Visualizing cityscapes of Classical antiquity : from early modern reconstruction drawings to digital 3D models

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5. The Graeco-Roman town as a physical entity: Sources for a comparison

'Cities are the accumulation of human experience. They are the manufactured containers, the physical expressions, of human culture. In that sense, all cities are planned environments. They are the results of cultural decisions about the most appropriate physical uses of land and the residential distribution of people. Urban form encapsules time and space. At any moment in time, the physical landscape of the city reveals countless decisions of bygone days about the 'best' uses of space – 'best' means those individual or collective values and judgments about the quality of life made by citizens in the past, judgments that affect the lives of those in the present – and the future. Urban forms reveal what was and was not important to their builders in any given historical moment.' (Schultz 1989, xii)

5.1. Introduction

A large amount of books and articles examines the ancient Greek city, dealing either with single buildings,[619] or with aspects of the city in a specific chronological horizon.[620] This situation reflects, and is partially caused by, the piecemeal development of our knowledge of ancient urban sites. In most cases, new findings are encountered when works for the construction of buildings are carried out in the modern town. Alternatively, accidental discoveries are made by farmers while working their land, which could be followed up by systematic excavations in the area. Even when there would be the physical possibility to investigate the city in its entirety, time and cost constraints impose the selection of specific areas, since excavations, bound by fieldwork seasons, will take years to cover such large expanses. In this respect, surface survey and other non-destructive investigation methods such as geophysical analysis, can greatly accelerate the process of gaining a complete overview of the urban area. Indisputably, however, they cannot reach the high resolution data provided by the stratigraphic analysis of structures and finds.

The studies that have dealt with specific aspects or periods of the ancient Greek urban environments have produced and made available a vast amount of knowledge on the subject. This type of approach, however, tends to dissect the ancient city into smaller units, either physical or chronological, that are isolated from their context. This artificial fragmentation risks to overshadow what the city actually is, namely a unified system that developed diachronically as part of a larger regional context. One of the main reasons for why this has happened is that often the best attested phases of occupation of a site have received preference over the others.[621] Classical *poleis* have received much attention, not least by the systematic and in-depth studies of the Copenhagen *Polis* Centre.[622] The urban developments that occur in Roman and, even more, in Late Roman Greece have instead started to be taken into account only in recent years.[623] This is mainly due to a tendency in scholarship that traditionally considered the post-Classical *polis* as a declining urban focus in comparison with the achievements reached during

[619] E.g. Coulton 1976 and Miller 1978.

[620] E.g. Mitchell and Rhodes 1997 and Winter 2006.

[621] For example Roman and Late Antique Knossos are less known to the wider public than the Bronze Age phase of the palace (see at this respect Sweetman 2012). Recent systematic and comprehensive surveys aim at filling the gap and are shedding light on all the phases of urban development at Knossos (Whitelaw *et al.* 2006-7). A notable exception is the site of Messene, extensively published by P. Themelis.

[622] See e.g. the volumes of the Acts of the Copenhagen Polis Centre, and Hansen and Nielsen 2004.

[623] For an account of the history of research on Late Roman and Early Byzantine Greece, see Petridis 2014.

Classical times.[624] The upper strata have been often hastily cleaned out to reach the deeper remains of Classical antiquity. Yet, despite the numerous publications that deal with aspects of the Classical *polis*, Morgan and Coulton calculated in 1997 that only 10% of the 800-1000 *poleis* that had been included into the inventory compiled by the Copenhagen *Polis* Centre were investigated to such an extent that would allow generalizations and systematic comparisons between Archaic and Classical towns in Greece.[625]

The uneven distribution of studies relates also to a marked preference for unearthing monumental architecture instead of investigating housing quarters. One may recall Robinson's initially disappointed tone when reporting that 'only houses were found' in the trenches he was excavating at Olynthos.[626] Even when houses captured the interest of scholars, the attention was focussed at first on the most lavishly decorated examples, which allowed the study of decorative elements, most notably mosaics.[627] Besides temples and public buildings, also *necropoleis* received much attention for the aesthetic value of the fine pottery and other grave goods that could be found. A striking example are the 19th century excavations at the Boeotian city of Tanagra that were focussed on the *necropoleis* around the city, after the pillages of thousands of tombs perpetrated by tomb robbers, which had flooded the antiquities market with the famous terracotta figurines.[628] The city itself, however, was never systematically excavated, and only recent investigations have shed light on its urban development.[629]

Moreover, scholars have too often relied on textual evidence alone to create typologies or sustain assumptions that have found little confirmation in the archaeological record. If is true that ancient texts can provide an insight into social-political practices and the use of space that archaeological remains can often not detect, on the other hand their point of view is often ideologically biased and conveys an idealized picture that is far from the reality of their age. Sources that hold an Athenocentric and aristocratic bias are often used to supplement the archaeological evidence at other sites, although the exceptionality of Athens had little to share with other Greek urban realities. Moreover, texts written centuries later have been improperly considered as reliable to describe earlier evidence. Noteworthy is the case of Vitruvius' *De Architectura*. The terminology and observations on Greek architecture that are contained in the text have been often used to label or interpret archaeological evidence, but have proved to be in some cases unreliable.[630]

In recent years, an increasing number of archaeological investigations, both by means of surface surveys and excavations, are approaching the reconstruction of past cityscapes from a different perspective, treating equally every historical phase and filling the gaps in our knowledge of urban developments on a long term perspective and across different social classes.[631] This chapter uses this ever growing scholarship to trace the topographical development of Greek-Roman towns in a diachronic perspective, taking into account at first the city as a whole in the following section and then the typical urban components individually in the second part of the chapter. The aim of this overview is to offer

[624] Scholars have read the defeat at Chaironea in 338 BC as a defining moment in the history of the *poleis* that had to resign much of that freedom and autonomy, that they would later have to completely give up with the incorporation into the Roman Empire. This view, however, has been recently challenged not only with increasing data and studies available on Roman Greece (see e.g. Alcock 1993a; Ostenfeld 2002; Scott 2012), but also with a more nuanced perception of the lack of freedom that the *poleis* suffered already under Athens' hegemony (Dickenson 2012, 38).

[625] Morgan and Coulton 1997, 87.

[626] Robinson 1932, 58 cited by Nevett 1999a, 53.

[627] E.g. Akerstrom-Hougen 1974; Charitonidis *et al.* 1970.

[628] Kékulé von Stradonitz 1878; for the history of the looting at the Tanagra's *necropoleis*, see Higgins 1986.

[629] See below, pp. 155-7.

[630] On the caveat of using Vitruvius' nomenclature for Roman houses, see Allison 2001. Below, the examples of the distinction between *prostas* and *pastas* houses and the preferred orientation of theatres will be discussed.

[631] See e.g. Bintliff 2012; Uytterhoeven 2007, 25-6; Bowden *et al.* 2006, with contributions on public civic spaces in Late Antique Mediterranean cities by L. Lavan (Lavan 2006) and on the middle classes houses by S. Ellis (Ellis 2006).

comparisons for the interpretation of Koroneia's multi-period data which have been discussed in chapter 4, and to present the sources that I have relied on for the proposed reconstruction of the urban layout that is discussed in chapter 6.

In this chapter, I have inserted numerous reconstruction drawings and 3D models to give a clearer impression of the possible appearance of the buildings that I discussed in the text. The representations that I chose to include have been created either by the excavators themselves, or have been used to explain the archaeological remains to museum and site visitors. They are therefore authored reconstructions that we suppose have resulted from a scientific process of data collection and interpretation. It must be kept in mind, however, that they represent just one of the possible interpretations of the archaeological record and as such are in line with a traditional use of visual reconstructions that I discussed in previous chapters, when little attention was dedicated to the intellectual transparency of the reconstruction process.

5.2 A brief overview of Greek town planning

'There comes forward now and again some trained architect who, observing the favourable climate and convenient position of the site, first sketches in his own mind wellnigh all the parts of the city that is to be wrought out, temples, gymnasia, town-halls, market-places, harbours, docks, streets, walls to be built, dwelling-houses as well as public buildings to be set up. Thus after having received in his own soul, as it were in wax, the figures of these objects severally, he carries about the image of a city which is the creation of his mind. Then by his innate power of memory, he recalls the images of the various parts of this city, and imprints their types yet more distinctly in it: and like a good craftsman he begins to build the city of stones and timber, keeping his eye upon his pattern and making the visible and tangible objects correspond in each case to the incorporeal ideas.'[632] With these words the Hellenistic philosopher Philo Alexandrinus described how an architect would conceive and construct a newly founded city, giving a glimpse into the types of buildings that were indispensable in a city of the first half of the 1st century AD.

New foundations on empty land could be used to experiment with the layouts that were the most appropriate to the geomorphology of the site and that guaranteed the most efficient pattern of movements. The foundations of colonies in the South of Italy provided a great occasion to implement new solutions that were impossible to apply on the already built-up mother cities. Modifications on the urban layout of cities with a longer history were in fact less likely to occur, although internal rearrangements within *insulae* and changes in the functional use of areas within the city are common. As Lo Sardo pointed out,[633] cities with a long history were populated by myths, legends, deities and heroes and these stratifications of memories and buildings were so deeply connected with the identity of the urban centre that they could not be replaced. Athens is a telling example of a city with a long history that prevented its efficient planning. As reported by the Pseudo Dicaearchus, its intricate streets and the poor planning of water resources made it hard to believe for the ancient writer that what he was looking at was the most important city of Greece.[634]

Destruction following natural disasters, such as earthquakes and flooding, or siege was often the trigger for major urban renovations in old centres. In Old Smyrna, imperial benefactions financed imposing

[632] Philo, *De Opificio Mundi* I, 17-18.

[633] Lo Sardo 1999, 85.

[634] "Η δὲ πόλις ξηρὰ πᾶσα, οὐκ εὔυδρος, κακῶς ἐρρυμοτομημένη διὰ τὴν ἀρχαιότητα. Αἱ μὲν πολλαὶ τῶν οἰκιῶν εὐτελεῖς, ὀλίγαι δὲ χρήσιμαι. Ἀπιστηθείη δ΄ ἂν ἐξαίφνης ὑπὸ τῶν ξένων θεωρουμένη, εἰ αὐτή ἐστιν ἡ προσαγορευομένη τῶν Ἀθηναίων πόλις', *FHG* II, 254.

reconstructions of the city after it was destroyed by an earthquake in 178 AD.[635] The Boeotian city of Plataiai was re-founded by Alexander the Great in 333 BC after its destruction in 373 BC from a Theban attack.[636] The new city was re-planned according to an orthogonal grid and a larger area than needed was included within the urban circuit as the new Plataiai was meant to substitute for Thebes as the leading city in Boeotia in Alexander's plan, which never came true. The inclusion of a larger area than what was actually needed to accommodate the population was not uncommon. Empty spaces could be built upon in later periods if necessity arose,[637] or cut off from the urban grid by means of cross walls (*diateichismata*) as indeed occurred in Plataiai.

Generally, once a convenient urban layout was established that struck a good compromise between the terrain morphology, the most favourable orientation,[638] and an efficient pattern of movement within the city, such an arrangement is likely to have been maintained over the centuries. The position of sanctuaries or other sacred spaces was also usually stable, which therefore contributed to keep on fixed locations the anchor points of the urban layout. Apart from these practical factors, probably one of the greatest obstacles for the re-planning of a city was the ownership of the land, since re-planning would have entailed a redistribution of the land with consequent problems of re-assigning the ownership of the lots.[639]

Sanctuaries were marked off from the rest of space in an early stage of *polis* foundation. For this reason, it is common that the streets' orientation and city layout were structured around the location of early sanctuaries.[640] Streets connected public and sacred spaces and there is evidence that in some sites they were named after the gods whose temples they started from or that they flanked. An epigraph from Thasos that regulates the cleaning of streets gives us the names of the streets that correspond indeed to the sanctuaries they connected.[641] Further evidence comes from Thourii whose foundation is described in exceptional detail by Diodorus Siculus.[642] A major street usually connected important areas of the city with each other and the inner city with the rest of the *chora*. The most important cemetery was also located along this major street outside the city wall.[643]

What follows is a brief overview of the array of possible urban configurations that were adopted from the Archaic period to Late antiquity in Graeco-Roman towns. Case studies are presented that highlight the elements of continuity and discontinuity in the urban layout. The chronological division that is presented below is somewhat artificial, since the development of many of the urban centres that are discussed cross in fact such temporal boundaries, but it has the purpose to situate changes within their historical framework.

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635 Beaumont 2006, 666.

636 Konecny *et al.* 2013.

637 See e.g. Priene (Wiegand and Schrader 1904), Olynthos (Cahill 2002, 30), Miletus where the empty areas that had been included after its re-foundation in 479 BC were built on only in Hellenistic times (Hölscher 2012, 183).

638 E.g. courtyards preferably faced south or east, unless other focal points were taken as reference for the urban grid. In Pergamum for example buildings faced west towards the theatre and in Halicarnassus the focal point was the tomb of Mausolus.

639 Owens 1991, 26-7.

640 Cole 2004, 52.

641 Duchene 1992.

642 Diod. Sic. XII, 10: '(...) They divided the city lengthwise by four streets, the first of which they named Heracleia, the second Aphrodisia, the third Olympias, and the fourth Dionysias, and breadthwise they divided it by three streets, of which the first was named Heroa, the second Thuria, and the last Thurina.' Greco notes that, since the streets' names are derived from deities, it is likely that they were passing by the sanctuaries that gave them their names: Aphrodite, Zeus Olympios and Dionysos (while for Heracleia he gives another possible etymology from the nearby coastal street). See Greco 1999, 419.

643 Hölscher 2012, 172.

5.2.1 Archaic period (end of the 8th century – 480 BC)

The Archaic period is taken as the starting point of this overview as it marks the establishment of a landscape that was characterized by the *polis*, a centralized entity very different from the sparse nucleated settlements of various sizes that dotted Early Iron Age Greece.[644] These communities had gathered around the residence of the *basileis*, such as at Emborio on Chios, or around ritual areas as attested for Thasos where recent investigations have identified the precursors of the Greek town in two clusters, one around the Artemision and the other around the Herakleion.[645] For a process of synoikism, triggered for a variety of reasons and depending on the specific circumstance of each site, these isolated settlements joined to gradually create what we know as a *polis* in Archaic times.

In this period, the construction of settlements on hilly sites generally followed the morphology of the terrain which resulted most of the time in layouts pivoting around the acropolis and progressing down the slope.[646] Terraces were created following the contours in order to provide more secure spaces to build upon, as shown by evidence from Emborio (Chios)[647] and Cretan settlements such as Azoria, Gortyna,[648] Dreros and Lato.[649] Ultimately, the construction of houses either as single buildings or as agglomerations depended on the social structure of the community.[650] In fact, while at Emborio houses are scattered on the terraces, at Lato the houses were built in rows following the contours, with rooms constructed in a linear sequence (Figure 5.1).[651] In some cases, the morphology of the site and the construction method could lead to a regular appearance of the town layout even if there was not a preconceived master plan. This is for example the case of Zagora (Andros island) where the wall of one house was used to build the next, giving therefore the impression of a regular layout.[652]

The first examples of planning resulting in 'quadrangular' cities are dated to the late Archaic period and come from sites that are located in the Aegean sea of Turkish Mainland, namely Thasos, Samos and Miletos.[653] The earliest example of a regularly planned city in mainland Greece is Halieis in the Argolis (Figure 5.2).[654] The best occasion for experimenting with town planning, however, was given by the colonization of Magna Graecia and the Black Sea.[655] The availability of empty space for construction, especially on the coastal plains, granted the necessary conditions to create cities where the principles of an efficient town planning were implemented that could best respond to the requirements of the site, as is the case at Olbia, Megara Hyblaea and Metapontum.[656] At Megara Hyblaea, for example, the two excavated streets running more or less parallel east-west connected the agora respectively with the temple area and with the Western gate. The crossing north-south streets instead were not kept parallel and resulted in the formation of a trapezoidal area for the agora (see Figure 5.3).[657] At Metapontum, a regular layout was implemented with *insulae* long and narrow (35x190m) and the larger streets of about

[644] For a discussion of settlement patterns from Early Iron Age to the Archaic period, see Bintliff 2012, 213-20.
[645] For Archaic Thasos, see Owen 2009.
[646] For an overview of Archaic settlements layout and their social organization, see Lang 1996 and Lang 2007.
[647] Owens 1991, 17.
[648] Caliò 2012, 47.
[649] Owens 1991, 24.
[650] Lang 2007, 189.
[651] The excavated houses are dated to the 4th century, but they correspond to a type that was adopted much earlier and kept over the centuries for its suitability for the sloping terrain (Hadjimichali 1971, 214-5).
[652] Owens 1991, 16.
[653] Caliò 2012, 50.
[654] Ault 2013.
[655] I will use the modern term colonization and colonies even though these definitions are limited in depicting the complex reality of *apoikia* (independent settlement) and *kleroukhia* (dependent settlement), as a discussion on this topic is outside the scope of this chapter. For an introduction on this subject, see De Angelis 2010.
[656] On the topic of Western colonies, see e.g. Mertens 2006; Fischer-Hansen 1996; Owens 1991, 34; Greco 1997, 636.
[657] Gras and Tréziny 1999.

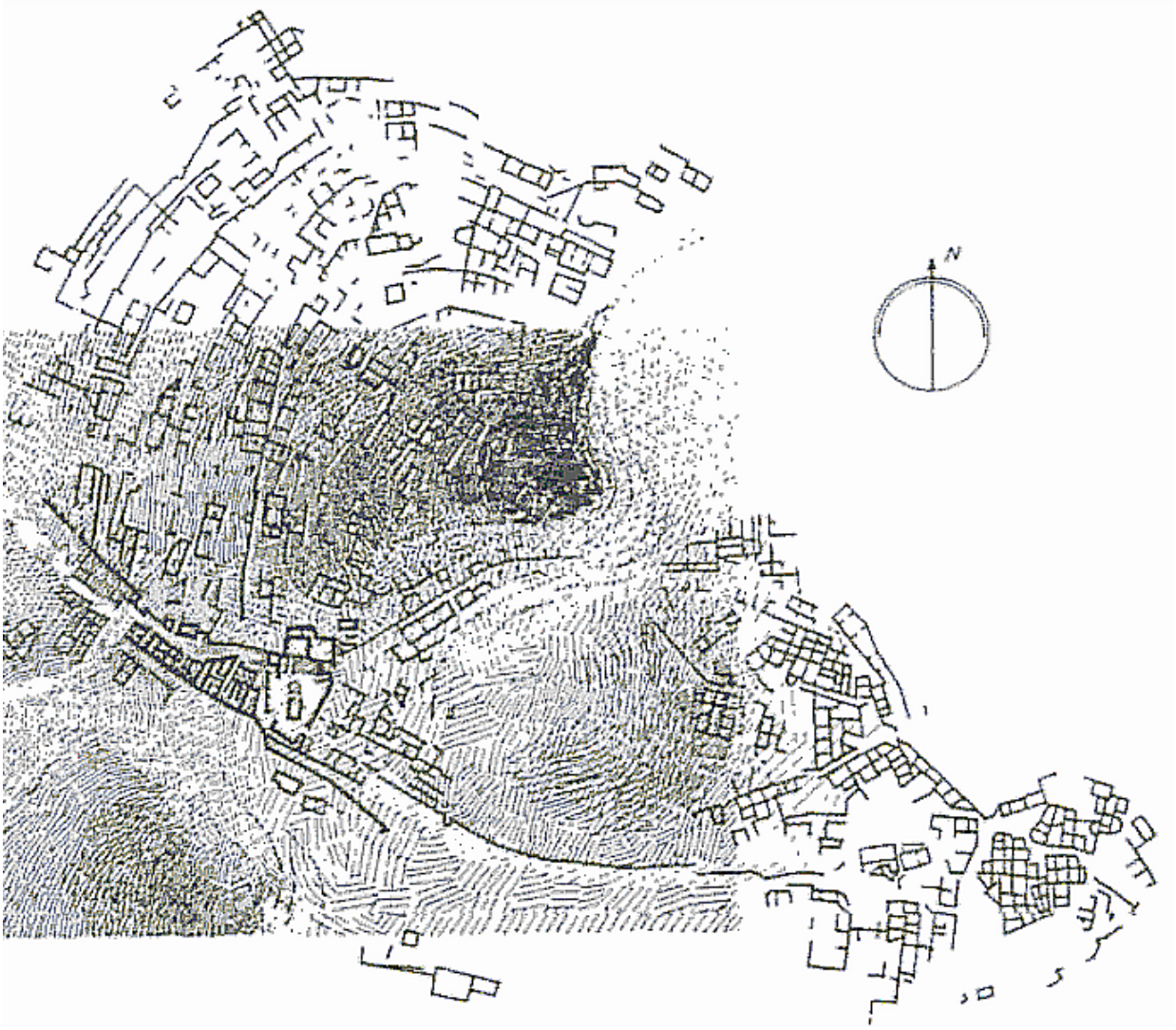

Figure 5.1 Lato: general plan of the site (Kalpaxis in Greco 1999, 120 after Hadjimichali 1971, 168).

12m of width. Interestingly, some of the temples are not aligned to the streets. Among the several factors that have been given to explain this phenomenon practical reasons have been suggested, such as the fact that temples were built in the 7th century, before the remaining plan of the city was laid out, or that this disposition better conformed to the characteristics of the site and the morphological conditions so as to guarantee the drainage of the streets in a location that was subjected to flood.[658] Choices regarding the orientation of temples, however, could have also been dictated by a conscious attempt to distinguish sacred space from the private dwellings, as Greco suggested for Paestum.[659] The Western colonies, being a blank canvas for urban planners, show clearly a particular attention for dividing the city into distinct areas, which was not always possible in cities with a longer history. At Paestum this is particularly visible since a strip in the central portion of the town was set aside and divided into three areas which were occupied by public buildings: the temple of Athena on the Northern part, the temple of Hera to the South and the agora in between the two.

[658] Owens 1991, 41.
[659] Lo Sardo 1999, 88.

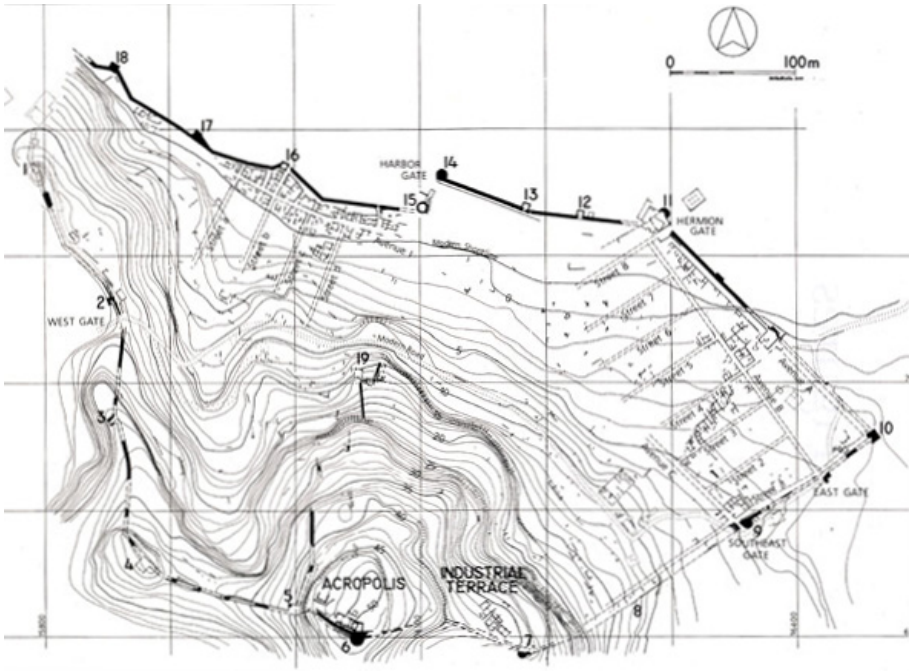

Figure 5.2 Plan of Halieis abandoned around 300 BC (Ault 2005, Figure 1).

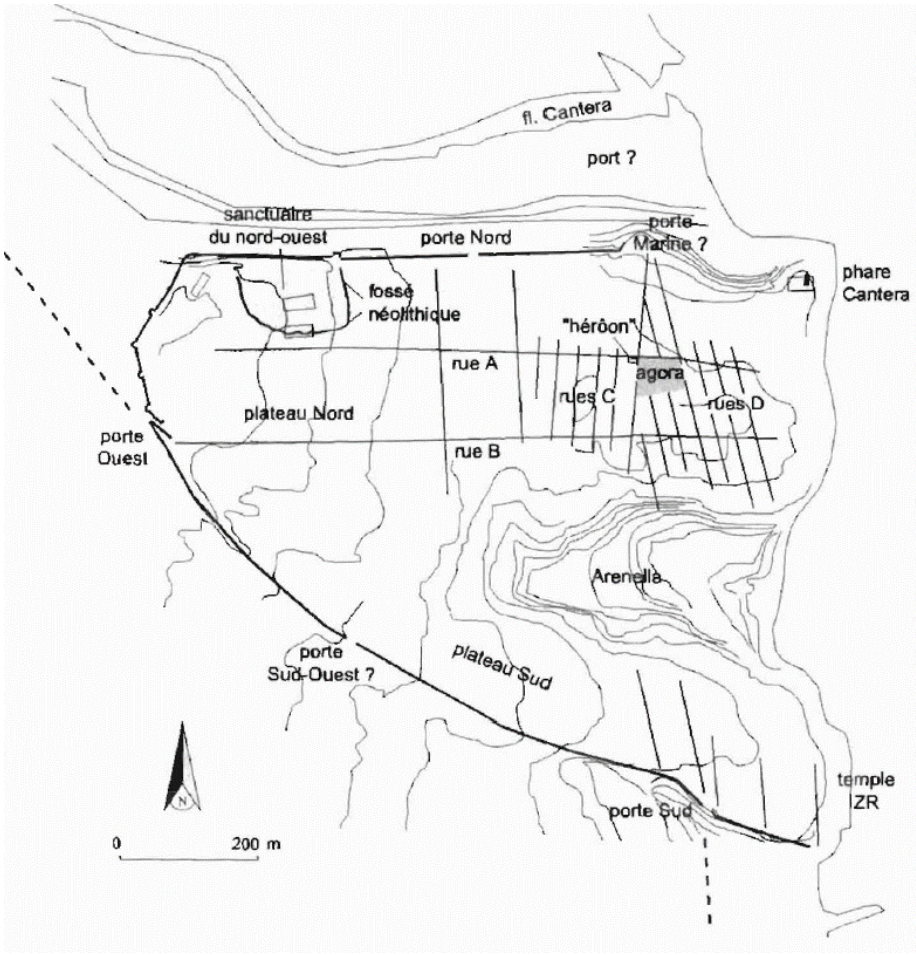

Figure 5.3 Megara Hyblaea: general plan of the site (after Tréziny 2005, Figure 2, p. 58).

5.2.2 Classical period (480 – 323 BC)

During the Classical period orthogonal grid planning was increasingly adopted. Typical examples of this urban arrangement, which would be implemented more broadly in the new foundations of the Hellenistic period, are Rhodes, Piraeus, Thourii and Olynthos. An orthogonal grid was the best suited for regular terrain conditions, but in this period it is also applied to less regular terrains with adaptation and modification of the ideal plan.[660] At Olynthos, for example, the size of the outer *insulae* was reduced to fit the plateau of the Northern district, and avenue B was constructed larger than the others, reducing the width of the bordering *insulae*.[661] In cities that were newly founded in this period on hilly sites, such as Knidos[662] and Priene[663], an orthogonal grid was superimposed on the terrain and steps were created where the slope was too steep for streets. Knidos, founded in the mid-4th century,[664] was laid out with a regular grid on the sloping ground overlooking the Gulf halfway between Kos and Rhodes. The town developed on a series of terraces punctuated by streets running more or less East-West (Figure 5.4). The streets running North-South were instead equipped with flights of steps. A similar situation is visible at Priene, founded in the mid-4th century in a new location down the slopes of Mount Mykale overlooking the Meander River. In this case, however, the implementation of a strict orthogonal grid must have created some obstacles to the movements around the city. Only the long streets running East-West were in fact viable for carts, while the crossing streets in the North-South directions were mostly too steep and had to be substituted for by steps that could be used only by animals and pedestrians.[665] In both sites, while the town plan conformed to the ideal principles of regular town planning, the path of the city walls was instead constructed according to the terrain. By following the contours and exploiting the physical characteristics of the terrain it was possible to create the most efficient defensive barrier against enemies. For this reason, often streets and city gates were not aligned.

Although the orthogonal grid became increasingly popular during the Classical period for its convenience and beauty, cities with a long history maintained their spatial arrangement as already previously discussed. If Athens was haphazardly laid out according to the Pseudo Dicaearchus, in Thucydides' description Sparta resembled in the 5th century BC a cluster of villages more than a densely built up city. This city, according to the Athenian historian, was 'scatteringly inhabited after the ancient manner of Greece', and was of such inconspicuous appearance that it would have misled posterity about its great power and leadership.[666] Moreover, even newly planned cities in Classical times could adopt only roughly regular layouts, as the investigations at Messene have shown. In this case, in fact, sanctuaries and public buildings had different orientations and blocks were of different dimensions. The underlying reasons are probably to be found in the desire to maintain the orientation of the older sanctuaries (possibly the only pre-existing buildings on the area) and in the hasty construction due to the Spartan threat.[667]

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[660] The famous reconstructions of the urban layout and the housing blocks of Classical cities made by Hoepfner and Schwandner, albeit suggestive for their implications with the principles of *isonomia*, have been criticized. The re-examination of the archaeological records proved that the variations both in the dimension of streets and buildings blocks and within each house were greater than the data that the German architects had presented. For Olynthos, see Cahill 2002, for Pireus see Steinhauer 2007 and Longo 2008.

[661] Martin 1956, 111.

[662] See e.g. Bruns- Özgan 2006; Flensted-Jensen 2004.

[663] Hoepfner and Schwandner 1994.

[664] The results of excavations have however questioned the foundation date of Knidos, see Özgan 1994.

[665] Giuliano 1965; Wycherley, on the contrary, discusses the advantages of the location and access of the agora at Priene, Wycherley 1945.

[666] *Thuc.* I, 10.

[667] Müth 2007, 303-4.

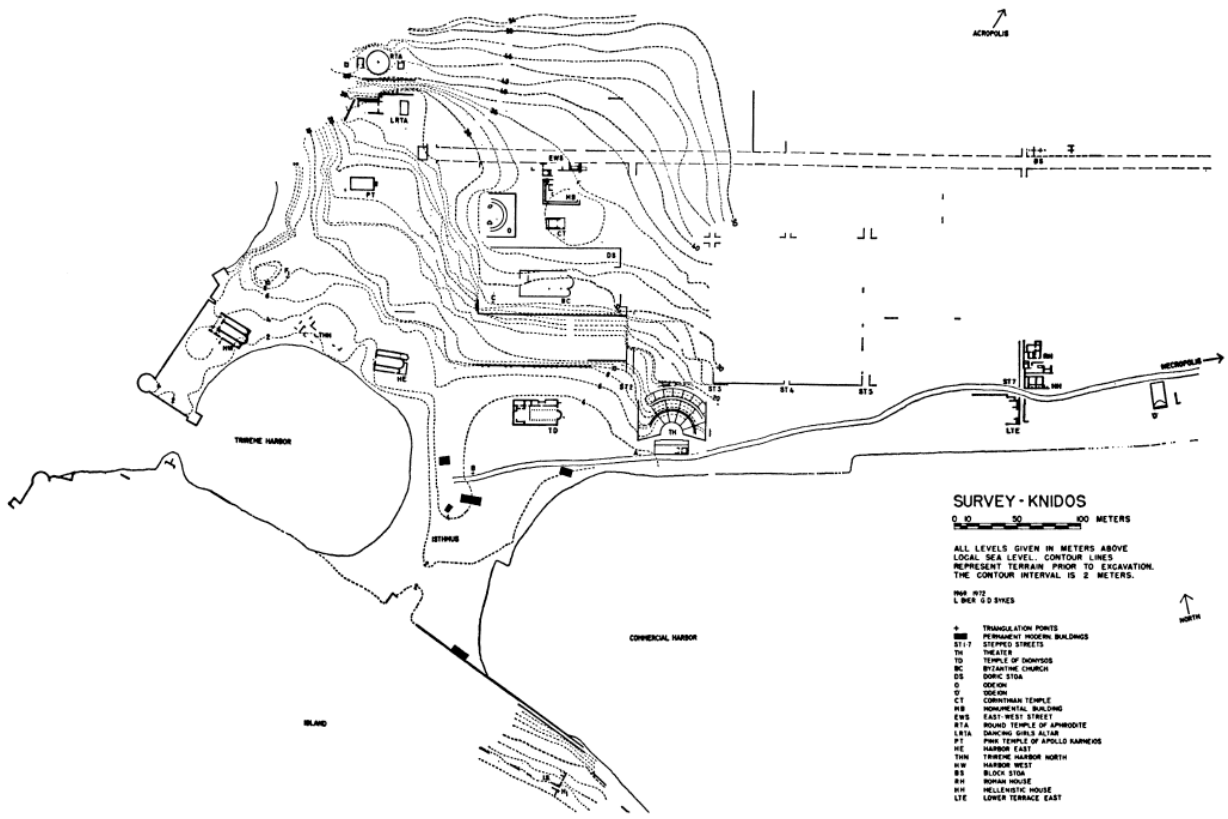

Figure 5.4 Knidos: general plan of the site (after Love 1973, 414).

5.2.3 Hellenistic period (323 – 31 BC)

The Hellenistic period created new occasions for founding cities under the Diadochi and the orthogonal plan became the standard adopted for these new centres where the conditions of the terrain allowed its implementation. Especially during the Early Hellenistic era (323-197 BC), experimentation with town planning was possible in the numerous new foundations. During the following period, conversely, the Roman presence in Greece and the diminishing population decreased both the number of new centres that were created and the urban renovations in old cities.[668] A difference seems to be observable between Northern Greece, where a growth in the number and dimensions of the urban centres is attested, and Southern and insular Greece, where a general decline has been noticed.[669] Construction of public buildings and infrastructures was financed by fundraising among the citizens and by the euvergetism of wealthy families that controlled power and held public and religious offices.[670]

A town founded in the last quarter of the 4th century on Goritsa hill,[671] on the Gulf of Volos, is particularly interesting for the characteristics of its town plan, which combines a regular grid with the necessity to adapt it to the changing terrain. The fact that it was probably abandoned about a century later makes it a suitable case study for this period. The streets, running north-south and east-west and crossing orthogonally, gave shape to elongated *insulae* of various sizes and arranged according to different

[668] Signs of renovation in the urban centre have been recorded at Athens, Messene and Thasos. All three of these cities were therefore stable enough to sustain such works (Dickenson 2012, 143ff).
[669] Bintliff 2012, 322.
[670] Bintliff 2012, 322; Meyer 2012.
[671] Bakhuizen 1992.

orientations. The city walls followed the best path along the contour lines and were disconnected from the internal arrangement of the streets that abandoned the regular grid towards the walls, bending their path to meet them at the gates. The fact that the gates are not connected by continuous avenues (as in the case of the main east-west boulevard in Priene) responded to the changing terrain of the city walls, but at the same time served defensive purposes.[672] Goritsa's plan, therefore, fits well Aristotle's description of the best urban layout, namely an arrangement of straight streets with less regularly planned areas to achieve the best combination between beauty and security.[673]

Not far from Goritsa are the remains of Kastro Kallithea that was laid out during the late 4th – early 3rd century on a 600 m high hill and abandoned during the late 2nd – early 1st century BC. Despite the uneven terrain, the town, covering 34 ha, was laid out in an orthogonal grid. The acropolis was fortified by a wall that was constructed earlier than the 2.4 km long lower town's fortifications. The excavators have therefore suggested a first building phase dated probably to the Classical period, where a small fortified settlement on the western part of the acropolis was established, and a second building phase where the lower town was created following an orthogonal arrangement which was protected by a broader city wall.[674] A *diateichisma* was added as a further protection measure for the eastern part of the settlement where the agora and the main residential area were located. The crossing of streets, running north-south, and avenues east-west shaped *insulae* of ca. 38.5 x 45 m.[675] The agora occupied the area of about four *insulae* in the saddle between the two summits of the hill (Figure 5.5).[676] After surface surveys, trial excavations were carried out which clarified the relationships between buildings and the construction strategies that were employed to cope with the sloping terrain, such as the creation of a layer made of stone chips and pebbles packed with red soil that was used to level the sloping terrain before the construction of the stoa.[677] The distribution of finds seems to indicate that the town was reconfigured over time, the agora being abandoned and the eastern sector becoming the only occupied area from the 2nd century BC until its abandonment.[678]

At Petres of Florina in Macedonia a different solution was adopted for the layout of a town on a hilly site. An early settlement of limited extension was founded in the mid-4th century probably by Philip II on a 720 msl hill that had a gradient of 30-45%.[679] In the course of the 3rd century, the town was given a layout organized in *insulae*, but during the 2nd century this organization was suppressed and the settlement, at that time covering almost the entire hill (around 20 ha), was rearranged to better adapt to the slopes.[680] The expansion and rearrangement of the settlement is most likely connected to the construction of the Via Egnatia (140-120 BC) that increased the passage of people and goods in the area and boosted the economy of this previously agriculturally-based centre. The town was then destroyed and abandoned during the Roman civil wars.[681] The areas of the city that were uncovered by excavations show fan-like arrangements where houses were organized in groups of three or four at right angles to the slope and accessed by streets following the contour lines (Figure 5.6). In this case, therefore, a freer arrangement, adapted to the physical characteristics of the site, guaranteed the most efficient occupation of space on the hill.

672 Caliò 2012, 307.
673 Aristot. *Pol.* 7.1330b.
674 For the contextualization of the site and the field work carried out by the 15th Ephorate of Prehistoric and Classical Antiquities in Larissa and the University of Alberta, see Tzifalis *et al.* 2006; Surtees 2012.
675 Haagsma *et al.* 2014, 199.
676 See below pp. 178-9 for a discussion of the agora at Kastro Kallithea.
677 Haagsma *et al.* 2014, 200.
678 Surtees *et al.* 2014, 440-1.
679 Adam Veleni 2000, 35.
680 Adam Veleni 2000, 47 and Adam Veleni 1999, 150.
681 Adam Veleni 1999, 153-6.

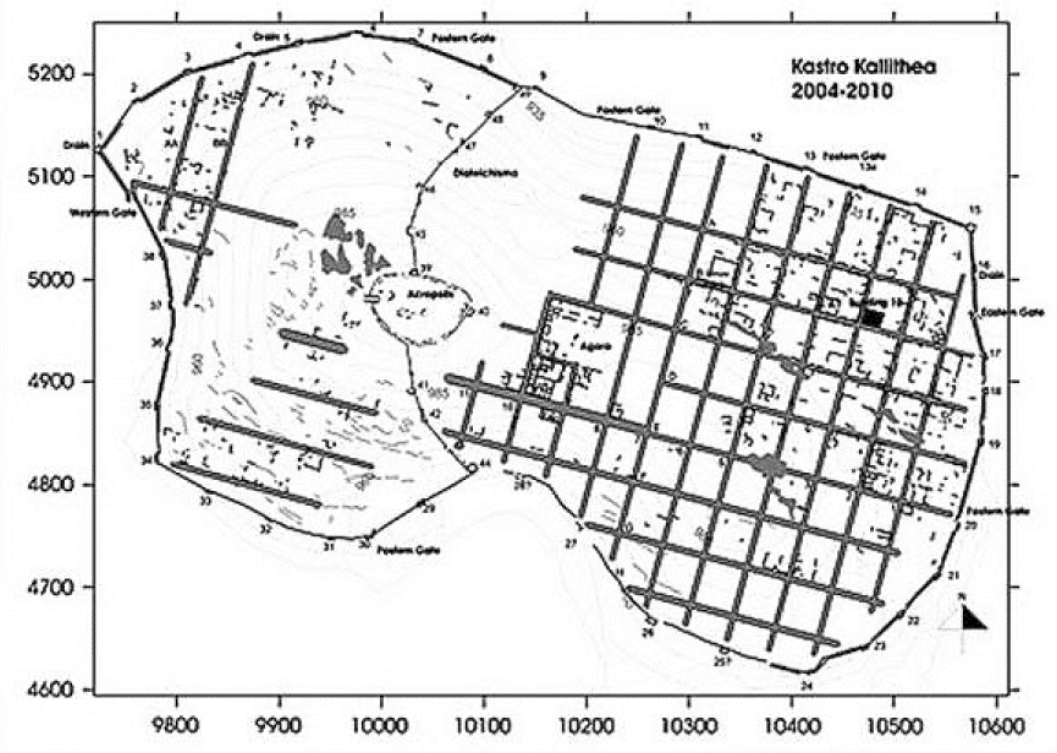

Figure 5.5 Kastro Kallithea: site map on contour lines (Haagsma et al. *2014, 198).*

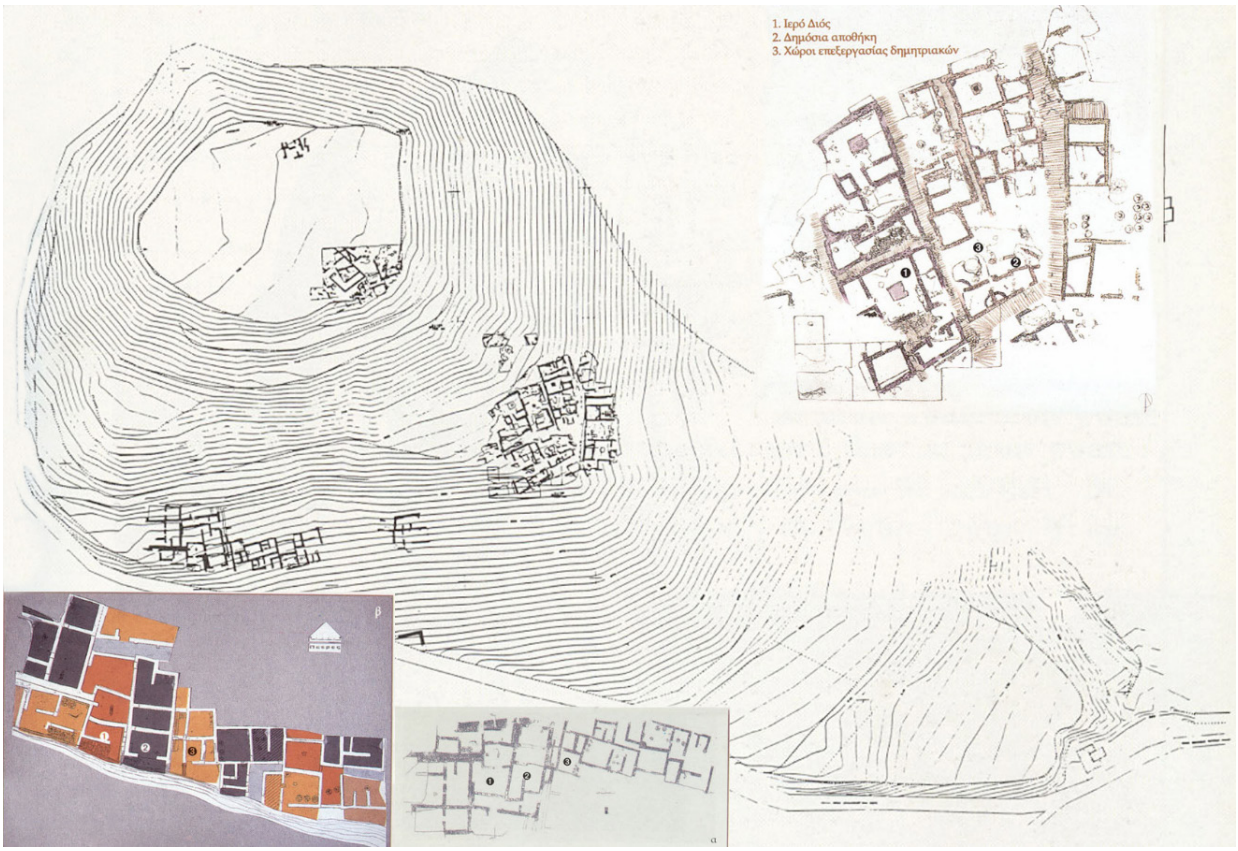

Figure 5.6 Petres of Florina: general plan and detail of the excavated areas (modified after Adam Veleni 2000).

5.2.4 Roman period (31 BC – ca. 330 AD)

As already mentioned, the Late Hellenistic-Early Roman period in many but not all parts of Greece corresponds to a phase of decrease in growth and general decline, due in part to the impact of Roman rule.[682] The 1st century BC corresponds at the same time to a phase of increased number of new foundations and construction works in existing cities.[683] The period from about 50 BC to 50 AD seems to have been especially important for the introduction of typical Roman buildings into provincial cities.[684] As DeLaine pointed out, despite local differences related to a town's specific historical, political and economic circumstances, the Romans created a set of recognizable characteristics which identified a city as Roman, for instance the presence of civic buildings such as the *curia* for the senate meetings, and the *basilica* for the dispute of law cases. [685]

The Romans introduced in Greece new construction methods, materials and building types that gave to Greek cities a typical Roman imprint.[686] The adoption of Roman construction techniques and materials, however, was reinterpreted by the Greeks, resulting in unique solutions, as recent analysis has showed for provinces such as Achaia, e.g. in the baths complex – Asklepieion at Argos,[687] and Macedonia.[688] The renewed attention to public works, in particular the restoration of religious architecture, relates to Augustus' programme that had the concept of *pietas* at its core.[689] Later on, during the 2nd century AD, the renaissance of Greek culture, known as the Second Sophistic, had an impact not only on literature but also on architecture, setting off a period of investment in public architecture that lasted until the 4th century AD.[690] Numerous construction works took place in many cities in the Eastern Roman provinces with more visible outcomes in the rich province of Asia than in Achaia, Epirus and Macedonia. In the latter regions in fact these modifications could be afforded only in major centres.[691] Romans were especially concerned with the creation of public infrastructures, such as roads and aqueducts. In the Greek provinces the Via Egnatia, constructed as a continuation of the Via Appia on the other side of the Adriatic, became in the Imperial period the connection between Rome and the eastern colonies up to Byzantium. Water supply for the increased needs of Roman public infrastructures, most notably baths, was guaranteed by Imperial euergetism, as testified by the aqueducts that Hadrian financed in numerous cities such as Athens, Corinth, Nicopolis,[692] and, as discussed in chapter 4, at Koroneia too.[693]

In the case of newly established Roman colonies on Greek towns, the approach towards the previous layout could vary. The Roman colonists could in fact maintain the urban arrangement of the previous Greek town, as shown in the case of Roman Copiae that was laid out more or less in accordance to the urban grid of its predecessor Thourii.[694] In other cases, the previous layout was given up to the gridded plan, although often elements of the earlier topography were maintained in the Roman town. At Corinth, for example, a different orientation was introduced in the arrangement of the Roman colony, which was established about a hundred years after the destruction of the Greek city. Nevertheless, some

682 Bintliff 2012, 313.
683 Dickenson 2012, 244. Bintliff discusses the examples of Delos, Thessaloniki, Argos, Sparta and Gortyn (Bintliff 2012, 326).
684 DeLaine 2008, 104. For the visual impact of Augustus' political program, see Zanker 1988.
685 DeLaine 2008, 95-6.
686 Owens 1991, 93; Dickenson 2012, 134.
687 P. Vitti 2011.
688 M. Vitti 2011.
689 Dickenson 2012, 244; DeLaine 2008, 104.
690 Bintliff 2012, 312; Dickenson 2012, 270-2.
691 Dickenson 2012, 267-9.
692 Bonini 2006, 38.
693 See chapter 4, pp. 94; 99-101; 136-7.
694 Greco 1997, 646.

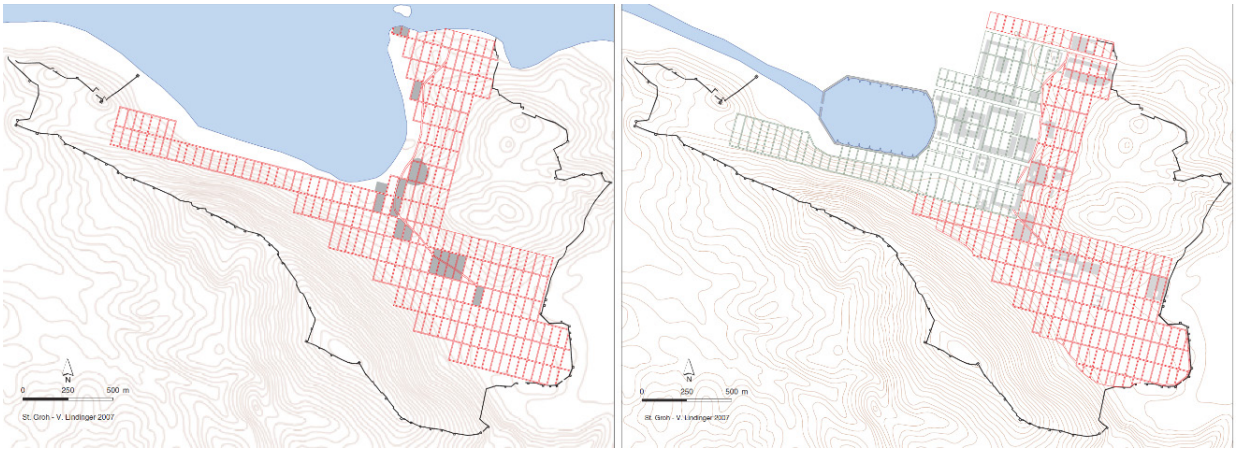

Figure 5.7 Ephesos's grid in Hellenistic (left) and Roman (right) times (Groh 2006, 55 and 73).

important buildings of the Greek city, such as the temple of Apollo, were still in place and conditioned the orientation of new buildings in the forum.[695]

A new element in planning the urban space of Roman cities was the degree of intervention in the natural landscape.[696] As the previous examples have shown, terracing was used in Greek cities to ensure building areas that were stable and large enough. The Romans, however, intervened more profoundly on the landscape with the intention to create monumental cityscapes that were 'dominated by straight lines'.[697] The Roman interventions on a Hellenistic layout are clearly visible in Ephesos that was turned into the capital of the Roman province of Asia under Augustus (Figure 5.7). The Hellenistic city was laid out in *insulae* of about 104 m long divided into 5 m wide *plataiai* oriented east-west, to guarantee the best climate according to Aristotle's 'Politeia', and 3m wide *stenopoi*.[698] During the Hellenistic period, the coastline, which had remained quite stable in Archaic and Classical times, started to be filled by sediments brought by the river and became a marshy area. Starting from the 1st century AD, a programme of levelling the ground around the harbour was therefore initiated to stabilise and enclose the bay into a man-made harbour. Moreover, new buildings in the lower town were constructed. The new street grid followed the same orientation as the Hellenistic one, but with different widths and with *insulae* now 136 m long.[699]

5.2.5 Late Antiquity (330 – 650 AD)

Recent studies on urban developments in Late Antique Greece[700] are shedding light on a period of Greek urban history that was generally neglected with the exception of a few pioneer publications.[701] Whether this was a period of continuity or decline, and the definition of a clear chronology are still matters of

[695] Gilman Romano 2005.
[696] DeLaine 2008, 112.
[697] Dickenson 2012, 211.
[698] Groh 2006, 57-61.
[699] Groh 2006, 73-9. For an overview on Ephesos' urban development between Hellenistic and Roman times see also Raja 2012.
[700] See e.g. Jacobs 2013.
[701] E.g. Sodini 1984. Sodini's publication discusses the state of the knowledge until the early 1980s, but later investigations have in some cases greatly modified the interpretations of some of the houses that he discussed. This is for example the case of the 'new praetorium' at Gortyn, where two periods of research (the first between 1989 and 1995 after which the results were published in Di Vita 2000b, and a second phase between 1996 and 2000) have clarified the chronology and better contextualized the building within its neighbourhood (see e.g. Lippolis *et al.* 2009).

debate.[702] Emperors promoted reform programmes to reorganize the provinces, making them smaller to achieve a higher control on those areas. In the 3rd century AD, with the reform of Diocletian, the Greek provinces were raised to 6 by reducing Macedonia and Achaia to create new provinces such as the Epirus Nova (Illyricum) and the Aegean islands.[703] Despite the long held belief that the Barbarian invasions that started around the mid-3rd century AD have been the chief cause of destruction and decay of urban centres with a consequent demographic decrease, the implications of the raids are not clearly attested archaeologically and signs of a general degradation of urban life are more evident in the following centuries.[704] A more crucial role seems to have been played by the recurrent outbreaks of the Plague that invested Greece from the mid-6th to the 8th century AD.[705] These epidemics had devastating consequences for the urban population and economic stability, which in turn led to a weak opposition to the Slavic migrations.[706]

During Late Antiquity, archaeological evidence shows that urban sites shrank considerably in size. At Corinth, for example, the Late Antique circuit wall, which recent studies has identified as Justinian, excluded large sections of the former Roman town such as the Roman forum (see Figure 5.8).[707] To complicate the assessment of the actual size of urban areas, the actual reduction of the city extension cannot always be established with certainty. It is in fact common that Late Antique city walls encompassed a smaller area than before, but housing quarters were built also outside the urban fortification often to an extent that is not possible to clearly identify for their sporadic character or due to a lack of investigations.[708] An exception is the Boeotian town of Thespiae, where urban surface survey has been successful in defining the extramural extent.[709] While the Late Hellenistic- Early Roman town appears to have drastically shrunk in comparison to its Classical predecessor, surface surveys have evidenced a further slight decrease in size in Late Antiquity with the establishment of a *kastron* in the late 4th – early 5th century.[710]

The functional areas of the Graeco-Roman town were often re-arranged in this period: areas that previously were central foci of religious or civic activities lose their importance, and others become the new centres of urban life.[711] Generally, a tendency towards monumentality is recorded on the city level, especially in relation to the construction of Christian buildings.[712] Numerous churches and monasteries were in fact erected either re-using pagan buildings or employing *spolia* of previous structures.[713] From a topographical point of view, at some sites such as the Boeotian cities of Plataiai[714] and Tanagra (Figure 5.9),[715] the orthogonal urban grid that was laid out in the 4th century BC was overall maintained, while, as already mentioned, the size of the town decreased considerably. The ongoing geophysical prospections at Tanagra have confirmed, with slight modifications, the path of the city walls that had been recorded in the 1970s by D. W. Roller.[716] These new analyses, however, have shown that what had been previously thought as being the Classical circuit was instead the fortifications of the smaller

[702] For an overview on these topics see Jacobs 2013, 1-7; Waelkens *et al.* 2006.
[703] Bonini 2006, 33.
[704] Bintliff 2012, 363.
[705] Liebeschuetz (2001, 287) notes a rapid decline in towns in Greece starting from the late 6th century AD.
[706] Bintliff 2012, 383.
[707] Slane and Sanders 2005.
[708] This is the case for example of Late Antique Ephesos, see Foss 1979, 94.
[709] Bintliff 2013a.
[710] Bintliff pers. comm.
[711] Bintliff 2012, 372; Ellis 1988, 573.
[712] Sodini 2007, 331; Bintliff 2012, 360-1.
[713] Bintliff 2012, 361.
[714] Konecny *et al.* 2013.
[715] Slapšak 2012.
[716] See e.g. Roller 1974.

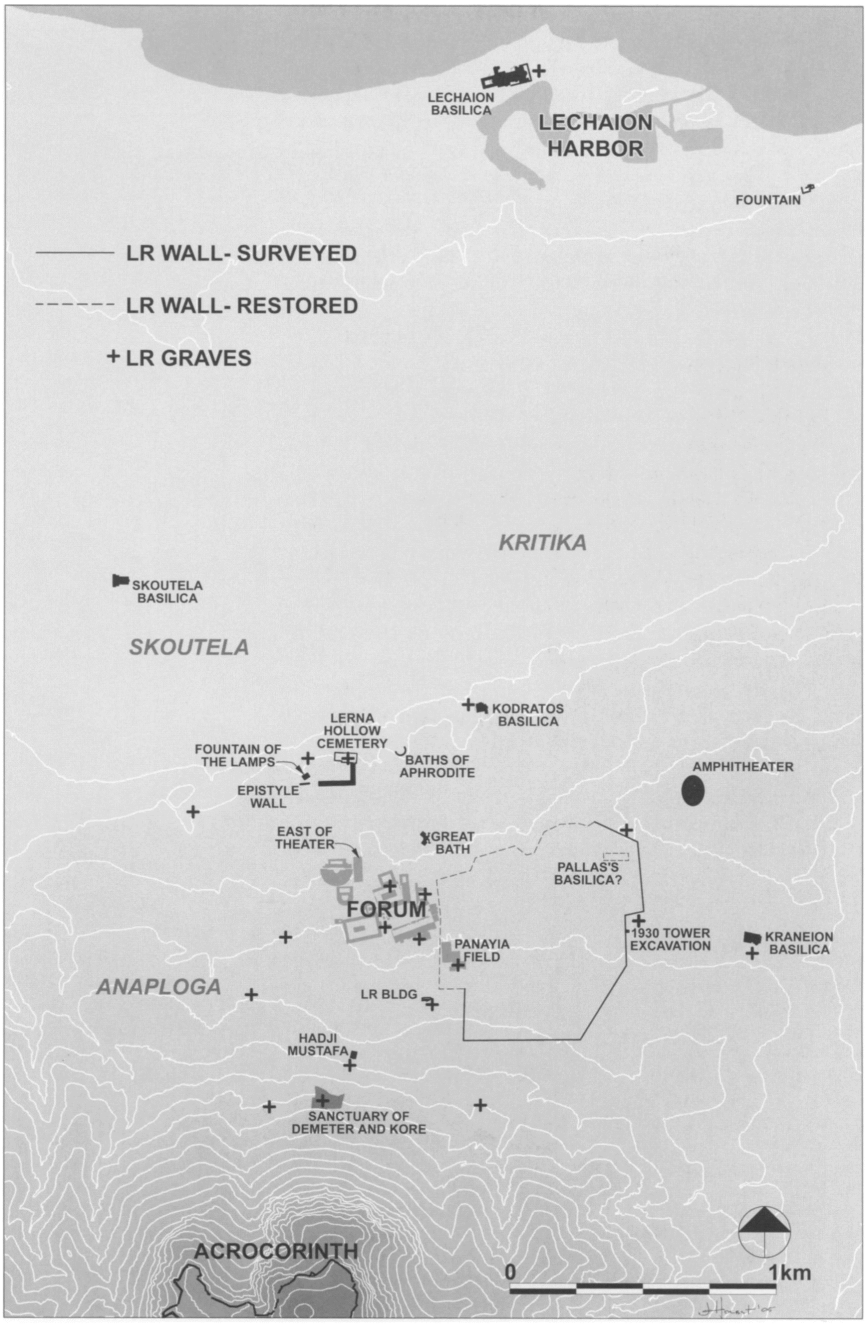

Figure 5.8 Corinth: The extent of the Late Antique settlement revised according to recent investigations (Slane and Sanders 2005, 245).

Late Antique town. Changes were made in the inner configuration of the *insulae* where buildings were adapted or constructed anew to respond to the changed requirements of the town.[717] In other contexts, such as at Messene, instead, the orthogonal grid of the Hellenistic-Roman city was given up, and the new settlement that was established in the first half of the 5th century AD followed an organic pattern with narrow and winding streets.[718]

[717] Slapšak *et al.* 2005 (I thank G. Rutar for sending me the paper that was presented at the conference).

[718] P. Themelis, 'Messene. A multiperiod site' available at http://www.academia.edu/12798848/P.Themelis_MESSENE.A_multiperiod_site

Figure 5.9 The results of geophysical prospections at Tanagra show that what was initially thought as the Classical fortification, marks instead the perimeter of the Late Roman town, while the Hellenistic town occupied a larger area, here hypothetically mapped with the red line by J. Bintliff on map 1621-101 contained in the report by Eastern Atlas (Meyer et al. *2017).*

5.3 The topography of Graeco-Roman towns: changes and continuities from the Archaic Period to Late Antiquity

The aim of this section is to present the transformations that urban centres underwent from the Archaic period to Late Antiquity, highlighting continuities and discontinuities in the ancient topography, by discussing the urban features that typically composed a Graeco-Roman town. This overview will identify the evolution of urban spaces throughout antiquity and how they adapted their form and modified their

functions in response to the changed socio-political and economic situation of the town. The overview starts with the architecturally most prominent religious foci of urban centres, the sanctuaries, and continues with the agora, discussing then the role and the evolution of theatres during the period taken into consideration. Domestic architecture is dealt with next, considering also the spaces within houses that were dedicated to workshops and shops. The spaces that were used for training are discussed afterwards, followed by industrial areas (focussing especially on pottery production), and urban fortifications. Finally, the evidence of the types of trees, groves and gardens that were present in town is presented.

5.3.1 Religious foci

The presence of gods permeated every aspect of life in ancient Greece. It is therefore not surprising that sacred and civic spaces were often interlaced within the urban layout of the ancient Greek city.[719] In agorai, where political activities and meetings took place, altars and temples were also present, and often the buildings that hosted political meetings were built close to religious buildings to ensure the divine protection for the decisions that were taken. *Prytaneia* were the seat of the *prytaneis*, the head officials of the *polis*, but in this same building the sacred hearth of Hestia was kept undying as a symbol of *polis* life itself. Houses themselves were the spaces where the *oikos* cult was worshipped by the household with simple rituals that have rarely left archaeological evidence.[720] This section is focused on the most visible traces of the presence of gods in the *poleis*, namely sanctuaries and other sacred buildings.

The development of sanctuaries is parallel to the process of *polis* formation as the community defined itself through these religious foci.[721] Sanctuaries were not only the places in which the gods were worshipped, but also the space in which the city represented itself and constructed its identity, a 'manifestation of power and prestige within the framework of a competitive culture', as Marinatos defined them.[722] This aspect is most visible in the erection of *thesauroi* in the Pan-Hellenic sanctuaries, such as the thirty buildings with this function that dotted the sanctuary of Apollo in Delphi, and in the contests during which athletes from different *poleis* competed against each other.[723] Besides religious and political functions, sanctuaries were also important locations for financial administration in Archaic and Classical *poleis*, as designated buildings within the sacred precinct kept collective economic resources.[724]

The 2nd century AD traveller Pausanias commended the inhabitants of Tanagra for the clear separation that they had established between sanctuaries and people's houses.[725] Pausanias' observations suggest that the urban layout of the Boeotian city was quite exceptional and that a more common arrangement was a shorter physical distance between sanctuaries and houses. The inhabitants had in any case a clear

[719] Sourvinou-Inwood 1993, 12-3.

[720] Jameson 1990, 104-5.

[721] For the role played by cult centres in polis formation, see Snodgrass 1980, esp. chapters 1 and 2. This section focusses on intra mural sanctuaries; the extra urban sanctuaries, located in the *polis*' *chora*, were under the *polis*' political influence and were often used as landmark to set the boundaries between different *poleis*' territories. The Pan-Hellenic sanctuaries belong instead to a third category, that of the inter-urban sanctuaries, which were far from major *poleis* and therefore perceived as politically neutral and places to meet, compete and share knowledge, technology and skills (Marinatos 1993, 229-30). See also Bearzot 2009, 64-5.

[722] Marinatos 1993, 229.

[723] The festivals that were organized in the Pan-Hellenic sanctuaries remained places of self-representation of the elites also under the Roman control, see van Nijf 2001.

[724] Sassu 2013.

[725] Paus. 9.22.2: 'I consider that the people of Tanagra have better arrangements for the worship of the gods than any other Greeks. For their houses are in one place, while the sanctuaries are apart beyond the houses in a clear space where no men live'.

perception of the borders existing between areas with different functions. Such borders could be even physically marked by the use of *horoi*, boundary stones that defined the type of space that they enclosed, and consequently informed the passer-by about the necessary behaviour that had to be adopted.[726]

Sanctuaries' locations started to be fixed from the Dark Ages onwards.[727] Their position was not randomly assigned, but the choice followed specific criteria. Scully, in his work *The Earth, The Temple and the Gods*, underlines a strong relationship between landscape and sanctuaries' location.[728] Elements derived from the myths related to the deity, their characteristics or specific aspects of their cults were taken into account to choose the most appropriate location to distribute the cults of the gods within the urban centre. A rock formation, a spring, a tree could be seen as representation of the divine presence and these places were therefore marked off as sacred ground. The availability of water, which was valued as a gift from the gods, is often found in the vicinity of sanctuaries. Water in fact played an important role in purification rituals and in the worship of, among others, Hera, Demeter, Artemis[729] and the Egyptian gods.[730] Often, especially for female cults, a remote area was deemed the most suitable for the rituals that were performed within the sanctuary. This seems the case of the sanctuary of Demeter and Kore in Corinth, which was constructed quite far from natural water supplies, and on the steep, north slope of Acrocorinth, which required a great effort to cut the bedrock in order to create terraces that were suitable for the buildings' construction.[731]

The characteristics of the deities and their related rituals were in fact important factors in deciding their proximity with the core of the urban life. The traditional 'Polias' and 'Polieos' deities, such as Athena, Apollo and Zeus, were usually located in central places, either on the acropolis or in the agora,[732] while deities with a marked chthonic character,[733] and those that were seen as deviating from the canonical behaviour such as Dionysos, where located in the periphery of the urban centre. Demeter, the goddess of agriculture and fertility, had an important place in the Greek pantheon but, being related to female rituals of passage, her sanctuary was usually placed away from the city centre, such as at Corinth, or indeed in transitional places such as at the border of the city, within or just outside its city wall, such as at Thasos and Selinus where her sanctuary was erected near the main gate.[734] Gods representing an 'in-between' state could be placed in different locations according to their most prominent characteristic. The sanctuaries of Artemis, the goddess of wilderness and protector of young girls, for example, are often located on boundary zones, either of different chorai or within the city such as on the agora, at crossroads or at the gate of the city.[735]

Apart from the characteristics of the gods themselves, also the relationships between them as told by myth could have played a role in placing their sanctuaries. In Delos, the earlier religious focus of the *polis* was the sanctuary dedicated to Apollo and Artemis close to the harbour. Scott suggests

[726] Caliò 2012, 153-5; Martin 1956, 108. Dickenson sustains however that the practice of marking off the agora with *horoi* is attested only at Athens, Piraeus and Sounio, while it was not a common practice outside Attica (Dickenson 2012, 14-7).
[727] Schachter 1992, 1; see also Sourvinou-Inwood 1993, 1-17.
[728] Scully 1962, 2. Scully received much criticism for this work which was defined an 'imaginative and subjective attempt' by Tomlinson (1980, 372).
[729] Cole 1998, 162.
[730] Mylonopoulos 2008, 64.
[731] See on this matter: Bookidis and Stroud 1997, 423-5.
[732] Hölscher 2012, 174.
[733] A connection can be locally noted between the deities related with the underground world and those related with agriculture, such as Demeter (Fairbanks 1900, 247-8). It must be noted that apart from the typical chthonic gods such as Hades, other deities could have a chthonic epithet, such as Hera in her early cult.
[734] Price 1999, 51; Cole 1994, 211; Osborne 1987, 169; it is interesting to note that at Thasos a precinct dedicated to the Thasian *patriai* (among which was Artemis Orthosia) was close to the sanctuary of Demeter. The *patriai* protected the lineage and Demeter the reproduction and the family (Cole 2004, 52). For the sanctuary of Demeter Malophoros at Selinus see Price 1999, 51.
[735] Cole 2004, 183-4.

that the sanctuary of Hera was on purpose situated halfway up Mount Cynthus, in a difficult to reach position and provided with an entrance facing south which made it spatially separated from the lower religious focus, because of the hostility that Hera nourished towards Apollo and Artemis, born from the adulterous relationship between Zeus and their mother Leto.[736] The natural landscape was once again exploited by the Delians to construct the sanctuary of the Kabiroi, the Great Gods of Samothrace, on the 'terrace of Foreign Deities' that was spatially segregated and therefore invisible from the Apollo sanctuary (Figure 5.10).[737]

The imposing architecture of temples has caused some confusion on the correct assessment of the focal point of the cult, which was the altar in front of them, where sacrifices were offered to the deity, and not the temple itself. In literary sources, altars are often divided into *bomoi* (high structures of various shapes and sizes) and *escharai* (low-lying structures, mounds or simple piles of stones, ashes and bones with an opening into the ground) in relation to the nature of the worshipped god, *ouranic* or *chthonic* respectively. To reach ouranic gods, who inhabited the sky, sacrifices had to be directed upwards and were therefore performed burning the offerings outdoors. Chthonic gods, who populated the underworld, were instead reached by pouring liquids such as water, milk or honey into the *eschara*.[738] This traditional division has been however recently put into question by a re-examination of iconographic and archaeological evidence,[739] which shows that the term *bomos* defines the altar in general, which could be of different sizes and shapes, while *eschara* refers only to the upper part of the altar where the fire was lit, which often consisted of a separate fire-cover protection made of different materials.[740]

An altar, which was erected within a delimited sacred space, the *temenos*, pointing towards east[741] was often the only element of early sanctuaries. During the Archaic and the Classical periods a *peribolos* wall, constructed as either a simple low mud brick wall or as a more elaborate stone wall supplied with an entrance gate giving direct access to the altar area, could border the sacred space of the sanctuary.[742] At the entrance, a basin of water (*perirrhanterion*) was usually placed for ritual purifications.[743] Especially from the 9th – 8th century onwards, a temple could be added within the sacred area, usually oriented towards the altar, with the purpose of housing the cult statue and the votive offerings that were brought to the deity.[744] Early structures were built in perishable materials, therefore the first phases of a cult are often difficult to pinpoint archaeologically.[745] Temples were integrated into the urban layout,[746] and designed according to a system of proportions,[747] which in some cases seems to correlate with the dimensions of the urban grid.[748]

[736] Scott 2012, 50-1.
[737] Scott 2012, 62-5.
[738] Pedley 2005, 61; Mikalson 2010, 5.
[739] Ekroth 2001.
[740] Ekroth 2001, 120ff; archaeologically attested materials for altars' fire-protections are serpentine, gneiss and terracotta (Ekroth 2001, 122), but vase depictions show also covers with protruding endings that Ekroth interprets as metal trays on the basis of archaeological evidence (cf. the '*escharas purkaious*' attested in some inscriptions from Delos, Ekroth 2001, 123).
[741] According to some scholars, the orientation of the altar was not strictly towards the east, but could be instead oriented towards important constellations or stars (e.g. the Pleiades and Orion), see Boutsikas and Ruggles 2011.
[742] Mikalson 2010, 17.
[743] Cole 2004, 36.
[744] Sourvinou-Inwood 1993, 8. Important sanctuaries did not include a temple, or the latter was added in a later period, such as that of Apollo Delphinios at Miletos where the temple was built only in Roman times (Sourvinou-Inwood 1993, 16, note 60). See also Price 1999, 47 and Mikalson 2010, 18.
[745] Mazarakis-Ainian (1997) suggested that the early stages which led to the development of temples are to be identified in the communal rituals that were performed in or around elite houses in the Early Iron Age.
[746] Price 1999, 49.
[747] See the studies by J. J. Coulton (e.g. Coulton 1975).
[748] Grupico 2008.

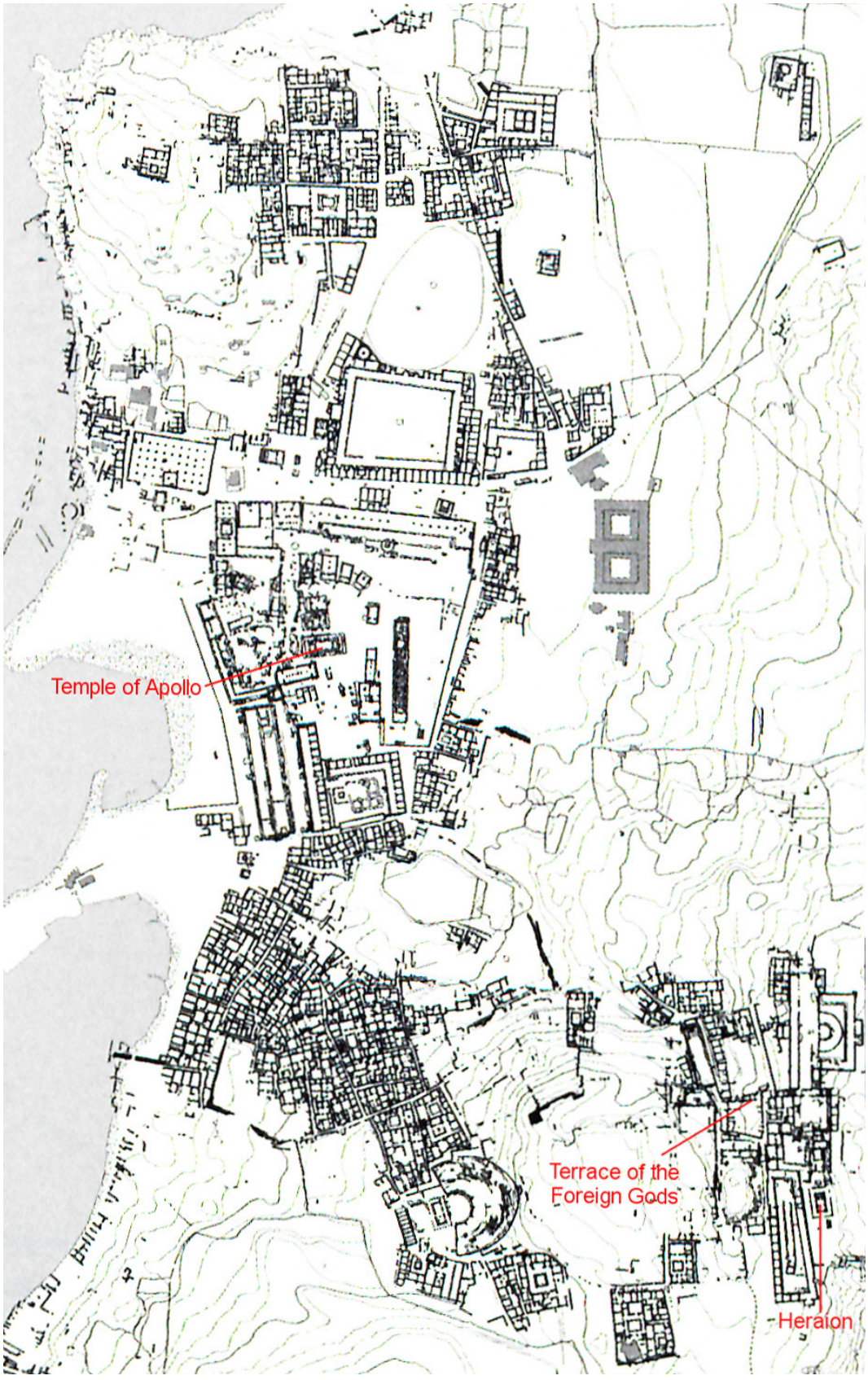

Figure 5.10 Map of Delos' excavated areas (modified after Moretti et al. *2015, pl. 7).*

A larger area, defined by Sinn as 'cult-meadow', was part of the sacred space and was separated from the smaller precinct usually by erecting a low wall or by exploiting the natural terraced morphology. In this case, the smaller area was often located higher and separated from the lowest, wider space by a terrace.[749] The meadow was often provided with a water supply through cisterns and wells, which made it suitable to host numerous people in case of need, such as asylum-seekers in search for shelter.[750]In this area ritual dining took place, which was an essential complement of the sacrifices that were performed at the altar. For this reason, findings connected to food preparation and consumption, such as plates, *kantharoi*, bones and other food remains, are commonly found in the area.[751] The monumentalization of sanctuaries is visible also from the creation in later times of *hestiatoria*, additional rooms that were used to host such communal banquets.[752] Several examples of *hestiatoria* have been extensively investigated, such as the dining rooms connected to the sanctuary of Demeter and Kore at Corinth,[753] with the highest number of *hestiatoria* ever discovered in a Greek sanctuary, and the sanctuary of Herakles in Thasos.[754]

Athletics and artistic performances were also closely connected with sanctuaries. Musical, poetry and choreutic contests were performed, and artistic productions were dedicated as votive offerings to the deities.[755] Competitions such as foot or chariot races, wrestling or boxing, attracted the largest amount of visitors during the festivals, especially at Pan-Hellenic (Olympia, Isthmia, Delphi and Nemea[756]) and regional sanctuaries such as the Itonion at Koroneia which was discussed in chapter 4.[757] For this reason spaces that could host these events, such as stadia, are often found in connection with sanctuaries. At Isthmia, given the sloping ground, a great effort was needed to obtain a suitable space to build the first stadium during the second quarter of the 6th century BC, and further expansions were made during the 5th century.[758] In the 4th century the first stadium was substituted for by another, larger stadium which was built following a different orientation that better exploited the natural landscape to accommodate spectators on the adjacent slopes.[759]

The participants to the competitions and the visitors needed a place to stay, hence hotels (*xenon*) were commonly built in the vicinity of sanctuaries and close to main roads. An excavated example is the *xenon* of Nemea that was built at the end of the 4th century BC on the edge of the sacred area of the sanctuary, near to the bath (Figure 5.11). This rectangular building, measuring 85.89 m east-west and 19.78 m north-south, was originally divided into 14 rooms, to which two other rooms were added in a following phase.[760] The southern rooms returned finds associated with dining and food preparation, while the northern rooms were most likely used for sleeping.[761] Hotels of other shapes and sizes are

[749] But exceptions exist such as the sanctuary of Hera at Perachora where the opposite was more convenient for the characteristics of the bay.

[750] The inviolability (*asylia*) of (especially extra-urban) sanctuaries, which made them shelters for asylum-seekers is discussed in Sinn 1993 and Schumacher 1993. The Heraion at Perachora offers a clear example of a sanctuary that, lacking natural water sources, was provided by artificially made supplies, among others a large apsidal cistern around 450 BC (Whitley 2001, 295-9).

[751] Some inscriptions from Delos contain information about the types of food that were consumed during the festivals Posideia and Eileithyaia, see Linders 1994.

[752] Marinatos 1993, 228. It has to be noted that, however, *hestiatoria* is not the most attested term for such rooms in epigraphic sources: more often, in fact, the terms *oikos*, *èdrai-èdrana* (benches), *klismòi* (beds) or *exedra* appear (see Livadiotti 2013, 50, citing the study on the epigraphs from Delos by M.-Ch. Hellmann (Hellmann 1992).

[753] Bookidis and Stroud 1997.

[754] Bergquist 1998.

[755] Marinatos 1993, 232-3.

[756] For the early phases of the establishment of these sanctuaries, see Morgan 1993, 18-44, esp. 35.

[757] See pp. 103-5.

[758] The plan of the site is available at https://lucian.uchicago.edu/blogs/isthmia/files/2010/08/fig1_ab.jpg; see Gebhard 1992 and Gebhard 1993, 162-3.

[759] Gebhard 1993, 164.

[760] For a detailed description of this building, see Kraynak 1992.

[761] Miller 1990, 97.

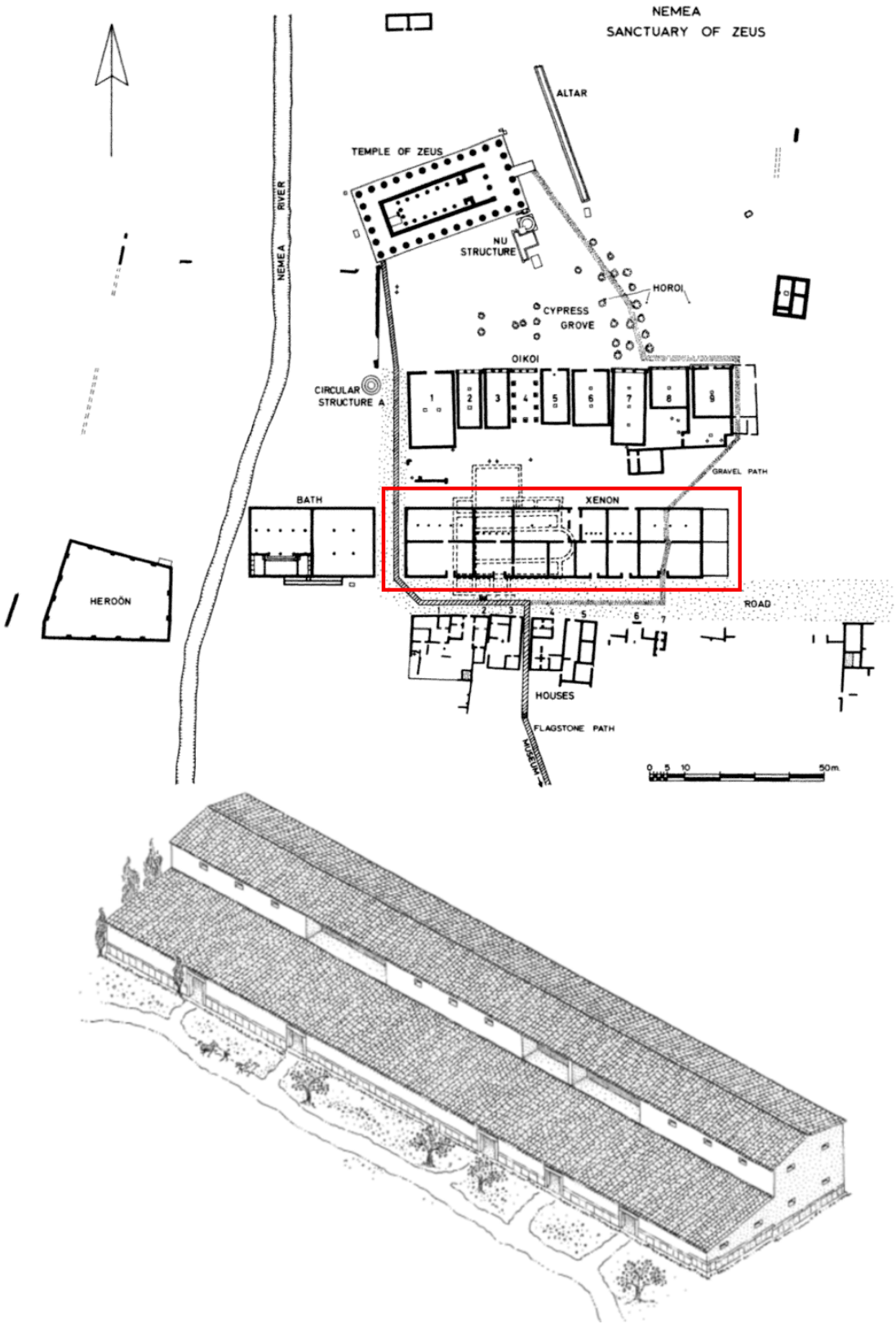

Figure 5.11 Top: Map of the sanctuary of Zeus at Nemea showing the facilities around the sanctuary such as the Xenon, highlighted in red (modified after Miller 1990, 34); bottom: Reconstruction drawing of the Xenon at Nemea (Kraynak 1992, 121).

attested in Greece, such as the Leonidaion at Olympia, the *katagogeion* at Epidaurus and at Eretria.[762] Thucydides mentioned a *katagogeion* that was built in Plataiai, close to the sacred precinct of Hera, after the city was destroyed by the Spartans in the second half of the 5th century BC. The building of 'two hundred feet square, with rooms all round above and below', according to Thucydides was constructed using materials from the buildings that had been knocked down.[763]

During the Hellenistic period, the transformations brought about by the redefinition of powers in Greece and beyond, under Alexander the Great's Diadochi, are reflected in changes in Greek religion.[764] One of the major modifications, as a direct result of an increased mobility of people, is the introduction of new cults, such as that of the Egyptian gods Serapis and Isis, which will become even more widespread during the Roman period.[765] New cults include those of Alexander and his successors, who were honoured with dedications that were usually reserved to gods such as the erection of altars, shrines and statues and with the celebration of festivals.[766] As Mikalson notes, these demonstrations of reverence and gratitude to the Hellenistic rulers can be explained by fact that the Greeks felt that important aspects of their wellbeing, such as peace, safety and the provision of food, depended now on the Hellenistic rulers' as much as on their gods' good will.[767] An increased number of works, including the construction, embellishment or repair of altars, shrines and sanctuaries were financed by the families of landowners and merchants that had gained wealth and social position during this period, with the return of oligarchy encouraged by the new successor states. Their contributions as benefactors of the city were remembered by dedications and inscriptions on statues.[768] As the construction of new temples was now mainly initiated by individual sponsorship, many projects were left unfinished at the death of the benefactor, such as in the case of the temple of Zeus in Lebadeia that was never completed following the death of its financier King Antiochus IV.[769]

From an architectural point of view, more systematic and precise numerical relationships and proportions between individual parts seem to be sought when new temples were erected during the Hellenistic period,[770] and more attention was paid to arrange the architectural elements in order to reach a scenographic and visually pleasing effect.[771] Sanctuaries show signs of monumentalization, which was visible less in temples (that were instead preferably built in rather small dimensions from the 4th century onward),[772] but rather in the addition of propylaia, stoas and altars to existing sanctuaries as a gift from royal and individual patronage.[773] Propylaia were meant to focus attention on the entrance of the sacred area, which was given an inward looking appearance by the addition of stoas. An example of the progressive architectural definition of space around a sacred area is the sanctuary of Zeus at Dodona which was equipped with a propylaion and an Ionic colonnade on three sides during the 3rd century BC (Figure 5.12); the temple itself projected outside the perimeter of the precinct in order to leave enough space for the altar and for the visitor entering the propylaion to appreciate the temple. Altars, although usually proportional to the settings in which they were erected, received a more monumental appearance and more elaborate

[762] Winter 2006, 179.
[763] Thuc. 3.68.3. The investigations at Plataiai have not recorded evidence corresponding to Thucydides' description. On this matter see Konecny *et al.* 2013, 150.
[764] For an overview of religion in the Hellenistic world, see Martin 1987.
[765] Mikalson 2010, 188. For a selected bibliography on this topic, see Mylonopoulos 2008, 52.
[766] Mikalson 2010, 190.
[767] Mikalson 2010, 190.
[768] Bintliff 2012, 322.
[769] Winter 2006, 15.
[770] Winter 2006, 10-2.
[771] Winter 2006, 18-9.
[772] Winter 2006, 14.
[773] Winter 2006, 10.

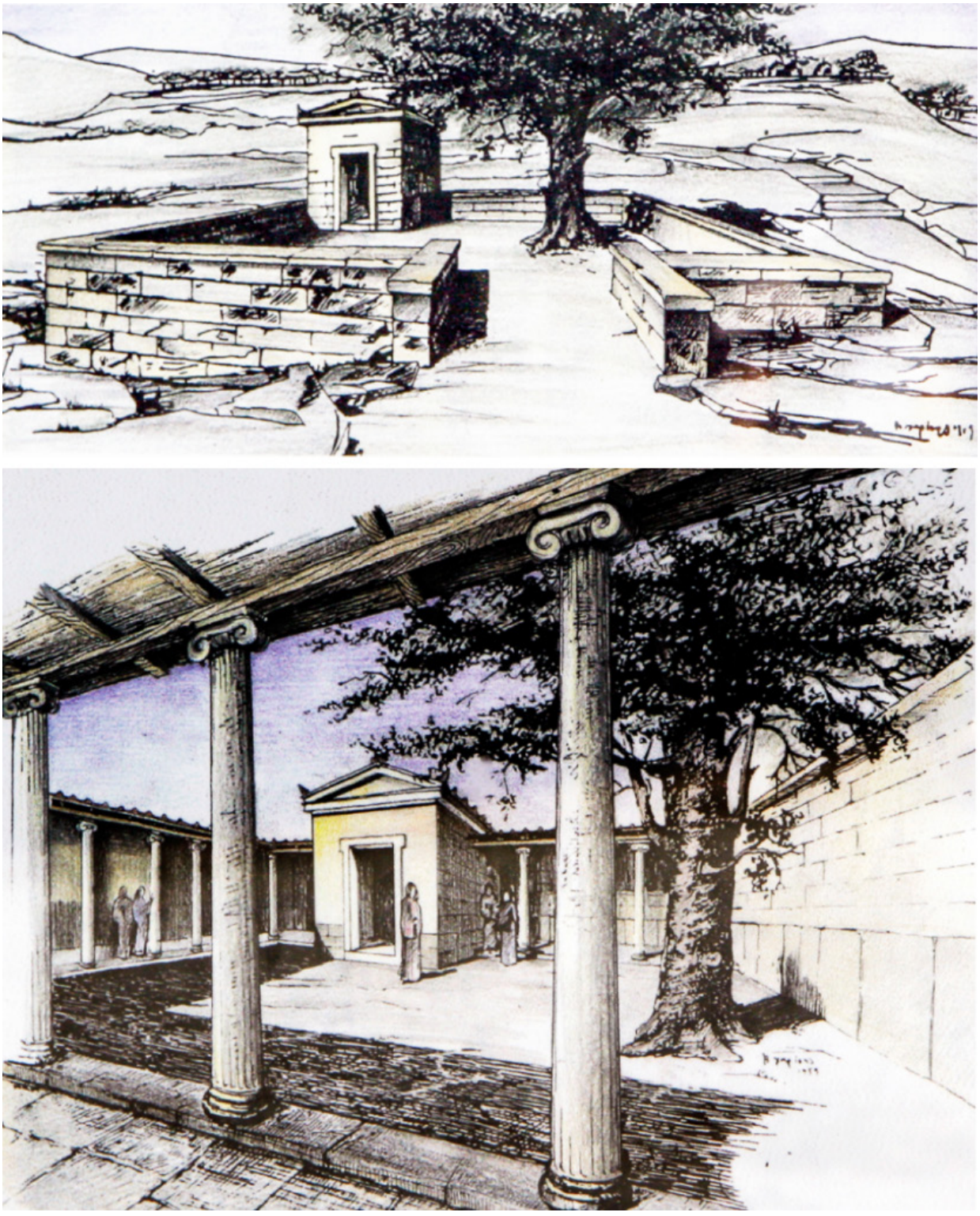

Figure 5.12 The sanctuary of Zeus at Dodona around 400 BC (top) and in the 3rd century BC (bottom) [source: http://ancient-greece.org/archaeology/dodona.html].

decorations during Hellenistic times, peaking with the still exceptionally large Great Altar of Pergamon, which was built under King Eumenes II in the 2nd century BC.[774]

[774] Pedley 2005, 62.

Scholars have spoken of a secularization of some aspects of Greek religion during the Hellenistic period, especially in relation to the critical inquiry into traditional gods that was introduced by sophists and philosophers,[775] and to the increased separation of athletics, musical and artistic competitions from religious festivals.[776] It is however difficult to find clear evidence that these changes translated into actual modifications in cult practices. An overview, albeit limited, of terracotta votive offerings from several sanctuaries carried out by B. Alroth did not return any conclusive and widespread sign of a different attitude, but suggested instead a continuity in the types of figurines that were chosen to be offered.[777] It is possible that the changed perception towards religion and a more sceptical approach towards traditional gods and rituals affected more the upper classes than the rest of the population and that therefore these changes are less visible in the material culture that Alroth has examined.[778] On the other hand, as Mylonopoulos observed, the marked increase in the construction of stoas around sanctuaries during the Hellenistic period can be read as a shift towards a spectacularization of the rituals, as spectators needed a sheltered space to observe the performance.[779]

The signs of change that are already visible in Hellenistic times become more pronounced with the advent of the Romans.[780] Space is too limited for an in-depth discussion of the mutual influences between Greek and Roman religion, but some relevant considerations will be made in term of architectural and cult changes that the Romans introduced in Greece. In sacred spaces, as well as in civic buildings, the negotiation between the Romans and Greeks is more evident. As Scott has argued, the introduction of Roman elements in Greek sacred spaces was subtle and respectful, especially at the beginning of the Roman presence in Greece.[781] This attitude can be perceived not only by the preference of reusing existing buildings for the introduction of the Emperor's cult, such as at Cyrene where an existing fountain house was turned into a temple of Augustus,[782] but also by the maintenance of a sacred earlier topography within the city. In Ephesos, for example, this is testified by the progressive embellishment during Roman times of an old processional route that started from the temple of Artemis, the patron deity of the city, and following the natural landscape passed by important sacred places for the city's history.[783]

The assimilation of Greek deities to the Roman pantheon can be considered completed by the 1st century BC.[784] Greek and Roman religious practices and temple architecture, however, were in substance very different. Typically, the Roman temple was raised on a podium, instead of being erected on a low stylobate as the Greek temple, and could be entered only from the front via a flight of steps, a characteristic that was inherited from Etruscan architecture (see Figure 5.13, b). The focus of Roman temples was therefore on the facade, whereas Greek temples were constructed to be seen from all sides and could be amphiprostyle with a portico on both ends (Figure 5.13, a). The frontal character of Roman temples was further accentuated by the presence of lateral, engaged columns that were not functional to the sustainment of the pediment as in Greek temples, but protruded only partially from the wall of the cella (Figure 5.13, c).

775 Alroth 1999.
776 Mikalson 2010, 190.
777 Alroth 1999.
778 See Alroth 1999, 217.
779 Mylonopoulos 2008, 52-6.
780 Scott 2012, 163.
781 Scott 2012, 166.
782 Scott 2012, 166.
783 DeLaine 2008, 99-100.
784 Price 1999, 143.

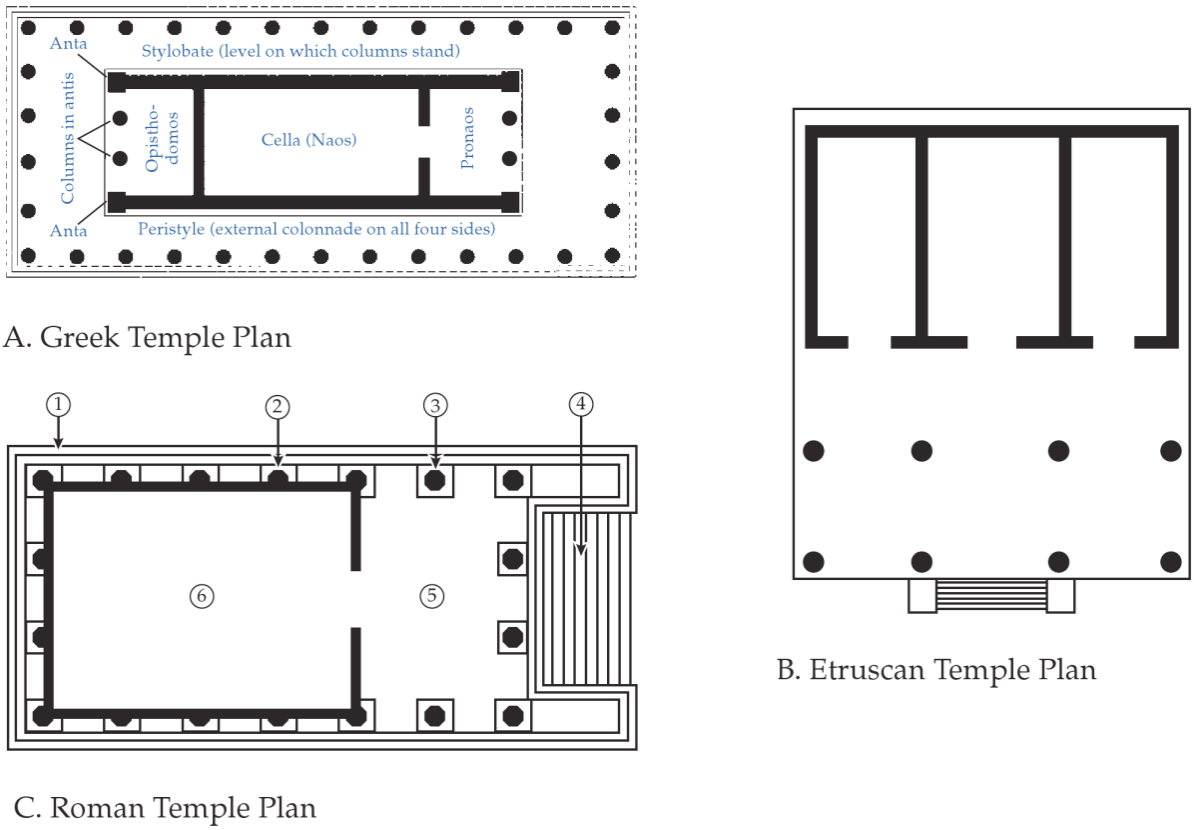

Figure 5.13 Plans of a Greek, an Etruscan and a Roman temple. 1) Podium or base; 2) engaged column; 3) freestanding column 4) entrance steps; 5) porch and 6) cella (from Cunningham et al. *2014, 132).*

The reverence for the Emperor and his family could be expressed in various ways, most notably through the dedications of buildings and statues. In some cases, such dedications hint at the institution of an actual cult for the Imperial family members.[785] The Imperial cult was introduced with local adaptations but without problems in Greek cities, as the worship of individuals was part of earlier religious practises, such as the cults of Hellenistic rulers.[786] Emperors were often associated with the traditional gods of the *polis*, which helped to assimilate the Emperor in a more familiar setting.[787] These cults were usually placed in important locations such as on the agora or on the acropolis.[788] The dedication of altars is one of the signs of the institution of an Imperial cult.[789] The remains of a round structure on the Athenian acropolis that have been traditionally interpreted as a small round temple dedicated to Roma and Augustus belong, according to Camp, most likely to an altar.[790] Games in honour of the Emperor could be added to existing festivals (as testified to by the introduction of the *Kaisareia* to the *Isthmia* at Corinth, the *Sebasteia* to the *Nemeia* at Argos, and the competitions of poetry in honour of the Emperor and his family that were added to the *Mouseia* at Thespiae).[791] In addition, priesthoods could be established for the Imperial cult, in some cases associated with the worship of existing deities, such as the *hiereia* of Hestia, Livia and Julia on the acropolis of Athens.[792]

[785] Camia 2009, 216. For an analysis of the Imperial cult in Asia Minor, see Price 1984.
[786] Camia 2009, 205.
[787] Camia 2009, 206; Price 1999, 158.
[788] Alcock 1993b, 158.
[789] Camia 2009, 218.
[790] Camp 2001, 187-8.
[791] Camia 2009, 207.
[792] *IG* II-III2 5096, Camia 2009, 209.

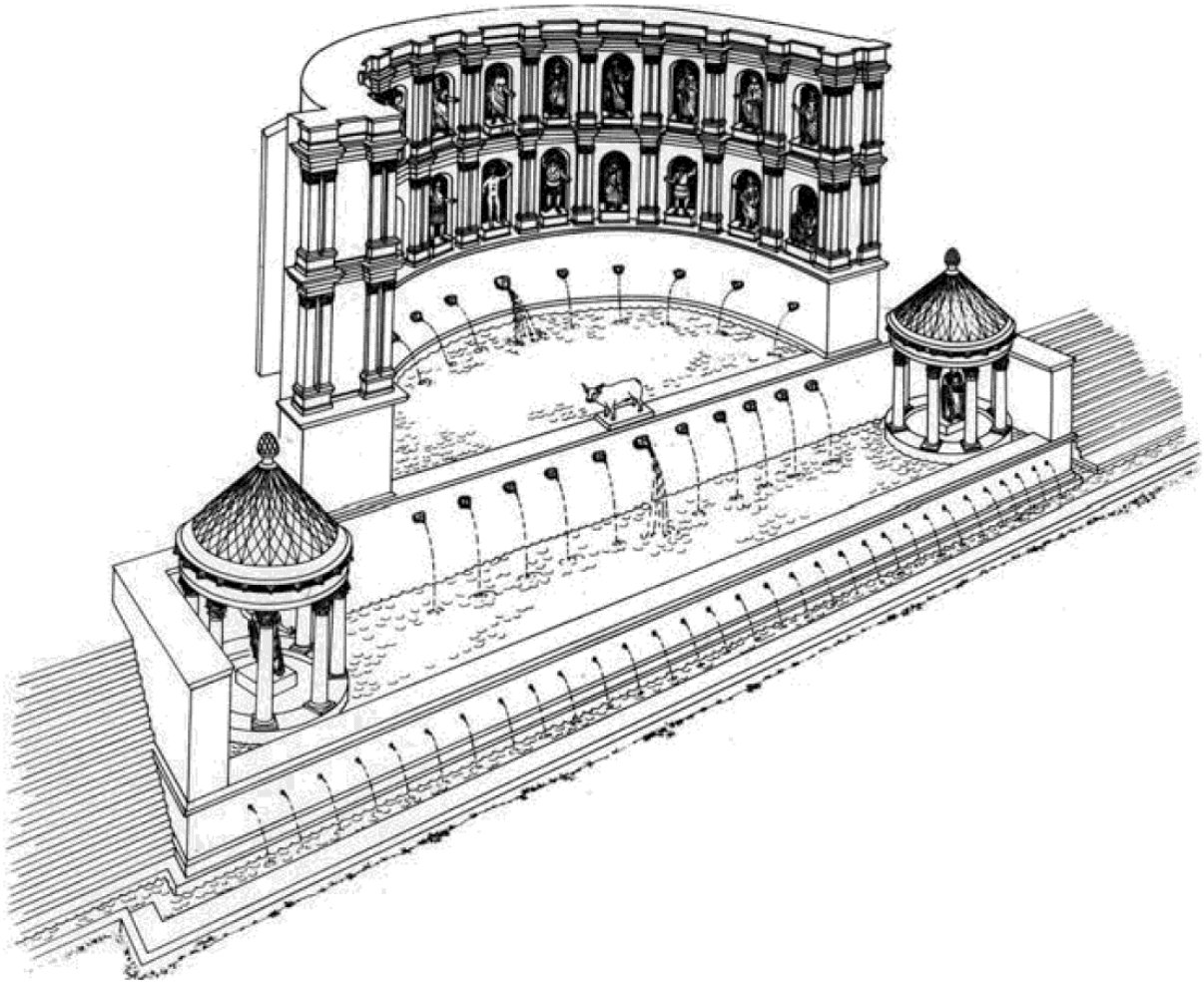

Figure 5.14 Reconstruction drawing of the nymphaeum of Herodes Atticus and Regilla at the sanctuary of Zeus in Olympia (after Longfellow 2009, 230).

Pan-Hellenic sanctuaries maintained their importance in Roman times as the competitions that took place there fitted well into the set of values, among which *virtus* was particularly important, that the Emperors wanted to promote. Wealthy individuals and (more rarely) emperors granted the construction of more infrastructures in sanctuaries, most notably related with water supply, with the addition of baths, cisterns, fountains and aqueducts.[793] These buildings, especially when erected in monumental size, were meant to carry a message and materialize the presence of the financer. It has been in fact noted that new infrastructures were often located on strategic places in order to convey that the benefactor was the protector of the old sacred areas.[794] According to Longfellow, a similar message could be intended with the construction of an imposing, eighteen meters high *nymphaeum* in the sanctuary of Zeus at Olympia, that was financed by the Greek aristocrat and Consul Herodes Atticus and his wife Regilla in the middle of the 2nd century AD (Figure 5.14).[795] In her view, the monument can

[793] For the Roman interventions at Pan-Hellenic sanctuaries, see Laurence 2012. For the creation of fountains in Greek sanctuaries, see Longfellow 2012.

[794] Longfellow 2012, 133-55.

[795] Longfellow 2009, 229-32.

be interpreted as 'an appropriation of the emperor's own visual language to glorify a local family and to reclaim, even if in some small measure, the local sacred landscape'.[796]

During the subsequent progressive Christianization of society, sanctuaries were obviously one of the most important terrains of negotiation for religious supremacy in Greece. Constantine gave substantial impetus to the introduction of Christianity in the Empire, becoming himself the first Christian Emperor, but it was Theodosius I who established Christianity as the official religion of the Empire in 380 AD. Recent studies are shedding light on the transition between pagan and Christian cults in Greece.[797] The available patchy dataset points towards a complex process that included both violent disruption of pagan symbols and coexistence with Christian architecture.[798] The overall picture clearly shows a competition for power that is expressed both in literary sources and in the archaeological remains.[799] While in Athens the Asklepeion was turned, not by chance, into the church of the saint physicians Cosma and Damian, and another church was housed inside the Parthenon, in Corinth no temple was converted into a church. Probably, therefore, the Christian worshippers must have gathered in church-houses until the 6th century AD, when a basilica was erected on the east side of the agora.[800] The available archaeological evidence in Delphi demonstrates that the town survived the transition from the pagan cult to Christianity, with a continuity in occupation up to the early 7th century AD.[801] The town was still called *hiera polis* in the first half of the 4th century AD, as attested by two epigraphs dedicated probably posthumously to the Emperor Constantine.[802] The temple of Apollo shows reparation works after being damaged by a fire in the 3rd century AD and it continued to stand into the 6th century AD.[803] A Christian community occupied the area of the sanctuary in the early 5th century AD and at least three basilicas were erected, one in the Gymnasium, another at the entrance to the modern village and a third, whose exact location remains uncertain, perhaps to the east of the Roman agora positioned at the foot of the Sacred Way.[804] The erection of churches on the entrances of the pagan sanctuary that is visible at Delphi, but also at Olympia, Epidauros and Dodona, testifies that the organization of space and the navigation through these pagan sites were maintained, but shows at the same time the Christians' intention to challenge and appropriate the space held by pagan religions.[805]

The tension and competition between pagans and Christians is perceivable also from other actions. Statues displaying pagan gods were moved from their original locations to Constantinople and *spolia* from pagan buildings were re-used to construct new churches as a sign of control and more power of Christianity on pagan cults.[806] Crosses were incised on statues and existing buildings, but the meaning of carving such symbols is still debated.[807] Pagan gods, emptied of their religious value, could still maintain some of their characteristics and become archetype figures in the Christian society, such as of Aphrodite which remained a symbol of love and assumed the role of the temptress in theatrical plays in Late Antique and Medieval Byzantium.[808]

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[796] Longfellow 2009, 232.
[797] Sweetman has studied the development of churches and the Christianization process in the Peloponnese, highlighting the strategies that led to a smooth adoption of the new religion in this region (Sweetman 2010, 2015).
[798] See Robertson Brown 2006 for an overview of the situation in Panhellenic sanctuaries.
[799] Robertson Brown 2006; Caraher 2003.
[800] Robertson Brown 2008, 121-2.
[801] See Petridis 2009 and 2015, 278-81 for a short review of Late Antique Delphi.
[802] Robertson Brown 2006, 311. See Petridis 2009 and 2015, 278-81 for a short review of Late Antique Delphi.
[803] Robertson Brown 2006, 312.
[804] Petridis 2009, 113.
[805] Robertson Brown 2006, 318.
[806] Robertson Brown 2006, 315-8.
[807] Stirling 2008, 138.
[808] Papagiannaki 2010, 346.

Sanctuaries: Diachronic case studies

The large number of sanctuaries that has been excavated all over Greece allows comparisons with each other, observations on their architectural typology and, where associated finds have been carefully recorded, also hypotheses about the rituals that were performed. Only in a limited subset of such sacred areas, however, have all the various phases of occupation received the same attention by excavators, thus allowing us to reconstruct diachronically the continuity and discontinuity of buildings and religious practices. Especially the Late Antique strata, which provide useful information over the fate of sanctuaries in the period when Christian communities started to become more numerous and edicts were promulgated by the emperors to limit pagan cults, are often overlooked. Corinth is one of the sites that have been thoroughly investigated and provides an exceptional case study to follow the development of the urban centre up to the Christian era. To provide some comparison for the attested cults at Koroneia, I will discuss the evidence from the Sanctuary of Demeter and Kore at Corinth, and of the sanctuary of Arthemis Orthia at Sparta.

The Corinthian sanctuary of Demeter and Kore is located at a distance from the centre of the city, halfway up Acrocorinth, as commonly attested for the two goddess's sanctuaries.[809] The natural morphology has shaped the architectural development of the sanctuary, which was laid out in such way that different activities connected to the ritual were divided across different terraces: the lowest terrace accommodated the dining rooms, small buildings around 4.5 to 5 m long,[810] which offered a wide range of finds shedding light on the foods that were consumed during the ritual meals, such as beans, seeds, nuts, olive pits, honey and possibly fresh or dried fruits.[811] The middle terrace was used for sacrifices (especially pigs that were sacred to the goddesses) and offerings dedicated, which included terracotta figurines, numerous sea shells,[812] and miniature clay models depicting *likna*, baskets containing cakes and bread.[813] On the highest terrace, a small theatre cut into the rock hosted some sort of initiation ceremony.[814] The high presence of oil lamp fragments suggests that (part of) the rituals, which were reserved, although perhaps not exclusively,[815] to women, could be celebrated at night.[816]

The finding of a pan and tile cover type has led the excavators to suggest the presence of a building in the first half of the 7th century BC,[817] although the first *in situ* wall structures are dated to the first half of the 6th century BC and it is during this century that a consistent building activity took place.[818] An interruption in architectural continuity has been detected around the end of the 4th century, where deep debris layers testify to the likely occurrence of a strong earthquake.[819] This event is followed by a phase of renovations and extensions dated around 300 BC, which brought a marked monumental character to the site and changed the pattern of movement between terraces.[820] During the Hellenistic period, the evidence points towards a continuity of structures, without evident signs of new constructions. An

[809] Bookidis 1993, 45.
[810] Different users have been suggested for these buildings, consisting of small rooms with kitchen and toilet facilities, see Bookidis and Strout 1997, 411-2.
[811] Bookidis 1993, 55-6.
[812] Bookidis 1993, 54.
[813] Bookidis and Strout 1997, 427. Specifically on *likna* see Brumfield 1997
[814] Bookidis 1993, 47. The presence of a theatre is commonly attested in sanctuaries of Demeter, as in Selinus (dedicated to Demeter Malophoros) where a small rock cut theatre with six steps could accommodate a limited number of people and in Pergamon with a larger theatre of estimated capacity of 800 people (Price 1999, 50).
[815] See Price 1999, 50 regarding the presence of male names in the dedications at the sanctuary of Demeter Malophoros at Selinus.
[816] Bookidis 1993, 47.
[817] Bookidis and Strout 1997, 425.
[818] Bookidis and Strout 1997, 426-7.
[819] Bookidis and Strout 1997, 430-1.
[820] Bookidis and Strout 1997, 431-2.

abrupt interruption occurred in 146 BC when the Roman conquest and destruction affected also the sanctuary, which was left abandoned until the foundation of the Roman colony in 44 BC.

A rebuilding of the sanctuary took place after the colony was established, and followed the same spatial organization over the three terraces of its Greek antecedent.[821] The main focus of the sacred area became however the Upper Terrace, which was slightly re-oriented to follow the Flavian centuriation system.[822] On this area, three parallel prostyle Ionic temples were constructed in the second half of the 1st century AD.[823] The westernmost temple has been identified as dedicated to Demeter as it was provided with a marble statue of the goddess during the second half of the 2nd century AD.[824] The Middle Terrace was then reinforced by a retaining wall and equipped with propylaia and a stoa (Figure 5.15). In the Lower terrace, a large building was constructed using part of the walls of the Hellenistic buildings that were still in place. This structure was used for cult practices that were very different from the previous rituals. There is in fact no evidence for the meals that had been an integral part of the worship in the previous periods, instead, a large number of lead curse tablets, all addressing women, were found.[825] Among the offerings, terracotta figurines and clay models are not numerous anymore, while oil lamps are still attested, thus hinting at the possibility that the rituals were again performed at night.

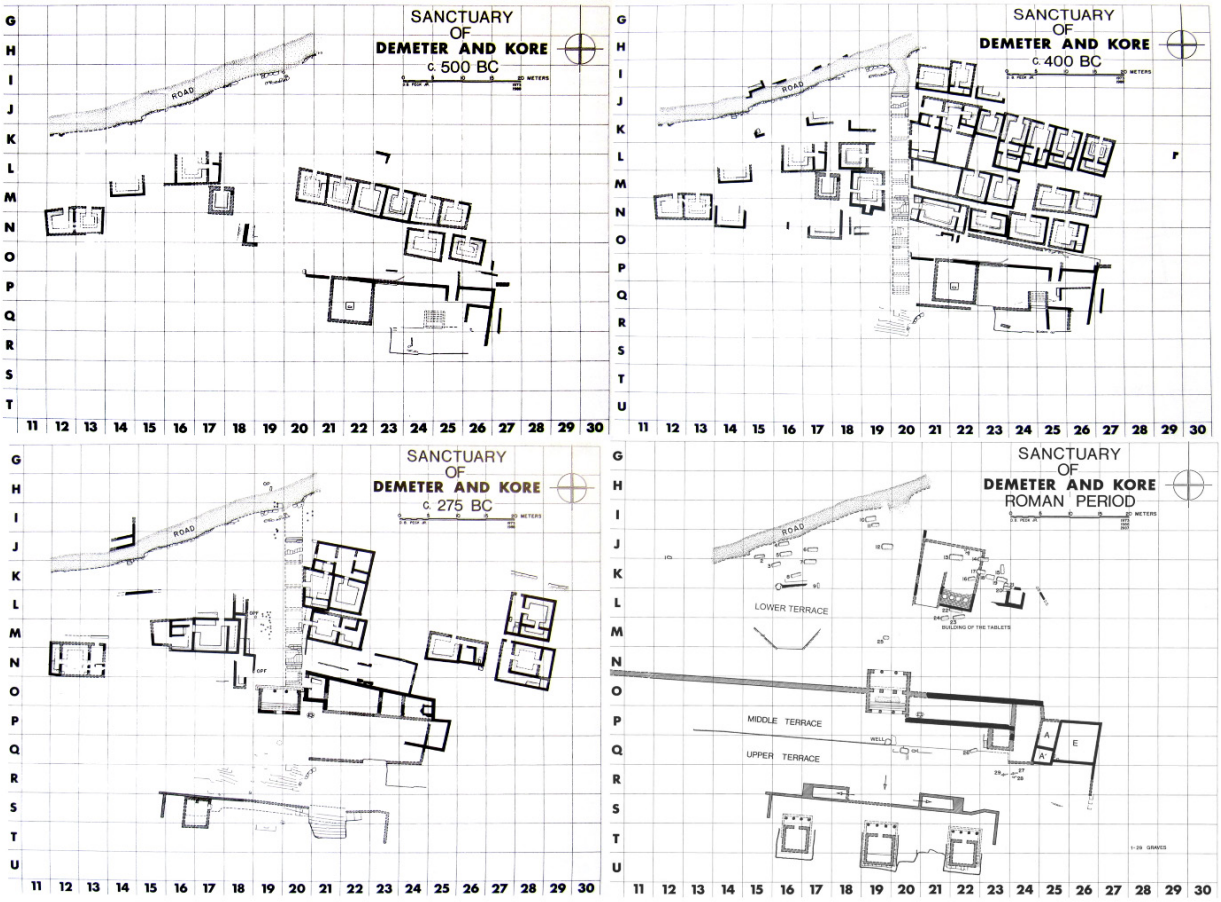

Figure 5.15 The sanctuary of Demeter and Kore from 500 BC to the Roman period (modified after Bookidis and Strout 1997).

821 Bookidis and Strout 1997, 434.
822 Gilman Romano 2003, 296.
823 Bookidis and Strout 1997, 436.
824 Bookidis and Strout 1997, 436.
825 Bookidis 1998; Bookidis and Strout 1997, 434-5.

The Heruli that invaded Corinth in 267 AD left little traces of their passage on the sanctuary and religious activities seems to continue until the end of the 4th century AD, which corresponds to the end of the sanctuary's use.[826] An exact date cannot be established and the circumstances are still a matter of debate.[827] An earthquake, perhaps the one that occurred in 375 AD, could have marked the beginning of the sanctuary's demise. However, three statue heads torn off their bodies and thrown into a well has led scholars to suggest that its final phases were related to a violent episode, perhaps contextual to Alaric's invasion in 395 AD. In an increasingly Christianised society, with numerous anti-pagan Imperial edicts that were issued over those years, the destroyed sanctuary was then never rebuilt and was subsequently used as a quarry for building materials.[828] A cemetery was then installed in part of the area during the 5th and early 6th centuries, but it is impossible to ascertain if they were pagan or Christian tombs for the lack of tombstones and scarcity of grave goods that were found. Diverse explanations have been put forward for the choice to install a cemetery on this area: either for the still perceived sacred nature of the site,[829] or on the contrary, as a way to obliterate the memory of the place, or, more practically, because it offered an already levelled ground on the steep slope.[830]

In searching for examples that allow us to investigate how the Romans interpreted existing cults, we may turn to the sanctuary of Artemis Orthia in Sparta that was located, as usual for the goddess, close to a water source, on the right marshy bank of the Eurotas River.[831] The sanctuary was most famous for the *rite de passage* of the *diamastigosis*, during which the Spartan youths were whipped near Artemis' altar. According to Xenophon, the ritual was part of Lycurgus' youth education program, for which the *ephebi* had to steal as many cheeses as possible from the altar while enduring the pain of being scourged by others that were meant to prevent them to take the cheese.[832] In later sources the ritual assumes different characteristics and, although maintaining its role as a *rite de passage*, loses its initial connotations to become a bloody competition in which who could sustain the whips the longest won.[833] Epigraphic material that was documented on site testifies to the continuation of the dedications by the winners at least until the 3rd century AD.[834]

The evolution of the ritual can be followed in the modifications that took place in the architectural arrangement of the sanctuary. Remains of burnt animal bones, pottery and small bronzes are the first indications of the cult, which were dated to the end of the 8th century BC.[835] The area underwent several modifications from the Geometric to the Archaic period, starting with the creation of a *temenos* wall that enclosed the area, then with the addition of an altar, and finally with the erection of a temple. A new altar and a new temple were built in the 6th century BC on raised ground, probably as a consequence of a flooding of the river that had destroyed the previous structures.[836] The altar was rebuilt several times,

[826] Bookidis and Strout 1997, 437.
[827] See Warner Slane 2008, 466-7.
[828] Bookidis and Strout 1997, 438-9. For an overview of Corinth in Late Antiquity, see Rothaus 2000; Slane and Sanders 2005; Robertson Brown 2008.
[829] This interpretation has been put forward given the higher amount of women and children's tombs which could relate to the passed-on memory of the sacred nature of the site for female cult (Bookidis and Strout 1997, 440).
[830] Warner Slane 2008, 466.
[831] The sanctuary was excavated in the early 1900s and was published in 1929 by R. M. Dawkins (*The Sanctuary of Artemis Orthia at Sparta*, London: MacMillan and Co.) where all the yearly reports of the excavations that had appeared in the Annual of the British School at Athens were revised and organized in a systematic presentation. Dawkins' chronology was then revised by J. Boardman (1963) and by P. Cartledge in his work on Lakonian regional history (Cartledge 2002, 308-12).
[832] Xen. *Const. Lac*. 2.9.
[833] For a discussion on the literary sources that account for this ritual see Baudini 2010.
[834] Cartledge and Spawforth 2002, 187; Brulotte 1994, 224, which presents an overview of the inscriptions and votive offerings found at the site (189-217).
[835] Boardman 1963, 3.
[836] Dawkins 1929, 16; Cartledge 2002, 310.

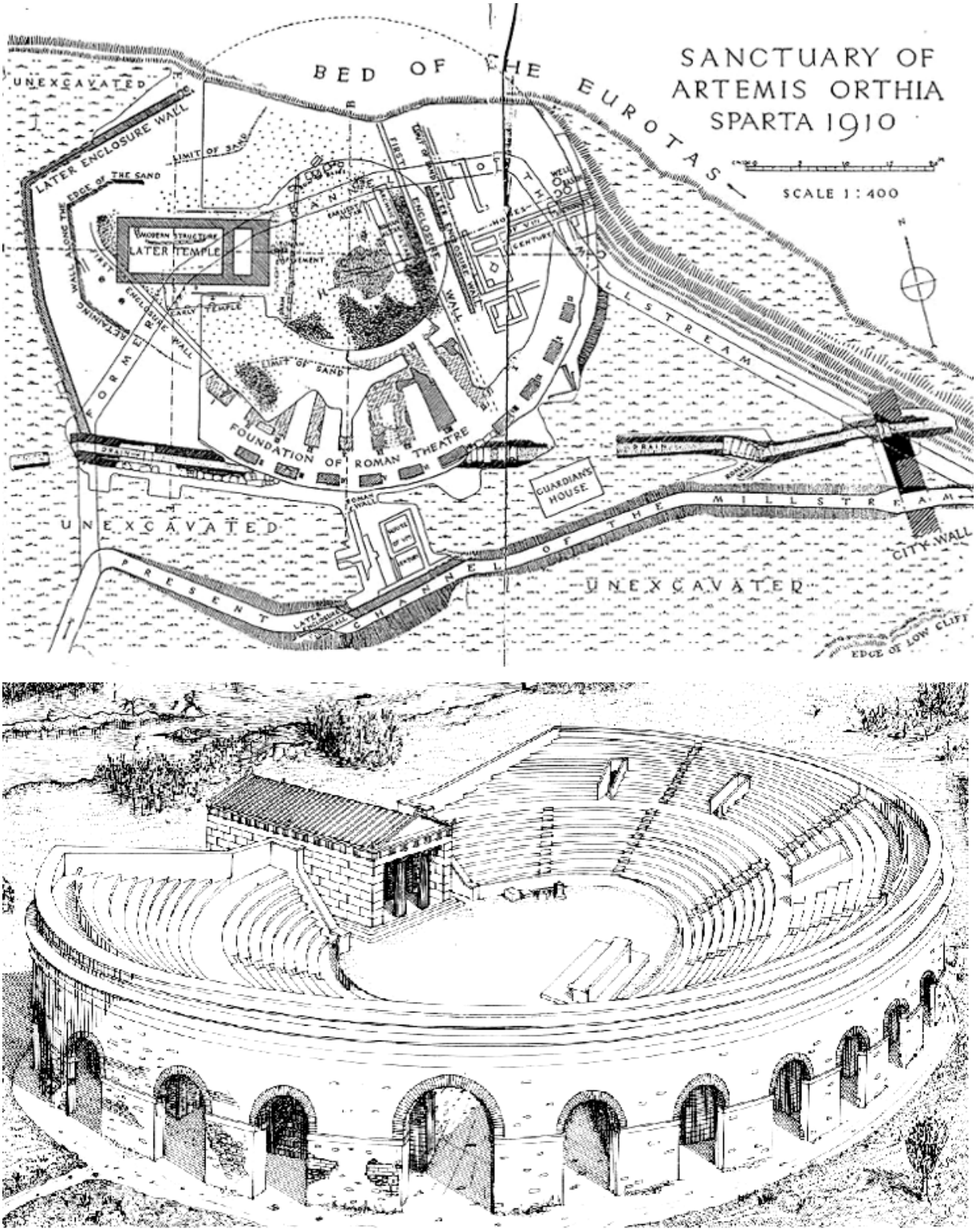

Figure 5.16 Top: Plan of the sanctuary of Artemis Orthia in Sparta at the end of the excavations in 1910 where the excavated temples, the altars and the Roman theatre are visible (Dawkins 1929, pl. 1); bottom: Reconstruction drawing of the Roman theatre (from Pausanias Project at http://www.pausanias-footsteps.nl/english/sparta-eng.html).

and some inscribed roof tiles dated to the Hellenistic period suggest also the temple was rebuilt, or at least re-roofed, during this period.[837]

It is during the Roman period that a major modification took place with the construction of a sort of theatre that enclosed the area around the altar and had the temple in the place usually occupied by the *skene* building (Figure 5.16). The structure was built in the 3rd century AD re-using materials from previous phases. Among the construction materials a marble bench dated to the 1st century BC was found that was dedicated by a member of the Gerousia.[838] This finding is the evidence of the presence of seating facilities for the spectators of the ritual before the construction of the Roman theatre.

The disproportion between the large arena and the relatively small temple, as noted by Baudini, points towards the transformation of the *diamastigosis* into a spectacle which, judging by the accounts of the ancient sources, kept the bloodiest aspects of the *agon* and attracted numerous visitors who needed to be accommodated. The developments at the sanctuary goes in line with the spectacularization of rituals that Mylonopoulos has observed already for the Hellenistic period.[839] The original meaning of the competition was now lost, but the role of *rite de passage* was maintained and became a form of auto-representation of the Graeco-Roman aristocracy.[840] As testified by the names of the winners that are recorded in the inscriptions dedicated to the goddess, the participating youth belonged in fact to the aristocratic families that ruled the city in Roman times. The festival must have enjoyed continuous popularity since a small amphitheatre was added to the theatrical area of the sanctuary in Late Antiquity,[841] and the sophist Libanius of Antioch visited the city in about 336 AD to see the 'festival of the whips'.[842]

5.3.2 Agora

The agora constituted an essential focal point in the urban layout of a Greek town, where political, religious and commercial activities were all represented. The creation and the transformations of this open area go hand in hand with the process of formation and growth of the *polis*. Ancient sources testify that the laying out of the agora was one of the first acts in a newly founded city, often directed directly by the ruler, as in the case of Alexandria where the location and layout of the agora was decided by Alexander the Great himself according to Arrian.[843] The architectural development of the agora reflected the need of the community to formalize a space for the worship of gods and for hosting public functions. The presence of altars and temples[844] testifies to the religious character of the agora,[845] which is especially evident in early agorai, while during the Hellenistic period the religious function seems to be more detached from the political sphere.[846]

The buildings that were present on the agora were deeply connected with the history and the political organization of each community. Monuments, statues and dedications celebrating the city founder,[847]

[837] Brulotte 1994, 224.
[838] Dawkins 1929, 294-5; Baudini 2010, 30.
[839] See above, p. 166.
[840] Baudini 2010, 32.
[841] Cartledge and Spawforth 2002, 112.
[842] Cartledge and Spawforth 2002, 113.
[843] Arrian, *Anabasis* 3.1.1.
[844] See for example the presence of temples dedicated to Zeus Agoraios in several agoras (Greco 2006), e.g. at Hyettos (Etienne and Knoepfler 1976) and Thasos (Figure 5.19, 34).
[845] Hölscher 2012, 174.
[846] Dickenson 2012, 128 taking as example the agorai at Pella and Kassope.
[847] Before the Roman period, when elites could be honoured by intramural burial, the city founder was the only one who could have a tomb in the agora. This was the case of Battus, the founder of Cyrene whose tomb at the edge of the agora, mentioned by Pindar (*Pyth.* 5), has been excavated (see Longo 2014, 230-33, which discusses also other possible identifications of founders'

important citizens or benefactors and events were displayed in the agora, and regulations were established to control their locations and costs.[848] The agora, however, was not only the place for civic display and for distinguished activities related to politics and religion, but also a space for commercial enterprises. We should image the hustle and bustle of the market place, with traders' stalls scattered around the square, where the lower social classes, including peasants selling their produce and slaves, could mix with higher status citizens, with much disapproval of the latter, as we read from ancient sources.[849]

The occurrence of debated identifications of agorai, even in extensively excavated sites such as at Olynthos[850] and Corinth, proves that the physical appearance of the agora could greatly vary in different sites and that there are no standardized types of buildings or fixed elements that can lead to a certain identification.[851] The available archaeological data on Greek agorai are in fact unevenly distributed in terms of quantity and quality.[852] Confusing is also the use of the term 'agora' in ancient sources as it is used to identify either an assembly, or the physical space in which people gathered, or (in late texts) the 'place for commercial activities', the terminology that corresponds to its modern use.[853] It has to be noted, moreover, that commercial activities could be carried out also in other spaces, such as at the crossing of important roads or outside the city gate, often in a temporary manner and without leaving recognisable archaeological traces.[854]

In towns that had to cope with an uneven terrain, the agora was preferably located on open flat ground at the crossing point of the main streets.[855] The shape of the agora could therefore greatly vary depending on the layout of the town. Organic layout resulted in irregular agorai, whereas in orthogonally arranged cities agorai were square or rectangular in shape and occupied the area of several housing blocks.[856] During the Iron Age and the early Archaic time, archaeological evidence and textual sources, albeit limited, point towards the existence of multiple agorai, each of them acting as meeting points of the

tombs in Magna Graecia). For a discussion of the agora of Cyrene, see Scott 2012, 14-44, esp. 18 and 21. For sites in Asia Minor where city founder's tombs are attested see Schörner 2013.

[848] Hölscher 2012, citing Vitruvius who reprehended the citizens of Alabanda, in Asia Minor for having displayed images of athletes in the agora and of lawyers in the gymnasium.

[849] Plato and Aristotle sustained a more strict division of function where the market should be held in a different area than the civic and religious activities. See Osborne 2000, 49-50.

[850] At Olynthos, the space South of block A iv has been identified by Cahill as the agora, preferring this identification over the suggestion by Robinson and Graham that this space was used for military manoeuvres and the claim by Hoepfner and Schwandner that it was a sanctuary which is unsupported by archaeological evidence (Cahill 2002, 32 and 265). In the northern part (the Southern row of block A iv) a stoa–like building was excavated which was flanked at its north-east corner by another stoa-like building that was identified as the *bouleuterion*. However, a re-examination of the large amount of coins found inside led Cahill to assign to this building a more commercial purpose. Next to this building, the only one known fountain house of the city has been found (Cahill 2002, 265).

[851] Stelai with inscribed the term *horos* were used to demarcate the sacred area of temples and sanctuaries. In Athens and elsewhere in Attica (e.g. Pireus and Sunion) *horoi* are attested as bordering also the agora, marking this area as a sacred space. This practice, however, finds little evidence outside this region and therefore cannot be considered as a typical element of the Greek agora as often has been sustained (Dickenson 2012, 15).

[852] Roland Martin has dedicated a work on the Greek agora: Martin 1951. Recently C. Dickenson has re-examined the available material focussing especially on Hellenistic and Roman Greece (Dickenson 2012).

[853] In the *Iliad* the term agora usually indicates the gathering of people (an exception is Hom. *Il.* 18, 497-508), while in the *Odyssey* the term is more often used to indicate the physical space where the assembly met. For some scholars this change of meaning mirrors an actual transition that took place from the 8th to the 7th century BC (Martin 1951; Greco 2010, 22). From the Classical period onwards, the term agora is used to indicate the market place, although the meaning as assembly can be still found in Classical and Hellenistic sources, see Longo 2010, 203-4. See at this respect also Dickenson 2012, *passim*, Greco 2006, 328 and Martin 1951, 19ff.

[854] For the Roman period, see de Ligt 1993.

[855] See the examples of Athens, Megara and Cyrene discussed by Hölscher 2012, 175.

[856] Dickenson 2012, 87.

aristocratic clans of the *polis* that constituted these early nucleated settlements.[857] In the Archaic period, a hierarchy and specialization of these places is established leading towards the predominance of one agora that becomes the place where the various competing groups met and negotiated power in the *polis*.[858]

As a general trend, the agora gained progressively a more architecturally defined appearance and a more monumental character over the centuries. Although difficult to prove archaeologically, it is traditionally accepted that early agorai were open spaces that were intentionally left unbuilt to host the citizens' assembly,[859] and to gather the troops for military exercises. Archaeological evidence for possible structures that were built in early agorai is scanty as they were probably built in perishable materials such as wood as attested to by ancient writers.[860] Early examples of monumentalized agorai are rare but can be found, especially in Magna Graecia, such as at Megara Hyblaea where a stoa bordering the agora was erected as early as the 7th century BC.[861]

In searching for clues about the architectural appearance of early agorai, archaeologists and historians have relied on textual sources, such as the passage from the *Iliad* in which the depictions on the shield of Achilles are presented (*Il.* 18, 497-508). In one of the scenes representing a law case that was held in the agora, the elders are described as seated on flat stones arranged in a 'sacred circle' (*hieros kyklos*).[862] Archaeological evidence of flights of steps in several sites have been interpreted to match the description of this Homeric agora, such as at the Cretan sites of Lato, Amnisos and Dreros. A re-examination of the existing evidence and the continuation of the archaeological investigations have however proved that these structures belong to later periods,[863] leaving therefore unattested the arrangement described in the *Iliad*.

Buildings hosting political and administrative services, and citizens' assemblies were usually located in or in proximity of the agora. One of the most important buildings was the *prytaneion*, which derives its name from the *prytaneis*, the magistrates chosen within the Boule to cover several administrative services, including social security programmes for the *poleis*.[864] The importance of this building is related to the presence of the sacred hearth of Hestia, which was kept there as a symbol of the life of the *polis* itself. In this place banquets were offered to honour eminent citizens or guests of the *polis* and evidence from some sites suggests that the *prytaneion* was also an archive and a sort of museum where memories of important past events, or statues of relevant historical figures for the *polis* were kept and displayed.[865] According to Miller the *prytaneion*'s functions are visible in its architectural form, which usually included a courtyard with an adjacent hall for dining, the hearth room and a storage space.[866] Notwithstanding its importance, archaeological evidence from the Archaic and Classical period depicts the image of a modest building, while monumental *prytaneia* are more attested during the Hellenistic

[857] For the several agorai that are attested in Athens, see Longo 2007.
[858] Longo 2007, 122.
[859] Lefebvre 1991 (1974), 237; Greco 2006.
[860] The ancient sources mention for example *ikria*, wooden benches that were set up to accommodate people. Traces of such structures have been archaeologically attested in sites such as Metaponto (see Longo 2010, 204-5) and in the Athenian agora (Hollinshead 2015, 9-15, which presents also vases where such wooden stepped structures are depicted such as the Athenian *dinos* by Sophilos dated to 570 BC).
[861] Gras et al. 2004, 432-5. For a discussion on early monumental agorai see Hölscher 2012, 179-80.
[862] For the interpretations that several scholars have given to this passage see Longo 2010, 201-2.
[863] Longo 2010, 205-10.
[864] For a discussion of the known *prytaneia*, see Miller 1978; for an updated list, see Hansen and Fischer-Hansen 1994, 30-7.
[865] Miller 1978, 17: In Athens the laws of Solon were displayed in the *prytaneion* and in this location statutes of public figures such as Demosthenes, Miltiades and Themistocles were also standing.
[866] Miller 1978, 91. But in regard to Miller's identification of a standard architectural form for the *prytaneion*, see the critical position of Hansen and Fischer-Hansen (1994, 37).

period.[867] The *prytaneion*'s political and administrative functions diminished after the Classical period but the building was maintained during the Roman period for its religious functions and as a sort of 'museum' of the town.[868]

Buildings for the council's assemblies, the *bouleuteria*, were also a constant presence in the urban topography of Greek *poleis*.[869] The typical feature of *bouleuteria* is the presence of either wooden benches or stone flights around its sides to accommodate the chosen members, and a space for the speaker in the centre. In this case also, as it has been noticed for *prytaneia*, the few archaeologically known structures that are dated to the Archaic and Classical periods look rather inconspicuous in comparison to the monumental character of Hellenistic *bouleuteria*.[870] The meetings of all male citizens, known as the *ekklesia*, on the other hand, are more difficult to situate since the archaeological traces and literary sources are scarce.[871] It is usually believed that they were held in the agora, but other meeting places could be chosen, such as the theatre, which was used as a multipurpose space and seems the most favourable place for assemblies during the Hellenistic period.[872]

It is common that administrative offices were clustered along one side of the square, as shown in the Athenian agora where the Tholos, the Bouleuterion and the Metroon were at the south end of its west side, and at Thasos where they were hosted in the north-east corner of the agora.[873] Often, moreover, the buildings that were meant for political functions were close to the temple(s) that were present in the agora, so as to guarantee godly protection to the decisions that were taken during the meetings. As previously mentioned, the location of political assemblies was not rigidly bound to a specific place during the Archaic and Classical periods, as assemblies could be held in temples[874] or theatres, and a single building could be used for a variety of purposes. The multifunctional character of these buildings and the lack of a standardized architectural appearance make their identification during excavation challenging.

The agora was not only occupied by architecture, but trees could be planted in the agora to embellish the square and create a pleasant shady space, as attested by the already mentioned decision of the Athenian *strategos* Cimon.[875] The presence of fountains in the agora, which seems dictated by practical needs, is attested by only a few examples from the Archaic and Classical period.[876] According to Dickenson a fountain should therefore be seen as a luxury, as the domestic water supply was guaranteed by cisterns or *pithoi* that could collect rain water in houses. In Olynthos, however, one of the two known fountain houses that were found during the excavation was located in the agora,[877] notwithstanding the evidence of *pithoi* in the courtyards that were used to store rain water.[878] A more conspicuous presence of

[867] Such as at Kassope, Ephesos and Magnesia on the Maeander (Hansen and Fischer-Hansen 1994, 36).
[868] Miller 1978, 23-4.
[869] For a list of known *bouleuteria*, see Hansen and Fischer-Hansen 1994, 37-44.
[870] *Bouleuteria* of the Classical period are attested among other at Akragas, Argos, Athens, Delos, Delphi, Olympia, Olynthos and Orchomenos (Hansen and Fischer-Hansen 1994, 43-4). For a discussion of the Hellenistic bouleuteria at Sikyon, Mantineia and Thasos, see Dickenson 2012, 116.
[871] Dickenson observes that the majority of epigraphic and literary evidence for *ekklesiasteria* is related to Delos (Dickenson 2012, 131 and note 502).
[872] Dickenson 2012, 132; Hansen and Fischer-Hansen 1994, 50-1.
[873] Camp 2003, 14-6; Grandjean and Salviat 2000, 68.
[874] See e.g. Xenophon's passage (*Hell.* 5.2.29) where he tells that the Theban boule had to gather in a stoa in the agora, instead of in their usual place, the temple of Demeter on the Kadmeia since the latter was used by the women for a festival (cited by Dickenson 2012, 115).
[875] Plu., *Cim.* 13.8.
[876] Dickenson (2012, 118) cites Athens and Eretria.
[877] Cahill 2002, 33. The other fountain house was built near the road at the southeast edge of the South Hill.
[878] Cahill 2002, 79.

fountains is attested in Roman times. In this period, with baths becoming a standard feature in cities,[879] and nymphaea being also introduced[880], more substantial infrastructures were needed to sustain water demand, such as aqueducts that were often financed by Imperial euergetism.

Especially from the Hellenistic periods onwards, an increased attention to the visual impact of the agora,[881] and a higher building density is observed.[882] The power display of Hellenistic rulers found its expression in the construction of honorific monuments inside the open area,[883] and multifunctional stoas bordering the square became a common feature.[884] The construction of such an expensive building implied a great financial effort by the community and was therefore often funded when war booties were available. It is not surprising therefore that financing the construction of stoas was a popular gift from wealthy citizens or Hellenistic rulers, who could mark their presence in the city through the erection of such imposing structures that were placed in a prominent, central location and were therefore visible to every passer-by.[885] In Thasos, an epigraph dated to the 1st century BC which was engraved on the architrave of the north-east portico testifies to the generosity of a citizen, whose name is lost, who donated the building to the community (Figure 5.19, 15).[886] In some cases a controlled access to the square was achieved by means of (monumental) gates, which are nevertheless still rare during the Hellenistic period.[887] At Pella, at both sides of the eastern larger entrance to the agora two rooms were excavated which have been interpreted as guardrooms, where the goods that were sold in the agora could be inspected.[888] Cities with multiple agorai are also more often attested than in the Classical period.[889]

The agora of Kastro Kallithea shows a progressive monumentalization of the open space during Classical and Hellenistic times (Figure 5.17). It occupied the area of about four *insulae* and was divided into two areas by two narrow streets: a square area on the south-west corner that was occupied by the complex of Building 5 and 6, and the remaining open space that was surrounded by Buildings 1 to 4. Building 5, oriented towards the east and with an altar in front of its entrance, has been interpreted as a small temple. Building 6 was in association with Building 5, with which it shares a retaining wall, and consisted of at least thirteen rooms and a courtyard with an underground cistern. A high number of finds was recorded in this complex formed by Buildings 5 and 6, in contrast to the paucity of finds yielded from the northern part of the agora.[890] The excavators interpreted these structures as public buildings with

[879] For baths in Roman towns and a comparison between Greek and Roman bathing facilities see Foxhall 2013, 130-1.

[880] Nymphaea arrived in Greece in the 2nd century AD, after being introduced in Asia Minor during the 1st (Dickenson 2012, 299 citing Levick 2000, 630).

[881] In this respect, see the discussion and comparison by Winter of the agorai of Morgantina, Assos, Aigai in Aiolis, Alinda, Magnesia, Priene and Miletos (Winter 2006, 36-40).

[882] For a study on Hellenistic agorai see Sielhorst 2015.

[883] Dickenson 2013.

[884] Although stoas are typically associated with Hellenistic agorai, stoas were present in the agora also in much earlier contexts. The earliest example is attested at Megara Hyblaea (Gras *et al.* 2004, 432-5). Dickenson underlines an association between the construction of stoas and war booties that were used to finance such an expensive undertaking (Dickenson 2012, 523). An interesting example of the variety of activities that were carried out in stoas comes from Pella, where the finds that were recovered in one area are related to pottery production, selling of perfumes, meat, metal objects and lamps, while the northern part was dedicated to administrative duties (Dickenson 2012, 93). For the architectural development of stoas see Coulton 1976.

[885] For a discussion on stoas as gifts from Hellenistic rulers, see Dickenson 2013.

[886] Grandjean and Salviat 2000, 68.

[887] Dickenson 2012, 112-3.

[888] Dickenson 2013.

[889] Dickenson 2012, 88 and 499 with the examples of Athens, Thasos and Messene. It must be noted moreover, that spaces that were used with the functions that we attribute to the agora could exist also outside the 'proper' agora, for example at the crossing point of large streets (see Dickenson 2012, 18, citing Aelius Aristides on Smyrna).

[890] Haagsma *et al.* 2014, 204-6.

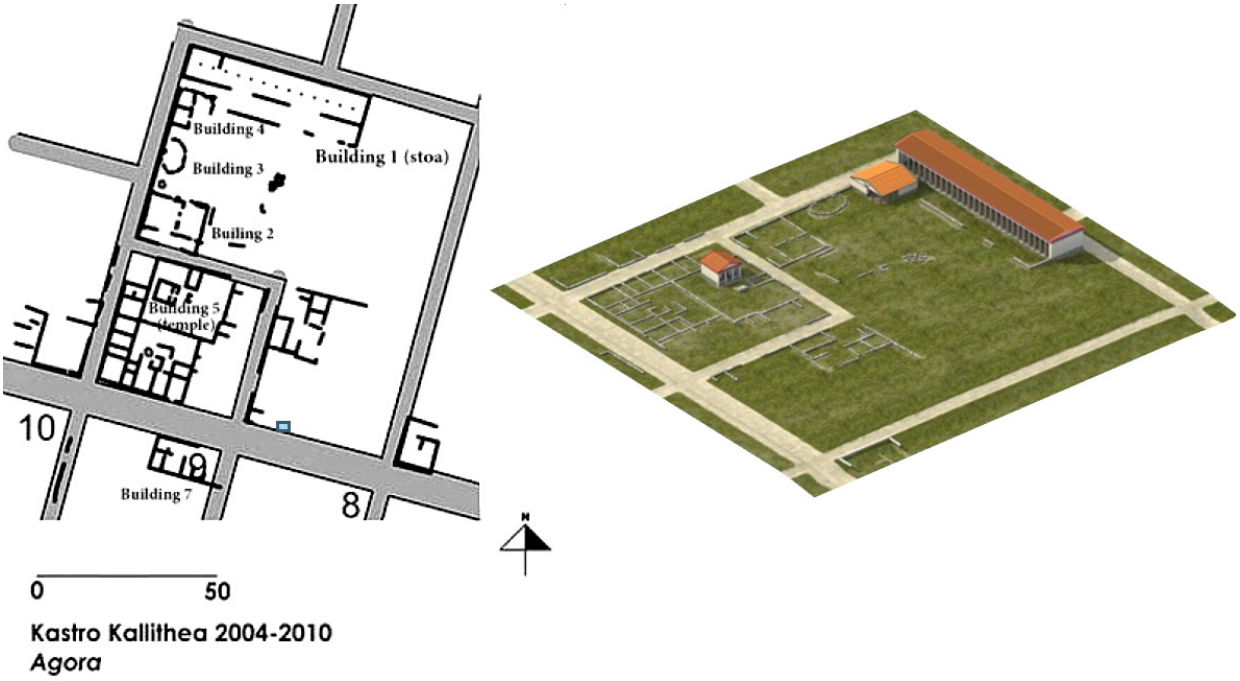

Figure 5.17 Plan of the agora of Kastro Kallithea and 3D reconstructions of the excavated buildings: Building 1 (stoa), Building 4 and Building 5 (Temple) (Haagsma et al. *2014, figs. 2 and 9; 3D modelling by R. C. Lee).*

a religious character where a non identified deity was worshipped and dining took place in connection with ritual practices.[891]

On the north edge of the agora a stoa (Building 1) was built and it was constructed around Building 4 (a two room structure with a hall that opened onto the agora). The foundations of building 4 (made by small unworked limestone blocks) are similar to those of Building 3, a circular structure that finds a parallel in Thasos where a similar structure has been interpreted as a heroon.[892] Building 2 consisted of three rooms and was accessed from the north. Although it has not been fully excavated, its heavy foundations and its location pointed towards an interpretation as a public building, perhaps a *prytaneion*.[893] Approximately at the centre of the open area in the Northern sector of the agora, a number of large slabs were found which were interpreted as an altar or a *bema* for public speeches.[894] The buildings on the agora of Kastro Kallithea belong to various phases. Buildings 3 and 4, and perhaps Buildings 5 and 6, seem to be constructed earlier than the more monumental Buildings 1 and 2. This agora is therefore representative of the typical development of this public area towards monumentality that at Kastro Kallithea was reached during the 3rd century BC.[895]

In Roman times, the agora remains the fulcrum of urban life. The Greek sophist Philostratus describing the life of Dionysos of Miletus informs us that he was buried in the most conspicuous part of Ephesos, the market place, which was the most important place in Ephesos.[896] New construction techniques (e.g. *opus caementicium*) and building materials (e.g. marble) started to be introduced and progressively

[891] Haagsma *et al.* 2014, 201-4 and 206.
[892] Haagsma *et al.* 2014, 200.
[893] Haagsma *et al.* 2014, 199.
[894] Haagsma *et al.* 2014, 199.
[895] Haagsma *et al.* 2014, 206.
[896] Philostratus, *Lives of the Sophists*, 1.526.

employed, especially from the 1st century AD, and led to the creation of new building types.[897] Among the new buildings that were introduced in Greek urban centres during the Roman period, *odeia*, such as the imposing Odeion of Agrippa in the Athenian agora, basilicas and libraries are the most characteristic. Baths, often built in close proximity to the agora, were also a typical infrastructure that was introduced in Roman times.[898] In new Roman colonies, temples became more prominent in the agora in comparison with Greek traditions.[899]

In this period, it is more frequent to find two agorai, a specialized area with a commercial function and another fulfilling civic and administrative purposes.[900] Often the commercial activities took place in specific buildings, which were dedicated to sell a type of good, as shown by the presence of a meat-vegetable market at Thera,[901] of a fish market in Corinth and of a meat market in Messene that was hosted in a different building than the 'pantopolis stoa' where every type of good was sold.[902]

Contrary to the Hellenistic period, when a relation can be established between the size of the agora and the power and wealth of the city, during the Roman period agorai tend generally to be smaller than in previous eras regardless of the status of the city. According to Dickenson this can be explained by a change in aesthetic values towards a preference for fuller looking space, an effect that could better be achieved in smaller areas.[903] The change in fashion can be perceived by the descriptions that Pausanias left of the agorai at Pharae and at Elis: the former is 'of wide extent after the ancient fashion',[904] and the latter is 'built in the old manner', having two porticoes separated from each other in contrast to the more densely built up agorai that were common in Ionia and in the Greek cities near Ionia.[905] A decrease in size could be also related to the lost function of gathering soldiers for military preparation, which was not necessary anymore,[906] and to the reduced public role in politics.

A change in aesthetics led also to an increased attention to the embellishment of the square, including the provision of marble facades to the overlooking buildings and the substitution of cobbles with marble or limestone floors.[907] A general distinction can be made between newly founded Roman colonies and older cities.[908] In the former, new buildings were constructed to host the imperial cult, while in old cities existing buildings were reused for such purposes, as shown by the house of the Hellenistic tyrant Kleon in Sikyon which was turned into a temple of the imperial cult.[909] Moreover, some buildings, such as council houses, were maintained although their functions were downscaled from state to local affairs.[910] Dickenson observes that the modifications that were made to these buildings during the Roman period were probably meant to improve their appearance, which suggests that reverence was paid to the history of the city.[911] In Corinth, important buildings of the former Greek city were maintained when the new Roman Forum was planned, such as the Archaic Temple of Apollo situated on the Temple

[897] Evangelidis 2014.
[898] Evangelidis 2014.
[899] Dickenson 2012, 244.
[900] Evangelidis 2014; Dickenson 2012, 252.
[901] Evangelidis 2014.
[902] Dickenson 2012, 230-1.
[903] Dickenson 2012, 559.
[904] Paus. 7.22.2.
[905] Paus. 6.24.2. For a discussion of this passage and the interpretations that various scholars have put forward (e.g. the distinction between the horseshoe or Ionian agora and the peristyle agora), see Dickenson 2012, 500-4. The open character of the agora in Elis has been confirmed by excavations (Heiden 2006).
[906] Dickenson 2012, 499.
[907] See e.g. Thasos and Corinth (Dickenson 2012, 258-9; Gilman Romano 2005, 31).
[908] Evangelidis 2014.
[909] Evangelidis 2014.
[910] For examples of reused (e.g. Elis) or newly constructed buildings (e.g. Thasos), see Dickenson 2012, 249-52.
[911] Dickenson 2012, 254.

Hill, and the 4th century 164m long South Stoa. The orientation of most of the new buildings in the Roman forum followed the orientation of the pre-existing buildings in the Greek city: some of them were constructed aligned to the Temple of Apollo and the South Stoa, others according to a Hellenistic race course.[912]

The agora of Kos represents well the progressive embellishment and monumentalization of the market place that occurred during Hellenistic and Roman times, maintaining at the same time the buildings which belonged to the construction phase dated to the late 4th BC. The L-shaped elongated square, 350 m long, is one of the largest that is documented for Greek *poleis* and occupied 10 blocks of the urban grid. An artificial terrace was needed to compensate for the different elevation of the areas that it connected, namely the harbour and the southern, higher, districts of the city. The construction of the agora probably started with setting up an area near the harbour that was then progressively enlarged in line with the expansion of the city towards the south. The agora was bordered by a Doric portico along its western side and a series of (store)rooms preceded by a Doric portico along the eastern side. A renovation encompassing the town's public buildings at the beginning of the 2nd century BC led to the rebuilding and remodelling of the porticoes with local white marble.[913] During this phase, a large building was constructed starting from the corner that the western stoa made turning towards the west (Figure 5.18).

During the Roman period, Kos suffered two earthquakes. The first one under Augustus did not cause much damage and only a few reparations to the square were needed, while the second one in 142AD caused more substantial destruction. In relation to this event (and perhaps following earthquakes which are not known epigraphically), a reorganization of the area was carried out which included the insertion of a new monumental propylon to the north of the square (Figure 5.18, bottom right).[914] This gate was reached by a large marble staircase whose core was built with reused blocks from the Hellenistic stoa that was replaced by the new construction.[915] The propylon had a central building that could be interpreted as related to the imperial cult, and which was visible to travellers coming from the sea as acting as a representation of imperial munificence to the city.[916] Within this reorganization programme, a tholos on a podium was constructed in the agora, which has been tentatively identified as dedicated to Fortuna or Tyche.[917]

It is common that buildings or other elements dedicated to the Imperial cult were added inside the square of Greek cities in Roman times. For example, in the agora of Thasos a centrally located monument was dedicated to Lucius Caesar (Figure 5.19, 30) and statues of his brother Gaius and of Augustus himself were also present. The good state of preservation of a statue head of one of the two brothers that was found in the vicinity hint at the presence of a canopy that protected the monument.[918] On some occasions solutions were found to set up monuments in a cost effective way. This is the case of the Temple of Ares, located in the middle of the Athenian agora, which is an example of a so called 'wandering temple'. The foundations date to the early Roman period and the superstructure showing 5th century BC marbles led the excavator to suggest that the temple was taken from one of the deserted demes of Attica and brought to Athens to be rebuilt as a less costly monument to worship the Roman Emperors.[919]

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[912] Not all the Roman buildings were however constructed following the orientation of the Temple of Apollo and of the South Stoa, see at this respect Gilman Romano 2005, 25-59.
[913] Rocco and Livadiotti 2011, 396.
[914] Rocco and Livadiotti 2011, 401.
[915] Rocco and Livadiotti 2011, 401.
[916] Rocco and Livadiotti 2011, 405-16.
[917] Rocco and Livadiotti 2011, 420.
[918] Grandjean and Salviat 2000, 73.
[919] Camp 2003, 38; McAllister 1959; Dinsmoor 1940.

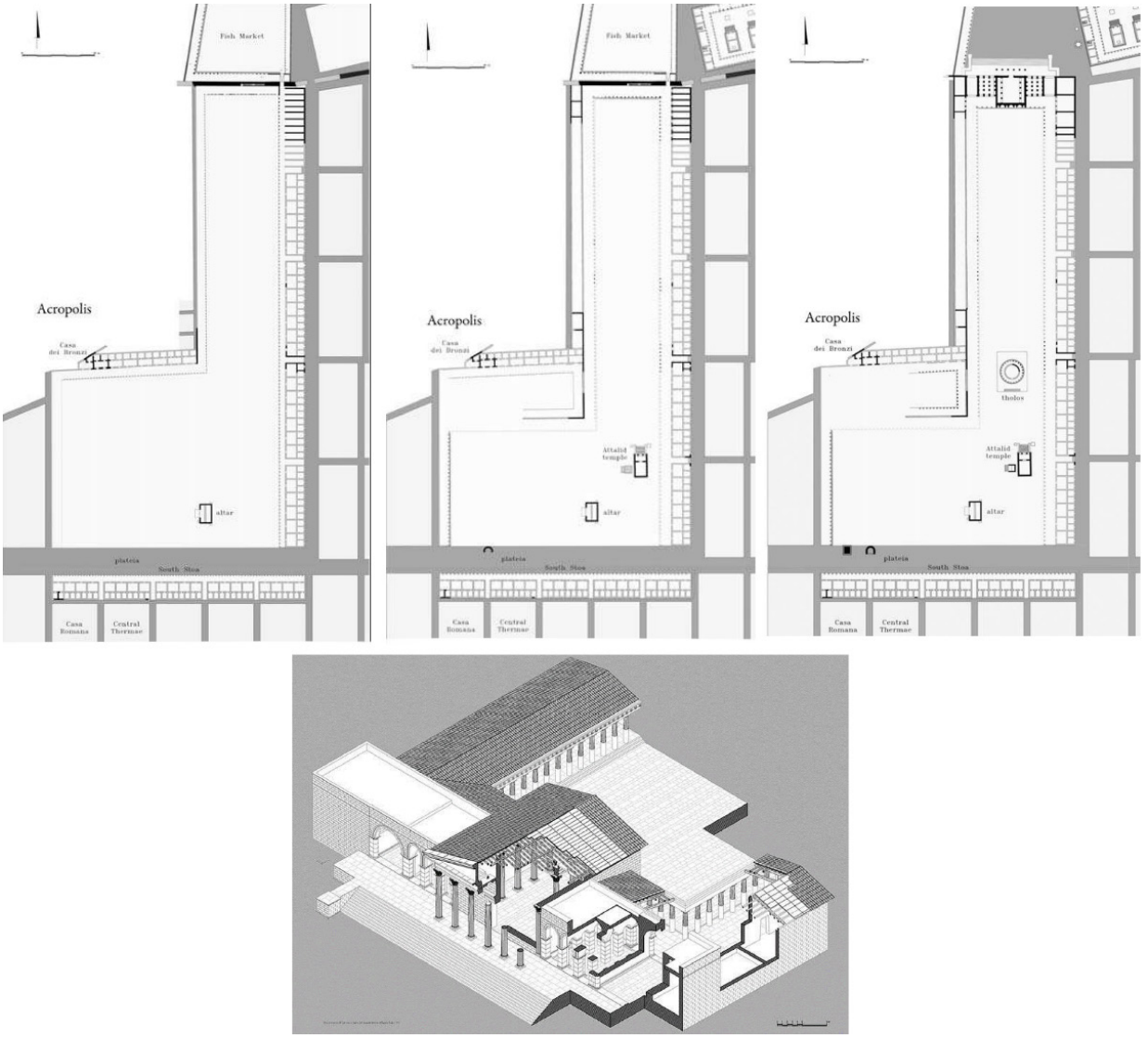

Figure 5.18 Top, left: The agora of Kos during the 4th century BC; Top, centre: The modifications of the 2nd century BC; Top, right: The substantial changes during the 2nd century AD including the creation of a monumental access to the square (Rocco and Livadiotti 2011, 387; 397; 407); Bottom: Reconstruction drawing of the monumental access to the square by arch. G. Campanile, G. Carella, E. Cappilli, D. D'Oria, M. Fumarola, S. Valentini, based on the study of G. Rocco and M. Livadiotti (Rocco and Livadiotti 2011, 404).

Contrasting with the long held belief that generally agorai fell out of use as early as the 4th century AD,[920] restorations of existing buildings and insertion of new constructions on the agora are also attested in the Mediterranean.[921] The extent of the modifications, albeit generally not comparable to the much more imposing interventions of Hellenistic and Roman times, attested in some sites provides evidence of localized continuity of the focus of the urban centre well into the 6th century AD, and even into the early 7th.[922] The agora was still used to host law courts, public ceremonies and punishments,[923]

[920] Potter 1995. This booklet aiming at contextualizing Iol Caesarea with parallels from Africa and Italy has become the reference work to sustain that agorai went out of use as early as the 4th century AD.

[921] For an overview of Late Antique agorai/forai in the Mediterranean, see Lavan 2006.

[922] Lavan 2006, 196 and 2013, 298.

[923] Lavan 2006, 213-5.

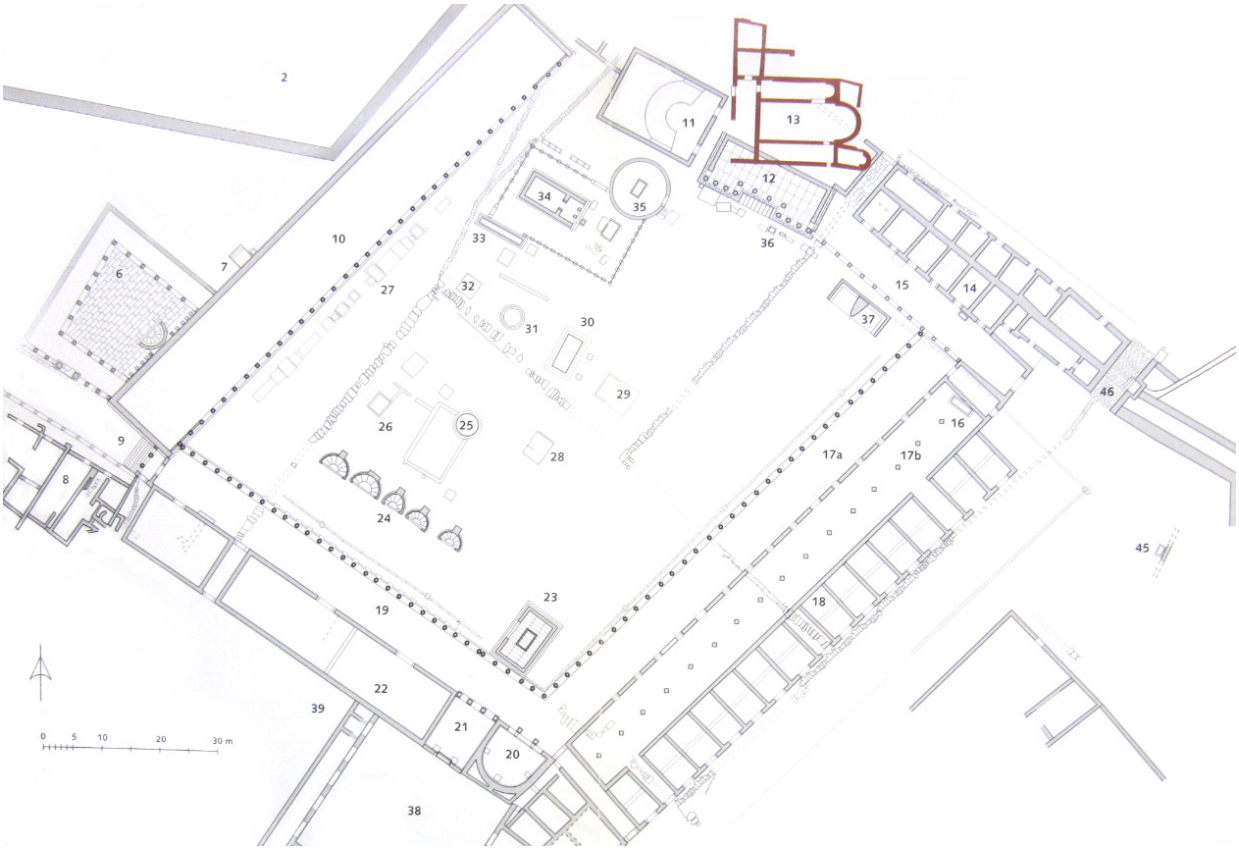

Figure 5.19 The agora of Thasos (Grandjean and Salviat 2000, Figure 21).

but also as a place for social relationships and as a not to be missed destination in the inhabitants' daily routine.[924] In Greece, reparations are widely attested, especially to porticoes, arches and nymphaea.[925] Statue dedications of the early Imperial period were generally maintained and new dedications were made.[926] The more limited resources of the late Empire could not sustain the presence of the often duplicated public spaces that had been created in previous centuries. As such, in some sites, one of the agorai was destined to another use or abandoned (e.g. at Thessaloniki),[927] and temples, basilicas or stoas were repurposed to accommodate other needs and transformed into other buildings, most notably churches.[928] The latter, however, were more commonly built at the edges of the city and close to their city walls than within the agora.[929] At Corinth, inscriptions suggest that major reparation works were made in the forum during the reign of Valens and Valentinian, but this would be left out (together with other central areas of the Classical town) from the Justinian city wall circuit (see Figure 5.8); at Athens the Classical agora was left out from the Late Antique city wall circuit, and in the first half of the 5th century, a large complex, possibly a villa or an official residence also perhaps unfinished, occupied most of the square space, including the area previously covered by the Odeion of Agrippa.[930]

[924] Lavan 2006, 215-8.
[925] Lavan 2006, 204.
[926] Lavan 2006, 205.
[927] Bintliff 2012, 361.
[928] Such as at Philippi, Pergamon and Knidos among others (see Lavan 2013, 298-9).
[929] Lavan 2006, 233-4.
[930] Camp 2001, 230-2. For a discussion on Late Antique agorai see Bintliff 2012, 361 and Lavan 2006, 203 and 245 with related bibliography.

The agora is therefore the urban space that represents better than any other the reflection of social and political changes which affected both the community and the overarching political system. A high degree of continuity, although with exceptions and architectural modifications, can be traced in the development of the agora across centuries. This continuity, however, was lost when the functions that were concentrated in the agora in Antiquity will be assigned to different places (political in the palace and religious in dedicated buildings), and the space still nowadays called 'agora' will be used only for commercial purposes.[931]

5.3.3 Theatres

Among public buildings, theatres had an important role as places for the self-representation of the *polis* and of its citizens. In the theatre, people of different social classes met to attend the performances, which at first were organised in the context of some religious festival and then assumed a progressively secularized character. The function of theatres was however not confined to the hosting of spectacles, but political assemblies and law courts were also held in this convenient location to accommodate a large number of people.[932] The need of a theatre and its construction has been related to the increased importance that dramatic performances assumed in the Classical period, but other factors, such as population size, financial possibility and desire of status display of each *polis*, played a role in their appearance and distribution across Greece.[933]

Just over 250 theatres are archaeologically attested in Greece;[934] but less than a third of them have survived to such an extent as to allow a systematic study of the evidence.[935] In its canonical form, which was reached in the late Classical and Hellenistic time, the theatre was a complex composed of the *koilon* (the 'hollow') where the spectators sat, the *orchestra* where the chorus sang and danced, and the *skene* that served as the backdrop of the performance and as changing rooms for the actors.[936] Interestingly, theatres reached their more monumental shape during Hellenistic times when the religious character of performances was perceived as less essential, and the entertainment aspect grew instead in importance. Theatre architecture developed in fact towards the design of a comfortable place for the spectators and the creation of a more pleasing experience in terms of acoustics and setting.[937] This intention is even better perceived in Roman theatres in which the cavea and the scene building are adjoined, thus creating a unified complex, secluded from the outside by surrounding high walls.

The location for the theatre within the ancient *polis* was chosen based on the morphology of the terrain. Natural depressions and sloping grounds offered convenient locations to accommodate a large audience. Not always, however, was the simpler solution of exploiting the landscape followed. A notable exception is the theatre at Eretria which was built near the West Gate and within the sanctuary of Dionysos. Instead of building the theatre on the slope of the acropolis, the Eretrians invested great

[931] Ananiadou-Tzimopoulou *et al.* 2007.
[932] Frederiksen 2002, 80.
[933] Frederiksen 2002, 87-8.
[934] See the catalogue compiled by Frederiksen (2002) which lists 251 remains of buildings 'which can be securely identified as a monumental Greek theatre at a given place at any time in the Greek period or down to the second century AD in the Hellenic world' (Frederiksen 2002, 67). For a discussion on the use of the word θέατρον in ancient sources, see Frederiksen 2002, 71-6. Erroneous labelling of theatres, *odeia*, *bouleuteria* and *ekklesisteria* can occur in poorly preserved examples since they all share a similar theatre-like shape (although with different characteristics), see Dickenson 2012, 131-3.
[935] Frederiksen 2000, 137.
[936] Frederiksen 2000, 135. For a regional overview of the known theatres in Greece before the Imperial period based on recent bibliography, see Moretti 2014a. For a discussion on the (again problematic) terminology that is used to define the elements that composed the ancient theatre and the adoption of Greek, Roman or modern terms, see Bressan 2009, 11-23. The book by Izenour treats the subject of roofing in ancient theatres: Izenour 1992.
[937] Winter 2006, 96-7.

	North (315-44°)	**East** (45-134°)	**South** (135-224°)	**West** (225-314°)	**Total**
Mainland Greece	18% (9)	24% (12)	43% (21)	14% (7)	49
Anatolia	15% (7)	21% (10)	48% (23)	17% (8)	48
Greek islands	8% (1)	42% (5)	25% (3)	25% (3)	12
Magna Graecia	14% (2)	29% (4)	50% (7)	7% (1)	14
Total	15% (19)	25% (31)	44% (54)	15% (19)	123

Table 1 Audience orientation in a sample of 123 preserved theatres across the Greek world (after Ashby 1999, 104).

resources in the construction of the theatre by excavating the area to make space for the *orchestra* and creating an artificial mound for the *koilon*. This choice was therefore not by chance and it has been suggested that the construction of the theatre was part of a larger building programme, initiated in the second half of the 4th century BC when the *polis* enjoyed sufficient financial resources, which included the creation of the temple and of the nearby *gymnasion*.[938]

As already observed for the theatre at Eretria, many theatres were built within or near the *temenos* of a sanctuary (most commonly, but not exclusively, of Dionysos). Other examples include Athens (within the sanctuary of Dionysos Elutherios), Delphi (in the sanctuary of Apollo), Elis (nearby the sanctuary of Dionysos), and Megalopolis (close to the sanctuary of Dionysos).[939] A connection between the theatre and the agora is also widely attested, as *agorai* are often found near theatres (such as at Argos, Messene, Megalopolis and Aigai, which were built during the Late Classical period; or at Hellenistic Kassope and Mantineia) or within a short walking distance (e.g. at Eretria and Thasos).[940] The proximity of the theatre to prominent sacred and civic areas testifies to its importance both as a religious and political venue.

As necessary for the study of every aspect of the *poleis*' urban development, only a combined critical analysis of both textual and archaeological evidence can provide a complete picture of the appearance and role of the ancient theatre in the architectural development and the life of an ancient Greek city. Vitruvius has been traditionally taken as the reference point to reconstruct the architectural components of theatre buildings in Greece. However, as already observed for Greek house architecture, recent scholarship warns against taking his descriptions as dogmatic.[941] The most striking example of the difference between Vitruvius' suggestions and the archaeological evidence regards the orientation of theatres. According to Vitruvius a southern exposure was the unhealthiest and had to be avoided;[942] the archaeological evidence analysed by Ashby returned however a very different picture as the majority of the surveyed theatres was in fact oriented towards the south (Table 1).

Early theatres were not necessarily permanent buildings, but could be set up and taken apart when needed. In Archaic and early Classical times, the *orchestra* was generally rectilinear, being created out of levelled ground along a terrace where people could stand or sit to watch.[943] The *skene* (no more than a tent at the beginning) was then added for the actors to change their costumes during the performance and for a space to hide some of the actions that could not be represented in public (e.g. the murder

[938] Ducrey 2004, 188-9; Isler 2007.
[939] Frederiksen 2002, 85.
[940] Dickenson 2012, 128-9.
[941] Ashby 1999, 10-1.
[942] Vitr. *De Arch.* 5.3.
[943] See Winter 2006, 97-8 for the evidence from Athens and Attica. In some rare cases, the rectilinear orchestra was maintained up to early Hellenistic times as demonstrated by the excavation of a deme theatre at Trachones, south of Athens (Winter 2006, 97).

of Agamemnon).[944] As Moretti observed, the word *skene* was used in fact not only in the context of theatrical performances but also to indicate other temporary installations such as market stands.[945] The temporary theatre was then substituted for by wooden *koila* and *skenai*.[946] For the lack of early Classical archaeological evidence, the appearance of the *skene* of this period is derived from the surviving plays that were performed in the 5th century.[947] Movements and positions of actors suggest for example the presence of a roof where the actor could stand and at least one door where he could come into the scene. In some sites, traces of the early wooden theatre have been unearthed. At Hephaisteia in Lemnos, for example, three stairways (*klimakes*) have been found under the 4th century stone *koilon*, which belonged to an earlier wooden theatre with *ikria* that was constructed between the 5th and the beginning of the 4th century BC.[948]

Assigning a secure dating to theatres is quite complex since they were often remodelled and later buildings were built upon earlier foundations.[949] Despite this difficulty, the second half of the 4th century BC has been recognised as a turning point for the increase in the number of new constructions in the Greek world,[950] possibly in relation with the new style and requirements of the New Comedy.[951] This growth is observed especially in Attica, the Peloponnese and Sicily, while in the Cyclades and Asia Minor the number of new and monumentalized theatres rises later, in the 3rd and 2nd century BC.[952] The use of stone and the monumentalization of theatres that was increasingly adopted during the late Classical and Hellenistic periods (in line with what we already previously observed for *gymnasia*) accounts for the greater number of surviving theatres of these periods in comparison to the fewer early Classical examples.[953] Despite the fact that stone was now used more commonly, wooden *koila* and *skenai* were still erected, as attested among others at Corinth, Eretria, Megalopolis and Philippi.[954]

Among the theatres that were constructed in the late 4th century, for the theatre of Delos it has been possible to clarify the chronology of its various building phases.[955] The first theatre, built at the end of the 4th century BC, had a wooden *skene* with a *proskenion* and a *koilon* created from the naturally sloping ground, where some marble thrones were added to provide seating for prominent citizens. The construction of a stone theatre in substitution for the wooden antecedent started at the beginning of the 3rd century BC. The first element that was changed was the *skene* which was completed in 279 BC. After that, a retaining wall was created to support the *koilon*, where flights of steps and the dividing *klimakes* and *diazoma* (the passage that separated the lower and the upper rows of seats) were progressively added. Two ramps were added, one on the north side of the theatre at the level of the *diazoma*, the other one at the top of the *koilon*. During the works to build the stone *koilon*, further modifications were made to the *skene*: a porch was added on its sides and back, and two entrances were built to bridge the

[944] Devices (e.g. the *ekkyklema* and the *mechane*) were used to bring to the view of the spectators the results of actions that were performed backstage (see e.g. Winter 2006, 99).
[945] Moretti 2014b, 107.
[946] Moretti 2014b, 108-9. Notable exceptions are the stone cut theatres at Argos, Chaironeia and Syrakousai which probably date to the 5th century BC and are nevertheless not monumental constructions (Frederiksen 2000, 139).
[947] Moretti 2014b, 112.
[948] Greco and Voza 2010. Greco and Voza disagree on the dating around the end of the 6th century suggested by the excavator Aglaia Archontidou who had hinted at a continuity between the wooden theatre and the Archaic sanctuary on which site the theatre was constructed (Archontidou and Kokkinophorou 2004).
[949] Ashby 1999, 105.
[950] Moretti 2014b, 109-11.
[951] Winter 2006, 101.
[952] Moretti 2014b, 111.
[953] Frederiksen 2000, 139.
[954] Moretti 2014b, 113-5.
[955] Fraisse and Moretti 2007.

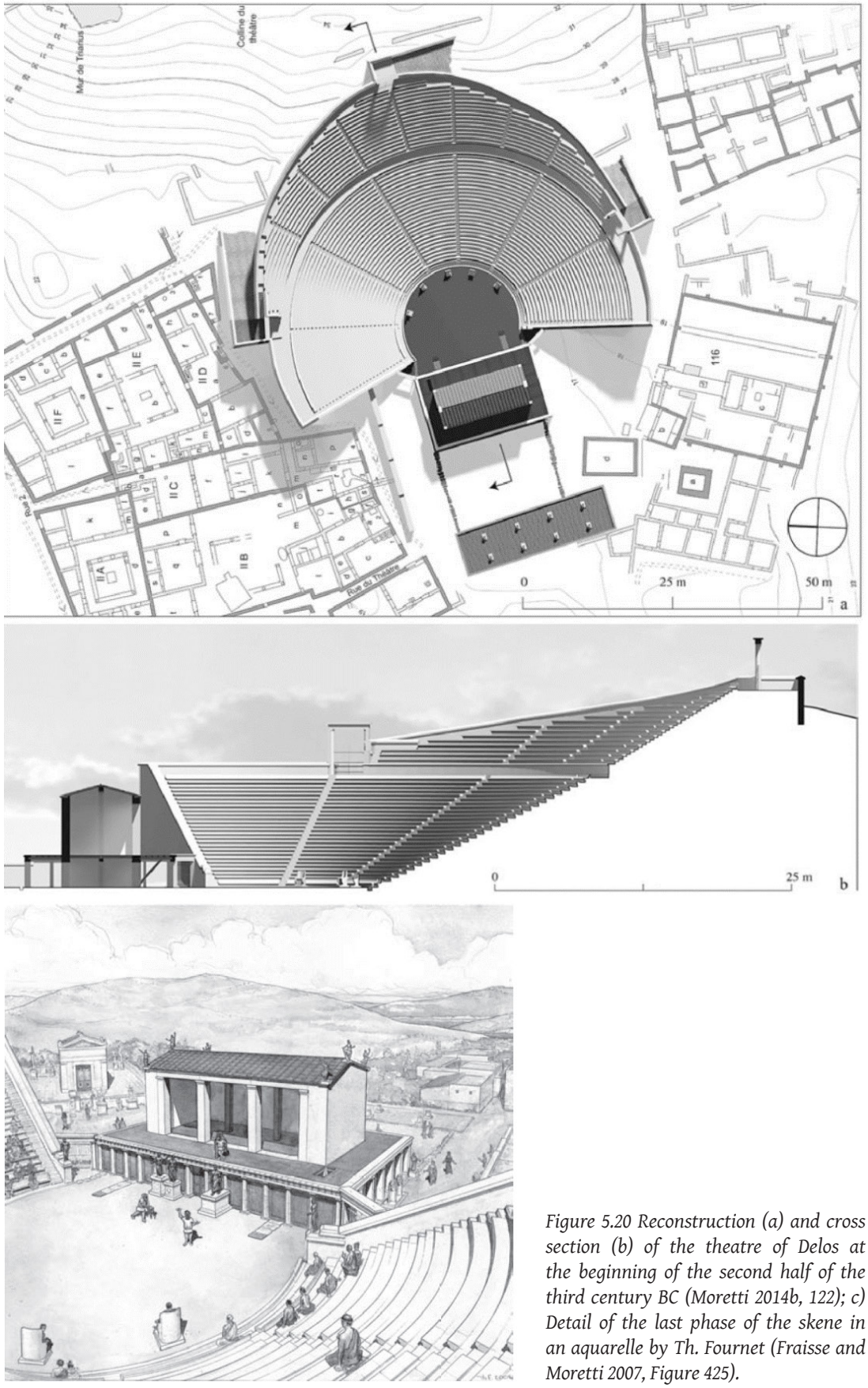

Figure 5.20 Reconstruction (a) and cross section (b) of the theatre of Delos at the beginning of the second half of the third century BC (Moretti 2014b, 122); c) Detail of the last phase of the skene in an aquarelle by Th. Fournet (Fraisse and Moretti 2007, Figure 425).

proskenion with the new *koilon*. In the last building phase, between 250 and 240 BC, a flight of steps was added above the *diazoma* and a third ramp was constructed to its south side (Figure 5.20).[956]

Theatre architecture offers an interesting point of view to observe and analyse the ways in which Roman elements were received and incorporated into the Greek built environment. The adaptations are partly explained by the introduction of typically Roman contests such as the *ludi gladiatorum* and the *venationes*.[957] In Roman Greece, performances in theatres had lost their religious connotation and covered a wide range of spectacles from the traditional comedies and tragedies to mime and pantomime.[958] The introduction of new spectacles and competitions is paired with the revival of some traditional performances, such as the singing of dithyrambs and the recitation of rhapsodies, which seem to enjoy a renewed popularity.[959]

The modifications that theatres underwent are however part of a larger and more profound cultural interaction between Greeks and Romans. A study conducted by Bressan on theatres in Attica and Peloponnese points towards different degrees of reception of Roman elements in Greek theatres, mainly influenced by the status of the city under the Romans (colony or free city) and by the pre-existence of a Greek urban centre to the newly established colony. The theatres of Corinth, Patras and Sparta offer three telling examples. The architecture of the large theatre at Corinth that was originally built in the 4th century BC was heavily modified at the end of the Augustan period. The cavea was restructured and the circular orchestra was then cut by and adjoined to a longer new scene building, which gave the orchestra the semi-circular shape typical of Roman theatres.[960] Under the Flavians, a smaller, typical Roman theatre was built at the back of the large one.[961] The cavea of the new theatre was self-sustained and formed a unified complex with the scene building to which it was attached.[962] The high walls of the cavea and of the scene contributed to the seclusion of the inner space and obstructed views from the outside. Similar to this was the theatre constructed in the 2nd century AD in the colony of Patras.[963]

A different development is followed instead by the theatre at Sparta. The first phase of the theatre in the Roman period was financed by the local aristocrat C. Iulius Eurykles in the last decades of the 1st century BC. The structure followed the Greek tradition of exploiting the sloping ground for the cavea and was probably constructed over a pre-existing Classical-Hellenistic theatre, which is attested only by indirect archaeological traces and passages in ancient sources.[964] The theatre was moreover equipped with a movable scene with tracks that allowed it to be rolled in and out of a building adjoined to the west wing of the cavea. This solution is quite exceptional for Greece and it is known to have been adopted elsewhere only in the 4th century BC theatres of Megalopolis and (perhaps) Phlius in the Peloponnese.[965] The architectural choices that were made in the construction show that the intention of the aristocratic euergetes to donate a theatre to Sparta during the Augustan period was realized in line with the Greek tradition. A different result was instead achieved during the second phase of the theatre, which is dated to the reign of Vespasian and was financed by the Emperor himself. Among numerous modifications, the major change regarded the movable scene building that was substituted by a stable

[956] Moretti 2014a, 215.
[957] Aneziri 2014, 426.
[958] Di Napoli 2005, 510. Pantomime was included in the late 2nd century AD, with mime in the 3rd century AD and only in contests where an amount of money was awarded to the winner, see Aneziri 2014, 425.
[959] The rhapsody, appearing regularly in the victors' list of the festivals in Boeotia in the 2nd and 1st century BC, is attested again in the second half of the 2nd century AD, see Aneziri 2014, 427.
[960] Bressan and Bonini 2010, 14-5. For a detailed analysis of the various modifications of the theatre, see Bressan 2009, 158-79.
[961] Bressan and Bonini 2010, 15.
[962] Bressan and Bonini 2010, 15 and 16, Figure 2
[963] Bressan 2009, 214-18.
[964] See at this respect Bressan 2009, 234.
[965] Bressan and Bonini 2010, 19. For a hypothetical reconstruction of the theatre at Megalopolis, see Bressan 2009, 191.

one joined to the cavea. The theatre assumed therefore some typical Roman elements though preserving characteristics usually found in Greek theatres, such as the steep cavea built on sloping ground and that was visible from the outside.[966]

Besides modifications to existing theatres or new constructions, in the early Empire numerous *odeia* were built within or nearby agorai, in such number that these buildings become a constant presence in Greek townscapes.[967] This situation mirrors a similar tendency in Roman Italy, where the construction of new theatres became a popular sign of euergetism during the early Empire.[968] The increase in the number of new theatres has been related to the implications of the *Lex Julia Theatralis*, that was promulgated under Augustus (in 19 or 22 BC) and that set a firmer system than that already existing for the *discrimina ordinum*, by assigning specific sectors and seats in the theatre to the different social groups in the city.[969] In this way Augustus wanted to organize and display the social hierarchy of the city in the place in which it was most visible. In Greece the privilege of *prohedria*, front seat, was granted to distinguished citizens, most notably priests, and in numerous theatres stone thrones around the orchestra testify to this practise.

The role that the theatre played in Greek urban life up to Rome decreases in Late Antiquity. Starting from the 4th century AD, theatres receive increasingly less attention and by the end of the century they lay abandoned or used for very different purposes than what they originally were intended for. Disastrous events such as the strong earthquakes that devastated Greece during the 4th century AD and barbaric raids can be held only partially responsible for the abandonment of theatres. More importantly, the cultural change in the society was the main factor that led to theatres not being recognized anymore as the place where the city's cultural values were expressed. The demise of theatres has been in fact related to the Christianization of the Empire which was ratified officially in the early 4th century AD with Constantine's Edict.

Theatres were part of the buildings that, having lost their original functions or having become too large for the now smaller community, were either used as a quarry for building materials or repurposed. Their structures were used to sustain other buildings that were constructed against them, such as at Tegea and Messene,[970] or occupied by a necropolis as attested for the theatre of Megalopolis. This theatre, one of the largest in Greece, was occupied in Byzantine times by a necropolis and part of its marble was destroyed in a lime kiln of the Ottoman period. The theatre of the Pythion in Gortyna is an example of a public building that was reused in the 3rd (or beginning 4th) AD as a stable and a workshop for the processing of marble before being abandoned after an earthquake in the 4th century AD. The relatively early falling into disuse of the theatre is likely to correlate with the imperial decrees that prohibited sacrifices and pagan cults, and closed all the pagan buildings. The theatre was in fact connected with the sanctuary of Apollo and therefore possibly abandoned at the same time as the sanctuary in relation with these imperial decisions, although recent studies have highlighted the presence of alluvial deposit in the theatre which could offer an alternative, more practical, explanation for its early change in use.[971]

[966] Bressan and Bonini 2010, 19-20, Figs. 8a and 8b.
[967] Dickenson (2012, 239) sustains that 'an odeion in the civic centre seems to have become an amenity which no Greek polis should be without'.
[968] Lomas and Cornell 2003, 36.
[969] This subject that here is only touched over for the limited space available has been extensively treated in Rawson 1987.
[970] Bressan 2009, 345.
[971] Bonetto *et al.* 2010.

5.3.4 Houses

Domestic architecture informs us about the socio-political situation, the economy and the technological level of a society. Social complexity, privacy, gender division, wealth, production and storage capacity are reflected in architectural aspects such as room organization and access, materials and construction techniques, and in the type of furniture and artefacts that are used within them. Inferring this type of information from the study of the archaeologically known examples of Greek houses is however for many aspects problematic and there are a number of considerations that must be taken into account before approaching their study.[972]

A relatively small number of houses have been completely excavated and the number decreases if we consider only the contexts in which finds belonging to the houses were recorded and collected allowing for contextual analysis.[973] Some periods have been investigated more thoroughly than others; specifically, the number of Classical and Hellenistic housing quarters for which this kind of data is available is higher than e.g. the Archaic ones. For the latter we lack extensive excavations that would allow us to compose a clearer picture of the forms of social differentiation in domestic context.[974]

Moreover, sites in which housing quarters have been investigated through careful excavation and that allow a diachronic analysis of the development of housing architecture and way of living through centuries are exceptional. The creation of categorizations and typologies for Greek houses have been the main focus of traditional studies and only recently has this approach been questioned. Differences in fact exist both at a regional level and within each site,[975] although, as Jameson pointed out, the technological level and the environmental context create constraints on the types of house that can be built on a site.[976]

As already noted for the ancient Greek city in general, literary sources and painted pottery, mostly Athenian, have been widely used to integrate the missing information for other sites.[977] In literary sources, however, domestic dwellings and the activities that took place inside the privacy of the house are often overlooked or mentioned only incidentally, and when this is the case they often carry an ideological bias. A passage in Lysias (1.9) in which Euphiletos describes his house and how the upper and lower space was used to respond to the necessity of his wife and his new born child, has been traditionally taken as representative of the strict division between male and female quarters in a typical Greek house. The archaeological record, and even other textual sources, provide however a more complex picture, which does not show female seclusion but rather a control on the interaction between female members of the household and male visitors.[978] Moreover, Euphiletos' description reflects an ideal situation and it is functional to Lysias' intention to present him as a good and honest citizen to the law court that has to judge him for murder.[979] Similarly, everyday scenes that are depicted on pottery are the result of a process of selection and interpretation of motives, many taken from mythology, that were familiar to the viewers and could be difficult to be understood correctly by the modern scholar.[980]

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[972] See in this respect Lang 2005, 12-3; Westgate 2015, 47-95, esp. 50-1.

[973] Examples in which this has been done include Crete (Glowacki and Vogeikoff-Brogan 2011); Halos, Thessaly (Haagsma 2010); Leukas, Acarnania (Fiedler 2005); Olynthos, Chalkidiki (Cahill 2002); Lydian Archaic and Classical houses at Sardis (Cahill 2005); Halieis, Argolis (Ault 1994; Ault 2005); Hellenistic houses at Morgantina (Tzakirgis forthcoming).

[974] Bintliff 2012, 262.

[975] See Haagsma 2010, chapter 1, *passim*.

[976] Jameson 1990, 109.

[977] See in this respect Morgan 2010, 6-12.

[978] Nevett 1994; Nevett 1995a; Bintliff 2010, 24-25. Differences in social statues likely affected social behaviour and women's movements, with less restrictions for lower classes for practical reasons (Bintliff 2012, 300-1).

[979] Morgan 1982; Morgan 2010, 6.

[980] Nevett 1999a, 12.

The ancient source that has been most widely used for gaining information about the architecture and organization of space of Greek houses is chapter 7 of Vitruvius' *De Architectura*. Last century's excavators took many terms and definitions from Vitruvius to label the archaeological remains that they were unearthing, such as the term *prostas* to name the vestibule before the *oikos* that was found in the houses at Priene, and the term *pastas* to call the sheltered portico found in most of the houses at Olynthos. As rightly pointed out by Tzakirgis, however, these terms have come to identify two different elements of the Greek house, even though Vitruvius does not specify any architectural difference and even uses them as synonyms.[981]

Rooms within the Greek house have been labelled not only with Vitruvius' definitions, but also with modern terms such as 'kitchen' or 'sleeping room', thus constraining the use of space to a specific activity. Based on artefact analysis, scholars have come to the conclusion that rooms in the Greek house were instead multifunctional and different activities could take place in the same space according to the time of the day and the season.[982] The *andron*, for example, is traditionally seen as the room of the house where male guests gathered for the symposium. However, a practical and efficient management of space makes it unlikely that this room was used only for this purpose and only by men. Scholars have suggested that it was used during the day for other types of activities that were carried out by women and children,[983] and also on special occasions such as for hosting overnight guests, or for laying out the body of a deceased family member for the *prosthesis*.[984]

A passage from Aeschines' *Timarchus* (123-4) shows the impact of human action on the definition of space: 'For it is neither the dwelling places nor the houses, which give their names to those living in them, but it is the inhabitants who give to the places the names of their own practices.'[985] That the main agents in defining the use of space within a house are the inhabitants is true both for ancient and modern times. A study conducted on the habitation history of a family from Rotterdam in the 1940s recorded nineteen major changes in the house arrangement over a period of twenty six years. This study showed, moreover, a variable degree of specialization of the rooms whose range of functions changed over time. The living room, for example, was used as a bedroom during the war and for a number of other activities, such as bathing children, which would not belong to its expected original use.[986]

These observations show how difficult it is to draw conclusions on the ancient use of space and living habits from the archaeological record. Domestic dwellings of the lower social classes are less represented in the excavated samples and other practices might have left only faint traces that are difficult to retrieve archaeologically. Separation between areas of different use might have been created by using perishable material such as curtains or plants, creating more private spaces than can be identified by the remains left.[987] Cult practices are often attested by the presence of altars or votive offerings, but, as

[981] Tzakirgis 1989. Vitr. *De Archit*. 6.7.1: 'This peristyle has colonnades on three sides, and on the side facing the south it has two antae, a considerable distance apart, carrying an architrave, with a recess for a distance one third less than the space between the antae. This space is called by some writers 'prostas' by others 'pastas''.

[982] Nevett 1999a, 71; Trümper 2011. In Olynthos, which was destroyed by Philip in late summer, the archaeological record reflects the distribution of activities in that period of the year (Cahill 2002, 160; see Cahill 2002, 48-61 for the circumstances of the abandonment, looting and subsequent re-occupation of some areas of the site).

[983] Nevett 1999a, 71.

[984] Antonaccio 2000, 527.

[985] See in this respect Morgan (2007, 117-8), who proposes a relational table explaining the words that are found in ancient texts and their contexts of use.

[986] Priemus 1980, 3-6, cited by Haagsma 2010, 14-5.

[987] Kassel and Austin 1984, n. 266, 116.

Morgan pointed out, the act itself, such as burning incense, dancing and singing, was more important than the location where it took place.[988]

It is with these observations in mind that we approach the discussion of the ancient Greek house in the following overview.

Archaic period

The Archaic period marks a series of changes in the Greek political and social sphere that are reflected in modifications in domestic architecture. Notwithstanding regional differences, a change in the organization of space within houses is visible in passing from the Early Iron Age to the Archaic period. Early Iron Age houses were generally linear with one or two rooms, while in Archaic times houses with a radial structure, where more rooms were added and generally did not communicate one with the other, are increasingly attested (for a sample of Archaic house' plans see Figure 5.21, left).[989] A transitional space was moreover included to provide access to the rooms. This space, namely a hall or a courtyard, will remain the characteristic element of Greek houses for centuries. This addition implies also a more pronounced separation between the members of the household and outsiders, as the activities that were previously carried out outside were now performed in the seclusion of the courtyard. These changes reflect a change in Greek society that valued a more marked sense of privacy and increased the separation between the private and public sphere.[990]

The addition of rooms in Archaic times is mirrored by a general increase in size in respect to the houses of previous centuries. This change was assisted by technological developments that allowed new construction techniques to be applied, such as the introduction of stone foundations and clay tiles.[991] Moreover, the Iron Age wattle and daub technique, in which wands were woven around wooden stakes and then plastered over,[992] was progressively abandoned in favour of mud brick. The implementation of these new techniques is visible, among others, at the multi-period site at Karabournaki where the excavated Archaic houses were constructed with stone foundations and walls of sun dried mud bricks.[993]

The new masonry techniques that were introduced in this period allowed the construction of thicker walls that could sustain an upper floor.[994] Evidence for the existence of an upper floor has been found for example in House A at Argilos. In the first occupation phase (mid-6th century BC), a house with a single room was constructed, which was then destroyed and rebuilt according to a different arrangement of space during the late 6th – early 5th century BC. Two storage rooms facing onto a closed courtyard were created, and an upper floor was constructed where the inhabitants lived. On the western side of the house, two other rooms were added (one has been interpreted as a blacksmith's workshop, the other as a storage place) as annexes to the house.[995]

An insight into the domestic economy of the Archaic period has been provided by the recent excavation of an Archaic house at Hephaisteia in Lemnos (Figure 5.21, right). The careful excavation and the

[988] Morgan 2007, 113-129, citing for example Euripides' Alcestis where the choir searches for the signs of the ongoing rituals such as the lock of hair hung at the door and the grieving songs (p. 124).
[989] Lang 2005, 26. The linear arrangement is still found in later periods but it is usually related to sacred architecture. Examples of linear houses include those found in Dorian Crete (see below), a 5th century house at the North foot of the Areopagos in Athens and the 4th century BC house at Siphai (Nevett 1999a, 86-8).
[990] See Lang 2005, 29.
[991] See these elements discussed in Lang 2005, 27-8.
[992] See Bowyer 1973, 49.
[993] Tsiafakis 2010, 382.
[994] Lang 2005, 28.
[995] See http://www.argilos.net/fouille-en/ (last accessed Sept. 2016).

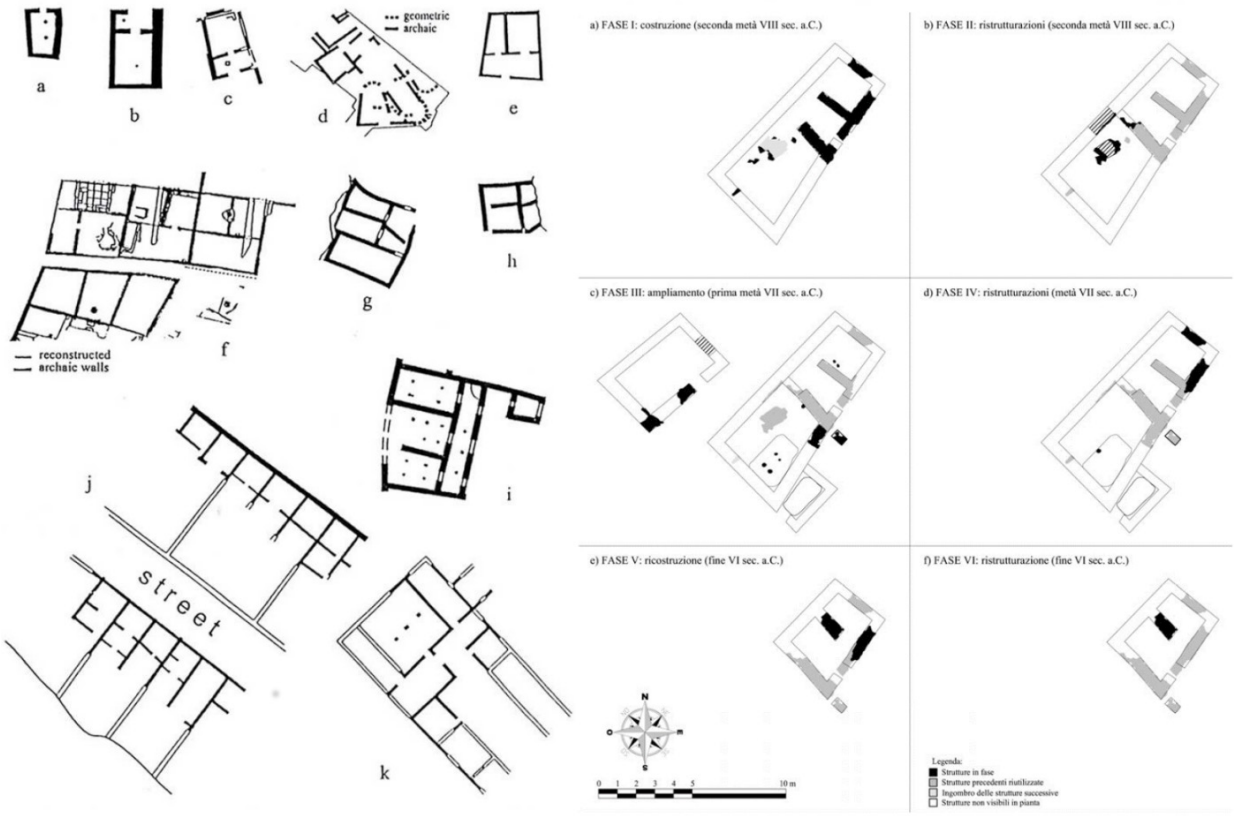


Figure 5.21 Left: Examples of Archaic house plans (a-b) Emporios, Chios; c) Thorikos, Attica; d) Eretria, Euboea; e) Aigina; f) Limenas, Thasos; g) Dreros, Crete; h) Koukounaries, Paros; i) Onythe, Crete; j) Vroulia, Rhodes; k) Kopanaki, Messenia, from Lang 2005, 16. Right: Phases of the Archaic house in Lemnos (Caruso 2011, 190).

contextual study of the material culture allowed the excavators to draw some conclusions on the building techniques, organization of space and domestic economy of the site during the Archaic period. The house, built of dry stone walls, had an irregular and elongated shape and was articulated in three rooms. The central entrance-room led on one side to a space that has been interpreted as a kitchen-bedroom (probably with a mezzanine that served as sleeping area),[996] and on the other side to a storage space.[997] The floor was made of beaten earth. Several pits were excavated outside the house to serve as storage places for the household.[998] In some of them, fragments of *pithoi* have been found. Although archaeometric analysis has not yet been conducted on the *pithoi*, their large dimensions suggest that they were possibly water containers.[999] During the 7th century BC, the house was provided with an external storage room, and with a semi-underground annexe to the main building that was destined for the production of wine. This structure was built on the southern side of the house, so that it was protected from the northern winds. A pit was excavated which could have hosted a *pithos* for the fermentation of wine.[1000] Burnt traces led to the conclusion that a hearth was kept to maintain a constant temperature during the period of wine making in September-October.[1001]

[996] Caruso 2011, 191.
[997] For a detailed overview of the habitation phases of the house, see Camporeale *et al.* 2010.
[998] Camporeale *et al.* 2010, 114.
[999] Caruso 2011, 115.
[1000] Camporeale *et al.* 2010, 116-7.
[1001] Caruso 2011, 132-3.

Classical period

Although the specificity of each site and the needs of each owner certainly created variations in the appearance and size of houses, there are some recurrent features that characterize Classical Greek houses, of which Olynthos provides the largest dataset with more than 100 excavated houses (Figure 5.22). Private dwellings were inward looking and specific architectural choices were made to preserve the privacy of the household. As the excavated examples from Ammotopos show, windows to the streets were present but were small and preferably located higher than eye level to prevent passers-by to be able to look inside.[1002] At Lato, where some of the houses are conserved up to two meters high, the walls had no window, suggesting that, if they were present, they must have been located higher than the preserved extent.[1003]

The courtyard that started to appear in Archaic times became a constant element in Greek domestic architecture. This area had multiple functions, acting as a transitional space that connected the outside world and the inside of the house and as a multifunctional place were household activities took place.[1004] Not surprisingly, as Ault noted for Halieis, the court is usually the largest unit of the house, taking up to twenty-five percent or more of the total house size.[1005] In the majority of the excavated examples of Greek houses, the court was centrally located providing access and commanding the view to the rest of the rooms.[1006] The court was often connected to a porch sustained by a row of columns that provided a sheltered area where activities such as cooking and weaving took place. This shaded space adjacent to the courtyard, traditionally called *pastas* (such as at Olynthos) or *prostas* (such as at Priene) based on the configuration of the rooms, was a convenient location to dig cisterns. The presence of altars in the archaeological record from Olynthos suggests that it was also used for cult practices. Storage vessels and other types of pottery such as loom weights and tableware that were found in the Olynthian *pastas* confirm that this area was used also as a storage place.[1007]

The courtyard and its role to organize the pattern of movement within the house have been used by scholars to suggest recurrent types that are identifiable in the archaeological record. Nevett's 'single entrance, courtyard' model encompasses the majority of the excavated examples of houses of this period,[1008] while a smaller sample is represented by the houses defined as the 'Herdraum type' by Hoepfner and Schwandner on the basis of the excavated examples at Kassope in Epiros.[1009] In this type, the court was rather small in comparison with the above mentioned examples and was not crucial for movement around the house. The main area was instead an inner room, called *oikos* by the excavators, which had a hearth and was probably the place where household activities were concentrated. A similar organization of space is visible in the house excavated in the same region at Ammotopos and conserved to an exceptional extent by its stone walls.[1010]

Another type of house arrangement, which is attested especially from the 4th century onwards, is represented by the 'double courtyard house'. The two courtyards identify two different areas of the house, one related to domestic activities and accessible only to the members of the household, the

[1002] For Ammotopos/Orraon, see e.g. S. Dakaris 1986.
[1003] Picard and Ducrey 1996, 751.
[1004] For Athens, see e.g. Morgan 2007, 114; for Halieis, see Ault 1994, 60ff (esp. 61 for an overview of rooms's and courts' sizes at Halieis). Westgate (2007) discusses the pratical and ideological factors that are likely to have encouraged the adoption of the courtyard.
[1005] Ault 1994, 60.
[1006] Exceptions are attested, such as some of the houses at the Cretan sites, which show a linear arrangement (see below).
[1007] Nevett 1999a, 69.
[1008] Nevett 1995b, 94.
[1009] Hoepfner and Schwandner 1994, 146-50.
[1010] Dakaris 1986.

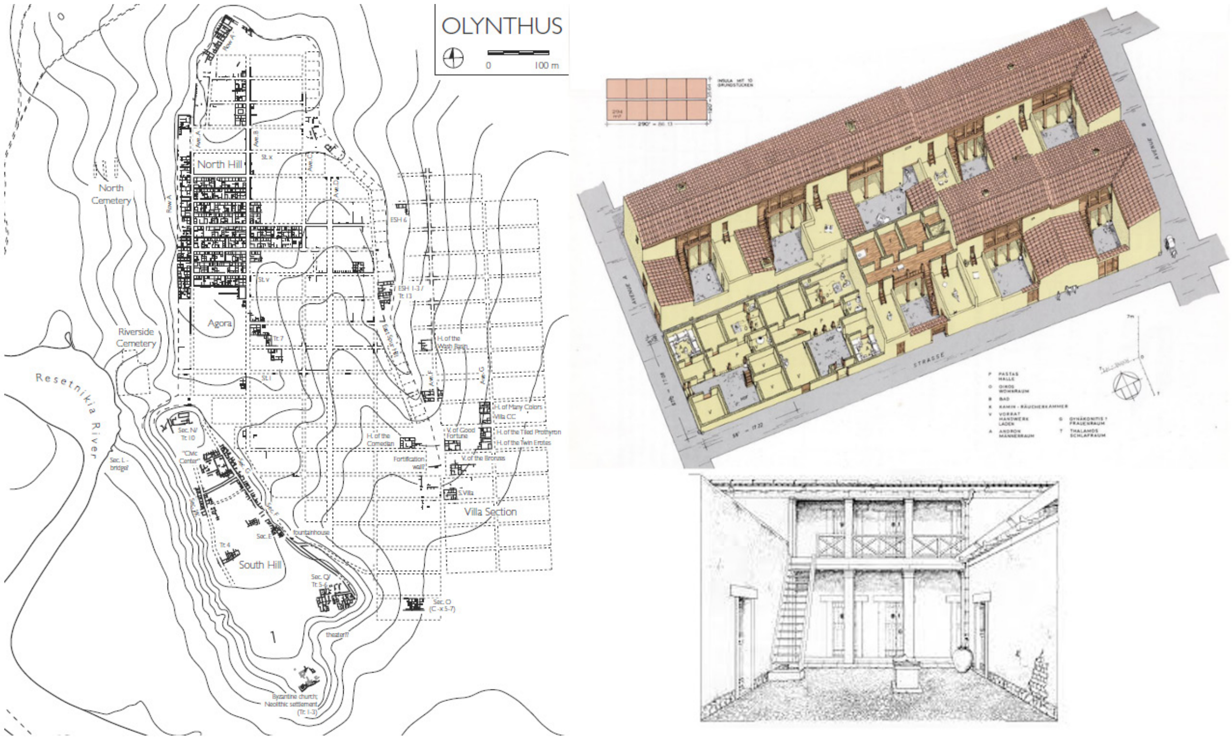


Figure 5.22 Olynthos. Left: Plan of the town (Cahill 2002, 26); Right, top: reconstruction drawing of a domestic insula (Carroll-Spillecke 1989, Figure 3, p. 18); Rigth, bottom: reconstruction drawing of a house's courtyard and pastas (in Hoepfner 2009, 176).

other suggesting a more public connotation. The courtyard of the public area was in fact more richly decorated with pebbled or tessellated mosaics and led to the representational rooms of the house, such as the *andron*. Such organization of space is more frequent than the Herdraum type and, as one would expect, usually corresponds to an increased size of the house plot. It is also seen in relation to a greater display of wealth,[1011] which will become more marked in the Hellenistic period. This arrangement is visible for example in a 4th century house excavated at Maroneia in Thrace and in a sample of houses at Eretria, such as the large house of the mosaics built in the early 4th century.[1012]

More studies at a regional level are needed to contextualize houses, living habits and social organization on the local level. Analysis of Cretan houses of the Classical and Hellenistic periods for example have shown a very different organization of space in respect to the above mentioned types. The houses that have been excavated at Lato, dated from the 4th to the 2nd century BC, present a linear structure similar to the characteristics of some of the houses of the Archaic period and lack a closed courtyard.[1013] They are quite small, their ground floor area being between 40 and 150 m2, and the number of rooms range between two and a maximum of six.[1014] House Δ (Figure 5.23), built against the slope, is representative of the spatial organization of houses at Lato. The dwelling was divided into a large room, which was entered directly from the house and was provided with a central hearth, and a smaller room at the back. A cistern was placed near the entrance on its southern short side, indicating the existence of a semi-private open space in front of the house. The positioning of the door of the back room in line with the entrance suggests a lower concern for privacy than what is visible in courtyard houses. This arrangement

[1011] Nevett 1999b, 105.

[1012] See Nevett 1999b, 107-114 for a discussion of these houses.

[1013] Westgate 2007. Courtyard houses have been excavated at other sites in Crete, such as at Phaistos, therefore this type is not completely absent from the island (Westgate 2007, 441).

[1014] Westgate 2007, 427.

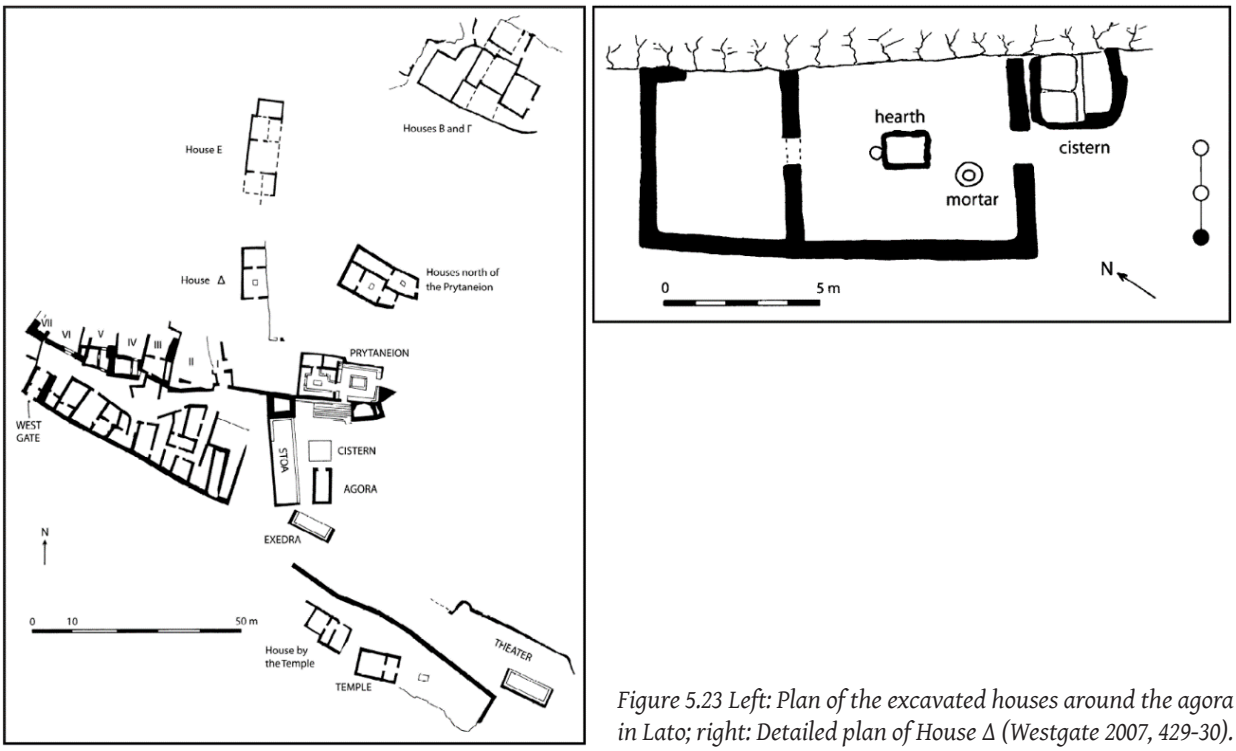


Figure 5.23 Left: Plan of the excavated houses around the agora in Lato; right: Detailed plan of House Δ (Westgate 2007, 429-30).

was not merely resulting from the constraints imposed by the terrain morphology, but represents the expression of a communal social system, in which food and education were shared by male citizens in centralized public buildings. The Archaic or Iron Age tradition fossilized in conservative Dorian Crete, which differentiated some Cretan settlements from other regions of Greece and prevented the development of autonomous and self-sufficient households represented by the courtyard house.[1015]

The size and the small number of rooms of the houses at Lato were not exceptional. Some of the houses at the north foot of the Areopagus measured about 50 and 70 m^2, and at Ano Siphai there are remains of houses that were composed of a courtyard and two rooms.[1016] Variations in size were common within the same town, even when the urban layout was organized in a roughly regular grid. In Halieis, for example, House 7 occupied about 250 m^2 (to which number an upper floor should probably be added, see Figure 5.24), while House A occupied 120 m^2 (to which a *pyrgos* should probably be added).[1017] In Olynthos the house that Walter Graham chose as typical (A vii 4) measured about 17 x 17 m, resulting in an average ground floor living space of about 230 m^2,[1018] but in the eastern part of the city, the Villa section, houses were larger and more elaborate. Roughly of the same size as the Olynthian dwellings was House I at the site of Ammotopos in Epiros, a settlement that was laid out in a regular grid and inhabited probably from the late 4th to early 3rd century. Houses much larger than these are also attested. In Eretria, for example, the House of the Mosaics extended for about 625 m^2 and House II in the Western Quarter (Figure 5.25) occupied an area of 1,200 m^2. The size of the house is given by the organization of the living units around two courtyards: 'n' was a peristyle court giving access to the representational and public rooms (e.g. the *andron* 'f'), while 'l' was the private courtyard that was used exclusively by the members

[1015] See it this respect Westgate 2007, 448-53; Bintliff 2010, 22; Bintliff 2012, 303; Bintliff 2014.
[1016] Discussed by Nevett 1999a, 87-8.
[1017] For the houses at Halieis see Ault 2005.
[1018] Nevett 1999a, 76; Cahill 2002 82. See Cahill 200282-4 for a critical discussion on the abstract concept of the 'typical' Olynthian house.

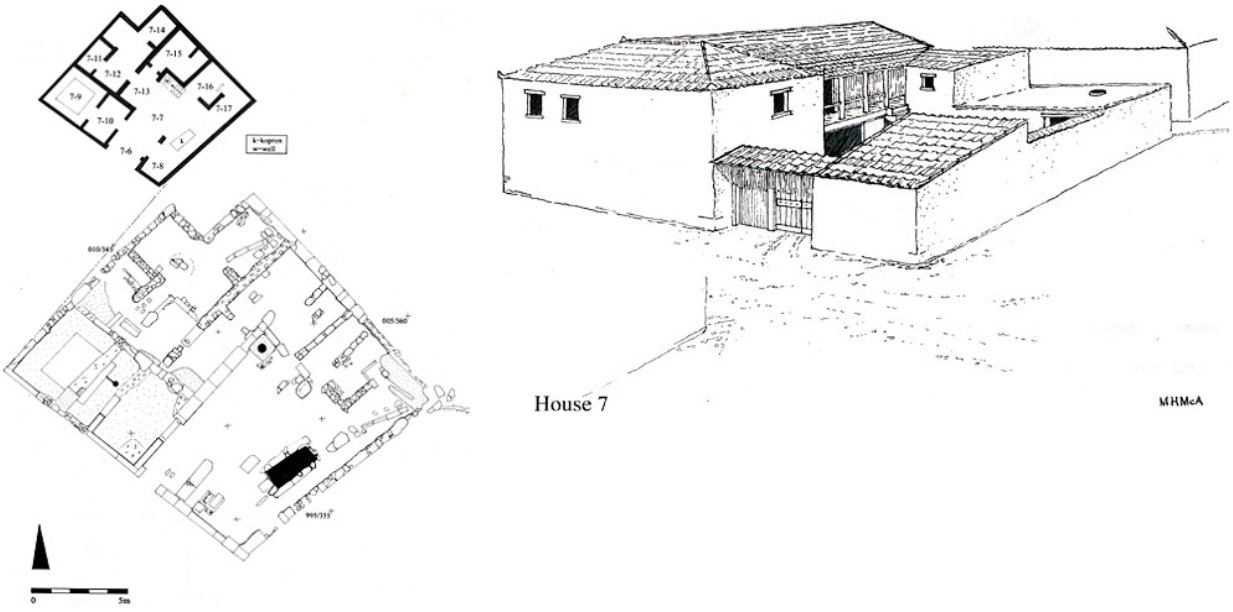


Figure 5.24 Plan (left) and reconstruction (right) of House 7 at Halieis. The entrance is characterized by a roofed vestibule (prothyron) (Ault 2005, Figure7 and 9).

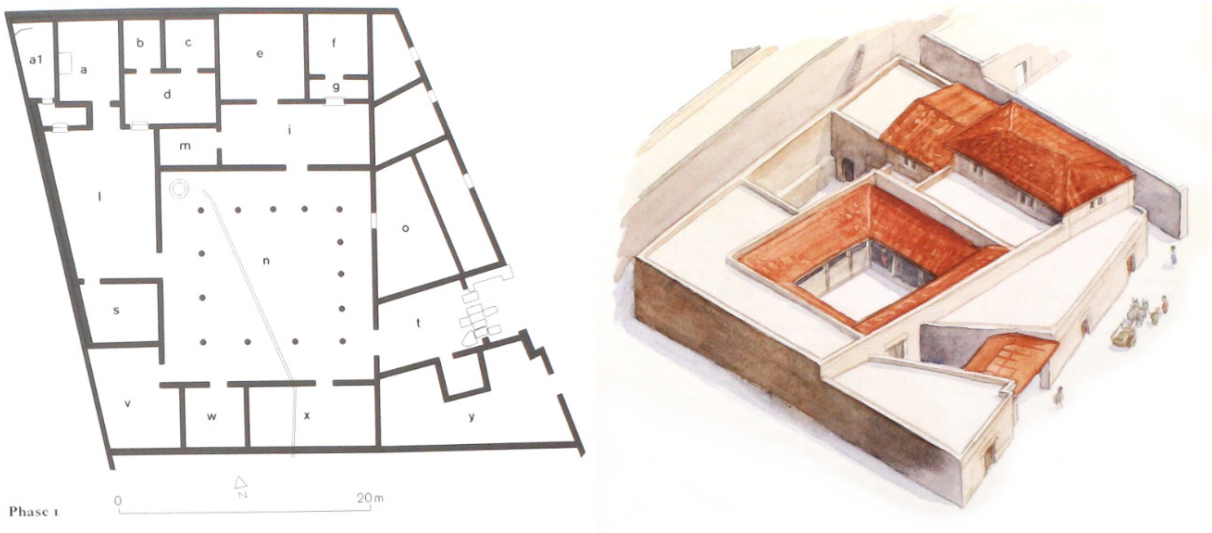


Figure 5.25 Plan and reconstruction of House II at Eretria (Ducrey 2004, 161 and 163).

of the household.[1019] Such organization reflects the social change towards the use of the house as a more representational space which will become more marked in the Hellenistic period.[1020]

The plan that was laid out at the construction phase could be later modified following the needs of the owners. The Olynthian archaeological record shows that adjacent houses could be merged into one when more space was needed (such as in the cases of houses A vii 3 and 5, and houses A v 6 and 8), and parts of the house were abandoned or destined to animals' shelter when the number of occupants decreased.[1021] Similarly to Olynthos' North Hill, redevelopments within the original house blocks are

[1019] Reber 2007.
[1020] Bintliff 2010, 28-9.
[1021] Nevett 1999a, 74.

visible also at the new city that was founded at Plataiai after the battle of Chaironeia. The grid was planned in 149 rectangular *insulae* measuring 40-43 m wide and 97-99 m long, with exceptions on the acropolis and on the north side of the space dedicated to Dionysos in front of the theatre.[1022] As Konecny reports, originally the *insulae* were divided in 10 plots of similar size, but their development differed: in some cases each of these plots was occupied by houses, others were merged to create villas, while in other locations they were left unbuilt.

The discovery of staircase bases in some of the archaeologically known houses has led scholars to conclude that in many cases they were provided with a second floor. At Olynthos, flights of stairs measured between 0.80-1.10m in width and 2.50-3.50m in length,[1023] and in Halieis, stair bases of similar size as the Olynthian ones were identified in most of the excavated houses and were preferably located on the north side of the court or in the *pastas*.[1024] The houses at Ammotopos, preserved to an exceptional extent, allowed the excavators to establish the presence of an upper storey both from the remains of the stone staircase and from the holes in the stone walls that were made for the wooden beams sustaining the floor. In other contexts, such as at late Classical - early Hellenistic Halos, no conclusive evidence for the presence of an upper floor was found.[1025] Whether the upper floor used to cover the entire area of the first floor or was limited only to the back of the house cannot however be established with certainty.[1026] According to Nevett, the great amount of tiles recovered from Olynthos and Thasos points towards the presence of pitched roofs.[1027] However, as Ault pointed out, flat roofs could be used along with tiled roofs to add more space for household activities.[1028]

As testified by the presence of wooden beams trespassing between each individual property in Olynthos, an agreement must have been made among the owners of a row of houses about the height of the common roof, although differences in the building techniques show that the houses were not built by the same team of men.[1029] An inscription from Korkyra Melaina, on the island Lumbarda off the coast of Croatia, gives some insight into the system of allotting the land and was used by Cahill to explain the evidence from Olynthos. According to the regulations established by the document, the land was distributed by randomly selecting the names of the citizens and then allowing them to choose their plot.[1030] In this way related citizens sharing common ties such as origin or a similar profession would choose to live close to each other, thus explaining the distribution of different kinds of houses across the site.[1031] Sales inscriptions from Olynthos reporting the prices of properties show that houses nearby the agora were the most expensive (and were sold more frequently), indicating that proximity to the market was valued more than the larger and more decorated houses in the Villa section.[1032]

[1022] Konecny *et al*. 2013, 188.

[1023] Hoepfner and Schwandner 1994, 107.

[1024] Ault 2005, 73.

[1025] Haagsma 2010, 38-9.

[1026] For a discussion on the presence of a second storey in the Olynthian houses, see Nevett 1999a, 75. Excavations at the Hellenistic site of Petres of Florina shed clearer light on the presence of the upper storey, which was made of lighter material for static reasons (Adam-Veleni 2000, 59, see below).

[1027] Nevett 1999a, 56 and 92 citing Grandjean 1988, 387 for Thasos.

[1028] Ault 2005, 73. The restoration of the slope of the roof is problematic. Evidence for temple roofs is available in the cuttings that were realized in the upper sections of stone walls, but as Kraynak pointed out, evidence for buildings with a mudbrick upper structure is scanty. In some cases, vernacular architecture has been used to reconstruct the appearance of house roofs, see Haagsma 2010 for Halos and Robinson for Olynthos (Olynthus VIII, 236). The latter established a slope of approximately 18°. Kraynak suggested a slope of 11°-12° for the Xenon at Nemea, based on the ridge cover tiles (Kraynak 1992, 125).

[1029] Cahill 2002, 203.

[1030] Cahill 2002, 221.

[1031] Cahill 2002, 221.

[1032] Cahill 2002, 278-81.

The access from the street to the house was always limited and controlled. Often, entrances were angled or screened in order to prevent a direct view onto the inner part of the house.[1033] In most cases one entrance was present, although there are examples where possibly two adjacent entrances existed, one for wheeled vehicles and the other one for pedestrians.[1034] The entrance from the street to the court was often characterized by a roofed vestibule entrance (*prothyron*) as recognized in numerous sites such Olynthos, Halieis,[1035] and Halos.[1036] At Athens, the houses on the north slope of the Aeropagus were entered directly from the street (in some of them evidence of post holes suggests that there was a simple shed-roofed portico), while in other areas of the city a vestibule was present (e.g. in House C and D of the industrial district).[1037] Archaeological evidence and depictions on pottery vases show that doors were double-winged. Herms, altars and plants could be placed at the entrance door of the house to ensure protection to the household.[1038]

The construction techniques, internal decorations and furniture of the house vary, depending on several factors, such as the financial possibilities of the owners, the function of each room and the available materials. The outside walls usually had a stone socle as a basis, while the elevation was made of mudbricks and then plastered over. At Olynthos, courts and *pastas* were decorated with coloured plastered walls, while the rest of the house was left with no decoration apart from the *andron*, a room where guests were hosted and the symposium took place. Floor were generally of beaten earth or clay,[1039] with some exceptions for the paving of the courtyard, the *andron* and the kitchen.[1040]

Houses were not only the places for residence, but the members of the household could be involved to a varying degree in industrial and commercial activities, or the owner could rent out parts of the block. Shops and workshops were usually installed in convenient locations for the business, namely within highly populated areas, close or facing into agorai and busy roads, often at crossroads. Some Classical houses have in fact returned clear evidence of the existence of workshops and shops within or adjacent to the living areas. Some houses close to the Athenian Agora offer an insight into the wide range of activities that were carried out in houses.[1041] A large number of iron nails and bone eyelets were found spread on the floor of the so called House of Simon, located at the southern edge of the Athenian agora and partially excavated in the 1950s. These finds, which were present both on the courtyard's and on the excavated rooms' floors, have been interpreted as the working materials of a cobbler.[1042] In the nearby House of Mikion and Menon, the floor was covered by marble chips and some tools were found suggesting that the house was also used as a sculptor's workshop.[1043]

Other sites have returned evidence for industrial activities within residential areas with varying degrees of separation between working and living spaces, such as a potter's kiln within a house at Kassope and olive presses in a house at Rachi.[1044] A wide variety of small scale industrial activities have been found in the Olynthian houses, besides the processing of agricultural produce, such as sculpting,

[1033] Nevett 1995b, 94-5.
[1034] Ault 2005, 60.
[1035] Ault 2005, 59 (which provides also a table with the measurements of *prothyra* found in Halieis).
[1036] Haagsma 2010, 34-5.
[1037] Tsakirgis 2005, 69.
[1038] Morgan 2007, 114.
[1039] At Lato, for example, the floor of one excavated house was made of beaten earth, clay and shell fragments (Hadjimichali 1971, 215).
[1040] An overview of building materials used in 5th and 4th century houses is given in Jamenson 1990, 97.
[1041] These houses are discussed in Tsakirgis 2005.
[1042] Tsakirgis 2005, 71-4.
[1043] Tsakirgis 2005, 72-5.
[1044] Tsakirgis 2005, 78.

stone cutting, manufacturing of textiles, terracotta figurines and stone bullets.[1045] In some cases the difference between a production for necessity within the household and a commercial activity is less pronounced. In individual houses at Olynthos, for example, finds related to domestic activities such as weaving or food processing are present in such a great number as to make the excavators wonder whether they were meant for internal consumption or as a trade good.[1046]

Hellenistic period

The political situation under the Hellenistic rulers brought about changes in the social structure that now promoted the display of individual wealth without the moderation that was praised during the Classical period.[1047] These changes are reflected in the spatial arrangement of the houses, at least of the middle and upper social strata. The former closed familial unit is equipped with spaces for networking, prestige and display, anticipating and doubtless inspiring the developed Roman domus and villa.[1048] Hellenistic houses are generally characterized by an average increase in size but a greater range of sizes, and an elaboration in the number of rooms and decoration in respect to the houses of the Classical period. This holds true especially for the houses of the upper level of society, peaking with the palace complexes at Vergina and Pella, which covered respectively 9,450 m^2 and an astonishing 60,000 m^2.[1049]

Variations within the same city, in fact, were great, as can be seen in Delos, which offers one of the most conspicuous datasets of Hellenistic domestic architecture. In this harbour town, which was transformed into a commercial hub and cosmopolitan society after becoming an Athenian cleruchy in 167 BC, 91 houses have been completely excavated.[1050] Areas of the city show different organizations of space which suggest different degrees of planning of the urban layout. The irregularity of the house plots, street width and the general organization of the Theatre Quarter, for example, suggest a piecemeal development for this area, where houses were built where space was available. The northern sectors of the city, instead, are much more regular, and the buildings follow a north-south orientation.[1051]

The Delian dataset shows great variety in the domestic organization of space, with ground floor areas ranging from 53 to 866 m^2.[1052] Some common features are however always present, such as a courtyard, while others occur frequently such as latrines and cisterns or wells to guarantee the water supply.[1053] Upper storeys are present in the vast majority of the houses and they were not necessarily inhabited by the same family as the ground floor, but could be accessed by independent entrances from the street. The domestic units were interwoven with shops and workshops that were strategically placed along main streets and at corners.

The most numerous houses (43%) have a rectangular plan and range between 65 to 200 m^2, thus smaller than the typical Olynthian house, giving shape to *insulae* occupied by two to six houses.[1054] These

[1045] Cahill 2002, 238-58. For a discussion on the domestic evidence of industrial activities in Greece and Anatolia, see Cahill 2005.
[1046] Cahill 2002, 238.
[1047] In the *Oration for the State* (ca. 340 BC), Demosthenes, in order to present the uncorrupted and glorious past of Athens, cited as example the houses of great Athenian leaders such as Themistocles, Cimon, Aristides and Miltiades that were indistinguishable from the others, as a contrast to the luxury residences of the elite of his generation. For the political and economic framework of this period, see Bintliff 2012, 329.
[1048] Bintliff 2010, 26-30.
[1049] Winter 2006, 160; Steward 2014, 211. Other large villas and palace complexes have been found e.g. in Samos and Pergamon (see Winter 2006, 165ff)
[1050] Trümper 2003.
[1051] Bruneau 1968, 667-8.
[1052] Tang 2005, 33. Tang notes that the largest houses (e.g. DelN19 with 866 m2) may have been used for other purposes (e.g. clubhouses) besides being habitation.
[1053] Trümper 2003, 24.
[1054] Trümper 2003, 23.

elongated houses were arranged around a courtyard, flanked by one or two service rooms, which gave access to a large room (*oecus maior*)[1055] that, in turn, led to one or two rooms in the back (*oeci minores*, see Figure 5.26). The other two most recurrent types that Trümper identified in the Delian houses are the 'enlarged normal house' and the 'peristyle house'. In the first group, ranging from 120 to 360 m^2, decorated rooms were added on one side of the courtyard, likely to accommodate guests.[1056] The other group includes the largest houses, which were usually provided with peristyles surrounded by the most lavishly decorated rooms. The negotiation between architecture and terrain is most visible in the latter group of houses where a large area needed to be laid out on several floors according to the terraced landscape. The area of more than 1,500 m^2 of the House of the Hermes, for example, was spread on four levels that were built against the hill slope.[1057]

Despite the cosmopolitan character of the city, houses show a consistent pattern in decorative motifs, with a few exceptions which hint to the origin of the owner.[1058] The most popular ornamental repertoire was present in the wealthiest houses and was then imitated by less well-to-do owners with less sophisticated techniques or cheaper materials.[1059] Tessellated mosaics, albeit of lower quality than those from Pergamon and Samos, were particularly appreciated in Delos, as evidenced by the fact that here the highest number of mosaics of any Hellenistic site was found.[1060] Wealth was not necessarily proportional to size, as some of the largest houses have no peristyle,[1061] while smaller houses were richly decorated. Interestingly, no spatial division between wealthy and poor is noticeable in the excavated quarters; the houses are in fact diversified as shown in Figure 5.27. This spatial proximity reflected the business relationship between the poor and lower middle classes that were clients of the rich owners of insulae and domus. Shops and workshops were also mixed with houses and, as already observed for the Classical houses on the Athenian Agora, opened up onto important streets (such as that leading to the theatre) and at crossroads.

As already seen in other sites such as Olynthos and Plataiai, redevelopments of the original house plan have been identified also in several of the excavated houses in Delos. The modifications were usually directed towards a segmentation of the larger rooms into smaller units and towards the creation of shops or workshops. Such interventions are visible for example in Houses IC and ID in the Stadium quarter (Figure 5.28). The previous entrance of House IC was closed and room 'a' was turned into a workshop which opened directly onto the courtyard. In House ID, the large rooms 'j' and 'n' are remodelled into smaller rooms used as storage places.[1062] These changes reflect the needs of the owner for more storage, probably in the context of a growing Delian market as testified also elsewhere such as by the addition of shelves and mezzanines in the shops of the Quartier du Théâtre.[1063]

Among the redevelopments that can be observed in domestic architecture between Classical and Hellenistic times, an increased number of spaces devoted to the processing of agricultural produce is attested in a number of sites, such as the installations of olive presses at Halieis[1064] and Eretria. At the latter site, transformations are visible in particular in the West Quarter which was not redeveloped in Roman times, and thus provides an undisturbed example of Classical-Hellenistic domestic architecture at the site. Some of the living units that composed this quarter, which is close to the western city

[1055] These terms were first adopted for the Delian houses by Chamonard 1922–1924.
[1056] Trümper 2003, 23.
[1057] Winter 2006, 172-
[1058] Trümper 2003, 32; see also Zarmakoupi 2013, 9.
[1059] See Westgate 2010.
[1060] Westgate 2010, 511 and 516.
[1061] Trümper 2003, 24.
[1062] Zarmakoupi 2014, 559-63.
[1063] Karvonis and Malmary 2009.
[1064] Ault 1999.

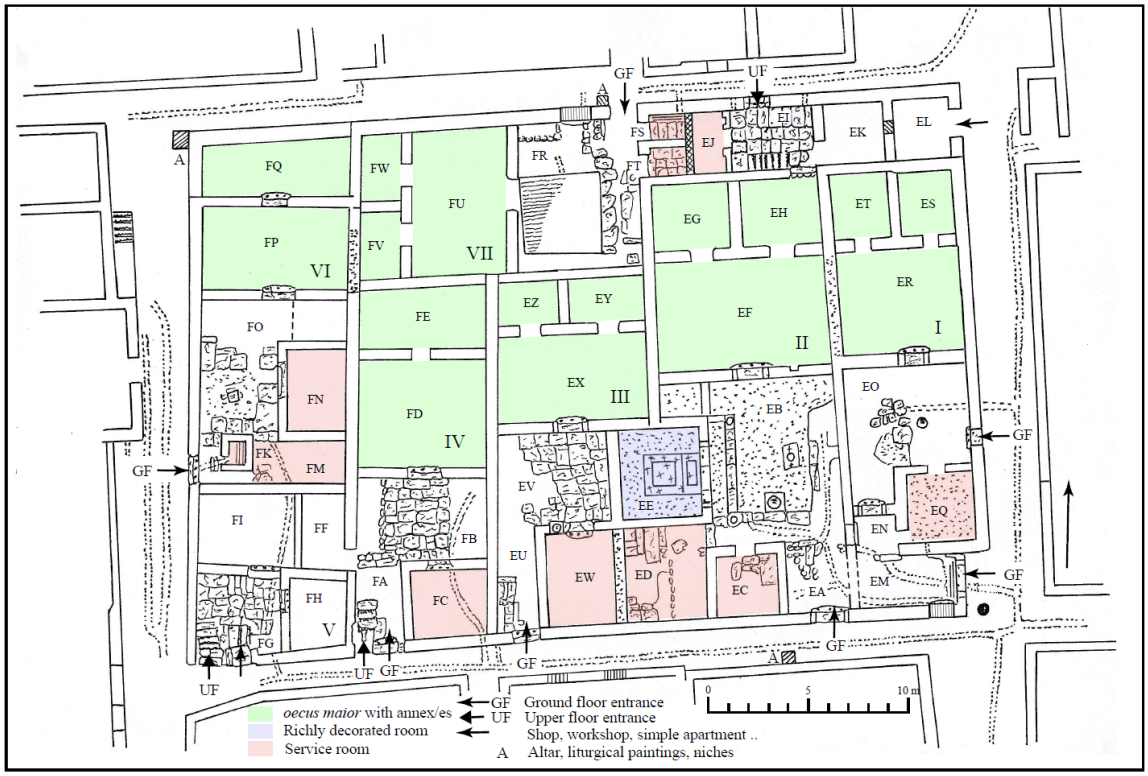


Figure 5.27 Delos: Plan of the excavated quarters near the theatre with the distribution of houses, shops and workshops (Trümper 2003, plate 4).

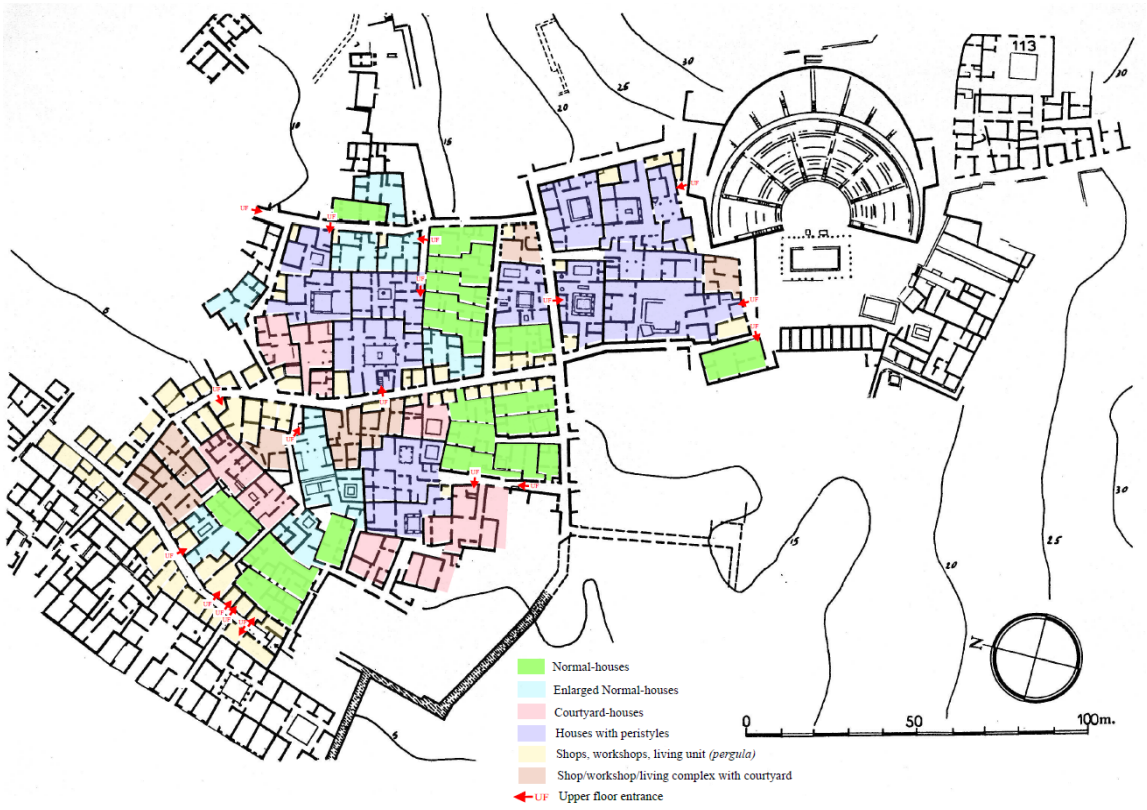


Figure 5.26 Plan of an insula of 'normal houses' in Delos (Trümper 2003, plate 1).

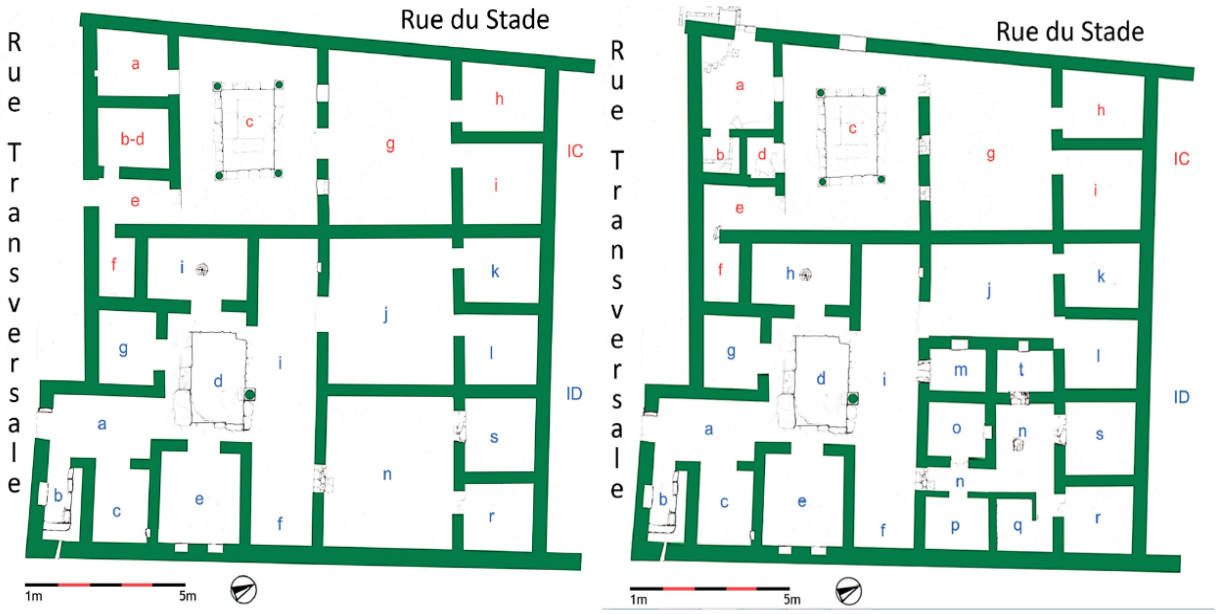


Figure 5.28 Delos: Architectural development of Houses IC and ID (Zarmakoupi 2014, 562).

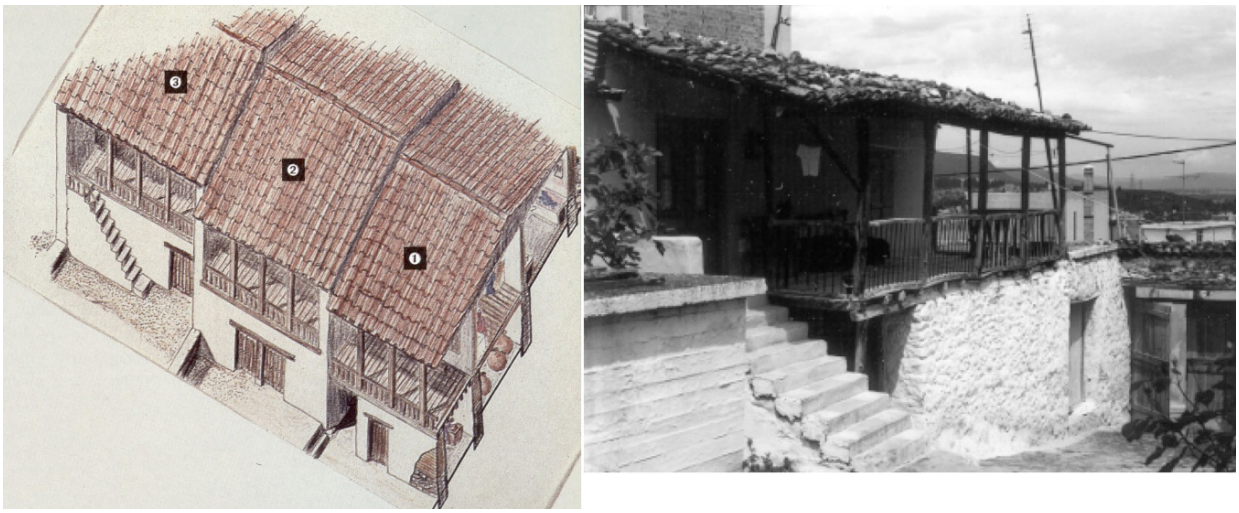


Figure 5.29 Left: Reconstruction drawing of three houses at Petres with hagiati-like roofed open area (Adam-Veleni 2000, 57); Right: Characteristic hagiati in a house at Livadeia, Boeotia (Sigalos 2004, Figure 97, p. 282).

gate, were turned into industrial complexes, among which grape and olive presses were installed. It is often difficult to find the reason that triggered redevelopments in house design, as this can be related to a variety of factors such as a change in ownership, historical events or transformations in the economic organization of the household. In this case, the decrease of farmsteads in the countryside that has been observed for the Hellenistic and Early Roman periods in several regions of Greece[1065] and the concentration of the landscape use around large villas[1066] can have triggered the need to include production units directly into town houses.

[1065] Alcock 1993a, 48-9. See e.g. the data from the Boeotia project (Bintliff and Snodgrass 1985, 145) and from the survey at the Attic deme Atene (Lohmann 1993, 248).

[1066] Bintliff 2012, 318-9.

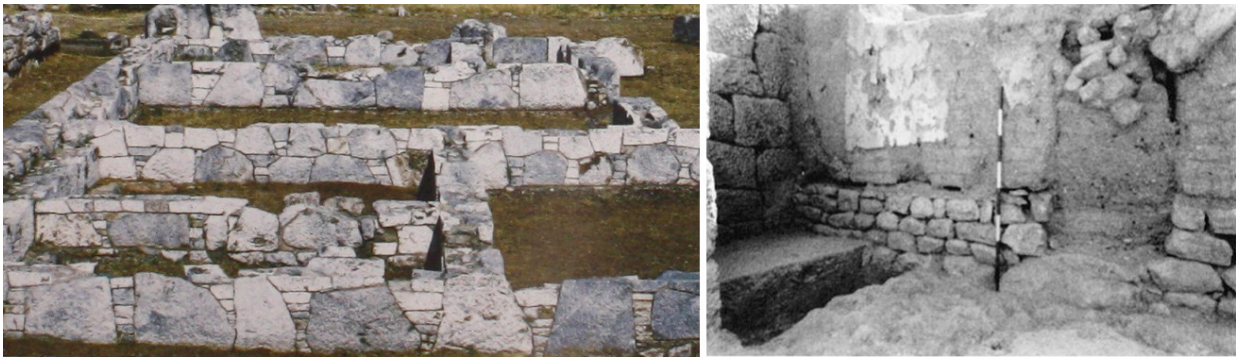


Figure 5.30 Examples of masonry techniques for stone socles in Late Classical and Hellenistic domestic architecture: (Right) Eretria (Ducrey 2004, 160) and (left) Knidos (Love 1970, Figure 11).

Other sites where houses of the Hellenistic period have been excavated include Petres of Florina,[1067] Kos,[1068] Leukas,[1069] and Knidos.[1070] At Petres, the excavated houses had a floor area of about 180-200 m^2 and an upper floor constructed with lighter materials for static reasons. Houses show different room arrangements: besides the classical radial configuration around an open central courtyard, in others the courtyard was on the front side, while in the southern platform two main types were excavated, a short-frontage type and an L-shaped type with a longer front.[1071] The one-and-a-half storey house type was adapted to the steep slopes resulting in houses constructed with one-storey on one side, facing the street, and two-storey on the other. In these cases, the archaeological evidence led the excavators to interpret the room facing the street as the *andron* and the room on the second-storey on the other side as the women's apartment which was provided by a roofed semi-open area to the front, similar to the typical hagiati house found in the Aegean up to the 19th century (Figure 5.29).[1072] The good preservation of some of the walls shows that the walls were made of a mortared rubble masonry up to about 1 meter high, and then of unfired bricks.[1073] The *andron* was often decorated with high quality plaster in proto-Pompeian style, imitating marble.[1074] At Knidos, some of the houses, which were preserved up to more than 2 meters, reveal their construction technique based on a stone socle and mudbrick walls that were painted over (Figure 5.30) and internal decorations including architectural stuccos, painted plasters, wall paintings and mosaics.[1075]

Roman period

The dataset of completely excavated Roman houses in the Aegean is limited. The number of wealthy houses, moreover, heavily outbalances the others, since traditionally only the most decorated examples, where undisputed Roman elements such as *impluvia* were present, have caught the interest of scholars.[1076] Roman houses of the less well-to-do social strata might not have been recognized as such for the absence of what are considered the typical features of Roman dwellings and shortage of

[1067] Adam-Veleni 2000.
[1068] Livadiotti 2010, 23-42 (see p. 26 for the reconstruction of a Hellenistic insula at Kos).
[1069] Fiedler 2005.
[1070] Love 1970.
[1071] Adam-Veleni 2000, 57-61.
[1072] For housing architecture in Medieval and Post-Medieval Greece see Sigalos 2004; a review of housing architecture in Late Medieval and Ottoman Boeotia is given in Piccoli and Vionis 2011, for the recording of Greek vernacular architecture, see Piccoli 2012.
[1073] Adam-Veleni 2000, 57.
[1074] Adam-Veleni 2000, 59.
[1075] Love 1970, 152-3 and Figure 11 (pl. 39).
[1076] Nevett 1999a, 101.

contextual finds. It has therefore to be taken into account that the following observations regarding the Roman house in Greece could apply only to the higher classes of Roman immigrants, whose houses probably represent the majority of the excavated examples.

The excavated houses give us some indications about the preferred locations of the properties in the city. Based on the 64 Roman houses in Greece that he has examined, Bonini suggests that the proximity to the agora was not valued as much as during the Classical period as attested by the Olynthian sale inscriptions.[1077] Areas close to the theatre were also not aimed for, while the space around sanctuaries seems to have encountered more favour, as proved by the peristyle house that was erected during the 1st century AD to the east of the sanctuary of Apollo,[1078] and the luxurious house constructed during the 2nd century AD against the acropolis wall at Eleusis.[1079] The excavations in Delos, Patra and Kos show that there was no sharp distinction between wealthy houses and more modest dwellings as they were mixed in the same neighbourhoods.[1080]

In the majority of Roman houses in Greece studied by Bonini, the entrance was not as monumental as in other areas of the Empire, and followed instead the Classical-Hellenistic tradition. In medium-size houses, thresholds were generally between 0,5 and 1,5 m, but could exceed 2 m in larger mansions.[1081] Doors opened towards the inside, according to the Roman habit, and not towards the outside as common during the Classical period.[1082] Contrary to the evidence for other parts of the Empire, in Greece the entrance room was usually a transitional space and was not equipped with benches to accommodate visitors or *clientes* who came to salute their patron.[1083] Among the most important changes in the configuration and use of space, the disappearance of the *andron*, which was quickly substituted for by the typically Roman triclinium,[1084] and the changed role of the courtyard are particularly significant.

As shown by the houses in Delos, the spatial arrangement with a central courtyard or peristyle surrounded by rooms was kept on the island under the Roman rule. The same pattern has been documented in other contexts, such as at Pergamon and Ephesos.[1085] In continuity with the changes which occurred in the Hellenistic period, when (one of the) courtyards turned into a semi-public display zone, the courtyards in Roman houses became more of a decorative feature as they were often occupied by a pool, a basin or a garden (*viridarium*), which are elements foreign to the Classical and Hellenistic tradition.[1086] As shown previously, courtyards were central features of Greek houses, commanding the movement paths along the house, and covering an important role as a multifunctional space where household activities were carried out. These changes led to a different organization of access where rooms were more interconnected between each other and not only accessible from the courtyard as previously attested.[1087]

[1077] Bonini 2006, 44.
[1078] Bonini 2006, 45.
[1079] Papangeli and Chlepa 2011, 52-5.
[1080] Bonini 2006, 46. Cf. the studies on the distribution of elites throughout the city of Pompeii, e.g. Laurence 2007, 166.
[1081] Bonini 2006, 52.
[1082] Bonini 2006, 51.
[1083] Bonini 2006, 55. Bonini (2006, 56) observes that possibly the *clientes* were received elsewhere, perhaps in the courtyard, as hinted in a passage of Plutarch's *Moralia* (814E).
[1084] Bonini 2006, 203.
[1085] Trümper 2003, 40.
[1086] In the dataset of Roman houses in Greece analysed by Paolo Bonini, about half of the courtyards with gardens comes from the Roman colony of Patras, testifying that the introduction of the garden is a typical Roman feature (Bonini 2006, 62). In a Roman house on the north-west slope of the Aeropagus, a large two-apse basin was placed in the centre of the peristyle and was surrounded by a garden (see Bressan and Bonini 2010, 22; the plan of the house is published in *Hesperia* 37 (1968), 71, Figure 12 and is accessible here http://agora.ascsa.net/id/agora/image/2012.58.1185)
[1087] Nevett 1999b, 105-7.

The social implications of the changed role of courtyards are far reaching, but difficult to sustain without a larger dataset to analyse. As Nevett argued, there could be a correlation between this different configuration of space and an increased freedom of movements of the female members of the household. The available dataset representing the wealthier families, however, can create a bias in the interpretation as we might be looking at houses of elite Roman immigrants and not at houses of the local Greek population.[1088] Moreover, the transformation of the courtyard into a decorative space implies that household activities, such as food preparation and weaving, were carried out inside the house instead of in the court, unless there was a second private courtyard that offered this opportunity. Nevett has suggested that this could relate to a decrease of engagement of the women of the household in this type of tasks, which were instead taken over by slaves or servants.[1089]

A large and lavishly decorated example of a Roman house in Greece is a villa in Kos, which was completely excavated and restored during the 1930s.[1090] The house, extending on an area of about 2,400 m^2, was erected in the second half of the 2nd century AD (and renewed in the 3rd) on an insula that was previously occupied by one or more Hellenistic houses. The rooms were arranged around three courtyards, the largest of which (Figure 5.31, coloured in blue) was a peristyle court occupied by a garden (Figure 5.32). All of the courtyards gave access to richly decorated representational spaces. Mosaics, floors in *opus sectile*, frescos and marble decorations testify to the wealth of the owners and their preferences.[1091] The choice of materials is typically Roman, the iconographic motifs are common elsewhere in Kos, while the selection of Late Hellenistic statuettes and a mosaic *emblema* of the same period among the decorations of the house reveal the owner's antiquarian taste.[1092]

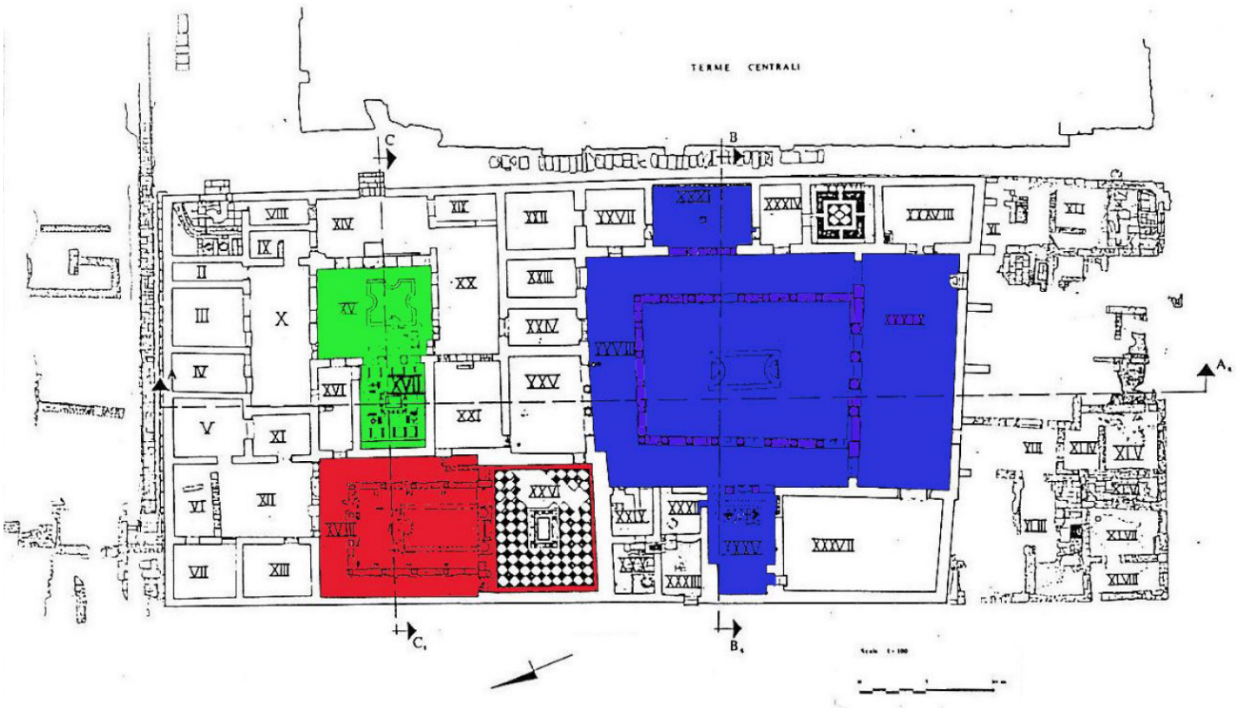


Figure 5.31 Plan of the Roman house at Kos with the three representational spaces in color (Albertocchi 2010, 41).

[1088] Nevett 1999b, 108.
[1089] Nevett 1999b, 107-8.
[1090] Recent restorations have been made on the basis of the 1930s interventions to reconstruct the house (Sideris 2015).
[1091] Albertocchi 2010.
[1092] Albertocchi 2010, 50.

Figure 5.32 Reconstructed court and peristyle of the Roman house at Kos after recent restoration (Sideris 2015, 80-1).

It is reasonable that the various degrees of assimilation of Roman elements within Greek houses related to the status of the city under Roman rule. In Colonies, which were inherently Roman towns, such as Corinth or Patras, the domestic architecture shows more closely typical Roman elements that were introduced by the colonists. In free Greek cities, the role of the upper classes was crucial for the local reinterpretation of Roman domestic architecture. A strong local aristocracy, wishing to maintain its political supremacy, would have adopted (and adapted) the Roman way of living as a way to legitimate their power.[1093] The Roman elites, on the other hand, had already assimilated elements of Hellenistic public architecture, e.g. the columns from *stoas* and the peristyle from the Gymnasium, thus transforming the traditional atrium house in Italy into the characteristic peristyle house.[1094]

Late antiquity

The dataset of Late Antique houses is more numerous than that of Roman houses, especially thanks to relatively recent works that have dedicated more attention to this topic. The majority of the known Late Antique houses are however still the result of accidental discoveries, and belong to wealthy social strata.[1095] General conclusions on Late Antique housing are therefore still difficult to draw from the limited data that are available. A notable exception is the state of the knowledge on Late Antique Crete, where excavations on several sites such as at Gortyn and Knossos are providing a regional perspective on the subject.[1096]

Taking the peristyle as the feature of the typical Roman house, Ellis argued that no new peristyle houses were built completely anew after the mid-6th century AD.[1097] The latest complete attested example was in fact the House of the Falconer at Argos, which was built around 530-550 AD, while the latest incomplete specimen is the House from Hermione in the Peloponnese built at the end of the 6th century.[1098] Transformations in domestic architecture reflect the social-political changes that led to a concentration of wealth in a smaller group of people and to a more formalized relationship between the patron and his *clientes*.[1099] Some of the peristyle houses still surviving, or those built anew, were

[1093] Bressan and Bonini 2010, 24-5. See also Bonini 2006, 28-9.
[1094] Cf. Wallace-Hadrill 1994, 20-1.
[1095] See Uytterhoeven 2007 for an overview of the state of the knowledge on Late Antique houses and related bibliography.
[1096] On Late Roman Crete, see Livadiotti and Simiakaki 2004, in particular the contribution by G. W. M. Harrison in the same volume (Harrison 2004). On Gortyn see Di Vita 2000, and the more recent publications of the excavations conducted by the University of Siena and the Italian School of Athens in the neighbourhood between the Pythion and the Praetorium (e.g. Zanini *et al.* 2009). For Knossos, see Sweetman 2004.
[1097] Ellis 1988.
[1098] Ellis 1988, 565.
[1099] Ellis 1988, 575-6.

provided with more luxurious and ceremonial receptions, such as the apsidal triclinium, to serve for receiving the *clientes*, and by more elaborate private facilities.[1100]

On the other end of the social spectrum, some of the surviving peristyle houses were subdivided into smaller living units to house the lower social classes.[1101] As mentioned earlier in the section on Late Antique town planning,[1102] it is in fact common that the overall extension of city blocks and individual houses was not changed, but modifications were made internally, such as the addition of subdivisions in the peristyle court or of extra porticoes, as attested at the House on the Via Egnatia in Philippi.[1103] In many sites, luxurious Late Antique houses seem not to be concentrated in specific areas of the city, but were instead interspersed with more modest dwellings.[1104] While in some cities, concentrations of upper class houses are attested, such as at Athens near the Greek agora and on the North Slope of the Aeropagus and at Thessalonika around Galerius' palace.[1105]

An example of the less conspicuous and underrepresented Late Antique houses is a house-shop dated to the 5th century AD which has been recently excavated in Hephaisteia, Lemnos as part of the ongoing investigations on the general topography of the site. [1106] The house-shop, composed of three adjacent rooms, was constructed maintaining the same orientation as the Classical-Hellenistic town grid and by re-arranging the northern part of a pre-existing peristyle house that was entered from the south (Figure 5.33). The first, larger room was entered directly from the street as evidenced by a 1.2 m long threshold which bears the pivot holes of a door opening towards the inside. This room had a beaten earth floor where a stone block was positioned probably as a basis for a wooden beam that sustained the roof. The second room was provided with a floor of stone slabs while amphorae lids were found especially concentrated on one side of the room.

From the 5th century, houses that were abandoned were turned into workshops. This phenomenon, which is attested in numerous cases, especially at Delphi and Philippi is contextualized in the process of ruralisation of cities that is typical of Late Antiquity.[1107] With the withdrawal of elites to the larger town and ecclesiastical mansions, public spaces and their former urban homes were taken over by the middle and lower classes.[1108] In Philippi, the excavated *insulae* of the city show a range of production activities that were carried out in buildings that were previously used as residences, such as a glass making workshop.[1109]

In a period of prevailing Christianised society, excavations of house assemblages give us a glimpse of the deities that were still worshipped within the household. A possible domestic shrine of pagan deities was excavated in the Panagia Domus to the south-east of Corinth's Roman forum.[1110] A room of the house, which remained in use until its destruction, possibly due to an earthquake, in the second half of the 4th century AD, contained an assemblage including miniature polychrome statues of Artemis, Asklepios, Roma, Dionysos, Herakles, Pan and possibly Europa. This assemblage is not an isolated case since other statuette groups were found in Corinth and in other contexts such as at Athens and Messene.[1111]

[1100] Ellis 1988, 573; Uytterhoeven 2007, 50.
[1101] Ellis 1988, 573; see also Uytterhoeven 2007, 45-6 with related bibliography.
[1102] § 5.2.5.
[1103] Baldini Lippolis 2007, 216.
[1104] Bonini 2006, 47.
[1105] Bonini 2006, 47.
[1106] Camporeale *et al.* 2008, 204.
[1107] Sodini 2007, 327.
[1108] Bintliff 2012, 360.
[1109] Sodini 2007, 327, citing Gounaris and Velenis 1997.
[1110] Stirling 2008, 89-161.
[1111] Stirling 2008, 132-6.

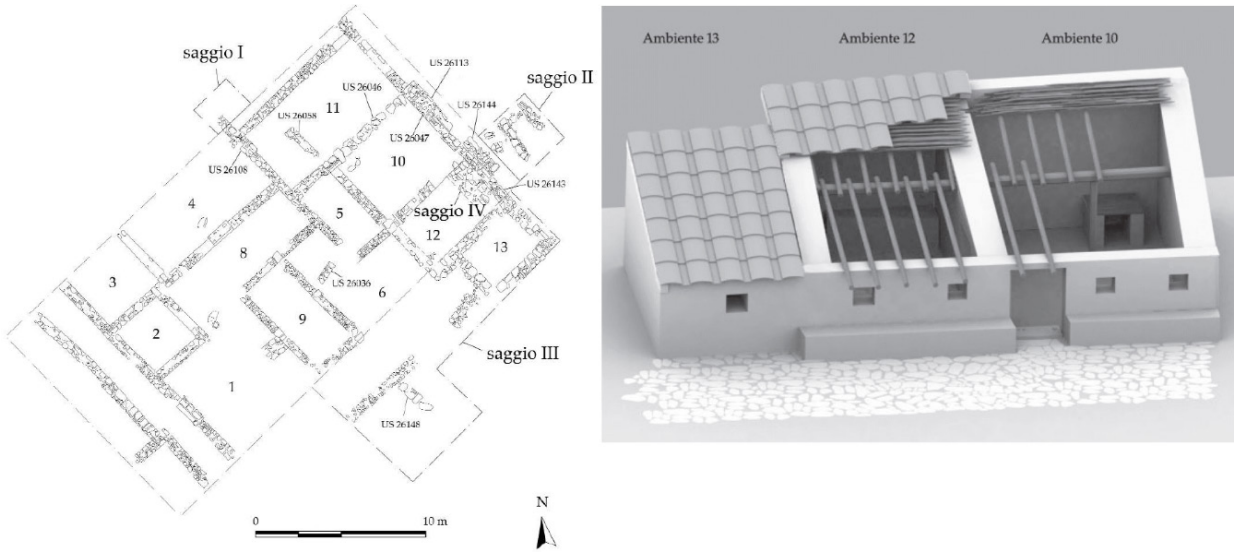


Figure 5.33 Left: Plan of the excavated house at Hephaisteia, Lemnos (Papi et al. *2008, Figure 44, p. 982); rooms 10, 12 and 13 correspond to the Late Antique house-shop; Right: Reconstruction hypothesis of the house-shop (Piccoli 2008, 244).*

5.3.5 Training spaces

Training in ancient Greece was an important aspect of the male citizens' education and was deeply connected with the *polis*' identity and military power. It is difficult to identify the spaces that were dedicated to athletic preparation in the early phases of the *polis* as they were usually open multifunctional areas that have disappeared, being covered by the following centuries of city life. An open area on the edge of the town or outside the city walls with water sources in the vicinity and trees to ensure some shadow, perhaps bordered on one side by a portico with changing rooms, would have been enough to create a suitable space.[1112] While the city outskirts were the most convenient locations for training spaces, some evidence of race tracks have been uncovered also in agorai, such as at Athens (Figure 5.34), Corinth and Argos. In the last-named city, the starting line of a race track dated to the 1st century AD has been found, which probably followed an earlier track as it shares its orientation with a triangular basin dated to the late Classical period.[1113]

During the middle 4th – early 3rd century BC the spaces for training become more architecturally defined,[1114] and were called *palaistrai* or *gymnasia*.[1115] These terms identified two different areas of the training facilities that were often, but not always, part of the same complex yet they are usually used as synonyms in ancient texts.[1116] The *palaistra* means literally the wrestling school (*palaíeien* = to wrestle) and was usually a rectangular yard bordered by stoas with rooms for changing, rubbing on oil and bathing. The *gymnasion* (*gymnós* = naked; *gymnázo* = to train naked) consisted of two tracks, one covered by a roof (*xystos*) and one in the open air (*paradromis*). The architectural development, extent and magnificence of the complex could greatly vary, based on the terrain conditions and the financial possibility of the city or of the private sponsor. Fountains, bathing facilities, temples and libraries could be added to the basic components.[1117]

[1112] Foxhall 2013, 127.
[1113] Dickenson 2012, 240-1.
[1114] Owens 2009, 186; Foxhall 2013, 125-9.
[1115] See Foxhall 2013, 125-9.
[1116] See Miller 2004, 179.
[1117] Owens 2009, 186.

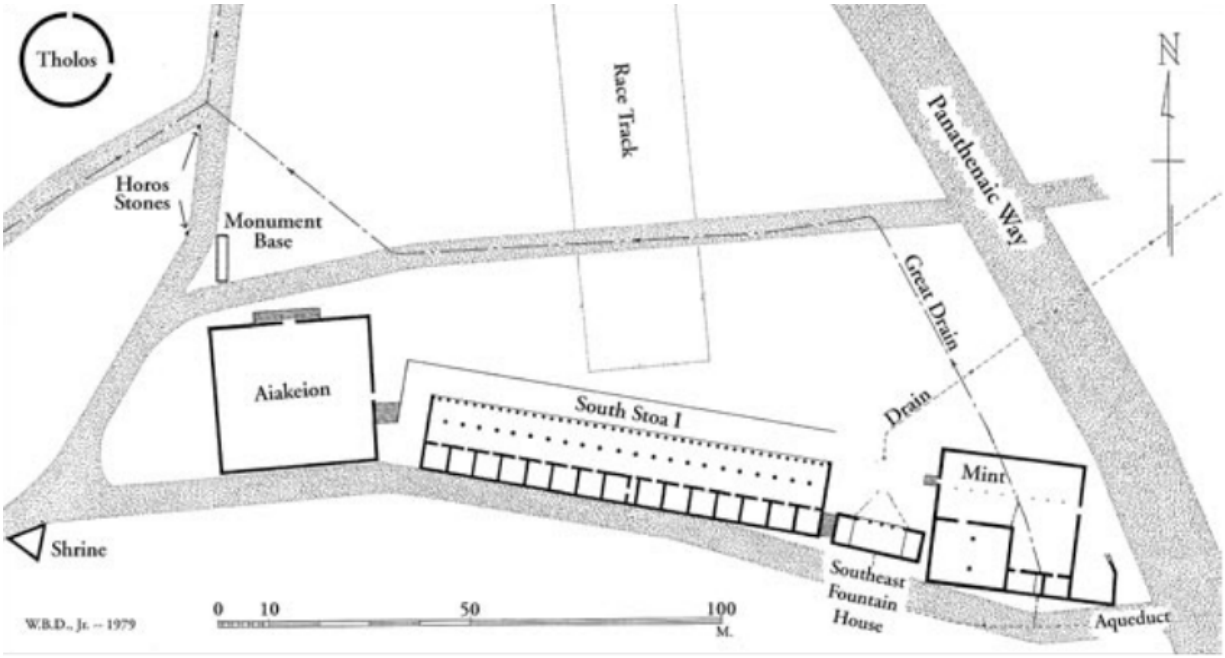
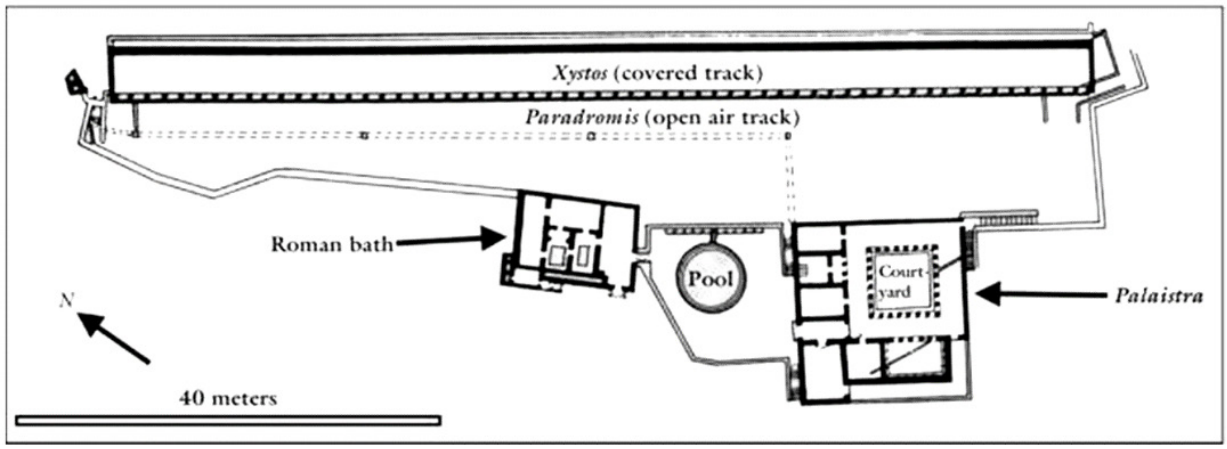


Figure 5.34 Plan of the south side of the Athenian agora in ca. 400 BC with the area occupied by the race track (Camp 2003, 24).



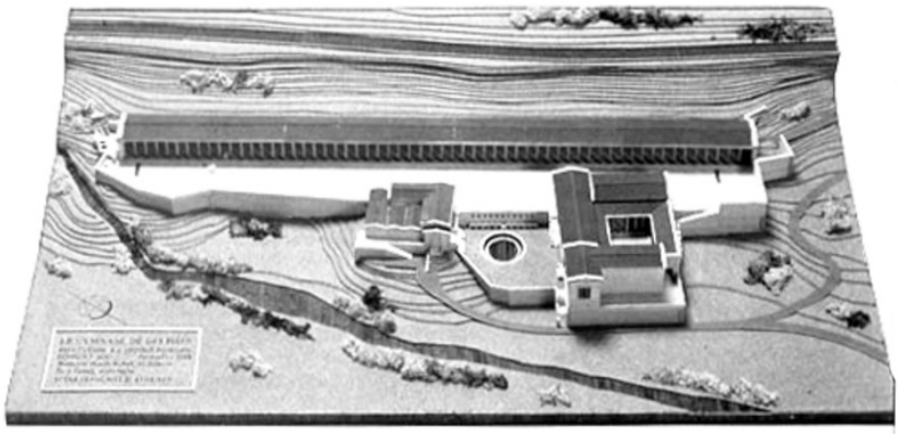


Figure 5.35 Plan and reconstruction model of the palaistra-gymnasion complex at Delphi (ca. 330 BC) (plan: Scott 2013, Map 19.1; picture from http://davidgilmanromano.org/courses/ancient-athletics/lecture-images/24).

The oldest know example of an architecturally defined *gymnasion-palaistra* is the one at Delphi. This complex was built around the middle of the 4th century on the cliffs of Mt. Parnassus close to the Castalia spring which ensured enough water for the bathing facilities.[1118] The traveller coming from Athens would have encountered it after the sanctuary of Athena Pronoia (at Marmaria) and before reaching the sanctuary of Apollo, which was visible from the *gymnasion*. The sloping terrain made it necessary to create earth embankments sustained by walls to obtain two terraces where the buildings were constructed. On the upper terrace the *xystos* (184.43 x 7.5 m) and the *paradromis* were laid out, while the lower terrace was occupied by a pool (*loutron*) receiving water from the Castalia spring, and by the *palaistra* (Figure 5.35). The latter was referred to in the inscriptions as the 'lower *gymnasion*', confirming again the blurred distinction between the two words in ancient texts.[1119] Close to the pool, a bath complex was added in Roman times.

Since the Archaic period, physical training was coupled with singing poetry and dancing as part of the *paideia* of the male youths,[1120] and the role of the *gymnasion-palaistra* as an integral part of the *polis* educational program became even more marked in Classical and especially in Hellenistic times. In the Hellenistic period, moreover, the *palaistrai* became multifunctional spaces and it was not uncommon that one of their rooms was equipped with benches to serve as a classroom.[1121] As an indication of the increased importance of this institution, not only as an athletic facility, but as an educational space, this complex was moved closer to the centre of the *polis*. The increase in the number and importance of *palaistrai* built adjacent to agorai during the Hellenistic periods, especially in newly founded cities,[1122] has been explained as a response to compensate for the lost political freedom under the Hellenistic rulers, with a reinforcement of local cultural identity, which was expressed and transmitted only to the young male elite through the athletics and educational activities that took place in these buildings.[1123] For the changed socio-political scene, these places became elite clubs and therefore acted more as a class divider than as a unifier.

During the Roman period, the importance of the *gymnasion* as part of citizen training and youth education decreased. Training spaces were maintained, but they were now intended for leisure and were used in combination with the bathing facilities that became more elaborate, functional (with the adoption of the Roman heating system) and monumental.[1124] The fact that a number of *palaistrai* were paved, instead of keeping the beaten earth ground that was most suitable for training, is a sign that this aspect was now of smaller concern.[1125] These spaces conserved the multifunctional character that they started to assume in the Hellenistic period and hosted music performances and lectures. An example is provided by an epigraph from Delphi dated from the late 1st century BC, which records the honours that the city gave to an astronomer that had given a series of lectures in its *gymnasion*.[1126]

The end of the traditional use of *gymnasia* is usually placed during the early 4th century AD.[1127] The term 'gymnasium' is still attested in late sources, but it is translated as 'baths' in texts that are later than the 4th century. In the 10th century AD Lexicon Suda, *aleipteria* (rooms where olive oil was distributed), *balaneia* or *loutra* (baths) are indeed used as synonyms for gymnasia.[1128] To the end of the 4th century is

[1118] For a description of the architectural complex, see Jannoray and Ducoux 1953; Jannoray 1937.
[1119] Roux 1980, 128.
[1120] Troncoso 2009, 72.
[1121] Scott 2013.
[1122] Dickenson 2012, 130.
[1123] Bearzot 2009, 104; Kousser 2005.
[1124] Remijsen 2015, 259-60.
[1125] Remijsen 2015, 261.
[1126] König 2005, 50-1.
[1127] Remijsen 2015, 259.
[1128] *Suidae Lexicon*, I, Γυμνάσια: άλειπτήρια ή βαλανεία ή λουτρά, 501.

Figure 5.36 Pottery factory in Messenia in the 1940s (Stillwell 1948, pl. 4b).

dated the final use of the *gymnasion* in Delphi that was afterwards occupied by a pottery workshop.[1129] The *gymnasion* offered a suitable location for the workshop as it laid abandoned outside the Late Antique town, and had the flat ground that used to serve as a racing track. The Castalia spring that had provided the necessary water for the training facilities up to Roman times was now a convenient water supplier for the processing of clay.

5.3.6 Industrial spaces

The study of the industrial areas of Graeco-Roman towns, which would shed light on important aspects on local economies, the organization of labour and of the distribution of goods, has traditionally received little attention in literature.[1130] Since the stigma that Finley attached to the ancient economy in the 1970s, scholars dealing with this subject have often interpreted the available evidence under preconceived ideas about the socio-economic characteristics of the ancient world, polarizing their views between 'primitivists' and 'modernists'. In recent years, the increase in archaeological data and the re-examination of old evidence are shedding light on previously overlooked or unknown aspects of the ancient economy, rendering the picture of a complex system that was far from being 'primitive'.[1131]

As far as pottery is concerned, recent studies have started to look beyond its modern artistic value to consider the whole production and distribution chain of these artefacts and the people who manufactured, sold, used and finally disposed of them.[1132] To this end, ethnographical studies are often relied upon to reconstruct the organization and use of space in workshops (Figure 5.36),[1133] and

[1129] Petridis 1998.
[1130] Bintliff 2008a, 17-8.
[1131] Bintliff 2008b, 41.
[1132] See in this respect Stissi 2002, 2-4.
[1133] See e.g. Hasaki 2011, 12–24, in particular p. 17 for a review of ethnographic studies in Greece and Cyprus.

mineralogical, petrographic and archaeometrical analysis are being increasingly used in order to shed light on the clay composition, provenance and suggest a dating for artefacts.[1134]

As discussed in section 5.3.4, manufacturing and selling goods was often part, to a varying degree, of the tasks that were carried out within, or close to houses. Rooms for workshops or shops were often open on the side of the house that was facing the street and could be run by the owner of the house or rented out. In the latter case, the leaser could live in his own shop by creating a mezzanine that would make space for a sleeping area. Agricultural produce installations such as olive and grape presses were most conveniently placed near the farms where this produce was harvested, as transport of the processed product into the city would have been easier.[1135] But as previously discussed for Olynthos and Halieis, such installations could be also present in houses within towns, albeit on a smaller scale.

In this section, the focus is specifically on the industrial installations that were clustered on the edges of urban areas. For the limited space available here, I will concentrate mainly on pottery workshops although other types of crafts commonly existed in towns. As Hasaki observed, it is not rare that workshops manufacturing different kinds of goods (such as pottery, sculpture, bronze casts, glass) were often close to each other in the same area of the city. The use of terracotta mould and clay models by bronze smiths and sculptors on the one hand, and the need of lead ties to bind together broken pots by potters on the other hand are in fact just a few examples of the types of exchange in technical expertise, skills and materials among artisans of different crafts which were greatly facilitated by the proximity of their workshops.[1136]

An average of four to six potters working full time on two kilns seems the most plausible reconstruction of the working force of a typical workshop.[1137] Potters usually preferred to build their premises just inside or outside the urban fortifications, preferably in well-connected places along the roads linking the town with nearby centres as in the Keramikos at Athens, or near the harbour as in Piraeus. The choice of these locations removed from the core of the town was mainly due to practical factors, not least to limit the inconveniences and discomforts related to the production process, such as stink, smoke and danger of fire. Not uncommonly, in fact, workshops and cemeteries are often found close to each other for their shared risk of contamination.[1138] A relatively high number of metal workshops are instead attested within sanctuaries. Terracotta cult objects, (miniature) vases and figurines could be in fact produced elsewhere and transported with low risk, while metal votives for their weight and costs were more conveniently manufactured *in loco*.[1139]

Although it seems logical that potters would choose to build their workshop close to the supply of their raw materials, it is not clear, in view of the currently available evidence, how much the proximity of natural resources was crucial for the location of industrial premises.[1140] It seems in fact that closeness of clay supply was not the main determiner to the location of a workshop, unless the latter was bound to specific clays for the types of pottery that it produced. [1141] As Stissi observed, the presence of nearby water should also not be overestimated. This indispensable element would have been anyway in reach,

[1134] See e.g. the archaeometric analysis of the Hellenistic-Early Roman kilns at Katerini (Pieria), Olympiada (Chalkididki), Polymylos (Kozani) and Paros by Kondopoulou *et al.* 2014.
[1135] Cahill 2002, 238.
[1136] Hasaki 2002, 287-8.
[1137] See Hasaki 2002, 312-4 with reference to previous studies on the scale of pottery workshops.
[1138] Stissi 2002, 38 but see *contra* Hasaki who concludes that the long held association between cemeteries and workshops was biased by the archaeological excavations that had investigated a larger number of cemeteries in respect to e.g. residential quarters (Hasaki 2002, 292-3).
[1139] Hasaki 2002, 290-1.
[1140] See Stissi 2002, 43-4.
[1141] Stissi 2002, 44-5.

as urban centres grew usually in locations that were conveniently close to streams and rivers.[1142] Finally, accessibility to wood supply was also not crucial as less expensive materials could be used to fuel the kilns. It is obvious, however, that potters would have taken all these elements into account to find the best compromise given the local circumstances when choosing in which side(s) of their town their workshops should be built.

If several studies have dealt with the locations of pottery workshops and their production, less attention has been given to how the space was used and organized within the workshop.[1143] Ethnographic comparisons can be of help in complementing the knowledge on pottery factories in ancient Greece. A recent study by Hasaki on Tunisian pottery workshops has yielded a range of interesting observations. Hasaki's dataset (41 workshops in Kalalet, the potters' quarter in Moknine) shows that in the prevalent layout the rooms do not communicate between each other, but the courtyard is usually used as the connecting space.[1144] Workshops specialized in vessels of a specific height range (and not on shapes) and the height of the manufactured pots relate to the area that the workshop occupied.[1145] An additional area outside the workshop was seasonally and temporarily employed for the initial drying period of the products. Large vessels and tiles would have required a much larger open space than pots of smaller size. Wooden or stone shelves and benches inside the rooms are also present to stack the manufactured vessels to allow them the necessary drying time in the shade before firing.[1146]

Kilns, which have been found in great number in Greece (more than 450 on about 250 sites),[1147] are considered the best marker for the location of a workshop, while the presence of other elements such as pottery dumps, moulds and working tools give circumstantial evidence of its possible nearby existence.[1148] Greeks used a vertical two-chamber kiln. The upper firing chamber was divided from the lower stoking chamber by a perforated floor sustained by a central pillar which allowed the propagation of heat. For their structure kilns were most conveniently dug into sloping ground, occasionally reaching the bedrock, in order to ensure a better insulation and decrease the risk of misfired pots.[1149] In some occasions, walls were constructed around the kiln. According to Hasaki this measure was not aimed to sustain the kiln, but more probably to further protect its content, the walls that are often found around kilns being used to protect the content of the kiln and not to sustain it.[1150]

Kilns for different types of functions such as firing pottery, melting metal or rocks to produce lime shared similar features, which makes it difficult for archaeologists to distinguish them, especially if only partially preserved. This can lead to the erroneous attribution of all circular kilns to the production of pottery, and of rectangular kilns exclusively to the firing of bricks and tiles.[1151] Among the characteristics to look for to identify its purpose, the presence of a perforated floor can be considered a distinctive marker of ceramic kilns and the existence of two stoking channels is common in lime kilns.[1152]

If the technology behind how kilns were constructed and operated remained quite similar throughout antiquity, some peculiar characteristics of how workshops functioned in each period can be identified.

[1142] Stissi 2002, 45-6.
[1143] Hasaki 2011, 17.
[1144] Hasaki 2011, 22.
[1145] Workshops for pots up to 0,15 m had an average extension of 120 m2, for pots between 0,16 and 0,40 the area was 350 m2 and for pots more than 0,40 750 m2 (Hasaki 2011, 20-1).
[1146] Hasaki 2011, 21-2.
[1147] I refer to the catalogue in Hasaki 2002.
[1148] See Hasaki 2011, 15, Table 1, and Hasaki 2002, 257-64 for the criteria used to identify a pottery workshop.
[1149] Hasaki 2002, 73-4.
[1150] Hasaki 2002, 73-4.
[1151] See Hasaki 2002, 302-3. See *ibidem*, 112-38 for an overview of the main characteristics of different kilns.
[1152] Hasaki 2002, 302.

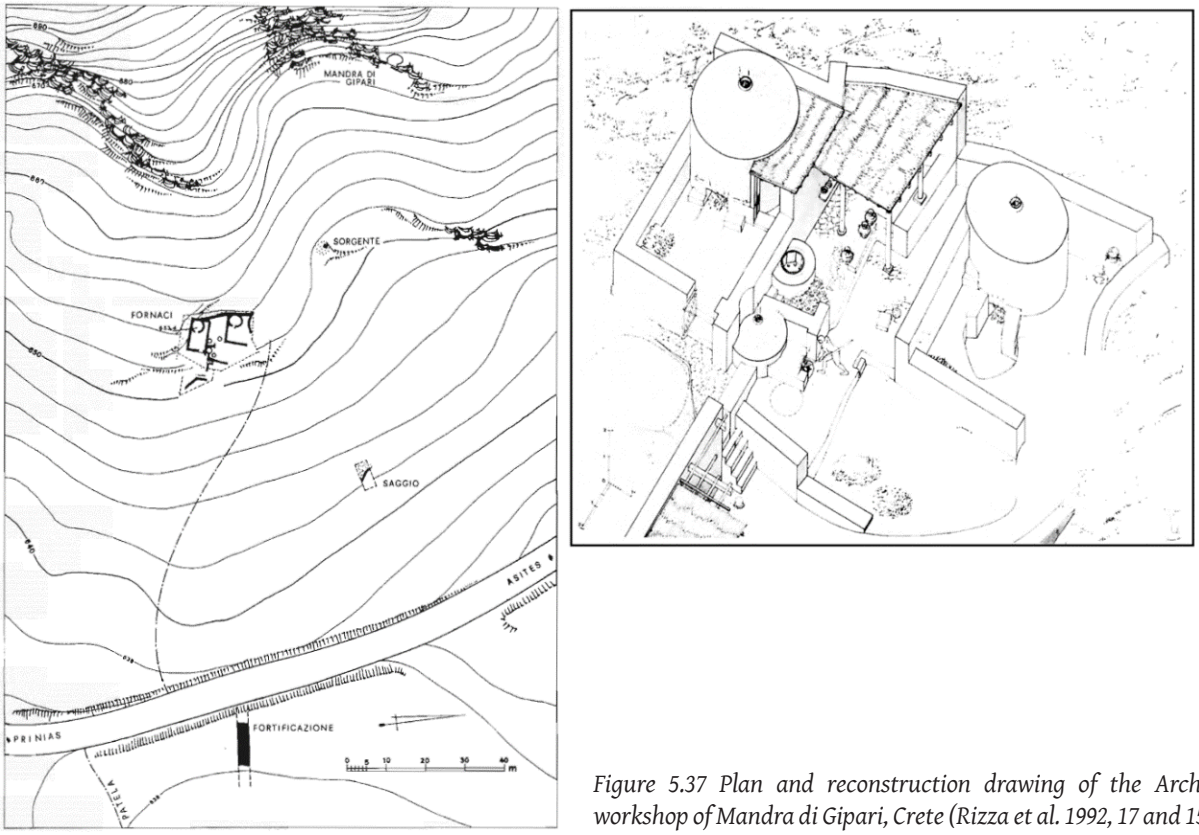


Figure 5.37 Plan and reconstruction drawing of the Archaic workshop of Mandra di Gipari, Crete (Rizza et al. 1992, 17 and 155).

Pottery production increased in Archaic times in comparison to the previous Geometric period, leading to the presence of more than one kiln (possibly functioning simultaneously) in a single workshop.[1153] Of the twenty-two kilns known for the Archaic period,[1154] the highest number is concentrated at the workshop of Mandra di Gipari which is also one of the most completely preserved examples of pottery workshops ever excavated in Greece. The site is located on a series of artificial terraces on the slope west of the urban centre on the Patela hill at Prinias, Crete (Figure 5.37).[1155] The workshop was in use between the second half of the 7th and the beginning of the 6th century BC in an area that seems to be occupied by a craft quarter.[1156] The excavated complex consists of three spaces divided by dry stone walls. The southern one was excavated onto the clay deposits of the slope and was paved with stone slabs. It housed a circular kiln (inner diameter of about 2.5 m) that was partially constructed directly on the bedrock and built against the walls bordering the space. In the central space four smaller ovens were excavated, while the northern space was occupied by an ellipsoidal kiln (3.14 x 2.35 m) built again against the walls and recessed into the excavated bedrock for 0.80 m. Also here evidence of slabs points towards the existence of a paved floor. Four piles of large bricks that were used to sustain the load in the kiln in the southern space have led the excavators to infer that this was used to fire large pithoi, and to interpret the kiln in the northern space as more convenient for pottery of small and medium size, since the perforated floor was not equally firmly supported.[1157]

[1153] Hasaki has catalogued 22 Archaic kilns found in 11 sites (2002, 226).
[1154] The figures I used are taken from the study by Hasaki (2002, 225-9).
[1155] Rizza *et al.* 1992, 29.
[1156] Rizza *et al.* 1992, 29.
[1157] Rizza *et al.* 1992, 40.

Pottery production further increased in Classical Greece, as testified by the higher number of kilns that is known for this period (57 in 32 sites).[1158] Attica and Athens have returned the majority of the evidence, most notably from the Kerameikos, one of the Athenian potters' quarters. Noteworthy for this period is that, besides circular and ellipsoidal kilns of various sizes,[1159] rectangular kilns start to be attested in higher numbers especially from the Late Classical period onwards. At Hellenistic Pella, the available evidence of workshops close to the agora has been further increased by recent excavations, that have uncovered another pottery workshop in the north-west edge of a city block near the neighbourhood of the public baths.[1160] A room was reserved for two kilns and the others around the courtyard for clay processing, pottery storage and working debris.

In the Roman period, centres like Athens and Patras stand out for the high concentration of kilns that have been found, some being in good state of preservation.[1161] For example, in one of the four kilns excavated in Karaiskaki and Kalamogdarti Street at Patras, the armature of the vault that covered the kiln has been uncovered.[1162] In this period rectangular kilns (averaging 2 x 2 m) are more attested than circular. This figure should not per se taken as an indication of a preference towards rectangular kilns, but it can be due to their easily recognisable shape during archaeological excavations.[1163] It has to be noted that isolated rectangular kilns might have been set up close to the site where buildings requiring a large amount of tiles or bricks were constructed.

Due to the contraction of urban areas that has been observed in Late Antiquity, industrial installations were built within the boundaries of the previous Graeco-Roman town. Workshops were installed in buildings in ruin or that had gone out of use, as testified by the artisanal quarters that have been excavated in Delphi, which been dated to the second half of the 6th century AD and the beginning of the 7th.[1164] In a first phase, a pottery workshop was built within the *gymnasion*, and comprised a securely identified kiln with two adjacent basins that were possibly used to sediment the clay.[1165] A later workshop (dated to the end of the 6th century AD) was installed to the south of the sanctuary of Apollo, in an abandoned domestic area of the town.[1166]

5.3.7 Urban fortifications

Urban fortifications became a typical feature of the Greek *polis* starting from the late 6th century. Previously, Geometric settlements remained unwalled, or when walls were present, they were usually confined to the acropolis (e.g. at Emborio on Chios) and only rarely encompassed the whole settlement such as at Zagora.[1167] According to Cooper, and contrary to the traditional view on the policies governing the construction of Greek fortifications, such undertakings were not the result of a planned series of actions, but developed out of the need of defence without a coherent strategy - with the exception of Boeotia under Epaminondas.[1168]

[1158] Hasaki 2002, 230-4.
[1159] Hasaki 2002, 232 identifies three groups based on the diameter: small (smaller than 1 m); average (1-1,59) and large (1,60-3).
[1160] The workshop is published in Lilimbaki-Akamati and Akamatis 2008. For previous knowledge on the Pella workshops, see Akamatis 1996. For the public baths see Lilimbaki-Akamati and Akamatis 2007.
[1161] Hasaki 2002, 238-43.
[1162] Huber and Varalis 1995, 888 (figs. 29-30).
[1163] Hasaki 2002, 242-3.
[1164] Petridis 1998.
[1165] Cf. p. 212; Petridis 1998, 704.
[1166] Petridis 1998, 705.
[1167] Lang 2007, 185. See Lang 1996, 51, Figure 18 for an overview of the chronological distribution of city walls.
[1168] Cooper 2000, 156.

Several factors interplayed in defining the best course of the city wall circuit. The right balance needed in fact to be struck between the needed amount of space within the enclosure and the costs and duration of their construction. In some cases, a larger area than was actually needed to accommodate the population was enclosed. One of the most important factors to trace the path of the circuit was the terrain morphology. Where possible the terrain's natural features such as rock outcrops were exploited.[1169] This strategy had several advantages including the possibility to save materials, create a more solid construction and to build a strong foundation that was impossible to mine.[1170] Areas that could have offered an advantageous position for the enemy to attack the city, such as higher ground in proximity of the circuit, were preferably included.

Usually city walls were made of mud bricks that were laid down on a basis of stone blocks. Walls that were built entirely with stones are attested, but they are more related to fortresses such as Siphai[1171] in Boeotia and Goritza in Thessaly. Winter indicates an average height between 7 and 9.5 meters for the walls in the Classical period, citing as examples Phyle (ca. 8.5-9.5m) and Messene (7-9m).[1172] On the upper part there was the *parodos*, a pavement made of wooden planks or stone labs that allowed one to walk around the circuit and protected the mud bricks, thus preventing the structure from deterioration. Especially from Hellenistic times, the *parodos* could be roofed (*katastegasma*) to protect the artillery and to create a sheltered passage for the defenders.[1173]

Towers were distributed along the perimeter, usually flanking gateways and placed on the locations that needed more protection such as at angles, or where the wall traversed a stretch of level ground, or stood on a gentle slope.[1174] The shape of the towers could vary and would be decided according to the position in which they were constructed. Pentagonal towers are regarded by Philo as those offering most security, but are rarely found in the archaeological record. Round towers were also advisable especially where sections of the circuit met forming a sharp angle. Rectangular towers, on the contrary, would have left the flat surface more exposed to the enemy's attack.[1175] In Halieis in the Argolid, at least 18 towers were present, those near the gates being often round as in the case of the towers protecting the harbour gate, the Hermione and the South-East gate. The 4 km long fortification wall at Eretria was interspersed with 60 towers.[1176] The city walls constructed at Plataiai after Chaironeia had a similar length counting more than 40 towers and at least six gates.

Gates were placed on the most useful locations along the circuit, in order to connect with the pre-existing roads coming from neighbouring towns and to allow farmers to reach their fields with ease. Depending on their position and their rank they could be constructed in several ways. The most common types were the so called courtyard or forecourt gates, which became typical in the Hellenistic period (see Figure 5.38, a). Overlapping or tangential gates were also widely used and were preferred by Vitruvius for the security that they guaranteed.[1177] There were then lower rank smaller gates, so called posterns, which could be located at the end of streets, such as at Kastro Kallithea.[1178] In some Greek towns such as Miletos, Knidos, Priene and Goritza, city walls were intentionally not connected with the urban street network, resulting in a de-synchronization between gates and streets. In this way, a less direct access to

[1169] Winter 1971, 170-1.
[1170] As Winter reports, mining was one of the most successful techniques to make an opening into the enemies' fortification (Winter 1971, 133-4).
[1171] Schwandner 1977.
[1172] Winter 1971, 134, footnote 32.
[1173] Winter 1971, 141
[1174] Winter 1971, 154.
[1175] Winter 1971, 199-201.
[1176] Ducrey 2004, 177.
[1177] McNicoll 1997, 6.
[1178] Surtees *et al.* 2014, 438; for postern gates aligned to streets, see also Lawrence 1979, 338.

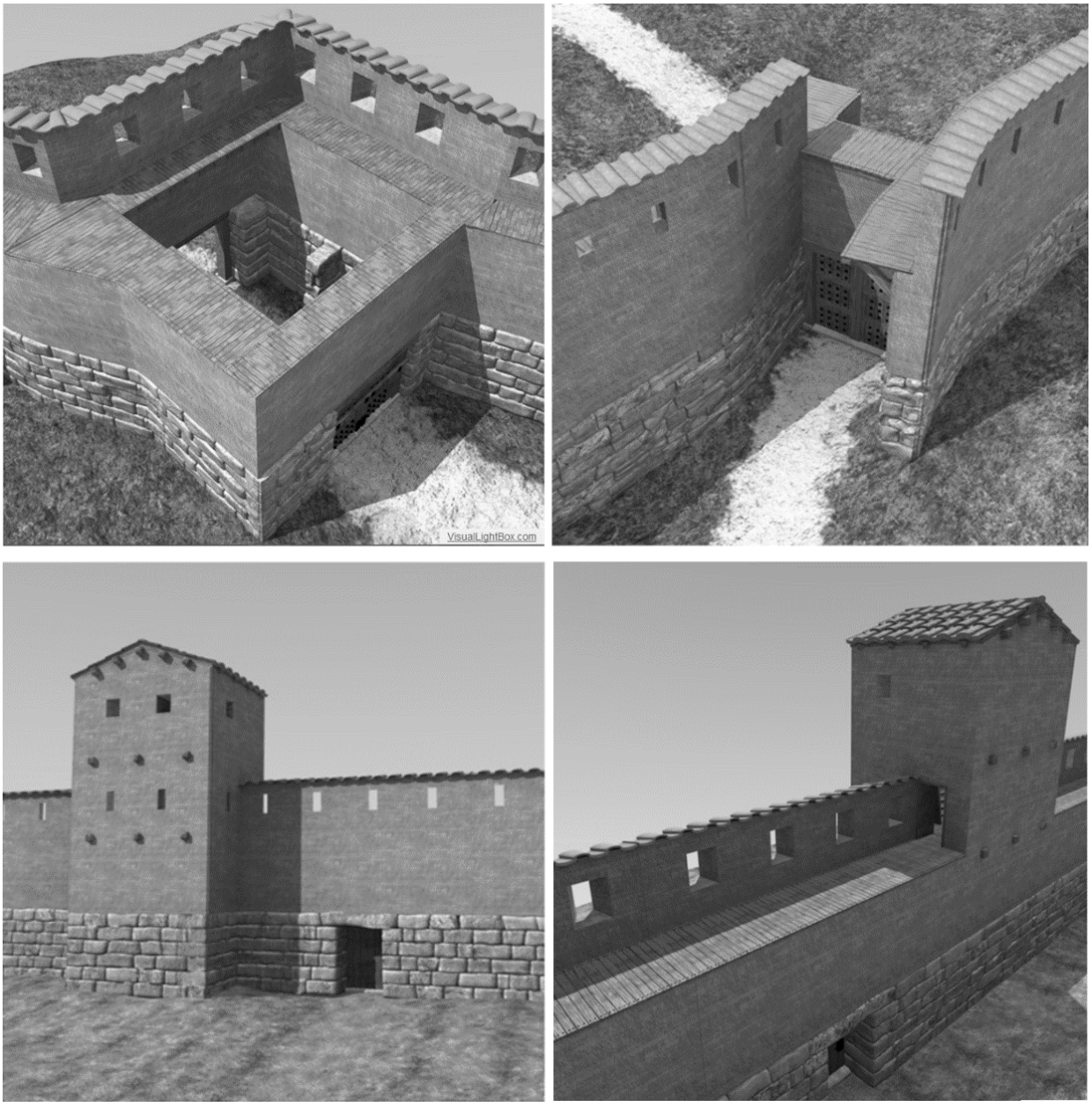


Figure 5.38 Examples of (top, left) courtyard gate; (top, right) overlapping gate and (bottom) postern gate with overlooking tower at Kastro Kallithea (created by R.C. Lee, source: http://people.tamu.edu/~ryanlee/kallithea.html).

the city centre was created, thus increasing the difficulty of penetrating the urban centre for attacking enemies. [1179]

The evolution of city walls progressed along with the development of siege techniques that improved dramatically especially during the Peloponnesian War.[1180] Their level of sophistication increased during this period with the addition of towers, stone battlements and parapets. According to Winter, the earliest preserved examples of stone battlements are found in the Attic fortress of

[1179] Winter 1971, 209.
[1180] Winter 1971, 154-160.

Phyle and can be dated to the end of the 5th or beginning of the 4th century BC.[1181] The inventions of the catapult, dated around 400 BC, and of the torsion engine around 350 BC, were the major modifications that triggered new developments in the ways in which city walls were constructed, such as the reinforcement of towers that could be damaged by such devices.[1182] Although they could be easily broken by siege craft, walls of mudbrick were still being constructed.[1183] Winter notes an increased interest for visually appealing fortifications, with the insertion of arched gates and ornaments on towers.[1184]

One of the most important ancient sources of information about siege craft and fortifications of the Hellenistic period is the book *poliorketikà*, which is part of a treatise on mechanics written by the 3rd century BC Greek engineer Philon of Byzantium.[1185] In this book Philon provided advice on the best ways to construct fortifications, and although it represents an extremely useful source of information, his suggestions do not always find confirmation in the archaeological data. For example, his recommendations of a hexagonal tower as the best shape to protect a gateway and his measurements for the ideal size of wall (no less than 10 cubits/4.43m thick and 20 cubits8.87m high) are implemented in only a few sites.[1186] McNicoll suggests that he describes recent developments,[1187] but one cannot exclude that Philon's text presents ideal solutions that were then adapted to local circumstances and limited by economic factors.

After the battle of Pydna (168 BC), the urban fortifications of the *poleis* that had sided with Perseus of Macedon against the Romans were demolished. New walls were allowed to be constructed around the acropolis, but not to protect the lower town. An epigraph known as the *Senatus Consultum Thisbaeum*,[1188] dated to 170 BC, reports the decisions of the senate regarding the Boeotian town of Thisbe that had been taken by the praetor C. Lucretius Gallus. As can be read in the document, the Romans' greater concern was to take care of the members of the pro-Roman faction that had been exiled. By this decree they were in fact granted the right to rule for 10 years and settle on the acropolis which could be fortified.[1189] As discussed in chapter 4, a similar document, unfortunately only partially preserved, describes similar measures taken for Koroneia.[1190]

During the relative peace resulting from the *Pax Romana*, the need for fortifications decreased. City walls remain more a sign of the symbolic limit of the urban centre than a practical defensive measure. In Asia Minor, gates received much attention during the Imperial period and were often remodelled and embellished, sometimes thanks to the euergetism of some wealthy citizen. Moreover, in some cities the main gate was linked to the market place by a colonnaded street, such as at Perge and Side.[1191] For Greece, however, it seems that most towns had let their walls fall apart, a fact noted already by Cicero for Thessalonika.[1192]

A new impetus for the construction of fortifications is connected with the unstable and eventful 3rd century AD, most notably with the Herulian incursions in Greece and their sack of Athens in 267 AD,

[1181] Winter 1971, 139.
[1182] McNicoll 1997, 4.
[1183] McNicoll 1997, 6.
[1184] Winter 2006, 34-5.
[1185] The book *poliorketikà* is edited by Garland (1974).
[1186] McNicoll 1997, 8 and 12.
[1187] McNicoll 1997, 12.
[1188] *Ephem. Epigr.*, i. 1872, 278-83.
[1189] *Ephem. Epigr.*, i. 1872, lines 27-31; see comments in Sherk 1969, 26-31 and Bagnall and Derow 2004, 83-4.
[1190] See p. 93.
[1191] Nossov 2009, 47.
[1192] Bintliff 2012, 326.

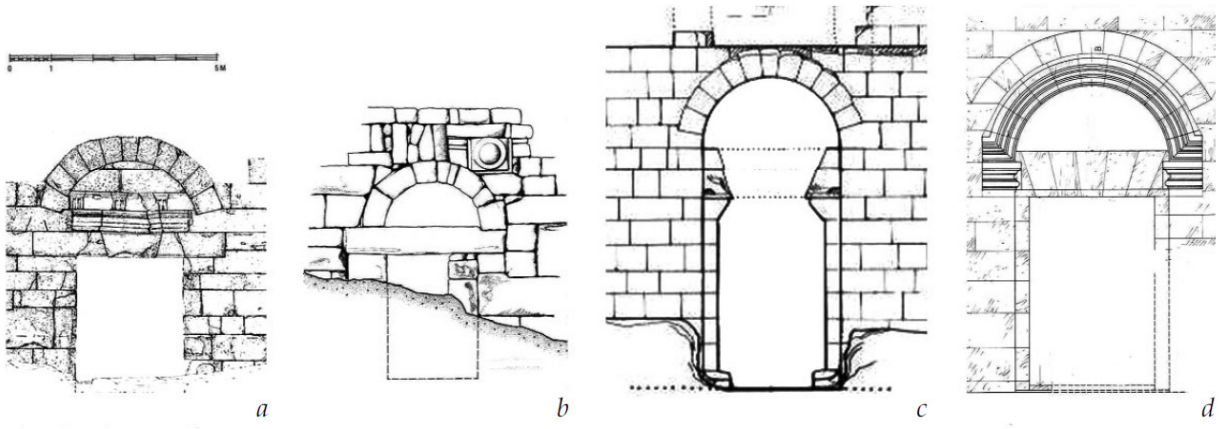


Figure 5.39 Typical Late Antique gates in the Roman East: a) the North Gate of Blaundos; b) a smaller gate at Selge; c) the North Gate of Zenobia and d) the East Gate of Resafa (drawings by I. Jacobs, in Jacobs 2009, 199).

and the raids of the Goths led by Alaric at the end of the 4th century. Fortifications that were erected in Late Antiquity protected a smaller extent than the actual populated urban area, or towns show a reduced urban area such as at Tanagra, as previously discussed. The choice of constructing a shorter circuit can be explained by the need for a city wall that could be efficiently defended by the citizens.[1193] Among the new fortifications that can be perhaps related to the Herulian threat are the walls around the acropolis of Plataiai, which were constructed using blocks from buildings that were at the time in disuse, taken, among others, probably also from the theatre.[1194] Interestingly, this new circuit did not encompass large parts of the lower town, including the agora, which had therefore to be given up in case of attack. Moreover, in the south of the town the existing buildings were demolished to create an open space that the defenders could use to repel the attackers with fire.[1195]

Gates in late Antiquity often assumed or restored the Hellenistic courtyard type flanked by two towers, which was useful for channelling the traffic. Gates had a typical shape with a semi-circular tympanum bounded by a lintel and an arch. The space between these two elements was filled (see Figure 5.39, a) and this is how the gates should be reconstructed even if for later modifications or disturbances the infill between the lintel and the arch was lost. [1196]

5.3.8 Trees, groves and gardens

Since the environmental movement in the 1970s, more attention has been paid to the interaction between people and the environment in antiquity. It is now common practise during an archaeological excavation to collect ground samples to study the archaeobotanical species that were cultivated and planted in the site.[1197] These relatively recent studies are shedding new light on the presence of trees, cultivated plants and flowers in sanctuaries, public spaces, houses and graves, which previously was mainly confined to the information gathered from historical sources, inscriptions recording property transactions, and vase paintings. Plants were used in ancient Greece both for utilitarian reasons and in religious settings. Sanctuaries, temples and altars were usually surrounded by sacred groves (*álsos*). In some sites, it has been possible to identify the species that were planted and that were considered sacred

[1193] Kirilov 2007.
[1194] Konecny *et al.* 2013, 46.
[1195] Konecny *et al.* 2013, 46.
[1196] Jacobs 2009, 199.
[1197] See e.g. Valamoti and Bittman 2015; Voutsaki and Valamoti 2013.

to a divinity, such as the *lygos* tree (*Vitex agnus-castus*) sacred to Hera and that was kept in her sanctuary on Samos,[1198] or the pomegranate that was sacred to Hera and Demeter as attested by iconography and archaeological finds.[1199]

For the Archaic period the sources are limited and are mainly restricted to ancient texts and depictions on pottery. Utilitarian gardens are attested in the Homeric poems in the form of kitchen gardens and fruit and vegetable orchards.[1200] Common are also the literary references to sacred trees or groves close to altars and sanctuaries. A palm tree is said to be growing near the altar of Apollo in Delos in the *Odyssey* (6.162), and Sappho (fr. 2) describes an idyllic scenery where altars with burning incense in honour of Aphrodite are surrounded by an apple grove, roses, a meadow of flowers and cool water.[1201] Trees were also planted around graves as a sign of respect for the dead, as attested by the passage of the *Iliad* (6.419) describing the nymphs who planted a grove of elms around the grave of Eetion, the king of the Cilicians, who had been killed by Achilles.

The evidence for the Classical and Hellenistic period is more abundant. The majority of gardens were located at the outskirts of the city or outside the city walls, close to springs and rivers that guaranteed the necessary sources of irrigation.[1202] Such gardens belonged to farms, sanctuaries, *gymnasia* and tombs. Intra urban sanctuaries were also surrounded by sacred (fruit) groves that could be rented out to finance the sanctuary expenditure.[1203] The excavations at the Hephaistèion, at the western edge of the Athenian agora, uncovered rows of rectangular cuttings that were carved during the late Hellenistic period directly into the bedrock around the temple to host the sacred grove (Figure 5.40, left). In some of the cuttings, flower pots were found with a diameter of about 20 cm. These pots were probably used for layering plants to ensure their rapid growth in accordance to ancient gardening prescriptions.[1204] The excavators, based on literary sources and observations on the fragments of carbonized roots, reconstructed the sacred *alsos* as composed by some fruit trees (perhaps pomegranate) and shrubs such as laurel, to which vines and ivy were added during the Roman period.[1205]

In addition to sanctuaries, vegetation could be planted to provide shade and enhance the urban decor of public spaces. Plutarch reported that Cimon was the first to embellish Athens by having plane trees planted in the agora and by turning the Academy into a 'well-watered grove'.[1206] Similarly, trees were planted in the market place at Anthedon, as accounted by the 3rd century BC traveller Herakleides Kritikos in his description of Greek cities.[1207] The buildings on the acropolis could be also interspersed with vegetation. For example, the acropolis of Rhodes, was 'full of fields and groves' according to the 2nd century AD Aelius Aristides (*Or.* 25.6).

In some cities gardens could be an important feature in the urban layout. Thebes in particular seems to have been quite exceptional since, according to Herakleides, it had more gardens than any other city in Greece, which accounts for its enormous size, 320 ha, more than 1.5 the size of Athens.[1208] Generally, however, in densely built-up domestic areas within cities there was no space left for gardens. Courtyards were relatively small, usually paved and, being the major source of light for the

[1198] Burkert 1985, 85.
[1199] Martinelli 2012, 85.
[1200] Littlewood 2006, 311.
[1201] Carroll-Spillecke 1992.
[1202] Carroll-Spillecke 1992, 91.
[1203] Carroll-Spillecke 1992, 89-90.
[1204] Burr Thompson 1937.
[1205] Burr Thompson 1937, 425.
[1206] Plut. *Cim*. 13.8.
[1207] *FHG*, II, fr. 23, p. 259.
[1208] *FHG*, II, fr. 12, p. 258.

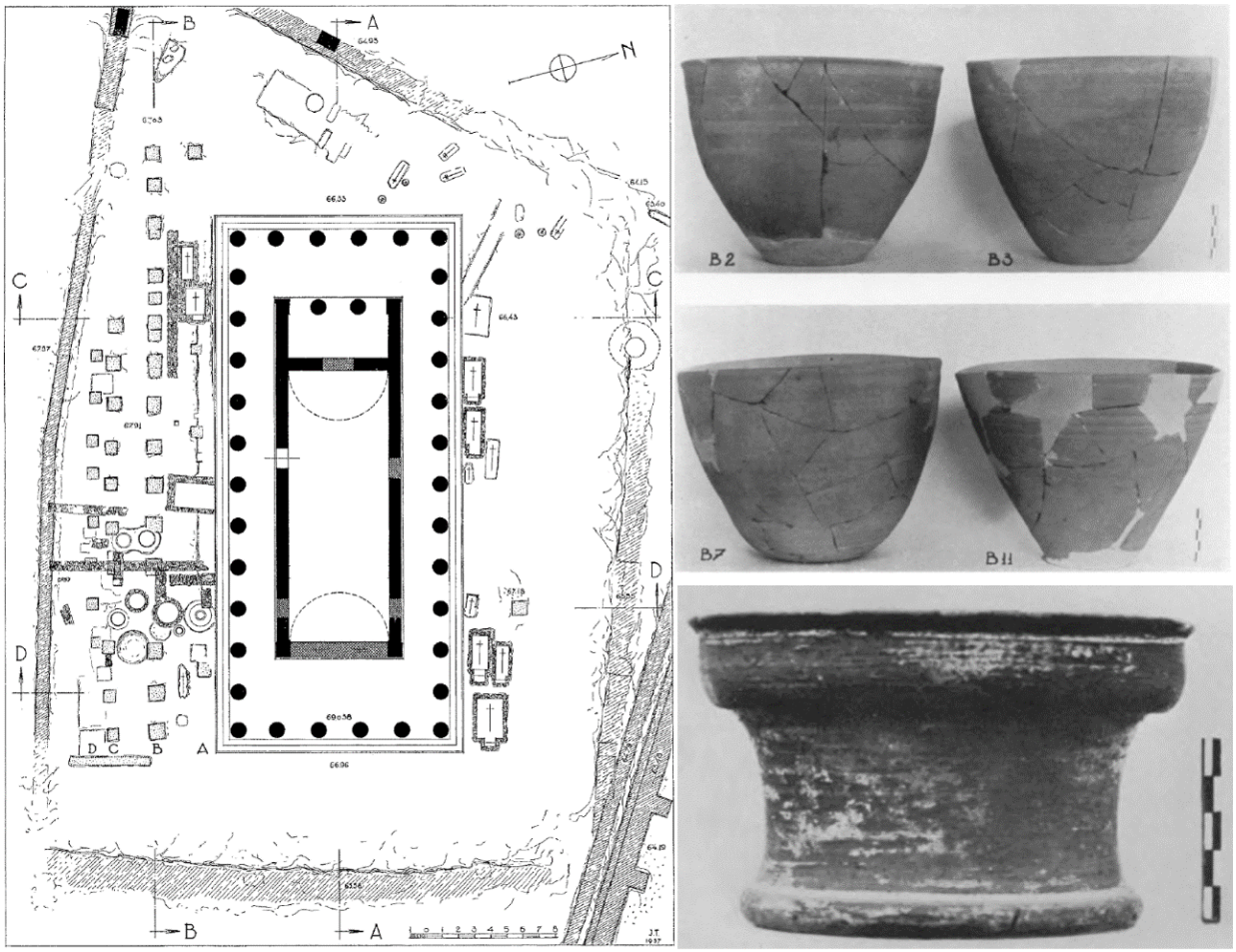


Figure 5.40 Left: Plan of the Hephaisteion; on the left, the rows of cutting in the bedrock to host trees and flower pots; Right: Flower pots from Olynthos (Burr Thompson 1937, 399; 406; 409).

surrounding rooms, were an ill-suited place to plant trees. There were moreover specific concerns about the stability of mudbrick walls which could be damaged by the roots of trees or shrubs. In this regard, an inscription from Pergamon testifies that in this city measures were officially taken to prohibit vegetation to be planted near the walls of houses.[1209] Potted plants, probably herbs, were present in courtyards, as shown by the flower pots that have been found in excavations (in Figure 5.40, right an example from Olynthos).[1210] It is possible that in more loosely built-up neighbourhoods, such as at Olynthos' Villa section, gardens were interspersed with houses, but there is no archaeological evidence that proves it with certainty.[1211] In rockier or hillier sites, however, the built-up area would have been interspersed with zones not suitable for building, which would most likely be covered by plants and trees.

The presence of gardens within houses is foreign to Classical domestic architecture. For the Hellenistic period, gardens are attested in the luxurious royal palace complexes, but the courtyards of more modest houses were usually paved.[1212] As already observed, it is with the Romans that gardens become more

[1209] *SEG* XIII, 521, II, 158-61, cited by Carroll-Spillecke 1992, 86.
[1210] Carroll-Spillecke 1992, 86.
[1211] Cahill 2002, 236.
[1212] Nielsen 2001; Carroll-Spillecke 1992, 91-4.

closely and widely associated with domestic architecture in Greece. The peristyle was adapted to create a garden that was further embellished with fountains, pools and statues.[1213] The possibility to bring the garden into the house was opened up by the more sophisticated system of water supply that the Romans had created for public and private buildings. Previously, houses were provided with cisterns or wells, which were enough for the needs of the household, but not sufficient for the irrigation of gardens that were therefore settled close to natural water sources that ensured an adequate water supply.

5.4 Discussion

This chapter has sketched the developments of cities in Greece from the Archaic to the Late Antique period, focussing on specific areas of the urban environment and considering their evolution across the centuries. This overview was meant to assist in the interpretation of the data from Koroneia, by offering comparisons with other sites. Obviously this chapter has only scratched the surface of such a complex and vast subject; the main aim being to present the ancient city as an ever-changing but unified system that should not be artificially divided into disciplinary or chronological compartments.

The different configurations of Graeco-Roman towns that have been discussed in the first part of the chapter are the result of numerous interplaying factors related to the specific historical and geomorphological conditions of each urban centre. New foundations on empty lands offered more favourable ground for experimenting with efficient town planning, namely a regularly spaced distribution of *insulae*; while cities with a longer history are more likely to have grown into an organic or haphazard arrangement of space. In these cases, interventions resulting in considerable changes of the spatial configuration are usually related only to rebuilding after destructions caused by natural phenomena or wars.

Archaeological evidence pointing towards an orthogonal layout should not always be seen as related to a planned action, since a piecemeal development can also generate a regular overall appearance, given by the practical solution of leaning newly constructed houses against previous ones. From the 4th century BC onwards, it is possible to identify a preference for an orthogonal grid, which would be used even more commonly for new foundations during the Hellenistic period. Even in this case, however, several exceptions exist. In some sites, such as at Priene, the regular appearance of the city seems to have been preferred over a more practical arrangement that would have followed more closely the geomorphology of the site, while in other Hellenistic centres, such as at Petres of Florina, a previously gridded layout was given up for a more organic distribution of buildings on the hill's slopes.

Despite the fragmentary and often limited data that are available for some of the types of buildings and of the periods taken into consideration, this overview on the topography of Graeco-Roman towns has shown some general trends in the organization of space that are typical for each age. For example, the organization of the houses around a courtyard is a recurrent feature of domestic architecture from the Classical period onwards; the tendency towards monumentality in public architecture becomes more marked under Hellenistic rules as is the doubling up of the courtyard – one being turned into a decorative space, the other a smaller and peripheral retaining its Classical function; the phenomenon of subdivision is typically encountered in public buildings and houses during Late Antiquity.

These general trends should however not overshadow local variations, which can diverge substantially from what is considered typical for that period. This is the case of the Classical-Hellenistic houses at Lato whose rooms are arranged in a row contrary to the most common radial organization that is found in contemporary houses elsewhere, reflects the peculiar conservatism of Doric serf society

[1213] Carroll-Spillecke 1992, 94.

based on shared male citizen activity.[1214] Besides encouraging more studies on a regional level, this kind of evidence shows that there is still much to understand about the social and political processes underlying the city's formation and its development through time.

Recent lines of research investigate the human use of space,[1215] by retracing movement patterns connected to processions or rituals, or other leisure activities such as gaming, which are less visible in the archaeological record as not being architecturally defined. The emergence of sensory studies on ancient urban life is shedding light on how the ancient city was experienced and perceived at the human scale.[1216] Only a holistic study of the ancient city, which combines information from architectural remains, artefacts, literary and epigraphic sources, can succeed in gaining an as much as complete and vivid possible picture of urban life in antiquity, with the ultimate goal to bring individual narratives back into focus within the long term perspective of urban history.

[1214] Bintliff 2010; Bintliff 2012, 303.

[1215] See e.g. the works adopting Space Syntax theory to investigate the spatial organization of houses and its social meaning (for the Greek world see Lang 2005, Westgate 2007, and Bintliff 2014; for the Roman world, see e.g. Stöger 2011).

[1216] See e.g. Hamilakis 2013, the Routledge series on senses in antiquity, of which the first volume was published in 2015 (Bradley 2015), and Betts 2017.