Grave Reminders : Comparing Mycenaean tomb building with labour and memory
Turner, D.R.

Citation

Turner, D. R. (2020, June 11). *Grave Reminders : Comparing Mycenaean tomb building with labour and memory*. Retrieved from https://hdl.handle.net/1887/96237

Cover Page

Universiteit Leiden

Leiden University Repository

The handle http://hdl.handle.net/1887/96237 holds various files of this Leiden University dissertation.

Author: Turner, D.R.
Title: Grave Reminders : Comparing Mycenaean tomb building with labour and memory
Issue Date: 2020-06-11

Chapter 1. Introduction

Now the gods have reversed our fortunes with a vengeance—wiped that man from the earth like no one else before.
I would never have grieved so much about his death if he'd gone down with comrades off in Troy
Or died in the arms of loved ones, once he had wound down the long coil of war.
Then all united Achaea would have raised his tomb and he'd have won his son great fame for years to come.
But now the whirlwinds have ripped him away, no fame for him! He's lost and gone now–out of sight, out of mind–and I…
He's left me tears and grief.
Telemachus mourns the absence of Odysseus, Homer.*Od*.1.272–282

Fagles's beloved translation of *The Odyssey* moves the reader for the son whose father is lost and forgotten, seemingly robbed of a glorious death and memorable send-off. Rather than wish for his unlikely return, the son complains only for what might have been had his father died with witnesses willing to grant final rites of passage and erect a commemorative monument. This wish is as much for the renown of the family left behind as for the memory of the deceased. Whoever inspired the account would not have had the foreknowledge to be comforted by the ironic twist of texts musing over them millennia later. From poetic phrasing and the underlying reality of practice, the chosen method for commemoration was to move earth and stone for the body to be outlived by memorial, itself outlasted by the memory and rumour of construction. Thus moving earth marked someone leaving it, and the scale on which it was moved weighed the life lost.

Here, I explore how people shaped earth and stone into funerary monuments ca. 1600–1000 BC in southern Greece, part of the inspiration behind the sentiments above. I test methodologies assessing the burden of construction and planning, where builders crafted near-perfect replicas of tombs separated by hundreds of kilometres and years with only murky light and memory as a guide. All of this I collapse under a single, versatile term: earthmoving. It captures part of the physical process of construction—breaking and transporting ground, rocky or not—as well as the metaphorical sense of changing worldviews and accomplishing the improbable: longevity through cooperative effort.

Earthmoving, in one form or another, has accompanied us since we were recognisably human. Millions of years of hominid tool use suggest a much earlier appearance, but earthmoving in its full maturity was certainly global by the second millennium BC. Since infrastructure has options to minimise earthmoving for all the perils it holds (e.g., Bowles 1984: 310–312, 356–359; Selby 1993: 377–379; Chapter 2, this volume), its most common *raison d'être* by volume was to memorialise the dead, sinking or elevating a space where life cedes to memory and oblivion. North-western Europe, for instance, hosted more than 120,000 barrows, mostly funerary monuments dating to the third and second millennium BC (Bourgeois 2013: 3–7). Thousands of built or rock-cut tombs also peppered the funerary landscape of southern Greece during the second millennium BC (Cavanagh 2008: 327–328), useful inspiration for hero cults and Homeric epics centuries later (Mylonas 1948: 56; Palaima 2008: 346–348; on Aegean tomb cults see, e.g., Alcock 1991; Antonaccio 1994; Coldstream 1976; Whitley 1988).

The methodologies I have chosen to combine—architectural energetics and collective memory—have their own fundamental suppositions. Energetics safely assumes that labour invested each act of construction with available resources, above all time. Memory is less rigidly defined and must be specified, such as 'habit' learned from social performance (Connerton 1989: 22–23) or the 'trace' of a shocking experience (Ricoeur 2004: 13–15). Collective memory in labour—as both 'habit' and 'trace'—aligns mortuary architecture against the threatening prospect of a forgotten death using our most enduring tools, shaping memories with materials that resist decay (e.g., Cummings 2003: 38; Holtorf 1996: 120–126; Rowlands 1993: 141). With these key suppositions in mind, I compare Mycenaean tombs in a new way, combining relative investment (energetics) with architectural experience (collective memories of construction). Thus, I update the methodologies of architec-

tural energetics and collective memory—common topics uncommonly paired—to parse labour and mortuary behaviour into transferable terms, as readable to us as to those in the past.

1.1. Place and purpose

In brief, architectural energetics and collective memory track the cost of construction and the dominant recollections of groups. Neither pretend to re-enact reality stride for stride, but much like what we 'know' in our flawed conception of history, informed estimates are "better than nothing" (Putnam 1987: 69). Energetics and memory have long pedigrees, envisioned here as two trees. As far as I can tell, this will be the first time they are grafted together. Who planted the trees is debatable, but their modern definitions come from Abrams (1984; 1987: 489; 1989: 53; 1994; Abrams and Bolland 1999: 263–264) and Durkheim (summarised in Forty 1999: 2–6), respectively. Substantial branches of the older tree of memory, if not parts of the trunk itself, have grown under Aristotle, Freud, and, of most consequence here, Halbwachs (1992). The past few decades especially saw a resurgence for the topic in archaeology and related disciplines (e.g., Forty and Küchler (eds) 1999; Hallam and Hockey 2001; Hamilakis 2013; Holtorf 1996; Jones 2007; Lillios and Tsamis (eds) 2010; Ricoeur 2004; Rowlands 1993; Van Dyke and Alcock (eds) 2003; Williams (ed.) 2003; see also the critique by Herzfeld 2003). Energetics has experienced a similar revival. Conceptually understood since at least the early third millennium BC in Egypt and the Near East (Ristvet 2007: 198–199; Turner 2018: 195), energetics was commonly seen in physiology and physical geography (e.g., Durnin and Passmore 1967; Edholm 1967; Gregory (ed.) 1987) before its popularity in archaeology turned it almost exclusively toward human capabilities in preindustrial construction (e.g., Ashbee 1966; Ashbee and Jewell 1998; Atkinson 1961; Bernardini 2004; Brysbaert et al. (eds) 2018; DeLaine 1997; Devolder 2013; Erasmus 1965; Hammerstedt 2005; Jewell 1963; Lacquement 2009; McCurdy and Abrams (eds) 2019; Milner et al. 2010). Mycenaean tombs have also seen energetics modelling, limited at first (e.g., Wright 1987) and developing in different directions ever since (Cavanagh and Mee 1999; Cook 2014; Fitzsimons 2006, 2007, 2011, 2014; Harper 2016; Voutsaki et al. 2018).

What I have chosen to graft memory and energetics onto are Mycenaean multi-use tombs built and reused during the later second millennium BC in southern Greece. Differences from previous research—aside from the roles of memory and investment risk (Chapters 1 and 2)—lie in the number and choice of cases, the application of photogrammetric modelling and comparative labour (Chapters 3 and 4), and the new benchmark of an expected standard chamber tomb based on medians from 492 original measurements (12 variables across 41 reasonably well-preserved tombs) (Chapters 4 and 5). Most of the cases and activity under review fall within the Late Bronze Age (henceforth LBA), otherwise known here as the Late Helladic and further split into tell-tale ceramic periods favouring appended divisions of three (e.g., LH IIIA2 or LH IIIC Late) (Figure 1.1.). The popular label, Mycenaean, is effective shorthand for the shared spatial, temporal, and cultural milieu here, named after the well-known citadel in the north-eastern Peloponnese. Once made prominent by Homeric epics driving the accounts of early excavators (Mylonas 1948: 56), Mycenaean fame has outpaced the historicity of the Trojan War. Here, it is only partially revived as a compass for sentiments applicable millennia before and after purported events (Palaima 2008: 346–348; cf. Finley 1982: 232). It is a testament to Mycenaean success as well as generations of archaeological efforts that this label applies to hundreds of sites scattered across the Aegean, to say nothing of the materials that travelled much further afield. My reference maps of tomb and cemetery locations necessarily fall short of full coverage but nonetheless hint at the scale and frequency for half a millennium of multi-use tomb construction (Figures 1.2–1.5).
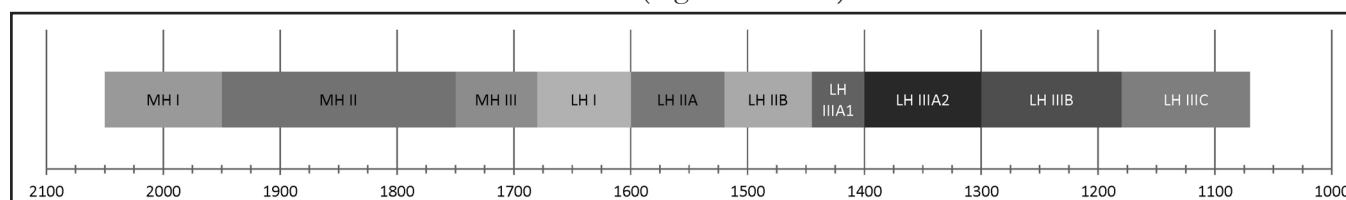

Figure 1.1. Simplified 'high chronology' calendar date range for the MH I to LH IIIC periods (2050-1070 BC) in southern Greece, adapted from Boyd (2015a: 200, Table 13.1).
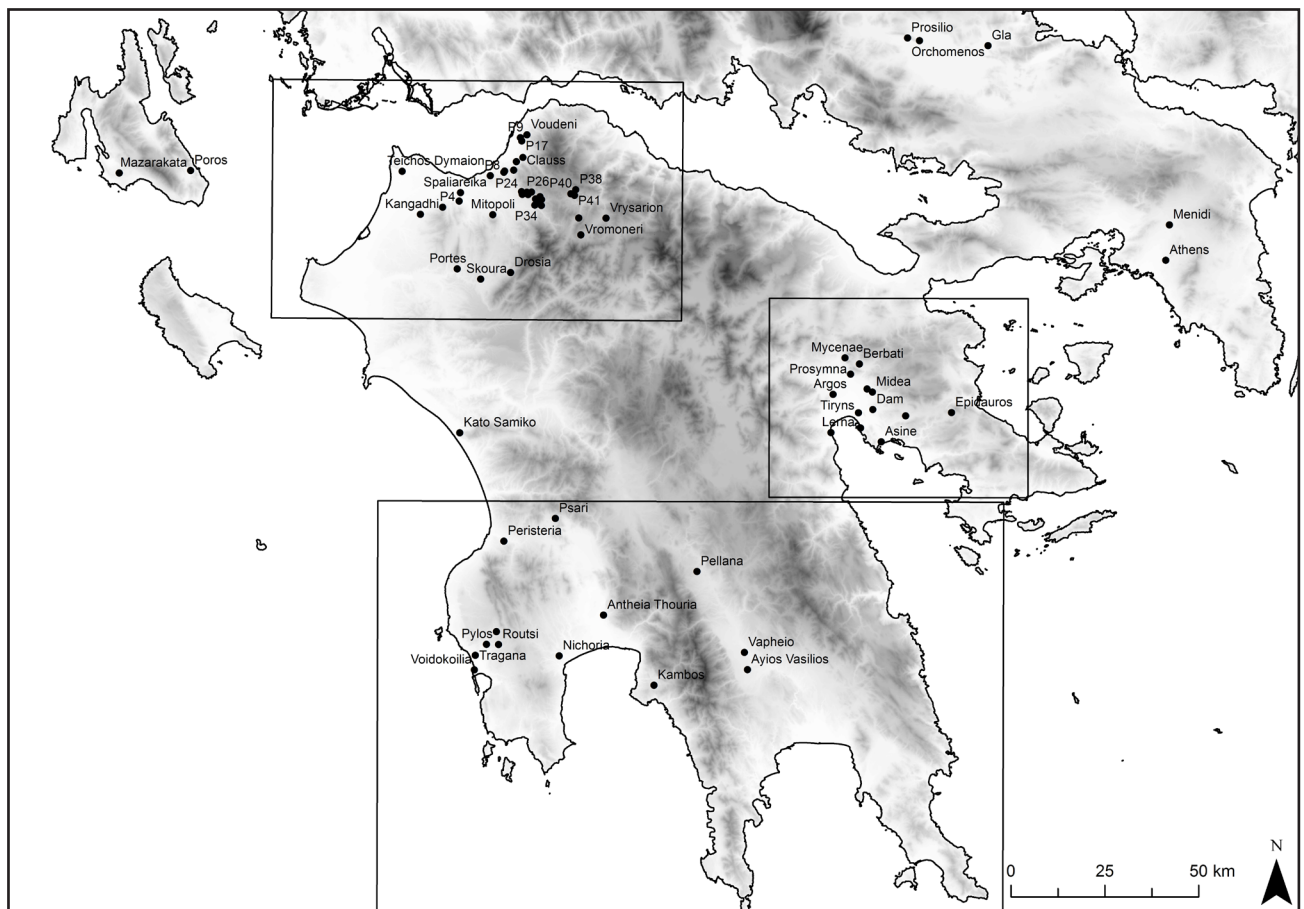
Figure 1.2. Map of southern Greece showing selected sites and tomb locations mentioned in the text. Locations derived from satellite reconnaissance, Papadopoulos (1979), Hope Simpson (2014), and Consoli (2017). See Figures 1.3–1.5 for inset details.
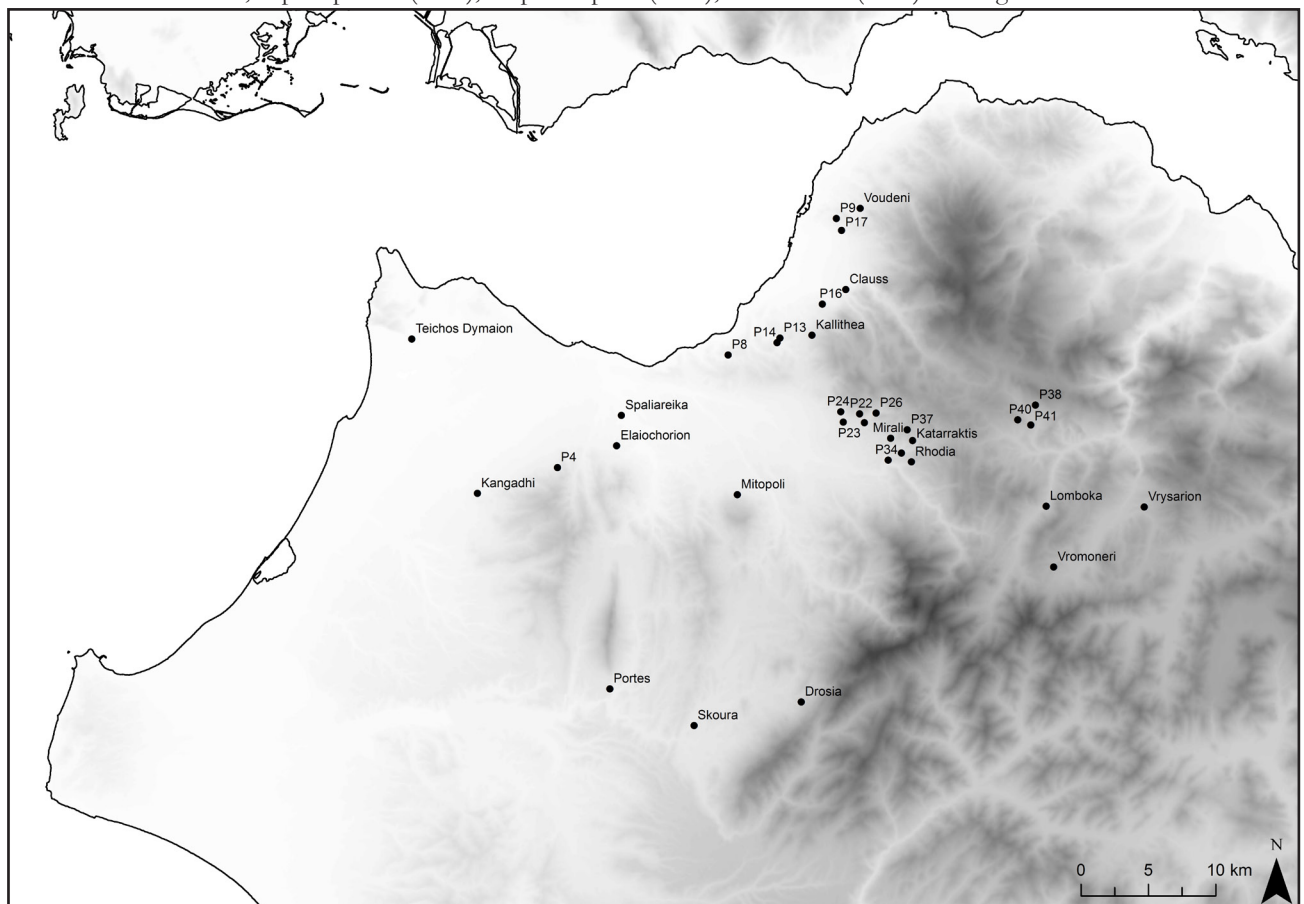

Figure 1.3. Map inset detail of western Achaea (see Figure 1.2). Sites with a P-numbered designation reference the summary Table 1.1.
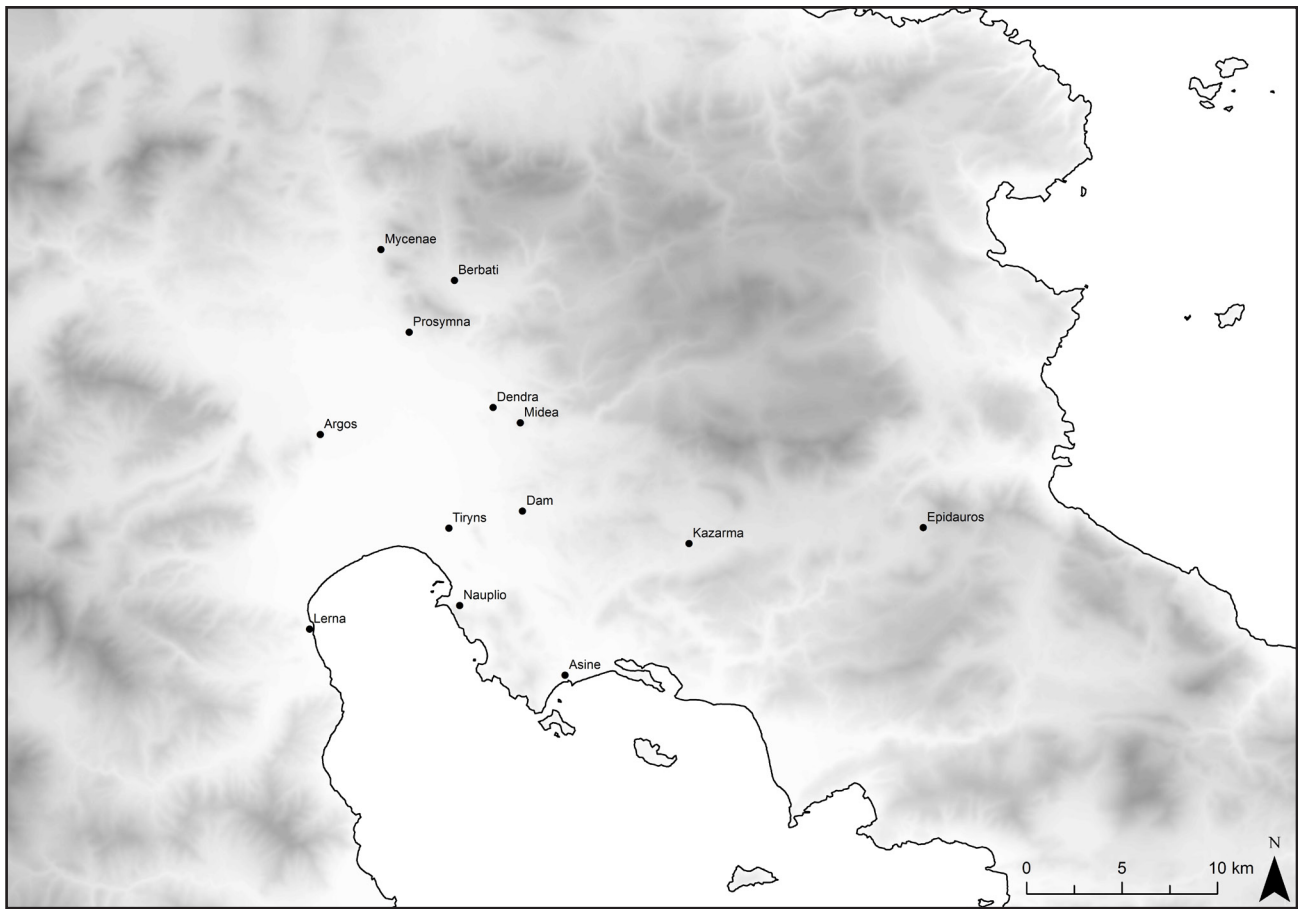
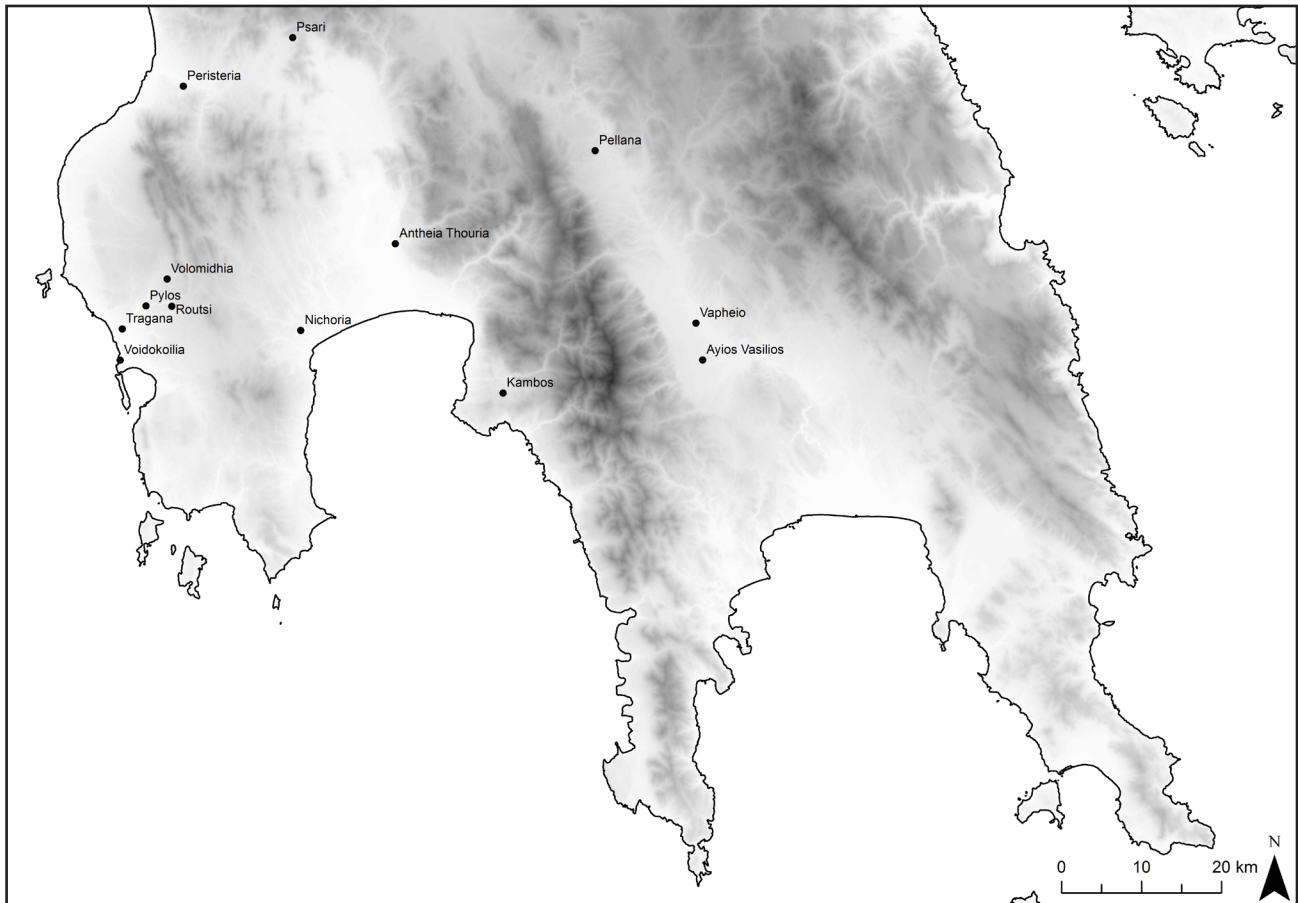Figure 1.4. Map inset detail of the Argolid (see Figure 1.2).

Figure 1.5. Map inset detail of the southern Peloponnese, including Messenia and Laconia (see Figure 1.2).

My research objectives target the experience of Mycenaean tomb building. Tomb design and construction preceded the funeral and post-funeral activities exhaustively treated in the archaeological literature. Mycenaean chamber tombs, for instance, started as empty shells, filling with the remains and offerings of progressively forgotten funerals over generations of reuse. In rare cases, the tombs were used once or seemingly not at all, cleaned thoroughly or sealed and forgotten entirely. I hope to improve our understanding of architectural choices by applying the following questions:

(1) What considerations governed tomb shape and scale, where to place them in relation to others, or which older tombs to reuse?
(2) Was construction and reopening burdensome in terms of cost for the commissioner(s), and was it memorable as an experience for the builders and witnesses?
(3) Does the architecture reflect the memory of the deceased, or is that question better posed of their remains and the assembled offerings of those remembering them?
(4) In short, how did the builders perceive tomb construction, its costs and rewards?

My scope is methodological and addresses two recurring issues, that of cost in architectural energetics and perception in Mycenaean tomb architecture. Architectural energetics continues to grapple with the question of cost (e.g., Brysbaert et al. (eds) 2018; McCurdy and Abrams (eds) 2019), whether our estimates reflect reality for timing and impact. Timing requires the expansion of labour rates, and impact needs above all context for the people at work. Suspicion over the "indeterminacy of the total cost" is no longer threatened so much as how that cost may be applied (Abrams and Bolland 1999: 266–267). Aegean mortuary archaeology likewise continues its struggle to revive Mycenaean life from its dead, pivoting away from catalogues of tombs and finds toward mortuary performance and practice (e.g., Dakouri-Hild and Boyd (eds) 2016; Gallou 2005). Both the methodology of architectural energetics and the research focus of Aegean mortuary behaviour can find common purpose in labour measured through a relative index and collective memory. Single calculations of labour do not inform on the social cost or reward of construction. Whether expressed in person-hours (Abrams and Bolland 1999: 264–265; Turner 2018), kilojoules (Lacquement 2009, 2019; Shimada 1978), or currency (Burford 1969; Pakkanen 2013), cost yields little in isolation of contemporary econometric perception—how labourers and patrons saw their work. I believe that metric for comparison lies within a relative index measured through a median standard—in this instance, tombs expressed in terms of correlative shape and simple labour investment of the earth and rock moved to create them. The analytical force of cost on its own cannot be improved by refining labour models (cf. Abrams and Bolland 1999; Harper 2016), but it can be improved in how and where we measure comparative value. Value is more often ascribed to prestigious offerings and monumental display (Dabney and Wright 1990; Santillo Frizell 1997, 1998–1999; Voutsaki 1995, 1997; Wright 1987). Seldom does it apply to our recollection of 'ordinary' things, those common objects and events that lie between the extremes of power and poverty. 'Ordinary' tombs fall far behind the richest and poorest graves in terms of past scrutiny (e.g., Cavanagh and Mee 1999; Lewartowski 2000). Defining them anew is the first step toward closing the gap.

1.2. Case studies and reasoning

Three sites totalling 137 tombs were selected for the core database of photogrammetric measurements that anchor comparative labour models (see Figure 1.2). Not all models functioned and not all tombs were accessible, so the usable core quickly contracted to 86 labour determinations for at least partial construction. In order of fieldwork, the first was the LH IIIA/B (ca. 1400–1200 BC) Menidi *tholos* north of Athens, followed by the long-serving LH cemeteries of Portes and Voudeni in Achaea. For roughly 600 years (ca. 1600–1000 BC), the cemeteries served local hilltop communities of regional importance. Similar to higher profile palatial centres, finds indicate that these sites were plugged into wider networks of eastern Mediterranean contact and trade (Bennet 2013: 242–244; Graziadio 1998; Kristiansen and Suchowska-Ducke 2015; van den Berg 2018; Voutsaki 2001: 195, 212), creating in some cases visible expressions of substantial wealth in the form of exceptionally

large tombs and rare grave offerings (Kolonas 1998, 2009a, 2009b; Moschos 2000). At the same time, far more modest burials took place in smaller tombs. Thus, a significant—though by no means complete—cross-section of Mycenaean society is expected to have been buried here.

Being part of the multinational SETinSTONE project (Brysbaert et al. 2018), fieldwork permissions determined the selection of sites, serendipitously so given the diversity of architecture and scale available. My initial role was to document the tombs using high-accuracy, non-invasive techniques taught by Pakkanen (2009, 2018) and modified by Boswinkel and me in the field (Chapters 3 and 4). The tomb catalogue and analyses developed inductively from there. That my correlative models for sameness and scale focus on excavated and mostly empty chamber tombs is a factor of the dataset and timing of the work. Bioarchaeological and material cultural studies could only improve the models, and I have deliberately set them up to be modified and added to as needed. Expansion of the dataset to more tombs in other places would also strengthen the relative index, though the median correlative values are not expected to change drastically.

Although the majority of Mycenaean tomb types are represented at Portes and Voudeni (Figure 1.6), chamber tombs are by far the most common type in use. Much like their built, stacked-stone counterparts in *tholos* (pl. *tholoi*) tombs, so named for the 'beehive' shape of their corbelled vaults (e.g., Hood 1960: 166), chamber tombs are tripartite rock-cut tombs with an entrance passage (*dromos*, pl. *dromoi*), bottleneck threshold (*stomion*, pl. *stomia*) typically closed with a dry-stone or rubble-and-fill wall, and a burial chamber (*thalamos* or vault) (Figure 1.7). Practically, the tombs were built to be reopened and reused, hosting a variety of funerary treatments. By the time I arrived, the tombs had been excavated and almost entirely cleared of contents. From the observations of excavators, particularly Kolonas and Moschos, the dead associated with chamber tombs at Portes and Voudeni were variously left directly on the floor of the chamber, on raised benches, under or on deliberate clay layers, in sunken pits occasionally covered with slabs, swept to the side or carefully curated into secondary pits of commingled earlier remains, or removed from the main chamber into side chambers, entrance passages, or elsewhere (e.g., Kolonas 1998, 2009b: 25; Kontorli-Papadopoulou 1995: 114–118; Moschos 2000; Moutafi 2015; Chapter 4, this volume; focused discussion of secondary treatment in Gallou 2005: 112–114; Gallou and Georgiadis 2006: 128–129; for benches in tombs, including Menidi, see also Demakopoulou 1990: 122; Tsountas and Manatt 1897: 136). At Portes, 30 out of 56 labelled tombs were chamber tombs. Of the 68 tombs revisited at Voudeni, 63 were either chamber tombs or partially developed in that manner. A dozen additional labelled tombs were not relocated but were probably also chamber tombs given the excavator's observations (Kolonas 2009b: 8). Dividing this data into digestible pieces are comparative labour—through an index of relative cost based on catalogues of tombs and task rates—and grave reminders, which situate that cost in the context of transient experience and adapted recall. With the phrase *grave reminders*, I refer to tombs reminding living descendants of a shared past through a brief exchange (the *transient experience* of building, funeral and post-funeral activity) and how they invent an enduring narrative for the dead with *adapted recall*.

1.3. Advancing objectives: comparative labour and grave reminders

Before stepping into case studies, labour costs demand task rates obtained through an interdisciplinary detour, something at which comparative labour excels and for which much of Chapter 3 has been reserved. Comparative labour links studies in architectural energetics through standardised reporting of labour rates, observations of effort scattered through historical, ethnographic, physiological, and experimental sources. Others (e.g., Abrams 1989: 76; Abrams and McCurdy 2019: 20; Lacquement 2009: 156; Remise 2019: 91) have called for rate compilations, and some have answered with context-specific task rates for Minoan Crete (Devolder 2013: 42–47), Mycenaean Greece (Harper 2016: 519–530), Early Iron Age Germany (Remise 2019: 80–85), prehistoric Malta (Clark 1998: 166, *passim*), China (Xie 2014: 284–286; Xie et al. 2015: 74–76), and North America (Milner et al. 2010: 109), as well as the later monetised economies of historical Greece and Rome (Burford 1969: 193–196, 246–250; DeLaine 1997: 111–129, *passim*) and the nineteenth-century West (Hurst 1865; Pegoretti 1865; Rankine 1889). Two of the most advanced compilations of labour rates have appeared

Figure 1.6. Other tomb types at Portes and Voudeni. In reading order, (1) cist (PTA6), (2) built chamber tomb (BCT) (PTA2), (3) large BCT (PTST1), (4) BCT with covering slabs (PTA1), (5) tumulus with reconstructed *peribolos* circuit wall (PTA), and (6) simple pits (VT33, VT37, VT41, VT35, VT38).

recently with the explicit goal of refining and increasing the number of rates for diverse contextual applications (Abrams and McCurdy 2019: 6–13, Table 1.1; Remise 2019: 80–85). I incorporate these rates within a comparative format (Appendix 1), focusing foremost on rates for earthmoving and building upon a system I tested previously (Turner 2012: Tables 3–10, 2018: Tables 9.1–9.4). The objective is not so much to force these rates into a particular context, but rather to assemble them for the benefit of future energetics studies irrespective of time and place. Until each region and material type undergoes timed trials with analogous tool-kits and techniques, labour-time estimates rely upon a multiregional compendium of rates. Thus the assembly of rates in Appendix 1 aims to provide a foundation upon which future observations may be added as these become available. In its simplest form, a systematic checklist enables others to look critically at quantitative labour, especially where single-rate minimalism has been introduced without extensive discussion about what the 'final cost' actually represents.
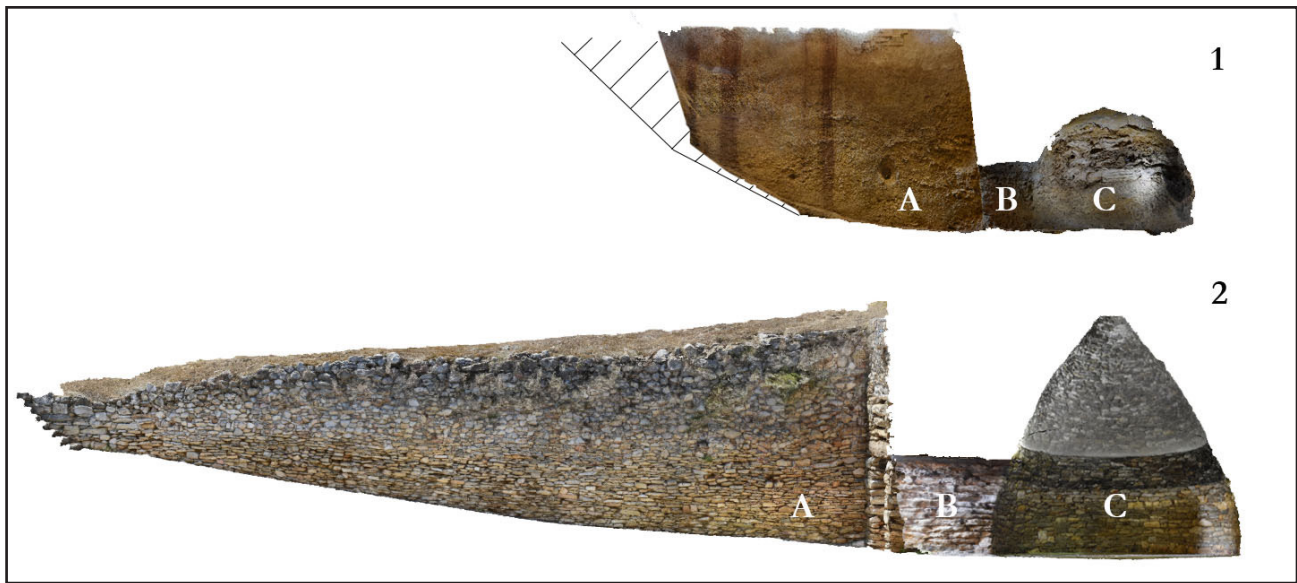
Figure 1.7. Schematic profile comparing chamber and tholos tombs, not to scale. Tripartite shape includes (a) entrance passage or dromos, (b) threshold or stomion, and (c) thalamos or burial chamber/vault. Based on textured photogrammetric models: (1) Portes chamber tomb 3 (PT3), and (2) Menidi tholos tomb (MT1).

Grave reminders rein in comparative labour's tendency to target extremes where 'final cost' assessments commonly invoke power and complexity. Without underplaying or overstating the impressive numbers often reported for person-hour investment, grave reminders elevate memories of construction and use beyond relative cost and visual impact. Both are dampened by what I have referred to as transient experience—forgotten snapshots in process (e.g., during construction or funeral activity) that paradoxically forge strong collective memories (see below). In place of Mycenae's bully pulpits for the power of elite clans (Dabney and Wright 1990: 49–52; Santillo Frizell 1997: 625, 1997–1998: 103; Wright 1987: 176)—nine monumental *tholoi* facades (e.g., Figure 1.8), not to mention other captivating spectacles like the Lion Gate (Figure 1.9)—I draw focus to ordinary Achaean hillsides littered with chamber tombs (see Figures 1.10–1.11). Systematic excavation made sites like Voudeni, Portes, Achaea Clauss, Aigion, and Chalandritsa-Agios Vasileios seem exceptional (Aktypi 2017; Kolonas 1998, 2009b; Moschos 2000, 2009; Papadopoulos and Papadopoulou-Chrysikopoulou 2017; Paschalidis 2018; Paschalidis and McGeorge 2009). However, the reality of nearby cemeteries shows the presence of chamber tombs here was more of a rule than an exception (Kolonas 2009a; Papadopoulos 1979). These tombs were not seen as anomalous or unusual. Multi-tomb localities—what remnant percentage we still see—are prevalent enough in the Patra and Pharai regions east and south of Patras that it is more surprising to find a slope untouched (see Figure 1.3; e.g., Smith et al. (eds) 2017 for another clustered chamber tomb cemetery in southern Greece).

The difficulty lies not in finding tombs for study or modelling labour investment, but in dialling back claims that they physically dominated the landscape and local lives. Being present does not mean being visible, as any who have seen unexcavated chamber tombs can attest. Excavated and landscaped, Voudeni still effectively blends into the background (Figures 1.10–1.11). Unlike monumental *tholoi*, common chamber tombs were relatively low-cost, inconspicuous, and resolutely *not* independent sources of influence and display. Open (excavated) tombs are only visible at a distance from the air and along their line of orientation, often the least convenient angle for viewing due to the surrounding slope. Looking back from downslope the tombs vanish; it is easier to spot them from upslope *behind* the tombs. Even when open, narrow *dromoi* are not conducive to large audiences, limiting physical space, funnelling passage, and promoting tunnel vision, vertigo, and light sensitivity with unavoidable shadows cast by the sun and added lighting (Figure 1.12). Of course, this can change depending on the season and time of day, but the shape itself narrowing toward the surface is highly limiting if visibility was a concern. Moreover, in by far their dominant state of being (e.g., Karkanas et al. 2012: 2731; Mee 2010: 287), backfilled *dromoi* disappear easily into the background of the hillslope.

Figure 1.8. Tomb of Clytemnestra entrance at Mycenae, facing north.

Figure 1.9. Lion Gate entrance at Mycenae, facing southeast.

Figure 1.10. Landscape surrounding the cemetery at Voudeni (centre of frame) as viewed from its settlement ca. 1 km north-west, facing southeast.

Figure 1.11. Eastern half of the excavated cemetery at Voudeni, facing southeast. Roughly 35 open tombs are within the frame but are not visible due to restricted sightlines from slope and vegetation.

Figure 1.12. Voudeni tomb 25, facing southeast. One of the largest excavated tombs at Voudeni with its entrance left uncovered, VT25 illustrates the overpowering contrast of summer morning sunlight with the tunnel-shadowing of the dromos.

Two possibilities remain to keep the tombs present beyond construction and reuse (including post-funerary use): superimposed markers vulnerable to decay or prone to repurposed use elsewhere (to justify their absence from the archaeological record here) and tomb locations along communication routes facilitating processions or frequent passers-by (Boyd 2002: 92, 2015a: 204, 2016: 65; Mee and Cavanagh 1990: 228; Wilkie 1987: 128–129). No tomb markers were found associated with *dromoi* excavated early in Achaea (Papadopoulos 1979: 52), and I am not aware of any subsequent finds. In the case of processions, however, the slopes around the tomb could provide the grandstand to watch incoming waves of mourners, provided there was no taboo of standing over or near adjacent (buried) tombs. Speaking quietly and avoiding stepping directly upon graves evokes the Western sleep metaphor for death (Hallam and Hockey 2001: 28), a surprisingly persistent superstition I recall vividly as a child in Alabama but not one freely transplanted to Mycenaean Greece, where the natural/supernatural divide could blur as freely as it does in many non-Western cosmologies (e.g., Argenti 1999: 22–23; Descola 2013: 5–11). Personifications of the supernatural certainly seemed to play an active role in painted and engraved Mycenaean funerary iconography (e.g., Crowley 1995: 484; Evans 1901: 180), whether or not similar Homeric scenes were an effective commentary on remembered customs (cf. Mylonas 1948; Palaima 2008).

Even allowing for the grandstand scenario, the importance of tomb architecture is diminished next to the structured acts of funeral and post-funeral activities. For instance, fire use in the relative seclusion of the burial chamber sends its signals beyond the tomb's immediate vicinity through smoke, scent, and sound, creating for Galanakis (2016a: 194) a prime hook for memory and closure—allowing mourners to move on and forget. Processions likewise provide ample opportunity for display viewed from afar. Bright colours and simple shapes give commemorative events like processions or parades a visual stamp that witnesses can more easily retain (Jarman 1999: 173–174). Mycenaean dedication to processions may have been enough to exert influence even over the layout of their citadels (Maran 2006b: 85). The festive scenes depicted on the Tanagran *larnakes* (decorated clay sarcophagi) suggest that the same could be said for Mycenaean funerals (Gallou 2005: 17; Gallou and Georgiadis 2006: 139–140). Being one of the few direct sources for depictions of mourning and

23

other funerary performance (Cavanagh and Mee 1995: 45), the Tanagra case is special and will bear repeating where a change in perspective is in order. All this leads to the summary point that it was the people and process being watched, not the tomb.

Grave reminders challenge the notion that ordinary tombs were more than a fleeting record of those who had left a world bustling with life. Something beyond the limited space and brief experience kept multi-use tombs in collective memory for a dozen or more generations. Being 'multi-use' in itself conveys a sense of "cross-generational planning and expectations of the future" (Dakouri-Hild 2016: 20). Transient events and anonymisation of the dead (e.g., commingling remains) signify a willingness to forget (individuals) in order to immortalise (traditions and offices) (Boyd 2015a: 212–213; Küchler 1999: 54–56). This is where grave reminders reorient previous frameworks of power and display away from architecture and closer to rumour and memory. Even acknowledging that monumental tombs promoted public spectacle, many more would hear about it than witness it. Ethnographic and cognitive precedent (see papers in Forty and Küchler (eds) 1999, especially Argenti 1999: 22; Forty 1999: 7–10; Küchler 1999: 55–57; see also Rowlands 1993: 148–149) grants hidden or remembered events more influence than visible common architecture or mundane construction processes, unremarkable as it is to dig what amounts to a large and elaborate hole. Mystery and intrigue captivate for longer, allowing superstition to outplay explanation. Underlying facts are immaterial compared with the interest generated by stories that resonate fear or pride. Unlike the spectacles of moving massive lintel blocks for the tombs of Atreus and Clytemnestra (Santillo 1997: 439; Santillo Frizell 1997: 626–627, 1997–1998: 107) or oversized conglomerate stone transport between Mycenae and Tiryns (Brysbaert 2013: 79, 86; 2015a: 78–81; 2015b: 102), the carving of all but the largest chamber tombs could be missed if not inflated by some rumour or ceremonial necessity.

Doubtless opening a new chamber tomb on any scale was momentous for close kin. Beyond that, even if opening a new, standard chamber tomb stirred more than the dozen or so labourers it required (Chapter 4), expectations to impress anyone else must have been muted. The intended audience was smaller, and the message more akin to closure and comfort than anything outlandish or ambitious. Perhaps it was a novelty in the early years of introducing the tomb form, but tumuli and especially *tholoi* are not radically different concepts from chamber tombs (Cavanagh 2008: 328–329; Galanakis 2011: 220; see Figure 1.7, this volume). New construction mostly happened in the LH II/IIIA periods at Portes and Voudeni, with later materials stemming from reuse as inheritors took advantage of the much reduced cost of reopening *dromoi* (Cavanagh and Mee 1978: 44; Chapter 4, this volume). Though Boyd (2016: 63) appeals to the limited pool of resources suggested by a smaller tomb in labelling the investment nontrivial, I would argue that the cost of construction is more manageable than it seems (Chapter 4), at least compared with other necessities like house construction (Boswinkel forthcoming; Harper 2016: 481). Cost alone sparks no memory, but designing the tomb and cemetery layout does.

If cheaper costs seem to promote runaway tomb construction, planning design prohibits it and encourages local reproductions of regional styles (see "archetypal memories" in Cummings 2003: 39). The difficulty lies in another "field of action" as Boyd (2016: 63) puts it: navigating the layout versus other tombs in a crowded cemetery. Granting the possibility for deliberate clustering (Boyd 2015a: 204, 2016: 63, 68; Wilkie 1987: 127; Chapter 5, this volume), siting a new tomb may have been a matter of consulting family memories on the position and extent of buried vaults. Access to older tomb vaults would ease the pressure of precise measurements, if such were a priority, but again would require reopening a *dromos*, making construction anew superfluous or at least more burdensome. Close approximations show deliberate choices in tombs that resemble one another in scale and form. However, few layout patterns are apparent beyond a site-wide tradition at Portes to integrate older tumuli and follow the hive type (*tholos*-like) chamber vaults and more ambiguous groupings of similarly scaled house vaults (four-sided) at Voudeni (Chapter 4). None match so closely as to betray an official system of measurements and records, but enough commonalities in proportions suggest an internalised blueprint for sites or intra-site clusters (Chapter 5). One can easily imagine specialised organisations of builders

for exceptional and standard tombs, but the undersized variety demands little more than basic construction proficiency (Wright 1987: 174; Chapter 4, this volume).

Travelling skilled workers or not, Achaean repetition in formulaic funerary acts and portable materials certainly earned wide circulation (e.g., Kaskantiri 2016: 103; Kontorli-Papadopoulou 1995: 114; Papadopoulos 1995: 203). Materials recovered mostly in funerary contexts from across the western regions of Greece (Achaea, Aetolia, Elis-Olympia, Epirus, and Messenia) and nearby islands (Ithaca, Kephallenia, and Zakynthos) suggested a western Mycenaean koine (Papadopoulos 1995: 201, with earlier references). The shared material culture of western Greece makes a strong case for interaction in the LH IIIB/C periods—a time of serious troubles elsewhere in Greece and the eastern Mediterranean (Bennet 2013: 253–254; van den Berg 2018: 37–40)—but "political unity is another matter" (Papadopoulos 1995: 208). Trends were westward-looking and late following destructions and regressions of sites to the south and east (Fotiadis et al. (eds) 2017; van den Berg 2018). Achaea's own famous fortified citadel at Teichos Dymaion experienced two destructions with little noticeable effect on the region's temporary fluorescence (Moschos 2009: 375–376). Something happened in the century leading up to 1160–1070 BC that gave Achaea strong links to Italy and Central Europe, as signified by Naue II type swords and other diagnostic metal finds (knives and fibulae) from "warrior/official" graves (Dietz 2016: 88; Moschos 2009: 375–376; Paschalidis and McGeorge 2009: 89; van den Berg 2018: 62–63; see PT3 in Chapter 4, this volume). Adriatic materials and their associated links also filtered into the Argolid with finds at Tiryns (van den Berg 2018: 62–63, 101). The Ionian islands (especially Kephallenia and Ithaca) evidently experienced their wealthiest period in the LH IIIC Late period immediately following the apogee and decline of the Achaean sites (Dietz 2016: 84, Moschos 2009: 369). The chronologies after the destruction of the Mycenaean palaces, based largely on ceramic typologies from the LH IIIB onward, differ regionally according to Moschos (working in Achaea) and Mountjoy (working in the north-eastern Peloponnese) (Dietz 2016: 82; van den Berg 2018: 27–29), but the general trend is clear. The Mycenaean world had changed, and mortuary customs changed with it. Whatever the case for their political climate, Achaean cemeteries evolved with tomb layouts burned into local memories until those, too, had changed (Chapter 5).

Given the potential for in-depth architectural analyses for dozens of intact tombs, particularly those reused during unstable times, a method of comparison is needed to place the tombs on equal footing. This is done primarily with a catalogue approach to labour modelling, first outlining materials, motivations, and energetics in Chapters 2 and 3 before building a relative index of tombs in Chapters 4 and 5. The rest falls to hammering out as many tomb descriptions as possible for the sake of replicability, peppered with reminders as to how tombs were perceived: always in passing by lives lived elsewhere. A tomb is far more than a container, and its influence far exceeds its contents or the duration of its use (Dakouri-Hild 2016: 16; Küchler 1999: 64; Sherratt 1990: 164).

1.4. Forecast: from catalogue blueprints to transient experience

On its own, attempting photogrammetric-based labour models of 86 tombs has its drawbacks in failure rate and redundancy (Appendix 2). Three or four exceptional tombs had eclipsed the others in terms of labour and reporting, such that I spent far more time exploring ways to equalise coverage than it would have taken to build them. The catalogue of tombs lay dormant until I began the process of dimension reduction, trimming redundant or inconsequential data through correspondence analyses. Following Bourgeois and Kroon (2017: 10), dissimilarity matrices showed interrelationships among tombs and variables (Figures 3.3–3.4), but only after finding a relative index through median measurements to trim the spread triggered by the largest outliers (Drennan 2009: 275). This relative index, presented as part of the catalogue in Chapter 4 and discussion in Chapter 5, clarified architectural choices and labour investment and did so in terms understandable to those who built the tombs.

The catalogue and relative index reinforce the idea that the tombs were shaped and sized with forethought. In other words, an expected standard governed design. Explored previously with Aegean Bronze Age conical cups (Berg 2004), standardisation refers to attempted craft reproduction that, while never reaching precise copies with pre-mechanical techniques, can vary up to the Weber fraction of 3% without being noticed by unaided observers (Eerkens 2000: 663–664; Eerkens and Bettinger 2001: 494–495; Rice 1991). Since errors escalate with increasing object size (Eerkens and Bettinger 2001: 494), no two tombs would match exactly. Expected standards in tomb design encouraged near-rote adherence at Portes, where all chamber tombs were shaped alike and limited in scale deviation. At Voudeni, mimetic innovation filtered free-form changes in shape and scale into two primary traditions: the hive-like smaller chambers and the four-sided, house-like chambers, usually of exceptional size. Change had its limits, and expression of individual preferences was suppressed by risk-averse investment in all but the two largest chamber tombs at Voudeni (VT4 and VT75). Following a contextual introduction to Mycenaean tomb development and earthmoving in Greece, this risk assessment is a central focus of Chapter 2.

Replicating chamber tomb styles decades apart would require help. Aging builders would not be able to wield the tools or recall where to stop. They could instruct younger relatives and friends, but the result would be filtered in a vague imitation. Harder still would be a late copy when the original builders were already gone. That would rely on information obtained secondhand, replicating imperfect mental images into mimetic designs. Mimesis here gives little thought to its literary origins beyond the tragic chase, imitation after original and art after reality (Auerbach 1953: 44). In the case of similar tombs, mimetic design replicated older forms closely enough for a style or tradition recognisable 3,000 years later.

Part of what makes the Mycenaean 'blueprint' for chamber tombs impressive is the likelihood of it being internalised through transient experience. In a general sense, with no inherent natural blueprints of determining things made, we follow what inspiration comes, for better or worse (Putnam 1987: 78). Tangible visual aids are relatively unknown, as only the Menelaion and Cretan examples show LBA cognates for the Neolithic practice of making house models (Hitchcock 2010: 201). The tombs were closed spaces, opened at intervals for funerals and 'second funerals' when remains were consolidated and eschatological prescriptions fulfilled, for which explanations are forced to proceed piecemeal from the minimum of material evidence (Gallou 2005: 16). Although many tombs were popular venues used sporadically for several hundred years—some at Voudeni more than 20 times (Moutafi 2015: 537)—others were simply buried and forgotten. Perhaps those families died off or moved on, and the tombs were not notable enough to warrant reuse by others (Cavanagh and Mee 1978: 32). Their ephemeral roles, while powerfully emotive in the moment, lack the enduring presence of conspicuous architecture. Ephemerality may seem wrongly suited for a tomb like VT75, used over the course of 400 years and large enough to drive a wagon into. That is until one considers its transient experience, being only open and active (e.g., undergoing building, maintenance, or funerary/post-funerary activity) for less than 1 percent of that time. Ironically, this brevity may be equally or more effective at maintaining collective memory than an overlooked monument ever present and visible. Defence of that stance relies on a review of Mycenaean tombs and the decisions that constrained them, to which the following chapter turns.

Table 1.1. Summary of catalogue for Achaean Tombs, based on Papadopoulos (1979)						
Entry	Period	Tholos	Chamber	Other/Unsp.	Settlement	
DYME AREA						
1. Paralimni (Teichos Dymaion)	N, EH, MH, LH I–IIIC, SM, PG (?)	U	U	EH	Fortified	
2. Gerbesi (Araxos)	MH (?), LH	U	U	U	P	
3. Kangadhi	LH IIIA (?), IIIB (?), IIIC, SM	U	Multi.	U	P	
4. Pournari	LH IIIA (?), IIIB–C	Single	U	U	U	
5. Fostaina [[Elaiochorion]]	LH III	U	U	Multi.	U	
6. Kato Achaea (Bouchomata)	EH, LH	U	U	U	P	

Table 1.1. Summary of catalogue for Achaean Tombs, based on Papadopoulos (1979)						
Entry	Period	Tholos	Chamber	Other/Unsp.	Settlement
PATRAS REGION						
7. Tsoukaleika	LH (III?)	U	U	Multi.	U
8. Vrachneika (Ayios Pandeleimon)	LH IIIA–B	U	U	Multi.	P
9. Aroe-Samaika	LH IIIB–SM	U	U	Multi.	P
10–11. Ano Sychaina (Agrapidia)	LH IIIA–C	U	8+	Multi.	P
Addendum: Voudeni (Kolonas 2009b)	LH IIIA–SM	U	78+	Multi.	Fortified
12. Klauss (Koukoura, Antheia)	LH IIIA–C, SM	U	12+	Multi.	P
Addendum: Achaea Clauss (Paschalidis and McGeorge 2009)	LH IIIA–SM	U	28+	Multi.	Fortified
13. Thea (Tsaplaneika)	LH IIIA–C	U	4+	U	P
14. Pavlokastron	LH IIIA–C	U	Multi.	U	U
15. Kallithea	LH IIIA–C, SM (?)	U	2+	8+	U
16. Krini (Velizi)	LH IIIB–C	U	Multi.	U	P
17. Gerokomeion	LH IIIA–C	U	Single	U	U
18. Patras	LH IIIA–C	U	Multi.	Multi.	P
19. Akarnes	LH I	U	U	U	U
19a. Drepanon	PG (?), G	U	U	Pithos multi.	U
PHARAI REGION						
20–21. Platanovrisis (Medzena)	LH	U	U	Multi.	U
22. Ayios Antonios [Chalandritsa]	LH (?)	U	U	U	P
23. Ayios Vasilios [Chalandritsa]	LH IIIA (?), IIIB–C, SM	U	Multi.	Extensive	U
24. Troumbes [Chalandritsa]	LH (?), G	3+ (?)	U	U	U
25. Agriapidies [Chalandritsa]	LH I–II (?) (or PG?)	U	U	Cists	U
26. Pori [Chalandritsa]	LH (?)	U	Multi.	U	U
27. Mitopolis (Ayia Varvara)	LH	U	U	Multi.	C
28. Mitopolis (Profitis Elias)	LH IIIB–C	U	U	U	P
29. Starochorion (Lalousi)	LH IIIC	U	U	Multi.	U
30. Vasilikon (Brakoumadhi)	LH (?)	U	U	U	U
31. Pharai (Lalikosta)	LH (?), G	U	U	Multi.	U
32. Mirali	MH	U	U	2+	U
33. Drakotrypa [Katarraktis (Lopesi)]	EH (?), MH, LHI–II (?), LH IIIA, LH IIIB–C	U	U	Child tomb	C
34. Ayios Athanasios [Katarraktis (Lopesi)]	MH, LH IIB, IIIA (–B?)	2+	U	Child tomb	C
35. Rhodia-Bouga [Katarraktis (Lopesi)]	LH IIIB–C, G	U	10+	Multi.	C
36. Ayios Yeorgios [Katarraktis (Lopesi)]	LH (?), G	U	U	U	P
37. Pyrgaki [Katarraktis (Lopesi)]	MH	U	U	Child tomb	P
38. Vrayianika [Leontion (Gourzoumisa)]	EH (?), LH IIIB–C	U	Multi.	U	U
39. Koutreika [Leontion (Gourzoumisa)]	LH	U	Multi.	U	U
40. Ayios Ioannis [Leontion (Gourzoumisa)]	LH IIIB–C	U	U	Multi.	U
41. Ayios Konstantinos [Leontion (Gourzoumisa)]	LH (?)	U	U	U	P
KALAVRYTA REGION						
42. Mikros Pondias (Lomboka)	LH IIIC	U	3+	U	U
43. Ayios Vlasios	LH	U	U	U	P
44–45. Manesi (Vromoneri)	LH IIIC–SM (?)	U	3+	U	P
46. Bartholomio (near Lomboka)	LH IIIC (?), PG (?)	1+ (?)	U	3+	U
47. Kastria	N, EH	U	U	U	P
48–49. Vrysarion (Kato Goumenitsa)	LH I, LH IIIA, (IIIB–C?)	U	28+	U	U

Table 1.1. Summary of catalogue for Achaean Tombs, based on Papadopoulos (1979)						
Entry	**Period**	**Tholos**	**Chamber**	**Other/Unsp.**	**Settlement**	
50. Kertezi	LH IIIC	U	Single	U	U	
TRITAEA REGION						
51. Drosia (Prostovitsa)	LH IIIC, SM	U	100+	U	U	
52. Skoura	LH IIIA–B	U	U	Cist	U	
NORTHEAST AREA (AIGION AND DHERVENI)						
53–54. Kamarais (Xerikon, Paliomylos)	EH, MH, LH IIIA or B	U	Multi.	U	P	
55. Mayeira (Paliometocho)	LH IIIA	U	U	Single	U	
56. Aravonitsa	MH	U	U	Single	U	
57. Aigion (Psila Alonia or Gymnasion)	LH IIB–IIIC, SM (?)	U	15+	16+	P	
58. Kallithea (Aigion)	LH IIIA–SM (?)	U	1+	Multi.	U	
59. Kouloura (Paliokamares)	LH IIIC (?)	U	U	U	U	
60. Vovoda	LH IIIC (?)	U	U	Multi.	U	
61. Chadzi (Trapeza)	LH IIIA–B, C (?), SM, EIA, G	U	Multi.	U	P	
62–63. Achladies (Achouria, Vareliossa)	LH IIIA–B, SM	U	Multi.	U	U	
64. Mamousia (Dherveni)	LH (?), PG	U	U	Multi.	U	
65. Keryneia (Ayios Yeorgios)	LH (III?)	U	U	U	P	
66. Helike	LH (?)	U	U	U	U	
67–68. Akrata, Krathion-Silivaniotika	N, MH, LH (?)	U	U	Multi.	P	
69. Aigeira	EH, LH II, IIIA–C, SM–PG (?)	U	U	Multi.	P	
70. Dherveni (Psila Alonia)	LH IIIB–C	U	2+	U	P	
Key: unknown (U); probable (P); multiple, no number specified (Multi.); isolated find (Single); reported number, more likely (n+)						

28