

Conor P. Trainor

Polis, colony and beyond: Urban Knossos from Archaic to Late Antique times

ABSTRACT

The landscape focus of the Knossos Urban Landscape Project (KULP) casts new light on urban Archaic, Classical, Hellenistic, and Roman Knossos and for the first time affords us a view of the city as a whole during its life as a polis and as a colony. Concentrations of ceramics dating to the Archaic period to the west of the Minoan palace and south of the modern upper village may provide evidence to counter the traditional interpretation of a 6th century lacuna at Knossos. During the Late Classical or Earlier Hellenistic period, the city reached its maximum size of ca. 120 ha. During the Late Hellenistic-Early Roman period, Knossos contracted significantly in size; however, this was most likely not as a direct result of the Roman conquest. Knossos appears to have experienced significant economic reorganisation during the early years of Roman rule: the production of Knossian transport amphorae as well as the range of types produced in the city peaked during this time. Production was centred on the area southwest of the Acropolis and included the manufacture of ceramics, wine, and honey. A large concentration of non-local amphorae near the northern bounds of the city may represent a commercial rather than production locus. Imported Late Antique amphora and fineware ceramics are rare, indicating changes in urban character during the 3rd to 5th centuries CE. The northwestern distribution of most later material indicates why this period has not been widely recognised in excavations in the south of the city and documents a contracting settlement associated with the extensive excavated cemeteries of the 5th to 7th centuries CE.

KEYWORDS: Knossos, Crete, Aegean, Greece, Archaic, Classical, Hellenistic, Roman, Late Roman, Late Antique, Early Byzantine, urbanism, surface survey, urban survey

The aim of this paper is to present a dynamic picture of urban Knossos over the 1,300 years between the 6th century BCE and the 7th century CE, and to provide spatial contextualisation for the previous excavation-based studies of the urban area. Having joined the project in 2014, my research on the Archaic to Late Antique phases of Knossos is at a considerably earlier stage than that of my colleagues working on the earlier periods. Despite the early stage of this research, however, we are currently producing evidence which allows us to develop a more complex understanding of the development of the site through the historic periods, than has been possible in previous studies based on localised excavation and textual evidence (e.g. Huxley 1994; Callaghan 1994; Paton 1994; Sweetman 2007).

* I would like to thank the conference organisers for the opportunity to present this topic. I would also like to thank Todd Whitelaw for commenting on this paper, providing the figures, and for coordinating this session. Participation at the Cretological Congress was supported by KULP project funds.

My discussion is based on detailed research on the ceramics from sample units selected to provide broad coverage across the city, indicated in green in Figure 1. My ceramic identifications, in dark blue, have been superimposed on preliminary identifications across the entire site by Todd Whitelaw in light blue, and complemented by existing excavated evidence.

EXTENT

Based on his preliminary analysis of the entire dataset from the Knossos Urban Landscape Project (KULP), Whitelaw suggested that the maximum extent of the Archaic-Hellenistic era city was approximately 120 ha., with an estimated population of approximately 10-17,000 people, approaching the maximum extent of Knossos reached during the later Neopalatial period (see Cutler and Whitelaw 2018, this volume). Our current findings indicate that this 120 ha. maximum likely represents occupation during the 5th-2nd centuries BCE. The increased size of urban Knossos during this time appears to complement ancient accounts which indicate that the polis of Knossos was likely the largest state on Crete during the Hellenistic period (*IC1*: 46-53).

The preliminary analysis of the survey data in combination with various cemeteries explored by the Archaeological Service and the British School at Athens, presents a clear picture of the likely outer boundaries of Archaic-Hellenistic Knossos, boundaries that approximately align with the edges of the Knossos basin (Fig. 1). Evidence from the survey indicates that the northern edge of the city appears to have been marked by a tower and parts of a curtain wall located on the northeast edge of the Kephala hill (Hood and Boardman 1957, 224-230).

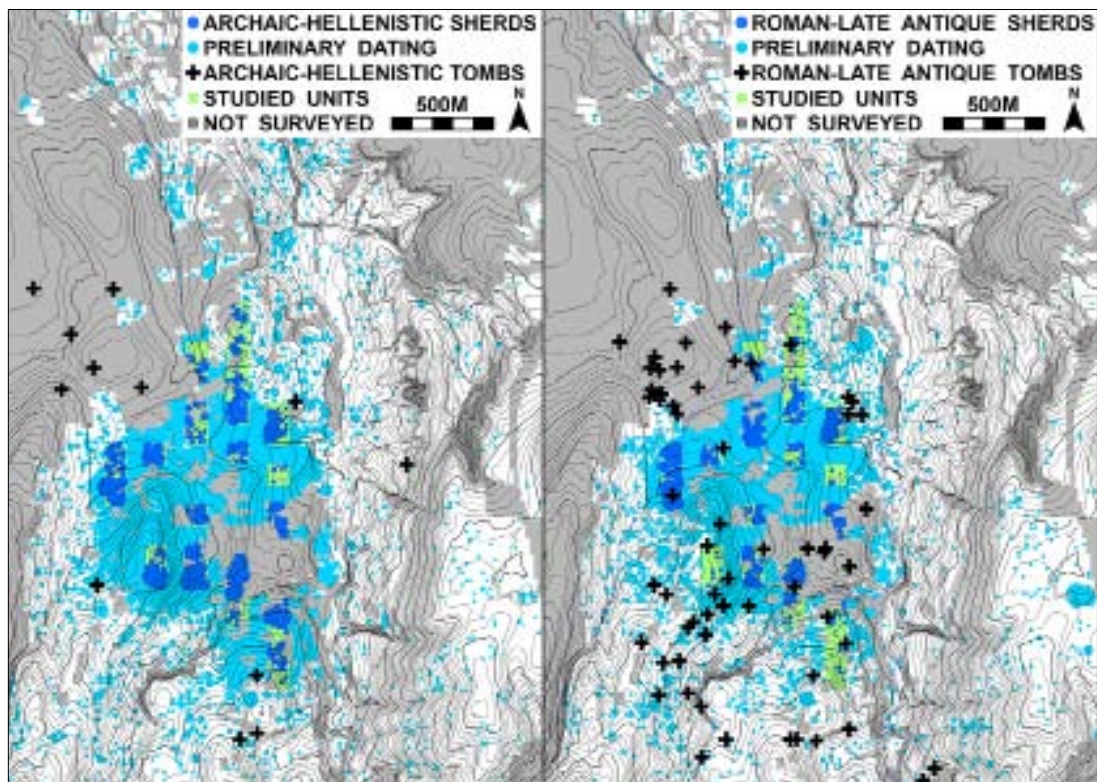


Fig. 1. Hellenic Knossos (left) and Roman Knossos (right).

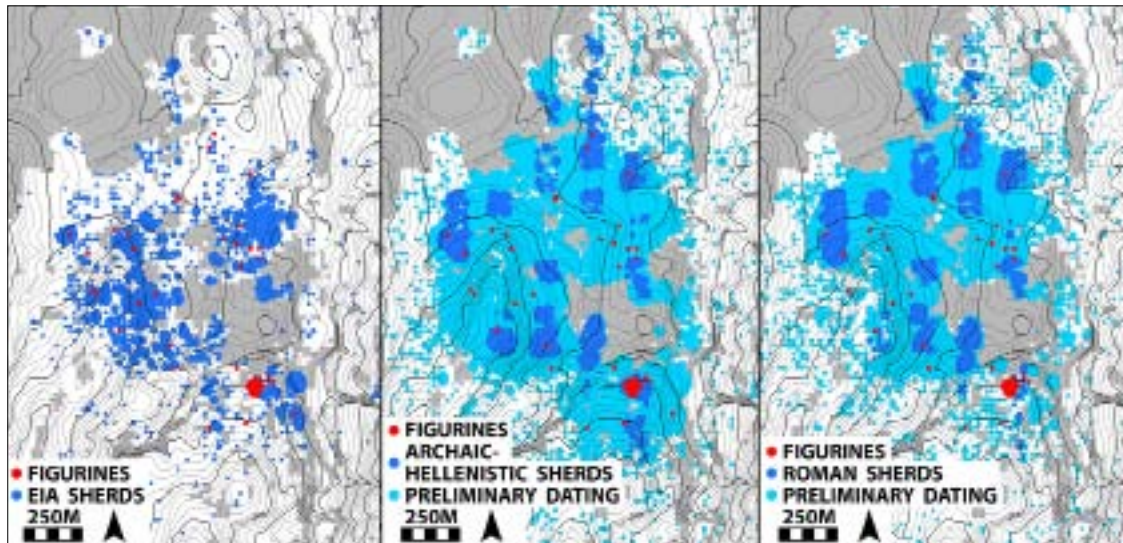


Fig. 2. The Sanctuary of Demeter and Kore, defined by surface figurines: its changing relationship with the city through time.

Excavated in 1951, this fortification is most likely 4th century BCE in date, but whether it represents an outlying fort, or the northern extremity of an urban fortification wall, is currently unclear (Hood and Boardman 1957, 226; Hood and Smyth 1981, KS2.37-38). West of the Kephala hill, the limit of the city from the Classical through Late Antique periods was defined by a seasonal stream which ran under the present car park of the hospital.

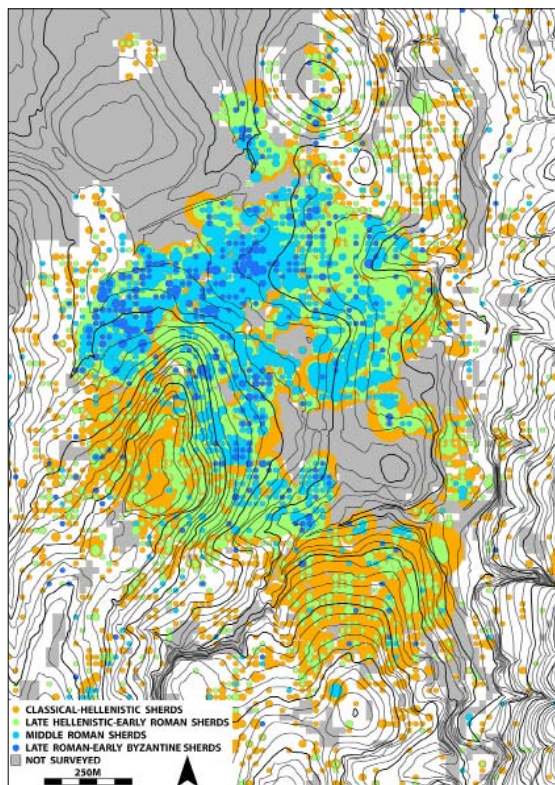


Fig. 3. The Roman city, contraction through time.

The southern edge of Knossos appears to have been more sensitive to expansion and contraction of the urban area in both prehistoric and historic times. For the purpose of clarity, we can say that Lower Gypsadhes hill, with the Sanctuary of Demeter and Kore on its lower slopes, represents the approximate southern edge of the Archaic-Hellenistic city (Fig. 2). During the Early Iron Age and possibly the earlier Archaic period, Demeter and Kore would likely have been a suburban sanctuary, during the Archaic-Hellenistic period, it was undoubtedly urban, while by Early Roman times Lower Gypsadhes would have been suburban and eventually rural.

The Kairatos river served as the eastern boundary of the Archaic-Hellenistic city, while the western edge is demarcated by Monastiriako Kephali, which almost certainly

represents the ancient acropolis of Knossos. We are considering the possibility of a fortification wall along the western side of this hill based on the steep natural topography, the sudden and pronounced drop-off in ceramic finds to the west, and the well-defined linear edges to the pottery distribution (Whitelaw and Trainor 2016). Through the survey data we can trace a substantial and progressive contraction in the size of the Roman city beginning sometime around the 1st century BCE (Fig. 3).

ARCHAIC KNOSSOS (6TH CENTURY BCE)

Despite the Archaic period being a time of fundamental importance to the development of the polis, this period is generally only lightly represented by low numbers of sherds identified on survey projects (Stissi 2016, 31-53). While the reasons that underlie this issue are unclear, factors of recognisability must play a significant role in this problem. At Knossos, this difficulty is further complicated by the long-held idea that the urban area was abandoned for much of the 6th century BCE, the so-called *Archaic Gap* (Coldstream *et al.* 1999).

Results from KULP, however, suggest otherwise. Antonis Kotsonas and I have identified low numbers of 6th century BCE ceramics across the survey area, with concentrations noted in four areas: 1) the upper slopes of the Acropolis, 2) the lower slopes of Lower Gypsadhes, 3) flanking the Vlychia stream, and 4) north of the prehistoric palace (Fig. 4). Interestingly, these are also areas with higher densities of both earlier EIA ceramics and later Classical sherds, supporting the argument for continuity in occupation, as well as highlighting a probable positive recovery bias. To date, ceramics of 6th century BCE date recovered from the survey and identified in re-examining some excavated contexts include local and non-local kraters of Lakonian type (Nafissi 1989, 68-88; Boardman and Hayes 1966, No. 974; Coldstream 1973, L23; Erickson 2010, 122-

123, 281-291), as well as lekanai, bowls with horizontal grooves around the rim and lamps of Howland's types 4, 12a, and 16a (Howland 1958, 12-13; 25-26; 30-31). In all probability a more complete repertoire of 6th century forms has been collected during the survey, but we adopted a cautious approach to this contentious topic by focusing on well-known and securely datable forms in the first instance. Imports from this time appear to suggest primary or secondary links with Lakonia, Corinth, and Attica.

As our research on this topic is at a relatively early stage, we are unable to establish more specific details about the nature of Archaic Knossos, except to point out that the footprint of the preceding Early Iron

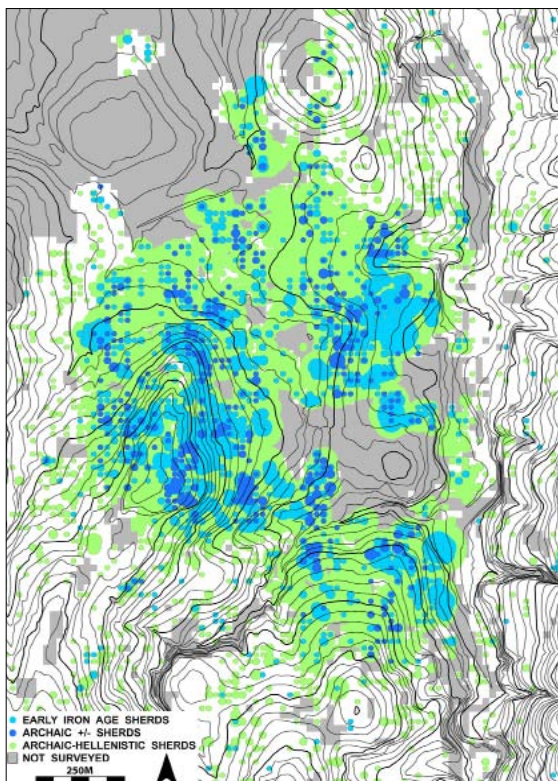


Fig. 4. The Archaic city.

Age urban settlement and the core of the later Classical urban area appear to be very similar. Given that Archaic material has been identified in low densities, but with a similar spatial distribution, my working hypothesis is that 6th century BCE Knossos would have been of similar size to that of the Early Iron Age settlement, and the earlier phases of Classical Knossos, but with an expansion of occupation to Lower Gypsadhes by the later Archaic phase.

CLASSICAL-HELLENISTIC KNOSSOS (5TH-2ND CENTURIES BCE)

We are on firmer footing regarding Classical and Hellenistic Knossos than we were with the Archaic material. This section presents combined results from Classical and Hellenistic Knossos; the reason for presenting data in this way is that from a material culture perspective, the evidence does not align with historically defined periods. At Knossos we do not see any decisive change in the material record around the traditional dates for these periods, neither the Persian sack of Athens nor the death of Alexander appears to have had any impact on material at Knossos. We have, therefore, opted to present these centuries as a continuum of material culture, at present.

Between the 5th-2nd centuries BCE historical Knossos reached its greatest extent (Fig. 5). Strabo claimed that the size of Knossos prior the Roman sack was 30 *stades* (Strabo X.4.7), a figure that corresponds very closely with the overall distribution of preliminarily identified Hellenic pottery across 120 ha./28.6 *stades* (Potthecary 1995: 50-51). One of the key issues relating to the layout of Classical-Hellenistic Knossos relates to the presence, or absence, of a fortification wall around the city. While it has generally been accepted that the city was likely not walled (Hood and Smyth 1981: 20), results from KULP raise the possibility of a circuit wall. Returning to the northern boundary of the city, the possibility of the excavated tower and curtain walls having been part

of a larger fortification system was touched upon above. In a recent paper on the research of Minos Kalokairinos at Knossos, Kotsonas noted references to a 100m long section of dressed stone wall on the west and south sides of the Acropolis, unfortunately looted out in 1864 (Kotsonas 2016, 299-324). Furthermore, Andonis Vasilakis excavated a section of possible fortification wall foundations, associated with limited Hellenistic ceramics, directly to the east of the Venizelion hospital. The orientation of this large wall aligns with the Kephala hill, and may even provide a connection to the northern tower (Hood and Boardman 1957, 224-230). The idea of a fortified city of Knossos might find some support in Appian (*Sic.* 6.2), who in his discussion of the Roman siege of Knossos in 67

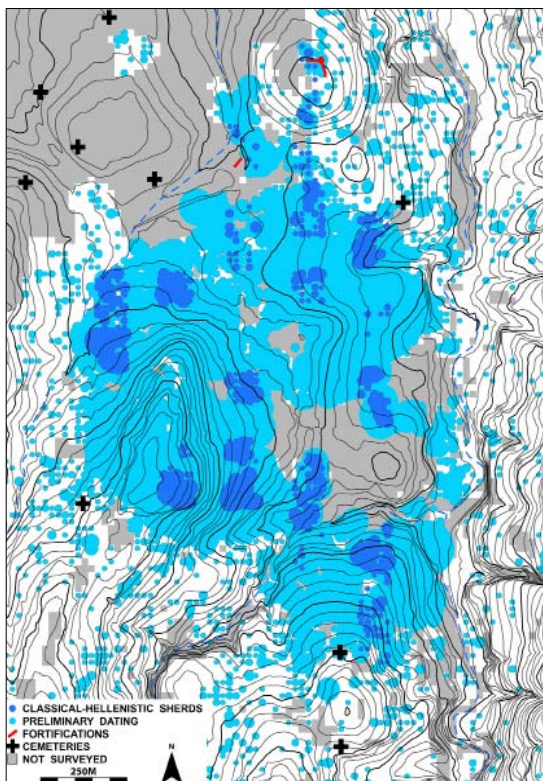


Fig. 5. The Classical to Hellenistic city.

BCE, uses the word *περικαθημένου*, a relatively uncommon word which also appears in Josephus' description of Herod's siege of the walled city of Jerusalem (*Jewish Antiquities* 14.475). The rarity of this word and its use in direct reference to the siege of one walled city, may indicate that the Romans also laid siege to a walled city at Knossos.

Relatively dense quantities of Classical and Hellenistic ceramics indicate that much of the valley floor and lower slopes of the Acropolis appear to have been utilized for domestic functions, based on a broad ceramic repertoire including cups, bowls, cooking pots, jugs, lamps, lekanai, kraters and amphorae. Analysis of finds from the survey during the 2017 season indicates that the upper slopes of the Acropolis had a significant concentration of cups, kraters and other fineware ceramics and a relative lack of cooking vessels. These findings (ranging in date from EIA-2nd century BCE) differ from those of the domestic areas, and may indicate a special function for this area, perhaps drinking/dining associated with ritual. This hypothesis may be bolstered by a fragment of an early Doric column base that was found high on the east slope of this hill, indicating the presence of monumental architecture in this immediate area. Additionally, a mid-5th century BCE metope depicting Herakles and Eurystheus was found in 1910 (Benton 1937, 40), slightly to the west of the Stratigraphic Museum. In her study of this metope, Benton suggested that it may have been from the same Doric temple as the column base fragment from the upper slopes of the Acropolis (Benton 1937, 38-43; Evans 1928, 844). The chief sanctuary of Hellenistic Knossos, and likely also earlier, was the temple of Apollo Delphinios. While the location of this temple is unknown, it would be reasonable to place this on, or very near to, the Acropolis (Benton 1937, 41).

Imports during the Classical and earlier Hellenistic periods appear to have arrived mainly from Attica, with Thasos, Chios and Paros providing goods arriving in transport amphorae. During the 3rd-2nd centuries BCE, however, import patterns appear to have changed and became more focused on the eastern Aegean, with vessels arriving from sources such as Ephesus, Knidos, and Rhodes.

LATER HELLENISTIC-EARLY ROMAN KNOSSOS (2ND-1ST CENTURIES BCE)

One of the most significant events in the history of Knossos occurred in 67 BCE, the Roman conquest (Appian *Sic.* 6.5 [frag.]). At this point, the city lost its autonomy and became a subject of Rome, with *Colonia Julia Nobilis Cnossos* being established for Capuan veterans of Augustus sometime during the latter half of the 1st century BCE, most likely in the years around 36-27 BCE (Sanders, 1982, 14; Paton 1994, 143; Bowsky 2002, 27-28; Cassius Dio *XLIX*.14.5). The establishment of Gortyn as the Roman capital of Crete and Cyrenaica is presented by Strabo as evidence that Knossos, having been the main source of resistance to the conquest, was passed over for this role by the Romans (Strabo X.4.7). Despite the political magnitude of the Roman invasion, we were unable to detect major changes in the material record at Knossos, at least initially.

During the last two centuries BCE imports from the eastern Aegean continued, although the island of Kos began to play an increasingly important role. Fine red-slipped ceramics did begin to arrive at Knossos during the 1st century BCE, but the earliest vessels are not of Italian origin, rather they are Eastern Sigillata A, from the eastern Mediterranean (Gunneweg *et al.* 1983; Slane

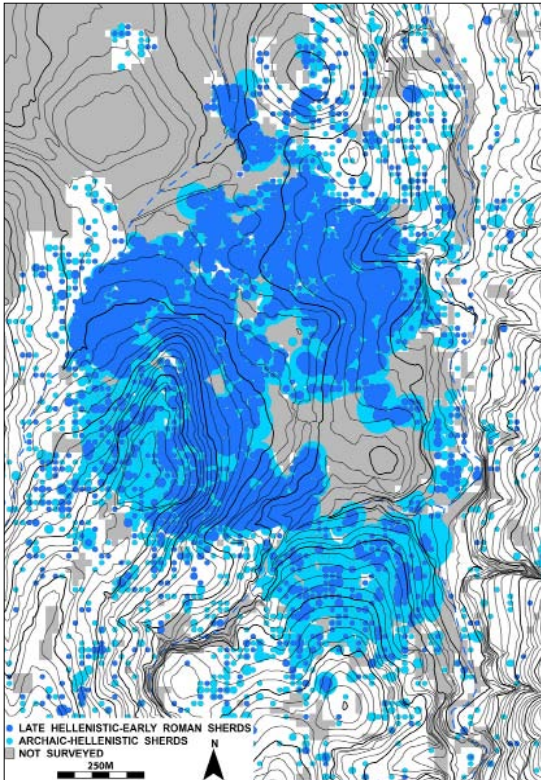


Fig. 6. City contraction in the Late Hellenistic-Early Roman phase.

et al. 1994, 60). From a ceramics perspective, the strongest evidence that we have identified of possible Italian settlers living at Knossos comes from two fragments of Italian *orlo bifido* frying pans, indicating that some non-local style cooking was taking place during this period (Berlin and Slane 1997, 22; Rotroff 2007, 192-193). The most significant change regarding ceramics is a spike in the local production of amphorae, amphora stands and beehive extension rings during this time.

This significant spike in the production and presence of amphorae of ca. 1st century BCE-1st century CE date at Knossos, appears to indicate evidence of an economic reorganisation, and is a pattern that fits with wider trends in ceramic

production during the Roman period (Hasaki 2002, 309 Table. Epil. 2, Trainor and Stone 2016, 97-113). Amphorae were vessels used primarily for transporting agricultural produce, so a rise in the production of these vessels must be taken to indicate that there was sufficient agricultural surplus at Knossos to enable the export of produce such as wine, honey and perhaps oil as well (Apollodorus, *Bib* 3.3, 1; Dioscorides, *Mat Med* 2.83; Pliny, *N.H.* 29.119).¹ The question remains, however, who the economic beneficiaries of this surplus would have been, Knossians, Roman colonists, a combination of both, or some other group?

A passage from Cassius Dio may be informative in this regard. He mentions: “land to the south of the city of Knossos being given to the city of Capua and that it provided an income of 1,200,000 sestertii annually” (*XLIX.14.5.* Trans. E. Cary).

An annual income of 1.2 million *sestertii* would be very approximately equal to the annual pay of 1,333 legionary soldiers (Speidel 1992, 88). This reference to profitable agricultural land to the south of Knossos, corresponds approximately with the establishment of the colony, and may account for what we see on the survey, a marked increase in ceramic products related to the transport of agricultural produce. From a demographic perspective, the population of Knossos during Early Roman times would have been approximately 9-13,000 people.

On an urban scale, the most obvious change that we can see during these centuries is a significant reduction in the size of the city from ca. 120 ha. to 90 ha. by the Early Roman period (Fig. 6). Settlement contraction appears to have occurred in the south of the city, with

¹ For detailed discussions on agricultural production on Crete and at Knossos see: Marangou-Lerat 1995, Chaniotis 1999: 181-220, and Rackham and Moody 1996.

activity on Lower Gypsadhes having declined very significantly, the area around the banks of the Vlychia stream, and the old Acropolis and its upper slopes falling out of use. The latter is hardly surprising, as an aqueduct ran along the upper slope of this hill, and Hogarth identified an extensive Early Roman cemetery on its northern upper slope (Hogarth 1899-1900, 8). While it is tempting to connect this contraction with the Roman military conquest, an analysis of excavated contexts from the southern parts of the city indicates that this contraction may have occurred due to an earthquake several generations after the conquest, during the 4th quarter of the 1st century BCE (Sackett 1992, A1; Callaghan *et al.* 1981, 83-108; Carington-Smith and Wall 1994, 359-376; Trainor Forthcoming).

ROMAN KNOSSOS (1ST-4TH CENTURIES CE)

As we enter the Common Era, the picture at Knossos becomes fairly typical for a Roman provincial town. Knossos would have been centred on the area of the Villa Dionysus, and would have had baths, a civic basilica, a theatre, some large urban villas, Imperial statuary and strong trade links with Italy and with Asia Minor (Fig. 7). The old Acropolis appears to have been abandoned, with a major aqueduct and a cemetery on its upper east slope. This aqueduct would have had secondary channels running down to the east off the main line, which would have provided water to the town below (one channel can be traced downslope toward the Villa Dionysus). The northern and southern bounds of Knossos were again demarcated by tombs, with some particularly ornate built examples at the northern edge (Grammatikaki 2004), and simple rock-cut tombs to the south (Wardle and Wardle 2004). Between the 1st and 4th centuries CE, the contraction of the urban area continued (Fig. 3), with the city shrinking from 90 ha. during

Early Roman times, to 70 ha. by the end of Middle Roman, with a possible population estimate of 7-10,000 individuals.

From a ceramics perspective, the major changes during the Roman period do not appear to reflect periods of turmoil, rather, periods of stability. Imports of fine Italian ceramics began in earnest around the beginning of the 1st century CE, although by the 2nd century CE, the most common imports to Knossos were arriving from Asia Minor (Eastern Sigillata B and Çandarli wares).

Cooking traditions appear to have remained quite consistent at Knossos from Hellenistic into Early Roman times. This pattern indicates that any colonists at

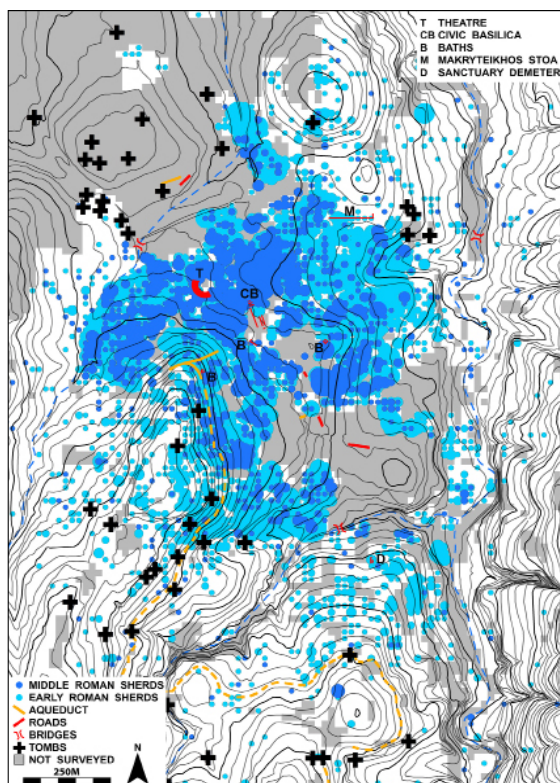


Fig. 7. Roman Knossos, early and Middle Roman sherds, and known public monuments.

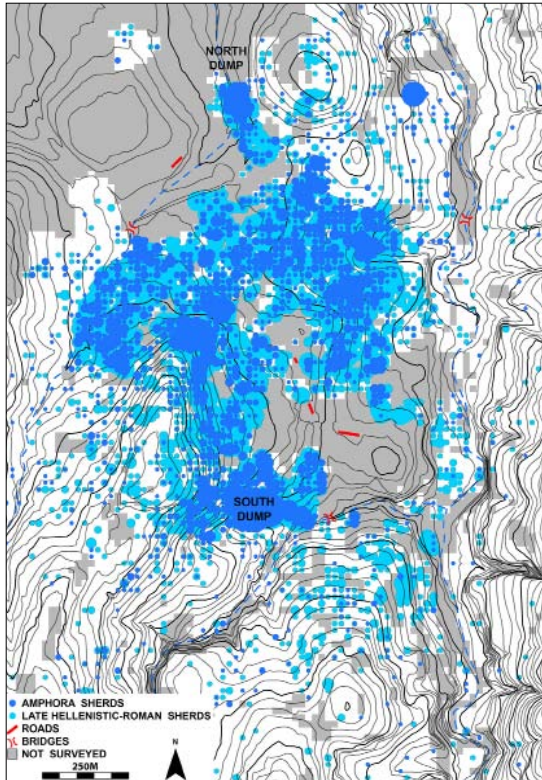


Fig. 8. Early Roman amphora sherd distribution and major concentrations.

Knossos either adapted right away to local food preparation habits and dining practices, or that colonists did not live in the urban area on a scale that can be detected through the survey assemblage. Cooking practices did begin to change on a large scale during the earlier part of the Middle Roman period (2nd-3rd centuries CE), when heavy frying pans, hard-fired carinated casserole pots and large, thin-ribbed stew pots started to become prominent (Sackett 1992, 168-172).

From an economic perspective, three large concentrations of amphorae were identified during the survey. One of these was located at the southern boundary of the Early Roman city, in close proximity to an amphora kiln, probably where one of the main routes to the southern hinterlands entered the city. A second concentration was located at the northern edge of the city, in the valley immediately west of the Classical-Hellenistic tower, on a likely major route between Knossos and the sea. Finally, a third was located on the lowest slopes of the old Acropolis at its northern edge (Fig. 8). The first and second of these concentrations on the routes into the city differed significantly in their composition, with the northern concentration composed of mostly imported amphorae, while the southern concentration was composed almost exclusively of local/regional amphorae. Our current hypothesis is that these two large amphorae dumps close to access points into the city represent distinctive commercial zones. The first may have been a warehousing and distribution *locus* in the north (with imported amphorae from Kos, Rhodes and Knidos as well as amphorae of Dressel Types 1 and 2-4, from Italy), for goods arriving into Knossos from the seaport at Herakleion. The second concentration in the south may have been a *locus* for the processing and packaging of agricultural goods (such as wine, oil, honey and wax) arriving into the city from the fertile slopes to the south. In her study of Cretan wine amphorae, Marangou-Lerat (1995) established that Crete was one of the major sources of imported wine into Rome during early Imperial times, perhaps indicating these Knossian amphorae were used for this product. In addition to amphorae, the distribution of (likely Roman) millstones found during

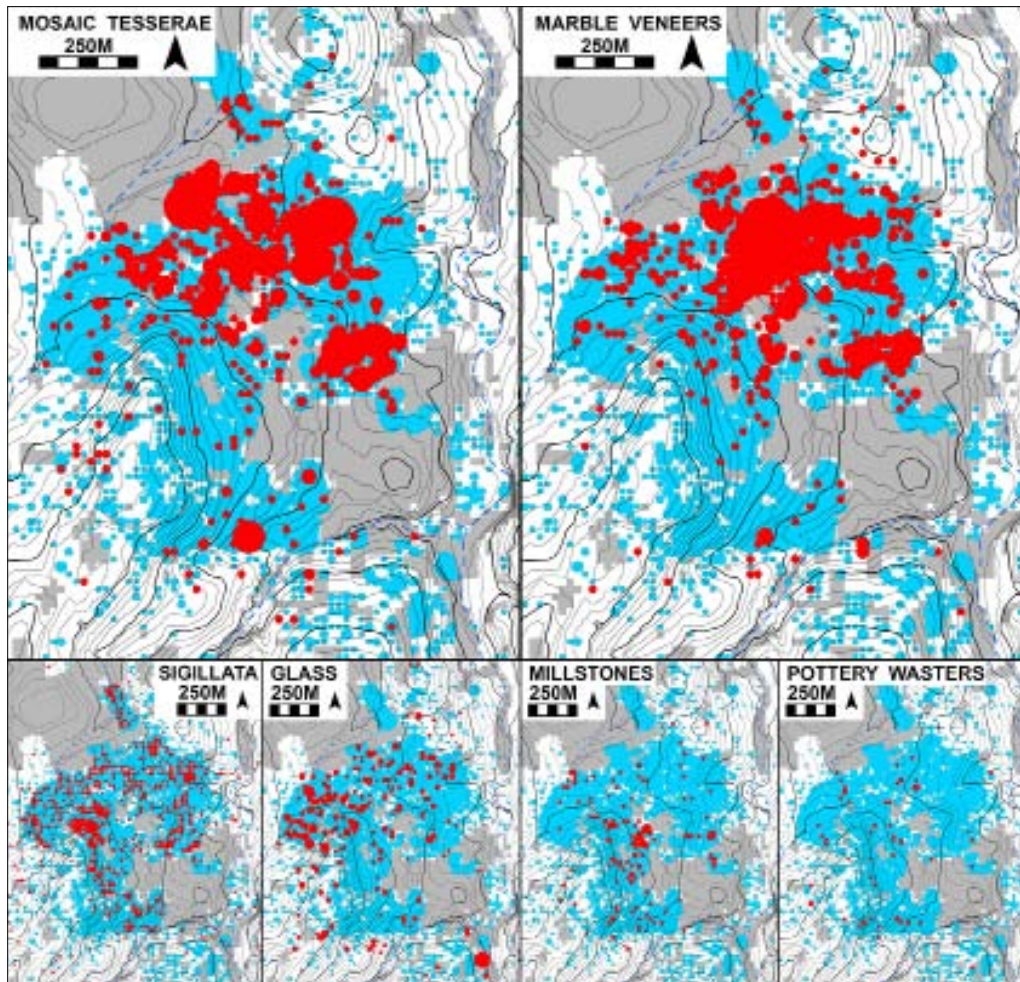


Fig. 9. Roman material culture distributions.

the survey indicates that milling activities were centred on the southern central part of Knossos, providing support for the idea that production-related activities were based in the city (Fig. 9).

It may be possible to take this hypothesis a step further and consider the issue of social differentiation. If we compare the distributions of a series of material indices, such as marble veneers, glass, tesserae and perhaps to a lesser extent fine sigillata pottery, and the variability in the quality of tombs to the north and the south of the city, then we might consider that the northern section of Knossos was generally more affluent than the southern.

It is worth pointing out that marble veneers and tesserae would have been associated with ornate buildings, such as public buildings or grand private residences (Paton 1998; Paton and Schneider 1999). The distributions of the 728 marble veneer fragments and 832 tesserae recovered by KULP are extremely similar, indicating that these categories of fine materials would, perhaps unsurprisingly, have been used in the same types of buildings. While Roman mosaics on Crete began to appear during the 1st century CE, of the 93 published and datable mosaics,

39.7% are of 2nd century date, 5% are of 3rd century date, 2% are of 4th century date, 34% are of 5th or 6th century date, and 7.5% are of 7th century date (Sweetman 2013, 83-95). Based on these island-wide patterns, and the fact that the majority of the survey tesserae are from early black and white, rather than later polychrome mosaics, along with their spatial correspondence with marble veneers and 2nd-3rd century CE pottery, it is most likely that many of the tesserae represent mosaics installed in the 2nd century CE.

LATE ANTIQUE KNOSSOS (LATE 4TH-7TH CENTURIES CE)

The Late Antique (Late Roman-Early Byzantine) period at Knossos has long been problematic. The most complete excavated evidence relating to Roman Knossos comes from the Unexplored Mansion and the Villa Dionysus. Findings from both of these appear to indicate that Knossos had experienced destruction and/or abandonments during the 3rd and 4th centuries CE (Sackett 1992, 25; Sanders 1982, 152; Paton 1994, 127). However, Knossos was home to three large basilicas (one in the old North Cemetery, a second east of the modern hospital (Sanatorium Basilica) and a third under the modern church of Ayia Sophia in Makryteikhos), and a significant number of burials during the Late Antique period (Frend and Johnston 1962; Hayes 2001; Hood and Smyth 1981, 26; Sweetman 2004, 351-352; Sweetman and Becker 2005; Forster 2009, 230).

The presence of the large and elaborate mortuary basilica on the site of the Knossos North Cemetery, which was in use between approximately 500-700 CE (Hayes 2001; Sweetman and Becker 2005), appeared anomalous when no secure evidence for occupation elsewhere at Knossos in the Late Antique period had been established. However, limited evidence for 5th-6th century occupation has been documented in the Stratigraphic Museum Extension excavation (Warren 1988), the Knossos 2000 trenches, south of the Villa Dionysus (Forster 2009), and indeed by fragmentary finds from the Villa Dionysus excavation itself (Hayes 1983, 163-167). These limited deposits can now be supplemented by our documentation of the reduced, but still significant Late Antique community.

The evidence from the survey presents us with a picture of a city in decline, with gradual nucleation and northward contraction of the urban area taking place continually through the 1st-7th centuries CE (Fig. 3). Late Antique settlement activity appears to have been concentrated in two main areas in the northern area of the old city (Fig. 10). The first of these appears to be south of the Villa Dionysus (which itself had long since fallen out

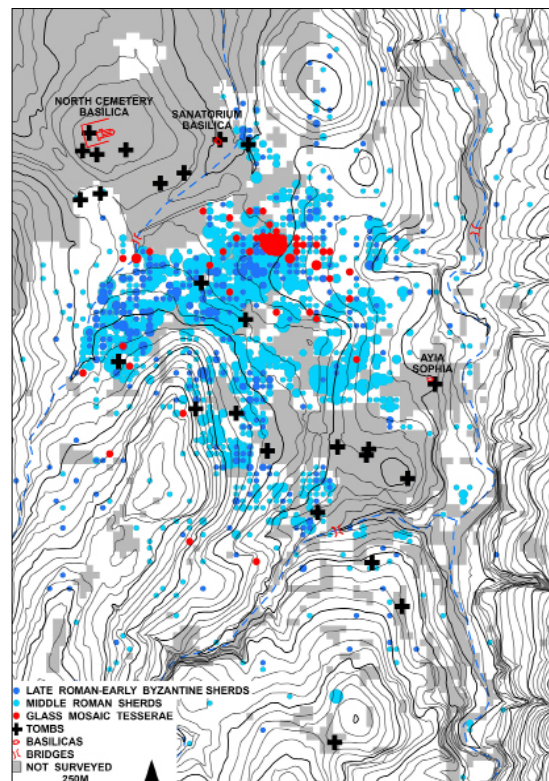


Fig. 10. Late Antique Knossos.

of use), while the other is a larger spread across the northern quarter of the city, extending from the lowest slopes at the north end of the old Acropolis, east to the area of the Makryteikhos.

The mortuary landscape of this period exhibits some different characteristics from the earlier periods. Scattered simple Roman burials within the old city have not been dated, but are almost certain to belong to this late phase, when settlement contracted to the north. They appear in the area west of the Bronze Age palace and along the modern road and on the east slope of the former Acropolis, leaving little doubt that these areas were now unoccupied.

The Late Antique period is typically very well represented, and readily identifiable, on surveys (Pettigrew 2007); however, at Knossos, finds of this date were relatively sparse, and were generally limited to the north of the Greco-Roman city. We identified cooking vessels, jugs and several dozen imported African Red Slip bowls and Phokaian Ware bowls (Hayes 1972, 152-155; 160-166; 329-338; 343-346). Imports from Cyprus have been identified from excavated contexts, but we have thus far not identified these amongst the survey assemblage (Hayes 2001, Nos. A24; A57; B15). Regarding amphorae, a few examples of the Benghazi Late Roman Amphora type 2 have thus far been identified on the survey, as have several fragments of Benghazi Late Roman Amphora type 10 (perhaps better known as the Carthage Late Roman Amphora Type 3) (Riley 1979, 217-223; 229-230). Fragments of the broadly categorized Benghazi Late Roman Type 13 of 8th century CE date represent the latest antique finds from the survey (Riley 1979, 231-232).

Occupation at Knossos probably never ceased completely, however, with the lower village of Makryteikhos probably surviving as a small village through the medieval period. But the evidence from both excavations and from the extensive KULP survey indicates that by the later 7th, or earlier 8th century, substantial settlement activity at this long-lived city had all but died out.

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