

Political economies and landscape transformations. The case of ancient Paphos

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[W]e still understand very little about the complex relationship between land use, resource exploitation, and landscape change in the Mediterranean basin (Given & Knapp 2003: xvi).

Land use, soils and climate

In 1959 the World Land Use Survey published a monograph by Demetris Christodoulou. Christodoulou received his doctorate at the University of London and returned to become a Land Consolidation Officer in his home country, Cyprus (Christodoulou 1959: 1–2). He dedicated *The Evolution of the Rural Land Use Pattern in Cyprus* to his parents ‘who tilled the land and lived its drama’ (Christodoulou 1959: vi). Inevitably, these facts made me think of another Cypriot, the author of the *Chronological History of the Island of Cyprus* (Kyprianos 1788), who was also the offspring of a rural family and had also benefited from studies in Europe (at the University of Padua) almost two centuries earlier: Archimandrite Kyprianos Kouriokourineos. The *Chronological History* was published, not in Ottoman-held Cyprus but in Venice, in 1788 (the year before the outbreak of the French revolution); *The Evolution of the Rural Land Use Pattern* was published, not in British-held Cyprus but in London, on the eve of the island’s independence (1960). Both authors were *autochthons*, who could relate to the Cypriot *habitus* (cf. Bourdieu 1977), to the intangible, collective identity of the Cypriot people, a fact that is evident in both works.

Kyprianos offered his fellow men the first history of ‘their famous native island’ (Kitromilides 1996: 118–120) in their own language, Greek. Christodoulou was the first Cypriot to author (in immaculate English) a scientific treatise on the island’s landscape. In this methodologically sound work—in which he pays tribute to ‘the genius’ of the Greek botanist Panayiotis Gennadius (Christodoulou 1959: 215) and his seminal role as Director of Agriculture in Cyprus (1895–1904)—he accurately and honestly presented the island’s diachronic shortcomings. Despite the fact that at the time over half of Cyprus’ population,

which had just reached the half million in the late 1950s, derived ‘their main livelihood from the land’ (Christodoulou 1959: 5), the island’s farming economy was ineffective, and often disastrous. Besides being randomly exercised in small and dispersed land holdings, it remained at the mercy of immutable factors: poor soil and adverse climatic conditions—hostage to its geographical position. ‘Cyprus receives fewer lows and the air masses are not prodigious in their rainfall potentialities’ (Christodoulou 1959: 19). Regarding the former, Christodoulou comments:

In antiquity Cyprus is reputed to have earned the name Makaria (Blessed) for the fertility of its soils. That reputation, deserved or undeserved, is still maintained. More trained observers have been impressed by the extent of waste areas and expressed admiration at the way the peasants have managed to get any crops at all from so unpromising soils (Christodoulou 1959: 41).

With respect to the latter, he states:

The most serious problem in land use in Cyprus and the most fundamental in the economy of Cyprus is the intractable problem of rainfall variability ... Recurring droughts have been the main cause for the perennial insolvency of farmers ... An enterprise, like farming in Cyprus, with so many regular, if unforeseeable odds, is a big gamble and peasants face it with fatalist outlook (Christodoulou 1959: 28).

The book is a priceless history of the different geomorphological regions of the island and the struggle of local communities to survive in them; it contains population estimates, quantitative and qualitative analyses of agricultural production and annual records of rainfall, but it is also a record of Christodoulou’s vision, on the one hand, and his anxiety, on the other, about a future which has ‘hitherto been unplanned and unpremeditated’ (Christodoulou 1959: 215). As a Cypriot scholar, I am shamed by the fact that I failed to consult Christodoulou’s work before embarking on the ‘Palaepaphos Urban Landscape Project’ (PULP) in 2006 (Iacovou 2008). Six years later, when I studied the book for the first time, this led to a deeply humbling and at the same time rewarding experience: my

preliminary interpretations regarding the economic system that allowed ancient Paphos to develop into an autonomous and affluent city-state were strongly supported by Christodoulou's *negative assessment* (my emphasis) of the Paphos district's extremely limited agricultural potentialities.

What follows should, I hope, render this statement less incomprehensible, but the gist of it is: even if the Mesaoria—purportedly, in spite of its aridity, the 'granary' of Cyprus (Christodoulou 1959: 21, 28)—could, in some years, produce a surplus, on no account could the region of Paphos have prospered for any appreciable length of time exclusively on the export of its own agricultural products. Yet, few ancient polities in the Mediterranean can come up with more robust material (e.g. the megalithic sanctuary) and textual evidence (e.g. royal inscriptions) with which to defend their state-level status (for details and references see Satraki 2012). For almost a millennium—certainly from ca. 1200 BC, when the Paphian *temenos* was erected, to the end of the C4th BC, when all Cypriot 'kingdoms' were abolished by Ptolemy Soter—ancient Paphos was an autonomous mini-state. In fact, with the exception of Enkomi–Salamis, it is doubtful that any of the other Cypriot 'kingdoms' could match its uninterrupted longevity (on the term 'Cypriot kingdoms' see, recently, Iacovou 2013a: 16, 36).

'A micro-state thrived as a self-regulating political formation', noted Professor James Wright in introducing a colloquium on 'Issues in the transition of political economies', convened at the American School of Classical Studies in 2013 (unpublished). Granted that ancient Paphos evidently enjoyed the status of a micro-state, a key question to be answered is: on what kind of an economy?

PULP's initiation and developing research design

Many assumptions, which over time acquired the guise of facts, and entrenched beliefs had to be questioned and overcome before we could launch PULP (Iacovou 2007: 3–6). As explained in greater detail elsewhere (most recently Iacovou 2013b: 276, 278), it was in the course of carrying out the 2003 fieldwork for the 'Digital Archaeological Atlas of Palaepaphos' (cf. Sarris *et al.* 2006) that the realities of the topography made me feel that some long-established and oft-cited views were suspect. Eventually, weary of misconceptions and false impressions, I decided that we had to initiate a study of the invisible structure of the primary (capital) centre of the polity of ancient Paphos (Paphos in Cypro-Archaic and Cypro-Classical inscriptions) *ex nihilo*, or with as clean a slate as possible.

A new set of questions was formulated and our field plan focused on the collection and digital analysis of evidence that might gradually lead to a comprehensive view of the temporal and spatial character of the site's

foundation horizon and to a diachronic assessment of transformations in settlement structure to the end of antiquity. The establishment and subsequent development of the settlement of Paphos (today known as Kouklia *Palaepaphos*) needed to be justified in relation to regional and/or island-wide economic systems.

If in 2006 I felt sufficiently confident to initiate the Palaepaphos project, a huge debt of gratitude is owed to many friends and colleagues, and certainly to the guiding influence and encouragement of David Frankel. For years I marvelled at his versatile and inquisitive spirit, and had witnessed how he would return, with Jennifer Webb and a carefully laid out plan, to seemingly resolved issues, determined to reconsider them. Everything the two of them studied would soon be vested with a succinct, region-specific socio-economic significance that enriched the early history of Cyprus. In a volume that celebrates David's outstanding academic career, his accomplished field research and his prolific publication record, I hope to explain why a field project, originally designed to produce data on the urban structure of a single primary settlement, has been transformed into a much longer-term regional landscape analysis of the catchment area of Paphos, which cannot be confined to the period of antiquity. It was not long after the first seasons when I started to think that *Paphos*, *Palaepaphos* and *Kouklia*, the three names by which the anthropogenic landscape that surrounds the sanctuary has been known, correspond to three different economic cycles, and that each in its turn affected the settlement pattern in the catchment area of the district of Paphos not once but twice: first, when it was introduced and a second time when it was abandoned.

If I am halfway right as to the application of three different political economies in the *longue durée* of the region between the early second millennium and the C20th AD, the effects on the physical and social landscape require consideration in the context of a unified long-term research project. The need for a holistic approach to the region, identified as the catchment or hydrological area of Paphos, has been duly recognised, though we are at an early stage in designing methodologies that will render reliable results. There is, however, a two-way approach that merits simultaneous development: a diachronic view from the Bronze Age to the end of antiquity (pre-Bronze Age subsistence systems cannot be related to political economies), and from the present back to late antiquity. These two research agendas should allow us to define the three temporally distinct economic cycles before we begin to estimate the extent to which each has reshaped the region's landscape through the application of different resource exploitation systems, altering in the process local communities' relationships with the land. In Kouklia specifically, and in the region of Paphos in general, one can observe serious discontinuities in group memory,

which reveal the local population's alienation from previous systems of land use.

Hence, the latter approach (from the present day back to late antiquity) will require, besides the application of ethnographic research, the meticulous collection and digitisation of official government data, which began to be published by the British colonial administration (as a rule on an annual basis), and continued (in many cases) under the Cyprus Republic; also, an updated record of land reclassification (parcels originally listed as forest, pasture or agricultural land that have been reclassified in more recent years for urban or industrial development). This reverse approach must also reassess the settlement pattern of the region during the Byzantine, Frankish, Venetian and Ottoman periods (cf. Given 2000) by combining the available documentation (see Grivaud 1998: 485–514 for an extensive list of sources that includes manuscripts and maps) with a consistent archaeological survey. An investigation of the 'extensive *terra incognita* of the Paphos District' was initiated by the Canadian Palaipaphos Survey Project (1979–1991) and the Western Cyprus Project (1992), under less than well-defined research objectives—described by Rupp in a self-reflexive paper on 'evolving strategies' (2004: 63–64). These projects, nonetheless, led to the collection of significant data of all periods (see preliminary reports, specialised studies and general papers listed in Rupp 2004: 75–76; also Sørensen & Rupp 1993).

For the time being, our evaluation of the recent past remains empirical and rests on observations and experiences that do not pre-date the last quarter of the C20th. I mention, as an example, how deeply concerned I was when I could not find among the local Koukliotes anyone who could explain why the locality of *Kaminia* (kilns) bears this name. We could not identify the remains of any kind of kiln and they could not remember one either; nor did they think of making up a story to justify the name—a common response in other areas. I then realised that the number of those born and raised in the village from local stock, who had not emigrated abroad or to another region of the island, was a mere handful. The only memories I could gather from elderly people who had stayed behind to till the land were the painful stories of parents who could not feed their children no matter what they tried to grow in their thin soil plots on the Paphos plateau—listed as one of the regions suffering from an 'acute shortage of land' (Christodoulou 1959: 59). Admittedly, there is a major discrepancy between the economic status of ancient Paphos, the affluent capital of a Cypriot 'kingdom', and Kouklia, the hapless village that was destitute almost to the end of the C20th, though both occupy the exact same location. Apparently, the successful political economy of antiquity was at some stage discontinued and substituted with another which did not suit the region, or maybe even the island. A

delicate equilibrium had been upset; but when and why? Were some immutable regional or island-wide factors ignored or seriously misunderstood?

The catchment area of Paphos in the Bronze Age

The study of Palaepaphos from the earliest Bronze Age to the end of antiquity is by now well developed: following the outstanding work of Giorgos Georgiou (2007), the second millennium BC transformations of the still patchily known settlement pattern of the catchment area of Paphos—for which Diacopoulos' analysis of Bronze Age data from the Canadian Palaipaphos Survey Project (2004) remains a valued contribution—were for the first time linked to the foundation of Paphos as a coastal gateway during the MC III–LC I transition. To the best of my knowledge, Georgiou was the first to suggest that Paphos was founded as the terminal link in a chain of settlements involved in the procurement and transport of copper to the coast. Hence, from 2007 on—and despite the fact that Kouklia *Palaepaphos* is not *on the coast* the way Salamis still is—we could begin to consider its foundation as one of a handful of near-contemporary episodes associated with the establishment of the island's first commercial ports of trade, including Enkomi and Hala Sultan Tekke (Iacovou 2008: 267).

The available evidence on Bronze Age site distribution in the catchment area was, next, finely analysed with the use of GIS by Athos Agapiou in a Masters thesis (2010). This reinforced our understanding of the spatial relation between copper sources and the region's settlement pattern which was, as suggested by Georgiou (2007), reorganised during the MC III–LC I transition (Fig. 1). The establishment of a north (Troodos foothills) to south (coast) line of visibility, mainly along river routes and especially along the Dhiarizos, which flows into the sea directly west of the plateaus on which ancient Paphos was founded, suggests a southward direction of communication routes put in place by a new economy, which required inter-site collaboration.

We could, therefore, begin to consider that the introduction of the first economic cycle (the *Paphos* economic system) dates from the opening phase of the Late Cypriot era and that, as in other regions of the island which developed complex systems at this time, it involved an industrial economy associated with the copper trade, though not to the exclusion of a subsistence economy (cf. Iacovou 2013a: 21, 38; Knapp 2013: 398). The contemporary growth of another Late Cypriot industry that 'built' sizable storage jars (Pilides 1996), and the presence of such Late Cypriot pithoi in shipwrecks alongside impressive numbers of copper ingots (cf. Knapp 2013: 414 and this volume), suggest that agricultural surpluses, such as olive oil (Hadjisavvas 1996), were traded (to the extent that

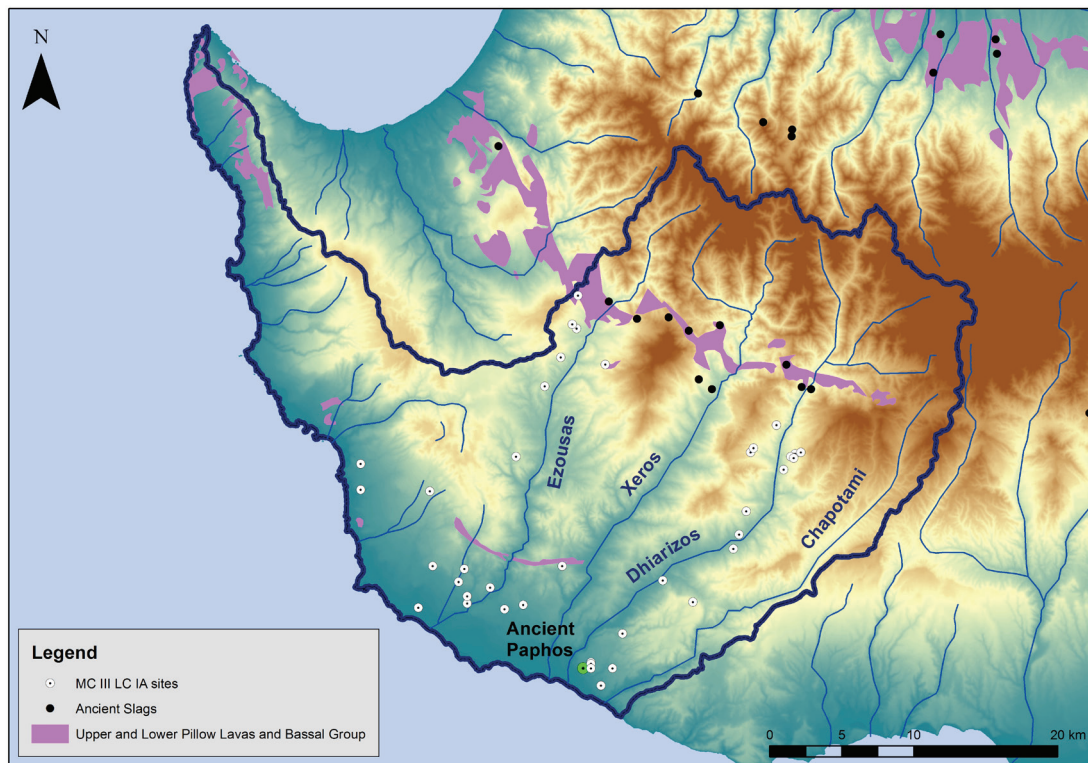


Figure 1. Distribution of Late Cypriot I sites in the Paphos catchment area. Courtesy of Athos Agapiou

they were available from year to year) together with copper and a whole range of secondary products, such as fine ware Cypriot ceramics (cf. Knapp 2013: 417).

Since 2013, the study of the Paphos region's settlement pattern in the Late Bronze Age (the second half of the second millennium BC), after the foundation of ancient Paphos as a coastal gateway, has taken a more concise material-oriented approach under the rubric of *ARIEL* (Archaeological Investigations of the Extra-Urban and Urban Landscape in Eastern Mediterranean Centres: a Case-study at Palaepaphos), a three-year *Marie Curie Career Integration Grant* secured by Artemis Georgiou (forthcoming). The main objective of *ARIEL* is to record the development of ancient Paphos into the region's primary centre in the course of the Late Cypriot period and to provide a comprehensive understanding of the economic territory which formed this early micro-state.

Finally, a recently completed Masters thesis by Evangelia Christodoulidou (2014), entitled 'The foundation horizon of Palaepaphos on the basis of the ceramic evidence', has made the most out of the meagre and highly dispersed Bronze Age pottery assemblages from the region, where the absence of securely identified Early Cypriot pottery continues to pose a vexing problem. Christodoulidou was able to define regional ceramic patterns of the early Late Cypriot phase, which developed from Middle Cypriot traditions; she has also identified ceramic evidence that highlights the region's intra-island communications during MC III-LC I.

Compression of the first economic cycle of Paphos into the second of Palaepaphos

To this day, despite the original target of the Canadian Palaepaphos Survey Project to investigate the 'spatial patterning ... of the settlements within an Iron Age kingdom' (cf. Rupp 2004: 63), there is no comprehensive settlement pattern analysis of the region in the Iron Age, analogous to the one compiled by Georgiou, and digitally upgraded by Agapiou, for the Bronze Age. What we know about the first millennium BC comes almost exclusively from the primary centre of Paphos, where expressions of statehood begin in the late C8th BC with Greek syllabic inscriptions issued by two Paphian *basileis* named Akestor and Eteandros (cf. Iacovou 2013c: 140; Satraki 2013: 128, 133). A ruler of Paphos, the same or another Eteandros, is also listed on the prism of Esarhaddon as one of ten Cypriot *sharru*, who contributed to the rebuilding of the Assyrian palace in Nineveh in 673 BC (Saporetti 1976; Masson 1992; Satraki 2013: 126). The silver coins (*sigloi*) of Paphos are, together with those of Evelthon of Salamis, the earliest coins struck by Cypriot micro-states in the last quarter of the C6th BC (cf. Destrooper-Georgiades 1993: 88–89, n. 7). If we add to the above the rest of the royal inscriptions, which date from the C6th to the C4th BC (Satraki 2012: 392–400), the dynamic presence of the Paphian state is amply recorded until the day it was abolished by Ptolemy Soter along with all the other Cypriot 'kingdoms' (Papantoniou 2013: 169).

Why, then, had the economic *raison d'être* of the polity of Paphos, which constitutes the *sine qua non* of its foundation and its successful resistance as an independent political authority, not entered the archaeological dialogue? Instead, the lingering impression, espoused almost to the present, was that 'Paphos' claim to fame did not so much spring from political or economic power ... but rather rested on her Sanctuary' (Maier 2004: 12). This claims, in effect, that the rise of a polity and the management of an economically durable territorial state was reliant on Aphrodite's charms and revenues from pilgrim tourism. Yet, the settlement of ancient Paphos had not grown *around a sanctuary*; it had grown *around a harbour* that connected Paphos to a long-distance trade network. Whether at Paphos, Enkomi or Hala Sultan Tekke, the anchorage or port mouth was the kernel around which their respective settlements grew. The aggrandisement of the sanctuary with a *temenos* of megalithic ashlar blocks followed the establishment of the Late Cypriot port settlement of Paphos (ca. 1600 BC) by as many as 400 years. I have expressed my conviction that the terrace on which the great *temenos* was erected around 1200 BC was chosen because of its proximity to and visibility from the basin of this first harbour, presumably located in Loures (Fig. 2), southeast of the sanctuary (Iacovou 2012: fig. 7.4; 2013b: fig. 2). As at Kition, the other Late Cypriot port settlement where a similar monumental *temenos*

was erected by the port's basin, we may assume that maritime trade and metallurgy (cf. Webb 1999: 302) or, as Knapp prefers, 'industrial, storage and ceremonial' functions (2013: 372), were relegated to the authority of the Paphos sanctuary (for the presence of slag in the early strata of the sanctuary, see Megaw 1951: 13).

The sanctuary was erected by a local authority at a time when ancient Paphos had achieved the status of a micro-state. This local authority remained the sanctuary's manager to the end of the C4th BC and throughout this period the goddess of Paphos, protector of its complex industrial economy, was not identified by the name of Aphrodite in the local Cypro-Syllabic (Greek) inscriptions. She was invoked—especially in the inscriptions of the Paphian *basileis* who acted as her priests—as *wanassa*, i.e. the sovereign (cf. Karageorghis 1997, 2005: 40).

In order to understand why the first economic cycle of Paphos has not been recognised until recently, we have to turn to the history of research and acknowledge the extent to which the history of Paphos has been overshadowed by that of its sanctuary. Because of the multitude of references in the ancient literary corpus to the 'temple of Aphrodite' at Paphos—but *never* to a polity ('kingdom' or *polis*) of Paphos—the sanctuary monopolised the attention of antiquaries and archaeological missions almost to the middle of the C20th (cf. Maier 2004: 34–37; Näf 2013: 89–116). With few exceptions—most notably Homer (*Odyssey*

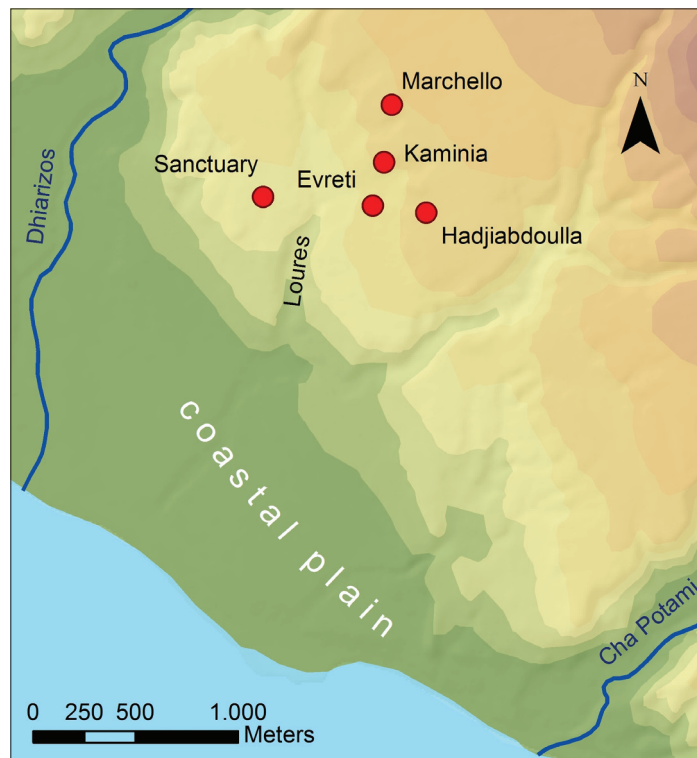


Figure 2. Map showing the main plateaus incorporated into the urban structure of ancient Paphos and the possible location of the port basin in Loures to the southeast of the sanctuary terrace. © The Palaepaphos Urban Landscape Project (drafted by Athos Agapiou)

8.362–366) and Herodotus (*Histories* 1.105.3)—these sources, which date from long after the abolition of the Cypriot kingdoms, provide exaggerated (and in the case of Christian authors, polemical) descriptions of the cult of Aphrodite, as it was (supposedly) practiced in Palaepaphos in late antiquity (for the sources see Hadjioannou 1973: 54; Karageorghis 2005: 43; Näf 2013: 16). Admittedly, they confirm the international pre-eminence that the sanctuary had acquired in the Graeco-Roman world, but they also stand proof of how deeply its original role had been suppressed and forgotten.

Despite the meticulous excavation project of the Swiss-German mission in the 1970s, which isolated and salvaged important Late Bronze Age remains from within the *temenos* (Maier 1985; Maier & von Wartburg 1985: 149–150), and Webb’s coherent justification of the sanctuary’s impressive architecture as the symbolic statement of a centralised Late Cypriot authority (1999: 288–289, 295–297), the original region-specific identity of the sanctuary, which in the first millennium BC was inextricably and exclusively linked to the authority of the *basileis* of Paphos, has not been cleared from the heavy burden of the *Palaepaphos* cycle: it has remained under the spell of the new *colonial* role that the sanctuary alone (not the region) was made to undertake, first under the rule of the Ptolemies and later the Romans. In the 3rd BC, the sanctuary was transformed into the first pan-Cypriot and later ‘pan-Mediterranean’ cult centre (Papantoniou 2012: 160). Its new role, actively promoted by Ptolemy II Philadelphos (284–246 BC) in the context of an empire-wide program, was the Ptolemaic ruler cult (cf. Anastasiades 2003). Likewise, under the Romans, who acknowledged the sanctuary’s age-old sanctity (Tacitus, *Annals* 3.62), the imperial cult was almost certainly practiced at Palaepaphos (cf. Gordon 2012: 258).

Thus, until the deployment of our project in 2006, the politico-economic viability of the micro-state of Paphos was absorbed by, and compressed into, the second economic cycle of *Palaepaphos*, by which time there was no independent Paphian polity. No longer the urban capital of a Cypriot ‘kingdom’, the settlement, now referred to as Palaepaphos, began to shrink around the sanctuary but survived *because of* the ‘temple to Aphrodite’. Consequently, Palaepaphos, as the ‘sanctuary town’ (Maier 2007: 17) it became under Ptolemaic and Roman rule, may, indeed, have lived off pilgrim visitations. This, however, was never the basis of the region’s political economy.

From ancient Paphos to Nea Paphos: a harbour relocation process

Besides concealing the complex character of the economic strategies that sustained the micro-state of Paphos, the range of transformations which preceded

the renaming of Paphos as Palaepaphos have also been compressed into a single time-specific episode: the foundation of Nea Paphos as if by the magic wand of the last Paphian king, Nikokles, or alternatively—though quite improbably—Ptolemy Soter. Like the foundation of ancient Paphos, the foundation of Nea Paphos, 12km to the west, was made in the name of a harbour; this time one that could respond to the commercial and military requirements of the Cypro-Classical ‘kingdom’ of Paphos. By military, I mean to underline that the *basileus* of Paphos, like his Cypriot peers in the fifth and fourth centuries, maintained his own warships (cf. Theodoulou 2006). Besides fighting against each other, the fleets of the Cypriot rulers were required to participate in naval confrontations, together with the Phoenicians, on the side of the Achaemenid empire; but with the arrival of Alexander in the waters of Tyre in 332 BC, the Cypriot kings joined him with a fleet of 120 warships (Arrian, *Anabasis* 2.20).

That the founders of ancient Paphos came from various Bronze Age settlements of the region to establish a port of trade in a protected cove should not be in doubt, despite the fact that it has since silted up and become invisible. Surprisingly, knowledge of the existence of this lake-size port survived as late as the 18th AD and was recorded by Archimandrite Kyprianos in the *Chronological History*; it was thought to have been the anchorage of the fleet of Agapenor, legendary Greek founder of Paphos and the ‘temple’ (Pausanias 8.5.2). Kyprianos also records its transformation into an unhealthy lagoon after it had been cut off from the sea (Kyprianos 1788: 18). We do not know when it was rendered useless, or how many anchorages nearer to ancient Paphos and the sanctuary were tried out as alternatives before the 4th BC, when, apparently, the state’s authorities decided to resolve the problem with the development of a new official harbour at Nea Paphos. The coastal landscape changes, variously attributed to coastal uplifts and/or silting caused by rivers (cf. Zomeni 2012), which destroyed the harbour facilities of ancient Paphos, were not peculiar to that stretch of the coast. From as early as the final years of the Late Bronze Age, major urban port-towns on the east and south coasts of Cyprus were either abandoned (e.g. Hala Sultan Tekke) or relocated (e.g. from Enkomi to Salamis) when their harbours became dysfunctional. It appears that a polity’s harbour could not be managed from a distance, even if the distance was as inconsequential as the 2km separating Old Salamis (the site of Enkomi) from New Salamis: primary settlement and port of trade functioned as an inseparable unit (cf. Iacovou 2012: 64).

The foundation of a new harbour at Nea Paphos was a daring political decision, which would almost certainly have required the transference of the territory’s administrative centre. We do not know when the move was initiated, or how the king in his

dual capacity as *basileus* and priest of the *wanassa* handled the delicate issue of distancing himself from the sanctuary, or, indeed, *if* he did. Still, the range of evidence, meticulously collected and analysed by Młynarczyk (1990), leaves little room for doubt as to the foundation of Nea Paphos in the C4th *before* the War of the Successors and *before* the termination of the royal dynasty of Paphos. Moreover, the spatial distribution of the inscriptions issued by the last king, Nikokles (Michaelidou-Nicolaou 1976), allows us to identify two new locations which he found necessary to sanctify and protect: one is Nea Paphos, the new gateway of the 'kingdom', where he established a sanctuary to Artemis Agrotera (Masson 1983: 95); the other is in the Troodos foothills, on a saddle between the Xeros and the Ezousas rivers (quite a way to the west of the Dhiarizos), where two impressive syllabic inscriptions (now on the exterior wall of Ayia Moni) announce his dedication of columns to Hera (Masson 1983: 145–147). If I am right in thinking that the Ayia Moni inscriptions disclose the king's concern for the establishment of the new transport route that would safely bring copper to Nea, instead of ancient Paphos (Iacovou 2013b: 287), then in this 'rerouting' we may also see the termination of the *Paphos* economic cycle (Fig. 3).

The establishment of ancient Paphos as a *chaîne opératoire's* terminal link was engineered by

settlements in its hinterland; now the *chaîne opératoire* had to employ a new north to south transport route in order to terminate at a new gateway. Ancient Paphos, and the settlements along the Dhiarizos, would have been left out of the new arrangement. From then on, ancient Paphos, which began to be referred to as Palaia, Palaeopaphos or Palaepaphos (cf. Mitford 1960: 198; Masson 1983: 93–94; Młynarczyk 1990: 23), was cut off from the hinterland which had been its life-line: the routes that used to bring copper and wood from the Troodos forest for the shipbuilders no longer terminated near the sanctuary after a manageable journey of 25km along the Dhiarizos. Before long, with the annexation of Cyprus to the Ptolemaic kingdom of Egypt in 294 BC, the region-wide political economy of the micro-state of Paphos ceased to exist.

The Palaepaphos economic cycle

Because of the transfer of the harbour to Nea Paphos, the urban landscape of the Cypro-Classical town of ancient Paphos did not disappear under the monumental weight of Hellenistic and Roman public buildings and Early Christian basilicas, all of which were constructed in Nea Paphos. From the urban nucleus of ancient Paphos, which in the C4th BC extended on plateaus to the north and east of the

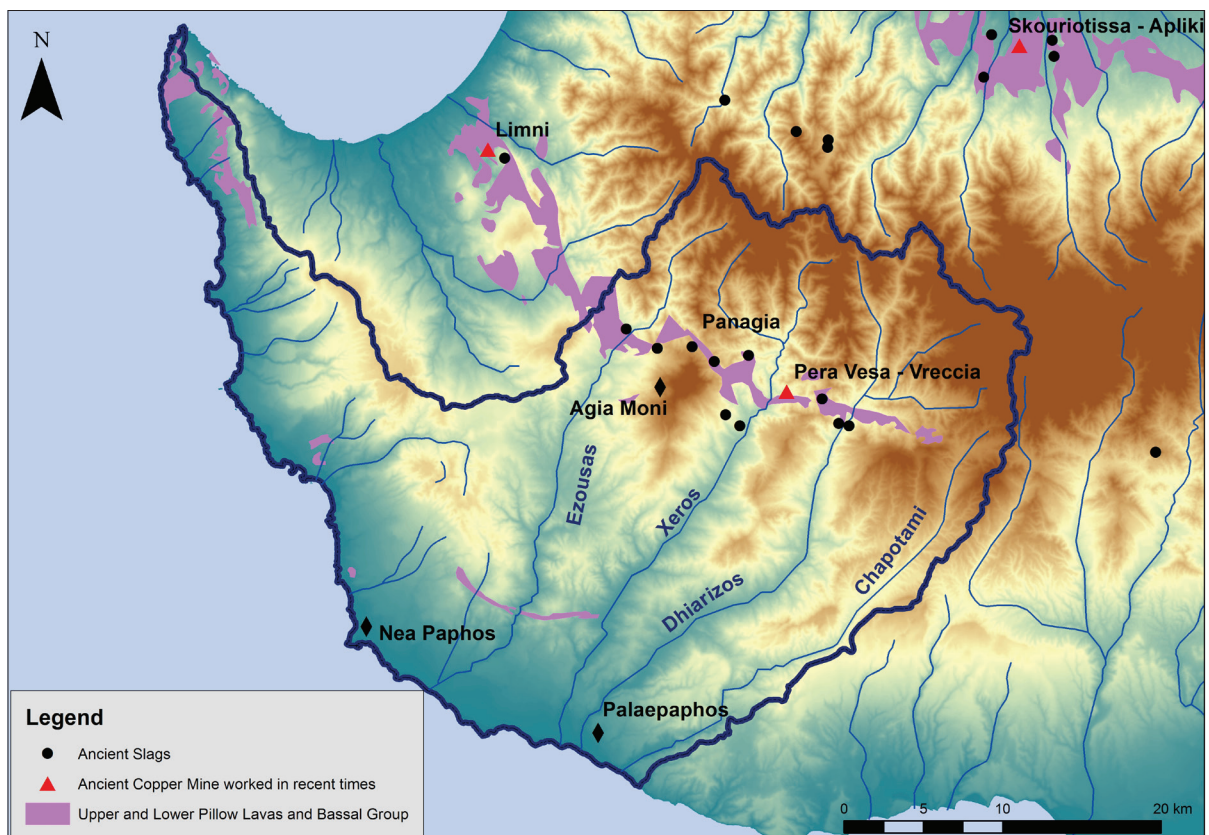


Figure 3. Map of the Paphos catchment area indicating the location of Ayia Moni between slag heaps and the Xeros and Ezousas Rivers (digital geological data from the Cyprus Geological Survey; map drafted by Athos Agapiou)

sanctuary, there is a significant presence—especially on the eastern plateau of *Hadjiabdoulla*—of local and imported container vessels dating to the Hellenistic period and, as noted by Maier (2007: 27, fig. 22), an equally conspicuous absence of Roman pottery. Beyond the terrace of the sanctuary (on which the modern village is also situated), neither the Roman nor the Byzantine period is prominent in the settlement strata of Palaepaphos. After the Ptolemaic period, the plateaus that had been key components in the urban structure of the ancient polity since the Late Bronze Age were gradually abandoned.

Irrespective of the political and commercial pre-eminence of Nea Paphos during the Ptolemaic and Roman eras, and the population growth recorded in the region of Paphos (cf. Rupp 1997), the second economic cycle severed Palaepaphos from the terrestrial and maritime landscape that had once been the economic territory of the state of Paphos. During the *Palaepaphos* cycle, when the sanctuary site was more often approached by land either from Kourion to the east or from Nea Paphos to the west, the intimate relationship of the settlement and the sanctuary with a copper industry and a maritime trade connected via a north to south communication route, was gradually forgotten.

By the time that Cyprus was firmly claimed by the crusading family of the Lusignans, the Paphos sanctuary stood on the southeastern outskirts of a mediaeval hamlet that was no longer called Palaepaphos; it was now Koukklia, from Couvoucle, but the termination of the *Palaepaphos* economic cycle occurred before the establishment of the Frankish kingdom of Cyprus in 1191 (Maier 2004: 28). It ended when the two most important traditional industries of the island died out, sometime between the Early and Middle Byzantine periods.

Mining and ship-building industries in an island-wide political economy

Although metallurgy and shipbuilding, aptly described by Raptou (1996: 256) as the ‘heavy industry’ of ancient Cyprus, remained the principal elements of the island’s economy under the Ptolemaic kingdom, in the 3rd BC the Cypriots had, for the first time, to abandon their regional economies. From then on the economy was managed by a central colonial administration, which in 58 BC was taken over by the Romans. According to Mitford, the inscription dedicated in the sanctuary of Palaepaphos, which honours Potamon as officer in charge of metals, proves that this official was ‘responsible for the mineral wealth of the whole island’ (Mitford 1953: 86; 1961: 39, no. 107). Under the Ptolemies, minerals, timber and agricultural produce became state monopolies (cf. Michaelides 1996: 140); they were nationalised (Gordon 2012: 503). Another inscription, also from

the Paphos sanctuary, underlines the high esteem in which shipbuilders were held; a statue was dedicated to the naval architect Pyrgoteles, who built Ptolemy II a thirty-oared and a twenty-oared warship (Mitford 1961: 9, no. 17; Nicolaou 1971: 20).

The reason why I am focusing on these two industrial traditions, which developed under the regional political economies of the Cypriot micro-states, is because their abandonment would have had devastating consequences; forcing the islanders to rely on agriculture beyond the land’s capacity and exposing them to the ‘unforeseeable odds’ noted by Christodoulou (1959: 5, 28, 30): recurring droughts and the more frequent uneven distribution of rainfall, etc. Cypriot society had linked its prosperity and its rise to complexity to an industrial economy centered on metals and an associated shipbuilding industry from the middle of the second millennium BC. It was primarily a society of merchants, whose livelihood depended on long-distance trade. Under the colonial administration of the Ptolemies they had no reason to complain: the kingdom of Egypt had a serious stake in the mining and shipbuilding industries of the island and Cypriot products were safely traded within an empire-wide, closed economic zone controlled by the Ptolemies (Gordon 2012: 504). For the Romans, on the other hand, Cyprus was not a key possession nor did it have the strategic significance it had had for the Ptolemies.

Following Cyprus’ integration into the Roman imperial system, the mines were managed by an imperial procurator who oversaw mine contractors. Individual prospectors (e.g. Herod the Great) continued to profit from the island’s metallic wealth and from trade in agricultural products (e.g. wine), so that Roman Cyprus was ‘distinctly prosperous’ (Michaelides 1996: 142, 144). For the Empire, however, which had much greater sources of metals and timber nearer to Rome, the value of Cyprus’ natural resources diminished (Gordon 2012: 287). The impressive size of the Roman slag heaps at Skouriotissa and laudatory literary descriptions advertising the island’s productivity written during this period do not alter the picture: by the time that Cyprus was incorporated into the Eastern Roman Empire (Byzantium) in the 4th AD the copper industry was in decline, probably because it was no longer a state-endorsed industry; indeed recent research has shown that copper production stopped after the 7th AD (Kassianidou 2011).

The importance of shipbuilding may have lasted a little longer than that of copper. Writing in the 4th AD, Ammianus Marcellinus (*History* 14.8.4) comments that it was regarded as a wonder that Cyprus could build cargo ships entirely from its own resources, a fact that also underlines the quality of local timber (Michaelides 1996: 146). Evidently, the expertise of Cypriots as master shipbuilders remained undisputed during the early Byzantine period when ‘the

dockyards of Constantia [Salamis] [were] the largest in the East' (Englezakis 1995: 72). Nevertheless, neither mining nor shipbuilding survived into the Middle Ages. The states that ruled over Cyprus in the second millennium AD, from the Byzantine emperors, to the Franks, Venetians, Ottomans and, as of 1879, British, did not invest in the revival of these industries. Hence, in the course of Cyprus' long Mediaeval period, these two ancient industrial traditions were largely lost to local memory.

Cane sugar: the *Kouklia* economic cycle

Dorothy Dunnett's masterful historical novel *Race of Scorpions* (1990), the third volume in the series *The House of Niccolò*, opens with a faithful description of the Paphos sanctuary in its C15th setting next to the 'Chateau de Couvoucle ... with its dependent industrial buildings on the Sanctuary site' (Maier 2004: 28). The cane sugar industry associated with the estate of the royal family of the Lusignans at Kouklia, and their C13th manor house with its impressive Gothic hall, have been admirably studied (cf. von Wartburg 2001). The excavations carried out by the Swiss-German mission in the mills and refineries beside the manor and at Kouklia *Stavros* (on the coastal plain) have justifiably been labelled the first industrial archaeology project in Cyprus (Maier 2004: 89–105).

However, the third economic cycle applied to the landscape that was once Paphos and later Palaepaphos did not incorporate into a new urban structure the deserted plateaus that had been the urban units of ancient Paphos: to this day they remain a degraded rural landscape where diagnostic ceramics of Medieval or Ottoman date are hardly ever observed on the surface. The *Kouklia* economic horizon appears to have had a very limited spatial coverage: it was restricted to the coastal landscape. Cane sugar was an exogenous plant, previously unknown to local farming traditions. The crop and knowledge of its cultivation were imported by the Frankish overlords of the island (Grivaud 1998: 344–345). It was an industrial crop, cultivated in feudal estates under plantation conditions. The plantations covered the entire south coast from Episkopi to Paphos; they required 'fertile lowlands with abundant perennial water and a coastal location' (Christodoulou 1959: 135) for easier access to cargo ships, since the entire production was destined for export to Europe. At Kouklia this novel industry was restricted to the lush narrow plain of river silt located below the terrace on which both the ruins of the sanctuary and the manor house stand.

Despite the profits made by large estates such as the one at Kouklia (on the estates or *chiftlics* of Paphos, see Christodoulou 1959: 78), cane sugar was not a farming economy that could be applied to the rest of the region. The hinterland of Paphos, which had been parcelled out to various feudal lords, did

not participate in this imported resource exploitation system. During the *Palaepaphos* economic cycle the settlement structure of the Paphos region had not been excluded from the political economy—indeed it appears that during the Ptolemaic and Roman eras the region was more densely populated than ever before or after. By contrast, during the *Kouklia* cane sugar horizon, the hinterland was abandoned: in Grivaud's seminal study (1998) on Cypriot villages abandoned between the C12th and the C19th AD, the list of deserted communities in the Paphos district is the longest.

It is interesting to note, however, that, like copper, sugar was destined for bulk export: 'It was highly capitalised, produced on a large scale and crushed and refined and exported' (Christodoulou 1959: 134). Like copper, its processing required a large and specialised labour force in the context of an industrial *chaîne opératoire* that included plant processing—the most complete example of such a facility being that of Kouklia *Stavros*—the production of special vessels (clay moulds and molasses jars) in the thousands (Maier 2004: 91), and facilities for export. Like copper, the high cost of sugar production made it a luxury item beyond the reach of the indigenous population: sugar could never be added to the staples of the Cypriot peasantry. The monoculture of cane sugar was a short-lived economic strategy. It died out during the Ottoman period (1571–1879), as cheaper sugar had begun to reach Europe already in the C15th AD (Grivaud 1998: 375, 409). The Kouklia *Stavros* complex ceased to be a sugar refinery around 1600 AD (Maier 2004: 103). Unlike sugar, however, copper has not lost its market value.

Droughts, emigration and the revival of the mining industry

Interest in the ancient copper industry of the island, which had been maintained by European scholars during the Renaissance and more so during the Enlightenment, was revived on the island in the C20th AD when archaeological evidence was discovered in the form of ancient galleries and miners' tools (Bruce 1937; Webb & Frankel 2013; Kassianidou 2014: 147). These discoveries were made in the rich ore deposits of Skouriotissa, where the British colonial administration (established on the island in 1878) agreed to give mining concessions to an American company. Thus began, in 1921, the state endorsed exploitation of copper by the Cyprus Mines Corporation (CMC) in the northwest Troodos, at Skouriotissa and Mavrovouni (Fig. 4). In the mid-1950s, the company's copper mines became the island's largest industry (Angelides 1996). Mine labour led to internal migration, and nothing indicates in more vivid terms the fact that agriculture alone was unable to support the Cypriot population than the presence of a large work-force from the villages

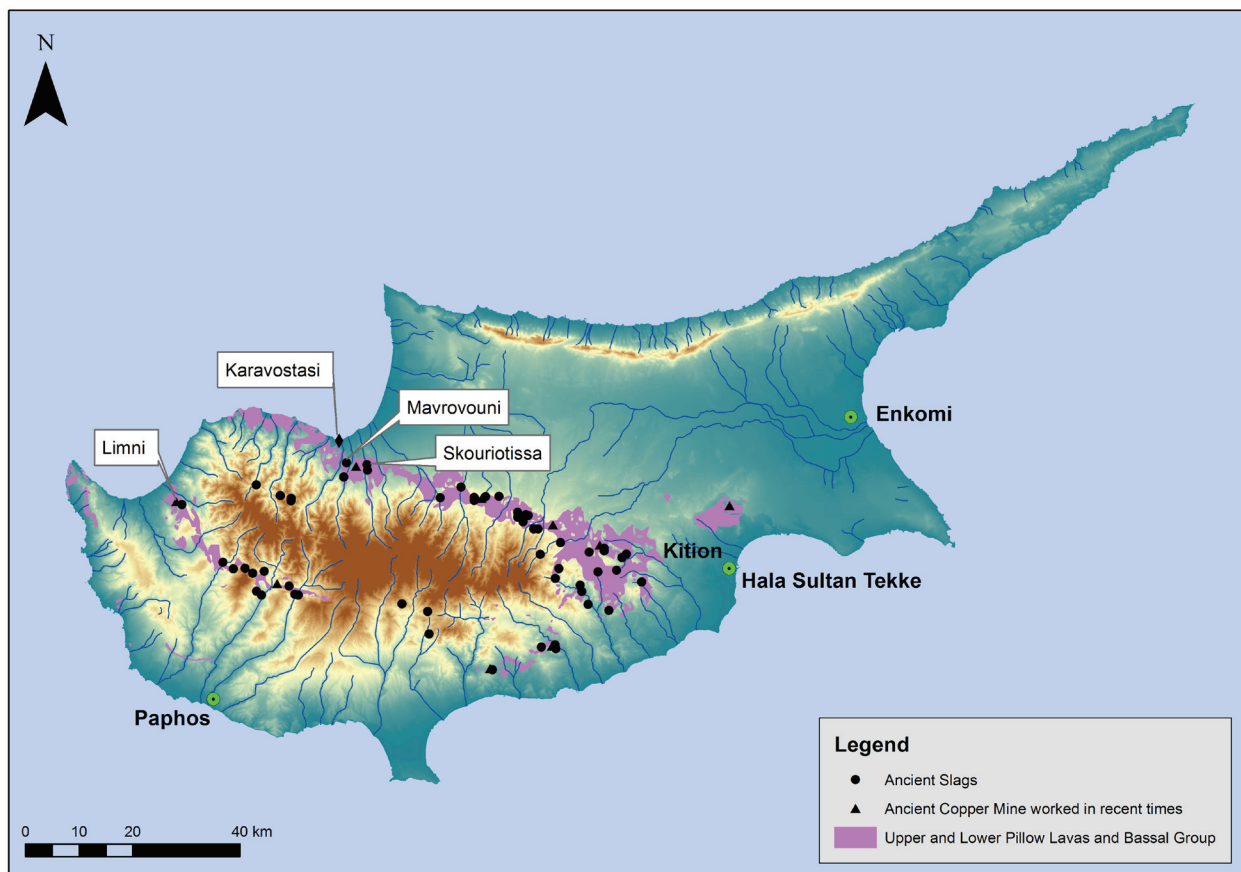


Figure 4. Map of Cyprus with the location of ancient slags and ancient mines worked in recent times, digitised from Stos-Gale *et al.* 1998 and the archives of the Cyprus Geological Survey (digital geological data from the Cyprus Geological Survey; map drafted by Athos Agapiou)

of the so-called ‘granary’ of the Mesaoria (Famagusta district) in the mines of Skouriotissa and Mavrovouni.

In 1902 serious drought led to emigration (external and internal) from every rural community of the island (Christodoulou 1959: 51). It would appear from the relevant records that the already poverty-stricken district of Paphos suffered the most. Thus, the nearly depopulated Paphos plateau began to provide mining labour (Christodoulou 1959: 213) for industries on the north side of the Troodos massif. Up until 1974, people from the region of Paphos sought work as labourers in the mines of *Limni* and at the loading platform of Karavostasi in the Bay of Morphou, well beyond the hydrological basin of their own district. In ancient times the mining region of Limni belonged to the territory of Marion and that of Skouriotissa and Mavrovouni, whose metal ore was transported to Karavostasi by rail, to Soloi, not to Paphos.

Slag heaps in the depths of a forest?

The Cypriots did not receive shares from the revival of the mining industry, nor was the standard of living of the majority considerably improved before the last

two decades (1940–1960) of British rule (Angelides 1996: 220); but they became miners again and they reconnected with the ancient industry via the galleries and tools they came across. In the district of Paphos, where no major C20th mining operation targeted the medium-size ore deposits of the region, no evidence of ancient exploitation has been found—with one exception: a wide distribution of slag heaps (cf. Fox *et al.* 1987; Stos-Gale *et al.* 1998). Kassianidou rightly comments (2013: 58–59) that none of these slag deposits have been securely dated (except for a single radiocarbon date from the Pera Vasa heap, which places the smelting activities in the C4th AD; Zwicker 1986: 102). Irrespective of their date, however, their presence confirms that the Paphos deposits were exploited in antiquity. All other factors, and there are many besides chronology, remain to be defined. They will require the contribution of experts in the context of a specialised project, such as that recently developed for the absolute dating of Cypriot slags using well-stratified charcoal samples (Kassianidou 2013: 56, n. 5; Socratous *et al.* forthcoming).

One thing, however, is readily evident. One only has to drive in search of the slag heaps and attempt to scale one of them (Fig. 5) for a vivid picture to emerge:

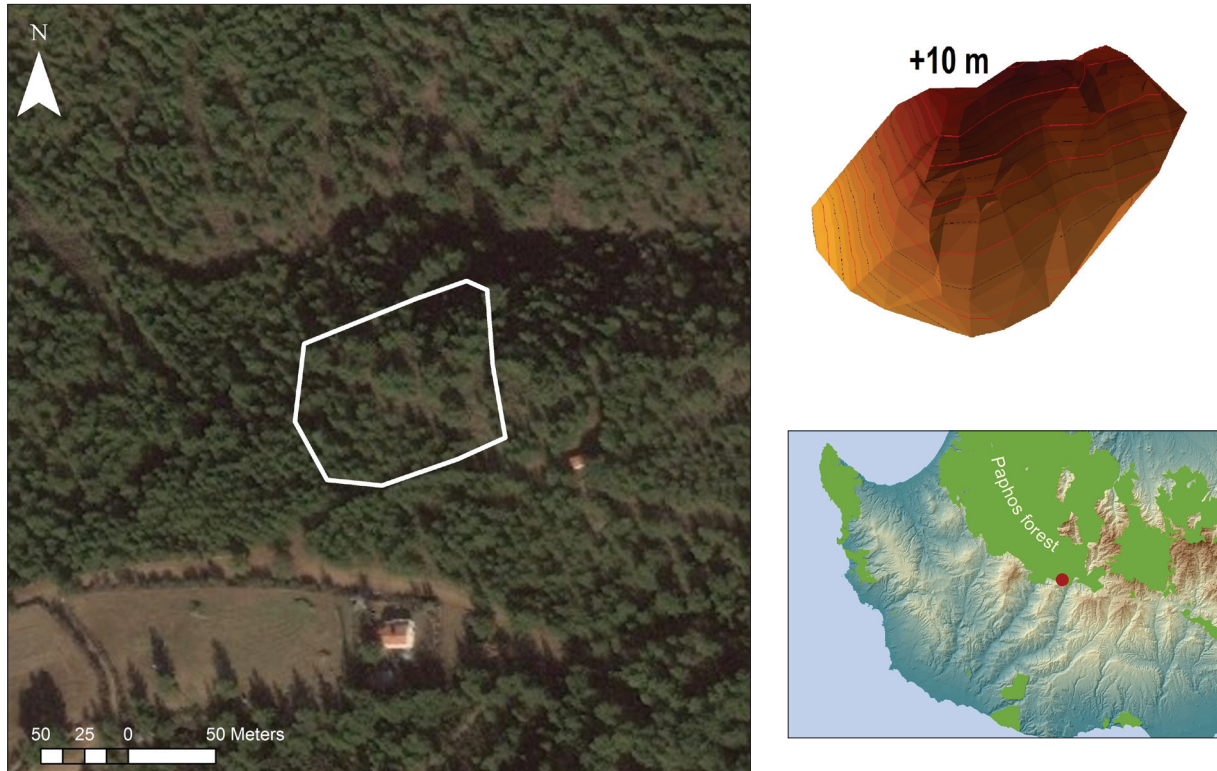


Figure 5. The Pera Vasa slag heap: geolocation in the Paphos forest and 3D reconstruction (by Athos Agapiou)

the Paphos forest is a heavily transformed landscape which has been largely reclaimed by nature. The forest, under-exploited and mismanaged as a result of British colonial policies (Harris 2007, 2012), has largely concealed the signs of ancient resource exploitation, along with other human activities of bygone eras, but has not been able to ‘swallow’ the slag deposits. When they were raised by human labour, they were not in the middle of nowhere: they were near mines and close to transport routes. The mine shafts and the transport routes are difficult, but not impossible, to relocate; the slag, found in heaps of various sizes throughout the forest or put to secondary use in small village communities surrounding the forest (cf. Stos-Gale *et al.* 1998), confirms the region’s association with ancient mining. If the heaps are Roman or even later in date, so much the better, as it means that it was still profitable at this time to procure copper from the Paphos side of the Troodos.

Conclusion

One can only begin to contemplate the extent to which the social landscape of the region of Paphos changed when mining and shipbuilding were no longer practised: the woods were not used to fuel the kilns and trees were not felled to be carried to the coast, as precious timber, for building military armadas and transport vessels. This would have meant a complete change in the way of life of an appreciable

percentage of the local population, who had for many generations been engaged in these ancient industries. If their alienation from this tradition began towards the end of late antiquity (in or after the C7th AD), it is not difficult to understand why all memory of these industries has been obliterated. It is more surprising that the cultivation of cane sugar has not left a trace in traditional customs associated with the annual agricultural cycle. Communities like Koukklia continue to live in the land of the old Mediaeval estates, within walking distance of the cane sugar refinery of *Stavros*, but neither the factory complex nor the hundreds of conical moulds recovered (see, for example, Maier 2004: 103, fig. 79) carry any meaning for them. This suggests that ancient Paphos has been twice removed from the economic model of its foundation: first during the *Palaepaphos* cycle and a second time during the *Koukklia* cycle.

From early on in the course of the *Palaepaphos* Urban Landscape Project, we started coming to terms with the transformations which have taken place in the coastal landscape of ancient Paphos, and the extent to which these transformations have shaped its history through the ages. More recently, we have begun to identify the more complex transformations sustained by the Paphian hinterland. This has made us realise that no study of the political economies of the micro-state of Paphos can rely on anything less than an analysis of the landscape of the entire region. I can only hope that in the process we will not produce new factoids.

Acknowledgements

My first debt of gratitude goes to Jennifer Webb for inviting me to contribute a paper in honour of David Frankel and for her editorial refinements that have helped shape this paper. I also take this opportunity to express my thanks to Edgar Peltenburg for urging me to consult the work of Demetris Christodoulou (1959), ‘one of my heroes’, as he described him in a personal correspondence. For a first attempt to air preliminary thoughts on political economies in the context of the Palaepaphos Urban Landscape Project, I thank Professor James Wright, Director of ASCSA, for inviting me to participate in a Colloquium on ‘Issues in the transition of political economies’, convened in Athens in November 2013. I thank Bernard Knapp for bringing to my attention a recent paper by Harris (2012), whose dissertation (2007) on the management of the forests of Cyprus carries views that are extremely valuable to landscape archaeology. Our forays into the wilderness of the Paphos forest in search of slag deposits—primarily those published by Stos-Gale *et al.* 1998—are led by geologist Zomenia Zomeni. Topographic surveying, geolocation and volumetric calculation of the slag heaps was recently initiated by our devoted project collaborator Athos Agapiou. The development of the Palaepaphos Urban Landscape Project owes a lot to the erudition and collaborative spirit of many distinguished colleagues, not all of whom can be named here; in the context of the present contribution, I should mention (alphabetically) Lindy Crewe, Ariane Jacobs, Priscilla Keswani and Susan Sherratt, who are not otherwise referenced in this paper.

Bibliography

- Agapiou: Αγαπίου Α. 2010: Τοπογραφία θέσεων της ευρύτερης περιοχής Πάφου κατά την 3η και 2η χιλιετία π.Χ. και μελέτη της πορείας της αστικοποίησης με την υποστήριξη Συστημάτων Γεωγραφικών Πληροφοριών. Unpublished Masters thesis, University of Cyprus, Nicosia
- Anastasiades, A. 2003: Egypt in Cyprus: the Ptolemaic royal cult, *Kypriakai Spoudai* 64–65, 41–52
- Angelides, S. 1996: The Cypriot economy under British rule (1878–1960), in V. Karageorghis & D. Michaelides (eds), *The Development of the Cypriot Economy From the Prehistoric Period to the Present Day*, 209–228, Nicosia
- Bourdieu, P. 1977: *Outline of a Theory of Practice*, Cambridge
- Bruce, J.L. 1937: Antiquities in the mines of Cyprus, in E. Gjerstad, J. Lindros, E. Sjoqvist & A. Westholm (eds), *The Swedish Cyprus Expedition Volume 3. Finds and Results of the Excavations in Cyprus 1927–1931*, 639–671, Stockholm
- Christodoulidou: Χριστοδουλίδου, Ε. 2014: Ο ιδρυτικός ορίζοντας της Παλαιπάφου με βάση την κεραμική. Unpublished Masters thesis, University of Cyprus, Nicosia
- Christodoulou, D. 1959: *The Evolution of the Rural Land Use Pattern in Cyprus (The World Land Use Survey, Regional Monograph 2)*, London
- Destrooper-Georgiades, A. 1993: Continuités et ruptures dans le monnayage chypriote à l’époque achéménide, *Transeuphratène* 6, 87–101
- Diacopoulos, L. 2004: Investigating social complexity through regional survey: ‘second generation’ analysis of Bronze Age data from the Canadian Palaipaphos Survey Project, southwestern Cyprus, *Journal of Mediterranean Archaeology* 17.1, 59–85
- Dunnett, D. 1990: *Race of Scorpions*, Penguin Books
- Englezakis, B. 1995: *Studies on the History of the Church of Cyprus, 4th–20th Centuries*, Aldershot, Hampshire
- Fox, W., S. Zacharias & U. Franklin 1987: Investigations of ancient metallurgical sites in the Paphos District, in D.W. Rupp (ed), *Western Cyprus: Connections. An Archaeological Symposium held at Brock University, St. Catharines, Ontario, Canada, March 21–22, 1986 (SIMA 77)*, 169–179, Goteborg
- Georgiou, A. forthcoming: Tracing the foundation horizon of Palaepaphos. New research on the early history of the Paphos region, in S.W. Manning, C.M. Kearns & J. Leon (eds), *New Directions in Cypriot Archaeology*
- Georgiou: Γεωργίου, Γ. 2007: Η Τοπογραφία της ανθρώπινης εγκατάστασης στην Κύπρο κατά την Πρώιμη και Μέση Χαλκοκρατία [The Topography of Human Settlement in Cyprus in the Early and Middle Bronze Age]. Unpublished PhD Dissertation, University of Cyprus, Nicosia
- Given, M. 2000: Agriculture, settlement and landscape in Ottoman Cyprus, *Levant* 32, 215–336
- Given M. & A.B. Knapp 2003: *The Sydney Cyprus Survey Project. Social Approaches to Regional Archaeological Survey (Monumenta Archaeologica 12)*, Los Angeles
- Gordon, J.M. 2012: Between Alexandria and Rome: A Postcolonial Archaeology of Cultural Identity in Hellenistic and Roman Cyprus. Unpublished PhD Dissertation, University of Cincinnati
- Grivaud, G. 1998: *Villages désertés à Chypre (fin XII–fin XIX siècle) (Travaux et mémoire III)*, Nicosia
- Hadjoannou, K. 1973: *Η Αρχαία Κύπρος εις τας Ελληνικὰς Πηγὰς [Ancient Cyprus in the Greek Sources] Volume 2*, Nicosia
- Hadjisavvas, S. 1996: The economy of the olive, in V. Karageorghis & D. Michaelides (eds), *The Development of the Cypriot Economy From the Prehistoric Period to the Present Day*, 127–137, Nicosia
- Harris S. 2007: Colonial Forestry and Environmental

- History: British Policies in Cyprus, 1878–1960. Unpublished PhD Dissertation, University of Texas, Austin
- Harris S. 2012: Cyprus as a degraded landscape or resilient environment in the wake of colonial intrusion, *Proceedings of the National Academy of Sciences* 109.10, 3670–3675
- Iacovou, M. 2007: Site size estimates and the diversity factor in Late Cypriote settlement histories, *Bulletin of the American Schools of Oriental Research* 348, 1–23
- Iacovou, M. 2008: The Palaepaphos Urban Landscape Project: theoretical background and preliminary report 2006–2007, *Report of the Department of Antiquities, Cyprus*, 263–289
- Iacovou, M. 2012: From regional gateway to Cypriot kingdom: copper deposits and copper routes in the chora of Paphos, in V. Kassianidou & G. Papasavvas (eds), *Eastern Mediterranean Metallurgy and Metalwork in the Second Millennium BC. A Conference in Honour of James D. Muhly, Nicosia 10th–11th October 2009*, 58–69, Oxford and Oakville
- Iacovou 2013a: Historically elusive and internally fragile island polities: the intricacies of Cyprus's political geography in the Iron Age, *Bulletin of the American Schools of Oriental Research*, 15–47
- Iacovou, M. 2013b: Paphos before Palaepaphos. New approaches to the history of the Paphian kingdom, in D. Michaelides (ed), *Epigraphy, Numismatics, Prosopography and History of Ancient Cyprus. Papers in Honour of Ino Nicolaou (SIMA PB 179)*, 275–291, Uppsala
- Iacovou, M. 2013c: The Cypriot Syllabary as a royal signature: the political context of the syllabic script in the Iron Age, in P. Steele (ed), *Syllabic Writing on Cyprus and its Context*, 133–152, Cambridge
- Karageorghis, J. 1997: Les noms de la Grande Déesse dans les inscriptions syllabiques chypriotes, *Cahier du Centre d'Études Chypriotes* 27, 109–119
- Karageorghis, J. 2005: *Kypris: The Aphrodite of Cyprus. Ancient Sources and Archaeological Evidence*, Nicosia
- Kassianidou, V. 2011: The production of copper in Cyprus during the Roman period, in A. Demetriou (ed), *Proceedings of the Fourth International Cyprological Conference (Nicosia, 29 April–3 May 2008)*, Volume A2'. *Ancient Section*, 539–548, Nicosia
- Kassianidou, V. 2013: The exploitation of the landscape: metal resources and the copper trade during the age of the Cypriot city-kingdoms, *Bulletin of the American Schools of Oriental Research*, 49–82
- Kassianidou, V. 2014: Review of J.M. Webb and D. Frankel 2013: Ambelikou Aletri. Metallurgy and Pottery Production in Middle Bronze Age Cyprus, *Levant* 46, 147–149
- Kitromilides, P. 1996: *Νεοελληνικός Διαφωτισμός [Neohellenic Enlightenment]*, Athens
- Knapp, A.B. 2013: *The Archaeology of Cyprus: From Earliest Prehistory Through the Bronze Age*, Cambridge
- Kyprianos, A. 1788: Αρχιμανδρίτου Κυπριανού Ιστορία Χρονολογική τῆς Νήσου Κύπρου, in Th. Papadopoulos (ed), reprinted in *Κυπρολογική Βιβλιοθήκη* 1: 1971, Nicosia
- Maier, F.-G. 1985: *Alt-Paphos auf Cypern: Ausgrabungen zur Geschichte von Stadt und Heiligtum 1966–1984 (Trierer Winckelmannsprogramm 6)*, Mainz am Rhein
- Maier, F.-G. 2004: *Guide to Palaipaphos (Kouklia)*, Nicosia
- Maier, F.-G., 2007: From regional centre to sanctuary town: Palaipaphos in the Late Classical and Early Hellenistic period, in P. Flourentzos (ed), *From Evagoras I to the Ptolemies. The Transition From the Classical to the Hellenistic Period in Cyprus*, 17–33, Nicosia
- Maier, F.-G. & M.-L. von Wartburg 1985: Reconstructing history from the earth, c. 2800 BC–1600 AD: archaeology at Palaepaphos, 1966–1984, in V. Karageorghis (ed), *Archaeology in Cyprus 1960–1985*, 142–172, Nicosia
- Masson, O. 1983: *Les inscriptions chypriotes syllabiques: Recueil critique et commenté. Réimpression augmentée (Études Chypriotes 1)*, Paris
- Masson, O. 1992: Encore les royaumes chypriotes dans la liste d'Esarhaddon, *Cahier du Centre d'Études Chypriotes* 18, 27–30
- Megaw, A.H.S. 1951: *Annual Report of the Director of Antiquities for the Year 1950*, Nicosia
- Michaelides, D. 1996: The economy of Cyprus during the Hellenistic and Roman periods, in V. Karageorghis & D. Michaelides (eds), *The Development of the Cypriot Economy From the Prehistoric Period to the Present Day*, 139–152, Nicosia
- Michaelidou-Nicolaou, I. 1976: Literary, epigraphic and numismatic evidence on Nikokles, king of Paphos, *Kypriakai Spoudai* 40, 15–28
- Mitford, T.B. 1953: The character of Ptolemaic rule in Cyprus, *Aegyptus* 33.1, 80–90
- Mitford, T.B. 1960: Unpublished syllabic inscriptions of the Cyprus Museum, *Opuscula Atheniensi* 3, 177–213
- Mitford, T.B. 1961: The Hellenistic inscriptions of Old Paphos, *Annual of the British School at Athens* 56, 1–41
- Młynarczyk, J. 1990: *Nea Paphos in the Hellenistic Period (Nea Paphos III)*, Varsovie

- Näf, B. 2013: *Testimonia Alt-Paphos (Ausgrabungen in Alt-Paphos auf Cypern Band 8)*, Fürstenberg
- Nicolaou, I. 1971: *Cypriot Inscribed Stones*, Nicosia
- Papantoniou, G. 2012: *Religion and Social Transformations in Cyprus: From the Cypriot Basileis to the Hellenistic Strategos (Mnemosyne 347)*, Leiden
- Papantoniou, G. 2013: Cypriot autonomous polities at the crossroads of empire: the imprint of a transformed islandscape in the Classical and Hellenistic periods, *Bulletin of the American Schools of Oriental Research* 370, 169–205
- Pilides, D. 1996: Storage jars as evidence of the economy of Cyprus in the Late Bronze Age, in V. Karageorghis & D. Michaelides (eds), *The Development of the Cypriot Economy From the Prehistoric Period to the Present Day*, 107–126, Nicosia
- Raptou, S. 1996: Contribution to the study of the economy of ancient Cyprus: copper-timber, in V. Karageorghis & D. Michaelides (eds), *The Development of the Cypriot Economy From the Prehistoric Period to the Present Day*, 245–259, Nicosia
- Rupp, D. 1997: ‘Metro’ Nea Paphos: suburban sprawl in southwestern Cyprus in the Hellenistic and earlier Roman period, in W. Aufrecht, N.A. Mirau & S.W. Gauley (eds), *Aspects of Urbanism in Antiquity from Mesopotamia to Crete (Journal for the Study of the Old Testament Supplement Series 244)* 236–262, Sheffield
- Rupp, D. W. 2004: Evolving strategies for investigating an extensive terra incognita in the Paphos District by the Canadian Palaipaphos Survey Project and the Western Cyprus Project, in M. Iacovou (ed), *Archeological Field Survey in Cyprus: Past History, Future Potentials (British School at Athens Studies 11)*, 63–76, London
- Saporetti, C. 1976: Cipro nei testi neoassiri, *Studi ciprioti e rapporti di scavo* 2 (*Biblioteca di antichita cipriote* 3), 83–88
- Sarris, A., G. Stamatis, N. Papadopoulos, E. Kokkinou, S. Topouzi, E. Kokkinaki, E. Moissi, M. Iacovou, V. Kassianidou, G. Papasavvas, G. Papantoniou, M. Dikomitou & St. Stylianides 2006: Palaepaphos, Cyprus: the contribution of geographical information systems and geophysical prospection in the study of the archaeological topography and settlement patterns, in A. Figueiredo & G. Velho (eds), *Proceedings of the XXXIII International Conference Computer Applications and Quantitative Methods in Archaeology: “The World in Your Eyes”*, 199–204, Tomar, Portugal
- Satraki: Σατρράκη, Α. 2012: *Κύπριοι βασιλείς από τον Κοσμοασο μέχρι το Νικοκρέοντα (Αρχαιογνωσία 9)*, Athens
- Satraki, A. 2013: The iconography of *Basileis* in Archaic and Classical Cyprus: manifestations of royal power in the visual record, *Bulletin of the American Schools of Oriental Research* 370, 123–144
- Socratous, M., V. Kassianidou & G. Di Pasquale (forthcoming): Ancient slag heaps in Cyprus: the contribution of charcoal analysis to the study of the ancient copper industry, in *3rd International Conference, Archaeometallurgy in Europe III, Bochum, 29 June–1 July 2011*, Bochum
- Sørensen, L.W. & D.W. Rupp (eds) 1993: *The Canadian Palaipaphos Survey Project. Artifact and Ecofactual Studies. The Land of the Paphian Aphrodite II (SIMA 104.2)*, Goteborg
- Stos-Gale, S., G. Maliotis & N. Gale 1998: A preliminary survey of the Cypriot slag heaps and their contribution to the reconstruction of copper production on Cyprus, in Th. Rehren, A. Hauptmann & J.D. Muhly (eds), *Metallurgica Antiqua, In Honour of Hans-Gert Bachmann and Robert Maddin (Der Anschnitt, Beiheft 8)*, 235–262, Bochum
- Theodoulou: Θεοδούλου, Θ. 2006: *Ναυτική Δραστηριότητα στην Κλασική Κύπρο. Το λιμενικό δίκτυο στα τέλη του 4ου αι. π.Χ.* Unpublished PhD Dissertation, University of Cyprus, Nicosia
- Von Wartburg, M.-L. 2001: The archaeology of cane sugar production: a survey of twenty years of research in Cyprus, *Antiquaries Journal* 81, 305–335
- Webb, J.M. 1999: *Ritual Architecture, Iconography and Practice in the Late Cypriot Bronze Age (SIMA Pocket Book 75)*, Jonsered
- Webb, J.M. & D. Frankel 2013: *Ambelikou Aletri. Metallurgy and Pottery Production in Middle Bronze Age Cyprus (SIMA 138)*, Uppsala
- Zomeni, Z. 2012: *Quaternary Marine Terraces on Cyprus: Constraints on Uplift and Pedogenesis, and the Geoarchaeology of Palaipafos.* Unpublished PhD Dissertation, Oregon State University
- Zwicker, U. 1986: Ancient metallurgical methods for copper production in Cyprus. Part 2: sulphide ore and copper-arsenic-alloy production, *Bulletin of the Cyprus Association of Geologists and Mining Engineers* 3, 92–111