Labouring with large stones: A study into the investment and impact of construction projects on Mycenaean communities in Late Bronze Age Greece

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4 The case studies

Within this research, two case-studies are used to analyse the labour costs of cyclopean fortifications: Mycenae and Teichos Dymaion. To be able to put the data from these case-studies into the proper context, this chapter provides background information on these sites. For both Mycenae (section 4.1) and Teichos Dymaion (section 4.2) (see their location in figure 4.1) the following key aspects are discussed: first, a short description of the site and its research history is provided; Second, a (very) short overview of the structures at the site; Third, the fortifications; Finally, population numbers for both sites, which numbers are crucial to properly interpret the calculated labour costs. All this contextual information is crucial to be able to properly interpret the data and labour cost analyses and will thus prove fundamental in the interpretations presented in chapter 8.

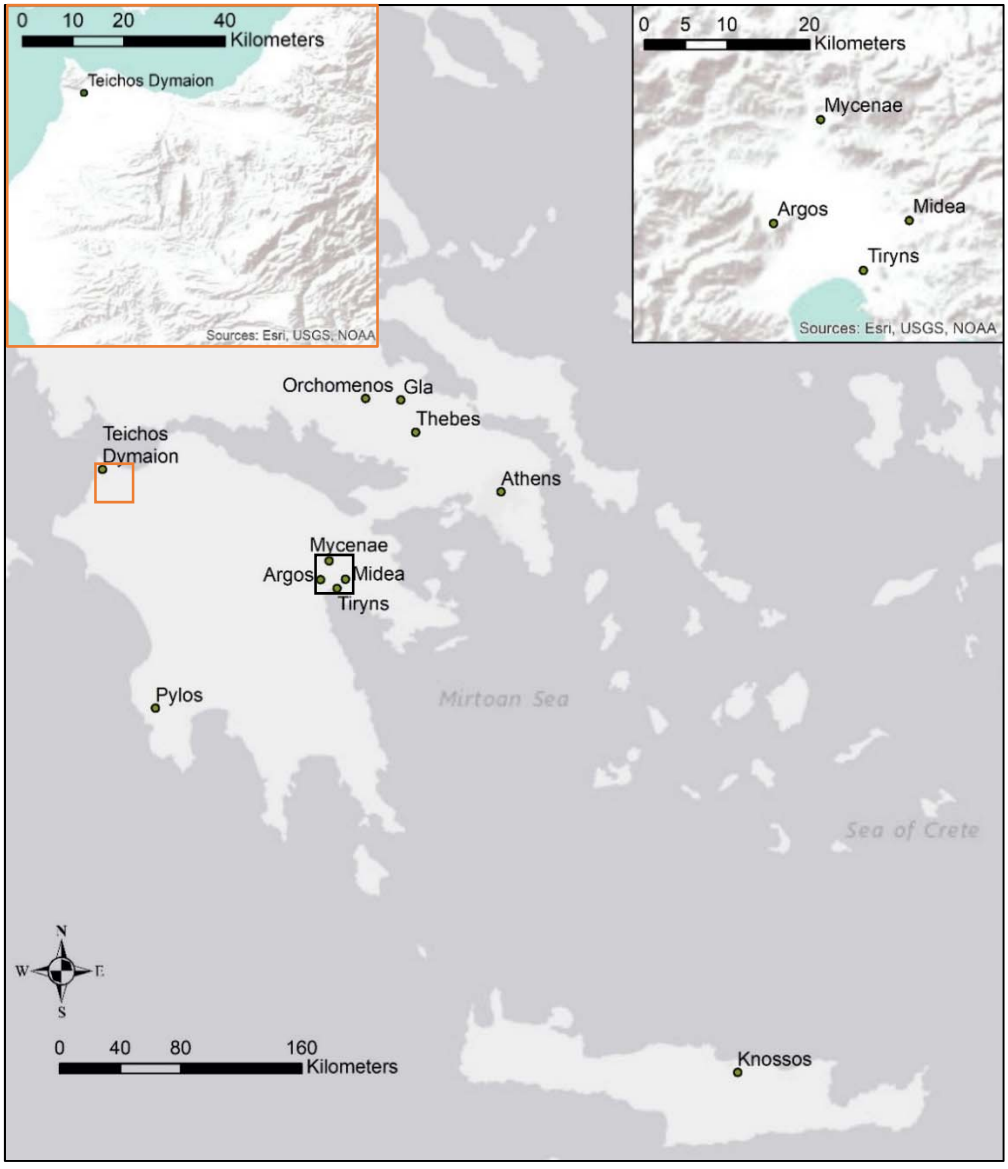

Figure 4.1 The location of the case-studies as well as other sites mentioned in the text (World Terrain Base map by ESRI ArcGIS) (map by author).

4.1 Mycenae

Mycenae is the most famous site for the Aegean Late Bronze Age on the Greek mainland, lending its name to an entire society as well as an era in Greek prehistory. The site is located on a hill which rises some 40 metres above the surrounding land. Although two nearby peaks are higher, the hill is a natural strong point. It lies near the pass connecting the Argolid with Korinthia and it is thus perfectly situated to control any movement between the two plains (Iakovidis 1983: 23). The site was famously excavated in the late 19th century by Schliemann who had set out to prove the validity of Homer's epics.[40] Homer in his renowned poem the Iliad, described Mycenae as a city "rich in gold" (Homer, *Iliad:* 11.45) and home to the king Agamemnon. The status that was ascribed to the site so early on by Homer meant that the site has always been well-known. This is both a blessing and a curse, because it means that a lot of research has been done and, therefore, a lot of information has come to light. However, biases may be lurking and the most obvious one is seeing Mycenae as the seat of a king of kings or "Great King", controlling the rest of the Aegean (e.g. Kelder, 2008; see also chapter 2). There is still a divide between scholars regarding Mycenae's role in the Aegean and its status compared to other, contemporary states (see also chapter 2).

4.1.1 General build-up of Mycenae

Mycenae was densely built-up with a variety of structures within (see figure 4.2) and outside the fortification. The total site size has been estimated at 32ha, based on the spread of finds (French 2002: 64). The most prominent structure would be the palace, located on the top of the hill. The central structure of the palace, the megaron (see also chapter 2), is located on the south-east edge of the top plateau (see figure 4.2). As such, parts of the original structure have eroded off the cliff. However, it had, originally, the typical layout of the megara as they are found throughout the Peloponnese (e.g. Mylonas 1966: 63: figure 16; see also section 2.2). Along the western cyclopean wall, various structures have been identified, such as the "Granary", the "House of the Warrior Vase" and the "Cult Centre" (e.g. Mylonas 1966; Iakovidis 1983 and figure 4.2). The general construction of these buildings consisted of a stone foundation, which also outlined the first floor or basement. On top of these, mudbrick walls were built which formed the upper storey(s) (Iakovidis 1983: 42–50). As can be seen in figure 4.2, structures can be found throughout the fortified area, all along the slopes of the hill leading up to the palace with its megaron. While not all the structures are from the same period, the space within the enceinte was well used as most buildings had multiple phases. Furthermore, Mycenae had multiple terrace walls to accommodate construction on the slope of the hill (French 2002: 51). Constructions like the "Great Ramp", the "Little Ramp" and the "Grand Staircase" allowed movement up the slope towards the palace proper (French 2002: 54–55, 57–61, see also figure 4.2).

[40] Schliemann was neither the only one nor the first who excavated at Mycenae (see French 2002 for an extensive overview). However, his excavations and the subsequent discoveries are widely known.

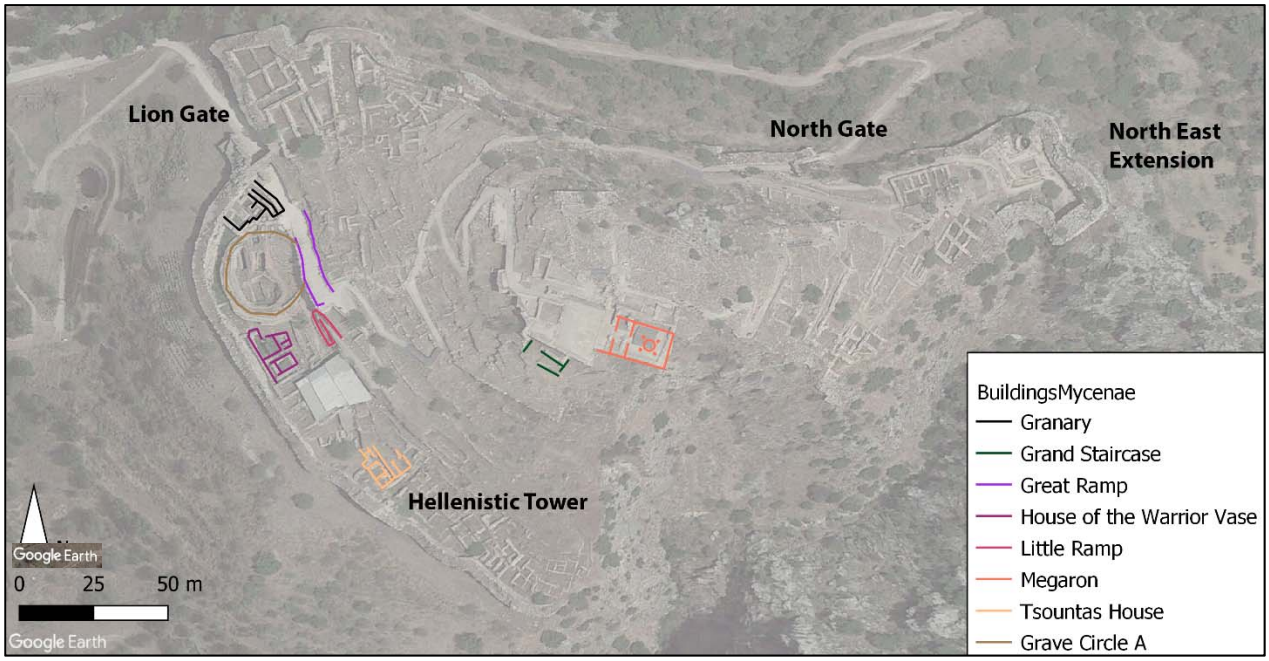

Figure 4.2 Satellite image of Mycenae, showing numerous buildings within the fortified area (base map by Google Earth). Highlighted in the image are some of the buildings mentioned in the text (based on Küpper 1996: Beilage 3 and French 2002: Plan 19).

Mycenae was occupied since the Neolithic period and continued to be occupied until at least the 2nd century AD when it was mentioned by Pausanias (Iakovidis 1983: 23). In the Hellenistic era (323 – 146 BCE) some construction work took place, amongst which some repairs on the fortification walls (see also table 2.2 for a chronological overview). The most prominent example of this is the Hellenistic tower located in the western section of the fortification, but there are two more sections with such repairs (French 2002: 92). One such section is located just outside Grave Circle A and one consists of repairs to the bastion on the outside of the Lion Gate (Wace 1921: 9–10; Boethius 1921: 416; see figure 4.3). These sections are easily recognisable as they are constructed in polygonal masonry (see also Wace 1921: 9), which sets a stark contrast to the cyclopean stone work of the Mycenaean period (see also chapter 3, in particular figure 3.1). Within the enceinte there were also a number of structures dated to the Hellenistic era. Unlike Teichos Dymaion (see section 4.2), though, there is no mention of it being occupied *after* the 2nd century AD and it was not mentioned thereafter until the early travellers in the 18th and 19th century looted the site for antiquities (Iakovidis 1983: 23). It was described and located on various maps from the 15th century onwards by travellers, though (French 2002: 18–19).

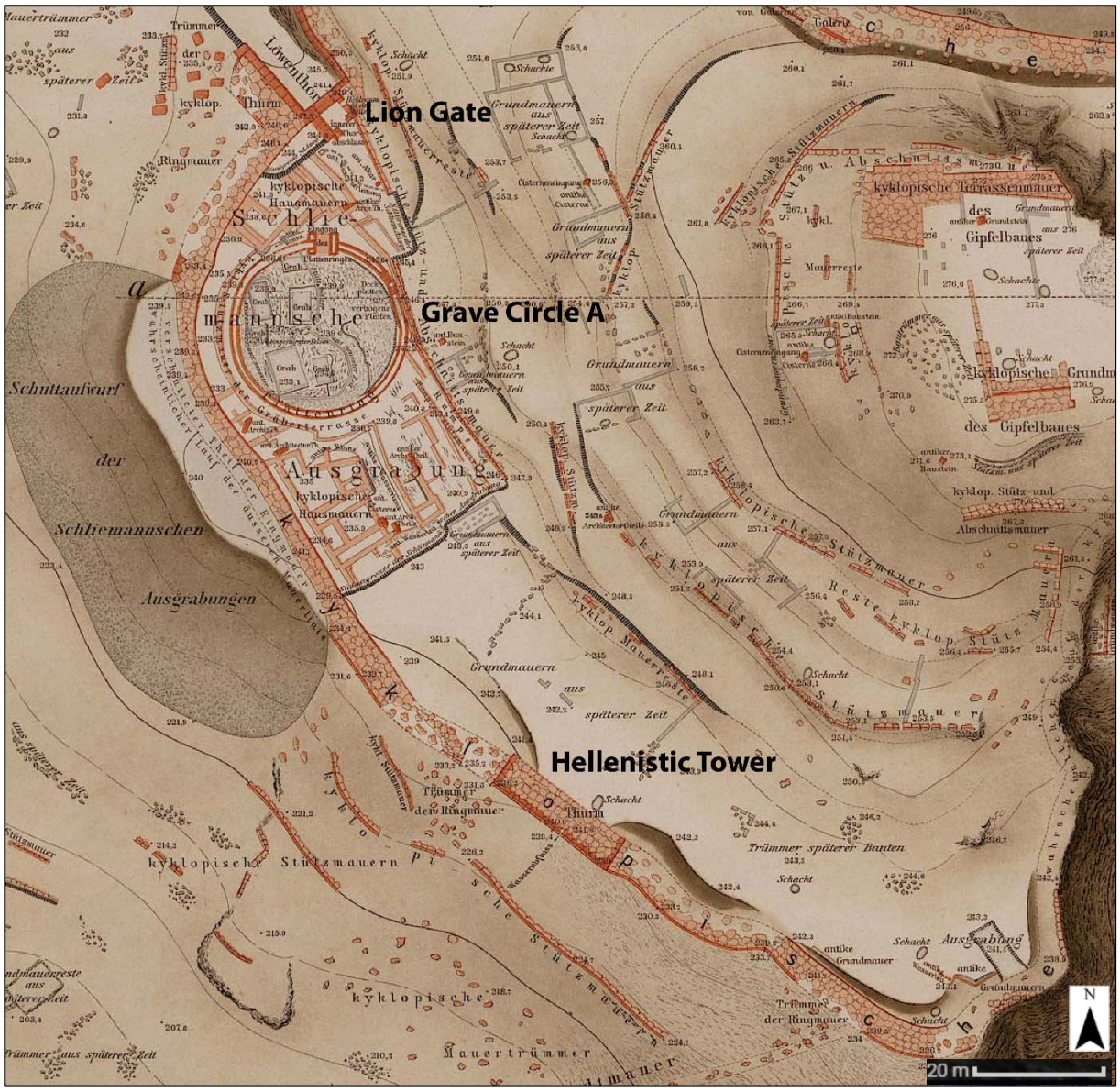

Figure 4.3 Location of the Lion Gate, Grave Circle A and the so-called Hellenistic Tower. Sections west of the Grave Circle can be seen to have partially collapsed (after Steffen 1884: Map 3).

4.1.2 The Fortification

The fortification wall at Mycenae is 900m long and encompasses a 3 hectare area (Iakovidis 1983: 23). The walls are built in the cyclopean style using limestone blocks, likely cut from the hill itself or other nearby locations. At specific locations (see also below and chapter 3) a façade of regular, ashlar-like blocks of conglomerate stone was built against the cyclopean wall (Iakovidis 1983: 26).

The fortification was constructed in various phases (see also figure 4.4). The first phase was a lot smaller than what is visible today and encompassed the top of the hill and sections to the east and west (Mylonas 1966: 22–28, 33). This first enceinte followed the outcrop of the harder limestone (Mylonas 1966: 24). In a second phase a tremendous extension was created to the south, which encompassed Grave Circle A. Among the extensions were also the Lion Gate and the North Gate, although the latter is thought to be built slightly later than the Lion Gate (Mylonas 1966: 28–31, 33). The wall extended to the west and south and thus beyond the limestone outcrop and onto the softer

conglomerate stone. Mycenae also has a subterranean cistern. This was part of the final phase of construction, when the North East extension was being built. As part of this extension a cistern was dug into the softer conglomerate bedrock just outside the wall with a staircase descending into it, which started on the inside of the enceinte (Mylonas 1966: 31–32). The cistern secured water in case of a siege (Iakovidis 1983: 27–37). Considering the fact that the extension built in this final phase only adds roughly 600m^2 to the fortified area (Iakovidis 1983: 34), it seems that it was almost exclusively built to accommodate access to a water source. This seems a particular valid explanation when the 600m^2 the extension adds, is compared to the 11,000m^2 that the expansion of the second phase added to the fortified area (Kalogeroudis 2008: 288).

Mycenae also has several drains to expel excessive water from the citadel (Wace 1921: 62). Wace discovered several of them and one of these runs under the Granary (see also figure 4.2). It was built on the bedrock and had an inverted V-shaped roof. Due to its location under the building and as it avoids the Shaft Grave it seems that it is earlier or contemporary with the Granary and later than the Shaft Grave. Wace (1921: 62–63) therefore concluded that the drains are part of the second phase of construction. As for the dates of the phases, Mylonas tied the first phase to the late LH IIIA period, phase two to the "advanced years" of the LH IIIB era or at least the second half of that era, while the third phase is placed near the end of LH IIIB (Mylonas, 1966, p. 33).

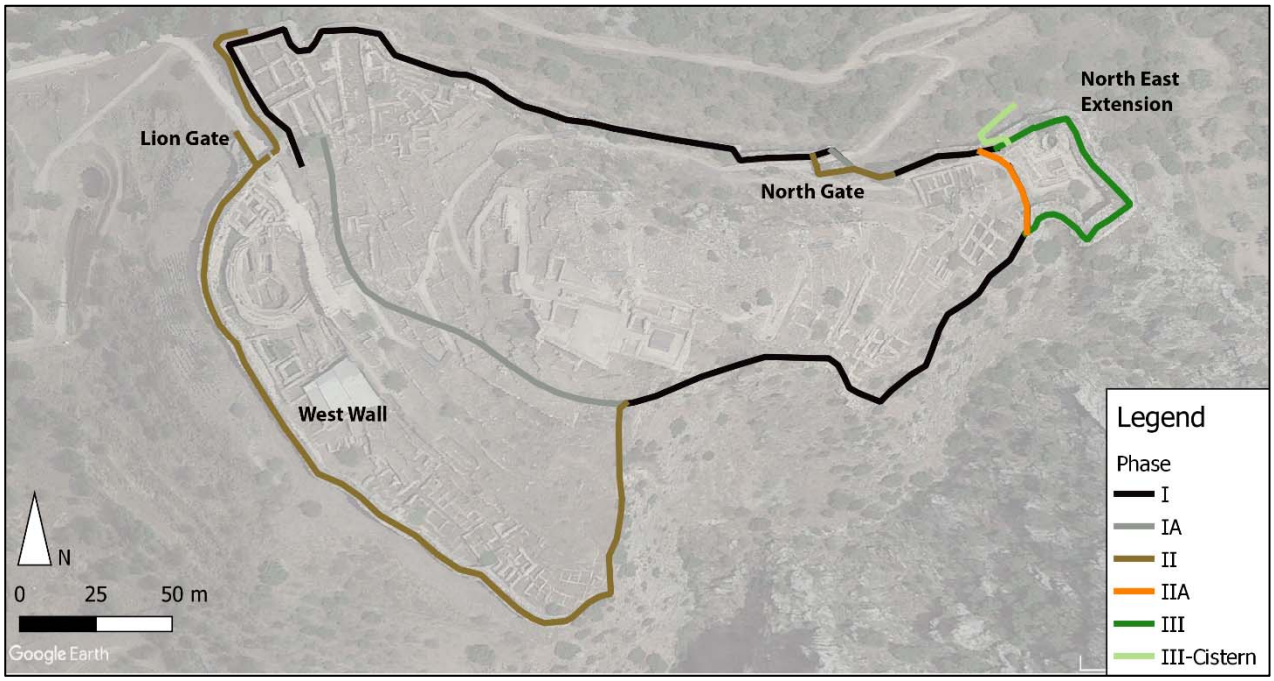

Figure 4.4 A schematic overview of the three phases as mentioned in the text. The zig-zag in the north-east, outside the fortification, represents the underground staircase to the cistern (after Mylonas 1966 figures 3, 5 and 7).

The first and third periods are thus at least 100 years apart (see also table 2.2). This is important to realize, for the fortification at Mycenae does, thus, not constitute one big project, but several. Not only does this mean that the labour costs are spread out over these various projects, but also that the experience of building in this way cannot be present in the form of the same persons on all projects.

The two gates that are present in the fortification at Mycenae are thus, in their present form, part of the later phase. However, Mylonas (1977: 18, fig. 5) assumed gates at roughly the same location for

the earlier phase I (see above) of the fortification. Similar to the east gate at Teichos Dymaion (see below), the approach to the two gates at Mycenae is built in such a manner that one is forced in a corridor between the wall on one and a bastion on the other side. Both the Lion Gate and the North Gate have such a specially built bastion (Iakovidis 1983: 33). This meant that the threat of an attacking force was diminished; Firstly, the corridor caused a reduction in the number of people that could attack the gate simultaneously. Secondly, defenders could attack any force from both the wall on the left as well as from the bastion on the right (Mylonas 1977: 12). This setup, using a corridor-approach to protect the gates of a fortified site, was used throughout Greece during the LBA period. It is apparent at Midea (west gate), Athens and, although to a lesser degree, Gla (south gate) (Iakovidis 1983).

Particularly interesting is that seemingly, except for Mycenae, only one such gate was built at each site. The other gates were simple openings in the wall where the end of the wall may or may not be strengthened. The middle gate at Teichos Dymaion has, for example, strengthened wall ends, but the small openings in the North East extension at Mycenae are just that, small openings in the wall, small sally-ports. The one on the south-east side of the extension is built with a corbelled roof, while the one on the north-west section, next to the entrance to the cistern, is roofed with large stone slabs (Iakovidis 1983: 35). Excavations at Midea have uncovered a similar passage through the fortification wall. This passage also has stone slabs making up the ceiling (Demakopoulou et al. 2009: 19). It is little over a meter high and 0.65m wide and dated to the LH IIIB2 phase (Demakopoulou et al. 2009: 20). Although the opening on the outer face was not located due to reconstructions at a later date, Demakopoulou (2015: 187) argues it very much resembled the northern “sally-port” at Mycenae.

4.2 Teichos Dymaion

The site of Teichos Dymaion lies on a hilltop (see figure 4.5) of the (lower-lying) southern point of the so-called Black Mountains, which are located in the north-western tip of the Peloponnese, in the region of Achaea (see figure 4.1). The upper part of the hill is fortified with cyclopean-style walls on three sides, while the fourth (south-west) side is unfortified, but protected by a steep cliff towards the sea side. Teichos Dymaion is at present the only known fortified Mycenaean site in the western part of the Peloponnese and as such, forms an excellent case-study for inter-regional comparisons. The site itself has seen only a few (small) excavations. The earliest, by Mastrokostas, date to the 1960s and give a preliminary idea about the site and its long history. While the massive walls originally date to the LH IIIB period, Neolithic pottery was also found and the fortifications were later repaired/extended in the Middle Byzantine period (see also for the chronology table 2.2). Even during the Second World War, it was used by Italian forces as a stronghold (e.g. Gazis 2010). This in itself shows that the location played a prominent role in the construction of the fortifications. While over the years further research has taken place at Teichos Dymaion and, as a site, it has been incorporated in a number of regional and inter-regional studies, it has not seen extensive studies on its status during the Mycenaean period (but see the current research by M. Gazis). However, the work by Kolonas and Gazis (Gazis, 2010, 2017; Kolonas, 2009; e.g. Kolonas & Gazis, 2006) at Teichos Dymaion and in the wider Achaean region is crucial in understanding the role of the site within the region.

Figure 4.5 The fortification wall of Teichos Dymaion seen from the north (photograph by author).

4.2.1 General build-up of Teichos Dymaion

Structures from various periods have been found, but the focus in this research obviously lies on the Late Helladic period. Successive building phases have been found that show an intensive use of space in this period, particularly in the LH IIIB and C (Gazis 2010: 238). The settlement was quite small, with its total size estimated at 4.9ha (Gazis 2010). Excavations have unearthed houses built with stone foundations and superstructures of perishable materials like mudbricks (Gazis 2010: 242). The structures typically had two rooms, one might have been a store room and there were narrow alleys between the structures to allow movement of people (Gazis 2010: 242). Late Helladic structures, possibly houses, were also found outside the fortifications on the north and north-east slopes (see figure 4.6). The only possible non-domestic structure (based on its large size) found at the site consists of an EH II building, which was in part built over by the north-west corner of the fortification wall (Gazis 2010: 243).

Besides domestic structures, there is little evidence for other types of buildings from the LH III period. There are no large storage buildings, nor any palatial or administrative structures. Gazis (2010: 244) argues that the site is not large enough for any such larger, more elaborate buildings to begin with. It is interesting that there is no palace in Achaea at all. However, it could be that a potential palace in Achaea is simply not found yet (see also 2.2).

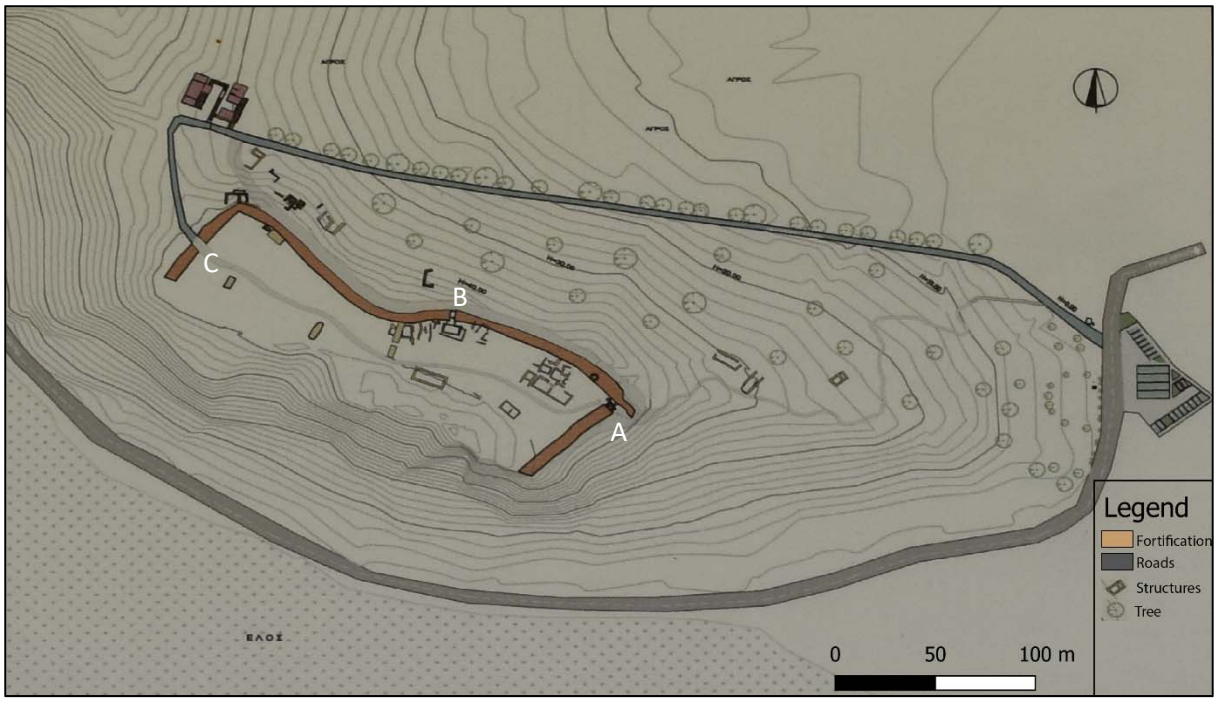

Figure 4.6 Overview map of Teichos Dymaion. The brown line represents the fortification wall, the grey lines modern roads. The various smaller shapes are architectural remains of various structures (after: Kolonas et al. 2002)*. The letters A, B and C, represent the locations of the eastern (potentially main) gate, the middle gate and the north-western gate, respectively.*

4.2.2 The Fortification

The impressive fortification wall at Teichos Dymaion (see figure 4.5 and 4.7) is built in cyclopean style and was described by Polybius as being a *stade* and a half long (277.5m) and no less than 30 *cubits* high (13.3m) (Pol. IV.83). Currently, it still stands up to a height of 8.40m in the north-western corner and over the length of the wall, the width ranges from 4.50-5.50m (Gazis 2010: 240). The wall is built with large, slab-like, blocks of stone. The shape of the blocks, which is somewhat similar to that of the blocks in the walls at Gla and Midea, is likely dictated by the nature of the stone, rather than by any conscious choice (Gazis 2010: 239, n4)(see also section 3.3). The fill of this fortification consists of stones and earth (Gazis 2010: 239). The walled area comprises an area of about 0.8 hectares (Gazis 2010: 240). In comparison, Mycenae has a walled area of ±3 hectares, Tiryns ±2.3 hectares, Athens ±3.4 hectares and, unrivalled in size, Gla of ±20 hectares (Iakovidis 1983; Hope Simpson and Hagel 2006; see figure 4.8). Teichos Dymaion is thus a relatively small site and also interestingly, so far no palatial structure has been found at the site. This is uncommon as currently Gla is the only other site where cyclopean fortification occurs, but a palatial structure is not present (e.g. Iakovidis, 1989, 1998, 2001).

Figure 4.7 Section of the fortification wall at Teichos Dymaion. Just left of the middle, the section with smaller stones can be seen, this is the walled up Middle Gate. Furthermore, the image shows how much of the interior face of the fortification wall is still buried (photograph taken by Ann Brysbaert and Jari Pakkanen).

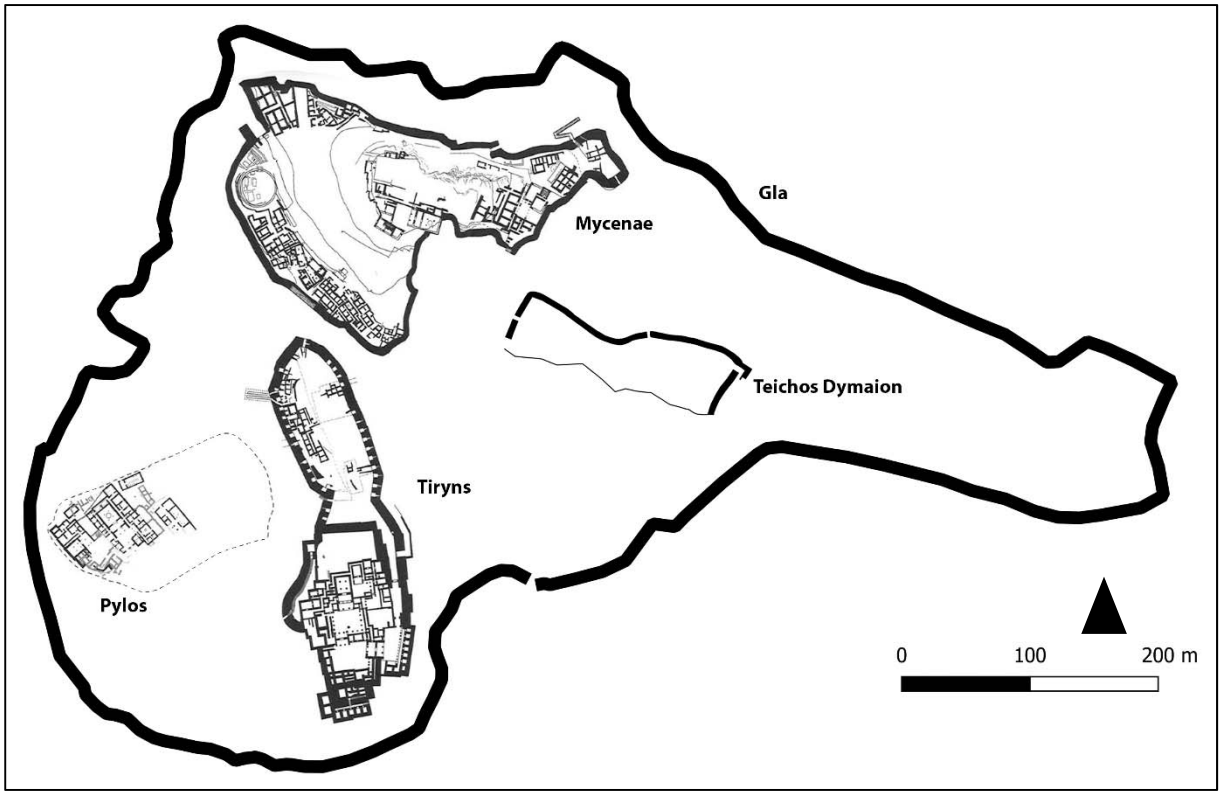

Figure 4.8 The sizes of several Mycenaean sites compared (after Iakovidis 1983). Gla can encompass all four sites with plenty of room to spare.

The fortification of the hill has a number of noticeable features. The first feature is that the long north-east section of the wall curves halfway. Rather than straight sections accommodating the topography, the wall curves inwards (towards the south-west) and then outwards again. Other curved sections in cyclopean style can be seen at the extension around Grave Circle A at Mycenae and the extension around the Western Staircase at Tiryns, both dating to the late LH IIIB period. Similarly, the fortification at Teichos Dymaion is dated to the late LH IIIB (Gazis 2010: 239). However, other than those examples, curved sections are not common in Mycenaean fortifications.

The second feature that stands out is the Γ-shaped tower-like structure on the eastern corner, protecting the gate at this location. While Mastrokostas (1962) does not provide a different date for this projecting structure than for the rest of the fortification, it might be a later addition.

The third feature is the presence of three separate gates in the fortification. The gates are spread out over the length of the wall with one at the eastern corner, protected by the Γ-shaped tower (see above). This is said to be the main gate (Mastrokostas 1962: 129; Giannopoulos 2008: 24; Gazis 2010: 240), although Papadopoulos (1979: 24) has argued that it was the second gate, located in the middle of the long north-east stretch of wall, that functioned as the main gate. He gives no arguments for this conclusion, though, nor do those arguing for the east gate to be the main gate give any arguments. The latter seems simply implied by the projecting tower structure as well as the monumentality of the gate as pointed out by Gazis (2010: 240). He argues thus that the primary importance is proven by the presence of an altar within the gate structure. It is clear that the east gate is the most elaborate gate of the three. The final gate is located in the northwest stretch of wall. Due to the fact that it was this gate that was used by the Italian occupation forces during WWII, the actual gate is destroyed as it was widened to accommodate the entrance of vehicles (Papadopoulos 1979: 24; Giannopoulos 2008: 25; Gazis 2010: 241).

Similar to Mycenae, Teichos Dymaion also has possible presence of water-related structures; a subterranean water reservoir near the Middle Gate. Accessibility to water is crucial to withstand an enemy during prolonged sieges. Similar subterranean water reservoirs have been found at other sites as well, such as Mycenae (see above), Tiryns and Athens (see also section 3.1).

Another potential water-related feature at Teichos Dymaion entails a drain 15m north of the Middle gate. Although this interpretation has been contested by some researchers (e.g. Mastrokostas 1966: 158–9; Giannopoulos 2008: 25–6) who interpreted the opening as a passage. However, others (Küpper 1996: 64–5; Mylonas 1966: 32) have argued that it (and similar openings elsewhere, see Mylonas for Mycenae) is too small for a passage and that the interpretation of the opening as a drain makes more sense. The opening under discussion at Teichos Dymaion is less than 50cm high. Although accessible, this can hardly be considered the size of “a small doorway” and it fits comfortably in the range of drains up to 70cm (Mylonas 1966: 32). It seems therefore more likely that this was indeed another drain. Two additional channels exist that go through the wall at a right angle, one in the south-west and one in the north-west (Gazis 2010: 239). Gazis (2010) has argued that these were put in place during the original construction of the wall and are meant to channel excessive water from the acropolis. As shown in section 4.1.1, similar features were also found at Mycenae.

A final similarity between Mycenae (Iakovidis 1983: 31) and Teichos Dymaion (Gazis 2010: 240) is the possible presence of some sort of shrine near the entrance of the gates (Lion Gate and North Gate at

Mycenae and Eastern Gate at Teichos Dymaion). Although in both cases either the date (Teichos Dymaion) as well as the actual function of the room (Mycenae) is questioned, it would be an interesting notion that some sort of shrine is located right at the (main) entrance of a fortified site. According to Iakovidis (1983: 31), similar "gate shrines" have been found at Tiryns (see also Kilian 1981: 51), the Athenian Acropolis and at the gate of Troy VI.

4.3 The size of the population at Mycenae and Teichos Dymaion

As was discussed in section 2.2.4, the population size at the case-studies is very important to be able to properly interpret the results of the labour cost analysis; the larger the population, the smaller the potential impact of fortification construction, as a smaller part of the population was required for the entire production process. Moreover, in order to say anything about the impact of the building projects at all some idea must be presented on the population numbers. If the required workforce is beyond the estimated population size, it must be considered whether the necessary workers came from beyond the settlement itself and what this may imply about the socio-political organisation of the settlements. After all, this means that the elites at the settlements were powerful enough to order people from further away to perform construction work, or wealthy enough to hire them.

It was also pointed out in section 2.2.4 that there are various ways of determining past population numbers and that in this dissertation the choice was made to base the calculation on site size and population densities, as for both case studies the site size is established (as best as possible). Other methodologies for calculating the population sizes require additional information that is more problematic or incomplete for either or both case studies.

In a study on the population density in medieval cities in Europe in the thirteenth to the sixteenth century an average of 100-120 people per hectare was calculated, with a maximum of 200 people per hectare (Russell 1958). However, the range was actually much larger, as pointed out by Wallace-Hadrill (1994: 95) as it encompasses values between 40 and 289 people per hectare. He rightly pointed out that it may be problematic to project medieval population figures onto his study of Roman cities. The same can be said for prehistoric societies like the Late Bronze Age in Greece. However, it seems unlikely that Mycenae was as urbanised as those medieval cities that are considered very densely populated; after all, 200 people per hectare is towards the high end of the range provided by Russell (1958).

Nevertheless, this density of 200 people/ha is an often used number to calculate past population sizes based on site size, including for LBA sites such as Mycenae (e.g. Bennet, 2007, 2013; French, 2002) and Tiryns (e.g. Brysbaert, 2013). French (2002: 64) has pointed out in this regard that the surface finds indicate that a site size of 32 hectare is a realistic estimate for Mycenae, but that the density of 200 people per hectare seems too high. In comparison; modern-day Holland is one of the most densely populated areas in the world and even there the *average* population density for built-up areas is 180p/ha (Erwich & Vliegen, 2001). Thus, even though the number is often used by a variety of scholars, care should be taken when applying it. Hence, two other approaches using site size to calculate population sizes are also presented here.

In a study on the population size and density of Late Bronze Age Messenia, the distribution and population density of modern villages was used for the reconstruction of the ancient population (Carothers & McDonald, 1979). The reconstructed density depended on size but it was calculated that each village had a "starting population" of 40.64 and each increase in size (1ha) would increase

the population by 64.99 people (Carothers and McDonald 1979: 436).[41] This means that a 1ha site had 105.63 (106) people, a 2ha site had 105.63 + 64.99 = 170.62 (171) people and so on. This in turn means that smaller sites were more densely habited if the density per hectare is considered; 106 p/ha and 85p/ha for a 1 or 2ha site respectively. For larger sites this density would decrease to, not quite, 64.99p/ha, which is the increase factor in the formula (see figure 4.9).

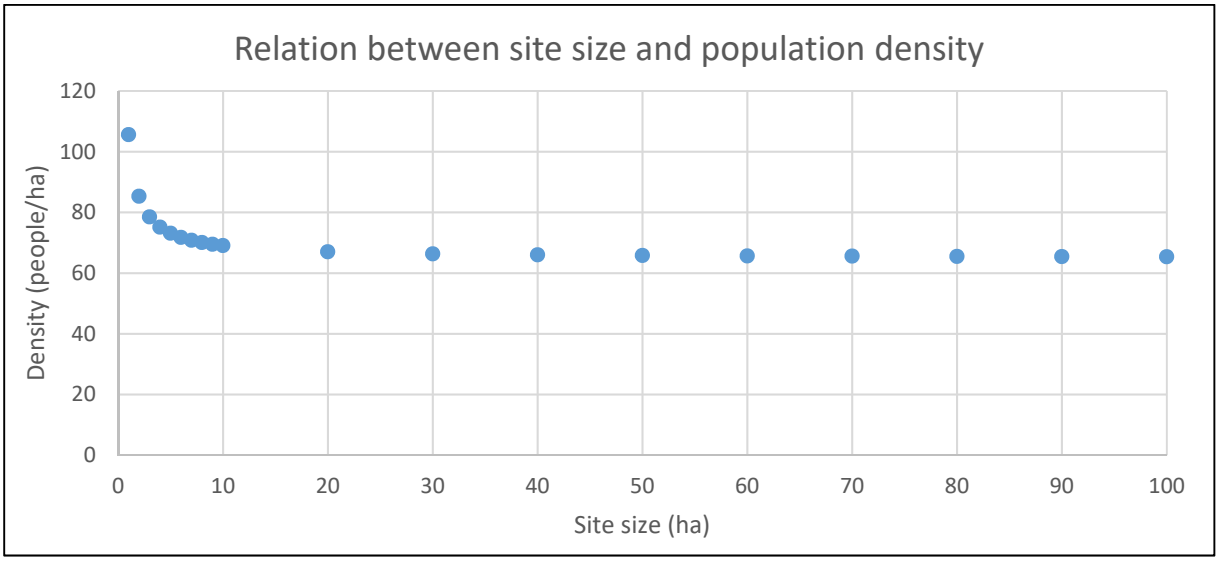

Figure 4.9 Relation between site size and population density (after Carothers and McDonald 1979). Note that it is the density *that is decreasing, the actual* population size *increases for larger sites.*

However, the research by Carothers and McDonald focused on rural villages. In contrast, a study by Hanson and Ortman (2017), focused on the relation between population density, population size and site size in urban contexts in the ancient world. They found that for urbanized sites, the population density increases as the site size grows. Using data from 52 sites from the Greco-Roman world between 4th century BCE and 6th century CE, they calculated the size and density of the population related to the site size (Hanson and Ortman 2017: 314). Of course there was some variety, but an overall trend was established which could be summarized in the following formula: y = 41.834 x ^ 1.3361 (see figure 4.10), in which y is the population size and x the site size in ha (Hanson and Ortman 2017: 317 in particular figure 3).

[41] Based on their observations on population and site size in modern villages (n=68), a correlation was found. This correlation could be summarized in the formula y = 40,64 + 64,99(x) in which y was the population, based on the size of the site/village x.

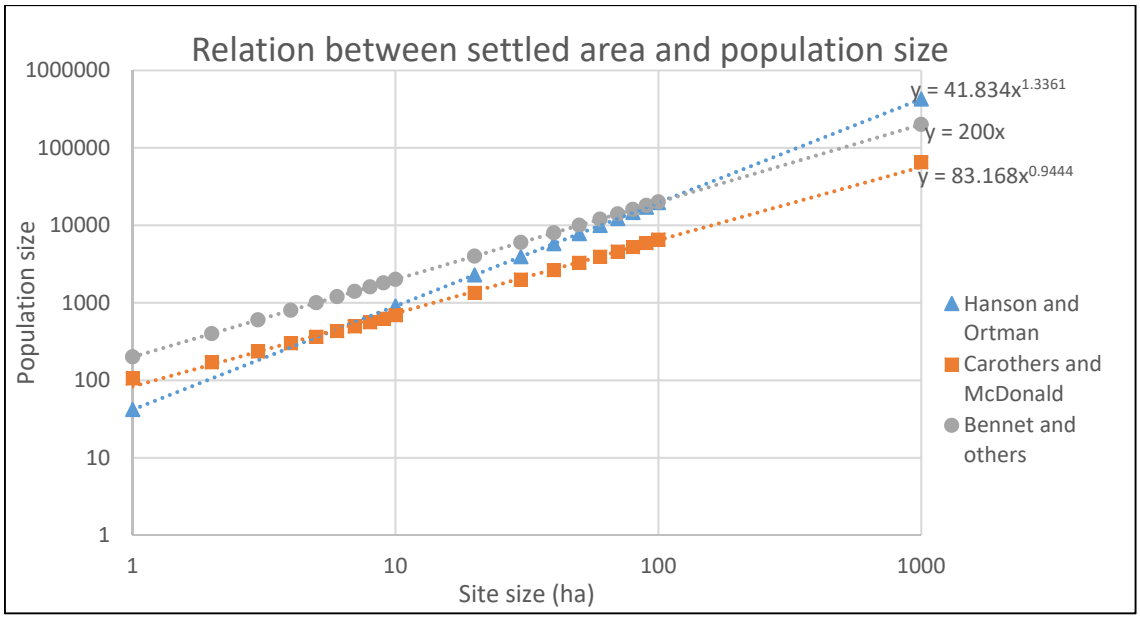

Figure 4.10 Relation between site size and population size, based on the various population densities. Note that both axes are on a logarithmic (log) scale (after Hanson and Ortman 2017; Carothers and McDonald 1979; Bennet 2007).

Table 4.1 Overview of the estimates of the population size and density based on the three described models.

Source of model	Mycenae		Teichos Dymaion	
	Population size	Population density (p/ha)	Population size	Population density (p/ha)
Bennet 2007	6,400	200	980	200
Carothers and McDonald 1979	2,120	66	359	73
Hanson and Ortman 2017	4,291	134	350	71

When the three methods described above are applied to the case studies, Mycenae and Teichos Dymaion, the methods produces quite different population sizes (see overview in table 4.1). Moreover, when reverse calculating the average densities at the sites based on the population sizes, each method thus produces a very different density. Additionally, it shows that both *dynamic* models; the methods by Cartohers and McDonald as well as the method by Hanson and Ortman, produce different average densities for both sites, unlike the *fixed* density of 200, as used by Bennet (and others). Both these models also confirm that the used fixed density of 200 p/ha seems to be too high, as they produce far lower densities: 66 and 134 p/ha for Mycenae and 73 and 71p/ha for Teichos Dymaion. Obviously, the used methods suffer from the same chronology issue as Russell's (1958) average number. However, Hanson and Ortman use a long chronological spread and a large geographic area and they take into account that larger sites may be more urbanised which means that the density increases. It may not be a perfect fit for Mycenaean sites, however, it is a much more comprehensive approach to population numbers than the estimates that have been used so often before. A more thorough and in-depth study into Mycenaen populations would be beneficial, but is beyond the scope of this study.

For Teichos Dymaion both dynamic models produce very similar population numbers. However, the model by Hanson and Ortman has no case studies in its own study below 11 ha. For Teichos

Dymaion, which is only 4.9ha, the produced population number is thus an *extra*polated figure. Whereas, in the study by Carothers and McDonald, the smallest case study is less than 1 ha.

In contrast, Mycenae, which is, as mentioned above, estimated to have been about 32ha, fits within the range of site sizes as studied by Hanson and Ortman. Unlike the model by Carothers and McDonald, though, in which the largest site is just over 18ha. For Mycenae, the model by Hanson and Ortman seems to be more applicable as the calculated population size is an *inter*polation.

It is well outside the scope of this study to formulate a definitive population number for the case studies. Therefore, the presented numbers here will be used in the analysis in chapter 8. However, where applicable the population numbers as calculated with the model of Hanson and Ortman will be used for Mycenae and the result for Teichos Dymaion as calculated by the model of Carothers and McDonald. This is because Mycenae is a far larger site and presumably more urbanised, whereas Teichos Dymaion is much smaller and fewer structures were found. Hence the two models seem to be more applicable to either site. Finally, it must be noted that these population numbers *only* cover the urban areas of the sites. The rural population that lived further away from the settlement are not taken into account in these calculations, but could provide a serious increase to the potential labour pool. Reconstructing the potential rural population is, unfortunately, beyond the scope of this study.

4.4 Concluding remarks

This chapter has introduced the sites of Mycenae and Teichos Dymaion. While Mycenae's first fortification is dated to the LH IIIA period, Teichos Dymaion was not fortified until the late LH IIIB period, coinciding with Mycenae's second phase of fortification. Mycenae has been fortified in three stages, while the fortification of Teichos Dymaion was built in a single phase. Mycenae is often seen as the capital of its region, and by some even as the capital of a larger Mycenaean kingdom. Teichos Dymaion, on the other hand, is the sole fortified site found within its region to date, but has no substantial architecture, apart from its fortifications, that might point to a palace of any kind. Both sites seem to have been capable of being part of inter-regional trade networks (see also chapter 2). These potential (inter-)regional contacts might also indicate that workforce or expertise for large construction projects could be imported from beyond the community itself. Finally, for both sites the population estimates were presented, which are estimated between 2,120 and 6,400 for Mycenae and between 350 and 980 for Teichos Dymaion, depending on the used model. It is argued that the population for Mycenae is more realistically 4,291, following the model by Hanson and Ortman and 359 for Teichos Dymaion, using the model by Carothers and McDonald. The next chapter will focus on the used methodology for studying these ancient fortifications and how relevant data are collected and processed.