottery of this period has been found in surface levels in the settlement. Byzantine pottery of more than one phase was present in the above-mentioned square building, the first phase of which was erected in the late Roman or late Byzantine period using spoils from the surrounding Minoan structures.[322] The second phase dates also to the Byzantine period, indicating a span within the whole first Byzantine period.[323] After this point, no further activity is documented from Koumasa.

---

315 Volanakis 1987, 250–256.

316 Gerola 1915, 1153; Sotiriou 1929, 193.

317 See Footnote 260.

318 Sotiriou 1929, 199. The church's position is noted as east of the propylon, which is, in fact, to the north of the Asclepius Temple.

319 Image from DAI arachne.dainst.org/entity/6889.

320 Goette 1993, 83; Bridges 2021, 453.

321 Kelly 2014, 106–107. The spring east of Fournofarango is seen in the map of springs in Figure 3.

322 On account of the pottery found in that area, a Hellenistic or Roman date was initially assumed (Panagiotopoulos 2015, 529–531); the stratigraphy, however, while showing usage in various periods, indicates that the first phase of the building dates to this late period (see Footnote 309).

323 Panagiotopoulos 2023c, 53.

During the second Byzantine period, one of the military interests in the region is to fortify the southern frontier, as can be seen in the Messara in the establishment the Rizokastro castle on the site of ancient Priansos.[324]

2.5.3 Post-Byzantine Period

No evidence from the site postdates the early Byzantine period, which can be understood within the context of Gortyn's abandonment. However, at a close distance from the settlement, 470 m. to NE, on a hill overlooking the modern Loukia village, a ruin of a square tower stands, whose architecture type resembles that of the Venetian forts. Its sides measure 5 m. with the maximum surviving height of ca. 3 m. Pottery belonging to that period is scattered around it. From a topographical aspect, it dominates the area around it while being well-situated on a steep cliff. The erection of this fort, albeit small, accompanies other defensive structures in the regions of the Messara, such as the Castle Belvedere located on the hill of Priansos by Anapodaris, or that at Charakas, two sites from the region at the northern end of Asterousia. These indicate the strategic value of the region, possibly for controlling agricultural production and also movement within Messara.[325] It is to be noted however that the distribution of castles and forts during the Venetian period in and around the Messara, are mainly on the northern slopes. These are, from west to east: Nuovo by Kastelli near Moires, Kavalou by Larani and Voros, and Bonifacio by Kastelli Monofatsiou.[326]

In the case of the Kavalou castle, it is tempting to recognise a parallel with that of the Loukia fort. Similar to the latter's close distance to Koumasa, Kavalou is in the vicinity of the tholoi at Vorou, with a distance of 1.1 km. from the closest of the two tholoi. In this case, both structures represent the utilisation of the natural environment in a similar manner, particularly in terms of the defensibility of transitional zones from the mountain to the valley. This topographical pattern holds true for most of the Frankish castles, with the only ones situated in the valley proper being Charaka and Nuovo. Additionally, the Ottoman Ano Moulia castle holds a strategic position between the Messara and Malevizi valleys, further emphasising the significance of natural features in the selection of defensive locations.

This description denotes, however, the relative abandonment of the Asterousia region. In fact, the area of Asterousia was known in the first and second Byzantine period

---

324 See Footnote 325.

325 Belvedere was initially constructed by the Byzantines around the 10th century and its initial name was Rizokastro. It was occupied by Enrico Pescatore, and further fortified by the Venetians. Charakas was constructed by the Venetians in the 14th century. See Papathanassiou 2012–2024.

326 Castle Nuovo was built in 1206 by the Genoan Enrico Pescatore. Castle Kavalou by Larani and Vorros is first mentioned in 1301. The fort Bonifacio is in the records since 1212, and was also built by the Genoan Enrico Pescatore, named after a castle in Corsica. It gives its name to the region of Monofatsi today (see Papathanassiou 2012–2024).

as *Erimoupoli,* a name denoting the empty region but also associated with the hermit monks, whose securely documented presence begins after the Byzantine reconquest[327] and who might have been there even earlier.[328]

This movement grew during the Venetian period, especially under the monk Philagrios, who founded the Tris Ierarches monastery at Lousoudi in 1393, located along the route from Kapetaniana to Kophinas, which subsequently developed as the spiritual hub of this movement.[329] The period coinciding with the activities of Philagrios is the only period, to our knowledge, in which the central Asterousia was the focal point of the region, at least in a symbolic or spiritual way, if not political. The dedicatory inscription of the monastery of Ayios Ioannis (mentioned in the discussion of Asclepius above) offers an insight to many aspects of the era. The inscription, dating to 1360, mentions the donors as of the same tribe and Christians[330] under the regency of Ioannes V Palaiologos and Helena Katakouzine.[331] The mention of the Byzantine authority in a time of a Venetian dominion of the island is to be seen as a statement of the autonomy within which the region operated, as well as an opposition to the Venetian authority, which is made explicit in the case of religious matters.[332]

This association with monastic life, but also with the rather isolated nature of this region of Crete, continued until today, where the region of Koumasa is surrounded by small villages, connected with the road network just in the 1970s. The area of the tholoi as well as the settlement, was used for farming in the recent past.[333]

2.6 Diachrony Within the Cultural Landscape Approach

This analysis of the diachronic development is not just a sidenote, but a crucial element of this effort to understand the role of activities within the broader region and how these developments are mirrored in Koumasa based on the finds there. It aids our understanding of human agency, and how practices are shaped by the indigenous or traditional knowledge, which is in itself affected by both the practicalities of everyday life and the ever-evolving zeitgeist.[334] These practicalities are a function not only of historical developments presented here and the topography (discussed in Chapter 3), but

327 Psilakis 1988 69–74; Paliouras 2017, 8.

328 Voulgarakis 2017.

329 Paliouras 2017, 13–14.

330 Ομωφιλων, transcribed as ὁμοφύλων, is translated by Bougrat, (1982, 149) as Cretan Greeks.

331 Bougrat 1982, 149.

332 Bougrat 1982, 150.

333 Near the tholoi the fields are cultivated today, and the settlement area was also farmed, which explains the low height of walls in most of the central area of the settlement (Panagiotopoulos 2012a, 204).

334 Nakashima 2010; Panagiotopoulos – Savvatianou 2022, 168.

also of various social conditions, some remaining latent, that can partially be decoded through archaeological data and theory.

Returning to the site of Koumasa, the contrast in activities there from the EM times through LM I and with later periods is striking, but it follows the trajectory of the region through the centuries. When one considers the period in which the site flourishes, when approaching the Korakies hill, its peak stands prominently visible; in contrast to nearby formations, like the less inviting Kalamaki hill, Koumasa, while imposing, does not exude an unwelcoming aura.

A relatively recent trend in landscape archaeology involves considering space's importance as socially constructed. Monuments within this space are viewed as efforts to shape a new landscape, as exemplified by Tilley's examination of the landscape as a "spatial text".[335] The landscape and the monuments can "become fused and join in union to become a central point, an axis mundi."[336] This has led to a focus on the correlation of location and cultural memory, as discussed by Assmann.[337] This theoretical approach fits well with the site of Koumasa because of the continuous usage of the same area for over a millennium for burials, as well as the development of the settlement on the top of the hill overlooking the tholoi in the Protopalatial and Neopalatial times.

The continuous repetition of an act, in this case the burial ceremonies, imbues it with a performative character.[338] This act – or "form" in the words of Assmann – can evolve from ephemeral memory to become codified in tradition, or rather to become entangled with the cultural memory of a society.[339] These acts become then crystalised in tradition, and act as a "mnemonic device".[340] The movement of people in space facilitated the contact with the environment around it and relates to the memory of past activities in it, to create what has been called a "memory space",[341] pertaining to the lived-in space and its transformation towards a memory space, referred to also as *Mnemotope.*[342] For the LM I usage, for example, this explanatory framework would suggest that the tholoi area had become a landmark, that was collectively deemed unapproachable, even after the activities within them ceased. With regards to the gradual abandonment of the area in the Post-Minoan period, the historical factors contributing to this phenomenon have been summarised here, while a more deterministic approach,

335 Tilley 1993; Goodison 2019, 123–124.

336 Richards 1996, 206.

337 J. Assmann 1992, 59–66; A. Assmann 2013.

338 Especially if it was associated with specific seasons within the agricultural cycle (Goodison 2001, Pl. 19; Goodison 2018, 282; Ayash 2023, 139–142).

339 J. Assmann 1992, 56; 64.

340 The memory function is examined by J. Assmann within three categories: that of material objects, action, and texts (J. Assmann 2006, 69). In the case of the memory aspect of the use of the tholoi we have direct evidence only for the first category and partial evidence for the second.

341 J. Assmann 1992, 38, 56–65; Glaraki 2016, 84.

342 J. Assmann 1992, 59.

based on both quantitative and qualitative methods for approaching the landscape, as will be presented in Parts II and III.

This chapter laid out the diachronic activity of Koumasa and its region. Upon this, the background of the palimpsest of activities which Koumasa is part of, can be scrutinised. This framework, which is employed in the structure running through Part I, is that of the cultural landscape or heritage landscape. This method, although based on archaeology, goes beyond it to encompass the surrounding topography, including flora, fauna, geology and land use as a background of human activity.[343] This completes the diachronic overview, seen not just as a side note, but as a crucial element within the effort to understand the role of the region described and in understanding the choice of activity in the region as entangled with the indigenous or traditional knowledge of each period.

In the next chapter, the wider area of Koumasa will be approached again, this time focusing on the topographical details, so that the previous theories will be revisited and re-evaluated through a comprehensive and modern approach, while trying to offer answers regarding the role of the settlement of Koumasa within its area. Topographical and archaeological evidence will be explored in the analysis of the Microscale (Chapters 6–8), while the Mesoscale and Macroscale, in Chapters 9 and 10, will be analysed using GIS based approaches and archaeological data.

343 Swanwick 2002, 2–3; Panagiotopoulos – Savvatianou 2022, 167–168; Panagiotopoulos 2023a, 168–200.

3 Cultural Regionality. Older Views and New Tendencies

This chapter aims to set the diachronic overview of the previous chapter within the context of the region's topography, by addressing both its previous characterisations and modern approaches within the framework of the heritage landscape, including looking at early and contemporary land usage, the perception of the region, as well as the evolution of factors such as climate and geology. This framework, within which Chapters 2 and 3 were conceived, offers a holistic understanding of the region beyond just the archaeological and historical data.[344]

Located on the northern slopes of the Asterousia mountain range and overlooking the Messara plain, Koumasa shares an identity with both regions (see Figures 14, 16). This liminal nature extends also to the geological characteristics,[345] as well as the land use.

The agricultural horizon in the area can be divided into two zones; the lower one, extending from the coast up to an elevation of 300 to 400 m. is defined by olives (*Olea europaea*) and carob trees (*Ceratonia siliqua*).[346] The hilly zone surrounding the plain extends from an elevation above 300 m. and is mainly dominated by the presence of kermes oak (*Quercus coccifera*) for elevations between 300 and 600 m., combined with a lesser density of olive trees (that can continue up to 800 m.) and a predominance of shrubs and phrygana.[347] It is noted that Koumasa sits in the transitional area of these two zones at ca. 350 m. (see Figures 14–16).

In delineating the distinctions between the valley and the Asterousia in terms of land cover, comprising shrubs, grasses, and assorted flowering vegetation, one can observe significant overlaps, albeit with discernible variations in frequency, which is sometimes substantial.[348] As for the Messara valley, the characteristic vegetation is observed,

344 See Footnote 8; on the limitations and pitfalls of analysis of just the archaeological data, see Cadogan 2022, esp. his quote: "it is easy to over-emphasise the contribution of material culture, forgetting perhaps that understanding it is not the end itself, but the means to the end, to making comprehensive history of anonymous humans of long ago" (Cadogan 2022, 209).

345 See Footnotes 10, 12.

346 Bottema 1980, 196–197.

347 For the different agro-ecological characteristics, see also Rikli – Rübel 1923; Kabourakis, 1996; Daliakopoulos – Tsanis 2014.

348 Daliakopoulos – Tsanis 2014, 77. For example, the percentage of brome in the Messara and Asterousia is almost equal, while wild barley and wild oats are more frequent in the Messara valley by 6 and 4 times respectively.

Published in: Nasser Bovoleti Ayash: Approaching the Koumasa Settlement as a Case of Dynamic Topography: Internal Functionality and its Role as a Focal Point in the Messara-Asterousia Region. Heidelberg: Propylaeum, 2025. DOI: https://doi.org/10.11588/propylaeum.1573

Figure 14: Koumasa as a node between the valley and the mountain (original photograph, courtesy Koumasa-Project). a: Korakies hill and Minoan Koumasa; b: modern village of Koumasa; c: Loukia; d: Fournofarango, with Kalamaki hill above it.

which in the preindustrial age was characterised by barley (*Hordeum vulgare subsp. Polystichon*), bumblebee orchid (*Ophrys bombyliflora*), and a very strong presence of the yellow bee-orchid (*Ophrys lutea*), in addition to the various trees.[349] Wild bushes and shrubs include the thorny burnet bush (*Poterium spinosum L.*), the Jerusalem sage (*Phlomis*), the star clover (*Trifolium stellatum*) or the daisy flower (*Chrysanthemum coronarium*). There are a great vaiety of herbs, of which the study of Rikli and Rübel lists 24.[350]

The main difference between the two regions observed today is in the type of land use, which emphasises the stark division into two areas, the plain and the mountain, and obscures the transitional zone, as will be discussed below. But first, the position of Koumasa, and how this has been perceived in the history of research needs to be discussed.

349 Rikli – Rübel 1923, 110–114.

350 Rikli – Rübel 1923, 123, 190.

Figure 14 is indicative of the liminal role of Koumasa within the modern landscape, where the mountain-valley distinction is emphasised by the modern land use for the cultivation of olive trees.[351]

3.1 Previous Partitions of Messara and the Rather Problematic History of Research

The Messara-Asterousia region has not generally been regarded as a unified entity, instead often being viewed as divided between the mountainous Asterousia region and the Messara valley. This division arises not only from the geological and vegetational contrasts discussed earlier but also from entrenched perceptions of a distinct cultural environment, which have contributed to the relative neglect of certain areas, particularly the central Asterousia. As an instance of this neglect, Faure's geographic description of the Asterousia merely mentions its expansion from Priansos to Matala.[352]

Within research in Cretan prehistory, the general area of the Messara is seen as a different district than that of eastern Crete, on the basis of pottery, seals and funerary rites.[353] In many previous analyses, however, an internal partition of the Messara and Asterousia can be seen. Namely, Koumasa, and the wider central and eastern Messara, tend to be excluded from the immediate cultural environment of Phaistos, drawing most of the attention of Minoan archaeology to its western front.

This is apparent in Warren's division of Crete into a minimum of 13 territories. The eastern part of south-central Crete is allocated to the great Minoan triangle made up by Kommos, Ayia Triada and Phaistos.[354] To its east, the eastern Messara and the Anapodaris river territory is mentioned, with Dhamantri of Praitoria and the Rotasi-Priansos area as its foci and Kophinas as its main sanctuary.[355] Koumasa would possibly fit here. But, interestingly, the central Asterousia region, with the Kophinas sanctuary and its harbours on its south, is even rather ignored in this version. In alternative perspectives, even when these locations are considered, they are often assigned to the sphere of influence of palatial centres, usually either Knossos or Phaistos. So, in the example of the political divisions suggested by Bevan – Wilson, a separate unit based on the movement analysis includes Koumasa and Kophinas in the calculations but is analysed assuming Knossos Galatas and Dhamantri as foci,[356] or otherwise within the Phaistos area.[357]

351 See also Panagiotopoulos 2023a, 197, Fig. 6.

352 Faure 1965, 437.

353 See Anastasiadou 2016.

354 The use of the term is after Shaw, following whom it is common to identify the whole western Messara region with the questions of the interrelationships of these centres. (Shaw 1985).

355 Warren 2002, 202. In the bibliography, Praitoria often appears erroneously as Protoria.

356 Bevan – Wilson 2013, 2420–21, Figs. 3–4.

357 Bevan – Wilson 2013, Fig. 6.

A separate, more local region can be seen as suggested, assuming the Neopalatial centre of Dhamantri as its centre.[358]

This view has led to interesting results in the effort to allocate a specific centre for the control of the Kophinas sanctuary. It is often attributed to Phaistos' sphere of influence, although the distance to Phaistos by far exceeds the typical distances between peak sanctuaries and their related palatial centres.[359] While other approaches indicate centres more local to Kophinas, such as Dhamantri, they still consider the vicinity to a great palatial centre as a desired criterion.[360]

In his monumental work on the so-called 'State of Phaistos', Watrous identified the region of western Messara – and subsequently the region with Phaistian influence – as eastward up to Agioi Deka (Ayii Dheka) and Vassilika Anogeia (Vassilika Anoyia).[361] This leaves Koumasa near the borderline of the two regions and rather on its eastern side. From an archaeological point of view, one of the reasons for this is the general lack of evidence in central and eastern Messara.[362] Also often in the research on the Palatial and Neopalatial environments here – often summarised under the umbrella term 'Messara' – the focus lies mainly on the palatial centres of the eastern Messara.[363] This trend can be seen also in various proposals for the political geography of the island.[364]

This is the case also for the Prepalatial Messara, as most maps of the tholoi distributions show a concentration in the western part, with the eastern *front* of this being identified by the tholoi of Vorou, Ayia Irini, Drakones, Koumasa and Trypiti (from north to south).[365] In contrast to this, the study of the Hellenistic and Roman

358 Driessen 2022, Fig. 3.c.

359 In a comparative study, Megarry showed that the walking distance from Phaistos to Kophinas exceeds 25 km. in line of sight and a distance of more than 300 minutes of walking time, while the second furthest distance, that of Juktas to Knossos is 6.7 km. with ca. 150 minutes of walking time (Megarry 2012, 220).

360 Soetens et al. 2008, 159–160, Fig. 8. Without excluding the validity of this approach, more local focus in the case of Kophinas is entertained in Chapter 11.4.

361 It is to be noted that in the survey conducted in 1982 and 1984, the easternmost limits of the main region of interest were defined even more to the west, as the line running north-south from Kalyvia to Petrokephali (Watrous et al. 1993, 215).

362 Knappett 2012, 389. See also Footnote 380 on the chance finds in the region, and Vasilakis 2017, 80–81 for the gap in the region and the significance of Dhamantri complex in potentially filling it.

363 In the analyses of Neopalatial regional tendencies, the *desideratum* is often a dialectic with Knossos, hence focusing on the strategically located villas or the three main Messara settlements (Adams 2017, 124–125). This can be based on topographical criteria, the interpretation of which is, however, still performed on the basis of this *desideratum* (Bevan – Wilson 2013, 2420–2421; Fig. 4).

364 Driessen 2022, 6–8.

365 Goodison – Guarita 2005, Fig. 1, 172. The recent discovery of tholoi to the east of this line along the shore, should aid in changing this perception. (See discussion on the recent tholoi investigation at Ayios Ioannis and Salamias, in Chapter 11).

Messara, due to our more concrete knowledge, presents the region as rather divided in three parts.[366]

Beyond this point, however, the distinction between the eastern and western regions of the Messara and Asterousia – less valid from a topographical point of view than the north-south distinction – is strongly influenced by the local division both seen and perceived in modern times. The eastern Messara is considered poorer and strictly agricultural.[367] Furthermore, when considering the networks of the island, Koumasa, as well as the general Asterousia region, is considered rather isolated.[368] This modern isolation has been established since the end of antiquity, when the economic centres of the island were relocated to the northern part of the island. A major turning point in this direction – although it seems to have started earlier – was the Arabic capture of Crete in the decade of 820 CE and the destruction of Gortyn, after which the centre of operations and the capital of the Emirate of Crete were established in the north of the island, in the Khandaq fortress, modern Herakleion, as described in Chapter 2.5. This marked a big shift in the inner political geography of the island, with the Aegean side becoming significantly more relevant.[369] The Messara – although remaining Crete's metaphorical grain basket – lost political significance, and the Asterousia mountains were shunned completely; especially after the Arabic period, they were known mostly as a centre of pasturing and monachism. Adding to this, during the 19th century, a process of village abandonment began.[370] Today, the western part of the central Asterousia, west of Kophinas, is defined only by the small villages of Kapetaniana, Koumasa, and Krotos. The striking shift in the role of Koumasa is accentuated in Figure 15, which includes both modern and ancient Koumasa, stressing the difference in the importance of this area in ancient and modern times. The 20th century could be viewed as the final stage in the gradual shift of centrality toward the north, a trend which underscored by the absence of modern roads in the area until the 1970s.[371]

During the expansion of Minoan archaeology in the 20th century, the Asterousia and eastern Messara regions were perceived as remote and culturally peripheral. Consequently, perhaps due to this cultural bias, they were not automatically regarded as particularly significant in their own regard for the Minoan period. The finds of the tholoi, the Kophinas sanctuary and as far as the Tsoutsouros cave were brought to light

366 The first extends from the coast roughly up to modern Moires, in the area of the polis of Phaistos; the second being around Gortyn; and the third, the land south of the Yeropotamos as far as the Anapodaris (Sanders 1976, 134). The third one corresponds with the immediate world of Koumasa.

367 Watrous et al. 2004, 34; 111–112.

368 Vasilakis – Sbonias 2018, 276. On the input of topographical analysis for this point, see Bevan – Wilson 2013; Paliou – Bevan 2016.

369 The vicinity to the Aegean islands and mainland coasts made the northern coast a strategic location (McMahon 2015, 38–40).

370 Stamatakis 2007; 2020.

371 See discussion on page 74. For the historical review, see Chapter 2.

Figure 15: Comparison of modern and ancient Koumasa. a) View northwards, taken from the Asterousia Slope. b) View from the west of modern Koumasa eastwards (raw photographs, courtesy of Andreas Neumann).

as a result of isolated excavations and were linked to nearby known locations as a feature of the Phaistian influence or the Messara culture rather than being considered as a local Asterousia-centred phenomenon.[372]

Furthermore, any archaeological work in the region faced difficulties, not least because of the inaccessibility of the region, as shown in the case of Xanthoudides' excavation or Evans' difficult travels in the region, which included Trypiti.[373] Even today, many of the campaigns are done in areas that can be approached only with great difficulty.[374]

All these reasons have in the past minimised the chances that the region might be considered a valid candidate for a large campaign. This tendency is also seen in an extensive analysis of Cretan surveys by Gkiasta, which included 35 surveys of different methodologies. Of these, none were conducted in the central and eastern Messara.[375] However, Nowicki's research on early settlements in Crete should be included, as he traversed the Asterousia, with results that will be discussed in Part V.[376] As for archaeological work, in the 1960s Alexiou, Davaras, and Sakellarakis showed interest in the Asterousia, continued by Karetsou with small campaigns, mostly as salvage archaeological projects after reported illicit activities.[377] In total, the list is very short and often as a reaction to illicit looting or as part of further study of known locations and tombs;[378] projects in new areas are very infrequent, and normally in the shadow of illicit activity. It is remarkable how high the percentage of excavations in the area is a response to illicit activities or are salvage excavations,[379] which are an enforcing act, meaning it will

372 This tendency can be seen in the discussion of topography in the publication concerning the Eileithyia cave by Inatos (Galanaki – Papadaki 2022).

373 *Knossos II,* 78–84.

374 E.g., the excavation of Vasilakis at Martsalos was only possible via boat access (Vasilakis 1996, 644); the excavation at the tholos at Salamias required a two-hour walk from Ayios Ioannis, itself a peripheral location.

375 Her thesis contains an analytical examination of the results of surveys on Crete and their comparison in terms of the theoretical and methodological frameworks within which research was produced, bringing forth many innovative insights for the past and future of surveys. As for the geographical coverage, out of the 35, only five surveys are spread in the western Messara (Kommos, Phaistos, Ayiofarango). It is to be noted that this list does not cover some of the smaller range surveys, such that by Vasilakis – Sbonias in 2018 around Trypiti and Phylakas or the one by Vasilakis et al. 2019; Alušík et al. 2019 in the Porti-Miamou area (see also Gkiasta 2008, 41–50). To Gkiasta's list, the surveys of Blackmann and Kalantzopoulou and of Nixon in the Sphakia region could be added (Nixon 2006; Beckmann 2015; Kalantzopoulou 2022).

376 Nowicki 2014a; 2014b; 2018.

377 Branigan 1993, 97.

378 For example, the Trypiti excavations, the Miamou-Porti Project by Vasilakis, or the Koumasa project fall into this category. The Dhamantri project by Antonakaki falls into the category of newer excavations with very promising results that have not yet concluded.

379 To include a few only from the Asterousia, from west to east, illicit excavations in cemeteries and settlements were noted in Moni Odigitria (Vasilakis – Branigan 2010); Martsialos, Kali Limenes (Vasilakis 2017, 69–70); Stou Skaniari to Lakko, Megali Skini (Alexiou 1967, 483–484), Lassaia (Chatzi-Vallianou 1979, 382–83); Krotos, both tholos and nearby settlement (Vasilakis 1983, 355); Christos (Vasilakis 2017, 73); Salamias, Treis Ekklisies (Kanta – Serpetsidaki 2015, 59–60); Skinias excavated in response to looting (Mandalaki 2011, 379).

be a shorter campaign. Additionally, if the illicit activity is thorough, it will leave a disturbed, partially emptied area. To give an example, denser activity in Minoan times can be assumed for the area from Rotasi to Dhamantri, based on the various chance finds or salvage excavations.[380] The situation at the output of the Anapodaris is similar. There, at Ayios Ioannis – Plaka, a large MM III–LM I settlement was discovered. At a distance of 1 km. east of this settlement, a smaller hamlet of the same era was found, as well as habitation traces at Trapeza, above the modern Keratokampos.[381]

These issues have contributed to underplaying the role of central Asterousia and eastern Messara in the perceived cultural landscape of southern Crete, favouring instead the westernmost Messara as the heartland. This area has traditionally been the most densely settled part of the plain, characterised by the open coastline on the one hand, and a fertile alluvial lowland basin, with ample groundwater on the other.[382]

3.2 Modern Perspectives and the Duality of Mountain and Valley

A development that goes beyond the categorisations mentioned above is the tendency to view the regions of the southern Messara and Asterousia as a united cultural continuum.[383] Vasilakis even noted that the so-called Messara Culture, referring to the EM tholoi culture, could be called the Messara-Asterousia Culture.[384] He further suggests that this cultural unit consists of two parts; the first extending from the western edge of the Asterousia and the coastline upwards – which includes Kommos – and stretching to central Asterousia, up to a supposed dividing line which runs from north to south from Asimi in the southern Messara up to Kapetaniana and Agios Ioannis on the coastline in the southern Asterousia. The second part stretches further eastwards of this line to include the eastern Asterousia up to the delta of the Anapodaris stream at Dhermatos, less than 5 km. east of Tsoutouros.[385] Within this scheme, Koumasa is located in the first part but very near the dividing line, as it occupies a rather central position within the whole Asterousia-Messara unit.

This longitudinal division of Vasilakis is, on the one hand, symbolic as an arbitrary division emphasising where archaeological research is being done, while on the other

380 These include evidence of settlement activity in the Farmakara and Empesos hills in the direct vicinity of modern Rotasi (Galanaki et al. 2017, 96); further, in the broader region between Rotasi and Dhamantri, a LM treasure of 19 bronze tools and weapons was found in Asprolivada, including four double axes and a spearhead, and evidence of an extended Minoan settlement, of which nothing can be seen due to modern agricultural activity (Platon 1957, 339; 1958, 480). In the area of Livaditis, near Mesochori, five stone vessels were found, including a bird's nest bowl type (Alexiou 1969a, 540; Lebesi 1969, 414).

381 Rethemiotakis 1981, 390.

382 Watrous et al. 1993, 193–194.

383 Vasilakis 2017, 64.

384 Referring to the term used as a chapter title in Hutchinson 1962, 151–155.

385 Vasilakis 2017, 63–64.

hand it creates a geographical symmetry: in the valley, it divides the areas whose main streams are Geropotamos to the west and the catchment of Anapodaris to the east. This fits with the two main hydrological catchments, representing these two main streams as the drain basins of the smaller mountain streams.[386] In the Asterousia, it divides the mountains on the two sides of the Kophinas central range, with the conceptual dividing line passing through the highest and roughest areas of the Asterousia, which include the peak of Kophinas.[387]

This scheme puts Koumasa near a separation line that makes sense only macroscopically, or even retrospectively. For example, from a geological perspective, it becomes obvious that the area around Koumasa belongs to the hydrological catchment of Geropotamos. However, the macroscopic symmetry of mountains and terrain is not perceived from Koumasa itself.[388] The actual distances from the settlement to the Anapodaris and Geropotamos streams are 13 km. and 5 km. respectively, which places both at an approachable distance without much difference in distance between them. However, this distance is irrelevant for the question of direct water access, as this need would be covered by nearer sources. It is rather the created cultural landscape that is of relevance, defined by the stream paths that lead to Geropotamos. The closest water sources are the two smaller streams, one at the settlement itself as discussed above, and another, bigger one called "Koumasiano" today, that brings water through the modern village of Koumasa near its modern cemetery and continues between the villages of Vassiliki and Loukia until it reaches Geropotamos.[389]

The relation of Koumasa to the valley is very clear – not only optically but also culturally – from the EM period onwards, as Koumasa is well integrated in the "tholoi landscape"; the network of tholoi is spread evenly towards the Koumasa region, with six tholoi being at a line of sight distance of just above 3 km.[390] Cultural relations to Porti are also seen in the material evidence from the tholoi, for example the representation of man and bull on clay vessels from these tholoi.[391]

A longitudinal division of Messara does not, therefore, represent any tangible differentiations in the region, either culturally or geographically. A lateral division that creates a separation of the valley and the mountainous region would be more apt from

386 For the watershed see Daliakopoulos – Tsanis 2014, 68 and in this work Figures 49–55, in Chapter 5.5. For the author's proposal for divisions of the Asterousia range, see Figure 78 in Chapter 9.1.

387 This area is also, to a large extent, archaeologically unstudied, despite clear settlement activity appearing in places such as to the south of the villages of Panagia, Rotasi, and others, which can be seen while walking these areas.

388 It is interesting that the peak of Kophinas is not visible from Koumasa and is last visible from a point between the modern Loukia and Vagionia (Vayionia), in the vicinity of the Koutsoukera and Salame EM tholoi.

389 The Koumasiano stream is at a distance of ca. 650m from the western part of Minoan Koumasa. See also Figure 17 below and discussion in Chapter 9.3.3.

390 The tholoi are Koutsoukera, Salame, two at Ayia Irini, Drakones (Dhrakones) near the village Stavies and Porti.

391 Xanthoudides 1924, Plates II and VII; Branigan 1993, 122.

the point of view of Koumasa, as it fits the experience of dwelling there and is more in line with the effect of the landscape. It acts as a liminal point in the transition from the valley to the mountain, as seen in Figure 14 and Figure 16.

The observations based on this lateral division carry with them a potential methodological inaccuracy that needs to be kept in mind. It is often arbitrarily assumed that valley and mountain dwelling styles are based on clearly separated economic activities. This separation is emphasised both by modern specialisation and modern preconceptions induced by map readings. While there is some truth in such observations, when studying ancient activities, it would be wrong to monosemantically assign livestock activities to the mountain and agriculture to the valley.

Historically, in periods of prosperity, the exploitation strategy of the mountain can vary between the seasonal, such as transhumation, to a more systematic one, which includes habitation. This expansion, in turn, reflects on the valley, allowing for the growth of the settlements there in support of the mountainous ones. In Crete, the dense interchange between valley and mountain terrains would typically result in an increase in the number of settlements engaged in such exploitation rather than permitting one to dominate.[392] The diversity of products, both agricultural and animal-based, would support self-sufficient habitation, while the exchange of goods specific to each area facilitated the stabilisation of this dynamic dyad.[393]

The modern tendency towards mass production has forced a spatial separation of activities, i.e., sizable agricultural fields that can only be established in the valley and large herds of sheep and goats that graze on the mountains. This segregation is further emphasised by the trend of monoculture in the fields. Modern inhabitants of Koumasa and Kapetaniana divide their daily labour between the valley, where they take care of the fields, and areas near their villages where their herds are kept. This, however, is a modern trend, as small-scale farming has given way to industrial-scale production; agricultural policies favoured more dedicated production per region, pushing for monocultural use of the plain since the 1970s, and especially since this agricultural policy was given further impetus by the Common Agricultural Policy of the European Union in 1981.[394] Taking the Messara valley into consideration, about 250 km² are cultivated (the general land use has been the same since before the war); 15 percent is used for various vegetables and cereals, and another 15 percent for grape vines, the second-largest crop yield. The largest type of production by far is that of the olive tree, which has also seen the biggest increase. Of the total farming area of 250 km², olive-growing covered

392 Chantiotis uses this phenomenon as a framework for explaining the fragmentation of the island, and the multitude of smaller *poleis,* since the earliest records of the Archaic period (Chaniotis 1996a, 255). On the settlement trajectories from the LBA to the Classical period, see Pollard 2023, 132–135.

393 Chaniotis 1996a, 257–258. Input also from the public lecture: Papadatos, Y. & Kalantzopoulou, T. (2024, February 19) "The mountains of Crete in the Bronze Age: Current archaeological approaches. 3rd Hybrid Public Lecture. Archaeological Research Unit, University of Cyprus". See also Kalantzopoulou 2022.

394 Daliakopoulos 2014, 82–84. A major milestone and incentive for the expanse of olive farms was the installation of the drip irrigation network in 1984.

an area of 38.5 km² in 1984 (15 percent of total land use), increasing to 110 km² in 1997 (44 percent) and 175 km² in 2014 (70 percent of total land use).[395] The olive tree thus became dominant in the Messara region, pushing away other types of land use, defining but also overbearing the plain.[396] The modern association of the Messara with olive trees is a modern perspective. It is telling that investigations around Phaistos show olive trees decreasing after the Geometric period and barely present during Greek and Roman times around some centres.[397]

This impacted other land usages, marginalising smaller farms with a variety of produce and animal grazing, which was consequently pushed to the mountains. This overturning of the biodiversity balance that had lasted for millennia is combined with an increase in numbers of flocks, causing a great concentration in the mountain areas, exceeding the grazing capacity.[398] This in turn is linked to erosion, and the increasing aridity in the mountains.[399]

The gradual abandonment of smaller farmsteads has been observed in the 20th century.[400] The financial incentives for turning to large production types came at the expense of keeping smaller, more diverse gardens near the villages, which were crucial for the level of dependency and autonomy of mountain regions. These changes have sociological repercussions that need to be kept in mind when judging ancient or traditional village life based on the modern.[401]

This is true also for the area of modern Koumasa. After interviews with locals and surveying the mountains, it became clear that agriculture was taking place near and around the villages in the recent past, with a focus on greater varieties of grain, albeit smaller in quantity. Some of the older households in Koumasa still continue this activity at a smaller scale, in a market garden capacity.

To the west of Kapetaniana abandoned fields can be located by their built terraces. Upon inquiring on their state, the locals, the eldest of whom remember them still in use, point out the difficulties in their keeping, as the low yield quickly rendered such work a burden and a distraction from more profitable activities i.e., flocks on the mountains or the olive trees and grapes in the plain, or other types of activities such as beekeeping.

---

395 Daliakopoulos – Tsanis 2014, 71.

396 On the negative effects of the water-intensive olive tree production on the local hydrology horizon, see Croke et al. 2000; Daliakopoulos – Tsanis 2013; Daliakopoulos – Tsanis 2014.

397 This phenomenon is linked with the aridification of the period (Ghilardi et al. 2019, 13).

398 Daliakopoulos – Tsanis 2014, 78–79.

399 For analytical discussion of the erosion problem in the Asterousia, see Kosmas et al. 2015, 543, 546; and in the Messara, see Daliakopoulos – Tsanis 2014, 82–83.

400 The land, even in rocky areas, forms local catchments making the land arable (Blackman – Branigan 1977, 28–29). E.g., references of such farmsteads or their rests have been mentioned for the area near the tholos of Ayia Kyriaki or above the ancient harbour of Lassaia (Blackman – Branigan 1977, 80) and also in Koumasa, such as on the Korakies hill (Panagiotopoulos 2012a, 204).

401 For sociological aspects of standardisation and shift to industrial farm production, see Williams 1981, Carrosio 2005.

Modern means of transportation and new roads allowed for an easy commute between the valley and the mountain, while grains are now imported. For many locals, the activity around their mountainous village is now almost exclusively pastoral, and they commute to the valley for the agricultural.

Turning to vegetation as a factor of altitude, a differentiation between the lowlands and highlands can be observed. Watrous defined the splitting of the elevation of the valley from the mountain at 350 m.[402] By chance, this is at the exact height of Koumasa (its lower levels) and coincides with the extent of the dense olive tree cultivation seen today, making this transition more pronounced (see Figure 15). While this is indicative for the transitionary role of Koumasa, the modern land-use-based segregation can influence the academic opinion of land use in premodern times and on the evaluation of the dynamics defined by the topography. This is further enforced on a subconscious level by the traditional maps, which use the two-colour scheme for valley and mountain.[403] These elevation maps are not very useful in codifying the realities of life and experience of the terrain (discussed in Chapter 11) because they are based on an arbitrary categorisation of areas according to their elevation, thus making very dissimilar areas look similar on the map colour. Figure 16 shows such a map, marking the elevation of Koumasa as the dividing line of the mountainous (brown) and more level areas (green).

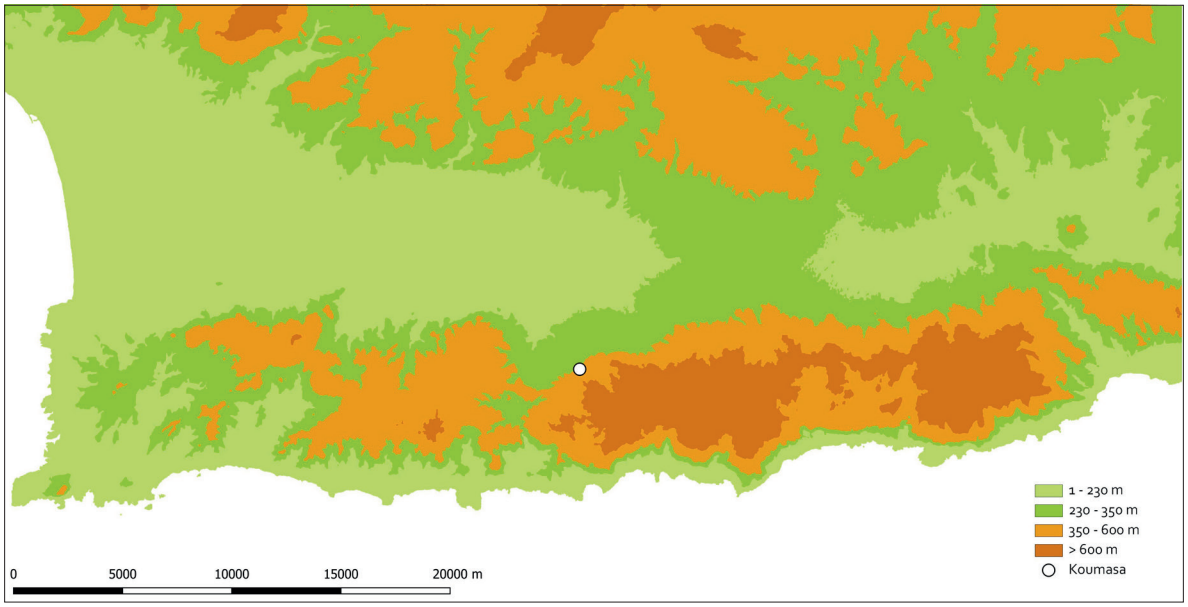

Figure 16: Produced four-colour map, following the traditional map norms. Here with the position of Koumasa as the threshold for the colour scheme.

402 Specifically, a differentiation of lowlands for altitudes of 0–350 m. and highlands from a 350–700 m. elevation is noted (Watrous et al. 2004, Table 5.10).

403 On the psychological impact of colours used in various representations in academic research, see Crameri et al. 2020.

In sum, Koumasa overlooks a region that smoothly transitions from the valley to the mountain, a transition which in the microscale of Koumasa is very much visible, reflecting in some regards the four-colour map. While this dividing line around the height of Koumasa does reflect the transitional area of 300 to 400 m., important in the change of vegetation coverage discussed above, it is inadequate for accurately describing other aspects, as the altitude criterion gives a misleading depiction of homogeneity in the similarly coloured regions, e.g., north and south of the Asterousia. A proposed definition of the Asterousia is presented in Chapter 9.1, taking into account topographical parameters.

3.3 Neighbouring Minoan Locations

The local topography, as defined by the hills and streams, is vitally important for the understanding of both modern and ancient activities. Topographically, the area Koumasa presides over is a niche of the valley going southwards, encompassing Vassiliki and the Kephala hill, seen as a semi-circular plain surrounded by the mountain. The modern immediate neighbours of Koumasa are Loukia on the eastern side of the niche, and Vassiliki and Kandhila to the southwestern side on the road leading to Vassilika Anoyia to its eastern side. Centrally, on the diameter of this hemisphere, Vagionia (Vayionia) is located in the valley proper. Topographically, however, the edges of this hemisphere across its diameter are the Kalamaki ridge at Fournofarango to the east and the Afendis Christos hill to the west. Unfortunately, other than the tholoi, some evidence of Prepalatial settlements and some sherds, no other Minoan activity is known from the area.[404]

This region is characterised by a transition into mountainous terrain, marked by streams that carve shallow gorges into the landscape so that local hills appear. The primary streams in the area, taken from the west, are the Vassiliki and Kandhila streams, which merge north of Vassiliki; and the Koumasiano stream, which runs through modern Koumasa (the stream passing through Minoan Koumasa also joins the Koumasiano stream north of modern Koumasa). These two streams converge in the vicinity not far from Porti and continue their course to the west of Vagionia, ultimately reaching the Gerokampos area. Another significant stream in the region flows along the eastern side of Loukia and proceeds east of Vagionia. Vagionia serves as a focal point where multiple water sources appear to converge, which might explain its location. GIS analysis has been employed to study the water catchment in the Messara – Asterousia (Chapters 5.5, 9.3.3), with the results relevant to this area introduced here. A segment is shown in Figure 17, showing the distribution of the tholoi and modern locations as per the streams.[405] The waterflow accumulation depicted is based on the catchment of the area in the valley area north of Koumasa, based on ArcGIS and QGIS tools applied on the Messara

404 See discussion in Chapter 9.2, and Figure 80 therein.

405 The validity of the resulting stream routes was crosschecked with the reality on the ground.

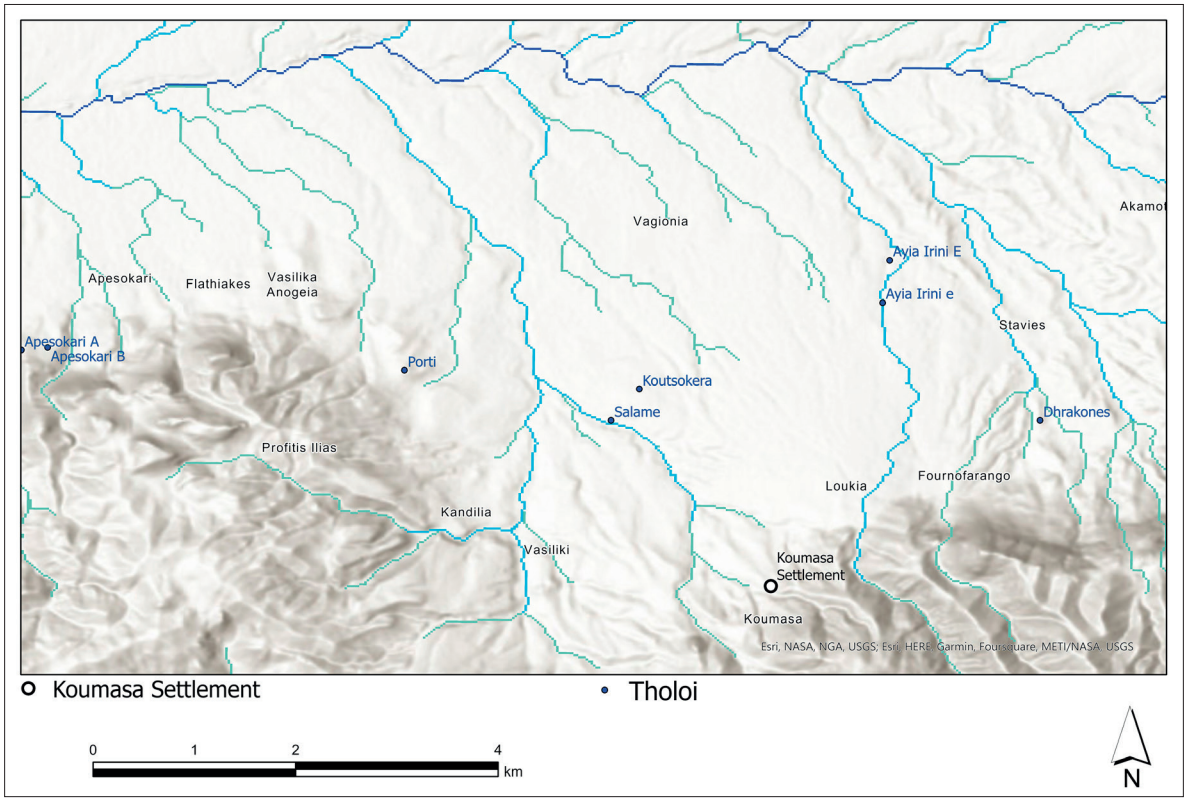

Figure 17: Flow accumulation in the valley in the immediate north of Koumasa.

DEM. Further analysis of subbasins and the role of rivers in the establishment of tholoi will be presented in chapter 9.3 (Figures 87–90).

The distribution of tholoi, as well as modern settlements near streams, is to be noted, a fact that stresses the similar usage of the landscape by different cultures. The result is not unexpected, but it showcases the usage of modern methods that could be further used in the discussion of possible settlements near the tholoi (Chapter 9.3). In modern times, these streams are seasonal but impactful. Since the terrain in preindustrial times defines the way life is conducted,[406] the existence of the modern villages there, alongside the distribution of tholoi, suggests a correlation between historical settlement patterns and the local topography. It indicates similar needs and a given topographical background predetermining certain areas as conducive to supporting human habitation, thereby influencing the spatial distribution of both ancient and contemporary populations.

A coherency of the areas in this valley niche is enforced through studies in Koumasa. Strontium analysis of the skeletal remains in combination with analysis of strontium in various areas of Crete showed a correlation of the values that are seen in the

406 For parallels in the use and adaptation in the environment of the modern preindustrial and Minoan culture, see: Kanta 1983.

area of Koumasa from Loukia towards Vassiliki, indicating that the buried individuals were dwelling in that region.[407]

As for the contact between sites on the southern side of the Asterousia and the Messara plain, it is facilitated by passages that offer shortcuts through the rugged terrain. Koumasa, notably, is situated on the northern side of one such passage group – one that allows contact towards the region of Ayios Ioannis, Trypiti and Salamias, as well as their corresponding coastline, and thus offers a direct route from the southern central Asterousia to the central Messara. The broader area is referred to as the mountainous mesoscale, not necessarily based on distances alone, which are not significantly greater, but because it constitutes another geographical unit. Firstly, there is no direct line of sight connection to Koumasa. Secondly, it features uneven terrain that connects to the larger network of the mountain range, extending beyond the immediate vicinity of Koumasa's location. This area fades into the wider areas of the macroscale which encompasses a wider geographic context beyond the everyday activity.

The EM usage of the area is marked by the tholoi expansion at the southern coastline, including Gerokampos, Lebena (Levina – Lentas), Trypiti,[408] and Ayios Ioannis and Salamias.[409] Beside the coastal tholoi, those scattered in the mountain in the vicinity of Koumasa are of interest, which include Christos and Krotos.[410] The Christos tholos lies 700 m. from the gorge that acts as a path connecting Trypiti with the Messara (a road that leads to modern Koumasa, as well as modern Vassiliki) and can be seen as related to this pass, while Krotos also lies on a way leading to Trachoulas. Bronze Age settlements and tholoi on mountain passes are known from Ayiofarango in the western Messara, from the earliest phase of the Bronze Age.[411] Similarly, the other mountainous tholoi, Miamou-Korakies and Ayios Kyrillos, also lie on mountainous paths, as seen also with the aid of GIS analysis.[412]

The need to emphasise paths as a physical attribute is an issue that has been addressed in the past. The existence of these paths in the otherwise rough terrain makes

407 Chatzikonstantinou 2025; also: lecture at the 13th International Congress of Cretan Studies, 05–09 October 2022, Agios Nikolaos, Greece, entitled: Αποκλίσεις και ασυνέχειες στη μεταχείριση των νεκρών στην προανακτορική Κρήτη: η περίπτωση του θολωτού τάφου Β στην Κουμάσα Αστερουσίων.

408 Summarised in Legarra Herrero 2014, Fig. 8.

409 Based on more recent discoveries (Chapter 11.3).

410 Their distance on the map – 4.5 km. and 6 km. respectively – is indicative but not the defining characteristic of their close distance, as will be discussed in Part II. The tholos at Krotos shows a diameter of 4 m. and with an earliest period of use in EM II (no. 72 in Legarra Herrero 2014, 190; no. 44 in Branigan 1993, 146). At Christos two tholoi are known: Christos B of unspecified diameter, and Tholos X with a diameter ca. 6 m., with possible first use in EM III (Xanthoudides 1924, 70; no. 46, 45 in Branigan 1993, 146; no. 11 and no. 12 in Legarra Herrero 2014, 171).

411 Blackman – Branigan 1977, 66–67.

412 See Figure 86, Chapter 9.2.2.

their diachronic use logical.[413] Also, the mountainous tholoi mentioned above all lie near modern settlements on the mountain, reflecting an adaptation of different cultures to the same environment. This aspect can be made clear when traversing the mountains, where the existence of such paths feels valuable.

As for the link to Trypiti, there is little doubt of the probability of its use. Judging by modern behaviour, Trypiti is considered one of the easily reachable sites from modern Koumasa. It is the pilgrimage route towards the church of Panayia Trypiti on the day of 1st September, when locals approach on foot. Those beginning from Loukia require around two hours at a leisurely pace.[414] The route taken is the one going near Christos, emphasising the diachronic element of this path.[415] Additionally, the area was used by modern, preindustrial locals; for example, Adamis, the name-giver of the lot of the Trypiti hill known *as tou Adami to Korphali,* was a resident of Koumasa.[416]

A hierarchical communication network map for the Messara is produced in this work, with a version already available by Déderix.[417] There, two likely paths link Koumasa directly to the southern Asterousia shore: the first – which is considered to be of the major path type – leads to Ayios Ioannis and the bay of Salamias located between Trypiti and Agios Ioannis, and a second heads directly to Trypiti on a route that is mainly marked as a major path and partially as a secondary path.[418] This would render these two routes accessible from the Messara through paths that are overlooked by Koumasa. Further analyses in Part III seem to render its position not as a central point within the greater Messara, as previous analyses have also concluded,[419] but as a gathering point, a link for many of the routes traversing the Asterousia and linking the central valley with the mountain.

Adding to these points, emphasising the liminal point of the region of Koumasa within its region is illustrated in Figure 18, which features five cross-sections of the 20m.-DEM model of the Asterousia. The sections are directed to the east, 10 km. in length, starting from the same latitude on the Messara and ending in the Lybian Sea, with the Kophinas Peak, Minoan Koumasa and the tholoi of Apesokari and Ayia Kyriaki

413 On the diachronic aspect of mountain passes, one can note areas near the Anapodaris stream, the roads to Trypiti and to Lentas, but also the above mentioned Ayiofarango, with use not only in the Bronze Age, but also for Classical and Roman times and later periods attested in ancient sources and archaeological remains (Blackman – Branigan 1977, 72–77).

414 Based on interviews with locals from Vagionia, Loukia, Koumasa, Vassiliki and Kapetaniana.

415 See Chapter 11.1.1.

416 Ownership of land and properties in the Trypiti area by the villagers of the wider Koumasa area, including Vassiliki and Loukia, continues as it would be expected to this day.

417 Déderix 2017, 17. See also Chapter 5.3.3.

418 The established path types are major, secondary, or minor paths (Déderix 2017, 17).

419 Bevan – Wilson 2013; Paliou – Bevan 2016.

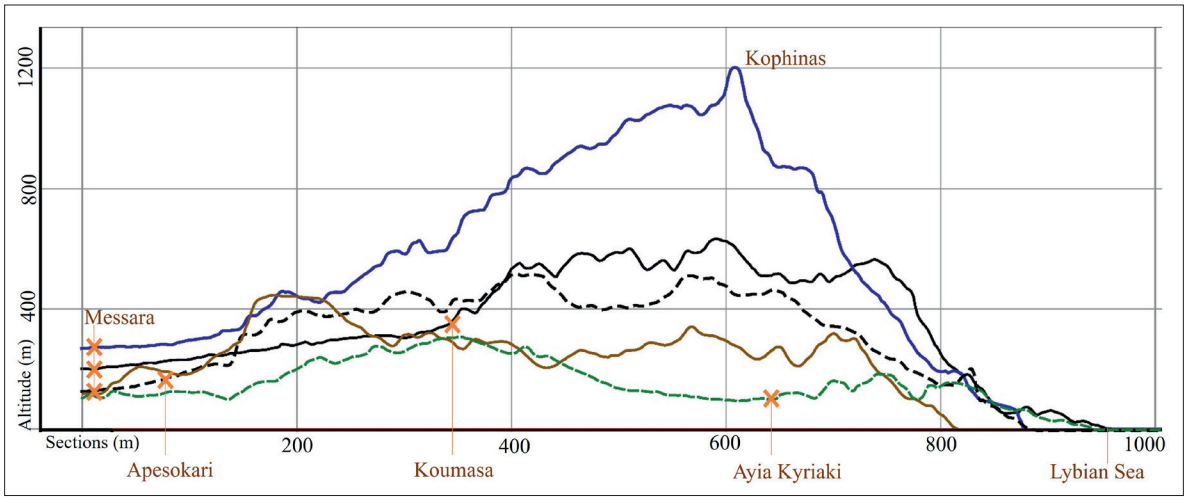

Figure 18: Cross-section cuts of the Asterousia along 10 km. lines, with view eastwards. The cuts from east to west: blue – section crossing Kophinas peak; black – crossing Koumasa; black-dashed – crossing Apesokari; brown – crossing Lassaia; green-dashed – crossing Kali Limenes and the Fournofarango near Ayia Kyriaki.

marked in their respective sections as references.[420] It shows the high terrain of the central Asterousia, represented by the section crossing the Kophinas peak (blue line), but also the fact that the mountain profile smoothens significantly from the longitude of Koumasa and westwards, a lowering that allows for shortcuts to the harbour regions around the longtitudes of Apesokari and Koumasa (solid and dashed black lines) and further smoothened at the longitudes of Lassaia and Kali Limenes.

It is of note that many of the Asterousia harbours seem to have been highly dependent on trade. Ayios Ioannis is suggested to be a very indicative example; although it likely had access to fresh water via streams and a well just east of Ponta, the Minoan structures are built on a narrow area of land with no room for cultivation and elaborate buildings, according to Hadjidaki.[421] Of course, small-scale cultivation cannot be excluded, as is discussed in Chapter 11.3.2. Furthermore, as Hadjidaki suggests, its location 40 km. from Phaistos and on the south side on the Asterousia excludes the possibility of any dependency Phaistos itself may have on this harbour. Rather, it appears that during its period of use – determined by pottery finds to date to the periods EM II through MM III – the location functioned as a supply point for the Messara.[422] The discovery of

420 The cuts begin from the Latitude 3876200. From east to west, the 1km. sections are on the following longitudes: 324548, 318648, 312745, 301067, 298700 (coordinate system EPSG 32635).

421 Hadjidaki 2004, 55–56.

422 The notion of the surveyor was of independent inhabitants, exchanging trade goods, possibly Egyptian, for agricultural products from the Messara (Hadjidaki 2004, 59), which will be disavowed in Chapter 11.3.2.

tholoi and the observation of a wider settlement at nearby Salamias speaks further in support of the existence of permanent inhabitants in the region.[423]

The same principle seems to apply for Trypiti, the other bay in the vicinity of Koumasa, where, in the EM period elements of the Messara culture in the form of tholoi and an EM II settlement are located,[424] as well as two FN II–EM I settlements on the northern side of the Trypiti plain and further east of it.[425] Subsequent habitation occurs in the MM and LM periods, with evidence of activity spanning the whole of Minoan chronology.[426] The lack of centralisation is indicative of the absence of direct threats, as evident by the building activity alongside the shore. Elements supporting an adaptation to the wider cultural networks – perhaps due to its role as a trade centre – could be suggested by Linear A evidence.[427]

This region has room for developing crops, but the existence of an autarchy is debatable. Other examples of coastal settlements, such as the nearby Lebena and Gerokampos regions, repeat this pattern so that direct contact with two or three locations in the densely occupied southern coast between Lebena and Trypiti and the more isolated Ayios Ioannis and Salamias would make Koumasa and Apesokari candidates for the function as a nodal point in the trade network.[428] The topographical conditions and mountain paths aside, contact with the sea has been proven in settlements on the northern side of Asterousia, such as Koumasa and Apesokari, via the presence of seashells and, most indicatively, by the bone analyses performed on the skeletal remains of Tholos B, which showed fish as a main source of nutrition for all humans.[429]

One after the other, extending along the bays, these areas dubbed here as harbours are dispersed, equidistant along the shore. They have exhibited evidence of similar cultural and social trajectories. Traditionally, this coastline has been studied from Cape Lithino to the Trypiti area. However, recent discoveries, coupled with the topographical study presented here, indicate that this active coastline extends to include Salamias and Ayios Ioannis, at the very least, as presented below.

For these harbour areas, a direct contact to the central Messara – beside the alternative sea link provided by the western Messara, which is open to the sea and has harbours such as Kommos – would further benefit trade and cultural contact. It would also add to their role as end-stations to ship routes, and not just as nodes in the route

423 Kanta – Serpetsidaki 2015, 59. See Chapters 11.3.1–2.

424 Vasilakis 1995.

425 Nowicki 2018 24–25; 37–38; analytical discussion is presented in Chapter 11.3.1.

426 Vasilakis – Sbonias 2018, 282–293.

427 *Knossos II,* 83–84. Analytical discussion is presented in Chapter 11.3.1.

428 For this function related to Apesokari: Flouda 2023, 65–66.

429 See Footnote 407.

towards the western Messara coast.[430] This would consequently add to the strategic importance of the Koumasa region and those other southern Messara settlements assumed to have similar arrangements, such as Porti, Korakies and Apesokari, which share similar chronological strata, showing EM tholoi and a nearby settlement that stretches to the LM period.[431] These areas are situated at the nexus between valley and mountains, bringing together and benefiting from two worlds, while also being a region home to the shepherding community that has seemingly been present on the Asterousia since prehistoric times.

These factors would elevate Koumasa to a region of strategic importance and give to any local elites the means to accumulate wealth; while any authority presiding in the Messara – even if its residence were located in the western part of the plain – would feel the necessity of enacting control over it. As mentioned above, much research regarding the Messara has concentrated on the Phaistos network, and, if not assuming a Phaistian state, then has at least mentioned the area as being under its influence. The question remains whether the Phaistian style material culture seen in Protopalatial Koumasa is imposed within a state module or reflects an adaptation by the local elite to the cultural environment.

Similar conclusions regarding the local role of Koumasa seem to be obtained in newer studies, utilising DEM models for the recreation of social networks in the Messara. The technical aspects of this methodology, conducted by Paliou – Bevan, Déderix, and reproduced by the author, will be discussed in Chapter 5.3.3.[432] The evaluation of the results, however, is pertinent at this juncture, as the author, while generating the same data, assesses the findings differently. The methodology shows the density of the produced networks based on the landscape and indicates the natural connectivity paths and, thus, the spatial relevancy of various areas. This methodology is a quantitative one and not qualitative, as it takes the landscape topography as its main input. It proves that the area of Koumasa is not central in this wider network; an observation that, instead of prompting a dismissal of the region based on quantitative facts, makes it a more interesting example that merits the development of an explanatory framework to explore the obvious importance the area had from the EM to LM I periods in a qualitative manner. So, while adhering to the principle that *geography matters,*[433] one could even argue that locations that deviate from the obvious geographical norm offer a greater potential for analysis, as their growth in a specific period, despite of their geographical marginality, means there is a reason for it.[434]

---

430 The exotica in Lebena and Koumasa can be regarded as obtained directly from these harbours, rather than as a result of inner distribution in the Messara, and seen thus as *en par* with Mochlos with which the chronology of documented exotica coincides in the EM II–MM IA (Colburn 2008, 210–215, Tables 1, 4, 5).

431 Vasilakis et al. 2019.

432 Paliou et al. 2014; Paliou – Bevan 2016; Déderix 2017, 17. See also Bevan – Wilson 2013.

433 Massey – Allen 1984.

434 I would like to thank Déderix for her kind input on this issue.

This can be seen in numerous examples, modern and ancient: for example, Johannesburg's significance, despite lacking proximity to a major water body, stemmed from the nearby gold mines, shaping it into a vital trading settlement. Other modern examples, like Brasilia as Brazil's capital, or the New Cairo City emphasise cultural and political considerations specific to the 20th and 21st centuries over purely geographical logic. Obvious in this consideration are important sanctuaries in religious movements that valued hermitic life, which grow in importance exactly because of the obscurity of their location. Another aspect is specific trade routes that evolve with time. Changes in these criteria bring some areas to relevancy that then diminish when said trade routes, religious significance, or other cultural or political aspects become less relevant so that the region regresses to its relevancy dictated by the *predisposition of the landscape,* as Nixon put it.[435] Sometimes, this relevancy is maintained, however. Such an example is the case of Damascus, which one would not consider as a logical point for the main city of a region if one is not familiar with the Silk Road, which became obsolete at some point after the city's importance was codified. This is why it retained cultural and political importance even after the trade routes declined. Drawing a parallel from Physics, these less obvious or difficult-to-quantify cultural aspects resemble an external energy source, impacting a closed system; without such input, the system reverts to its natural state. This perspective explains the rebound to the level of importance, intrinsic to (and aligned with) deterministic geographic criteria understood through deterministic analyses, such as the DEM method mentioned above.

Koumasa is an example of the later cases, as its importance diminished after the LM period. However, its importance during that period should not be dismissed solely on these geographical criteria; rather, explanatory frameworks should be developed to address this apparent discrepancy. In this work, trade networks and exclusivity to the southern harbours, as well as its nodal role as a gateway to the central Asterousia and Kophinas for those approaching from the valley and Phaistos, are identified as the main reasons for Koumasa's growth that overcame the other purely geographic criteria. Its decline seems to be generally synchronous with the decline in the use of the harbour areas. The timeframe of LM I is also consistent with a narrative that appears to emerge regarding the Neopalatial occupation of the mountains. This is evident in the study of the Lasithi mountains, where such occupation is attributed to demographic and economic pressures from the lowlands in the Neopalatial period.[436]

435 Nixon 2006, 60, 88–90. The case of the Cretan cities has been discussed above; another example from the Aegean to be added is the history of the cities on the island of Samos, with Vathy and Pythagorio in direct contact with Asia Minor, which decreased in importance due to the political borders that formed in the Aegean in the 20th century, in contrast to Karlovasi, which increased in importance only due to its position nearer to Ikaria, and by extension, Athens. So, it is political geography and not the physical geography that shaped the importance of the most populous city of Samos.

436 See Footnote 393 above.

The older divisions, therefore, do not necessarily fit with the newer studies concerning the network connectivity in prehistoric times briefly discussed here, which show the connectivity of the central Messara areas to the ports of the south, rendering them trade nodes rather than just peripheral centres. Therefore, the Vasilakis definition of a western-central Messara that includes the Koumasa region seems more fitting with the reality of the Minoan world, at least in the Bronze Age periods. In a more concrete example, there is no good reason to assume a different cultural environment for the Koumasa and Apesokari settlements (which according to some of the above-mentioned distinctions would be marginally located in different regions). This connection with the greater Messara tradition is reinforced by the archaeological finds, that denote – at least for the Protopalatial period – a strong connection with the Phaistos tradition, but also form a specific identity focused around the central Asterousia. To approach the questions of to what extent the neighbouring regions were under the control of Phaistos, or if they managed to maintain a separate identity, as well as the role of the local geography in this interaction, the matter of state formation in the Protopalatial period will first have to be addressed (see Chapter 10.2).

3.4 Archaeometrics

Concluding the holistic approach to the cultural landscape of the region, after laying out the topographical and historical elements in previous chapters, here aspects of forestation and climate in the ancient period will be tackled, with the aid of modern methods. This constitutes a crucial point in understanding the coastlines, mountains, and agricultural behaviour, that is, their state of evolution in the time period addressed. Geological changes, including seismic activity and tectonic shifts, have left their mark on the soil itself, and their analysis for the periods encompassing human habitation in Crete offers valuable insights.

3.4.1 Geological History of the Sea Level

One aspect that the state of research can shed light on is the matter of the Minoan sea-level, which is located some meters below today's coastline due to the turbulent geological history of the region. It is imperative, in the geologically very active region of Crete, to know if the effects of tectonic activities on the sea level would leave any evidence of potentially sunken Minoan harbours recognisable. In their extensive analysis on Crete, Mourtzas and Kolaiti established a certain geological history for the sea levels, and a methodology for determining the mean shore level in each period arriving at the conclusion that 4200 to 3930 years bp, the mean sea level was 5.15 m. lower than the present one, but not evenly around the whole island. The change of sea level occurred at certain geological events that caused the coastline to rise, creating new mean sea-levels.

Each level is marked geologically by a new bedrock formation. This method also uses C14-dating of the submerged marine notches.[437] Furthermore, in these kinds of analyses, correct reading of archaeological indicators of ancient buildings adjacent to their sea level can translate into elevation calculation.[438] In this regard, implementing marine archaeology techniques on Crete could be useful.

Regarding prehistoric times, there are two main paroxysmal subsidence events, with the first sinking the entire island by approximately 2 m. (4000 to 3600 years bp). The coast in the eastern part of the island remained stable for about 300 years, until the next event caused 1.5 m. further sinking, with the new sea level settling at around 2.7 m. below the present mean sea level. Moutzas connects this with the wider neotectonic upheavals in the area of the south Aegean that accompanied the strong eruption of the Thera volcano. Hence, he recalibrates the approximate C14-dates based on the Thera eruption, which, according to Fantuzzi's synthesis and Manning's analysis, falls within the margin of possibilities, as the end of the 17th to mid–16th century dating remains the most probable.[439] The next event is identified as taking place in the 13th century BCE, when the coast rose by 1.3 m., which Mourtzas and Kolaiti correlate with the tectonic events assumed to coincide with the end of Bronze Age.[440]

An analytical study was done by Mourtzas for the sea level of Lassaia (Lassea). It is not only a very good example to showcase the different tectonic events in its shoreline, but it is also part of the geological formation of the Asterousia range. Additionally, the immediate vicinity to the harbours studied in this work provides an excellent opportunity for deriving information on the sea level changes similar to that of other southern Asterousia locations.

Lassaia – towards the western part of the Asterousia range, but still clearly dominated by the mountain range's slopes – derives a diachronic importance from the sea, with presence since the Minoan times and a flourishing harbour town of the Hellenistic and Roman times.[441] In fact, the very existence of connections between Lassaia and Gortyn (presented in Chapter 2.5), raises similar questions about mountain crossings

437 Mourtzas – Kolaiti 2021, 8–11.

438 Sivan et al. 2001; Yasur-Landau et al. 2021.

439 A later date, mainly 1561 BCE, is favoured by the former and an earlier date, such as 1611–1600 BCE, by the latter (Fantuzzi 2023, 96; Manning 2024, 266).

440 Mourtzas – Kolaiti 2021, 8–12.

441 The Minoan finds of Lassaia, some buildings and pottery on the so-called Akropolis, have been considered as part of the Ayiofarango environment and seem to be very small in scope in relation to the Hellenistic town (Hatzi-Vallianou 1979, 382–383). In the Iron Age, besides the epigraphic evidence, it is only mentioned once in literature, in the Letters of Paul, as a town near the harbour of Kali Limenes, where he arrived on Crete (Acts of the Apostles 27.8). Interestingly, this pertains to the strategic position of the southern Asterousia even in the modern sea trade: since 1966, the "Vardinogiannis Fuels Bunkering Station" (SEKA bunkering station S.A.) completed the construction of the tank farm on the little island of Ayios Pavlos, situated in the Kali Limenes bay, being on the sea route coming out from the Suez Canal to the rest of the Mediterranean. The company's website states, regarding the choice of Kali Limenes: "the area climate in general gives mild weather and seas, maximising the operating days of the station."

as those encountered during the Minoan period. One such question is whether the route through the western Asterousia (which is much smoother than routes across the Trypiti – Tris Ekklisies zone, but nevertheless still mountainous) is more beneficial in terms of travel-cost compared to the longer but smoother route towards Matalon and Amyklaion, near the Kommos bay.[442] Of course, other parameters are to be considered here, regarding the rivalry between Gortyn and Phaistos, and other issues, such as the question of dependency of Lassaia on Gortyn, and when this came to be.[443]

The analysis by Mourtzas and Kolaiti of the coast of Lassaia, in correlation with the general principles mentioned above, show (in absolute dates) the stability of the coast at 2200 BCE. The first event is hence calculated at 1900 BCE, bringing the sea level to 4.15 m. below the modern mean sea level. This was followed by a rise by 1.65 m., due to the Thera eruption (here dated at around 16th century BCE), which led to the sea level being 2.5 m. below the modern sea level. The coastline itself receded by 15 m.[444]

In the light of this data, the presence of harbours near today's coastline can be assumed, but the receding coastline must also be taken into account, which would make coastal structures, especially those before the Thera eruption within the sea level today. The evidence of the building of Martsalos, the moles in Ayios Ioannis, and the Roman walls entering the sea at Lassaia indicate the existence of now sunken information, which marine archaeology could elucidate.

3.4.2 Historical Evolution of Forestation and Timber Types

Another consideration is the matter of forest areas in ancient periods. In Prehistoric times, Crete is generally considered to have been rich in wood.[445] As early as the EM period, timber was used in construction around the Messara. The use of wood was initially very tentative, but evolved to serve the purposes of consolidating the walls for earthquakes, and also for lintels or frames. As for load carrying beams, they had to be both strong and long.[446] The vertical timbers in buildings with a second storey are ubiquitous.[447] For

442 Matalon replaced Kommos as the main harbour, with a town expanding to 3–6 ha. plus seasonal buildings. (Watrous 2007, 102). For the identification of Amyklaion, see Footnote 247.

443 As analysed in (Chaniotis 2000) epigraphic evidence from the Lassaian Asclepion seem to verify the dependence of Lassaia on Gortyn, but it is not clear if at some point, it was an independent polis and what the importance of Lassaia as a gateway of Gortyn to the sea was in the times of the clash between Gortyn and Phaistos.

444 Mourtzas – Kolaiti 2021, 19–20.

445 Pollen analyses in Ayia Galini and the seabed south of Crete indicate oak forests for the period coinciding with the Final Neolithic (*Kommos I,* 125).

446 Meiggs 1982, 90–91.

447 Meiggs 1982, 89–90.

second-storey floors, an indicative example can be observed in Kato Zakros in room 29, where wooden boards were placed atop supporting beams.[448]

In the area of the 'sanctuary', the discovery of three vertical beams originating from a collapsed second floor – in what is named as Room 4 in this work – point toward a less intricate arrangement, placing the beams paratactically one near the other to form the lower part of the upper storey.[449] The analysis of charcoal taxa from this concentration indicates olive wood.

This result is based on the analysis of wood samples from Koumasa by Ntinou, which yielded some preliminary results that are discussed in this paragraph.[450] In fact, olive wood constitutes 85.9% of the selected charcoal taxa analysed in all of Koumasa, with a significant difference in the concentration of other plants, both in the settlement and in the tholoi area. Analytically, the elements represented at a rate higher than 1% are: olive (*Olea europaea*) with 85.9%,[451] *Amygdalus sp.* with 3.5%, Labiatae with 2.9% and *Angiosperm* with 2.1%. Looking at the areas of settlement and tholoi separately, olive in the trenches of the settlement plateau constitutes 88.8% of the analysed samples, *Amygdalus* 3.7%, and *Angiosperm* 1.4%. At the necropolis, olive constitutes 57,1% (*Olea europaea*), *Labiatae* 33% and *Agiosperm* 9,5%. The tholoi area showed less variety of wood types than in the settlement, with the exception of *Labiatae,* which appears only in the necropolis. Nine species appear in only one or two samples in the settlement.[452]

The timber used in Crete, as analyses show, is normally cypress (*Cupressus*), fir (*Abies cephalonica*), and to a lesser extent pine (*Pinus*) and olive (*Olea europaea L.*).[453] The preference for olive in Koumasa could be an indicator of a shortage of the other two types of timber, or indicate a local preference. If one takes EM II Myrtos as another example of southern Crete, the use of olive, pine, as well as holm oak (*Quercus ilex L.*) has been microscopically identified.[454] In Kommos, the percent abundance of selected charcoal taxon for oak is 35%, with the combined percentage of the taxa for cypress and pine being 11%, and olive constituting 25%.[455] Although the presence of olive increases with time in Kommos, it does not exceed 37% in total in the LM period;[456] Olive, based

448 The Banquet Room. Platon 1964, 150; 1971, 172; 1974, 159–160; for contextualising this find, see Shaw 2009, 107–108.

449 Panagiotopoulos 2019b, 449. See also discussion on page 202.

450 The analysis of the samples was performed in 2023 by Maria Ntinou. The results here are based on calculations on her preliminary results, to be published in the future.

451 Differentiation between the cultivated (*Olea europaea*) and the wild (*Olea europaea ssp. oleaster*) is not easy to determine due to the number of varieties of the two subspecies, and the close relation between them.

452 Those are *Quercus sp. deciduous,* conifer, pine (*Pinur brutia*), *Platanus orientalis, Vitex agnus-castus, Fraxinus, Cupressus sempervirens, Fabaceae, Juniperus.*

453 Shaw 2009, 94.

454 Meiggs 1982, 100.

455 *Kommos I,* Table 4.9.

456 *Kommos I,* Table 4.10.

on tree charcoal in Kommos is about 20% in MM and LM and 36,6% in LM II–IIIB.[457] These percentages are well under half of the respective presence in Koumasa. In this regard, cultivation of olive trees has to be assumed.[458] In Koumasa, cypress, oak and pine have been seen in one or two samples (constituting less than 1% of the samples), and fir and cedar are conspicuous in their absence.

Evans hypothesised that a timber shortage occurred during the Late Minoan period and suggested that deforestation was a contributing factor. This conclusion was drawn from evidence of timber being exchanged for gypsum.[459] Other reasons, however, such as the change in style of construction, may be cited as an explanation for this development, as that may have caused a different timber distribution.[460] Looking at other areas on Crete in the LM period, Zakros, an area which today is considered a dry one, shows abundant wood use for the building activities after the LM IB destruction, and therefore indicates a sufficient source of wood at that time.[461] As for the Messara region, at Phaistos, wood continued to be used in the second Palace period, with no indication of shortage;[462] likewise, the intense building activity in Koumasa, where olive was recognised as timber in areas of architectural use of the LM I period. In Kommos, some fluctuation in wood usage has been noted, particularly in the drop in use of evergreen oak, indicating a shortage in that regard, linked with the change in local climate, but not in the holistic sense proposed by Evans.[463] It is to be noted that timber at a site is used mainly as fuel for everyday activities, rather than for the building itself and the less frequent maintenance.[464]

Certainly, wood was a vital resource used in the construction of various objects, and, not least of all, in shipbuilding, where the island's supposed abundant forest resources historically played a critical role.[465] Timber such as elm wood and willow is also mentioned at later stages for wagon production, as evident in Linear B.[466] Subsequent evidence from Post-Minoan periods points to the continued capacity of the island as a timber resource. In the introductory paragraphs of his description of Crete, Strabo characterises it as mountainous and densely wooded.[467] In the Classical period,

---

457 Watrous et al. 2004, Fig. 5.10.

458 For example, an olive pollen amount of 35% at Tersana in central Crete was sufficient to assume cultivation before EM II (*Kommos I,* 125).

459 *Knossos II,* 518–519, 565.

460 *Festos II,* 420; Shaw 2009, 98.

461 See discussion in Shaw 2009, 98.

462 *Festos II,* 420.

463 *Kommos I,* 129–135.

464 *Kommos I,* 128.

465 Meiggs 1982, 97–98.

466 Ventris – Chadwick 1973, 370–372: So 438, 439, 440.

467 ἔστι δ' ὀρεινὴ καὶ δασεῖα ἡ νῆσος (Strab. geogr. 10,4.4).

two instances reference Crete as exporting wood: during the Peloponnesian war, in a comedy by Hermippus, the import of cypress wood from Crete (as a dedication) is mentioned.[468] A little later, during the construction of the Asclepius temple in Epidauros in the beginning of the 4th century, cypress wood from Crete is again mentioned.[469] Finally, this characterisation can be found in Theophrastos, who describes Crete as warm and with an abundance of cypress.[470] In Roman times – besides the account of Strabo – Pliny mentions Crete as the home of cypress[471] and, together with Vitruvius, also mentions cedar,[472] which since the Baroque era has vanished from the island.[473] This resource continued to exist on Crete through the Middle Ages, with Venetians using it for their fleet,[474] as did the Arabs upon conquering the island in the 9th century.[475]

The intensive use of timber, and the continuous habitation, has led to gradual deforestation of the island,[476] as the case of the local extinction of cedar trees shows. The general trajectory in the region indicates a decline in the density of forestation, due to erosion, climatic and human factors.[477] Regarding the Asterousia, the evidence, from the presence of the tholoi to the existence of harbour areas, suggests wood must have been available. With the caveat that none of the above-mentioned observations on Cretan timber refer to the Asterousia directly, there is no indication of different behaviour with regards to wood consumption than at Zakros or Phaistos. Today, the Asterousia is considered barren, but it is difficult to ascertain the situation during Minoan times. As mentioned above, a similar phenomenon can be argued for the Zakros region, which did not hinder the abundant use of timber then.

3.4.3 Periods of Climate Change

In the last decades, a new insight into the natural environment of ancient cultures has been provided with the study of climate in ancient times through to the Holocene, based on paleoclimate data, glacier shifts, and deep-sea fossil records, as well as volcanic activity, that yield results of changes in temperature and humidity level within

468 ἡ δὲ καλὴ Κρήτη κυπάριττον τοῖσι θεοῖσιν from a fragment of the comedy Phormophoroi (Athen., deipn. 27de).

469 Meiggs 1982, 423–424, 426; IG IV.2.1. 102, 26.

470 Theophr. hist. plant. 4,5.2.

471 Plin. nat. 16,141–142.

472 Vitr. 2,9.13; Plin. nat. 16,197. See the indication of the name of Mount Kedros (Maiggs 1982, 100).

473 The last mention of cedar on Crete is from Fynes Moryson in the 16th century (Warren 1972, 70).

474 Meiggs 1982, 99–100.

475 Salem – Alebadi 1969, 84.

476 Sands 2005, 19–27.

477 Watrous et al. 2004, 98–100.

this time period, some of which also include seasonality. The results of these analyses in the Aegean, and Crete specifically, have been used to explain social transformations, or rather to put them in context.[478] The archaeological record in the Mediterranean has shown a correlation between rapid social changes and weather deterioration.[479] A fine-tuning of some aspects of the Aegean chronology with the help of this data has been attempted.[480] It has been used further as an explanatory framework for developments in the Bronze Age Argolis.[481] However, the case has been made for careful use of this data and the avoidance of quick conclusions regarding social developments.[482] In this chapter, while heeding the calls for caution, a chronological summary of these events is presented, focusing on those relevant to the chronology of Crete.

A study of the temperature in the Aegean based on the fossil record in the sea allows for determination of seasonal differences in temperature and rainfall back in time until 10000 years bp.[483] Four main cooling events have been observed in the Aegean.[484] For the second cooling event, corresponding to the EM III to LM III periods, evidence comes directly from the wider Koumasa area, from a study of the Anapodaris river.[485]

This analysis leads to the conclusion that EM II is characterised by relative climactic stability. Winters are assumed to have been slightly cooler and summers less evaporative than the FN–EM I period. The changes, occurring at the transitional phase EM III–MM I, include an increase in temperature in the winter, while the evaporation rates during the summer months significantly escalated. These alterations occurred relatively swiftly, likely transpiring over the course of just one or two generations. Consequently, the periods suitable for cultivating plants were limited due to the intensified summer droughts. The abrupt desiccation of vegetation during the summer months would have been a notable challenge for a society unaccustomed to such conditions.

478 Papers on the study of historical shifts of climate and their impact on ancient cultures are included in McIntosh et al. 2000; a review of paleoclimatic data for the eastern Mediterranean reaching to 6000 bp is included in Finné et al. 2014; for climate changes in the Holocene, see Mayewski et al., 2004; McKay et al. 2024. For a study based on deep-sea fossils at the coast of northern Crete dealing with the impact of climatic changes in Minoan culture, see Moody 2009; and for a study based on the Anapodaris catchment, the closest study area to Koumasa, see Macklin et al. 2010. These studies are supported by analysing excavated organic finds, such as pollen and other plant elements (Moody – Watrous 2016). Further on the impact of climate change on ancient cultures, see Tainter 2000; Diamond 2005.

479 Manning 1997; Moody 2009.

480 Manning 1995.

481 Maran 1998.

482 Finné et al. 2011, 3163; McKay et al. 2024, 2.

483 Moody 2009, 241.

484 The first in the 7th millennium BCE; the second 4300–3600 BCE, thus ending within the FN period; the third in a couple centuries before 1150 BCE and the fourth concentrated around 900 BCE (Moody 2009, 243).

485 Macklin et al. 2010, 49. The cooling event in this study is evaluated from 2200 to 1400 BCE. This is followed by an aggradation phase from 1400 to 1000 BCE. Another phase of widespread incision in the Anapodaris Gorge began sometime after 1000 BCE and was completed by the 1st century BCE.

This phenomenon likely incentivised individuals to relocate to higher altitudes during the dry season.[486]

In the period of 2200–2000 BCE, a drought event affected the Mediterranean and the Middle East.[487] The effects of this event have often been associated with rapid changes and the fall of empires, having, for example been argued to have caused the fall of the Akkadian empire and changes in the Aegean.[488] Other voices, while acknowledging the effect, tend to suggest caution in exaggerating the effects of this event.[489] Although test regions in the Aegean showed warmth and water presence above the average in the Mediterranean,[490] the 4.2k event is also attested by the fossil record on the coast of Crete, showing an aridity period that affected the island during a time which coincides with the EM III–MM I period.[491] Discussing how this could have impacted the region under study in this work is deemed important, as the Messara is considered to be one of the hardest-hit regions of Crete.[492] The decline at the end of the EM II was related to a possible refugee crisis caused by the effect of this event. However, the fact that Crete itself was affected creates room for the possibility that these changes are a result of internal turmoil.[493]

An interesting take on the development of society's association with its landscape has stressed the role of these incidents of climate change. Moody proposes a correlation of the introduction of peak sanctuaries with the period of drought: "The 3rd-millennium aridity event, then, not only helps to explain the cultural stress that led to the development and proliferation of sanctuaries in EM III/MM I, but it rationally explains their locations in the landscape: peak-tops for rain and summer pasture; caves for groundwater".[494] This is not surprising as in other cultures as well, events such as this may have laid the groundwork for the inception of sacred spaces.[495]

The study of glacial advances documented in European mountains, and also in other continents, indicates a period of cooling spanning from 1870/1800 to 1370/1230 BCE; a small ice age characterised as unique within the Holocene, at least in central Europe.[496] In Crete, based on glacial advance in the Alps, this period seems to be contemporary

---

486 Moody 2009, 247.

487 Mayewski et al. 2004, 250–251.

488 Weiss et al. 1993; Maran 1998. See also below.

489 The often exaggerated use and reliance of archaeology on the 4.2 k event is criticised and put in context by McKay et al. 2024, 2, 7–8. See also Finné et al. 2014, 3169.

490 Finné et al. 2014, Fig. 4.b.

491 Whitelaw 2000; Moody 2009, 245.

492 Moody 2005; Moody – Watrous 2016.

493 Manning 1997; Moody 2009, 246.

494 Moody 2009, 249.

495 Kopestonsky 2016, 729.

496 Moody 2009, 246.

with MM IB/II to LM IIIA/B, and related, amongst other things, with the Thera eruption. Its effect on the island amounts to, as the sea fossil analysis shows, colder summers, but not colder winters.[497] The onset of the colder winters occurs in a later phase within this period and can perhaps be associated with the Thera eruption.[498]

As the deep-sea pollen core analysis shows, the climate in the south Aegean experiences a cooling event between 1150 and 900 BCE. Subsequently, the temperatures began to rise reaching a peak around the Archaic times (beginning ca. 600 BCE), becoming stable until the end of the timespan of the analysis, 1000 bp.[499]

A reluctant interpretation of this data is that during the Greek period, a gradual deforestation might have occurred, especially in the drier Asterousia region. Within this framework, the importance of the Hellenistic cults of Pan and Nymphs that are seen around the Asterousia and in the Messara could be reconsidered. As Kopestonsky mentions, climactic events, such as a drought or a unique feature in the landscape, may have sparked the transition from protected water to sacred space.[500]

In conclusion, Chapter 3 analysed Koumasa's position, within its broader environment, building on the insights of the previous chapters in Part I. The area is seen as a marginalised location in the research, but could be viewed as part of the circulation of the greater Asterousia-Messara region, within the context of the interconnectivity networks developed in various historic contexts. These networks will be further analysed in Chapters 9 and 10, within the Mesoscale and Macroscale approaches, utilising the input of the GIS analysis. First, in the following Part II, these methodologies will be introduced and applied to the area of interest.

497 Moody 2009, 246.

498 Moody 2005, 461. For questions of the chronology of Thera eruption and considerations of it taking place during, but not at the end, of LM IA see Manning 1995, 200–15, 220. For the possibility of the eruption occurring before the onset of LM IB, however, noting the uncertainties and the ongoing research, see Fantuzzi 2023, 95–96; Manning 2024, 263–264.

499 Moody 2009, 243, Fig. 20.2. Original data in Rohling et al. 2002, 590–591.

500 See Footnote 268.