

The 2012-2015 Ghent-Utrecht Survey Project at Thorikos

Preliminary observations on the post-Classical occupation

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Abstract

Between 2012 and 2015, a team of Ghent and Utrecht Universities conducted an intensive survey of the southern slopes of the Velatouri Hill, covering the area of the lower settlement of Thorikos as well as parts of the acropolis. This project was completed in 2015, after which the inventorying and study of the 56,906 finds continued through 2016-2017. Awaiting the comprehensive publication of the entire Thorikos Survey Project, we present here some preliminary results regarding the post-Classical period, which has historically received only very limited attention. We will 1) outline the scientific aims of the Thorikos Survey Project and its methodology, and 2) focus on the Hellenistic, Roman, Late Antique, Byzantine and (Early) Modern occupation. This is a first attempt to arrive at an integrated account of all post-Classical activity on the slopes of the Velatouri until the present day. Our investigation shows that while activity decreased significantly after the Early Hellenistic period (early 3rd century BCE) owing to a general decline in mining activity, the site was periodically revisited in later times. Here we attempt to relate these fluctuations to changing settlement patterns elsewhere in Attica. Most notably, we posit that a relative increase in finds during in the Late Antique period may be connected to a limited resumption of the silver and/or lead industry in the 4th century CE.

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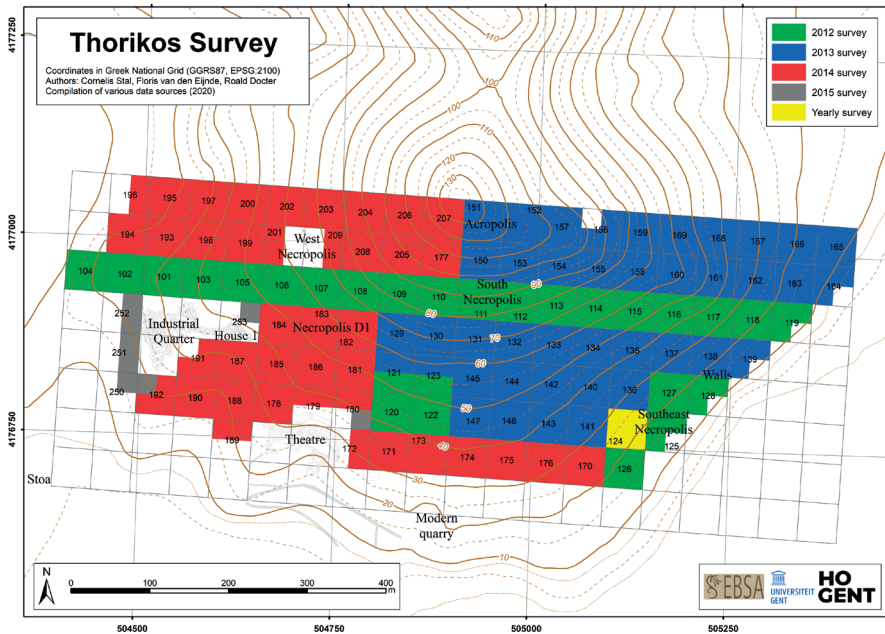


Figure 1. The 2012-2015 Thorikos Survey Project on the southern Velatouri Hill slopes.

Keywords

Thorikos – Mining – Attica – Survey – post-Classical

Introduction

Between 2012 and 2015, a team of Ghent and Utrecht Universities conducted an intensive survey of the southern slopes of the Velatouri Hill, covering the area of the lower settlement of Thorikos ('Industrial Quarter') as well as parts of the acropolis (Figures 1, 2 and 16).¹⁰ This project was completed in 2015, after which the inventoring and study of the 56,906 finds continued through 2016-2017.

¹⁰ In the frame of the permit of the Belgian School at Athens (EBSA), the Thorikos Survey Project (TSP) was directed by Floris van den Eijnde and Roald F. Docter. The former has been responsible for conducting the actual field survey, assisted by Amber Brüsewitz (then Utrecht University, now Ghent University). Roald F. Docter, Margarita Nazou, Winfred van de Put, Sophie Mortier, Alexandra Alexandridou, Andrea Perugini, Sophie Duchène, Carina Hasenzagl, Alexandra Konstantinidou and Silke De Smet were responsible for the pottery analysis upon which the preliminary conclusions of this article are based. Cornelis Stal was responsible for the survey-grid, based upon the work of Alain De Wulf, and for creating the distribution maps. The project's logistics over the years have been in the hands of Guy Dierkens, aided by Gunnar De Boel (2012) and Inge Claerhout (2013). First

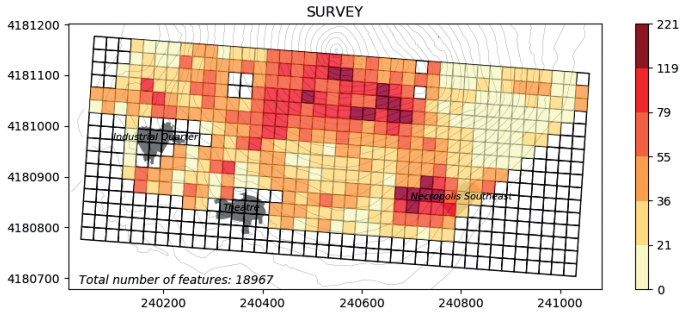


Figure 2. Distribution map of the 2012-2015 survey, showing Thorikos grid within a UTM-oriented context.

Currently a team from the Universities of Liège and Louvain-La-Neuve is conducting a complementary survey of the north-slope of the Velatouri.¹¹ Awaiting the comprehensive publication of the entire Thorikos Survey Project, we think it appropriate to present some preliminary results with regard to the post-Classical period, which has historically received only very limited attention. This analysis is based on the inventory and study of all finds collected during the 2012-2015 survey. In this preliminary report, we will 1) outline the scientific aims of the Thorikos Survey Project and its methodology, and 2) focus on the Hellenistic, Roman, Late Antique, Byzantine and (Early) Modern occupation on the slopes of the Velatouri.

Aims

At the onset of the Thorikos Survey Project, several aims were formulated. The main goal was to draw the various dispersed excavations on the Velatouri together, incorporating them into a unified narrative of the settlement's historical development.¹² Determining the full chronological extent of the site's use is crucial in understanding the site and its settlement patterns through time. The comprehensive fieldwalking approach (see below) particularly aimed to shed light on remains from understudied periods, most notably pre- and the post-Classical times.

discussions of the Thorikos Survey Project can be found in Van den Eijnde et al. 2018; 2021 and Nazou et al. 2018, 136, 140, fig. 4.

¹¹ Déderix et al. 2021.

¹² See the excavation reports in the preliminary volumes *Thorikos* I-XII as well as the series of comprehensive studies on Thorikos, for which see the bibliographical overview in Docter & Webster 2018, 58-59. For convenient overviews of the Belgian excavation efforts from the 1960s through 1980s, see Mussche 1998 and (including the more international recent investigations) Docter & Webster 2018. See also <https://www.thorikos.be>.

1. Determining the location and extent of the settlement phases in the Prehistoric and Archaic periods held special interest, given the relatively small record of pre-Classical domestic architecture. While there is much evidence from these periods in the form of pottery and graves, by contrast only few settlement remains have been uncovered to date.
2. Although post-Classical material is regularly found (albeit in fewer numbers than earlier material) and some evidence of contemporary activity in the mines exists, the occupation of the site in this period is still not fully understood, partly due to a near complete lack of architectural remains from this time.¹³

The survey has allowed us to detect shifts in settlement patterns that were previously unknown. In these pages we will direct our attention to the post-Classical period. A more comprehensive all-period publication is projected to follow.

At a more general level, the aim of the survey has been to increase our understanding of the socio-economic history of Thorikos as the main centre of silver mining in Attica.¹⁴ Not only did the survey support the view that these mining activities might have started earlier and might have been more intense than previously thought; they also seem to have continued for longer. A concomitant exploration of Cistern no. 1, near Mine no. 2, has drawn attention to the presence of Late Antique and Early Byzantine material, suggesting a renewed period of (metallurgical?) activity at Thorikos.¹⁵ The survey results also reinforce the notion that a small, Late Antique revival may indeed have taken place around the Industrial Quarter.

Methods and techniques

The fieldwalking technique used throughout the 2012-2015 campaigns was designed to cater to the specific needs and requirements of this type of intra-site inquiry. We were able to use the pre-existing universal grid system at the site, set up by the Belgian excavators in the early 1960s, which greatly facilitated the process.¹⁶

¹³ Spitaels 1978, 103-106, figs 60-63; Butcher 1982; Bingen 1990; Mussche 1998, 65; Docter et al. 2010, 49-51, fig. 20; Mattern 2010; Van Liefferinge et al. 2011, 71-72; Docter, Monsieur & Van de Put 2011, 95, 100-101, 106-111, 118-120, figs 19, 31-36, 42; Konstantinidou, Monsieur & Hasenzagl 2018; Konstantinidou forthcoming.

¹⁴ Extensive recent explorations have been conducted by a team from the University of Lorraine, cf. Morin & Delpech 2018.

¹⁵ Van Liefferinge et al. 2011, 71-72, showing that the Late Antique and Early Byzantine (6th-8th century CE) material may have been the result of intentional dumping, as it appeared to be lacking from the surface material in the cistern's immediate vicinity. See also the previous note and Nazou et al. 2018, 134-135, 140, fig. 3. See also Lohmann 1993, 293, who connects a slight Late Antique resurgence in nearby Atene to intensified pastoral activity but does not mention metallurgy.

¹⁶ Van Liefferinge, Stal & De Wulf 2011; De Wulf & Stal 2018, with fig.; Verdonck et al. 2021; De Wulf & Stal forthcoming.

This grid consists of 50×50 m macrosquares defined by letters and numbers, aligned on the north-axis, and was materialised on the site using small posts of reinforced concrete in their north-west corners. These posts are positioned on the vertex of each cell with a mutual orthogonal distance of 50 m. The coordinates of the vertices were measured by theodolite- and GNSS measurements during different previous campaigns on the Velatouri Hill, starting in the 1960s.¹⁷ Unfortunately, but as could be expected, some concrete poles were eroded and have been lost to the test of time. Using GPS measurements, this pre-existing grid on the Velatouri Hill was (temporarily) restored, complemented and used to determine the target areas for the intensive field survey in 2012-2015.

For the purpose of the survey, more analytical precision was required, and new points were added to divide the existing 50×50 m grid into smaller sections. The macrosquares were each divided into four square sectors, measuring 25×25 m: north-west (1), north-east (2), south-west (3) and south-east (4). These are called “mesosquares” to differentiate them from the 50×50 m macrosquares and from the 5×5 m microsquares previously used in the Thorikos excavations. In order to materialise these 25×25 m mesosquares, new points had to be added and missing, lost or eroded poles from the 50×50 m grid had to be replaced. Measured points were temporarily marked using paint or stacks of rocks in order to avoid environmental damage by the stake-out. While this is not a durable solution for marking the site, it was deemed sufficient for the limited purpose of the survey, since a later revisiting of these squares would only be necessary in a few rare cases (cf. note 28 below, contexts T12-124, T13-124, T14-124 and T15-124). The combination of concrete poles and temporary markers made it possible to further materialise the grid system on the ground by simply using marker tape to establish right angles and 25 m lines on sight. The resulting (small) inaccuracy of this approach was deemed insignificant in relation to the purpose of the survey; in addition, imprecisions were kept to a minimum by using GPS measurements to double check the marker’s locations. In line with the earlier survey experiences of one of the field directors (Docter) in the Laconia Survey and the Malta Survey, and after consultation of several colleagues working in the domain of survey archaeology (in particular Prof. John Bintliff, at that time of Leiden University), the following artefact collection strategy was decided upon.¹⁸

As a rule, four volunteers walked each mesosquare of 25×25 m for 20 minutes. In a few rare cases, when teams of four could not be formed, two volunteers walked a square for 40 minutes. The standard method was for the four volunteers to set out each from a corner and ‘hover’ toward the square’s approximate centre

¹⁷ De Geyter 1967a-b; Verdonck et al. 2021.

¹⁸ On the subject of intra-site artefact survey, see Bintliff 2004; 2013.

Mesosquare

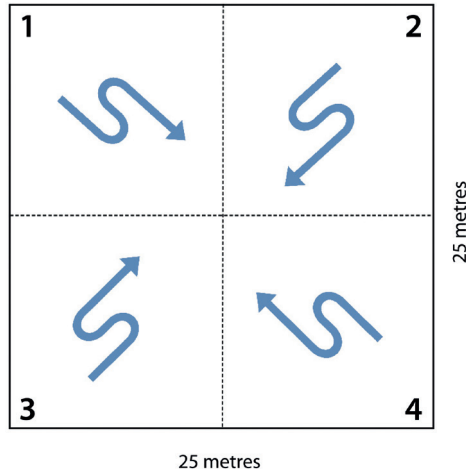


Figure 3. Method of fieldwalking: four volunteers “hovering” one mesosquare (25 × 25 m).

(Figure 3). This technique enabled the team to scan the entire surface for finds, allowing volunteers to avoid dangerous areas – bushes, mine shafts, cliffs, maquis etc. – while still paying equal attention to each individual square. Aside from observing the artefact-scatter, close attention was paid to architectural remains, mine shafts and entrances, as well as rock graffiti. This aspect of the survey adds to the topographical measuring campaign of 2008 on the Lower Velatouri Hill.¹⁹ A supervisor was present at all times, recording all finds and features on fieldsheets (using an iPad equipped with FileMaker) and documenting factors such as visibility, slope gradient, land use, topography, surface conditions, soil types and vegetation for each individual mesosquare.

All finds from a mesosquare were counted and bagged in the field per student and registered in the finds lab at the Archaeological Museum of Lavrion under a single context number.²⁰ The 2012–2015 campaigns were followed up by material processing campaigns until 2017, in which the 56,906 finds were inventoried and studied by specialists and students from several European universities.²¹ The finds consisted primarily of ceramics (fragments of vessels and ceramic building material),

¹⁹ Van Liefferinge, Stal & De Wulf 2011.

²⁰ E.g. T12-101-1, indicating the season (2012) and denoting both the macrosquare (A³51 = survey context 101) as well as the mesosquare (north-west sector: 1) to create a unique tag. See also Van den Eijnde et al. 2018, 20 with fig.

²¹ See below, acknowledgements. In part, the study of the finds took shape as the Fieldschool ‘Greek material culture’, organised for students of the U₄ collaboration between Ghent University, the Karl-August University Göttingen, Groningen University and the University of Uppsala.

but also of lithic material (such as obsidian and grinding tools), sea shells, metals, and metallurgical residues in the form of slags and litharge. The pottery chronology spans a wide period, from the Late/Final Neolithic to Modern times. Of the total number of finds, 23,494 (41.3%) were kept and 33,412 finds (58.7%) were discarded during the inventory process in the finds laboratory.²² While the main focus of previous excavations had been on the Bronze Age through Classical remains, no periodical discrimination was made in the examination of the finds collected in the field survey. In fact, it may be stressed here again that one of the main reasons for conducting an intensive intra-site survey was to establish the full chronological extent of the site as well as to detect shifts in habitational patterns through all its periods of use.

Stages of the survey

The survey effort of 2012 focused on three areas (Figure 1): first and foremost, we succeeded in examining a full east-west transect of just under one kilometre in length and one macrosquare (50 m) in width across the southern slope of the Velatouri. This transect includes all macrosquares situated directly south of the 51st latitudinal line, from the dirt road encircling the Velatouri at its western footing (C'51) to the coastal asphalt road abutting it to the east (P51). Transect 51 had the benefit of limited previous excavations, ensuring a relatively undisturbed sample.²³ The second area inspected was a roughly triangular field adjoining the coastal road, which was chosen for its location close by the sea and the presence of a monumental Late Classical or Hellenistic structure excavated in the early 1970s by A.G. Liangouras and E. Kakavogiannis.²⁴ Finally, an area on the southern slope was selected, because an extensive geophysical survey by a team under the direction of Robert Laffineur of the University of Liège (2010) had given strong evidence for a large building on this relatively flat plateau. It was expected that the survey would provide indications for a chronology that might or might not warrant the organisation of a future excavation.²⁵

The 2013 campaign sought to fill in the gaps in between these three separate areas as well as to explore the area on the eastern plateau of the acropolis down

²² The non-diagnostic finds were grouped by ware (plain, painted, black glaze, etc.) and – if possible – artefact type and shape (tile, amphora, open or closed shape, etc.) as well as by sherd size; they were then counted and entered in the database per category and then discarded in an area designated by the archaeological service on the premises of the Archaeological Museum at Lavrion. Natural rocks and finds of very recent date (post-1960 ca), were also discarded but without further recording.

²³ There are two exceptions: the excavation of the 'South Necropolis' (Servais 1968; Mussche 1998, 22-23) and the excavation of Cistern no. 1 (Van Liefferinge et al. 2011; Stal et al. 2014; Docter et al. forthcoming; Duchêne forthcoming).

²⁴ Liangouras & Kakavogiannis 1972.

²⁵ See Verdonck et al. 2021, 83-85, figs 1-2.

toward the modern coastal road.²⁶ During the third and fourth seasons, in 2014 and 2015, the survey effort concentrated on the areas left on the southwest slope of the Velatouri, in between the previously excavated areas of the Industrial Quarter and the earlier surveyed squares.²⁷

In all, 60,936 objects were collected in the field, 56,906 (93.38%) of which were processed in the Lavrion Museum (Table 1), after discarding natural rocks, other non-manmade items, and very recent finds (post-1960 ca). Of these processed finds, 23,494 objects were kept for storage in the museum, the rest having been discarded after careful examination and recording. Some 4587 objects, or roughly 8% of all processed finds, were photographed (and when deemed necessary also drawn) with a view to further study and publication.

Table 1²⁸

Year	Field count	Processed finds					% processed vs. Field count
		Stored	% of total processed	Discarded	% of total processed	Total processed	
2012	18,408	5,029	30.01%	11,727	69.99%	16,756	91.03%
2013	20,505	9,078	46.66%	10,379	53.34%	19,457	94.89%
2014	20,792	9,024	46.26%	10,483	53.74%	19,507	93.82%
2015	1,231	363	30.61%	823	69.39%	1,186	96.34%
Total	60,936	23,494	41.29%	33,408	58.71%	56,906	93.39%

Surface conditions

The surface conditions on this part of the Velatouri are generally consistent. The gravel-dirt soil is thoroughly mixed in with slabs of greenschist as a result of extensive erosion of the top layer of the Attic Cycladic crystalline belt.²⁹ Since the geomorphological history of the Velatouri is characterised by erosion, its slopes increase toward the top, impeding the survey effort, as well as – theoretically – rendering habitation near the summit more difficult. The exception to this rule is

²⁶ The second campaign was conducted between July 8-25, 2013.

²⁷ The third and fourth survey campaigns were conducted between July 1-23, 2014 and July 4-8, 2015 respectively.

²⁸ After the first survey in 2012, macrosquare/survey context '124' was systematically revisited in 2013, 2014 and 2015. The numbers in Table 1 exclude these revisits, so only the finds of T12-124 have been taken into account. This methodological case study has been the subject of a recent Bachelor dissertation at Ghent University (Toch 2019) and will be presented separately elsewhere.

²⁹ Baziotis, Proyer & Boskos 2009, 133-134; Scheffer et al. 2018; Voudouris et al. 2021.

the eastern plateau, commonly referred to as the “acropolis” (Figure 1, macro-squares H-J53), where most of the prehistoric finds were collected.

The visibility and natural overgrowth vary throughout the site. The terrain is punctuated by the occasional (wild) olive and is otherwise covered with herbaceous vegetation and the generic Mediterranean shrubs that thrive on this type of dry and rocky terrain. The less steep southern slope is generally quite grassy, while the thick, thorny phrygana obstruct easy navigation of the steeper east/south-east slope. As far as grassy or overgrown areas are concerned, visibility varied much throughout the 2012-2015 campaigns depending on precipitation levels in the preceding months.

The varying degree of overgrowth in particular poses an important methodological question. How reliable is the sherd count in a given mesosquare in relation to another square with different overgrowth, and hence, variable visibility? To account for differences in visibility between different areas or even the same areas over different periods, conditions were recorded for each mesosquare in the field-sheets – in terms of a percentage of full visibility (i.e. 100 %). In the future, the final sherd count representativity may be re-evaluated by taking the recorded visibility levels into account. In particular, the survey on the east slope suffered from poor accessibility as a result of the phrygana overgrowth, which is likely to have suppressed the yield per mesosquare.

Finally, the coastal geomorphology should be considered here: a reconnaissance geophysical survey in the Thorikos area has shown that the ancient coastline of Thorikos looked quite different than it does today. The now silted-up Adami plain and lower Potami valley would have formed an estuary, sheltering the settlement to the south and southwest.³⁰

Preliminary results: the post-Classical period

One of the aims of the Thorikos Survey Project has been to establish a more accurate understanding of the site’s habitational patterns in the post-Classical period. After studying 56,906 finds – visualised in five chronological distribution maps (Figures 4-8) – it is possible to present here some preliminary conclusions on Thorikos’ later settlement history.

The first distribution map presented here refers to the total number of finds (all periods) that were processed for further study (Figure 2). It is apparent that the acropolis, and in particular the lower slopes to the south-east, yielded strong concentrations of finds. Since the latter concentration consisted predominantly of Classical and (a very few) Hellenistic finds (see also Figure 4), it was conjectured that this previously unexplored area may have been an important part of the settlement

³⁰ Apostolopoulos et al. 2014.

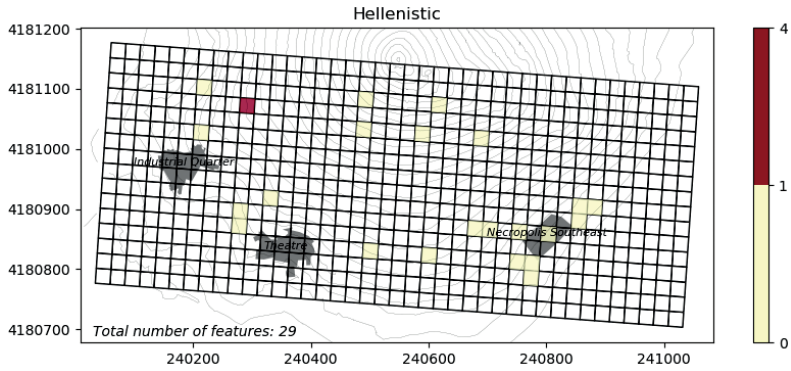


Figure 4. Distribution map of finds from the Hellenistic period.

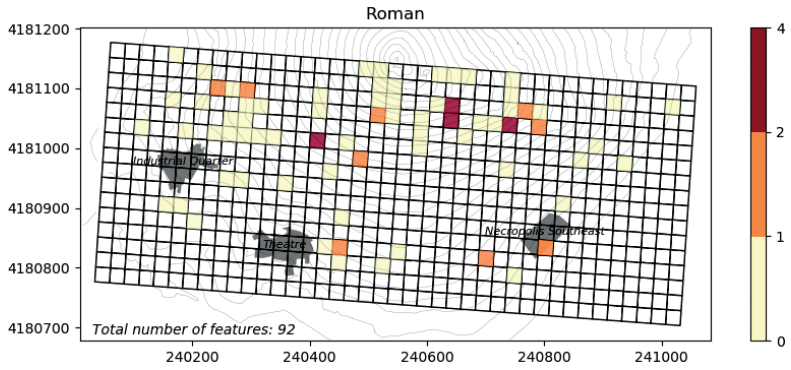


Figure 5. Distribution map of finds from the Roman period.

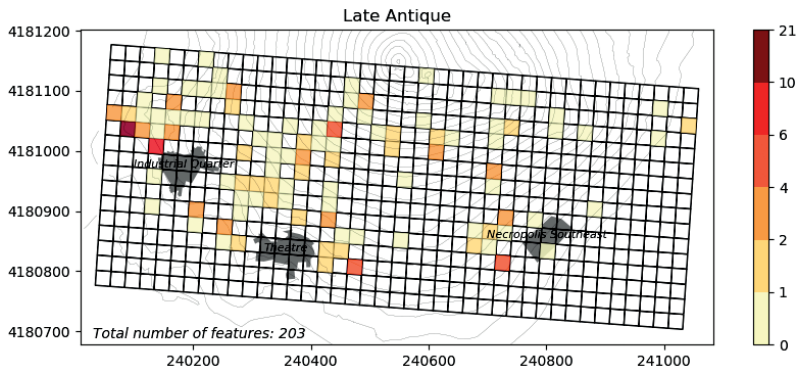


Figure 6. Distribution map of finds from the Late Antique period.

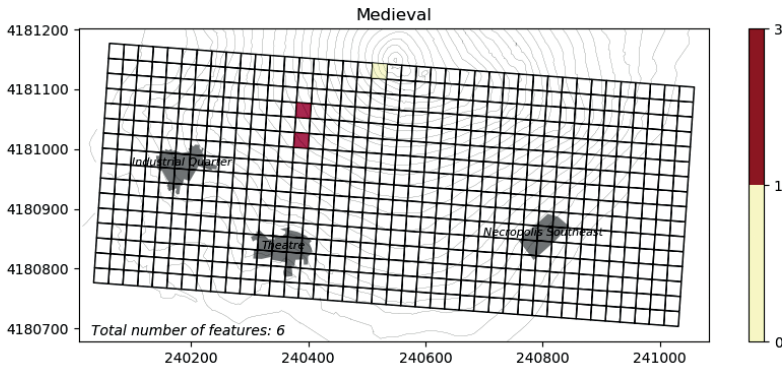


Figure 7. Distribution map of finds from the Byzantine period (including Medieval finds).

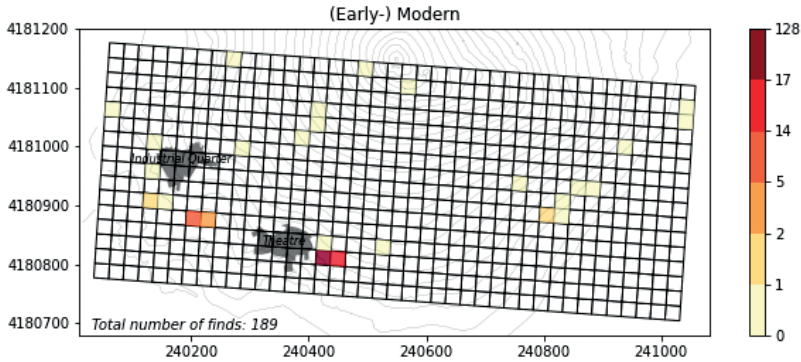


Figure 8. Distribution map of finds from the Modern period (including Ottoman finds).

at that time.³¹ Prehistoric finds, on the other hand, proved to be largely limited to the acropolis, though finds from most other periods have been attested there as well. Perhaps surprisingly, most finds from higher up the hill were not found on, but just below the acropolis plateau, on its south slopes. Rather than indicating that habitation was concentrated on these more inhospitable slopes, we may surmise that this material was washed from the upper levels as a result of natural erosion from the plateau. A particularly strong concentration in macrosquare I52 (survey contexts T13-153-2 and T13-153-4) can be at least partially explained by the fact that this area was used as a dump for the earlier excavations by Jean Servais on the acropolis (1965 and 1968), the material of which has since eroded further

³¹ Van den Eijnde et al. 2021; see also above, n. 25.

down towards the south-east and south.³² A similar concentration in the south-east sector of macrosquare F52 (survey context T14-205-4) may be interpreted as the remains of a dump of Valerios Staïs' excavations at the southern summit of the Velatouri (1893).³³ The eroded stratigraphy at the confines of his excavations probably account for the concentration slightly higher up, within macrosquares G53 and H53 (survey contexts T13-151-3 and T14-207-4).

Table 2. Total raw count per assigned chronological label

Assigned Chronological Labels	Chronological Range ³⁴		Total Count
Archaic/Hellenistic	700 BCE	30 BCE	6,351
Archaic/Late Antique	700 BCE	650 CE	30
Classical/Hellenistic	500 BCE	30 BCE	181
Classical/Late Antique	500 BCE	650 BCE	16
Classical/Byzantine	500 BCE	1455 CE	17
Late Classical/Hellenistic	400 BCE	30 BCE	3
Late Classical/Roman	400 BCE	330 CE	3
Hellenistic	330 BCE	30 BCE	31
Hellenistic/Roman	330 BCE	330 CE	7
Roman	30 BCE	330 CE	123
Roman/Late Antique	30 BCE	650 CE	30
Roman/Byzantine	30 BCE	1455 CE	2
Roman/Ottoman	30 BCE	1820 CE	2
Late Antique	330 CE	650 CE	276
Late Antique/Byzantine	330 CE	1820 CE	13
Late Antique/Ottoman	330 CE	1820 CE	1
Byzantine	650 CE	1455 CE	13
Byzantine/Ottoman	650 CE	1820 CE	5
Ottoman (= Early Modern)	1455 CE	1820 CE	137
Modern	1820 CE	2015 CE	47
Total			7288

³² Servais 1967. For a summary of the excavations on the acropolis, see Van Gelder 2011, with references; also Déderix et al. 2021.

³³ Staïs 1893; 1895; Papadimitriou 2020a-b; Nazou 2020; Déderix et al. 2021.

³⁴ Note that all dates are rounded off to 5 years for statistical convenience. E.g., the Ottoman take-over of Attica took place in 1456, while the transition from Ottoman to independent rule in Attica occurred in 1822.

A note on period assignment, adjusted find count and sherds per annum

A short note on our method of counting total find numbers per chronological period is in order, since the assignment of finds to distinct historical periods is not a straightforward process of simple counting. Table 2 shows all assigned phases indiscriminate of whether they are embedded or overlap, the 'raw' count' so to speak. From this, we derive adjusted total numbers per historical phase that include both embedded and overlapping periods. In these we have rigorously applied the following principles:

Inclusive vs exclusive counting – The main historical phases used in this analysis (Hellenistic, Roman, Late Antique, Byzantine and Modern) encompass more refined (embedded) labels (e.g., 'Early Christian', 'Medieval' or 'Early Modern') that were used in the initial finds analysis. When we refer to non-overlapping (simple) historical phases, we therefore distinguish between exclusive and inclusive simple counts, depending on whether underlying embedded periods are included or not. Since the labels Ottoman, Early Modern and Modern were not assigned consistently in our finds analysis, we do not distinguish between these periods.

Including overlapping periods in adjusted find numbers – The process of studying finds is naturally reliant upon the quality of the finds. Where in some cases it is possible to assign a clearly defined historical phase (e.g., Hellenistic, Roman, etc., see table 4), the general aspect of the finds often does not allow to be so precise, necessitating an overlapping of multiple phases (e.g., Archaic-Hellenistic, see table 2). Some fabrics or wares are produced throughout several periods (such as for example the Archaic/Classical period) while others are not well documented in the literature as dated to a specific period. Naturally, poor preservation also plays an important role in survey pottery. This poses a well-known problem for the extrapolation of reliable quantitative data, especially when judging the intensity of use during a particular phase. In some cases, the numbers of "overlapping" phases may be sufficiently low, so as to not significantly pollute the data when left out. But what to do, for example, with the 6351 Archaic-Hellenistic sherds when comparing variation in sherd numbers between the six main periods selected for this study (e.g., Hellenistic, Roman, Late Antique, Byzantine and Modern; see Table 4)? To leave out such sherds, would skew totals unrealistically against the Hellenistic period. However, it is also clear that these numbers cannot be divided in even measure over the underlying Archaic, Classical and Hellenistic phases. We have therefore opted to divide the sherd numbers of 'overlapping' chronological phases (e.g., Classical-Hellenistic, Byzantine-Ottoman etc.; see Table 2) according to the ratio of the selected inclusive "simple" counts of the main phases (i.e. Classical, Hellenistic, Roman etc.). Two chronological labels in particular are responsible for a dramatic effect: Archaic-Classical (22,235 sherds; not in table) and Classical-Hellenistic (6351 sherds, see also Table 2). Since the total inclusive simple

count of the Classical period already accounts for 56 % (2710) of all total sherds, distributing the multi-period sherds naturally increases the adjusted numbers for the Classical period particularly strongly. Thus, for instance, the “adjusted” (weighted) share of the 6351 Archaic-Hellenistic sherds assigned to the post-Classical (i.e., Hellenistic) period is “only” 49.77, contributing to the total inclusive adjusted count for this period of 85 (see Table 4).

Sherds per annum – Finally, in order to contextualise the adjusted find numbers, we also aim to take into account the uneven time span of the six main periods. To do this, we have opted to include the adjusted find count per annum in Table 4 and Figure 10. Obviously, this method is contingent on current standard periodisation, but we believe that potential divergences will not significantly alter the main trends revealed by this approach. The main periods were generalised to 330-30 BCE (Hellenistic), 30 BCE-330 CE (Roman), 330-650 CE (Late Antique), 650-1455 CE (Byzantine), 1455-2015 (Modern).³⁵

Post-Classical finds in relation to (pre-)Classical finds

Table 3 and Figure 9 present all processed finds distributed over three broad categories: pre-Classical, Classical and post-Classical (excluding the 18,418 sherds that could not be assigned to a discrete period). One aspect of this highly generalised table requires some further comment, i.e. the fact that the post-Classical phase is relatively underrepresented in the total inclusive simple count. This effect is hugely amplified when taking into account the thousands of multi-period sherds and including them into the adjusted count, based on the principle outlined above. As a result, the total adjusted share of post-Classical finds – which we take to be the

Table 3. Find counts of main periods

Processed Finds	Total Inclusive Count	% of Total Inclusive Count	Adjusted Count	% of Total Adjusted Count
Pre-Classical	1,496	31%	15,083	39%
Classical	2,710	56%	22,651	59%
Post-Classical	627	13%	745	2%
Total	4,832	100%	38,479	100%

³⁵ Cf. also the application of the chronotype system by Gregory 2004. The classification here is based (generalised to semi-decades, cf. n. 34) on accepted historical events, such as the Macedonian conquests, the battle of Actium, the foundation of Constantinople, the restoration of icon veneration, the Ottoman conquest of Attica and the ascendancy of the modern Greek nation state in Attica.

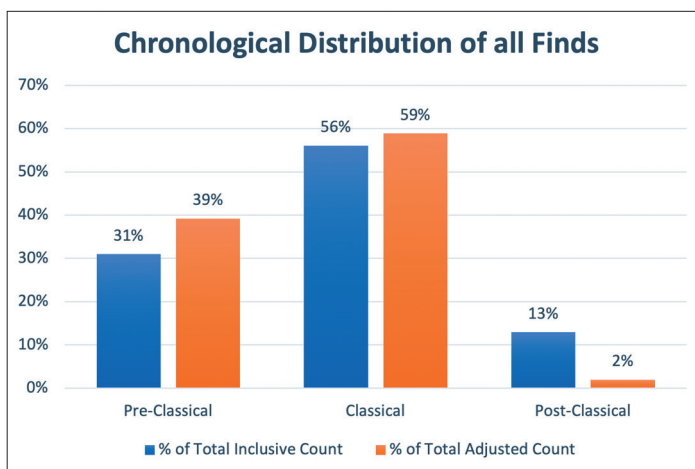


Figure 9. Chronological distribution of all finds.
Percentage of all period-assigned finds. N = 4832 sherds.

more significant value – is only 2% of the total amount of all finds that could be assigned to a period. Thus, while these results fill an important gap in the settlement history of Thorikos, it is important to bear in mind that post-Classical activity represents only a fraction of that in the preceding periods, the Classical especially.

Table 4 and Figure 10 show the absolute and relative numbers for all six historical phases of the post-Classical period. While some sherds could be dated with

Table 4. Simple, adjusted count and sherds per annum for the five main post-Classical periods

Processed Finds	Inclusive Simple Count	% of Total Inclusive Simple Count	Inclusive Adjusted Count	% of Total Inclusive Adjusted Count	Appr. # Sherds/Annum	Weighted # Sherds/Annum
Hellenistic	31	5%	85	11%	0.283	14%
Roman	123	20%	136	18%	0.378	19%
Late Antique	276	44%	323	43%	1.009	50%
Byzantine (incl. Medieval)	13	2%	14	2%	0.017	1%
(Early) Modern (incl. Ottoman)	184	29%	189	25%	0.341	17%
Total	627	100%	747	100%	–	100%

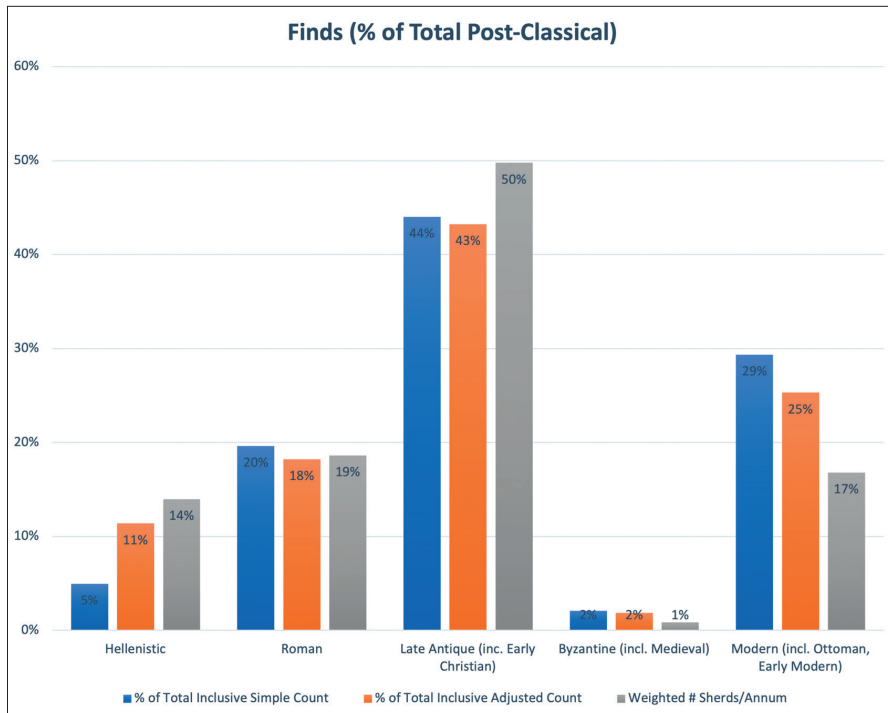


Figure 10. Chronological distribution of all post-Classical finds in six main historical phases. Percentage of total post-Classical finds. N = 627 sherds.

utmost precision, in many cases only a very broad determination spanning multiple (overlapping) periods has been possible. Still, the chronological attributions used in the following sections are to be considered as preliminary since they are mostly only based upon a first inspection during the finds processing campaigns. Further study of these finds by different specialists in the project is planned before detailed publication of the finds is possible.

The Hellenistic period

Based upon these preliminary data, the occupation of the site appears to have experienced a sharp decline after the Classical period. To put this in perspective, against the total inclusive adjusted count of 22,651 finds (2710 simple count, see Tables 2 and 4) from Classical times stand only 85 finds (31) from the Hellenistic period (ca 330-30 BCE), or 0.017 sherds per annum – a ratio of 266:1 (87:1). By all measures, this appears to represent a virtual abandonment of the settlement.

This becomes immediately clear, for instance, when we compare the approximate number of sherds per annum (0.283) to that of the Modern era (0.341) – in which we know the site to be more or less uninhabited – and to that of the Classical (151) – when we know the site to have been inhabited (ratio 611:1,14:1).

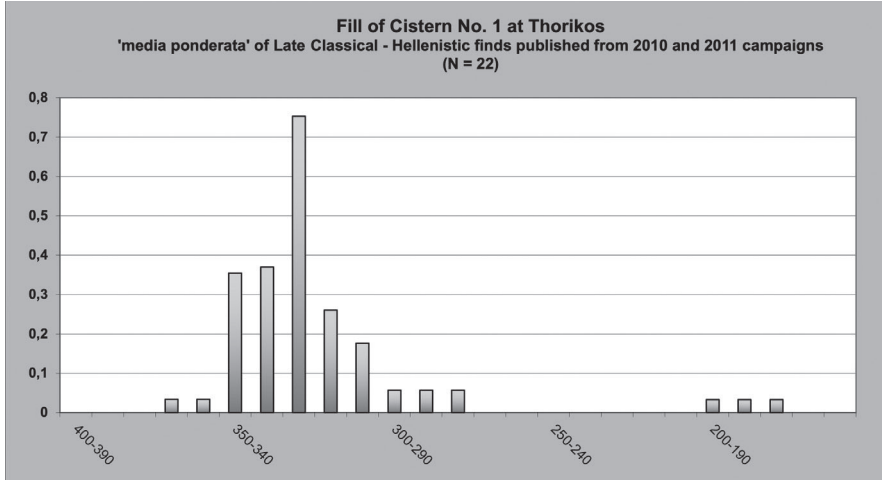


Figure 11. Thorikos, Cistern no. 1. 'Media ponderata' of Late Classical and Hellenistic finds from the fill. Mortier 2011, fig. 4.

A detailed study of the Late Classical and Hellenistic finds from the excavation of Cistern no. 1, published in 2011, may well provide some context.³⁶ Figure 11 shows the weighted number of sherds per annum. The cistern was presumably built in the late 5th century BCE and the finds in the fill, probably stemming mostly from the area around the cistern, so belonging to the use period of the *ergasterion*, show that the 4th century BCE had been best represented (see also Figure 12), after which decline set in. From the first three decades of the 3rd century BCE only limited finds are reported.³⁷ Limited activity reported from the turn of the 3rd to the 2nd century BCE, appears to be largely in line with the dispersed nature of much of the period's yield from the survey project.

While it seems assured that occupation of the Archaic and Classical site mostly came to a standstill, the survey results do permit some speculation about a potential, much reduced, habitational settlement on the lower south-east slopes of the Velatouri. Here, an area of ca 150 × 200 m yielded a great abundance of

³⁶ Mortier 2011.

³⁷ Docter et al. forthcoming.

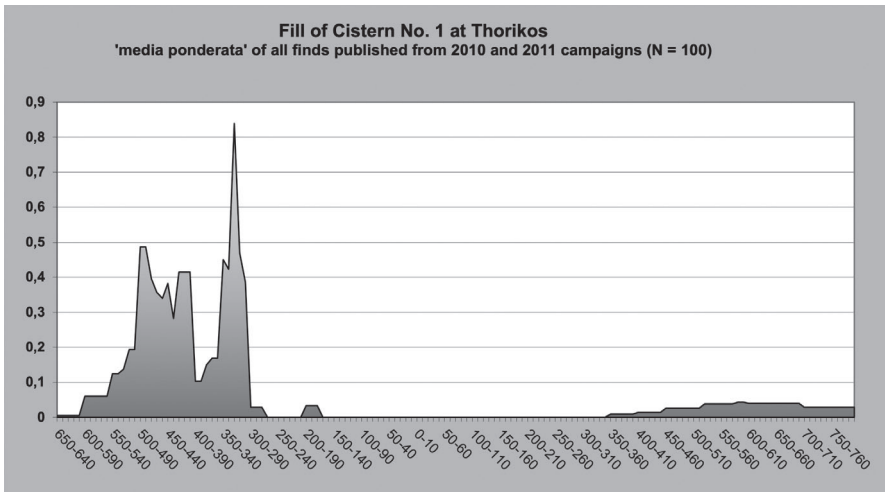


Figure 12. Thorikos, Cistern no. 1. 'Media ponderata' of the fill.
Docter, Monsieur & Van de Put 2011, fig. 42.

Archaic and especially Classical finds (including much tile fragments), which has led to the hypothesis that this area represented a previous unknown district of the town: The Southeast Quarter.³⁸ Given the few but persistent Hellenistic finds throughout this area (Figure 4), it seems justified to posit a limited and perhaps short-lived continuation of this part of the settlement into the Hellenistic period.³⁹ In light of the steep decline witnessed from the end of the 4th century BCE onwards, however, it seems clear that the only known ashlar building in this area, previously thought to have been either Classical or Hellenistic, should most likely belong to the 4th century.⁴⁰ Further study of the finds is needed, however, in order to establish the exact chronology of a potential Hellenistic phase of the Southeast Quarter.

What little finds persist dispersed throughout the rest of the site may perhaps (on analogy to the (Early) Modern period) be attributed to occasional visitors (shepherds, farmers and the like).⁴¹

³⁸ Van den Eijnde et al. forthcoming.

³⁹ Perhaps the Southeast Quarter could also be linked to the installations excavated in 1969/70 near the power plant (Franko Limani). Hulek 2020 has indicated that the smelting furnaces can be dated to the 2nd century BCE. A presumptive cupellation furnace could date to Hellenistic times or Late Antiquity.

⁴⁰ Liangouras & Kakavogiannis 1972. Cf. Van den Eijnde et al. forthcoming.

⁴¹ As e.g. the 2nd- or 1st-century BCE amphora or water jug that was found in the fill of Cistern no. 1, Docter et al. forthcoming, cat. 6.

The Roman period

While find numbers remain low in the Roman (ca 30 BCE-330 CE) as compared to the (pre-)Classical periods, a significant increase can be detected coming out of the Hellenistic phase. As with all preliminary results presented here, further research will have to provide more detailed insight into the chronological development of the site during this period. Finds of transport amphorae in especially the Theatre necropolis dating to the Late Hellenistic period and related to a structure used for “elaboration of either iron blooms, converting them into semi-finished bars or for shaping iron bars into final products, like tools, weapons and other artifacts or for both purposes” show that some activity took place in this part of Thorikos.⁴² Given further intensification in the Late Antique period, however, it may cautiously be hypothesised that intensification happened rather later in the Roman period.

A look at the distribution map presented in Figure 5 shows several remarkable aspects:

First, while some finds come from random squares in the Southeast Quarter, there is no clear concentration that might hint at a diminished form of settlement there in this period.

Secondly, most finds were retrieved from the wider environment of the “Industrial Quarter”. This may indicate that silver or lead extraction, in some limited form was resumed during this period. Significant in that regard may be some finds retrieved slightly to the east of the theatre, adjacent to mine no. 6 and in two squares to the north of the excavated area of the Industrial Quarter, near Cistern no. 1 and mine no. 2 (orange in Figure 5).⁴³

And finally, a fairly uniform dispersal of finds is discernible on the higher slopes of the Velatouri, immediately south and southeast of the summit. Two mesosquares just south (orange) and southeast (brown) can be connected with dumps of previous excavations by Staïs and Servais respectively.⁴⁴ Several finds were also retrieved from a square further towards the east and may be attributed to accumulated erosion from the Acropolis “flat” immediately above. If these finds then argue for a very limited resumption of activity on the Acropolis, it must immediately be pointed out that in the course of the previous excavations no buildings have come to light that have been attributed to Roman times. If structures of some sort did exist here during this period, they have left no trace.

⁴² Mussche 1998, 44-45, 132, fig. 76; Varoufakis 2014, esp. 122; Docter et al. 2010, 50, fig. 19.

⁴³ See Mussche 1998, 36-39 and fig. 19 (location of the mines). See also Butcher 1982; Monsieur 2008; Docter et al. 2010, 51, fig. 20; Morin & Delpech 2018, 44-45 with fig.; Konstantinidou forthcoming.

⁴⁴ Staïs 1893; 1895; Servais 1967; 1968 (N.B. none of these publications mention the dumps); Van den Eijnde et al. 2021, 22; forthcoming.

The Late Antique period

The intensification during the Late Antique (ca 330-650 CE) period evident in Table 4 and Figure 6 is chiefly to be attributed to the wider area surrounding the Industrial Quarter and the theatre. The vicinity of mines 2 and (especially) 6 again are notable for a relative concentration of finds. Significantly, finds from the 2010 excavation of Cistern no. 1, studied by Docter, Monsieur and Van de Put, corroborate a Late Antique ‘revival’ (Figure 12).⁴⁵ While the precise extent and nature of the Late Antique resurgence remains hazy, a connection with silver and/or lead mining seems hard to escape in light of the Late Roman lamps found in mines 3 and 6.⁴⁶

A particularly high concentration of finds was collected immediately to the north-west of the Industrial Quarter. No plausible explanation for this concentration currently presents itself, other than the hypothesis that a small mining settlement may have existed here, in relatively close proximity to the Thorikos mines. This settlement presumably included a part of the Industrial Quarter itself, given the Late Roman amphorae and domestic pottery retrieved from insula 3 and the tower compound.⁴⁷ The domestic pottery seems to have consisted mainly of cooking vessels that Spitaels mentioned in her report. The more recent excavations in Cistern no. 1, however, have yielded a larger fragment of a cooking pot that typologically could be attributed to the ‘Corinth/Mitello’ type which had been produced in the Otranto region as well as in Athens; it may be dated to the late sixth, but particularly the seventh and eighth centuries CE. Furthermore, the Late Roman to early Byzantine amphorae from the Industrial Quarter consist of Late Roman 1 wine amphorae, Late Roman 2 olive oil amphorae, Late Roman 3 wine amphorae, as well as Cretan globular amphorae.⁴⁸ As has previously been pointed out, earlier characterisations of this site as a “squatters settlement” may well do the settlement and level of activity at this time injustice.⁴⁹ Some architectural remains in the area

⁴⁵ Docter et al. 2011, esp. 118-119 and fig. 42. Fragments of a rotary hand-mill found in the upper layers of the cistern have tentatively been attributed to the 7th or 8th century CE at the earliest, which might indicate that domestic or artisanal activities might have been taking place on a regular basis in that area of the Velatouri at that time (Duchène forthcoming).

⁴⁶ Butcher 1982; Mussche 1998, 36-39 also notes several sherds and lamps from mine no. 3. See also Konstantinidou forthcoming.

⁴⁷ Spitaels 1978; Mussche 1990, 57-60.

⁴⁸ Docter et al. 2010, 51; Docter, Monsieur & Van de Put 2011, 106-111. As with the cooking pot from Cistern no. 1, their typological dates do not seem to go beyond the 8th century CE. In the process of inventorying the survey finds, the fragmentary amphora material could be closely linked up with these old finds from the Industrial Quarter and the more recent ones from the Cistern no. 1 upper fill. A more detailed study by a specialist of the period, however, had been foreseen but had to be postponed due to the limitations imposed by the COVID-19 restrictions.

⁴⁹ Docter et al. 2011, 119-120, commenting on Mussche 1998, 65.

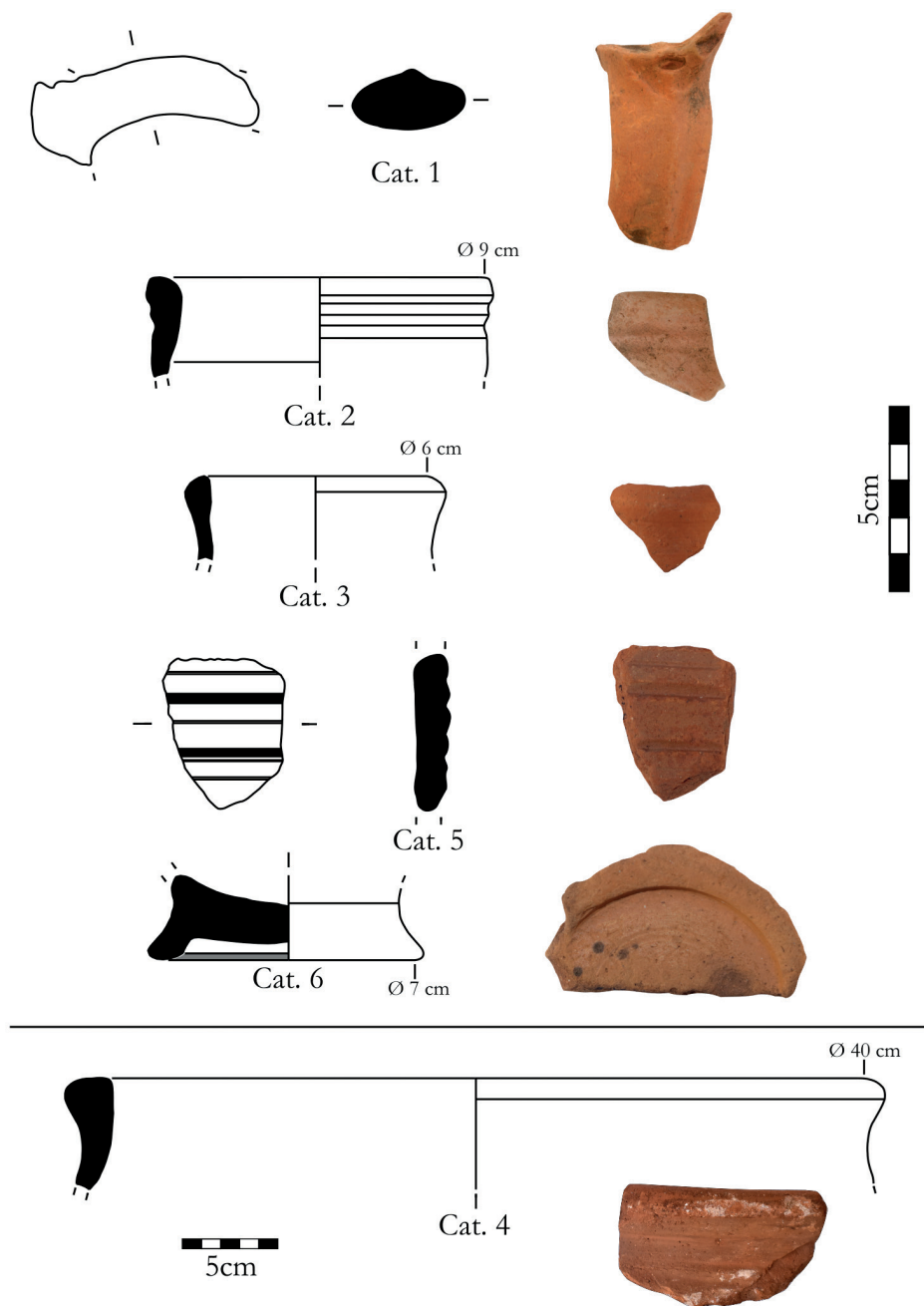


Figure 13. Cat. nos. 1-6.

of insula 3 may hail from this period, further strengthening the case for a nucleated settlement in this area.⁵⁰ Apicultural activity is also attested by the finds of Late Roman beehives found at the site (see cat. no. 5, Figure 13).⁵¹ On the basis of the fabric, even wall fragments can easily be distinguished from the Classical and early Hellenistic ones. Significantly, the practice of formal burial in the Theatre Necropolis was resumed during this settlement phase, indicating that we are dealing with no mere ‘squatters settlement’.⁵²

It is hard to determine whether the Roman activity on the acropolis plateau (commented on above), continued into the Late Antique phase. Notably, very few finds from this period were collected on the plateau, although a not insignificant number was found in a ‘halo’ surrounding it at a lower level, perhaps suggestive of erosion from the top.

The Byzantine period

The Late Antique settlement did not extend into the Byzantine period (ca 650-1455 CE; Middle and Late Byzantine). Table 4 and Figure 7 forcefully speak to its complete abandonment by the beginning of the 7th century (but see Figure 12). A mere 1-2% (depending on the mode of calculation) of all post-Classical finds can be comfortably dated to this period. Tellingly, the number of sherds per annum from this period is only a fraction of that in modern times. This may indicate that the wider area too was now only sparsely populated, resulted in fewer ‘occasional’ visits. It also cannot be dismissed that our knowledge of the finds of this period is more restricted, resulting in fewer attributed objects. At the very least, it may be justified to conclude that during this historical phase silver and lead extraction no longer played a role.

The (Early) Modern period

During the (Early) Modern period (ca 1455 CE onward) some activity resumes, even if it is hard to determine its precise nature (Figure 8). It is not inconceivable that the Velatouri at times was used for agricultural purposes, as appears to have been the case in the aftermath of WWII, as a result of food shortages.⁵³ An iron

⁵⁰ Mussche 1990, 57-60 fig. 54.

⁵¹ Ellis Jones 1990, 66-67, figs 61-64; Lüdorf 1998/1999, 87, cat. B19, B21.

⁵² Graves 516 and 519 of 3rd/4th century CE and end 4th/beginning 5th century CE, respectively, as well as graves 507 and 509: Catling 1980, 19; Bingen 1990; Mussche 1998, 65, 72, 75-76; Mattern 2010, 229, pl. 53; Docter et al. 2010, 49-51; Docter, Monsieur & Van de Put 2011, 120-121.

⁵³ The parcellation of the Velatouri for agricultural purposes is said to have taken place in the crisis years following the end of WWII (oral information by the late H. Mussche). Iron parcellation markers have been found loosely all over the Velatouri Hill; see e.g. TM19.630 (Figure 15). We thank

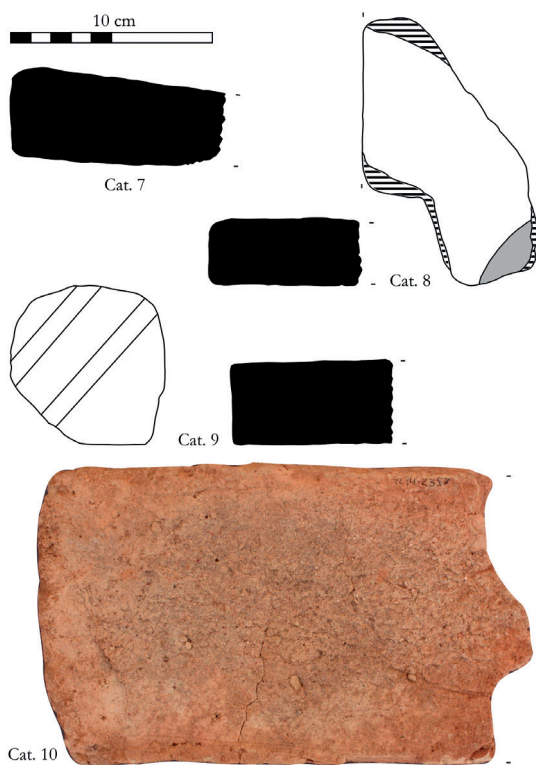


Figure 14. Cat. nos. 7-10.

mule shoe found during fieldwork may date to this period as well but may also be earlier (19th/first half of the 20th century) (Cat. no. 11, Figure 15). Intensification of mining activity within the mines on the Velatouri Hill took place with the resumption of silver and lead extraction by the French mining company in the 19th and 20th century.⁵⁴ The entrance to Mine no. 6, to the east of the theatre, was enlarged in order to facilitate its exploitation. In front of the mine two buildings were erected in combination with three furnaces (Figures 16 and 17), of which the foundations can still be seen. Not surprisingly, this part of the site specifically saw the largest concentration of Ottoman and (later) Modern finds (Figure 8). In particular, a large number of bricks and tiles stand out, which were probably left after the demolition of the two buildings, visible in Figures 16 and 17 (Cat. no. 10,

J. Bergemann (Göttingen) for his kind permission to illustrate this find, stemming from the fieldwork on the lower south-eastern slopes of the Velatouri.

⁵⁴ Kayafa 2018, 109-111; Morin & Delpech 2018; Mussche 1998, 36 mentions a fountain pen in Mine no. 3.

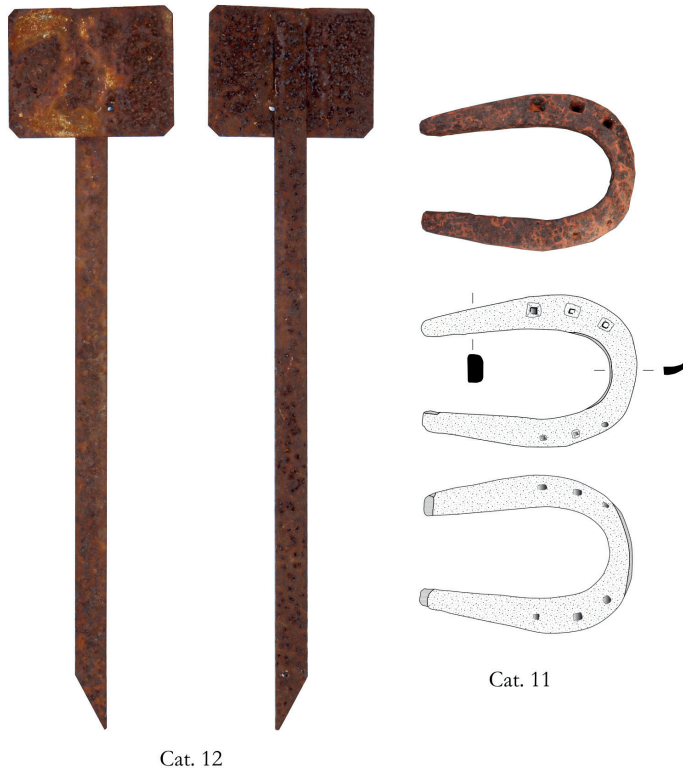


Figure 15. Cat. nos. 11-12.

Figure 14).⁵⁵ The slopes of the Velatouri no doubt served a pastoral purpose for much of the post-Byzantine period, as indeed it still does today.

Historical conclusions

These preliminary findings already add to our historical understanding of the site as a regional hub for trade and silver extraction during the post-Classical period. We here offer some general observations by way of conclusion:

The process of gradual depopulation in the Early Hellenistic period is mirrored throughout Attica, where generally the sharp peak of activity and occupation in the 4th century is followed by a small decrease in the Early Hellenistic period and

⁵⁵ TC14.2348, TC14.2357, TC14.2359, TC14.2367, TC14.2376.



Figure 16. Velatouri Hill, from south. Photo courtesy of DAI.



Figure 17. Theatre analemma wall, from northwest. Photo courtesy of DAI.

a much sharper drop in Late Hellenistic times.⁵⁶ Indeed, depopulation appears to have been a widespread phenomenon throughout Greece at large.⁵⁷ For the wider Lavrion region, this decline in occupation from the 3rd century onwards has been connected to the end of the ‘silver rush’ around the end of the 4th (or perhaps in the early 3rd) century.⁵⁸ Alternatively, the collapse of Athenian thalassocracy after the battle of Amorgos (322 BCE) has been cited as an additional explanation for the decline, as have the upheavals of the Chremonidian War (267–261 BCE).⁵⁹ While decline is likely to have set well in before this time, the latter war may have aggravated an ongoing process of depopulation, favouring better fortified settlements, such as Sounion.⁶⁰ In any case, human activity in the area seems to have shifted toward other locations. Settlement on the Velatouri may no longer have been important as industrial activities ceased and people relocated to more rural areas, as is perhaps suggested by the presence of a large, Hellenistic market at nearby Limani Passa.⁶¹ For parts of Attica, an increasing concentration on landownership accompanied by the construction of large farm estates has been observed for the Hellenistic and especially Roman periods.⁶² However, no such developments are as of yet attested for the Lavrion region. On the contrary: as we have seen, studies of Atene and Sounion show that the decline of mining activity from the end of the 4th century onwards goes hand in hand with the abandonment of rural estates.⁶³

The persistence of Thorikos in the 4th century may well have been due more to the 4th century intensification of silver extraction on the Velatouri than to a return to the previous, more variegated settlement pattern.⁶⁴ This seems to coincide broadly with the end of the first, 5th-century phase.

It is very likely that the second phase of the main Late Classical-Early Hellenistic period of silver extraction came to an end at some point at the end of the

⁵⁶ Cf. the Atene and Mazi surveys: Lohmann 1993, 96–97, 248; Knodell et al. 2017, 146–163. Cave use throughout Attica seems to match this pattern: Wickens 1986, 98–103. Case studies for Aixone and Acharnai also reflect a decrease in population from the 3rd century onwards: Ackermann 2018, 86 suggests a gradual shift of the demotic population to Athens. Kellogg 2013, 146 observes a possible population shift from settlement sites towards farmsteads.

⁵⁷ Bintliff 2012, 313–315.

⁵⁸ This was first suggested for the Lavrion region by Lohmann 1993, 246 (with some reference to minimal mining activity in the Hellenistic period), 252 but shown to apply to the hinterland of Sounion as well by Goette 2000, 115.

⁵⁹ As suggested by Lohmann 1993, 248–252. Cf. Camp 2001, 167–169. However, Ackermann 2018, 80–89 argues strongly against such a decline for Aixone and other demes in general.

⁶⁰ Sounion: Camp 2001, 168–169.

⁶¹ Salliora-Oikonomakou 1979, 161–173.

⁶² Steinhauer 2009.

⁶³ See n. 56. It is possible that we do not see the same development in the Lavrion region due to the relative absence of fertile, farmable land suitable for the development of large estates, especially as opposed to the much more hospitable plains in the Mesogea and the north of Attica.

⁶⁴ Docter & Van Liefferinge 2010, 56–59.

4th century or early 3rd century BCE when the so-called ‘Third Contact’ was exhausted, both on the Velatouri and elsewhere in the Lavrion area. This final phase had been characterised by the installation of ore washeries in close proximity to the mine entrances, at least three of which existed on the lower slopes of the Velatouri. Thus, what may have been a practice extending over several millennia appears to have come to a (temporary) close.

A separate development may also have played some role in the abandonment of Thorikos, alongside the depletion of the silver resources: the gradual salination of the bay extending into what are now the Adami and Potami plains to the west and south of the Velatouri.⁶⁵ While the exact chronology of this development is uncertain, it is generally accepted that the post-glacial sea-level rise was followed by a protracted period of salination extending to the present day.⁶⁶ Allowing that this process had probably already begun early in the Neolithic period, it is not inconceivable that the process reached some tipping point in the post-Classical period, preventing earlier activities from resuming.

The archaeological record attests that rural Attica remained inhabited to some degree until the Imperial period, when ever larger agglomerations seem to have depleted the countryside even further.⁶⁷ In Thorikos the situation is not so obvious. A tentative rise in find numbers during the Roman period (Table 10) appears counterintuitive in this context, giving rise to the supposition that a renewed interest in the Lavrion silver mines in the Late Antique period – for which more intense use of the mines seems ascertained – may have its roots somewhat earlier, perhaps in the 3rd century CE. The general impression of low activity in the Imperial period nevertheless corresponds with the impression gained from elsewhere in Southern Attica.⁶⁸ Some activity may have been centred on the acropolis plateau in Roman times, perhaps connected to a presumed resumption of the silver industry in the 4th century CE, but its exact nature is uncertain.

A clear resurgence – though still far below Classical levels – can be observed in the Late Antique period. Whatever ills may have befallen the population of Attica in the fourth and 5th century CE appears not to have impacted the use of the site in a negative way.⁶⁹ From the evidence in and near the mine entrances, this resurgence must be connected with a resumption of silver and lead extraction in the 4th century, perhaps somewhat earlier. If true, this would mean that the proposed increase in demand under Theodosius II (408-450 CE) and Marcianus (450-471 CE) following the loss of the silver mines in Spain to the Visigoths may not have been

⁶⁵ Apostolopoulos et al. 2014.

⁶⁶ Roberts 2013, 70-76.

⁶⁷ Karvonis 2016, cf. Alcock 1993.

⁶⁸ Lohmann 1993, 253.

⁶⁹ Mattern 2010, 202.

the original impetus for the resumption of silver and lead extraction at Thorikos, as Mussche postulated – although it may have intensified the pressure on the Lavrion mines to produce more.⁷⁰ The latter seems to be borne out by the significant increase in find numbers in the Late Antique period, as well as by the numerous lamps found in mines 3 and 6 and elsewhere in the Lavrion region. The Late Antique period, in fact, accounts for (nearly) half of all post-Classical (adjusted) find numbers (Table 4 and Figure 10).

The main nucleus of Late Antique settlement was certainly centred on the Industrial District (Insula 3) and the area immediately to the northwest. Overall find numbers from this period, however, are still incomparable to the Classical period, when Thorikos was a flourishing Athenian deme. Presumably, the Late Antique settlement catered chiefly to a local silver industry, while lead may also have been in demand.⁷¹

There is clear evidence that silver and lead extraction was resumed on the Velatouri in the 19th century by the French mining company.⁷² The Velatouri itself, however, seems to have been used chiefly for pastoral purposes from the Byzantine period onward.

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⁷⁰ Mussche 1998, 65; Docter et al. 2011, 120.

⁷¹ It should be noted that Lohmann 1993, 254-261 has plausibly argued for a rise in pastoral activity in the former deme of Atene, based on his identification of 35 pastoral camps.

⁷² See above, n. 54.

(2015), Nikos Papatzikos (2013), Thomas Pieters (2012-2014), Margit Pothoven (2012-2013), Maarten Praet (2013-2015), Sofia Psaltakou (2015), Mario Rempe (2017), Emilio Rodriguez (2017), Carina Rosenlehne (2016-2017), Anouk Rozendaal (2014), Daniël Saveur (2016-2017), Kaat Scheerlinck (2015), Karin Smokers (2017), Thessa Syderius (2014), Wil Theuns (2014-2015), Katrien Toch (2014-2017), Willem Van Aenrode (2012-2013), David van Alten (2013-2014), Fieke van den Blink (2014), Bram Vanderberg (2016-2017), Bas Vandermeulen (2012), Manon van der Maas (2016-2017), Helene van de Ven (2016-2017), Isaak van Dijke (2014), Tesse Van Esbroeck (2016), Koen Van Gelder (2012, 2016), Iris van Nederpelt (2017), Janric van Rookhuijzen (2014), Roy van Wijk (2012-2013), Sarah Van Wynsberghe (2012-2013), Tine Vekemans (2012), Lowie Vercruyse (2017), Maud Webster (2016-2017) and Norma Wikström (2015).

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Catalogue

Cat. 1: TC12.1605 (context T12-124-3), one upper handle fragment of amphora (Figure 13).

Max. H. 2.5; handle in section 3×1.6 .

Clay: yellowish red (5YR5/6). Surface yellowish red (5YR5/6). Many tiny quartz (0.1 mm) and isolated yellowish inclusion (2 mm); frequent very fine mica in surface.

Chronology: Late Antique-Byzantine.

Cat. 2: TC12.2950 (context T12-108-2), one rim fragment of amphora (Figure 13).

Diam. rim 9.0; max. H. 2.7.

Clay: pink (5YR7/3). Surface pink (5YR7/3). No visible inclusions.

Chronology: Late Antique.

Cat. 3: TC13.3824 (context T13-134-3e), one rim fragment of amphora (Figure 13).
Diam. rim 6; max. H. 2.4.

Clay: red (2.5YR4/8). Surface red (2.5YR4/8). Some dark gray and white inclusions (0.4-1.0 mm) and many fine mica (<0.1 mm).

Chronology: Late Antique-Byzantine.

Cat. 4: TC12.3187 (context T12-102-6), one rim fragment of local wide-rimmed cooking jar or pithos (Figure 13).

Diam. rim ca 40; max. H. 5.2.

Clay: yellowish red (5YR4/6). Surface yellowish red (5YR5/6). Some white inclusions (0.2-0.4 mm); many pinkish and grayish stone inclusions (0.2-0.5 mm); few quartz (0.3 mm).

Chronology: Late Antique.

Cat. 5: TC13.3475 (context T13-135-3A), one wall fragment of beehive (Figure 13).
Max. H. 4.5.

Clay: light reddish brown (5YR6/4). Surface light reddish brown (5YR6/4). Some quartz (0.1-0.3 mm) and some white particles (0.2 mm). Combed at the inside.⁷³

Chronology: Late Antique.

Cat. 6: TC14.3105 (context T14-193-2-2), one base fragment of imported open shape (Figure 13).

Diam. base 7.0; max. H. 2.2.

Clay: hard fired very dark gray (7.5YR3/1) to dark brown (7.5YR3/2). Surface reddish yellow (7.5YR6/6); smoothed on the interior with light brown (7.5YR6/4) self slip. Some quartz and carbonate pseudomorphs (0.2-0.4 mm).

Chronology: Ottoman?

Cat. 7: TC12.633 (context T12-104-4), one edge fragment of local (?) tile (Figure 14).
Max. Th. 4.5; max. L. 10.6.

Clay: light reddish brown (5YR6/4). Surface light brown (7.5YR6/4). Many voids (0.2-0.4 mm) and some whitish stone particles (0.5-2.0 mm). Rough on base.

Chronology: Late Antique-Byzantine.

⁷³ The incisions on the interior of the fragment seem to run parallel, which otherwise should indicate that one is dealing with wheel marks of a closed vessel, but still the study of the fragment clearly confirmed its attribution to a beehive, probably just below the rim, where grooves more often ran parallel.

Cat. 8: TC12.634 (context T12-104-4), one edge fragment of imported tile, with finger groove (Figure 14).

Max. Th. 3.3; max. L. 13.2; max. W. 8.4.

Clay: pink (5YR7/3). Surface brown (7.5YR5/4). Many whitish foraminifera (0.2-0.8 mm) and some purplish particles (0.2-0.4 and 0.8-3.0 mm).

Finger groove on top, indicated in gray in the drawing. Rough on base.

Chronology: Late Antique-Byzantine.

Cat. 9: TC12.644 (context T12-104-1), one edge fragment of local (?) tile (Figure 14).

Max. Th. 4.1; max. L. 8.

Two parallel finger grooves on top.

Chronology: Late Antique – Byzantine.

Cat. 10: TC14.2357 (context T14-171-3-3), one edge fragment of local brick (Figure 14).

W. 12.5; Th. 4.0; max. L. 22.5.

Coarse clay.

Chronology: Late 19th century CE.

Cat. 11: TM12.2143 (context T12-118-2), muleshoe (Figure 15).

L. 12.8; W. 9.5.

Iron.

Chronology: 19th or 20th century CE.

Cat. 12: TM19.630, parcellation marker (Figure 15).

H. 43; shield 7.8 × 9.8.

Iron; painted numeral (? Illegible).

Chronology: 1945-1950.

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