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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2 Late Bronze Age Greece

This chapter is intended to place the architectural study into its Mycenaean context. A number of key characteristics of this context will be discussed. First, in section 2.1, the chronology of the Mycenaean era is presented. Second, in section 2.2, the Mycenaean society is discussed. In this discussion, various interpretations of Mycenaean society are presented and the social hierarchy of this society, is debated. This debate will focus on the social hierarchy and the various social institutions that were associated with that stratification. The Mycenaean economy is subsequently discussed in section 2.3, considering the role of the social institutions in the economy. In particular the various economic mechanisms that these institutions may have used is discussed. In section 2.4 the ending of the Mycenaean era, the so-called *collapse*, is considered. Both the social (section 2.2) and economic (section 2.3) organisation of the Mycenaean world will help to understand *how the construction was arranged* and *how the labour costs might impact local communities*. These answers are subsequently crucial to conclude anything about whether the construction processes can be in any way tied as a cause to the *collapse* (section 2.4). Hence, the presented deliberations in this chapter will be taken into account when the labour costs are interpreted (chapter 8).

2.1 Chronological overview

There are a variety of terms and dates associated with the chronology of the studied area. This short section is merely meant to present these terms and provide a basic overview of the timeline. The Bronze Age in the Aegean (see figure 2.1) covers the third and second millennium BCE (see table 2.1). This period is subdivided into an Early, Middle and Late Bronze Age. The focus here is mostly on the Late Bronze Age, which for mainland Greece, is further subdivided into shorter periods, known as the Early Mycenaean, Mycenaean and Late Mycenaean (e.g. Shelmerdine 2008: 5), as can been seen in table 2.2. Although, due to their imprecise dating these terms are used less nowadays, they are still encountered in much of the older literature and when the precise dating is less relevant. The Late Bronze Age can also be divided into periods of time referred to as Late Helladic (LH) I, II and III which can be further segmented by the designation of letters (A, B and C).[2] While even more detailed (relative) dating is in some cases possible (e.g. Mountjoy, 1999), it is not required for this research. The absolute dating of the construction of the fortifications being studied is difficult at best, therefore this less accurate relative dating is sufficient.

Another thing that can be noted in table 2.2 is the variance in absolute dates. This has to do with the difference in dating method. The "high chronology" is based on more recent methods like radiocarbon dating while the "low chronology" is based on traditional ceramic synchronisms with Egypt and Mesopotamia (Shelmerdine 2008: 5; Manning 2012: 12–8; Shelton 2012: 139). The discrepancy between the two chronologies is limited to a specific period, mainly the start of the LH period up to LH IIIA1 and never exceeds a divergence of 100 years. It is beyond the scope of this dissertation to go into the (lengthy) debate around the specifics of the dates.[3] Throughout this thesis the established relative chronology (Manning, 2012; Shelmerdine, 2008), as shown in table 2.2, will be used and mostly the abbreviations will be used for Early, Middle and Late Helladic (EH, MH and LH

[2] Helladic derives from the Greek word *Hellas*, meaning Greece. The Helladic period corresponds with the dates of the Bronze Age.

[3] There are extensive discussions on the difficulties of dates in the Aegean Bronze Age, see for an overview Manning 2012 or Shelmerdine 2008.

consecutively) as well as for the Late Bronze Age (LBA). As will be shown in the discussion of the Mycenaean society (see below) the main period will comprise the LH III (so roughly between 1,400 to 1,100 BCE, see table 2.2), while the fortifications themselves are mostly constructed in LH IIIB (see chapters 3 and 5).

Table 2.1 The relative and absolute dates of the various periods on the Greek mainland (after, Manning 2012; Shelmerdine 2008; Bintliff 2012).

Relative Chronology	**Associated dates**
Neolithic	7000 BCE - 3100 BCE
Early Bronze Age (Early Helladic)	3100 BCE - 2000 BCE
Middle Bronze Age (Middle Helladic)	2000 BCE - 1700 / 1600 BCE
Late Bronze Age (Late Helladic)	1700 / 1600 BCE - 1050 BCE
Iron Age	1050 BCE - 800 BCE
Archaic	800 BCE - 480 BCE
Classical	480 BCE - 323 BCE
Hellenistic	323 BCE - 146 BCE
Roman	146 BCE - 330 CE
Late Roman	330 CE - 700 CE
Byzantine	700 CE - 1500 CE

Table 2.2 The relative and absolute dates that apply to the Late Bronze Age in Greece (based on Manning 2012: 18; Shelmerdine 2008: 5).

Relative Chronology			**High date in years BCE**	**Number of years**	**Low date in years BCE**	**Number of years**	**Difference of date in years**
LBA	**Early Mycenaean**	**LH I**	1700-1600	100	1600-1500	100	100
		LH IIA	1600-1470	130	1500-1430	70	100-40
		LH IIB	1470-1410	60	1430-1390	40	40-20
	Mycenaean	**LH IIIA**	1410-1315	95	1390-1300	90	20-15
		LH IIIB	1315-1190	125	1300-1190	110	15-0
	Late Mycenaean	**LH IIIC**	1190-1050	140	1190-1050	140	-

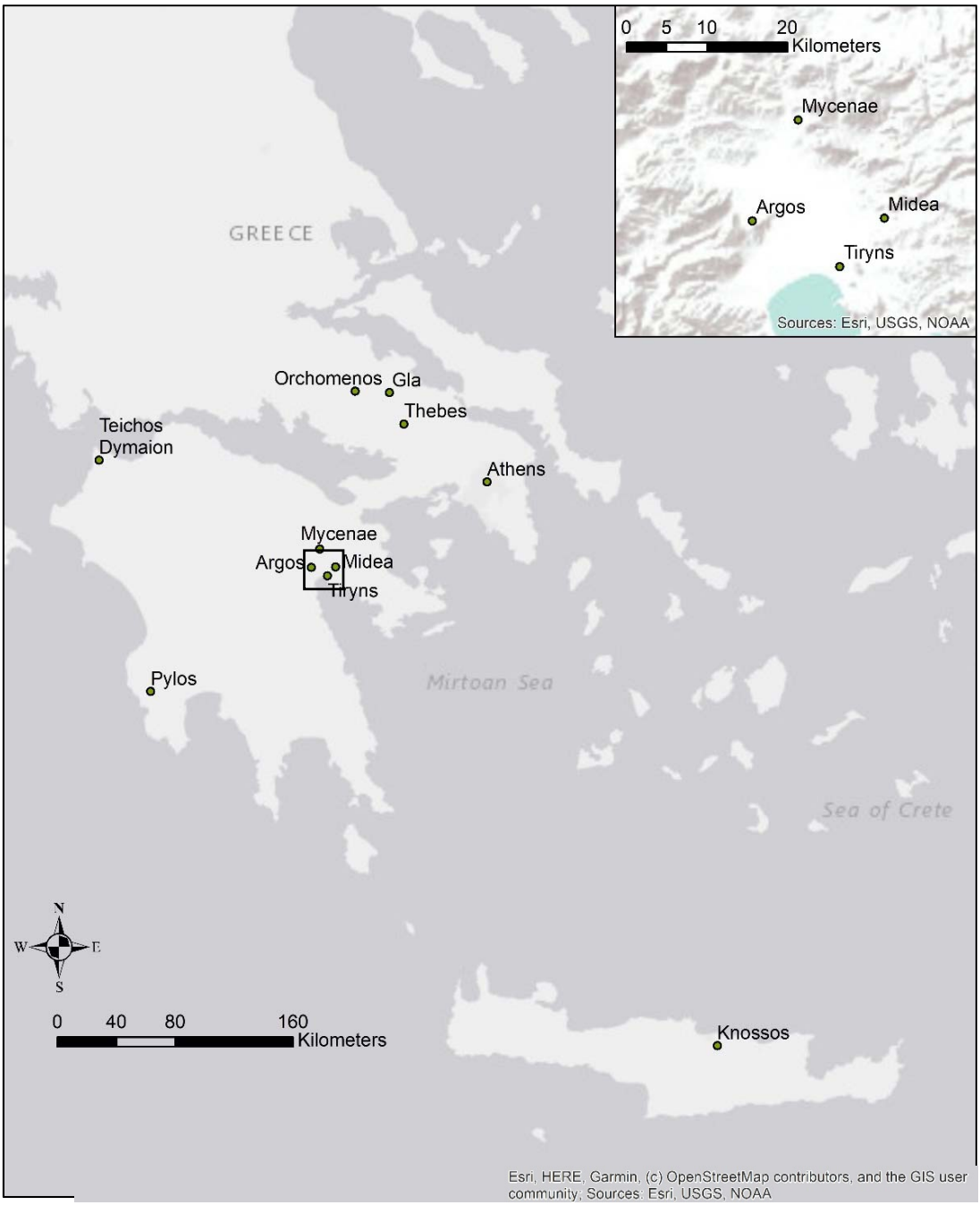

Figure 2.1 Map of the region and the mentioned sites. The inset map shows a section of the region known as the Argolid. The plain in the centre of this section is known as the Argive Plain (created by author).

2.2 Mycenaean society

The context in which a study is done is important because it influences how data are interpreted. The fortifications, which are the objects of study, are part of a Mycenaean context. The term *Mycenaean* comes from the site in the Argolid, Mycenae (see figure 2.1 and chapter 5). Subsequently, the name refers to two other meanings: 1) a period of time, such as described above; 2) the Mycenaean society or culture, describing a group of sites on the Greek mainland that share many similarities. In this section the Mycenaean society will be discussed. This will be done by way of considering four specific elements:

1. Two models of interpretation of the Mycenaean societal structure;

2. The social stratification within the society;
3. The role of the palace as a social institute;
4. The size of Mycenaean communities in terms of demography.

These four elements provide information on how Mycenaean society functioned at various levels of detail. The first component (section 2.2.1) provides a general view on Mycenaean society. The second (section 2.2.2) zooms in on the existence of social stratification. Subsequently, the third element (section 2.2.3) focusses on this even further by concentrating on the specific role of the palace within that social stratigraphy. Finally, the size of Mycenaean communities (section 2.2.4), in terms of demography, is considered as this can have both social as well as economic implications. Moreover, the population numbers are crucial to be able to conclude anything in regards to the potential impact that the construction of the studied fortifications has on Mycenaean communities. This refers in particular to the question whether a community had a sufficient population to mobilize a large enough workforce. The importance of the social stratification and the role of the palace have to do with the organisation of the labour forces, required for constructing the fortifications.

Information available on Mycenaean society and its organisation comes from various sources. Besides archaeological data in many forms, such as architecture, articles of everyday use and burials (e.g. Shelton 2012: 139),[4] inscribed clay tablets have also been found. These tablets are inscribed with a script referred to as *Linear B* (Palaima 2012: 356–7). These tablets are only preserved in those cases when they were accidentally fired and are thus limited in number. Furthermore, their scope is also restricted as they were intended for administration of mostly economic matters (Palaima 2012: 359). Despite these restraints, they provide useful information, as will be shown in the sections below.

2.2.1 Socio-political organisation of Mycenaean society

Two main models on how Mycenaean society was structured exist. These models focus in particular on how the state or states in the Mycenaean world were organised. One model describes the various citadels as centres of small inter-related states (e.g. French 2002: 17; Pantou 2010: 381). This is, in a way, not very different from the later Classical city-states. Another interpretation sees the various citadels as vassals to the primary centre at Mycenae, where a so-called “Great King” resides (e.g. Kelder, 2008). This model relies heavily on parallels from the Near East and Egypt as well as the original description of Mycenae in Homer’s *Iliad* and *Odyssey*. In both cases the citadels are seen as centres of a specific region (see for example figure 2.2). To what degree specific regions were controlled by certain centres is still difficult to ascertain. Suffice it to mention that the core of both models is that there was a centre that had (some) control over a (defined) region. For some regions, like that of Pylos, the Linear B tablets have provided more detailed information. For example, that the region was divided into a number of separate districts for administrative purposes (Bendall 2003: 206). However, the amount and detail of information from the tablets varies per citadel and such data are thus very localised.

[4] This list of archaeological data is by no means complete, but serves as a short list of examples.

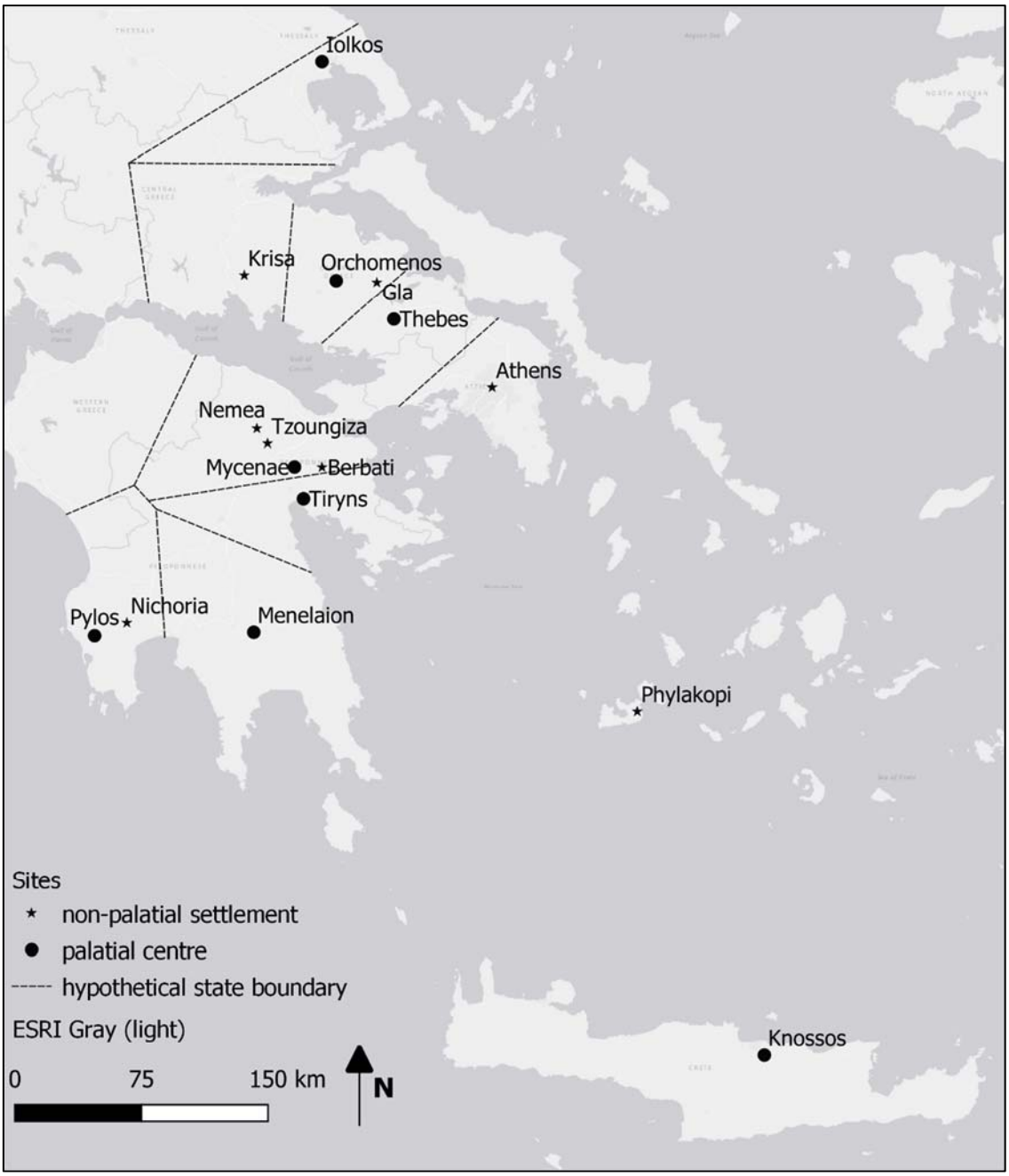

Figure 2.2 Map of part of the Aegean showing important sites (Galaty & Parkinson, 2007, pp. 2; figure 1.1; after Renfrew, 1975, pp. 15; figure 3). *Note in particular the "hypothetical state boundary" lines and the lack of potentially important sites in Achaea.*

The idea of a king-like figure was confirmed by the presence of palatial structures (e.g. Schliemann 1878; Schliemann and Dörpfeld 1886) and the decipherment of the Linear B by Ventris (e.g. Ventris & Chadwick, 1956). On the Linear B tablets there are various officials mentioned that are part of the palatial organisation. The two most prominent ones are the *wanax* ("king") and the *lawagetas* ("leader of the host") (Killen 1998: 21) (see also the schematic overview in figure 2.3). Depending on the model of a unified Greece or a number of independent states the *wanax* is seen as the "Great King" at Mycenae, or the ruler of the local/regional state, respectively. The *lawagetas* has also been identified as someone of considerable power, but subjected to the *wanax* (Kelder 2008: 50). Two other important social institutes that are represented on the Linear B tablets are the *damos* and the

sanctuaries (Lupack 2011: 207). The *damos* refers to "political and geographic entities that are commonly called 'districts' or 'district centres'" (Lupack 2011: 212) or are considered to be a "community" (Killen 1998: 20; Halstead 1999: 36). The *damos* is thus subordinate to the central palaces (Killen 1998: 20), as will be further explored in section 2.3.1. The sanctuaries are an element of a religious sphere. They are mentioned in the Linear B tablets in relation to goods, and possibly land, being allocated to them (Lupack 2011: 207). Although the sanctuaries as such, are not mentioned in the schemes that display the structure of Mycenaean society (see figure 2.3), they are clearly interwoven with the various officials. This is made clear from the fact that the *wanax,* the *lawagetas*, and the *heketai / eqetai* (followers) all have some religious role (e.g. Nakassis 2013: 6–7). These roles are not further explored here as they are not of immediate importance for this research. However, the role of the religious sector on the *economy* is shortly discussed in section 2.3.4.

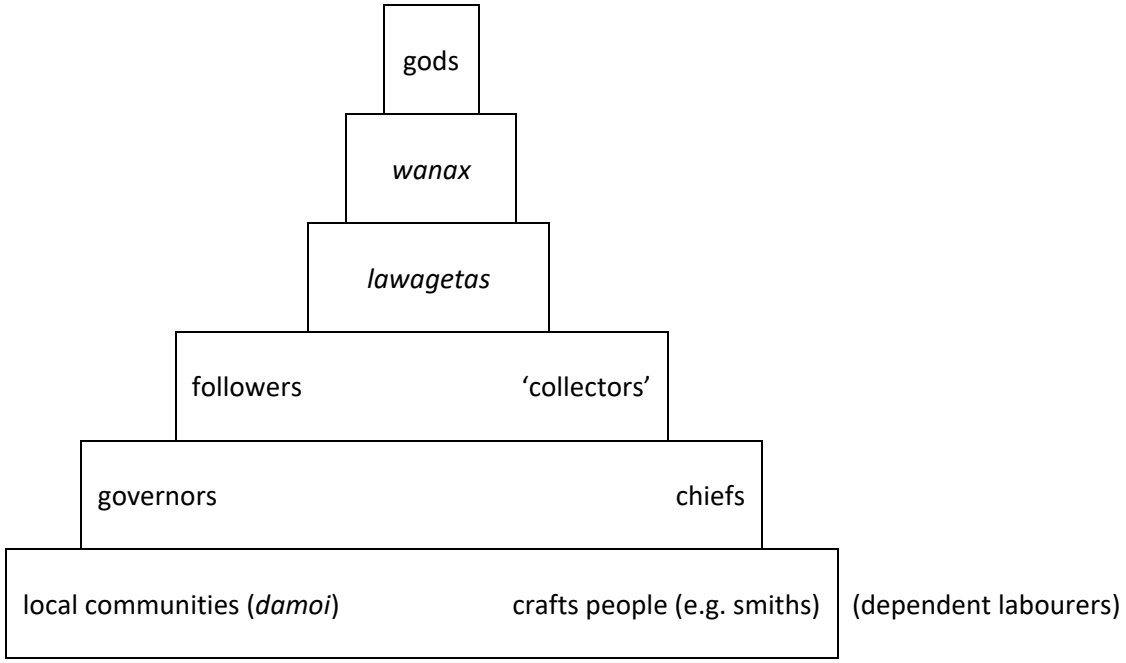

Figure 2.3 Schematic overview of the traditional view on the social structure of Mycenaean society as based on the titles on the Linear B tablets (based on Killian 1988 and Nakassis 2013).

As an advocate of the view that Mycenae ruled a unified Greece, Kelder (2008, 2016), has argued that there are two reasons why the opposing concept of a "fragmented Mycenaean Greece" is inaccurate. First, he argues that this idea only came about to denounce the 19th and early 20th century idea of a unified Greece in the LBA. Secondly, and supposedly a more thorough argument, is that Hittite and Egyptian texts indicate a large political entity in Greece (Kelder 2008: 50). Eder and Jung argue that the uniformity of the Linear B and the administration system as whole, used in Mycenaean Greece, indicate a singular driving force in the form of a dominating "Great King" (Eder and Jung 2013: 116).

To what extend Mycenae controlled regions is thus difficult, but Cherry and Davis (2001: 155–156) stated, for example, that it was possible that Mycenae cultivated the nearby Nemea valley by creating hydraulic works to drain the valley for agricultural use. The views described here, are not without critique though. As will be shown for Teichos Dymaion below, which was not the capital of Mycenaean Greece, not even a palatial site, it had thriving contacts outside its own region. Furthermore, even without a clear *palatial* elite, some form of leadership existed who organised the construction of the cyclopean fortification there. Moreover, there are scholars, such as Sherratt (e.g.

2001), who argue that Mycenaean Greece is nowhere near as important as is thought. She points out that there was, for example, no written communication between Mycenaean and Hittite lands (Sherratt 2001: 218). Moreover, Sherratt (2001) downplays the ingenuity and power of the Mycenaeans, by explaining their society and, more importantly, their sites, as mere nodal points on a larger Mediterranean (trade) network. So whether Mycenae is just another LBA citadel, albeit seemingly rich and possibly powerful, or the seat of a ruler who controlled a larger Greek kingdom, is part of a lively and interesting debate. It is, however, beyond the scope of this research to determine what it may or may not be. This discussion is brought up to highlight how the assumption that there is a great king affects the way Mycenae is seen and its possible role within and beyond the region in which it lies. As such, Mycenae will be, in this book, treated as a singular site, rather than a major capital, in order to make comparisons with other sites more relevant.

Mycenae was not the only citadel in the region. The Argolid has several fortified centres such as Tiryns and Midea. This has led to an enormous amount of data as well as far-reaching interpretations about the individual sites and the region as a whole. In particular the core-periphery distinction is based on this, in which the Argolid is seen as the core of the Mycenaean world with other regions as mere peripheral zones. While more and more contested, much of what is known about Mycenaean society is based on finds from the Argolid.[5]

It is, in light of such comparisons, useful to look at another region as well: Achaea. This region is also located in the Peloponnese, but on the other end, in the north-west (see also figure 2.1). Archaeological research in Achaea has thus far not produced any palatial sites. This has given rise to the hypothesis that there were none. This in turn has been taken to imply one of two things: either Achaea was a peripheral region, which was interacting with, but not an integral part of, the Mycenaean world. Or, Achaea was, in its entirety or in parts, a territory of palaces in neighbouring regions. Arena (2015) has argued that Achaea was indeed a peripheral region where, in the absence of palaces, a network of local "chiefs" ruled the area. These local chiefs or elites are mainly attested through the elaborate graves that are present in various areas in Achaea (Arena 2015: 3). Despite the lack of a palace, the concentration of sites around Patras might indicate a "network of close, interrelated small chiefdoms, perhaps developing in a hierarchy of sites centred on something like a 'primary centre'" (Arena 2015: 36). The latter is, however, currently just a hypothesis. Nevertheless, Arena argues strongly against control by a palace "faraway" (2015: 37). Especially for western Achaea, Arena reasons that due to the geographical position as well as the chronology of local ruling sites, Mycenae would have never controlled the area (2015: 19). His other arguments are based on the lack of specific finds (e.g. *kylikes*[6] deposited in dromoi of chamber tombs), that are associated with the rise of the palaces (Arena 2015: 29). Furthermore, Achaea saw a rise in population and a steady settlement pattern throughout the LH IIIC period, despite being affected by destruction at the end of LH IIIB like the rest of the Mycenaean world. Arena takes this as an indication that the collapse of the Mycenaean centres improved the situation for sites in the peripheral regions. It may, therefore, be seen as an indication that (some of) these regions were autonomous since they were not dragged down with the palaces (Arena 2015: 30–31).

[5] Although most Linear B tablets are found elsewhere (mainly at Knossos and Pylos).
[6] Kylikes are a specific type of pottery used for drinking (e.g. Immerwahr 1971: 42).

Van den Berg (2015: 30) provides additional indications of a more autonomous Achaea. In her analysis of Bronze finds in Achaea and the Argolid, she identifies an important difference in distribution in these regions. Looking at these finds from a network-analysis point of view, she (2015: 27) notices that in the Argolid, Mycenae and Tiryns are clear "hubs" based on the large concentration of finds at these sites. Yet, in Achaea the bronze finds are more distributed and van den Berg (2015: 30) identifies as many as six "hubs". Similar to Arena, van den Berg (2015: 31) states that it is local elites in Achaea that play an important role in the exchange with Italian sites and that the Achaean settlements where these elites were located can be seen as "non-palatial hubs".

How Achaea thus fits in the larger Mycenaean world, is not entirely clear. It is apparent though, that Achaea was part of an elaborate exchange network with palatial regions and other contemporary regions (Eder, 2003). This is mainly proven by the presence of specific pottery types (e.g. Jones et al. 2014), as well as certain bronze objects (like the Naue II swords; e.g. Arena 2015; van den Berg 2015; Gazis 2010) and amber (Eder, 2003). The fact that these finds date, in large parts, to the LH IIIC period and are thus post-palatial, seems to indicate that there was no need for a palace to facilitate (long-distance) exchange (van den Berg 2018: 31; see also section 2.3.3). Interesting in this instance is in particular the exchange with settlements in the Italian peninsula. There has been no proof of palaces of any kind there either (Eder and Jung 2005: 485), which indicates a type of exchange that is not palace-driven. However, Eder and Jung make a case that there was palatial involvement and that the exchange was done by lower level officials like the *qa-si-re-we*[7], who were involved in the palatial bronze industry. Moreover, they argue that it was palace officials like *qa-si-re-we* that may have filled the space left by the collapse of the palaces (Eder and Jung 2005: 486).

Another possible explanation for the lack of a palace in Achaea so far, is that it is still buried under a modern city: Patras. Hypothetically, there could be a Mycenaean palatial site located there, perhaps underneath the local fortress, which is located on a high place within the city, just like the hilltops on which the Mycenaean citadels were placed. However, this cannot be tested presently, and neither is there any other evidence to support such a claim.

The fact that there is at least one fortified site (Teichos Dymaion) shows that there was some form of elite capable of organising a workforce large enough to construct it. The results of this research might, therefore, also shed light on this issue since the necessary work force will be calculated in chapter 7.

In the sections below, the various institutions are used to further review how Mycenaean society functioned. In particular the social stratification that existed in Mycenaean society is explored. Although few of the titles as displayed in figure 2.2 are explicitly discussed in depth, the overall rise of social stratification and the role that elites may have played will be the focus.

2.2.2 Social differentiation in the Mycenaean world

It is useful to briefly explore the existence of social stratification within Mycenaean society. As pointed out above, this can aid in understanding the organisation of the work forces, involved in the construction of the fortifications. The overview presented here is by no means complete, however, it shows some influential considerations, some of which tie in together quite well, on how this social

[7] *qa-si-re-we* is a term from the Linear B tablets, which is interpreted as a title of a palatial official.

stratification came into existence within the Mycenaean context (and slightly before). Out of this stratification, eventually grew a society which is, in part, characterised by a *centralised* organisation. This centralisation of power, however it came into existence, is a fundamental concept of how Mycenaean society is seen (see 2.2.2). The physical representations of this centralised power are the palaces (see 2.2.3).

First, the concept of conspicuous consumption as a concept within the Mycenaean context needs to be explored, as multiple explanations of social differentiations are based on this concept. Conspicuous consumption is mostly seen as a social or societal mechanism for expressing and maintaining social hierarchy (Fitzsimons 2006: 19).[8] The display of wealth in any form by elites drains resources and thus may have an impact on the economy. It can, therefore, also be tied to the economic organisation of a society. Mycenaean examples of conspicuous consumption are quite varied and include, in the Early Mycenaean period, the acquisition of luxury artefacts (although this continues through the later periods (e.g. Voutsaki 2001)), extensive burial types and, later on, monumental architecture (Fitzsimons 2006: 20; see for the latter also section 3.2). Voutsaki (2001: 206) explains conspicuous consumption as a method to create status, in which wealth is transformed into prestige. The gained prestige means that alliances are sought with the elites which, according to Voutsaki (2001: 206), results in a "steady supply of prestige goods", as reciprocity (see also below) is centralised due to this process. It is difficult to define when this supply of goods is still part of a reciprocal exchange and when it becomes a tribute, or in other words, when it becomes institutionalised (Voutsaki 2001: 207). The aim here is not to find the line between the two, but rather to show that this view on conspicuous consumption, as an elite strategy to gain and maintain power, also provides an explanation as to how a form of tax may have come into existence in Mycenaean society. This is essential as economic systems, based on redistribution and mobilisation, thrive on a form of tax to finance the endeavours associated with them, as well as to mobilize labour and military forces (see 2.3.1). Conspicuous consumption can thus lead to a (steady) form of income with which the elite can afford certain ventures that may be in themselves a form of conspicuous consumption.

There are clear signs of growing social stratification from the end of the MH onwards. This is most noticeable in the mortuary evidence, which shows an increase in elaboration, evident from large cist graves, shaft graves and tholos tombs (Bennet, 2013; Dabney & Wright, 1990; Voutsaki, 2010b; J. C. Wright, 2008). Moreover, the deposition of more elaborate grave goods, another form of conspicuous consumption (see above), also increases (Voutsaki, 1995). As Voutsaki (2010a) has shown for the Argive Plain, both categories (elaborate graves and grave goods) increase dramatically after the MH, reaching a peak just before the LH IIIA period, after which they decrease in LH IIIB. Voutsaki (2010a: 97) also argues that local variations between sites in the Argolid can be seen since wealth concentrates in and around Mycenae and less on other sites in the region. This is an indication of the variety that existed between the Mycenaean polities.

[8] A modern equivalent of conspicuous consumption can be seen in the phenomenon that rich (sometimes authoritarian) leaders use vast resources to attempt odd record attempts, just to be holder of a *Guinness Book of World Records* achievement. This is perceived, by some, even if only by the leaders themselves, as a way to show what they can achieve due to their status and resources (e.g. HBO's *Last week tonight with John Oliver*, aired 11/08/2019).

Such expressions of conspicuous consumption (see above) can be used to identify social stratification, but can also be seen as part of a mechanism to *create* that stratification. According to Voutsaki (1995: 59) wealth itself is not enough to gain power, but it can be transformed into prestige and authority by "ostentatious disposal, public acts of generosity or worship". This is in line with Kilian's (1988: 294) thoughts that the Early Mycenaean burials show extravagant richness that can be linked "to what are quite clearly insignia of political, and possibly other forms of leadership". This is, according to Kilian (1988: 294), evidence that early on claims were made to socio-political leadership in these stratified communities. These claims were later expanded beyond burials and included features like complex architecture (Kilian 1988: 294). It should be noted that rising elites may have comprised kin-groups rather than just individuals (e.g. Dabney and Wright 1990; Voutsaki 2010a; Webster 1990). Voutsaki (2010a: 92) has argued that these kin-groups were the main organisational principle in the MH period. In subsequent periods, in particular from the MH III onward, there are clear indications in the mortuary evidence (as mentioned above) that status difference becomes important (Voutsaki 2010a: 97). Yet this is tied to a rise in importance of kinship and descent, visible through the reuse of tombs (Voutsaki 2010a: 97). This trend continues and by LH II the conspicuous consumption associated with these burials can be seen as a "strategy of social aggrandizement and political competition between emerging elites" (Voutsaki 2010a: 97). Taking all this in account, a picture emerges that shows that people may have used the displaying of wealth and linking themselves to (important) ancestors to gain influence. This ultimately led to the rise of a dominant elite. From the Linear B tablets it is clear that at least during the Mycenaean period (LH IIIA-B, see table 2.2 above) there was a central figure called the *wanax*. Regardless of the fact whether the ruling elite consisted of a single person or a group, this model on conspicuous consumption shows how people could thus gain power through extravagant spending in burials and monumental architecture (see also section 3.2).

Besides conspicuous consumption, another concept that may be important for understanding the emersion of social stratification, is that of *reciprocity*. Reciprocity is most famously studied in the form of gift-exchange by Mauss (1990 [1925]).

In the Aegean Bronze Age, there are two aspects of society in which reciprocity can be used as an explanatory factor. The first is in the rise and maintenance of the power of palatial centres where "negative reciprocity" created gift-debts that resulted in host-guest relationship (Pullen 2016: 82-84; section 2.2.1). The second type is the gift-exchange between elites in- and outside of Greece through which elites maintained reciprocal relations and facilitated trade (Burns 2016: 89). [9]

In regard to the first type of gift exchange, Sahlins (1972: 193–5) describes three points on a "continuum of reciprocity": *generalized reciprocity*, *balanced reciprocity* and *negative reciprocity*. In generalized reciprocity a gift is given without the expectation of an immediate return or of a return of equal value and thus a gift-debt is created (Sahlins 1972: 193–4; Pullen 2016: 81–2). Balanced

[9] Even in modern days the basis of reciprocity still exists. This is portrayed with some humor in the American television show *The Big Bang Theory* (CBS 2007-2019), in which a character, upon receiving a Christmas gift states the following: "I know you think you're being generous, but the foundation of gift-giving is reciprocity. You haven't given me a gift, you've given me an obligation. […] I now have to go out and purchase for you a gift of commensurate value and representing the same perceived level of friendship as that represented by the gift you have given me."

reciprocity describes the situation in which the obligation of reciprocity is immediately released or the return is of equal value. This type of reciprocity is usually associated with "commodity-exchange" (see also Roller 2001: 132) or trade. Finally, negative reciprocity is where someone would try to gain something for nothing (Sahlins 1972: 195–6; Pullen 2016: 81–2). When gift-debts are created, the recipient becomes "socially subordinate and inferior to the giver" (Roller 2001: 132 in Pullen 2016, 83) and thus a vertical differentiation is established. Not only does Pullen show how manipulation of reciprocity can be used to create social stratification, but subsequently this model could also explain how corvée labour can be the result of a reciprocal system (see above). Acquiring fealty among people does not only provide one with a possible workforce, but also brings about extra prestige. This manipulation of reciprocal obligations may have given some people the opportunity to rise to power and tie lesser exchange partners to them. Goods, services and alliances subsequently "flow" towards a figure or centre and this thus establishes the basis of a centralised structure (Voutsaki 2016: 76). Gift-debts are also created when elite exchange gifts, on whatever scale. However, a gift-debt does not necessarily result in a (lasting) subordination of the receiver, as this state only lasts until the gift has been reciprocated (Pullen 2016: 82–3).

The loyalty to a certain group, as highlighted above in relation to the kin-groups, is also a central theme in another model that describes the rise of a centralised form of power. Sherratt (2001: 229), for example has argued that the Mycenaean palaces, as a form of centralised power, formed out of a warrior society in which "communal drinking and libation rituals" as well as a clientele linkage to larger sections of the population, bound people together. Although not based on kin necessarily, this model seems to suggest that the act of communal activities created certain loyalties as well. According to Sherratt (2001: 229), this social structure was still visible in the palatial society, albeit hidden underneath the palatial bureaucracy and its associated titles.

2.2.3 The role of the palace

The physical manifestation of elites within the Mycenaean world can be found in the palatial structures that are discovered at a number of sites. Furthermore, in a number of studies, the palace is not just seen as such a physical structure, but also as the centralised place of power, a social institution that was in control over certain aspects of Mycenaean society (e.g. Shelmerdine and Bennet 2008: 290). This section describes both the physical structure of the palace as well as the palaces as social institutions. As such, this section has close links to the previous section on the presence of social stratification and the next section on Mycenaean economy.

Palaces can be described in architectural terms as monumental, having a complex plan and using specialized techniques in their construction (Dabney and Wright 1990: 47; see also chapter 3 on monumentality). The core of a Mycenaean palace was the *megaron*; a large rectangular room with a central hearth encircled by four columns (e.g. Bennet 2013: 243, see also figure 2.2). The *megaron* shows that Mycenaean society developed its own ideals, since the nearby older palaces on Crete and in the Near East are centralised around a main court, rather than a *megaron*-type structure (Sherratt 2001: 228).

Although there are plenty of variations between the individual sites, this *megaron* was a common denominator among Mycenaean polities, as can, for example, be seen at Mycenae, Tiryns and Pylos (Rehak 1995: 95) and also more recently found in other regions like Thessaly at Dimini (Pantou, 2010). The *basic* layout of this structure can, according to Kilian (1988: 295, 298), be traced back to

the MH period, exemplified at Eutresis, in central Greece (see also figure 2.4). Mansion 1 of the Menelaion in Laconia from the LH IIB period is also considered a precursor of the later megara (Kilian 1988: 295; Maran 2015: 280). However, there is no evidence for *actual* megara in the final "monumental palaces", before LH IIIA1 (Dabney and Wright 1990: 48). Considering the early predecessors though, it is clear that the palaces did not suddenly appear,[10] rather they developed in places where there were already communities in earlier periods (e.g. Voutsaki 2010b).

According to Shelton (2012: 140), LH Greece saw "more uniform developmental stages and material culture out of complex and heterogeneous processes", due to internal indigenous growth and closer interactions with Minoan Crete and the Cyclades. However, palaces are not found in all regions or in the same density. This is shown very well in the regions in which the case studies of this research lie (the Argolid and Achaea, see chapter 4). While there is a concentration in the Argive Plain, with Mycenae, Tiryns and Midea, in Achaea no palatial site has been found to date (Dabney and Wright 1990: 48; Shelmerdine and Bennet 2008: 295; Shelton 2012: 142; see also chapter 4). The rise of the palaces may therefore not be a linear development towards increasing complexity, but rather a local solution to demands for some sort of administrative institution (Dabney and Wright 1990: 48). Intensive contacts between the various centres must have been in place, as the many cultural and architectural resemblances show. The control of production, resources and/or labour at a central location seems to be crucial to the origin of palatial sites in Mycenaean Greece and it is also fundamental for understanding the Mycenaean economy. When there is a reference to a palace in the following sections, this should therefore be understood in the way Broodbank (2013: 356) described *Mediterranean* palaces:

> "It serves as the shorthand for a physical and organisational structure dedicated to large-scale farming, storage and processing, skilled multimedia manufacture, technological know-how and innovation in hothouse conditions, literate supervision of the complex flows of materials and labour demanded by such tasks, as well as trade and gift giving (often deploying its own high-value products), both internally and with peers beyond the palace's rule."

To what degree the palace was in control over all these matters can be questioned though. Even though the existence of a central place is fundamental to our understanding of Mycenaean society, its authority was not absolute. This will also be shown in section 2.3 below.

[10] Unlike birds, when you are near (Carpenters 1970).

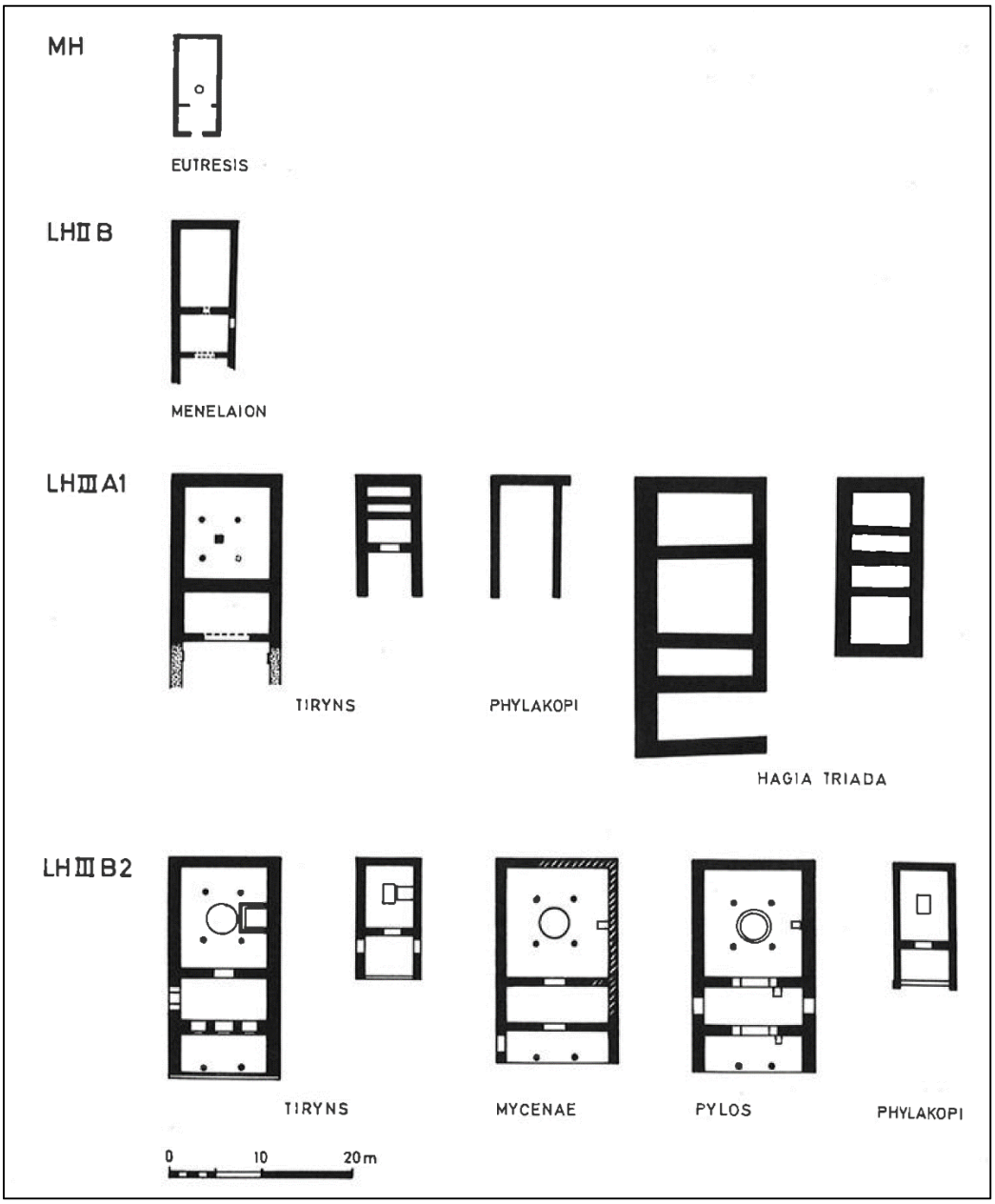

Figure 2.4 Architectural layout of residential nuclei in Mycenaean palaces (Kilian 1988: 295, figure 2, reproduced with permission of the publisher).

2.2.4 The size of Mycenaean communities

So far, in discussing the societal organisation of Mycenaean Greece in this book, the focus has been largely on social differentiation. This is a key characteristic and important for understanding the construction of the fortifications in its proper context. Another essential aspect of understanding social organisation is the size of the discussed population (Drennan et al. 2015: 1). Besides the potential understanding about the settlements that population size can provide, for this particular study the population size is crucial for interpreting the calculated labour costs. The aim here is to study the impact the construction of the fortifications had on a community. Hence, it is necessary to establish the amount of people that were needed. This is subsequently compared to how many people there may have been. Only then, can conclusions be drawn about the possible impact.

Therefore, it is shortly discussed how many people are thought to have been living at various Mycenaean communities and/or regions.

Determining population sizes from past societies is complicated and inherently approximate (Drennan et al. 2015: 1). There are various methods to calculate past populations, based on different sources of data. Chief amongst these sources of data are settlement size (e.g. Carothers and McDonald 1979; Hanson and Ortman 2017; Russell 1958), number and size of domestic structures (e.g. Bogaard et al., 2009; Casselberry, 1974; Cook & Heizer, 1968; Naroll, 1962), number of graves and/or size of cemeteries (e.g. Alden 1981; Bintliff 1989; Roberts et al. 1989), the carrying capacity of the land surrounding a settlement (e.g. Bintliff 1977, 1985, 1989; Timonen: in prep.) and finally, specific for Mycenaean times, extrapolations of the number of individuals mentioned on Linear B tablets (e.g. Chadwick, 1972). Each of these datasets and associated approaches, have their merits and their faults. Furthermore, the difference in approach means that for the same site or region different approaches lead to different population size estimates. For example, calculating the carrying capacity of a region results in the maximum number of people that *could* have lived off the produce of that region. In contrast, calculating the number of people per site based on settlement size uses an average population density over that area (i.e. a number of people per area, often hectares). An issue with determining the population based on grave finds is that there are various uncertainties: for example, it is not always sure to what settlement a cemetery might belong; if there is a clear cemetery it is uncertain if it contains all or at least most deceased individuals; whether the cemetery and the researched phase of the settlement are contemporary and the actual number of individuals that is found per grave (e.g. Alden, 1981; Bintliff, 2019; Roberts et al., 1989).

One area that has seen extensive studies on the population sizes in the Late Bronze Age is Messenia (south-eastern Peloponnese). Estimates for this region have ranged from a minimum of 50,000 (McDonald and Hope Simpson 1972: 141), to ranges of 80,000 to 120,000 (Chadwick 1972: 112–3), to 178,000 (Renfrew 1972: 251) and finally to as many as 235,800 people (Carothers and McDonald 1979: 435, extrapolated from Renfrew 1972).[11] For the latter two estimates, the population density at settlements is estimated to be as high as 300 people/ha (Renfrew 1972: 251; Carothers and McDonald 1979: 435), while for the lowest estimate the density is estimated to be 130 people/ha (McDonald and Hope Simpson 1972: 128).[12] For Knossos (Crete) the population has been estimated between 1,000 – 1,250 people during the Mycenaean period, based on a density of 200 – 250 people/ha (Whitelaw 2000: 225). Another often quoted population number comes from Mycenae where a comparable density of 200 people/ha is assumed and the site is estimated at 32 ha, resulting in a population of 6,400 people (e.g. French 2002: 64; Bennet 2007: 187). Hence, basic population densities for *urban* areas in the Late Bronze Age Aegean seem to have been estimated between **130 – 300 people/ha.**

Since the approach of estimating the population size through settlement size is already available for one of the case-studies in this research (Mycenae), this method will be used to determine the

[11] Part of the reason for the discrepancies in total population estimates has to do with the fact that different sized areas were used for the calculations in some cases (e.g. Carothers and McDonald 1979: 435).

[12] The range provided by Chadwick (80,000 – 120,000) for the population of Messenia during the LBA is not based on a density. Rather, he extrapolates a number of individual per settlement based on Linear B inscriptions and multiplies that by an estimate number of settlements (Chadwick 1972).

population size to put the labour costs into perspective. The many uncertainties with using cemetery data and the difference between carrying capacity and actual population figures, mean that the population based on settlement size seems more appropriate in this study. This is also because at least for both sites an extent of the settlement has been determined (e.g. French, 2002; Gazis, 2010), whereas some of the required information for the other approaches is not available. It must be pointed out, that these calculated population sizes cover *only* the sites themselves. Surrounding hinterlands with farming communities that may be tied to, or even controlled by, the fortified settlements, are not unpopulated. This means that the potential labour pool from which workers could be drawn for the construction work could be larger than just the settlement population. A more detailed determination of the population sizes at both case-studies is presented in chapter 4.

2.3 The Mycenaean economy

Archaeologists tend to categorise all their finds, whether it is pottery, architecture or weapons, to name but a few types of artefacts. Categorising helps to distinguish one group of finds from the next to highlight differences or similarities which, in turn, will help to gain a deeper understanding of the past. The same applies to the more abstract, theoretical matters in archaeology, such as *states*, *societies* and *ancient economies*. These social institutions are extrapolated from the available archaeological data and, where it is available, written sources. In this section the Mycenaean economy is discussed. An understanding of how the Mycenaean economy may have functioned is fundamental as it will have an impact on the interpretation of the results from the labour cost studies (see chapter 8). This is because of the economic nature of this study (labour costs) and the close link between the economic and socio-political organisation of the society. This will also be shown in the sections below.

The overview presented here is not complete, however an attempt is made to discuss a variety of economic models that may properly describe (parts of) the Mycenaean economy. To structure this discussion the four sub-sections below coincide with four inter-locking sectors of "Bronze Age Aegean economies" as described by Earle (2011: 241):

1. The political economy of palaces;
2. The subsistence economy in local communities;
3. The trading economy of entrepreneurs;
4. The religious economy of sanctuaries.

Within this structure, various modes of exchange, different institutions and the control of production factors are discussed. In particular how these fit with certain (theoretical) economic models and how these are relevant for the Mycenaean context is explored. The focus is mostly on how the various economic models intertwine with the social stratification as described in 2.2. It will be shown that many of the models need or strengthen such social stratification and that the palace takes a central role in most instances. However, it will also be shown that, despite the heavy presence of the palace in these interpretations, its control was not absolute (e.g. Halstead 2001: 38; Nakassis 2013: 2–3). While it is by no means the aim to provide a complete overview or a final determination about what is or is not under direct palatial control, the influence the palace had is important. This is relevant as it provides understanding about how the palace may have had enough influence to order the construction of the fortifications as well as how the influence of the palace was build-up. Hence, the emphasis will be on the political economy. The other sectors will only be described shortly.

2.3.1 Political economy

Political economy within the context of this study, is about the political institute, the palace (see 2.2.3 above), and its influence and/or control over (parts of) the economy. A political economy is: "the material flows of goods and labour through a society, channelled to create wealth and to finance institutions of rule" (Earle 2002: 1). The palatial influence over, and the interlocking of that sector with, certain other institutes or sectors has also been mentioned in the sections above. In accordance with the argument in section 2.2, a form of centralisation was not only fundamental to Mycenaean society, but has also been seen as elemental to its economic system. Below, a number of characteristics are discussed that underline the central role that an institution like a palace may take within an economic system.

Mycenaean (and Minoan) palaces used to be viewed as being similar to Near Eastern redistributive centres that controlled production, storage and distribution (for an overview see e.g. Morris 1986). This was often tied to the existence of a powerful religious or priest class and/or having a redistributive system in which the temple takes in large contributions and redistributes them to its followers (Morris 1986: 12; Bendall 2007: 4). This thus puts the palace in a primary role within the economic system. The similarities to the Mycenaean economy are also described by Killen (1985: 241):

> "economies, in the two areas, in which the key role in the movement of goods and the employment of labour was played, not by a market or money, but by a central redistributive agency: in the Near East, by a central palace or temple; in the Mycenaean world, by a central palace".

This has been challenged over the last few decades (e.g. Nakassis et al. 2012; Bendall 2007). In a redistributive system there is a central institution that collects goods from groups and individuals and subsequently redistributes these goods (Pullen 2011: 186). The term is somewhat problematic, as it has been used to describe a variety of systems, but it indicates a form of movement of commodities characterised by centricity (Nakassis et al. 2011: 180). Characterising an economy as redistributive denotes that the central institute has power over all transactions within said society. However, recent research has focussed on the complexity of redistributive systems and views them as consisting of multiple types of exchange, intersecting with each other and running on different scales (Nakassis et al. 2011: 180). It is therefore misleading to characterise an economy as redistributive, when only parts of it would function in this manner (Earle 2011: 241). In line with these thoughts, current scholarship tends to view the influence of the palace as being far more selective and only controlling a part of the goods that were exchanged (e.g. Nakassis et al. 2012: 244; Halstead 2011: 233).

A number of people relied on rations from the palatial centre as payments in kind, for example (and most relevant for this study) labourers carrying out construction work (Nakassis 2010: 275). Nakassis' study on the tablets from Pylos, shows that payments were made to various people with different ranks within the construction work and that the amount was also tied to this rank (Nakassis 2010: 275–8; see also below). While this is in itself important for our understanding of the building processes researched in this dissertation, it also provides a look into the economic organisation of palatial centres. The payment of labourers in kind could perhaps be characterised as part of a redistributive system. If so, it suggests that sections of the Mycenaean economy were redistributive

in nature. Clearly, redistribution has its complications when applied to the Mycenaean economy, but in its simplest form, parts of the Mycenaean economic organisation are redistributive (Halstead 2011: 233).

This dependence, however, could also be characterized differently. Broodbank (2013: 356), for example, argues that the whole designation of redistribution is no longer valid. He argues that the initially social aspect of redistribution in which products are taken or taxed in (economically) good times by the palace and aid is provided by the palace in bad times is no longer tenable. Instead, he views the palaces as "extractive institutions that mobilized wealth from taxes, estates, share-cropping, compulsory labour, trade", whose elite inhabitants validated their position through traditions, "kinship and other social alliances" which they retained by use of force if necessary, as the palaces "jealously guarded a military monopoly" (Broodbank 2013: 356). In this view, there is thus little to no distribution back to the populace. In following Broodbank, redistribution may not be the best description of how the palace-controlled economy was organised.

As shown above, the widespread use of the concept of redistribution for a variety of institutional forms may have led to some confusion amongst scholars (Halstead 2011: 233). Several scholars therefore advocate to move away from redistribution, and present an alternative in the form of *mobilisation* (see also the quote from Broodbank (2013: 356) above). In this model commodities move upwards supporting elites and their dependents and thus can be seen as a strategy adopted by elites to strengthen their control and prestige (Nakassis et al. 2011: 180). This upward flow consists of the collected surpluses that were used to finance the operations of the state (Earle 2011: 239; Nakassis et al. 2012: 245). These operations consist of enabling "dependent workers to involve themselves in highly specialized craft activity" (Killen 1999: 88).

The mobilisation of goods consists of two possible finance systems: *staple finance* and *wealth finance*. The first is the procurement of subsistence goods (e.g. grain, livestock) by the state. The second involves the production and obtainment of special, valuable goods (D'Altroy and Earle 1985: 188). The palatial organisation around raw material acquisition and craft production focused on only a few industries which enabled a large degree of specialisation. Furthermore, palatial products may have been intrinsically more valuable due to their tie to the palace (Burns 2016: 90; section 2.3.2). This large degree of specialisation and the added value of palatial products formed the basis of Mycenaean wealth finance (Halstead 2011: 233).

Although mobilisation is said to focus on the upward flow, there is always something flowing back down. For example, the palace would attract craft specialists who would be paid in rations of staples, which would thus indicate redistribution (Earle 2011: 243). Earle argues that the same is true for craftsmen like architects, stone masons and painters, but also unskilled workers (Earle 2011: 243). The focus in a mobilisation economy is on the financing of operations of the state, rather than distributing goods, yet there is a certain *goods come in and go out* system. The characteristic of mobilisation that is helpful though, is the differentiation between staple and wealth finance, since it shows what the focus of the palatial administration was on (see also below). It is important to realize that one type (staple finance) enables the second type (wealth finance). Moreover, as will also be shown, it is clear that the palace was not only concerned with raising staple for food supplies, but also, perhaps even more important, the mobilizing of raw materials for luxury and exotic goods

production, and labour forces for a variety of work. These three aspects are crucial to the success of the palace-driven parts of the economic system.

It has become increasingly clear that the palace only had control over a portion of commodities that were being exchanged in the Mycenaean economy (e.g. Bendall 2007; Pullen 2011, 2013; Schon 2011; Halstead 2011; Bennet 2013; Parkinson et al. 2013). It seems that the palace mostly concentrated its administration on products of status and prestige, like precious metals, ivory and the textile industry (Schon 2011: 220; Pullen 2013: 439; Voutsaki 2010b: 101). Or, as Bennet states, the state took over when it was "advantageous" (Bennet 2013: 248). This idea fits well with the mobilisation model in which the palatial elites use staple goods to enable the acquisition of raw materials and subsequent creation of valuable goods (see 2.3.3). Bendall, however, questions the amount of control of the elite, even in industries that are well attested in the Linear B tablets. She writes that although the tablets show the incoming goods and the internal circulation of goods, they almost never show what was finally done with those goods, except in the case of donations to the religious sphere (Bendall 2007: 291). This is important for two reasons: firstly it confirms that the Linear B tablets have very limited administrative range, since even for a rather well-documented industry like the textile one, the simple out-go of the products is missing.[13] Secondly, the religious sphere seems to represent a special domain within the economy (see below in 2.3.4).

The interpretation of elite control leans mostly on evidence from the tablets and the assumption that if it is mentioned in the tablets, the palatial administration found it worthy of recording and thus the palace was involved. Besides various crafts, land was another subject that comes up on the tablets. Killen (2008: 163) concludes that the reason for the palatial interest in tracking land ownership did not have to do with some cadastral survey, but rather that landholders were expected to contribute tax, based on the size of land. However, land was seemingly not under complete control of the palace, because as Lupack (and others) have pointed out, a dispute between a religious figure and the *damos* about the taxation of a plot of land is recorded on Linear B tablets (Lupack 2011: 213).[14] Lupack (2011: 213) argues that the fact that this dispute exists in the first place shows that both the religious sphere as well as the *damos* were, to a certain degree, independent and legitimate entities. However, the taxation under dispute is still to be paid to the palace. This and the fact that it is recorded on the tablets make it obvious that it was of palatial interest. It thus seems that the palace leased out the land to people or groups and that these gained certain autonomy on how to organize things locally. This is shown on one of the Pylos tablets (Er 312), on which four classes of landowners are recorded (Killen 1998: 21);

1. *wanax* (the king);
2. *lawagetas* (leader of the host);
3. *telestai* (landholding supervisors);
4. *wrokion* (an individual (collector), likely a member of the elite).

[13] One explanation could be the so called 'clearinghouses' as identified at Pylos (Bendall 2003) and Mycenae (Shelmerdine 1997). Clearinghouses act as intermediary between buyers and sellers. If the denotation of these structures as clearinghouses is correct then this could perhaps explain the missing of such an 'out-go' of products as it was an intermediary, not the palace itself that presided over the transaction. However, this has not been definitively proven as of yet.

[14] "The term *damos* refers on the tablets to the political and geographic entities that are commonly called 'districts' or 'district centres'" (Lupack, 2011, p. 212). See also above in section 2.2.1.

Moreover, both Lupack and Killen argue that proximity is a factor in the palatial influence and assume that the amount of control lessens with increased distance from the centre (which in this case is Pylos, but Killen states that the same goes for other centres) (Killen 2008: 165–6; Lupack 2011: 213). Halstead argues that in the Mycenaean context staple grains were produced near the centres just as fully dependent textile workers were located there (Halstead 1999: 39). Resources for craft production were acquired within and beyond the territory of the palaces. Similarly, the finished goods, like perfumed oil and jewellery were distributed through exchange on a comparable scale. Halstead concludes that this is all intertwined: locally produced staples financed the creation of craft goods which in turn created wealth. This enabled a wider range of resources to be generated in greater quantities and mobilised over larger distances (Halstead 1999: 39). This shows again that the palatial control varied between industries.

One of the contexts where palatial influence is apparent, however, is that of (corvée) labour. Various forms of labour and associated workers are specified in the Linear B tablets (Killen, 2006; Nakassis, 2010). Individuals mentioned in the tablets are usually only designated by title or profession. These vary from potters to goldsmiths and from bow makers to architectural labourers (Killen 2006: 84; Nakassis 2010: 275, 2013). This is informative for a number of reasons: firstly it shows that some of the work is clearly of interest to the palace, which can often be linked to the overall interest of the palace in the creation of high-value crafts.

Secondly, as Killen (2006: 77) argues in the case of the Pylos tablets (designated “Ac”), which are designated as “taxation records”, men are recruited from various taxation districts. This implies that the palace conscripted people to work as part of a taxation that was collected in a larger area than the settlement of Pylos itself. Corvée labour was thus part of the Mycenaean economic system as Nakassis also confirms as he describes that corvée as a tax was the main method for raising labour (Nakassis 2010: 273). The taxation itself was likely tied to landholding (Nakassis 2010: 273; Killen 2008: 463; also above). Since it is possible that craft specialists worked mostly in their own communities but were occasionally ordered to work for a certain amount of time in a centralised location (Killen 2006: 85), these labour obligations seem temporary in nature.

Thirdly, the fact that architectural labour is mentioned in the tablets shows the palatial involvement in construction work. More importantly, they show that the palace used differentiation in payments for different tasks (this was likely the case when work was not part of a taxation). Based on work by Melena (1997), Nakassis (2010: 275), discussed the various types of professions associated with construction. These include “wall-builders” (masons), ”all-builders” (most likely some sort of supervisor) and “sawyers”. Furthermore, two named individuals are mentioned in relation to architectural work that Nakassis identifies as those who organized part of the labour force. He argues that the large amount of rations these individuals were paid were used to hire the unskilled labourers involved in the construction (Nakassis 2010: 277).

Besides professional crafts and unskilled labour, the palace also conscripted people for military service, which, again, seems to have been tied to landholding (Killen 2008: 170–1; Nakassis 2010: 270–1). Nakassis (2010: 271; see also Chadwick 1987) points out that it was possible that those required for services could send others on their behalf. These others may be dependents of the high-ranking individuals or they were persons hired by the named individuals on the tablets (Nakassis 2010: 273–4). In any case, it is clear that landholdings were important for the palace to assure ready

access to sufficient numbers of military and labour personnel. It could be argued that labour by dependents can ultimately be seen as a form of reciprocity (see 2.2.2) and can only be maintained if both parties keep up their end of the bargain (one party supplying land and perhaps stability, the other labour and surplus). Since the Mycenaean economy seems to have been composed of different sections that were all intertwined, a refusal of labour by the dependents could have easily disrupted the system. In a reciprocity system, those to whom the most debts are owed get hit the hardest once the system comes to a halt (Galaty et al. 2016: 69). The palatial organisation would thus be hard pressed in such a case.

Based on the literature, it is safe to conclude that the reach of the palace was restricted. Surely, the palatial elite must have controlled certain industries or movements of goods, since they would have had to have access to those to mobilize people, not in the least for the construction of the citadels. That being said, it seems clear that they were not all-controlling in all aspects of the Mycenaean economy. This opens the possibilities for modes of exchange not directed by the palace, for example, the earlier mentioned market exchange.

2.3.2 Subsistence economy

This section will *not* explore the exact subsistence strategies during the Mycenaean period. It suffices to note here the livelihood was provided through agriculture and animal keeping (e.g. Halstead, 1987, 1989, 1999a; Margomenou, 2008). Rather, in this short section the importance of the generation of surplus within the subsistence economy is underlined. It was stated above that the Bronze Age Aegean economies can be seen as having four interlocking sectors. However, none of the economic sectors and models described in this chapter can exist without the occurrence of surplus production (Halstead, 1989; Margomenou, 2008; e.g. Renfrew, 1982). Researchers like Allan (1965) and Halstead (1989) have convincingly argued that any form of farming has a “normal surplus”. This normal surplus is required to ensure enough food in a poor yield season (Halstead 1989: 70). It was, in essence, a form of risk management (Margomenou 2008: 207). Moreover, the normal surplus could be used for various social, ritual and economic circumstances, as shown for the Tonga in East Africa in the 1940s (Allen 1965: 44-5). Similarly, it was found that in some other (African) communities there existed an “obligation to offer customary gifts to political superiors, in acknowledgement of the right to hold or allocate land, [which] sometimes amounted to a form of taxation which diverted part of the normal surplus to the maintenance of elaborate social and political hierarchies” (Allan 1965: 45).

The creation of surplus as a buffer for bad times is only useful if it can be stored properly. The way the surplus was stored, either physically or through social storage (foodstuff is exchanged for “tokens” that can in the future be returned for food) (Halstead 1989: 74–5) can subsequently be used by persons or groups to appropriate surplus.

The various models for the emergence of social stratification (see 2.2.2 above) and the subsequent ideas on the influence of elites on society (2.3.1) thus rely heavily on the existence of some sort of surplus. Similarly, the types of exchange of goods (see 2.3.3) and the ascribed roles of sanctuaries to Mycenaean society (2.3.4) also require the existence of surplus. After all, if there is no surplus there is nothing to exchange or to offer to sanctuaries. The subsistence economy is thus clearly interlocked with the other economic sectors. Similarly, the influence of the elites is constantly interwoven with all the sectors and the explanatory models, as will be shown below.

2.3.3 Trading economy

There is substantial material evidence to suggest that there was interaction between regions in and outside of the Greek mainland (see below and sections above). The focus should therefore be on what *kind* of interaction there was, especially in the period of the MH into the LH period and subsequently, what this can say about the relations that existed between those parties involved. In this section, the nature of exchange with other centres, within and beyond mainland Greece, is further explored.

Continuing on the earlier mentioned involvement of reciprocity in the Aegean, one type of exchange is elite gift-giving (see also 2.2.2). The circulation of gifts between "brother kings" (Burns, 2016) represents a way for the elites to elevate themselves. The biography of these objects, the distant places they come from and their overall infrequent nature, would imbue the gifts with value (Burns 2016: 90).[15] The latter may, for example, include not just material goods, but also persons in the form of craft specialists.[16] However, gift giving would only amount to a small number of finds pointing to inter-regional exchange. As Sherratt and Sherratt also note, the quantity of Mycenaean finds in the Near East or the procurement of metal in the Aegean cannot be explained by mere gift exchange (Sherratt and Sherratt 1991: 353). Haskell argues that LBA "trade" is visible mostly through prestige goods, but implies that only a portion of this is through the palace (Haskell 2004: 151). He notes that almost all large stirrup jars, intended for the transport of oils, originated from Crete (Haskell 2004: 158). These large jars found throughout various regions in the Mediterranean were supplied by different producers. Jars from west Crete dominated the Greek mainland, while jars from central Crete seem to have been moved to the East, to Cyprus and into the Levant (Haskell 2004: 157). Only a small number of these are found to be designated to the *wanax*, though (Haskell 2004: 153). It has been argued that such designations indicate products that are palatially directed, but are not "royal" (Palaima 1997: 411). As such, out of all the oil being transported only a portion went to the palace, and this may have been given as offerings (Haskell 2004: 153). Hence, even for those products that the palace is involved, which is often based on the mentioning of these products on Linear B tablets, it might not be that the entire industry was directed by the palace.

The quantities of exchanged goods would probably only be a small portion of the total production, but their importance should not be overlooked as these high-value products motivated "the intensification of local production and the extraction of surplus, in order to provide goods for exchange" (Sherratt and Sherratt 1991: 354). This coincides with Halstead's (1999) description of staple and wealth finance systems (see also previous sections). Sherratt and Sherratt observe in the relationship between manufactured products and raw materials the "fundamental reason for long-distance trade" (Sherratt and Sherratt 1991: 355, 366). However, they also argue that the long-distance trading routes were not direct journeys, but rather involved travelling bazaars going from harbour to harbour. This argument is mainly based on the idea that sea travel was still quite dangerous so ships hugged the coasts, and the winds and currents dictated much of the routes as well (Sherratt and Sherratt 1991: 357). Furthermore, the large variation of type and origin of the

[15] For the Near East, some information is available from the 'Amarna tablets'. On these clay tablets the exchange of goods and people is mentioned between various elites (outside Greece), dating to the Late Bronze Age (e.g. Monroe 2011: 93; Burns 2010: 18; 2016: 90; Pullen 2016: 81).

[16] Again, this type of information comes from sources like the Amarna tablets (see footnote above).

finds on shipwrecks like the Uluburun wreck (e.g. Sherratt and Sherratt 1991: 372–3; Pulak 1998: 188–92) also confirm the likeliness of indirect routes. Harbour-hopping is also suggested by Burns, although he based this on the finds of metalworking tools on the Cape Gelidonya wreck, which seem to suggest that crafting was, at least in part, an on-board activity, selling the products at the various ports (Burns 2010: 15). Moreover, Tartaron points out that the long-distance trade is dwarfed by the local and regional connections when it comes to quantities (Tartaron 2013: 5–6). While the exotica found at the Mycenaean polities show long-distance connections, there is, according to Tartaron, no direct proof that Mycenaean ships sailed to the locations to acquire the foreign goods (Tartaron 2013: 5). He seems to suggest, like Sherratt and Sherratt, and Burns, that smaller, more localised trade routes formed the mechanism through which goods were circulated in the Mediterranean.

Over time the exchange networks grew and, within this network, one node that became increasingly important is the Argolid as it was a point for traveling to and from Troy and the entrance to the Black Sea (Sherratt and Sherratt 1991: 370).[17] Sherratt and Sherratt argue that this happened between 1700-1400 BCE which thus coincided with the Early Mycenaean period (A. Sherratt & Sherratt, 1991). Without being explicit, they seem to imply that this might be (one of) the factor(s) of the rise of the palaces in the region. Susan Sherratt elaborates on this in her 2001 article in which she claims that the Mycenaean centres are located on nodal points of longer-distance route networks (Sherratt 2001: 226). Only later, during the LH IIIA, when the palaces were consolidated, did these centres start adding their own specialised crafts to the flow of goods along the network (Sherratt 2001: 226).

Another approach to exchange might be provided by looking at how these networks and routes operated. As mentioned earlier, it seems likely that long-distance routes between various centres via sea travel was achieved by hopping from one place to another rather than the use of direct routes (Burns, 2010; A. Sherratt & Sherratt, 1991; S. Sherratt, 2001). Pursuing this model, it seems that the trading system may have consisted of separate units. One unit would be a major, long-distance international route in the east Mediterranean with large cargoes that were partly state dependent (Sherratt and Sherratt 1991: 372). A second unit would have comprised a series of smaller exchange "cycles" on the western side of which some were controlled by mainland centres, but many were not (Sherratt and Sherratt 1991: 372). The existence of various smaller, overlapping, interlocking, but separated exchange systems is also advocated by Knapp and Cherry (1994: 165–6). They described it as follows:

> "Mediterranean exchange systems were flexible, overlapping, and in a state of continual dynamic transformation; consumer or supplier demand and maritime technology enabled regional exchange networks to be linked to a wider circulation system that moved high-value goods, […] between participating units" (Knapp and Cherry 1994: 165).

While the Mycenaean centres of the Greek mainland were certainly part of these routes, as is clear from the finds, it is interesting to try and understand *how* they were part of it. Sherratt (2001) argues, as mentioned, that the Mycenaean palaces were merely places on nodal points within the network, controlling segments of the network. Furthermore, she mentions that these palaces were small in comparison to the Cretan centres, let alone the centres in the Near East (see also Dickinson

[17] The Argolid is taken as a single entity by Sherratt and Sherratt, instead of dealing with the individual centres in the region.

2010: 485). Hence the Mycenaean centres were only able to take part in, and to some extent add to, an already existing network, controlled by their larger counterparts to the East and South (Sherratt 2001: 238). Regardless of their relative size, Burns also considers the Mycenaean centres part of a system of Mediterranean exchange involving gift-giving among elites (Burns 2010: 13). He agrees with Sherratt in suggesting that the Mycenaeans were certainly involved with the Near Eastern centres, but they never became true equals and "remained essentially peripheral to their elite gift exchange and political intimacy" (Burns 2010: 18).

Even though it is clear that "scale of activity and level of involvement in interregional contacts increased during the Late Bronze Age, as the palace-based economies of the Levant and the Aegean expanded" (Knapp and Cherry 1994: 166), it is unclear to what degree this involved gift-giving or trade. Moreover, as is discussed earlier, the palatial control over goods varied greatly and only a portion of it can be traced on the Linear B tablets. One could therefore argue that perhaps a merchant class was active in trading with Near Eastern regions (Knapp and Cherry 1994: 166). The difficulty with this stance is that most scholars, based on the Armana letters (see also 2.2.2, above), argue that trade with others was mainly based on gift giving (and thus circumventing merchants) and involved high-value goods, like textiles and perfumed oils. These products are relatively well represented in the tablets. However, the scope of the texts is obviously limited and it would certainly be possible that goods were traded without being recorded on (palatial) documents. Moreover, as Bendall has shown, the tablets do not represent a proper in-and-out kind of administration of goods and therefore any lack of evidence on the tablets is not necessarily a reason to dismiss non-palatial trade. It would therefore seem that a combination of small-scale gift giving and a somewhat larger scale trade-type of exchange took place in the Mediterranean during the Late Bronze Age, between the various centres in and around the Aegean.

The concept of non-palatial exchange, provides opportunities for other concepts such as market exchange. However, the focus here is on palatial control, so this concept is not discussed here further (but see others who have discussed this extensively, also for Mycenaean Greece: Polanyi et al. 1957; Killen 2008; Parkinson et al. 2013; Aprile 2013; Pullen 2013; Shelmerdine 2013; Feinman 2013; Knapp and Cherry 1994: 165).

It is thus important to point out that the palatial elites were not in absolute control and there were people who were able to create a livelihood outside palatial control. This could influence the potential labour pool from which the palatial elites drew their workforce. However, it is also beyond the scope of this research to estimate how large this part of the population would be. Nevertheless, this notion as well as the fact that not all goods were controlled by the palatial elites are important considerations: *if* those matters that were outside of palatial control were substantial, then overstretching the palatial economy by large constructions may not have led to the 'collapse' of the Mycenaean centres (see also 2.4).

2.3.4 Religious economy

From Linear B offering tablets it has become apparent that the palace sent various offerings to sanctuaries, deities and religious personnel (Bendall, 2007; Lupack, 1999, 2011). Owing to these offerings the idea developed that the religious sphere was included into the palatial structure of redistribution. Yet, religious institutions seem to have been subordinated to the palatial elite and its administrative system (Lupack 2011: 208). The mentioned offerings were considered to sustain the

religious personnel (Lupack 2011: 209). However, Lupack has shown that most of the offerings from the palace to sanctuaries would not have been able to sustain the religious personnel. She argues that the oil and spices that were offered would have been primarily used in cultic settings, not to feed personnel. The livestock and other food supplies would most likely have been for festivals and would be consumed by the entire community rather than the religious personnel (Lupack 2011: 210–11).

Besides holding land and flock of sheep, Lupack (1999: 27) has found further evidence for an independent religious economic power in the form of workers that were ascribed to sanctuaries. She concludes that because of the possibility to produce economic viable commodities the religious sphere did so, and it did it on such a scale that it became an economic power in its own right (Lupack, 1999, 2011). As such, it might have been, at least economically, not fully subordinate to the palace. Halstead (2011: 231) points out that the limited amount of offerings sent to the sanctuaries could also be explained by the hypothesis that the personnel only worked at the sanctuaries part-time, during periodic festivals. The fragmented state of the information from the tablets makes it difficult to ascertain which is the right interpretation. It does show, in any case, that the sanctuaries played an important part in Mycenaean society. Bendall, in her study of the religious sphere and its impact on the economy of Mycenaean society has three important remarks. Firstly, there seems to have been a bias in the tablets towards religious offerings (Bendall 2007: 291). Secondly, which supports Lupack's interpretation, is that the amount of goods that the palace donated to the religious sphere was but a fraction of the total wealth of the palace (Bendall 2007: 290; Lupack 2011: 210–11). Finally, Bendall concludes that, because the percentage of products disbursed to the religious sphere is so low, yet the frequency with which religious expenditure is mentioned in the tablets is so high, religion was "economically unimportant, but culturally, symbolically and politically significant" (Bendall 2007: 290).

The role of the religious sector in the Mycenaean economy remains a difficult matter to grasp. The over-representation of religion in the tablets might impose a more economically important role on the religious sphere than was actually the case. Furthermore, the tablets seem to be missing a basic in-and-out administration of goods circulated through the palace and, therefore, had a limited economic scope. However, it is certainly possible that sanctuaries were not dependent on the palace for their livelihood and were, therefore, able to sustain themselves. How big their economic value was and how much this affected ordinary people remains extremely difficult to prove. Nevertheless, Lupack (2011: 211) concludes that the religious sphere "would naturally have become involved in the economic life of their communities" and that the sanctuaries "may have been able to accumulate real material wealth from their endeavours" and therefore became a "constituted and economic force in Mycenaean society". Whether this was the case is beyond the scope of the study presented in this book. However, it underlines the idea that the palaces were not in *absolute* control.

2.4 Collapse of Mycenaean centres

In section 2.1 it was mentioned that the Mycenaean era changed at the end of the LHIII B (see table 2.2). While this change has long been referred to as a collapse (see for an overview e.g. Middleton 2010) it remains difficult to ascertain how this came about. Since an overarching aim of the SETinSTONE project is to study to what degree large scale building programs may have contributed to this collapse (Brysbaert, 2017), it is important to have a grasp of some of the ideas that exist about

this. In this section some of the theories and models that aim to explain this collapse are therefore discussed (see general works on societal collapse, e.g. Tainter 1988 and Middleton 2012).

Deger-Jalkotzy (2008) recognizes two possible reasons for the decline of the Mycenaean centres in the large-scale building programs of the LH IIIB period. The first reason is, in line with Brysbaert's (e.g. 2013, 2017) question, of an economic nature. The large scale of the constructions, erected in a limited amount of time, would have put serious strains on the economy as these, so Deger-Jalkotzy (2008: 389) argues, would require a large workforce paid in rations. The territories associated with the palaces were not large enough to produce sufficient staple and subsequently wealth to maintain such expenditures (Deger-Jalkotzy 1996: 717). The soil was therefore over-exploited and thus deteriorated. Heavy wood-cutting damaged the environment further, and the population was suppressed through taxes and labour obligations (Deger-Jalkotzy 1996: 718). The results of the study presented in this book will thus help to understand whether this is indeed a realistic scenario. The second one, not related directly to an economic crisis, is the fact that a lot of these buildings are part of extensive fortifications. Especially the later additions to the fortifications of the LH IIIB2 period, as well as the restricted access to various economic quarters and the securing of access to water within the fortification are seen as a military move. On top of that, she argues, "fortifications are usually built against human attack" (Deger-Jalkotzy 2008: 388–9; see also chapter 3). This puts, unlike the recent ideas, the focus on an external threat (which could also include other, nearby, Mycenaean polities).

Other interpretations of the decline of the mainland palatial centres during the 12th century BCE are quite diverse and often tied to the various interpretations of the Mycenaean economy and society. Scholars have suggested various causes that led to the collapse including warfare, invading peoples, natural catastrophes and social uprising. The main issue with all of these is that it remains difficult to explain the widespread decline throughout a very large region. Each of the mentioned causes could certainly explain the destruction of a centre, or perhaps even the centres within a bound region. However, the widespread destruction, abandonment and overall change in a relative short period of time are problematic to link to any of the aforementioned causes. Recently, therefore, more and more scholars (Antonaccio, 2016; Deger-Jalkotzy, 1996, 2008; Galaty et al., 2016; e.g. A. Sherratt & Sherratt, 1991; S. Sherratt, 2001) moved away from these original explanations and look for more holistic interpretations. One is the breakdown of the economic system that, according to some, gave Mycenaean centres their power in the first place (see above).

Sherratt, for example, argued that Mycenaean centres were mere nodal points in a wider network (see 2.3.3). She links the breakdown of the system to changes in trading routes. Owing to a change in routes, caused by a shift in suppliers and/or commodities, these Mycenaean polities or states could no longer maintain their position. When the profit of being part of a trading route slipped away, the centres declined (Sherratt 2001: 235–7; Knapp and Cherry 1994: 166). Galaty et al. (2016: 69) also prefer an economic explanation for the collapse at the end of the Bronze Age. They link the decline in economic profit to the system of reciprocity in which the Mycenaean elites were involved and argue that when the balance of reciprocity is disturbed, those who are owed debts, get hit hardest (Galaty et al. 2016: 69). As a result the palatial structure failed, but the continuity of life can be seen in some places, like in Achaea where there is even a rise in population in the LH IIIC period (e.g Arena, 2015; see also chapter 5). According to Antonaccio certain elements of the Mycenaean palaces survived

(warrior elites, the *basileus*), while others did not (*wanax*, writing and monumental architecture) (Antonaccio 2016: 110).

Despite the recent shift towards economic explanations for the decline of Mycenaean centres throughout Greece, the changes in the economy are, in and of themselves, still unable to fully account for the scope of the collapse (Deger-Jalkotzy 2008: 391–2). More likely, a combination of factors has played a role and perhaps the internal crises laid the groundwork after which later events followed to come to the destructive finale that ended the palatial centres (Deger-Jalkotzy 2008: 392). Moreover, as pointed out in 2.3.3, the amount of the control the palace had over the people and the economy will also be a major influence on whether such economic explanations should be considered realistic.

It is also important to keep in mind that there were large variations between the centres. This variation is particularly notable in the way these continued to be occupied after the collapse, if at all. Moreover, the term collapse remains somewhat problematic for multiple reasons. For one it suggests a sudden change, yet in reality it would seem that the change took place over a prolonged period of time (Deger-Jalkotzy 2008; Dickinson 2010; Middleton 2010). The research presented in this book can, to some extent, add to this discussion since its results aim to provide some insights into whether or not the building of the fortifications (mentioned as possible reason for the collapse above) may have had a substantial impact on the (economy of) communities in which these were built (see also chapter 1).

2.5 Concluding remarks on Mycenaean society

The aim of this chapter was to provide a background of Mycenaean society, its rise, economic structure and ultimate decline.

Mycenaean society is characterized by social stratification. As shown, this is achieved and maintained by tools such as conspicuous consumption. Moreover, due to this stratification, there was a centralisation of power and wealth, which thus also heavily influenced the economy. However, it is also shown that the palatial control was not absolute. Nevertheless, palatial elites were able to mobilise people through their wealth and influence. This mobilisation seems to consist partly of paid positions as well as forms of taxation based on landholding. These insights do not only show the potential influence over these matters by the palatial elite, but also where the labour force came from. Not necessarily their exact location is known, but it is clear that at least part of the labour force were subjects of the palatial elites. The context presented in this chapter will therefore be used in chapter 8 to put the results of the labour cost analyses into its proper Mycenaean framework and as such interpret these results appropriately.

In the next chapter the focus will be on the fortifications themselves. This comprises primarily matters like the function of the fortifications, how the fortifications are perceived and the deconstruction of the construction process of the fortifications. Moreover, it will be discussed whether the fortifications themselves should be seen as a form of conspicuous consumption.