

Urban Planning in the Greek Colonies in Sicily and Magna Graecia
(8th – 6th centuries BCE)

An honors thesis for the Department of Classics

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Abstract:

Although ancient Greeks were traversing the western Mediterranean as early as the Mycenaean Period, the end of the “Dark Age” saw a surge of Greek colonial activity throughout the Mediterranean. Contemporary cities of the Greek homeland were in the process of growing from small, irregularly planned settlements into organized urban spaces. By contrast, the colonies founded overseas in the 8th and 6th centuries BCE lacked any pre-existing structures or spatial organization, allowing the inhabitants to closely approximate their conceptual ideals. For this reason the Greek colonies in Sicily and Magna Graecia, known for their extensive use of gridded urban planning, exemplified the overarching trajectory of urban planning in this period. Over the course of the 8th to 6th centuries BCE the Greek cities in Sicily and Magna Graecia developed many common features, including the zoning of domestic, religious, and political space and the implementation of a gridded street plan in the domestic sector. Each city, however, had its own peculiarities and experimental design elements. I will argue that the interplay between standardization and idiosyncrasy in each city developed as a result of vying for recognition within this tight-knit network of affluent Sicilian and South Italian cities. This competition both stimulated the widespread adoption of popular ideas and encouraged the continuous initiation of new trends.

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1. INTRODUCTION

At the beginning of Greek colonial practice in the 8th century BCE, sites scattered across Sicily, Magna Graecia, and beyond were organized into urban centers by people who came from a range of *proto-poleis*.¹ Their home cities were in the process of evolving from small villages in experimental and idiomatic manners, so these first opportunists had no conceptual experience with the deliberate planning of urban space *de novo*. When members of a colonial enterprise decided to build a settlement in a new land, therefore, they recreated from scratch their mental image of urban space, including all of its most necessary features. These abstractions of an ideal city varied based on each colonist's individual experience with city planning, with the result that each settlement was organized according to a different model. Nevertheless, when viewed as elements of closely interconnected socio-economic systems spanning the Mediterranean, the new urban settlements of the 8th to 6th centuries in Sicily and Magna Graecia offer an ideal test case for the study of the developmental trajectory of urban planning within the Hellenic settlements.² Due, in fact, to their lack of major pre-existing structures and spatial organization, these new settlements would arguably more closely approximate the conceptual ideals of their inhabitants than the *poleis* evolving from established *proto-poleis*.

Colonies in Sicily and Magna Graecia displayed many common elements, such as an urban grid plan defined by long avenues (*plateiai*) and shorter streets (*stenopoi*), which met at right angles -

¹ There is no scholarly consensus about the level of urbanization that was reached by settlements in the Mycenaean period. The description of what could arguably be labeled a *polis* on the shield of Achilles has been cited as evidence for the relatively advanced state of urbanization (Hom. *Il.* 18.483-607; see Hurwit 1988, 71-75). During the "Dark Ages" these Mycenaean settlements, regardless of their previous level of urbanization, were reduced to small villages with significantly reduced forms of social complexity, including modes of governance. Therefore at the start of the period of colonization, most of these settlements still consisted of irregularly clustered huts organized by kinship group, although *synoikism* was beginning to take place in at least some of these Greek settlements (see Mitchell and Rhodes 2011). In light of this situation, the settlements, from which early colonial ventures departed, can be most accurately defined as *proto-poleis*.

² Each colonist would have had knowledge about their home city, as well as other cities with which they had come into contact. Extensive trade routes existed throughout the "Dark Age" Mediterranean so it is likely that at least some of the members of each colonial group had some experience travelling to other cities (see footnote 10, pg. 6)

often termed a *per strigas* layout. Often *ambitus* pathways also ran in between the houses for drainage purposes. The Greek *poleis* in Sicily and Magna Graecia had in common a tendency to “zone” space into religious, public, and domestic sectors and to organize the domestic sectors within a highly regularized grid system. Many scholars have attributed these two defining characteristics of Greek colonial planning to the primacy of private land, arguing that both the relegation of public and religious spaces away from the private domain as well as the organization of that domestic land on a grid system are practices that displayed the colonists’ valuation of private over public space.³ I will argue, however, that this hypothesis is based on an incorrect reading of the ancient texts and an understanding of the phenomenon of colonial land organization that does not account for all aspects of the evidence. This study will present an alternative understanding of zoning and grid systems in the Greek colonies based on the analysis of topographic siting and economic vitality.

First, I will argue that the phenomenon of “zones” developed - without *a priori* urban design or global regulation - through the gradual accretion of buildings with similar functions in a particular location and that “zoning” was not broadly conceptualized as an intentional practice until after this process had already begun to occur in many of the earliest colonial sites. Rather, an alternate reading of the evidence will show that certain activities, which were central to Greek life, were repeatedly performed in the specific locations where they could best take advantage of the geographical features of the city. This study will show that the repeated performance of these

³ The Greek cities in Sicily and Magna Graecia have traditionally been viewed as having been established primarily for the acquisition and preservation of private land. This view is based on an understanding of colonization as the result of land shortages in Greece (see footnote 9, pg. 5). Consequently, early scholars such as Fine argued that private land was “inalienable” (Fine 1951). Metraux also followed this view, citing laws that restricted the sale of land mentioned in Plutarch (*Lyc.* 13.3 and *Agis* 5) and Aristotle (*Pol.* 1270a 15-29 and 1266b 16-19) to argue that the colonists and especially Spartan colonists employed a “conservative” land use to preserve a landed aristocracy (Metraux 1978, 53-56). More recently, Di Vita and Jameson have argued that *temenoi* and *agorai* were delineated in locations where they would not interfere with the division and allotment of private homes, which were of paramount importance (Di Vita 1990, 350; Jameson 1990, 177).

actives reinforced the religious or public associations of the locations, so that they gradually became classified according to their function and established at specific locations.

Second, I will argue that there were practical reasons for the systematic surveying and parceling out of private property that were not applicable to public property. For example, placing private homes on a grid minimized issues related to property rights and boundary disputes. Public land, although its external boundaries were often marked by *horoi* stones, was internally free from these considerations, and was shaped by concerns of its own, such as the aesthetics of the interplay of buildings and open space. I will advance the hypothesis that private land was not placed on a grid as a result of its preeminence over public land, but rather that public and private space followed separate guidelines, with the result that their location within the urban plan and their internal organization depended on differing sets of criteria.

Each city, however, had its own eclectic characteristics and individual experimental traits. The diversity among urban plans could be attributed to a wide variety of factors, including the level of organization of the various *metropoleis* of the colonial groups.⁴ I will argue, however, that the two most important factors influencing the overall organization of space within the city were the landscape of the chosen site and the economic prosperity of the colony. Early urban plans responded to the geography of the site as well as to manmade features of the landscape. For example, a sanctuary might be placed on a hill where it was visible from approaching ships, or the course of a road might be determined by the location of a neighboring city. These features of the landscape continued to differentially influence the city plan as it evolved. Economic prosperity also played a role in determining the unique features of urban plans because it determined both the scale at which the early cities were conceived and the rate at which they expanded.

⁴ Di Vita 1990 supported the former criterion and Metraux 1978 the latter.

Ultimately this study will show that these similarities and differences of the Greek colonial urban plans developed within a dense network of exemplary (wealthy) cities in Sicily and *Magna Graecia*, which were in constant competitive discourse with one another. On the one hand, the competition between cities encouraged the invention of new fashions. In particular, the competition urged cities to take advantage of their unique geographical features and make use of their economic prosperity. On the other hand, the intense contact among cities also encouraged the implementation of features of urban planning which were already established as the most technologically advanced for the time. While innovation was encouraged with respect to minor details, a total reworking of the central tenants of the plan was never pursued because the existing *per strigas* type was efficient as well as fashionable. Because of the extreme wealth being drawn in to these cities from the incredibly fertile surrounding territory, the density of the network of elite competition, which was facilitated by the physical proximity of the cities, and the unique, innovative quality of the people who were attracted to the colonial movement, the *poleis* in Sicily and Magna Graecia were perfectly poised to make a breakthrough in urban planning.

2. THE STATE OF THE QUESTION

2.1 Aspects of Colonization

The surge of Greek colonial activity that began in the 8th century should be understood as part of a complex Mediterranean system of trade and settlement in which Greek-speaking peoples had been participating since the Mycenaean period.⁵ Although at least a nominal level of

⁵ Some early scholars argued that after the Mycenaean collapse trade stopped for the duration of the Dark Ages. Recent scholarship, however, has stressed the continuity of interaction among Mediterranean cultures during that period (see Holloway 1991). Many scholars now stress the interconnectivity and the “mutual intelligibility” of Mediterranean cultures throughout the so-called “Dark Ages” (Antonaccio 2009, 316).

contact was maintained throughout the period of depressed economic interaction and reduced social complexity often termed the "Greek Dark Age" following the Bronze Age Collapse, trade and subsequent "colonization"⁶ accelerated due to a combination of land shortages at home and opportunities abroad.⁷ The earliest colonies, called *apoikia*, were largely independent *poleis* and their relationships with their *metropoleis* were not yet solidified and were therefore being constantly renegotiated. Greek colonial activity continued for several centuries, but the nature of these settlements changed significantly over time. After the 6th century many colonies were based on the model of the *kleruchia*, which was subservient to its *metropoleis*.⁸ In the South Italian and Sicilian colonies specifically, the advent of tyrants after the 6th century BCE changed the nature of colonization. Tyrants used colonization as a military tactic to displace the populations of conquered cities and often as an instrument of policy to redesign the urban design of the city to reinforce their power.⁹ In order for colonization to remain a relevant part of Greek culture for over two centuries, the nature of the colonies had to change over time to adapt to what was needed by contemporary Greeks.

⁶ The term "colony" has recently become circumspect because of its imperialist connotations (Osborne 1998, 16). Since no feasible alternative terminology has been proposed, however, I will continue to use the admittedly flawed term in this study.

⁷ Other models of expansion certainly predated the model, which modern scholars have labeled "colonization." So the colonization movement was rooted in a long-standing tradition of people moving freely around the Mediterranean world. Migration and "urban relocation" would have been a familiar concept to many potential colonists. Although the Ionian migration is not considered a colonization event because whole populations of cities relocated, rather than small segments of the population founding a new city, the practical experience of "urban relocation" was very similar to the experience of "colonization" (Sakellariou 1990, also see Rose 2008 for application of this model to Aeolian migration). Furthermore, there were Greeks living in Greek "neighborhoods" (*enoikismoi*) inside non-Greek cities across the Mediterranean, as well as in entirely Phoenician and Greek "trading posts" (*emporía*), which had already been established in many locations. Therefore, when *apoikiai* (colonies) were first founded, it was not a radical event, but the natural result of a gradual process, which had begun centuries earlier. The distinction between *enoikismoi*, *emporía*, and *apoikiai* was also more blurred than modern scholarship suggests (Niemeyer 1990). Ultimately the experience of immigrating to a new location was similar, regardless of the title given to that location.

⁸ The subjugated "allies" in the Delian League provide a model of the *kleruchy*. The conditions under which these later colonies were formed are more clearly stated in literary sources. Like earlier colonies, however, they could be state operations, such as the Athenian appropriation of Mytilene or private enterprises, such as Miltiades' tyranny in the Chersonese. (See Zelnick-Abramovitz 2004 and Cargill 1995).

⁹ For example, in 476 BCE the tyrant Theron of Acragas sent 10,000 Dorian colonists to recolonize the old section of Himera (Di Vita 1996, 293).

The earliest authors, whose accounts of colonization have survived into the present day, were writing in the 5th century BCE so their firsthand experience would have been with a colonial model that was very different from the one they were describing in their writing. Ancient historians offered a variety of reasons for the influx in colonization activity in the 8th century including land shortage and political expulsion.¹⁰ Since these accounts were written in the 5th-4th centuries, at least 300 years after the early colonization movement, they provide insight into the way in which 5th and 4th century authors - primarily the educated elite historians - conceptualized the contemporary phenomenon of colonization and retrojected this framework onto evidence for earlier practice. These texts thus do not offer an unbiased account of 8th century colonization.¹¹ It is likely that these 5th and 4th century authors were responding to the evidence preserved in earlier written sources or oral tradition concerning the past colonization events. Whatever sources may have been available to 4th and 5th century authors would certainly have had their own agendas, and these accounts cannot be securely reconstructed.

Faced with these limitations in the documentary evidence, multiple scholars have suggested a range of potential reasons for the surge in colonial expeditions between the 8th and 6th centuries BCE. The hypothesis that overpopulation and subsequent land shortage was the primary impetus for emigration out of established Greek areas perhaps takes too bleak an outlook on colonization, often portraying land-shortage as a crushing problem, which forced Greeks into poverty and

¹⁰ Often different authors disagreed on the cause of a single colonization event. For example, Plutarch claimed that Archias founded Syracuse after an oracle from Apollo ordered the Corinthians to avenge the death of Aktaion, whom Archias had murdered (*Mor.* 772e-773b), but Thucydides did not mention the murder or the oracle in his account of the foundation of Syracuse (6.3.2) and Pausanias mentioned a different oracle given to Archias (5.7.3). Similarly, Menecles of Barca attributed the founding of Cyrene to political strife in Thira (270 f6), whereas Herodotus claimed that Batus founded Cyrene because of a drought (4.150-159). Furthermore, each author gives a different reason for each individual event. For example, Herodotus claimed that colonists left Thira to escape a drought, but he also argued that the Phocaeans founded a colony to escape political strife because of the tyrant Harpagus (1.164-8).

¹¹ For example, Thucydides believed that Taras was founded by Phalanthus, a political exile, who had been involved in an unsuccessful coup. Under these circumstances, one would not expect Taras to maintain a close relationship with her mother city. On the contrary, the archaeological evidence suggests that Taras continued to have a close trade relationship with its metropolis (Graham 1964, 7).

emigration, rather than an indicator of prosperity and growth, which allowed Greeks to take advantage of opportunities abroad.¹² Other scholars, however, put more emphasis on trade as a motivational factor for colonists.¹³ There may have also been political impetuses for colonists to leave home, including the exile of one powerful family when a rival family gained political control.¹⁴ No single reason can account for every colonization event; rather each group of colonists was prompted by some combination of all these factors and possibly others as well. All these motives are unified under an overarching framework of extensive trade opportunities and economic prosperity that made each of these options possible.

Enticing trade opportunities abroad were optimized abroad by both organized states and individuals. Early scholars attributed most of the decision-making process of colonization to the

¹² This argument was popularized by Beloch in his seminal work, *Greichische Geshichte*. See also Graham 1971, 5; Finley 1968, 17; Gwynn 1918, 92. The primary literary evidence for this argument comes from Plato's *Laws*, 740e. Proponents of this opinion point to geographical evidence such as the paucity of arable land in mainland Greece to prove that land-shortage was a serious problem in the 8th century BC. Snodgrass relied on evidence from Athenian burials to propose a huge population increase in the 8th century, which caused a land shortage (Snodgrass 1980, 19). Alternatively, Camp drew on evidence from wells in the Athenian agora to argue that a drought in the 8th century was the source of the land shortage (Camp 1979, 397). They maintain that the archaeological evidence does not provide a sufficient quantity of Greek artifacts found outside of Greece to demonstrate the existence of an economic system profitable enough to trigger colonization in the 8th century BC. See Holloway 1988, 47. Gwynn also argued that the Greeks only became a large-scale commercial power in the 5th-6th centuries and that at the beginning of the colonization movement they did not have the naval capacity to excel in commerce (Gwynn 1918, 92). There were, however many Greek objects found outside Greece from this time period, and furthermore there could have been other trade items, which do not appear in the archaeological record.

¹³ Blakeway was one of the first proponents of this viewpoint, famously stating "the flag followed trade" (Blakeway 1933, 171). Boardman also argued that trade in the west continued through the Dark Ages and that it was a contributing factor in the Greek colonization of the western Mediterranean (Boardman 2001, 36). At minimum, it is likely that at least a general knowledge of the geography of Italy and the people occupying it was available to the Greek colonists, especially those who were involved in trading. It has been generally accepted that the procurement of metals was a large incentive for the foundation of Pithecoussai, the earliest trading colony in Italy (Ridgeway 2004). Pithecoussai has been labeled by modern scholarship as an *emporion* rather than an *apoikia* for a variety of reasons. Foremost among them is that Pithecoussai has been interpreted as having been founded for the purposes of trade instead of agriculture. The distinction between *emporion* and *apoikia*, especially in the early period of colonization, was most likely rather vague. The later colonies, by contrast, show more intense agricultural land-use so scholars have tended to discount any trade possibilities. For example, Finley notes that, "Sicily lacks metals, and there is no other reason why purely trading ventures from Greece should have been calling there with any regularity" (Finley 1968, 17). He neglects to take into account any other commodities, which might provide a trade incentive. It is likely, that many later colonies had trade incentives as well as agricultural ones.

¹⁴ Holloway proposed political exile as a possible reason for colonization. He stressed the important role that aristocratic leaders played in organizing colonization ventures and suggested that many of them were political exiles fleeing from inter-family feuds, which were common in the Archaic Period (Holloway 1991, 48).

state.¹⁵ More recently, however, scholars have begun to argue that early colonial ventures set out from communities, which could not themselves have been called *poleis*, let alone have possessed a level of bureaucracy advanced enough to organize a preplanned colonial “movement.”¹⁶ As time progressed and *metropoleis* became more well-established, they may have played a larger role in the colonization process, so while different colonial ventures involved various degrees of state-involvement, the earlier colonies were, on the whole, more likely to be privately organized than the later colonies.¹⁷ Even colonial ventures, which were originally undertaken by individuals, however, were often drawn into the rhetoric of privileged bonds between *apoikia* and *metropolis*. The conceptual relationship between *apoikia* and *metropolis* and the rationalization of any social obligations that were owed between them was an emergent phenomenon and one that was subject to interest-driven interpretation by either party.¹⁸

In both state-organized and individual-driven colonization movements, the *oikist*, who was considered the official founder of the colony, played a large role in the practical aspects of foundation and acted as a figure-head to cement the identity of the new *polis* as a separate entity from that of its *metropolis*.¹⁹ Homer provides an example of an early leader of a colonization

¹⁵ Gwynn asserted, “What is certain is that a Greek colony was never a motley gathering of adventurers, grouping themselves together under no definite leadership. It was essentially a state-enterprise, organised for the public good and placed under the leadership of a competent *oikist*” (Gwynn 1918, 100).

¹⁶ In his pivotal article “Early Greek Colonization?” which refocused the debate about colonization, Osborne rejected the idea of complete state sponsorship. Osborne recognized two biases implicit in the work of earlier scholars. First, they were relying on texts written in the classical period, which reflected the interpretation of colonization common in their own time, not in the Archaic Period. Second, they were influenced by their own preconceptions of modern day imperialism (Osborne 1998, 255). See also De Angelis 1998.

¹⁷ See Morakas 2011, 462.

¹⁸ For example, Thucydides relates that Corinth believed that Corcyra did not live up to her responsibilities as a colony. Corcyra replies, “Colonists are not sent forth on the understanding that they are to be the slaves of those that remain behind, but that they are to be their equals” (1.34.1). This example from Thucydides shows that the relationship between a *metropolis* and her colonies was open for reevaluation by different parties.

¹⁹ The term *oikist* first occurs in the Spartan poet Tyrtaeus in the late 7th century in reference to the foundation of Taras (Volume-Jacoby □-F 3b,580,F, fragment 1, line 5). Since Sparta was not a major contributor to the colonization movement, this early appearance of the word may not be indicative of the terminology commonly used by other cities. The term *oikist* was well established by time of Hecataeus and Herodotus and it endured into the Byzantine period in Stephanus of Byzantium’s *Ethnica*.

event, in his description of Nausithoos, the leader of the Phaeacians, whose obligations included building walls, houses, and temples and dividing the agricultural land (Odyssey 6.4-10).²⁰

Foundation decrees, which date to a period of state-run colonization, continued to describe the role of the *oikist* as similar to that of Nausithoos in *The Odyssey*.²¹ The *oikist* also played an important role in solidifying the identity of the colony posthumously as a cult hero.²² This particular role of the *oikist* is particularly salient since it is now thought that the colonists often had a vague sense of their own identity.

The colonization narratives related by ancient historians have become more suspect in recent years, with the result that modern scholars now believe that the majority of colonial ventures did not have one clear city of origin.²³ Even those colonies whose members all set out from one original *metropolis* had a vague and fluid idea of their own identity, because colonization began at a time when each *polis* was still in the process of formalizing a concept of its own ethnicity.²⁴ The idea that each colony had a clearly defined ethnic background was likely a retrojection, which was intended to solidify internal social cohesion and external political alliances in the

²⁰ Demand argues that this episode from the Odyssey was representative of urban relocation rather than true colonization (Demand 1990, 29). This distinction, however, is somewhat trivial. The process of settling in a new land required the same practices, whether the entire community moved or not.

²¹ The *oikist* was put in charge of establishing the city's *nomina*, demarcating the *polis*, and transferring state cults and the sacred fire from the *metropolis* (Malkin 2009, 387). The foundation decree of Brea even invests its *oikists* with the absolute power of an *autokrator* (Malkin 2009, 386).

²² Rituals surrounding the *oikist*'s death and his burial in the city *agora* reflect the important role he played in the colonization process. This cult contributed to the new community identity, as it was the first cult, which was not assumed directly from the *metropolis* (Malkin 2009, 374).

²³ There has recently been a movement towards understanding colonization as a more fluid process in which individuals from many communities came together to form new colonial identities. Shepherd pointed out that Archaic Greek cities were not large enough to populate a whole new city and that several colonization narratives refer to settlers from different cities coming together (Shepherd 2009, 19). Osborne argues that most colonies were linked to a variety of cities at different times or by different authors and that modern scholarship has had a tendency to choose one of these traditions at random and preference it as the "true" story (Osborne 1998, 267). Malkin also emphasized the effects that colonization had on the *metropolis* as well as the colony. He argued that "social groups whose existence may have been perceived as an obstacle to political integration left so that the home community could homogenize more easily" (Malkin, 2009, 378).

²⁴ Hall argues that Greek "ethnicity" in the Archaic period was defined by decent and homeland rather than culture. Malkin amends this definition to include language and material culture. Antonaccio further expands the definition of "ethnicity" and tries to incorporate non-elite perspectives (Antonaccio 2001, 115; 122).

Classical period.²⁵ Although the concept of ethnic ties must have existed in the Classical period, in order for Thucydides' politicians to reference it in their arguments, the exact meaning of those ethnic ties would have been open to debate. In Thucydides' account of the Sicilian expedition, for example, many rhetoricians call upon their audiences to form alliances based on ethnic ties, but the actual alliances made in the war did not often reflect those ties. It is now widely accepted that the 4th-5th century historians reified an often gradual and sometimes disorderly process into a single foundation event.²⁶ Some of the messiness of the original colonization process is echoed in Thucydides' accounts of colonial enterprises, which were relocated several times. Furthermore, most colonial cities contained conglomerate populations and it is possible that these cities were formed by multiple small waves of colonial ventures rather than one large migration. According to this understanding of colonization, a colony's primary focus would have been on forming new political and economic bonds as an independent *polis*, not on maintaining an asymmetrical alliance with one *metropolis*.

In light of the fluidity of identity exhibited by the colonists, it is necessary to rethink the relationship between the Greeks and the native Italians. The concept of "ethnicity" was just beginning to develop in the archaic period, so the Greeks would not have viewed themselves as a

²⁵ Thucydides provided commentary on the ethnic bonds between colonies and their mother cities. Unfortunately, he emphasized the strength of certain ethnic ties in order to support his overall argument about alliances based on ethnic ties in the Peloponnesian war. Since his argument was based on the situation in the 5th century, it cannot be considered an accurate depiction of the 8th-6th century. Surviving records of foundation decrees may provide a less biased account of colonization. Graham (1964) provides the foundational work on the topic of relations between colony and mother city, relying primarily on a close analysis of surviving foundation decrees. Graham emphasizes the strong bond between mother city and its colonies in the archaic period based on common religion and culture, which developed into a political bond over time.

²⁶ Osborn argued, "becoming a colony has more to do with an invention of a past than with a historical moment of invention" (Osborne, 1998, 264). Malkin, however, posited that Fernand Braudel's work on dismissing the history of "events" in favor of "processes" has sparked this change in archaeology (Malkin, 2002, 271). Shepherd pointed out the numerous accounts of colonists travelling to many sites before they finally settled down, stretching out the duration of the colonization event (Shepherd, 2009, 18). Malkin took this idea even further in arguing that foundation began at the moment of arrival and ended at the *oikists* death (Malkin, 2009, 375).

unified group, distinct from the native population.²⁷ The question of how “Hellenized” the local population became has recently been problematized and the mono-directional model of

“Hellenization” has been challenged by the concept of “hybridity,” in which new practices are understood to have been formed by drawing on aspects of all the involved cultures.²⁸

Unfortunately, considerably less is known about the contributions of native Italian culture to the shared identity, because ancient and modern scholars alike have possessed less information about the various subcultures of the native Italians and Sicilians at this phase of the colonial practice.²⁹

While the interaction between the arriving colonists and the native populations differed in each scenario, there was significant cultural exchange between Greeks and Italian locals, in the form of intermarriage, bilingualism, and material exchange.³⁰

2.2 *Origin of City Planning*

Many attempts have been made to trace the foundations of the Classical Greek city back to the cities of Egypt and Mesopotamia.³¹ Other scholars have argued that it was the Minoan or

²⁷ It was not until the 5th century that cultural practices such as language, religion, and behavior, which distinguished Greeks from locals, came to be valued above archaic kinship ties (Hall, 2004, 45).

²⁸ “Hellenization” is a problematic term because it evokes an outdated model of unidirectional acculturation. Boardman wrote that in the West the Greeks had “much to teach and little to learn” (Boardman 1999, 190). Likewise, Dunbabin claimed that Sikels had “no place” in Greek cities and that they were banned from living inside city walls (Dunbabin 1948, 47; 192). Since then there has been a significant change in the way scholars understand cross-cultural interaction. See Antonaccio 2005 and Hall 2002. Also see Malkin 1998 on the “Middle Ground” model, in which a common culture is developed collectively and drawn upon by all the invested parties.

²⁹ Thucydides recognized three distinct local ethnicities in Sicily: the *Sikels* in the East, the *Elymians* in the West and the *Sikans* in the middle (Thucydides, 6.2). Thucydides also used the term *Sikeloi* to denote all native Sicilians, in contrast to the *Sikiliotes* (Greek Sicilians) (Antonaccio 2001, 121).

³⁰ Finley mentions that in the Chalkidian colonies, good relations were maintained with the local people, whereas in the Syracusan colonies the native population was immediately subjugated (Finley 1968, 22). He rejects the widely held belief that treatment of the native population was reflective of the attitudes of Doric and Ionic colonists as a whole. Any conclusions about the relations of Greek colonists and native Italians, which are based solely on the literary accounts of Thucydides and others, are susceptible to a range of biases, because of the inaccuracies in the literary record. As Hall astutely notes the adoption of Greek status markers by local elites was not “cultural assimilation.” It was the “appropriation of symbols whose efficacy in legitimizing leadership and authority was guaranteed by the difficulty of their acquisition” (Hall, 2004, 45). Also see Shepherd 2002 for further discussion of intermarriage specifically.

³¹ Haverfield was an early proponent of this theory, which laid the foundation for many future studies (Haverfield 1913). Martin followed Haverfield in attributing the grid to influence from the Orient. Martin stressed the importance of the colonization as a mechanism for transferring the idea of city planning to the west (Castagnoli

Mycenaean tradition of city planning that served as precedent for the Greek *polis*.³² This line of argumentation is largely speculative because of the difficulty of tracing these influences through the Dark Age, when settlements in Greece consisted of clusters of huts scattered at random throughout the landscape and linked together by irregular pathways. The urban layout Athens, for example, was made up of irregularly formed streets, which linked together settlements clustered around wells.³³ Although an argument could be made that the memory of the Mycenaean *megaron* on the Acropolis predisposed that site for further building, more specific aspects of the urban fabric from the Mycenaean settlements were not retained. In other sites, such as Karphi on Crete, the previous settlements were completely abandoned in the Dark Age and new settlements developed in nearby areas, often further inland. Since colonial cities had never been used as Mycenaean towns, the colonists could only have had a vague concept of the essential features of Mycenaean city planning. Attempts to identify earlier cities, which had a large impact on the grid plans that were developed in the colonies of Sicily and Magna Graecia, are so riddled with problems that they are of limited use to the discussion of the development of the urban grid.

The evidence that the urban grid originated with an individual urban theoretician, such as Hippodamos of Miletus, is equally weak. Hippodamos of Miletus has traditionally been

1971, 5). Similarly Ward-Perkins viewed Ionian cities as transmitters of eastern trends to the west (Ward-Perkins 1974, 11). Castagnoli also follows this line of reasoning. He points to the orthogonal nature of the city plans at sites such as Kahun, and Tell-el-Amarna. He also recognized the possibility of the universality of city planning, noting the regularity of the plan at the Aztec city of Tenochtitlan (Castagnoli 1971, 57).

³² Wycherley, for example, identified an oriental influence on the “lesser decorative arts” whereas “the more fundamental art of city building remained purely Hellenic” (Wycherley 1962, 4). Wycherley argued that the Archaic Greek city developed out of the Dark Ages from the remembered aspects of Minoan and Mycenaean cities (Wycherley 1962, 4). Ward-Perkins rejects this argument on the grounds that Minoan and Mycenaean cities are too aristocratic in character to have influenced the later Greek model (Ward-Perkins 1974, 10). He fails to explain, however, why the aristocratic nature of nature of Egyptian and Mesopotamian societies did not preclude them from influencing the classical Greek city.

³³ These housing nuclei often developed around water sources. For this reason, when cities like Athens expanded in the Archaic Period, they did so sporadically, working around sacred areas and private property, which could not be moved out of the way. Owens postulated that the irregular streets, which developed between these housing clusters, formed the foundation upon which later streets were laid out (Owens 1991, 14).

considered the inventor of the fully rationalized grid plan, which distinguished Classical period *poleis* from their predecessors.³⁴ Archaeological evidence, however, shows that deliberately planned cities appeared in the Mediterranean centuries before the lifetime of Hippodamos.³⁵ Many scholars have attempted to reconcile the archaeological evidence with the literary account.³⁶ The literary evidence supporting this claim comes from two sections of Aristotle's *Politics*, in which Aristotle refers to Hippodamos as the man who discovered the "division of cities."³⁷ When examined in context, it is clear that Aristotle was referring to the division of cities in accordance with Hippodamos' proposed social order rather than a division into a grid.

Aristotle mentions Hippodamos along with several other political theorists and provides a

³⁴ Gorman provided a convincing explanation of how this misinterpretation of Aristotle can be traced back to Pier Vettori's 1576 translation (Gorman 1995, 392). This misconception was subsequently propagated by early scholars such as von Gerkan in his seminal work, *Griechische Städteanlagen* (1924). Wycherley noted that "The Hippodamian system did not change the vital character of the Greek city – old and new cities alike were all that 'polis' implies, and had the same essential parts" (Wycherley 1942, 22).

³⁵ The exact dates at which the earliest grid plans were implemented in Sicily and Magna Graecia are difficult to pin down. Strong evidence exists, however, that at least the concept of a grid plan can be seen in the first generation of Megara Hyblaia in 730 BCE, whereas Hippodamos was not born until c. 500 BCE.

³⁶ Some scholars have attempted to reconcile the physical evidence with Aristotle's claim by stating that Hippodamos was the inventor of only some specific aspect of city planning (McCredie, 1971). Castagnoli followed Nissen and Cultrera in suggesting that Hippodamos was known for "the over-all harmony" of his city plans (Castagnoli 1971, 71). He also suggested that Hippodamos was responsible for orienting streets with respect to sun and wind patterns. His evidence for this hypothesis was based on the fact that Hesychius and Photios refer to Hippodamos as a μετεωρολόγος (Castagnoli 1971, 72). Ward-Perkins suggested that he rationalized rather than invented the grid system (Ward Perkins 1974, 16). Burns made the more convincing argument that Aristotle's remarks concerned Hippodamos' political beliefs, rather than his theory on urban grids. Reintegrating the text into its greater context, Burns explained that Aristotle mentioned the "cutting up of cities" in reference to Hippodamos' political view that citizens should be divided into three classes, artisans, farmers, and soldiers (Burns 1976, 417). The land would then, accordingly, be divided into three equal sectors for religious, public, and private use (Cahill 2002, 4). Cahill added that Hippodamos also divided laws into three groups (wanton assault, damage, and homicide) (Cahill 2002, 3). Gorman went even further in dispelling the widely believed falsehood that Hippodamos invented city planning. She contextualized Aristotle's statements as a part of his larger argument about the correct way for a state to distribute goods among its citizens (Gorman 1995, 388). Hippodamos was only one of several theorists, whom Aristotle mentioned with respect to their views on those things, which should be held in common by citizens (Gorman 1995, 391). For this reason Gorman believed that Aristotle was more concerned with Hippodamos' theoretical beliefs than with his practical contribution to the invention of the grid system.

³⁷ (1) ἡ πόδαμος δὲ Εὐρυφῶντος Μιλήσιος (ὅς καὶ τὴν πόλεων διαίρεσιν ἐρεῖ καὶ τὴν Πειραιᾶ κατέτεμεν, ... πρὸς τὴν μὲν πολιτευομένων νεχέιρησέ τι περὶ πολιτείας (Aristotle, Pol. II, 1267b, 21-29) "Hippodamos son of Euryphon a Milesian, who discovered the division of cities into blocks and cut up the Piraeus... was the first man not involved in politics to try his hand at the business of citizenship."

(2) ὅς τὴν δίων οὐκ ἴσμεν διάθεσις δίων μὲν νομίζεται καὶ χρησιμώτερα πρὸς τὰς ἄλλας πράξεις, ὡς ἐτομος καὶ κατὰ τὴν νεώτερον καὶ τὴν ἡποδάμειον τρόπον. (Aristotle, Pol. VII, 1330b, 21-24)

The arrangement of private dwellings is considered more pleasant and serviceable for other affairs if they well divided according to the new and Hippodamian way.

description of each of their views on how to divide up the common holdings of a city's people. He is interested in the philosophical principles of Hippodamos' theories rather than their practical implications. The physical evidence of Hippodamos' city plans is hardly more conclusive than the literary account.³⁸ Piraeus can be most reliably associated with Hippodamos, since boundary stones from Piraeus attest to the fact that the land was indeed divided up into sectors (Cahill 2002, 4).³⁹ The evidence connecting Hippodamos to Thurii is also fairly substantial.⁴⁰ Although some scholars attribute Miletus or Rhodes (or both) to Hippodamos, the evidence is not conclusive.⁴¹ The archaeological evidence is so fragmentary that it is not possible to accurately extrapolate a set of common features among these city plans, which could be considered typical of Hippodamos.⁴²

Neither the concrete urban plans of Mycenaean or Dark Age cities nor the theoretical plans of Hippodamos' grid had a large impact on the development of the urban grid in the colonies. Instead, the main impetus for the development of this new urban form was internal and unique to the Sicilian and Magna Graecian colonies. Although the colonies have traditionally been seen as

³⁸ Castagnoli suggested that a thorough study of the cities known to have been planned by Hippodamos would be more fruitful than an overextension of the meaning of the ancient texts (Castagnoli 1971, 66). Unfortunately, the evidence that links Hippodamos to the plans of Piraeus, Thurii, Rhodes and Miletus is almost entirely literary, so it is impossible to evade the issue of textual reliability.

³⁹ Ward-Perkins pointed out the centrality of zoning in Hippodamos' plans (Ward Perkins 1974, 16).

⁴⁰ It is widely accepted that Hippodamos went to Thurii as a colonist and Hesychius mentioned that he was involved in the act of foundation.

⁴¹ If Hippodamos participated in the replanning of Miletus in 479 BCE, he would have been born around 500 BCE at the latest, and would have been too old to contribute to the grid instituted in Rhodes in 408 BCE. The evidence for Hippodamos' involvement in the replanning of Rhodes comes from Strabo, who stated that Rhodes was planned by "the same architect, as they say, as the Piraeas" (14.654). Many attempts have been made to reconcile these dates. Most scholars reject Hippodamos' involvement in the planning of Rhodes. See Castagnoli 1971, 67; Ward Perkins 1974, 144; and Wycherley 1964, 137. Burns, on the other hand, suggested that there is no reason to believe he participated in the Milesian planning. He suggests that Hippodamos' birth date was 480 BCE, which allows for his involvement in the planning of Rhodes (Burns 1976, 424).

⁴² Although Hippodamos has been accredited with developing the urban plans of Piraeus, Thurii, Rhodes and Miletus, the evidence linking him to these cities is not substantial. If Hippodamos was a famous urban planner, many cities would have tried to associate themselves with him, making the textual evidence unreliable. Since the grid plans of most of the cities in question have not been extensively excavated, little is known about their physical form. Without concrete evidence of the urban grids in these cities, it is impossible to compare them and to look for features they have in common which might be identified as typically "Hippodamian."

a new opportunity to organize an idealized city plan, since unlike their *metropoleis* in Greece, they were unconstrained by preexisting Dark Age structures, recent archaeological evidence suggests that this theory may be an oversimplification. Similarly to Archaic cities in Greece, many of the colonies were organized in a random pattern during the first generation of settlement.⁴³ The colonists only began to organize cities according to a grid plan in the second or third generation after the original settlement event. Colonies from all periods displayed this same pattern of first forming an irregularly planned settlement and later reorganizing in a more orderly manner, usually on a *per strigas* system, which consisted of several long arteries (*plateiai*) running longitudinally and smaller perpendicular roads (*stenopoi*) dividing the city into long strips.⁴⁴ The *plateiai* frequently ended at city gates or sanctuaries, often because they followed older roads that had determined the location of the gates or sanctuaries. The resulting *strigae* were usually occupied by a pair of back-to-back houses with a small *ambitus* (alleyway) running between them. Religious and public spaces such as *temenoi* and *agorai*, although they were not themselves organized on a grid, were integrated into the grid plan in some way. They were often related to the elements of the city plan that were retained from the pre-grid period of use, frequently being located along side old major roads to the harbor or the *chora* or in places where several different grid alignments met each other at odd angles, because of irregularities in the earliest settlement phases. The retention of these elements with strong connections to the pre-grid phase suggests that the practice of organizing a city according to an urban grid developed organically in these colonies in the first several generations of occupation. Therefore, a close

⁴³ Di Vita's recent work has pointed out that the rigid grid plans, which are often associated with the Italian and Sicilian colonies, were actually the result of planning in the second or third generation of colonists (Di Vita 1996, 264).

⁴⁴ For a discussion of the origins and usages of the terms *πλατεία* and *στενωπός*, see Castagnoli 1971, 32.

analysis of these early generations should expose the forces, which were involved in stimulating the development of the urban grid.

3. METHODOLOGY OF THE STUDY

This study will only investigate the cities in Sicily and Magna Graecia, which were predominantly Greek. Since there were many cities throughout Sicily and Magna Graecia in the 8th to 6th centuries BCE with mixed Greek, Phoenician, Etruscan, and native South Italian and Sicilian populations, each city had a different combination of both Greek and Italian influence, with the result that it is impossible to attribute any one city's development to exclusively a single culture. Nevertheless, this paper will focus on the cities in which the majority of the architecture and material finds were Greek, since my aim is to study the way in which Greeks reconstructed their mental concept of a city in a new location, rather than to study how Greek and local city building practices influenced each other.

This study will concentrate on the cities founded between the 8th and 6th centuries. The earliest "Greek" city in Italy was Pithecoussai, the population of which subsequently relocated to the site of Cumai.⁴⁵ Since this site exhibited more features of an *emporion* than an *apoikia* and it did not display evidence of zoning or a grid system, it falls outside the range of this study. Furthermore, evidence of Phoenician inhabitants suggests that the city was not as fully "Greek" as the later colonies.⁴⁶ In the 6th century, tyrants began to come into power in the cities of Sicily and Magna Graecia. At that point most of the city plans were almost identical, because the idea of the city had already been codified. Furthermore, the majority of the building activity was initiated by the tyrants, so the city plans were arguably under the global influence of an

⁴⁵ See footnote 10, pg. 6.

⁴⁶ Ridgeway 2004.

individual, and they did not reflect the evolving community. The time period in between these two borders is crucial because it is the time that the idea of the grid was developed.

I will focus my discussion on the plan of the city as a whole and the way public, religious, and private land fit together to form a notion of *polis*. My focus will be on the conceptualization of the plan rather than on its precise execution. This study will focus on the types of spaces that are found at each site (political/economic, religious, domestic), and how these different sectors interact with each other. Finally, the study will examine what building types are found in each of these sectors and how those buildings are organized and why.

4. EVIDENCE OF URBAN PLANNING

There is an observable dichotomy in the organization of public and private space in Greek colonies in the 8th to 6th century BCE, resulting in the argument that land zoning in Greek colonies was based on the “inalienability” of land rights and that public and sacred space were considered secondary to residential areas. Scholars have interpreted the zoning out of political and religious space from domestic sectors as evidence of the primacy of private land. According to this framework, the invention of the grid is also interpreted as exhibiting the importance of private property, since domestic “zones” in many colonial cities were based on *per strigas* plans, whereas religious and public space was often irregularly shaped. On the contrary, I will argue that public and private land developed separately over time and each was organized according to different principles because they required different criteria in order to serve their proper functions. In the following section, I will cite the evidence of urban planning at Greek colonies, indicating the particular aspects of each local practice that bear significantly on the larger research question outlined above.

4.1 Naxos (founded 734 BCE)

Thucydides identified Naxos as the oldest Sicilian colony, established in 734. Because it was the first Greek colony in Italy, Naxos had the honor of housing the altar to Apollo Archegetes (Di Vita 1996, 279). Several ancient authors provided disparate accounts of the colonization event. Most authors agreed that the colonists were Kalkidians. Ephoros wrote that the colonists included Dorian and Ionian colonists led by Theokles, a “professional prospector from Athens” and Hellanicos wrote the colonists were Kalkidian and Naxian (Metraux 1978, 20; Cerchiaia 2002, 156). The ancient authors may have known even less than usual about the foundation of Naxos, because it was such an early colony. The settlement was located on the slopes of Mount Tauro, consisting of a low rock lava terrace on the peninsula of Schiso (Cerchiaia 2002, 159). Its relationship to the coastline played a large role in determining the orientation of the earliest roads.

Based on ceramic finds Metraux has suggested that the earliest Greek settlement was located along the coast near the native occupants’ town (Metraux 1978, 109). The *emporion*, which predated the first *apoikia* at Naxos, were commonly located close to the shore so this was a logical place for the colonists to settle. The eighth century settlement occupied an area of no more than 10 hectares. Only two streets (Sh and Sg) can be dated to the 8th century and they both ran parallel to coast (Di Vita 1996, 279). The importance of the coastline in determining the orientation of early streets can be seen at later sites as well.⁴⁷ Excavations unearthed one nearly complete house, some other partial foundations and a *sacella* built from pebbles and rough-hewn lava stone (Di Vita 1996, 279).⁴⁸ When the early layout was later abandoned, the religious center

⁴⁷ For example, Metapontum and Lokroi.

⁴⁸ The house has a single square room and stone bench on one side. This type has also been found at Megara Hyblaia, Syracuse, Chios, and Andros. (Cerchiaia 2002, 159) This suggests that the same basic technology of house

was relocated. Although it was common to reorient temples to align with new grid plans, uprooting the entire *temenos* was far less common. An exception may have been made for this *sacella* because it was not in use for a long period of time before it was relocated.

By the mid-7th century the settlement had spread to the southwest, covering the whole peninsula. Temples were built on the banks of the streams dominating beach and port (Metraux 1978, 109). Because of their location, which was outside the city limits until the construction of the sixth century polygonal walls, the temples have been interpreted as being relegated to a marginal space because of the growing need for domestic space (Metraux 1978, 109). A more likely hypothesis, however, is that the temples were located on the coast because it was the most convenient and visible position for them. From this location they had access to the ports and could make an impression upon the travelers on incoming ships.

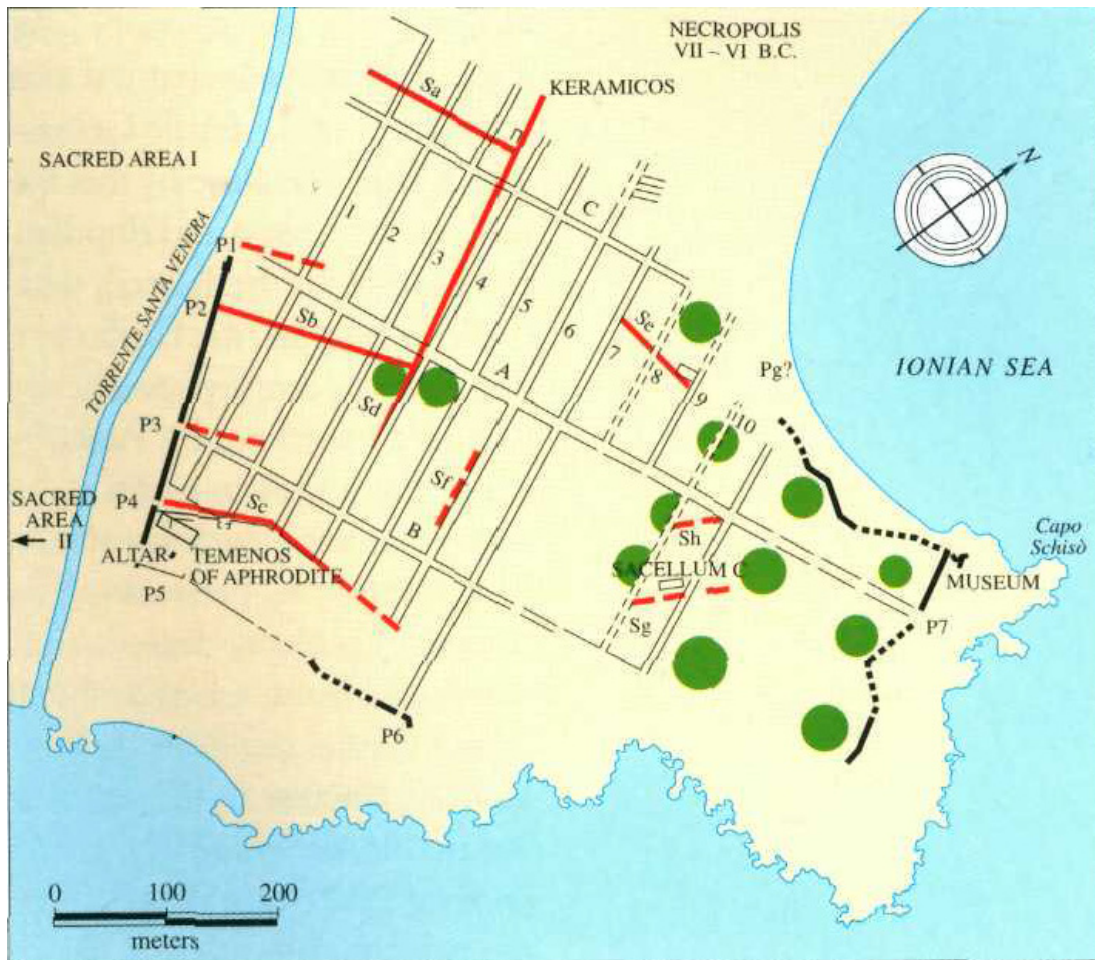
Excavations under Paola Pelagatti have revealed that the 40 hectares of occupied land were divided into two differently aligned gridded sections (Di Vita 1996, 280). The existence of more than one system of orientation within the same city was not uncommon, even in later colonies such as Megara Hyblaia and Selinus. Multiple alignments could have been necessitated by topographical features such as a large hill, as was likely the case at Selinus or the two orientations may have accumulated around several important streets, which predated the grid and did not align with each other. At Naxos the two orientations may also have simply been developed at different times, as the east sector of the grid predated the west. In the western section of the grid, street Sd ran from the *kerameikos* in the north to the Aphrodite *temenos* in the south, cutting through the ledges, which lead to the hills in the north. The course of street Sd, therefore, was probably determined by the location of the *kerameikos* and the *temenos*. The old

building was used in Greece and in the colonies, although modifications were made in order to take advantage of local building materials, environmental conditions, etc.

road to Zancle, street Sp, also ran north-south and was located slightly east of street Sd (Di Vita 1996, 280). This practice of forming the major *plateia* from roads already running to nearby cities was very common. In a way, however, this replaces one unknown with another since it does not answer the question of why the road to Zancle took the exact route that it did. Streets Sd and Sp were not exactly aligned, because their respective orientations were based upon preexisting features in the local topography, but their orientations were close enough to give the impression of a grid form. Streets Sa and Sb lay perpendicular to Sd and Sp and Sc lay to their south at a slightly different angle. These streets also connected to the landscape in an important way, connecting the coast to the river and the *chora* beyond it.

The *agora* has not yet been identified and it may have been located in an area of the city that has not yet been excavated.⁴⁹ Identifying *agora* spaces can be quite difficult, since an *agora* in this early period could have simply been an open space in which wooden stalls could be erected to transform the space into a market. It is also possible, however, that there was no single area for public and economic functions. Naxos was founded at a time when the concept of an *agora* was still coalescing. Furthermore, even in later periods, it was not unusual for public space to be spread out around the city. The concept of strict “zones,” which have become a hallmark of the colonies in Sicily and Magna Graecia, may not have been fully developed yet at this early period.

⁴⁹ The *agora* may lie at the intersection between *plateia* C and *stenopos* 6, which were the old roads leading to Katana and Zancle (Cerchiaia 2002, 160). Di Vita suggests tentatively that the public area may lie at cross sections aligned with an earlier grid, but so far no excavations have confirmed this (Di Vita 1996, 280).



Naxos: urban plan 5th cent. B.C.
 lying over the Archaic
 phases (in red)
 A-B-C *Plateiai*
 from 1 to 10 Blocks
 P 1-2-etc. Gates
 ● Remains of 8th cent. B.C.
 Sa-b-c-d-e Streets 7th-6th cent. B.C.
 Sf-g-h Hypothetical Streets
 7th-6th cent. B.C.
 — Short course of the walls
 Supposed course of the walls

Urban plan of Naxos (Di Vita 1990, 279)

The *kerameikos* at Naxos was located by the harbor instead of in the city center.⁵⁰ This may suggest that pottery was being produced for export and consequently the workshops were placed as close as possible to the point from which they would be shipped out. The kilns were also located on the road to the cemetery, which lay to the city's north. This recalls the location of the *kerameikos* at Athens, which was intended in part to provide pottery that would be used as funerary dedications.

4.2 Syracuse (founded 733 BCE)

Colonists from Corinth settled in Syracuse in 733 BCE.⁵¹ The oikist of the expedition was Archias, a member of the reigning Bacchiad family in Corinth. The first colonists settled on the island of Ortygia and the neighboring mainland Achradina. Their settlement reached a little more than half a mile further down the coast than the necropolis at Fusco (Di Vita 1996, 270).

The earliest settlement plan at Syracuse resembled the contemporary settlements in Greece. In the eighth century, Syracuse was laid out according to a *kata komas* system, comprised of clusters of houses scattered irregularly throughout the terrain (Di Vita 1996, 270). The distribution of these early housing nuclei was not random, as the houses clustered around wells and natural pathways in the landscape. The location of the houses in turn influenced the positioning of the streets, which were built to connect them. Many cities in Greece, including Syracuse's metropolis Corinth, were organized in the same way during the Archaic period. This suggests that, in Syracuse at least, the first generation of colonists were replicating urban forms with which they were familiar.

⁵⁰ Metraux argues that the residential and commercial centers were kept separate because that was in keeping with the Chalcidian ideals of city life (Metraux 1978, 109). The practical reasons for separating houses from production centers provide adequate explanation, making Metraux's analysis unnecessary. For example, the dangers that arise from the fires necessary to heat the kilns and the fumes produced as a byproduct could start a devastating city fire if they were placed too close to houses with any wood or thatch.

⁵¹ According to Thucydides (6.3.2).

The eighth century houses consisted of one small room (typically 10 x 15 m) situated on a square or oblong plot.⁵² Leaving space around each house was common in early settlements where land was available in excess. A similar layout can be seen at Megara Hyblaia. As the city became more densely populated in later years, the empty plots were filled with new buildings.⁵³ Homeowners either expanded their houses, using up the surrounding land or sold off pieces of their original land holdings to people who built their own homes on the land.⁵⁴

The earliest grid plan on the island of Ortygia consisted of one main *plateia* running down the length of the island with *stenopoi* crossing it at right angles. There is a prominent ridge down the center of the island, which probably served as the main *plateia*. Because of the long, narrow shape of the island and the preexisting ridge in the topography, the main *plateia* could hardly have been located anywhere else. The perpendicular beaten earth *stenopoi* date to 700 BC and are 2.5-3 m wide (Di Vita 1996, 270). They delineate insulae, which measure 23-25 m wide. The uniformity of street and insula width within the city suggests some level of public organization. Furthermore the reorganization from a *kata komas* plan into this fairly rigid grid plan, would have involved the relocation of many citizens' homes, which could likely only have been

⁵² Di Vita postulates that the areas between each cluster of houses were used as family plots for sustenance farming (Di Vita 1996, 272). This argument assumes, however, that all the colonists were engaged in small-scale farming. It is likely that at least some of the permanent or temporary residents were artisans or merchants, who bought their food rather than grew it themselves. The theory that sustenance farming was ubiquitous in the colonies may overcomplicate the issue. While it is possible that some families used their land for farming, that was not necessarily the case at every house. Some houses may also have used their land for production.

⁵³ Di Vita suggests that as a colony expanded, new *kleroi* were laid out far from the city center and the old *kleroi* were re-appropriated as urban space (Di Vita 1996, 272). It is reasonable to assume this model as an overall schema, as it is clear that the urban area gets more crowded and the territory expands over time. The question of how this appropriation took place remains unanswered. It is possible that the replanning was organized by the government, but it is more likely that individuals sold off portions of their land or expanded their housing.

⁵⁴ Metraux argues that Syracuse promoted "conservative" land-use as a strategy used by aristocratic oligarchs to prevent any one family from gaining too much land and power (Metraux 1978, 125). His evidence comes from Plutarch and Aristotle's descriptions of Spartan injunctions against selling land. Even if these restrictions were in place in Sparta in the Archaic period, which is uncertain, there is no definite evidence that the same laws applied in Syracuse. Moreover, the mere existence of the laws could be taken to indicate that land sale was the norm and stopping it was a major problem in the ancient world. The archaeological evidence shows that the land around the original settlements became more crowded over time and the city in turn expanded to include more of the *chora*. This would not have been possible if land never changed hands.

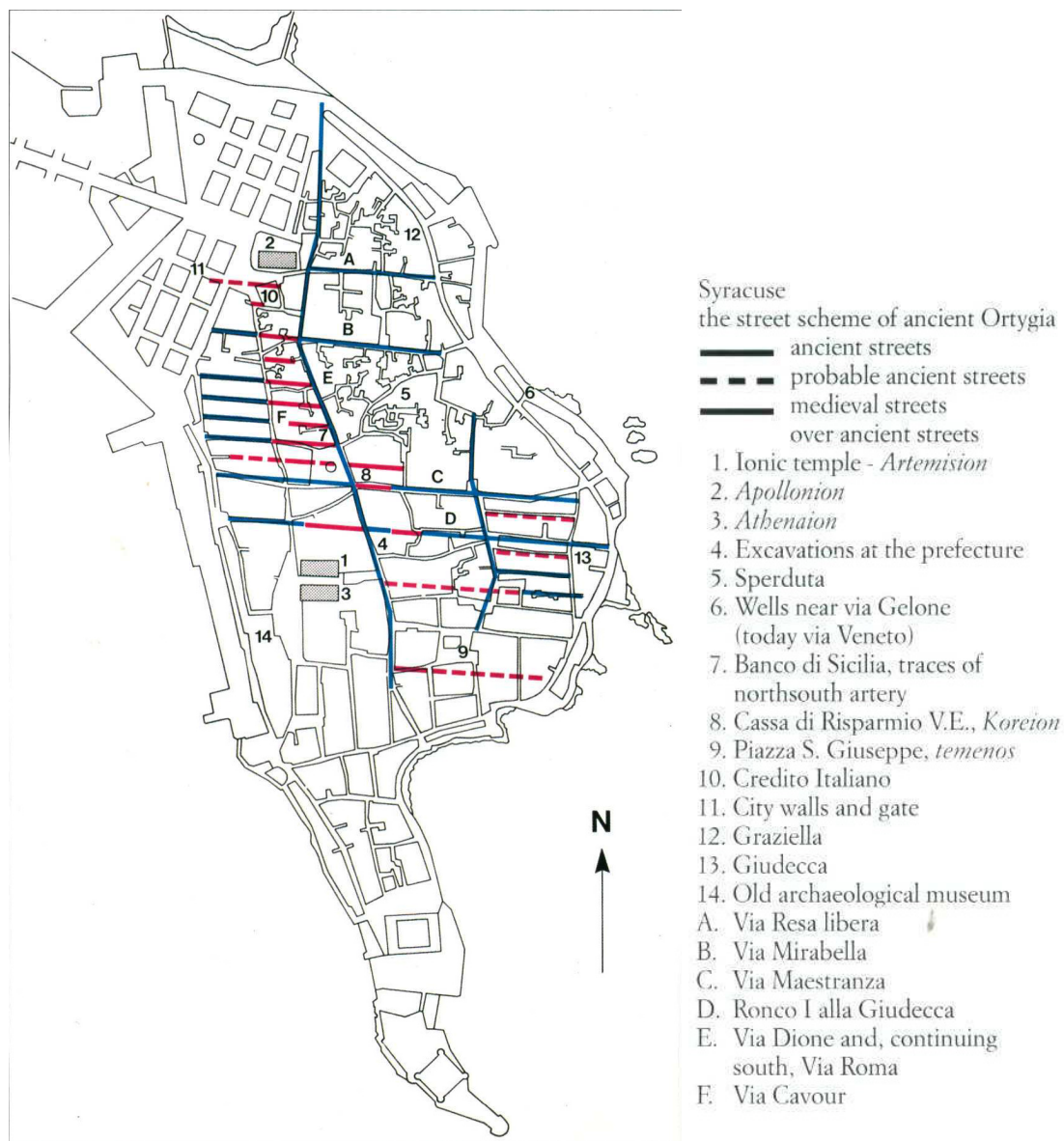
organized by a highly structured government. The reorganization into a grid about one generation after the foundation of the colony is typical of all the colonies, even in later periods. As was typical, during this reorganization the domestic sectors of the city were more directly affected than the religious and public sectors, which were generally able to remain in their original locations.

The ridge down the center of the island provided a natural path to the mainland. The stone causeway, which linked Ortygia to mainland Akradina, was not built until the middle of the 6th century (Metraux 1978, 121). The ceramic finds dating from the late 8th - to the early 7th century along the corso Gelone, however, attest to earlier expansion to the Akradina area (Di Vita 1996, 273). Akradina may have originally developed as an extramural part of the city and was later brought into walls (Metraux 1978, 121).

One of the colonists' first actions was to delineate religious space. The Apollonion and Athenaion were allotted land on the major North-South road in Ortygia soon after the inception of the colony (Metraux 1978, 122). Stone foundations of the Athenaion date to the late 6th century and evidence of preceding wooden buildings have also been found. The temples to Apollo and Zeus date to the early sixth century.⁵⁵ The reuse of religious space as seen repeatedly in all Greek cities as was the location of major religious *temenoi* on main *plateia*.⁵⁶ Processions would have been a key part of religious ritual and so location either along side of or at the end of wide streets was essential for religious *temenoi*. In this instance, the practice of these processions necessitated the location of the temples, rather than a contrived effort to “zone” the temples into a specific area of the city.

⁵⁵ Metraux notes that the construction of these new temples indicates the increased prosperity of the city, following a recent period of territorial expansion, although he does not specify whether the temples would have been publically or privately funded (Metraux 1978, 123).

⁵⁶ *Temenoi* at Metapontum and Selinus were also located along side major *plateia*.



Urban plan at Syracuse (Di Vita 1990, 271)

An *agora* has not been located on Ortygia.⁵⁷ It is difficult to believe, however, that the first generation of colonists lacked a city center or market of some kind, despite the apparent lack of

⁵⁷ Di Vita follows Pelegatti in suggesting that the 8th century *agora*, which mainly contained pottery workshops, was located behind the Ionic temples on the west side of the island (Di Vita 1996, 270). The kilns found in that area could reflect the common practice of placing ceramic workshops near temples. These kilns more likely produced ceramic vessels and figurines, which could be purchased and dedicated at the temples. If this was indeed the function of those ceramic workshops, there might have been another *agora* for more generic commerce. Unfortunately, no such *agora* has been excavated.

monumentalization. An *agora* from such an early date, however, was not likely to have had many permanent structures and so it could easily go unnoticed in excavations. Within several generations a larger, new *agora* was formed on Akradina. Although this *agora* has been excavated, most of the evidence dates to a later period, which may or may not have retained elements of the earlier plan.⁵⁸ The Akradina *agora* seems to have become the primary public space used by the Syracusans so that after its construction any *agora* that may have existed in Ortygia would have become less necessary. It should not, however, be assumed that because Akradina housed the *agora*, it was the only area with political and economic activity. Instead, the use of space in the city should be viewed as quite fluid in this early period.

4.3 Megara Hyblaia (founded 729/8 BCE)

Megara Hyblaia was one of the last colonies sent out by the Megarians (Di Vita 1990, 345).⁵⁹ The city sat on a level plateau, bordered by the Canter River to the north and San Cusmano to the west and south (Di Vita 1996, 266). Almost the whole area that was later encompassed by the city walls was occupied during the first generation (Ward-Perkins, 22).

The design and plan of the city were already conceived of in the 8th century. In that period, the colonists lived in temporary huts, which were aligned to the streets as well as to the median lines, which ran between each pair of houses on a block.⁶⁰ Some streets were laid out, such as streets A and B, which ran vaguely east-west and streets C and D which crossed them at right

⁵⁸ Di Vita believes that the 4th century *agora* on Akradina was predicated upon an earlier 7th century *agora* (Di Vita 1996, 273). Some aspects of the Akradina plan may go back to the early settlement, for example the southern area of the *agora* was cut through or delineated by an east-west artery, the earliest layer of which dates to last quarter of 8th century. Other, more theoretical streets, such as the one Di Vita imagines ran from the Latomia del Paradiso to the Latomia di Santa Venera and influenced the orientation of the grid in the 4th and 3rd century, may have also existed. Many of the other streets, however, were oriented to structures that had not been built in the 7th century (the Altar of Hieron, for example), so they could not date back that far.

⁵⁹ Thucydides gave the date of foundation as 728/7, whereas Polyainos gave 753. Thucydides told a story of the colonists being given the land by the Sikeli king, Hyblon (Thucydides vi. 4.1 and Polyainos v.5.1). This story was likely propagandistic and therefore unreliable.

⁶⁰ De Angelis showed that .45 m of space was left around the medial wall and around curbstones, dividing domestic from public space (De Angelis 2003, 20).

angles.⁶¹ Many other streets were not formally surveyed yet, but the houses were built so that they aligned to the grid, which would be filled in later, suggesting that although the city plan was implemented somewhat unevenly and on a small scale, the idea behind the plan was already in existence.⁶² The premeditated organization of Megara Hyblaia contrasts sharply with the unorganized first generation at Syracuse.

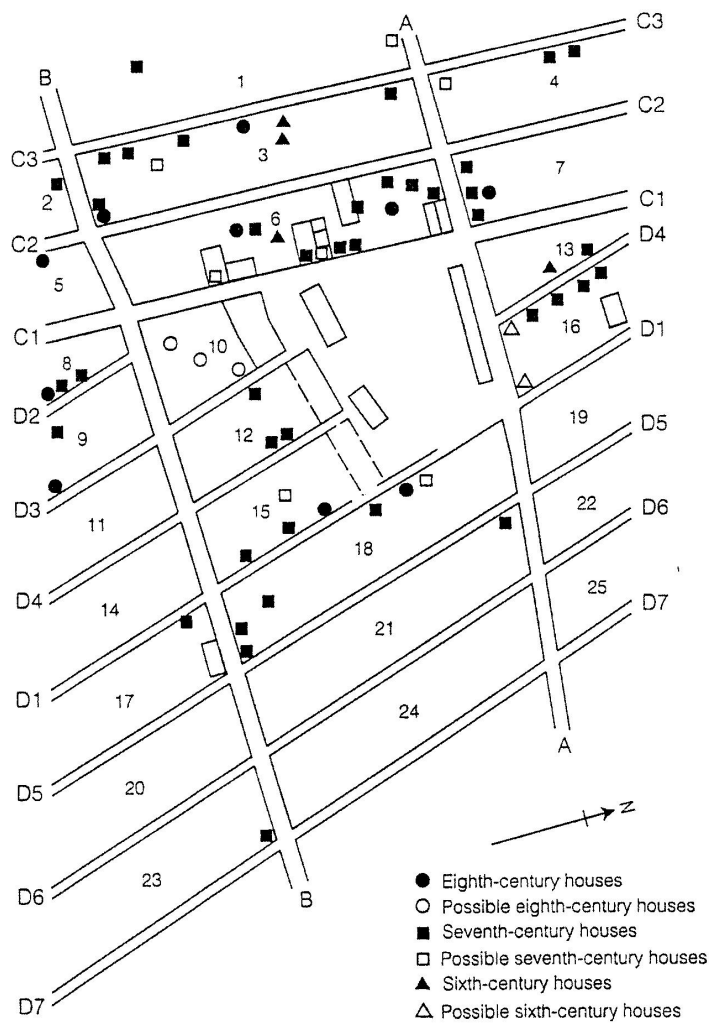


Figure 19 Housing density around the agora

Occupation patterns in Megara Hyblaia (De Angelis 2003, 34)

⁶¹ The street widths varied: A (5.3-6 m); B (5.5-5.8 m); C 1-3 (west of the agora) C1 (5.4-5.8 m); C2 (3 m); C3 (unknown) (De Angelis 2003, 17).

⁶² Mertens suggested that these early houses were too spread out to reflect the actual population density (Mertens 2006, 66).

The *agora* was set aside for public use from the inception of the colony, so no domestic buildings were ever built inside it. The *agora* was considered the hub of public life even before there were any public buildings inside it, as is evidenced by the fact that all the excavated buildings from the 8th century were in the vicinity of the *agora*.⁶³ The streets to the west of the *agora* are oriented at a 20-degree angle to the streets to the east, forming a distinctive trapezoidal *agora*. Because of the irregular orientation of the streets, many of the blocks varied in length and often took on a trapezoidal shape. Many scholars have attempted to provide a reason for this irregularity.⁶⁴ At that point in time, however, a square *agora* was not the norm.⁶⁵ Interpreting the *agora* at Megara Hyblaia as an anomaly is an anachronism. There is no reason to believe that the colonists would have preferred a square *agora* or to look for constraints on its shape. The mostly likely reason for the trapezoidal shape was that the two streets, which bounded it on either side were built upon very old roads, which did not run parallel to each other.

⁶³ Ward-Perkins argued that although the *agora* space was delineated from the beginning, the streets and buildings enclosing the *agora* were not established until the second half of 7th century (Ward-Perkins 1974, 22).

⁶⁴ De Angelis explained the trapezoidal shape of the *agora* by arguing that the streets framing it were built on top of more ancient streets, which already had irregular courses (De Angelis 2003, 20). Similarly, Ward Perkins argued that the *agora* was irregularly shaped because it was situated at the intersection road A, which ran east-west leading to the interior territory, and road B, which ran north-south along the coast (Ward-Perkins, 24). Owens argued that the *agora* and area to its east was planned first and area to west was added slightly later with different orientation conforming to west boundary of the *agora* (Owens 1991, 39). Di Vita implied that the plot was originally left open because its irregular shape rendered it unfit for division into equal plots of private land, and it became public land by default (Di Vita 1996, 268). Mertens noted that the *agora* was associated with a road that led to a major sanctuary (Mertens 2006, 66). Some scholars, including Svenbro, pointed to the recent *synoikism* of the five tribes of Megara (Megara, Heraia, Peraia, Kynosoura and Tripodiskos) as the reason for the demarcation of the differently oriented parts of the grid (De Angelis 2003, 48). Di Vita also argued that there were five early settlements in Megara Hyblaia, two in the eastern section of north plateau and three in north and south plateaus (Di Vita 1996, 267). De Polignac also suggested that there were five separate sanctuary areas that were later merged in the *agora* (De Angelis 2003, 49).

⁶⁵ The *agora* in Athens, for example, in its earliest phase had a triangular shape with only a few buildings (See Boersma 2000, Camp 1994, Papadopoulos and Schilling 2003, Shear 1994). Wycherley argued that the later “Ionian” style *agorai* were “distinguished by groups of stoas built contiguous to one another, and forming a single whole” (Wycherley 1942, 22). These “Ionian” *agorai* did not become fashionable until the Hellenistic period.



Agora at Megara Hyblaia (Mertens 2006, 68)

The first public monuments in the *agora* were built in 650-625 BC.⁶⁶ Two *stoa* in the *agora* were among the earliest known in the Greek world (Metraux 1978, 154). *Stoa e* marks the north boundary of the *agora*. It had an entrance on the north side to allow for pedestrian traffic and a

⁶⁶ Public space was built up at the same time in Gela and Syracuse, supporting a view of a closely interconnected local network (De Angelis 2003, 25-6). De Angelis postulated that the abundance of monuments built at this time was a result of prosperity and the movement of people into the city from the countryside (De Angelis 2003, 61). Metraux argued that these public buildings indicate that the government was taking an active role in providing spaces “intended to encourage diversity and complexity of land-use in the center of the city” (Metraux 1978, 155).

bothros on the east side.⁶⁷ *Stoa f* was added between 650 and 660 on the east side of *agora*. An early 7th century house was demolished to make room for the new *stoa*.⁶⁸ These *stoa* could have housed a variety of activities. It is unclear whether they held a specific civic function or whether they simply provided shelter for a variety of uses (Coulton 1976, 38). *Stoa* were commonly used to mediate the space between an *agora* and the surrounding domestic space. Their form reflects this mediating function with the columns forming a permeable boundary between external and internal space. The *stoa* were situated only on the north and east sides of the *agora*, leaving the west boundary open where public buildings would later be built across the street, on the ends of residential *insula*.

The public space at Megara Hyblaia is unique in that it incorporates buildings on the “odd ends” of house blocks.⁶⁹ The permeable boundary between *agora* and non-*agora* suggests that the “zoning” lines formed by *horoi* stones, which would later come to define the boundaries of many *agora* spaces, had not been fully conceptualized during this period. Many buildings in and around the *agora* have yet to be definitely identified. Although the identification of buildings *i* and *d*, which were located across the street from the *agora*, is debatable, most scholars have agreed that they served some public function.⁷⁰ The line between religious and political function, however, was not always clear. A *heroon* built for an *oikist*, for example, was a religious

⁶⁷ See De Angelis 2003, 26. Length: over 42 m., Depth: 6.0 m. An opening in the rear wall had wooden posts of diameter .40 m. (Coulton 1976, 256).

⁶⁸ See De Angelis 2003, 27-8. Length: over 30 m., Depth: 7.5 m. (Coulton 1976, 256).

⁶⁹ Metraux argued that it is for this reason that Megara Hyblaia had to compensate by emphasizing the difference between public and private land by putting one on a grid and the other not (Metraux 1978, 154).

⁷⁰ De Angelis identified building *i* in the southwest corner of the *agora* as a possible *bouleterion* (De Angelis 2003, 26). Metraux suggested that it might be a *prytanion* (Metraux 1978, 154). These labels are defined based on the Athenian paradigms. Since very little is known about the political situation in Megara Hyblaia in the 7th century BCE, it may be inaccurate to equate their public buildings with those of Athens. It cannot be assumed that all the same political buildings would be necessary or that the buildings would require the same structure. The excavators identified building *d* as a *heroon*, but Bergquist identified it as *hestiaterion* (De Angelis 2003, 26).

building but it also had political significance for the colonists as a symbol of their identity as a city.

The *agora* also housed many temples, once again blurring the line between the traditional “zones,” which have been considered characteristic of the colonies.⁷¹ In fact, the *temenoi* of temples *g* and *h* occupied the entire space of the *agora* (Metraux 1978, 154).⁷² The orientation of temples *g* and *h* is also such that their entrances are directly facing the east *stoa*. Their orientation could also be explained by a desire to have the best viewpoints from the approaching streets. When approaching the *agora* from the south on street C1, for example, a pedestrian could see the entire west and south ends of the temple.⁷³ Temple *l* was oriented east-west in accordance with the orientation of street B. Temple *j* on the other hand did not align with street D1, which it faced. These two temples were located outside the *agora* proper.

Only 1/20 of the intramural area has been excavated (De Angelis 2003, 35). Of the excavated area, 1.32 hectares out of 2.25 (60%) were taken up by public and religious use (De Angelis 2003, 36).⁷⁴ Other parts of the settlement that have been excavated show areas of public and religious monuments and open spaces in a similar ratio to private land (De Angelis 2003, 38).

⁷¹ The remains of *in antis* temple *g* in the southeast corner of the open *agora* space has been reconstructed as 15 m by 6.5 m and was oriented east-west (De Angelis 2003, 26). Temple *h* was built between 625-600 in the *agora* to the west of temple *g* and with the same orientation (De Angelis 2003, 28). Building *j* was a temple (now badly preserved), which opened onto street D1 and did not follow the orientation of the block (De Angelis 2003, 26). Temple *l* cannot be very precisely dated. Built sometime in the second half of the 7th century, it survives to its seventeenth course on three sides and measures 12.3 m by 5.4 m. It is oriented east-west according to the layout of street B (De Angelis 2003, 29).

⁷² Metraux claimed that the mixing of public and religious space reflected a need for economy of space in such a small *agora* (Metraux 1978, 155). This analysis, however, misses the point. There are other sites where religious space is placed apart from the domestic space initially and sites where earlier *sacella* were moved to new locations once the area became crowded (at Naxos, for example). These options were available at Megara Hyblaia, but the inhabitants made an intentional decision not to separate their political and religious space, so the significance of the mixing of political and sacred space should not be downplayed.

⁷³ A similar observation has been noted about the orientation of the Parthenon and the other buildings on the acropolis (see Doxiadis 1976, 92).

⁷⁴ Boyd and Jameson argued that an emphasis on insulae and equal distribution of land could be seen at Himera and Naxos, whereas the opposite emphasis (on major streets/intersections and siting of public areas) was seen at Megara Hyblaia (Boyd and Jameson 1981, 340).

Although this data is subject to many qualifications, it does support the relative importance of public space in Megara Hyblaia.⁷⁵

The earliest houses at Megara Hyblaia were very uniform and simple. They usually consisted of a single room of 4.5 m per side, entered from south with an *orthostat* foundation and irregular dry stone superstructure (De Angelis 2003, 20). Over time the houses developed more individuality of form. The second generation of houses consisted of 3 rooms rather than one, allowing for more differentiation of space (Mertens 2006, 66). By 650-625 several different masonry styles with roughly dressed stones were in use (De Angelis 2003, 24). *Insulae* were divided into two ground-plots of 12 meters each (Di Vita 1996, 267).⁷⁶ There was a 300% increase in domestic housing in the seventh century (De Angelis 2003, 52).⁷⁷ These houses, although they were too close together to form regular *kleroi*, were too far apart to be considered “urban,” leading to their popular interpretation as kitchen gardens. Attempts made to discern hierarchy from domestic architecture are problematic since the houses are poorly preserved.⁷⁸ Nevertheless hierarchy did exist. It is likely that a wide range of social classes were present, including aristocratic *oikists*, and less wealthy laborers (De Angelis 2003, 50).⁷⁹

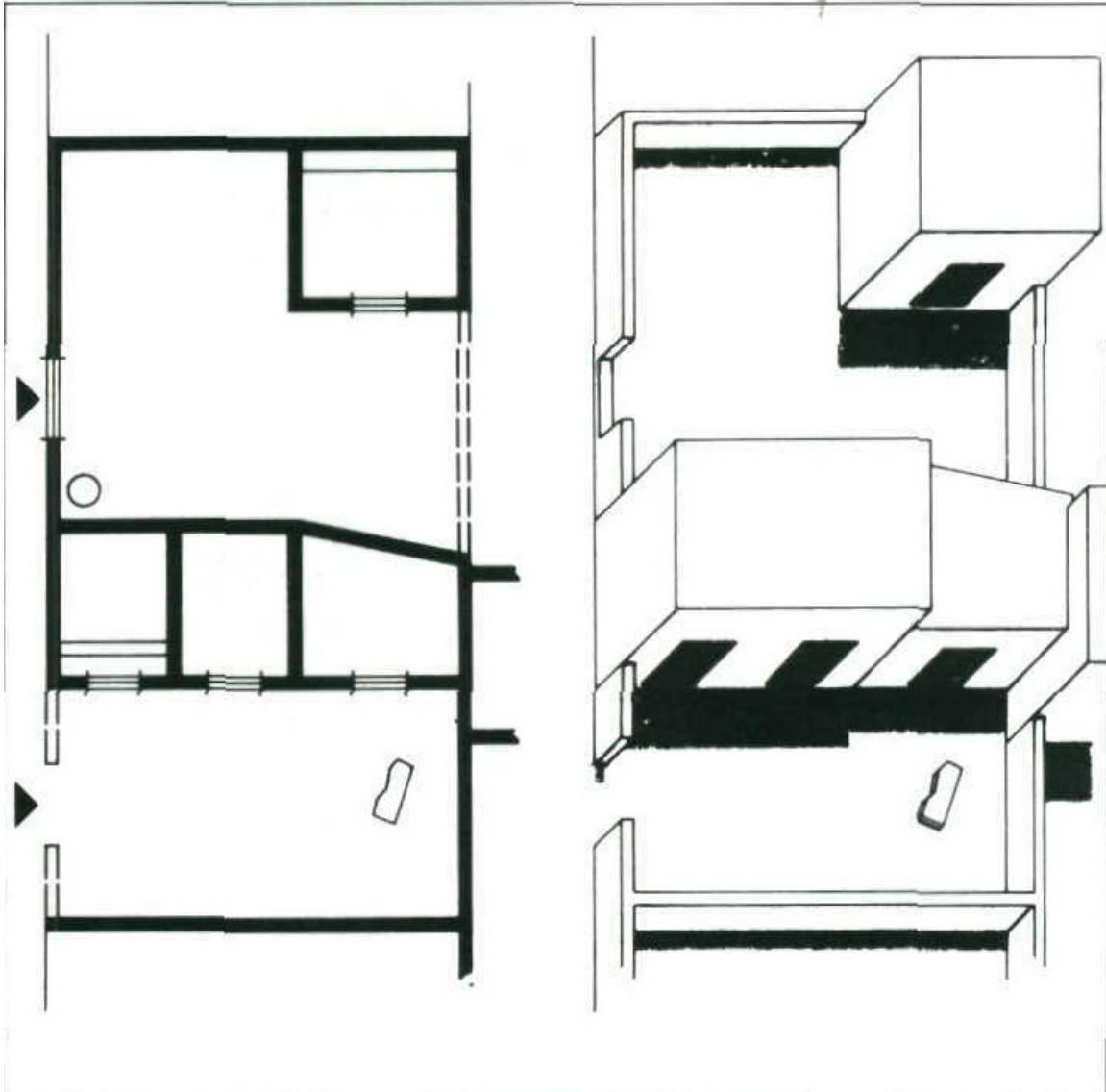
⁷⁵ One flaw in this data is that the amount of public space varied over time as land that originally had a domestic function was converted into public space. For example, three eighth century houses in block 10 were converted into a public building and others were appropriated into the *prytaneion* (De Angelis 2003, 38).

⁷⁶ *Oikopeda* can be seen at Syracuse, Megara Hyblaia, Selinus, and Metapontum. Di Vita postulated that the areas between each cluster of houses were used as family plots for sustenance farming (Di Vita 1996, 272). This argument assumes, however, that all the colonists were engaged in small-scale farming. At least some of the permanent or temporary residents would have been artisans or merchants, who were buying their food rather than growing it themselves. While some families may have used their land for farming, this was not necessarily the case in every household. Over time the land became more densely occupied and agricultural production was relegated to land outside the city limits.

⁷⁷ De Angelis postulated that in this century, house size came to be considered a good indicator of wealth and prosperity (De Angelis 2003, 52).

⁷⁸ Di Vita argued that these were the houses of VIPs or town officials, who were actively engaged in *agora* activity (Di Vita 1990, 349). It is just as likely that the homeowners were craftspeople who worked in the *agora*. De Angelis argued that class distinction could be determined by the presence of underground silos in the houses of aristocrats who controlled grain trade with Megara (De Angelis 2003, 51). Those silos could also indicate that the “houses” were wheat-processing centers.

⁷⁹ De Angelis postulated that the original population was probably 112-125 settlers, unless some of that number was made up of native wives (De Angelis 2003, 49).



Pastas house at Megara Hyblaia (Di Vita 1990, 266)

4.4 Metapontum (founded 773/2 BCE)

The archaeological evidence for occupation of Metapontum far precedes the foundation date given by the ancient texts.⁸⁰ The origin of the colonists is uncertain but they were probably Achaeans wanting to secure land between Taras and Siris (Metraux, 158).⁸¹ The colonists

⁸⁰ Eusebius wrote that the foundation date was 773/2, but Berard and Dunabin relate founding to Siris at end of the 8th century or beginning of 7th century (Metraux 1978, 158).

⁸¹ Antiochus of Syracuse wrote that Metapontum was founded by colonists from Achaia sent by Sybaris (Cerchiaia 2002, 130).

immediately defined their borders by establishing sanctuaries and leaving votive offerings (Mertens and Greco, 243).⁸²

The earliest houses were constructed in small clusters separated by large spaces left open around the central area and connected by roads that became major streets in the 6th century (Cerchiaia, 132). This *kata komas* style of housing is quite similar to the contemporary plan at Syracuse. In the first two generations (second half of 7th century) one main road ran northwest to southeast between the sea and the *chora*, dividing the space between public and private land (Mertens and Greco, 248). The importance of the shoreline in determining the orientation of the grid can be compared to Naxos, where the original streets running parallel to the sea were abandoned in favor of streets running inland from the sea. The creation of roads, which would have allowed for the land transport of imported goods from the harbor to the *chora* was probably a top priority for the grid plan. The central street set the foundation upon which the rest of the grid would eventually be based (Mertens and Greco, 252).

When the urban grid was instituted in Metapontum, the early *plateia* running from the coast to the *chora* determined the orientation of the grid. The first residential area was established in the north and remained separate from the *agora* and Temple of Apollo Lykeios, which lay to its southeast (Owens, 42). The domestic area in the Archaic period consisted of 44 *insulae* running NW-SE across two *plateiai*. The *plateiai* were 12 m wide and the *stenopoi* were 6 m wide with the exception of wider *stenopoi* e-e1 and f-f1, which divided the area into thirds (two sections of 20 *insulae* and one section of 4 *insulae*) (Metraux 1978, 171). These streets created *insulae* measuring 190x35 m (Owens, 42). The new city plan may have corresponded to the first generation of prosperity at the end of the 6th century, which has been plausibly linked to the

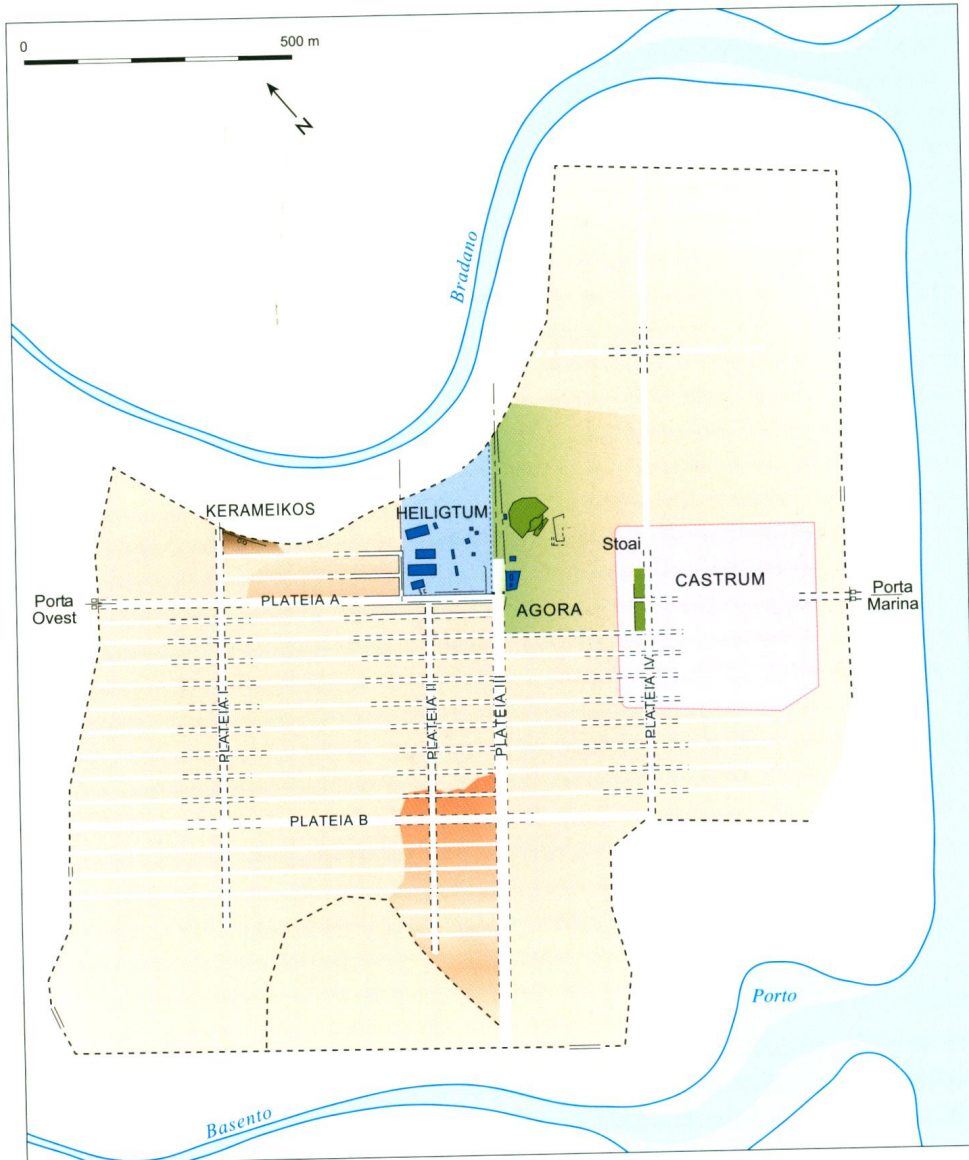
⁸² Three large Hera temples protected its borders: the Bradano River Temple protected Metapontum from Tarentum, the Sele River temple marked Poseidonia's frontier to Etruscan Campania, and the Capo Colonna Temple marked the border of Croton (Greco and Mertens 1996, 244).

occupation of Siris (Metraux 1978, 158). Surveying an area of land this large would probably have been quite an expensive undertaking. City inhabitants were unlikely to have embarked on such a project during an economic downturn.

When the city expanded in the late 6th century, another residential area was added on the other side of public sector (Owens, 42). The addition of a second residential sector, distinct from the first, was a common method of expanding the city when it grew significantly in wealth and population. A very similar second residential area can be seen at Poseidonia. Oddly, however, the new streets that were laid out were never built upon and they show no signs of habitation (Metraux 1978, 172).⁸³ Perhaps the city overestimated the rate of its own economic growth during an economic boom, when town planners expected the population influx would continue. Also possible, though less likely, is the explanation that the area was surveyed into parcels in an attempt to provide an incentive for people to move there.

The public areas were placed strategically along the route of the Brandano river. It is logical to place imposing buildings, such as temples, in such highly visible locations, such as along a coastline, as was done at Naxos. The coast is also a natural place for an *agora* since it eliminates the cost of ground transportation of imported goods from the port to the market. It might also attract the business of people sailing in to port. Metapontum's *agora* was originally planned away from its harbor, but canals were added in 4th century to bring the harbor closer to the *agora* (Metraux 1978, 113). Production areas, like the *kerameikos*, were also at home on the coast. Again, this cut down on the cost of transportation from the industrial area to the ships for export. Although the *kerameikos* at Metapontum is significantly up the river from the *agora* and sacred precinct, it is nevertheless located on a river.

⁸³ Metraux suggests that this is an early example of the state taking responsibility for active public planning with the intent of attracting private construction. The planned streets were later incorporated into a larger 4th century *agora* (Metraux 1978, 172).



Urban plan of Metapontum (Mertens 2006, 160)

The most outstanding feature of the *agora* was the remarkably early, small, wooden cult building and a wooden platform constructed in the 6th century, which is presumed to have had a similar function to the later *ekklesiasterion* that postdated it in the same location (Cerchiaia, 132). The mid-sixth century renovation of the *ekklesiasterion* was circular with a 62 m diameter capable of seating 8,000 people, two *cavea*, and a rectangular open space in the center, which

could be reached by a central passageway (Cerchiaia, 140).⁸⁴ The *ekklesiasterion*, although not aligned to the grid lines of the city, was still located as close as possible to the major *plateiai*, which connected the two rivers. Its location along this road was appropriate for a monument of its importance, especially since a large number of people would have needed to be able to access the building easily.

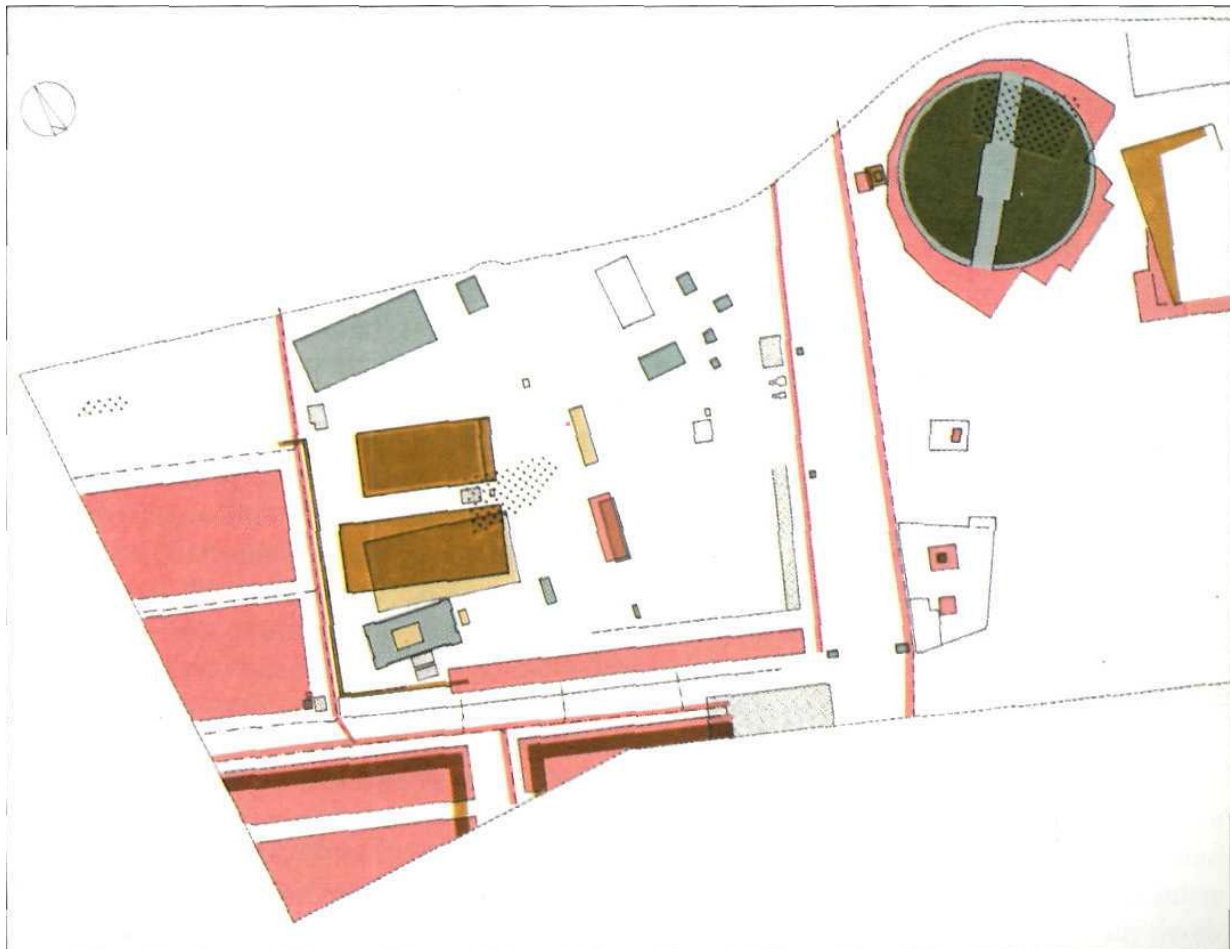
The earliest temples were oriented east, possibly for religious reasons or simply because they predated the orientation of the urban grid (Mertens and Greco, 252). Shortly after the mid-sixth century the construction of temple AI was stopped and temple AII, which conformed to the orientation of the main artery, was begun in its stead (Mertens and Greco, 252).⁸⁵ Similarly, the presently standing Doric temple of Apollo Lycias, which replaced its Archaic predecessor in 500 BCE, was included in the city limits, aligned to the street grid, and delineated by *horoi* stones (Metraux 1978, 172). Once religious *temenoi* were established within a city, they were very rarely desanctified or relocated. The renovation of the temples within the *temenoi*, however, was quite commonplace. The most frequently occurring renovations included the simple monumentalization of preexisting buildings, such as the replacement of the early acropolis temples with the much grander, later temples C, F, and G at Selinus, and realignment of former buildings in order to incorporate them into the urban grid, which is what happened at Metapontum.

At the end of the sixth century an attempt was made to define the boundaries of the *agora* and the main city *temenos* (Metraux 1978, 172). The public area was divided into religious and

⁸⁴ Greco and Mertens posit that it was created to meet specific needs of colonial enterprises including parceling out land and deciding to build temples and that is why they developed in Italy rather than in mainland Greece (Greco and Mertens 1996, 254). This is not an adequate explanation, because parceling out land and building temples were issues that had to be addressed by Greek communities everywhere.

⁸⁵ Greco and Mertens argue that the purpose of this reorientation was to reinforce the new grid plan on a monumental scale, calling attention to its regularity and acting as “guarantors of order.” (Greco and Mertens 1996, 252)

secular space with a line of *horoi* set up to mark the boundary between them (Mertens and Greco, 254). Although the *agora* and the *temenos* had always been separated by *plateia* III, it was not until this period that the perimeter was explicitly marked.⁸⁶ It is difficult to determine to what extent the inhabitants had always seen these two areas as distinct, but it is likely that between the time of foundation and the time the *horoi* stones were erected a change in the way people viewed “zones” had occurred.



Sanctuary and *agora* in Metapontum (Mertens 2006, 157)

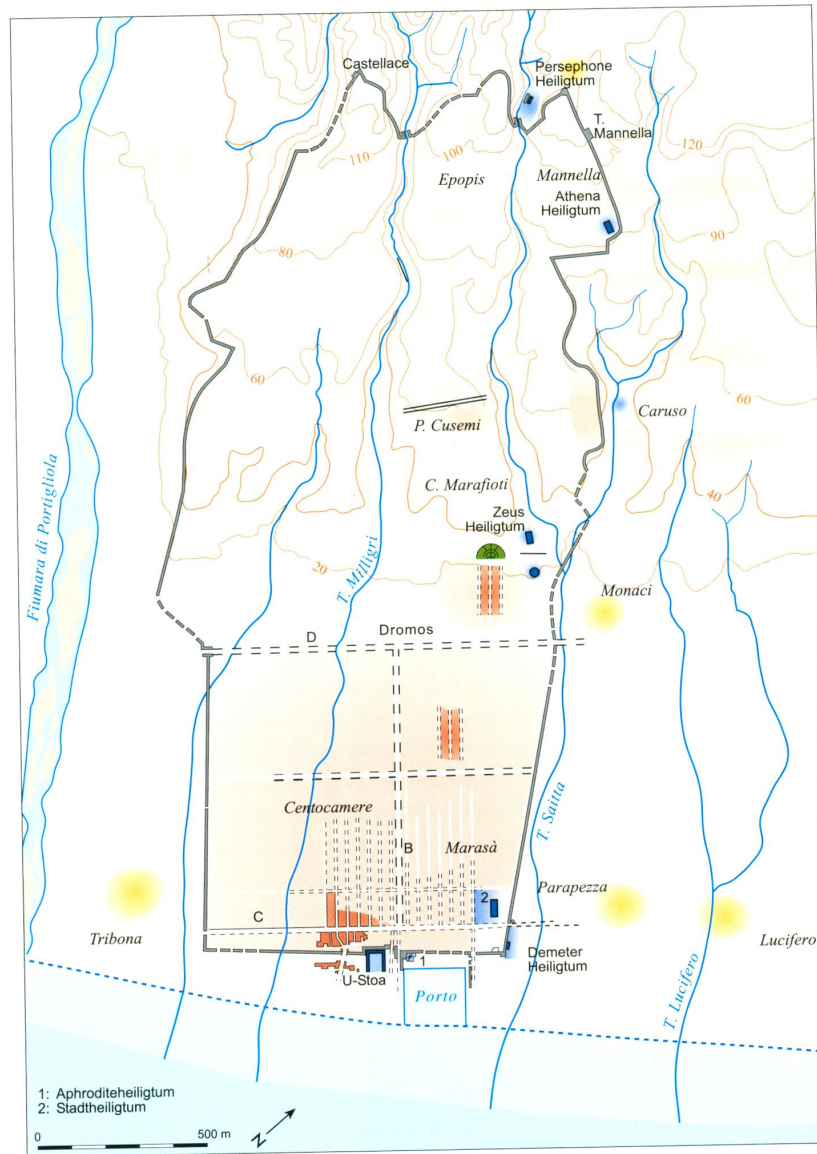
⁸⁶ Metraux argues that public spaces were not interspersed with domestic land in order to insure no fluctuation of land values due to their distance from public or religious space (Metraux 1978, 169). Even when the agora is separated from housing some houses will still be closer than others and price fluctuations are still possible. There is also no reason to believe that price fluctuations would have been considered undesirable. Although Greek propaganda often stressed their equality and democracy, in practice there is ample evidence of hierarchy. High property value is just one of the many ways that a Greek aristocrat could flaunt his wealth.

4.5 Lokroi (founded 679/8 or 673/2 BCE)

There are several sources for the origin of Lokroi Epizephyrioi.⁸⁷ It was likely founded by colonists from Lokris in central Greece. Traditionally, the colonization event has been dated to 679/8 or 673/2 but archaeological evidence has identified a significant Greek presence in the area as early as the end of 8th century (Cerchiaia 2002, 90).

The boundaries of Lokroi were the Sagra river in the north and the Halex river in the south (Cerchiaia 2002, 95). The territory of Lokroi was comprised of two very different topographies. The southeast area was flat and nestled between the sea and two rivers. The steep hilly land in the northwest, by contrast, formed three crests and two gorges (Mertens and Greco, 249). Since the land at Lokroi swept down from the hills into the valley, the *plateiai* were constructed parallel to the shoreline and the *stenopoi* were perpendicular in order to facilitate drainage (Mertens and Greco, 249). The orientation of *plateiai* parallel to the coast is reminiscent of the early streets at Naxos. Although the opposite arrangement, with wider *plateiai* facilitating the movement of goods inland from the harbor, is more common, the specific topography of the site at Lokroi made it preferable to reverse the pattern. The modern “Dromo” road follows the ancient one along the coast, separating the low city from the hill zone and ending at one of the western city gates (Cerchiaia 2002, 96).

⁸⁷ Strabo names Evante as the *oikist* and he believes that the colonists first settled at Cape Zephyrios with the consent of the native Sikels, whom the colonists later expelled by means of a false truce (Strabo IV.1.7). Aristotle suggests that the colonists were slaves who ran away with women from noble Lokrian families while their husbands were fighting in the Messenian war (Cerchiaia 2002, 90). This myth may have been invented to account for the local emphasis on the elite 100 houses and the importance of women.



Urban plan of Lokroi (Mertens 2006, 170)

The Centocamere area has been the most extensively excavated and provides the best evidence of the grid plan. The excavated area dates to the second half of the 4th century and reveals several 14 m wide east-west *plateiai* met at right angles by long narrow *stenopoi* that are 4-4.5 m wide (Mertens and Greco, 255; Cerchiaia 2002, 96). It is likely, although not definite, that these streets were built upon very similar predecessors.

The *agora* has not yet been identified, but two religious areas have come to light: the sanctuaries in the Marasa complex in the north east corner of town and the U-shaped *stoa* thought to be a house of sacred prostitution dedicated to Aphrodite, which lies right outside the city walls in the harbor complex (Mertens and Greco, 252). Sanctuaries are typically located at the boundaries of cities and especially at the city gates. The location of the Aphrodite *temenos* next to the Porta Marina is particularly fitting since she was a sea goddess and shared a special bond with the sailors, who were likely to have been the most frequent users of that gate.

4.6 Himera (founded 650 BCE)

Himera was established in 650 BC by a group from Zancle and refugees from Syracuse. (Finley, 22). Its geography had a clear impact on the organization of the city. The earliest settlements clustered near the mouth of the Himera river, as was typical for the first generation of colonists. The elevated plateau that was located slightly inland eventually became the location of the city. The important religious and public buildings clustered near the tip of the promontory, attracting the attention of anyone sailing by.

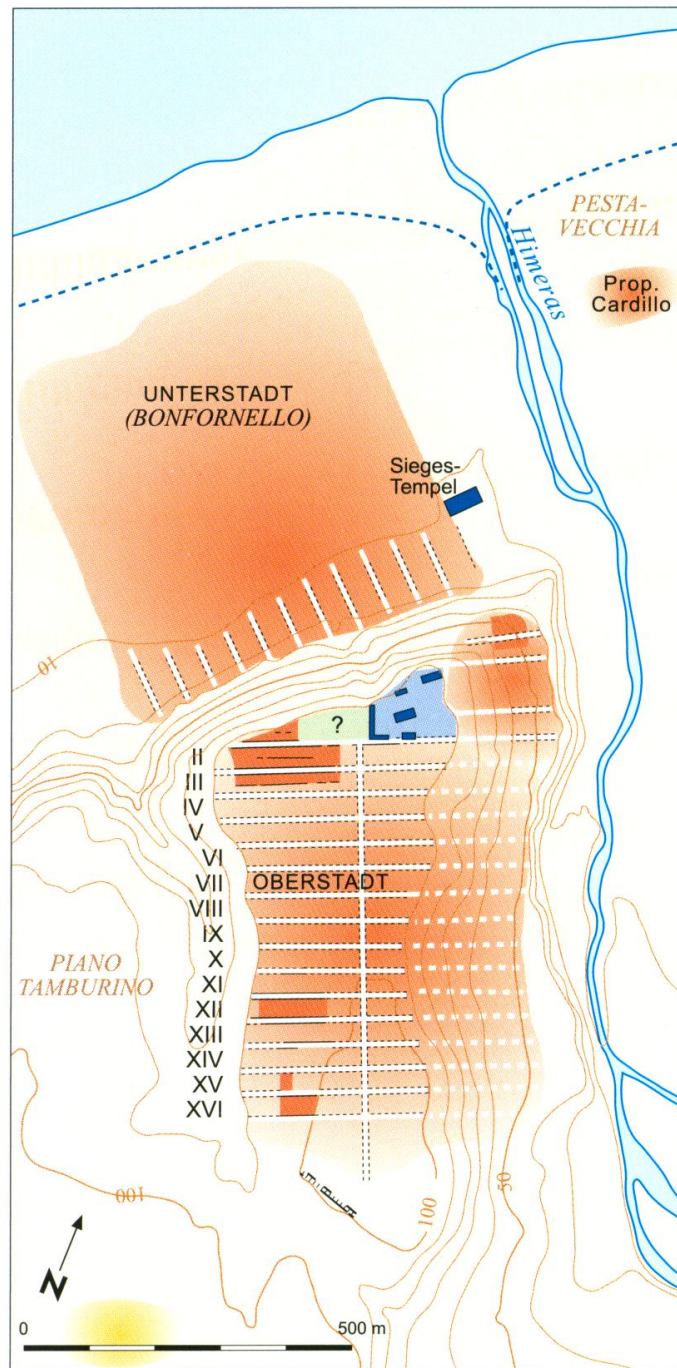
The walls of mid-7th century houses had cobble bases (occasionally rough hewn) with mud brick uppers and did not align to any single orientation although some were beginning to align with what would later become the residential orientation in Himera (Di Vita 1996, 290). Even though Himera was founded over a century after Megara Hyblaia, the first generation of settlers displayed a remarkably similar level of organization, possessing a conceptual framework of where the grid would eventually lie without ever formally surveying it. In the east quarter, four early dwellings containing grain cisterns were backfilled in 580-570 BC as part of a large terracing program (Di Vita 1996, 290). These grain cisterns could potentially be seen as indicative of elite status, as De Angelis suggested for the grain silos at Megara Hyblaia. The

temenos of Athena was placed so that it overlooked the sea in the northeast corner of the plateau and the *agora* has been tentatively identified to the west of the *temenos* (Di Vita 1996, 291). The arrangement of monumental buildings on the edge of an elevated area overlooking the sea can also be seen on the acropolis hill at Selinus.

Himera underwent a total replanning in the second quarter of the 6th century. The earlier NE-SE alignment was abandoned in favor of a new NS central axis (6.2 m wide) with housing *striga* on either side (Di Vita 1996, 291). Sixteen *stenopoi* ran east-west, perpendicular to the main *plateia*. They were each 5.6-6 m wide, forming *strigae* of 32 m wide and up to 196 m long (Di Vita 1996, 291). Like most of the reorganization efforts that took place in the second generation of occupation, the new urban plan at Himera conformed much more strictly to a grid than the earlier plan had. Unlike the renovations that took place in other cities, however, Himera decided to alter the alignment of the entire urban fabric. While the city inhabitants must have had some compelling reason to uproot all of their homes and reorient them, it is not at all clear what that reason was. The plan can undoubtedly be interpreted as the product of a prosperous community and it may indicate the involvement of a highly elaborated government, with the capability of facilitating such a drastic redevelopment project.

Individual houses were 16x16 m and they were bounded by streets to the north and south and alleys for drainage to the east and west (Di Vita 1990, 357). Unfortunately, ambiguities in the excavation record have led to uncertainties about the divisions between houses and the location of doorways. Evidence indicates that some houses were divided into sections (Nevett 1999, 131). Although the evidence is too fragmentary to draw solid conclusions, the internal divisions of houses may suggest that they were being bought and sold with some frequency. Some of the homes were rather elite, containing two stories (Nevett 1999, 130). The area, which has been

identified as an “artisans quarters” contains houses with large courtyards and *andrones* (Di Vita 1996, 291). There is also some evidence for tension between public and private space, as one house is positioned so that it blocks a street (Nevett 1999, 131).



Urban plan of Himera (Mertens 2006, 191)

4.7 Selinus (founded 650-630 BCE)

Selinus was founded by Megara Hyblaia with additional colonists probably joining the venture from Megara in Greece. Diodorus dates the colonization event to 651/0 BCE while Thucydides puts the foundation at 628/7 BCE.⁸⁸ The site sits on a promontory between two rivers, the Selinos and the Cothon, which both provide suitable harbors. The acropolis hill is closest to the ocean with the Manuzza hill behind it and the Gaggera hill to its west.

The first settlements were scattered on the acropolis hill.⁸⁹ Although the area was not densely occupied, the houses were aligned to the natural lines of the hills (Di Vita 1996, 282). It is possible that, similarly to Megara Hyblaia, although the grid was not in place yet, the idea of it was well enough understood that the houses were built with an eye towards alignment. It is equally possible, however, that the houses happened to be aligned to the streets because they both conformed to the shape of the landscape. By the end of the 7th century BCE Selinus already occupied a total area that would remain constant for the next two centuries (Di Vita 1996, 282).

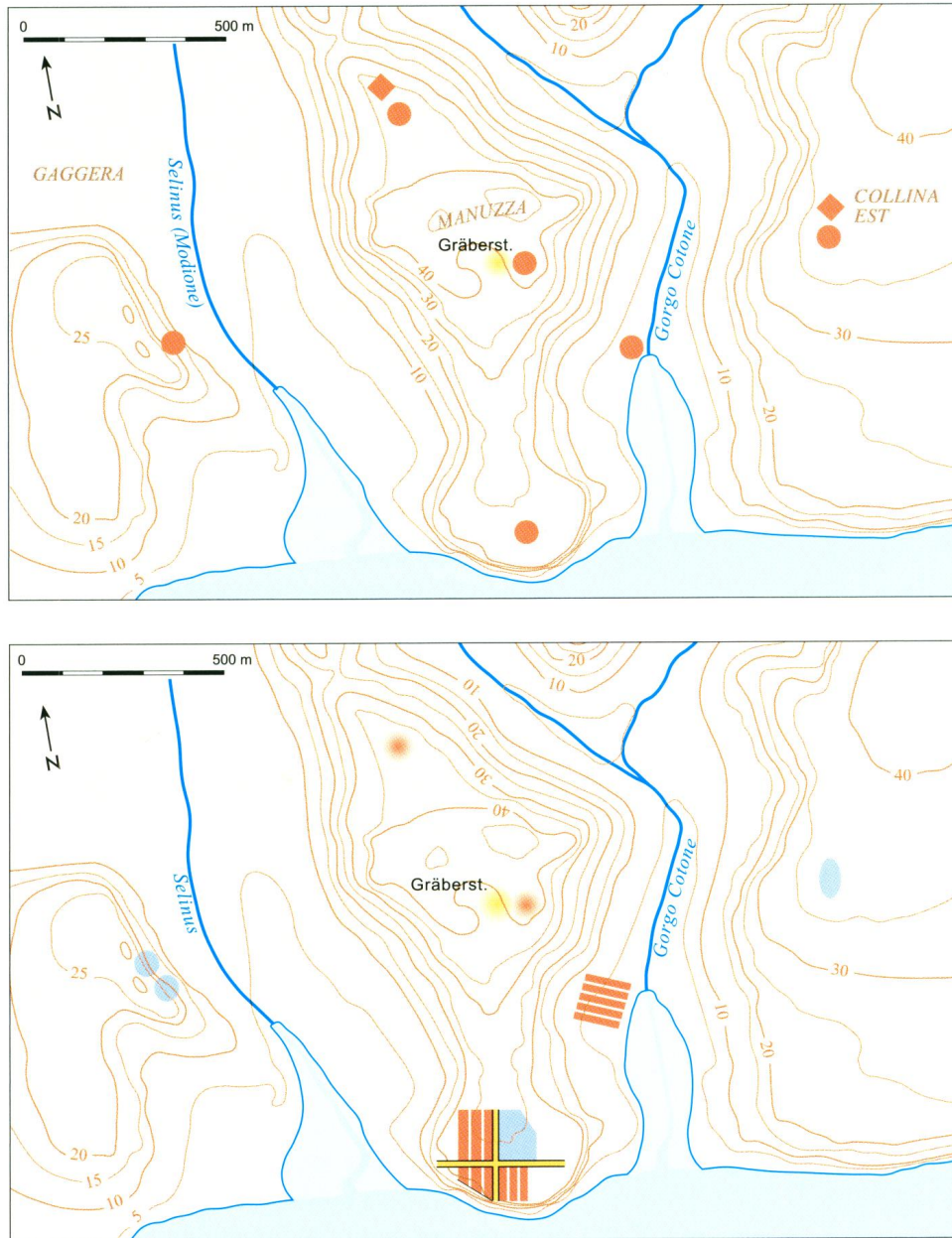
Excavations have revealed 7th century houses with walls of aggregate stones laid on top of large blocks in rows of different heights or small stones between blocks set on end. These styles of construction may have been influenced by the architecture of nearby Phoenicians settlements (Di Vita 1996, 282). Houses from the second half of the 7th century, like contemporary houses at Megara Hyblaia, were built perpendicular to the street with courtyards in the south (De Angelis 2003, 128).⁹⁰ It is interesting to note that the overarching idea of the house-form mimics the

⁸⁸ Di Vita is inclined to believe Diodorus' date (Di Vita 1996, 280). Also see Marconi, *Temple Decoration* (2007).

⁸⁹ Di Vita believes they reached to the Northern border of Manuzza hill. Di Vita believes the earliest housing was located on the southern tip of the precipice, further south than the archaic *temenos*. He argues that the domestic area was only moved to the north of the *temenos* in the second or third generation. He sees a similar situation at Kamarina

⁹⁰ De Angelis postulates that permanent structures such as these were preceded by huts made of non-permanent materials (De Angelis 2003, 128).

metropolis, while the practical building methods are taken from the Phoenicians, with whom the Selinuntans were probably in more frequent contact.



Above: Selinus at the time of foundation; Below: Selinus in first phase of settlement (Mertens 2006, 85)

The acropolis hill had two natural axis, one running north-south, connecting the acropolis and Manuzza hills and one running east-west, connecting the harbors.⁹¹ These natural axes determined the orientation of housing on the acropolis.⁹² The main north-south road (9 m wide) running from the acropolis hill to the Manuzza hill ran adjacent to the Archaic *temenos*. The *plateia* sits to the west of the sacred area, although it was moved slightly east after the Archaic period (Di Vita 1996, 282). Street F ran east-west, delineating the Archaic *temenos* on its north side and connecting the east and west harbors. This street can be dated to the mid-7th century BCE, based on the date of a contemporary dwelling built along side it. It defines the orientation of all the subsequent *strigae* towards the Manuzza hill (Di Vita 1996, 282).⁹³ With these two major streets in place, the underlying structure of the urban plan was clearly defined. It is difficult to say whether the *temenos* determined their placement or whether the topography of the site dictated the location of both the *temenos* and the streets.

The location of the *temenos* between the two most important roads of the Archaic period is in keeping with the patterns established at Naxos and Metapontum. There is only fragmentary evidence of temple building in the second half of the 7th century BCE. Three temples were built on the acropolis hill, but they are known from fragmentary evidence including roof tiles.⁹⁴ On

⁹¹ The bilateral nature of the grid at Selinus has been exaggerated by scholars. Traditionally it was regarded as a variation of the Italic *cardo* and *decumanus* plan. (Metraux 1978, 182) Metraux rejects this hypothesis, urging that the city be considered with its Greek counterparts instead of Italian (Metraux 1978, 183) In this he relies on Castagnoli's interpretation of Selinus as a variation of the plan at Metapontum.. Wycherley connects it with Italic sites because of the cross grid (Notes on Olynthos and Selinus), but Castagnoli attempts to recontextualize it in terms of other Greek cities (Castagnoli 1971, 12).

⁹² Di Vita believes that the earliest colonists lived in the southernmost area of the acropolis (later terraced for temples A and O) and set up their sacred space on the north side of the acropolis with 4 *sacella* encircled by 1 *peribolos* retaining wall. (Di Vita 1996, 282) Owens also accepts this view (Owens 1991, 46)

⁹³ Six of these streets were already in use in the Archaic period (Owens 1991, 46).

⁹⁴ The "tempimetto con acroterii a spirale" is the earliest evidenced temple structure. Located to the east of temple D, it was an elongated structure with a naos and pronaos and associated with a four room oikos to its south (De Angelis 2003, 129-130). A possible precursor to temple C may have been built in this period, but it is known today only from its large roof tiles, which were found near temple C and some very limited foundations (De Angelis 2003, 130). A predecessor to temple E was probably dedicated to Hera. It had no peristyle, but contained perhaps 2 rows of parallel columns in the cella block (De Angelis 2003, 130).

Gaggera hill, to the west of the acropolis, the first altar of Demeter Malophoros and evidence of cult activity appeared in the second half of the 7th century BCE (De Angelis 2003, 131). De Polignac argues that these two temple complexes were a physical reflection of the relationship between the Olympian deities worshiped on a hill in temples that aligned to the grid plan and the chthonic deities worshiped in the valley of the river in temples that were more influenced by native architecture (De Polignac, 112). This dichotomy was already established at this early phase of occupation. In 580-570 BCE the sacred areas were enlarged through a terracing program in the area to the east of the Acropolis hill (Di Vita 1996, 282).⁹⁵ During the same period the first stone temple at the Demeter Malophoros sanctuary was built and a new sanctuary to Hera was built on Gaggera Hill (De Angelis 2003, 131-4). In the second half of the 6th century, monumental temples began to be a priority for the population of Selinus. Temples C, F and G all date to this period.⁹⁶

The full grid plan probably dates to 580-570 BCE and it incorporates three differently oriented segments. In the southern sector of the city, French excavations led by de la Genère discovered 12 housing *strigae*, which run from east to west between the acropolis and Manuzza hills. These *strigae* are bounded in the south by street F and in the north by street 6.⁹⁷ This orientation is retained by the five *strigae*, which lie between the *agora* and the Cottone river. The large street, which lies to their north (8.5 m wide) is the main route from the harbor gate to the

⁹⁵ The Megaron was built on the acropolis, south of temple C, with a naos and two column bases in line down central axis and adytum. (De Angelis 2003, 134) Temple M dates to 570-560 BC. It was either distyle in antis or tetrastyle prostyle with a naos and pronaos preceded by 4 large steps and a plaza paved with flagstones. It had a pitched roof with no supports. (De Angelis 2003, 134) Temple Y (“tempietto della piccolo metope”) followed close behind in the 2nd quarter 6th cen. Unfortunately it was dismantled in antiquity. (De Angelis 2003, 135)

⁹⁶ Temple C had two rows of hexastyle columns across the front and 17 columns on the flanking sides (De Angelis 2003, 135). The plan for Temple G was even grander. It was meant to be 50.07 m by 110.12 m with 8 x 17 columns each 16.27 m tall plus an entablature 14 m high. However, work on this colossal temple was never finished (De Angelis 2003, 138).

⁹⁷ Streets F and 6 are both approximately 6.5 m wide and the stenopoi range from 3.6-4 m wide (De Angelis 2003, 132). The stenopoi intersect with the main north-south plateia, creating insula of approximately 29 m wide and of unknown lengths (De Angelis 2003, 132).

agora. On the Manuzza plateau, however, the streets followed an entirely different alignment.⁹⁸ This area was excavated by an Italian team led by Rallo. Streets on the Manuzza plateau were oriented NNW-SSE, running from the far northwest in towards the *agora*. It is possible that this orientation was necessitated by the slope of the hill in that area. The largest street (Plateia 0) was 8.5 m wide and well paved and worn from use, having been in existence since the first half of the 6th century (De Angelis 2003, 133; Di Vita 1996, 283). It was transversed by 3 streets, running from northeast to southwest, creating two main series of blocks (De Angelis 2003, 133).⁹⁹ At least 6 more streets follow the same orientation to the west of Plateia 0, two of which were 6-6.5 m wide instead of the customary 3.3 (Di Vita 1996, 284). Rallo also discovered a third orientation of the grid in the SE area of Manuzza hill where the oldest cemetery was located (De Angelis 2003, 133).

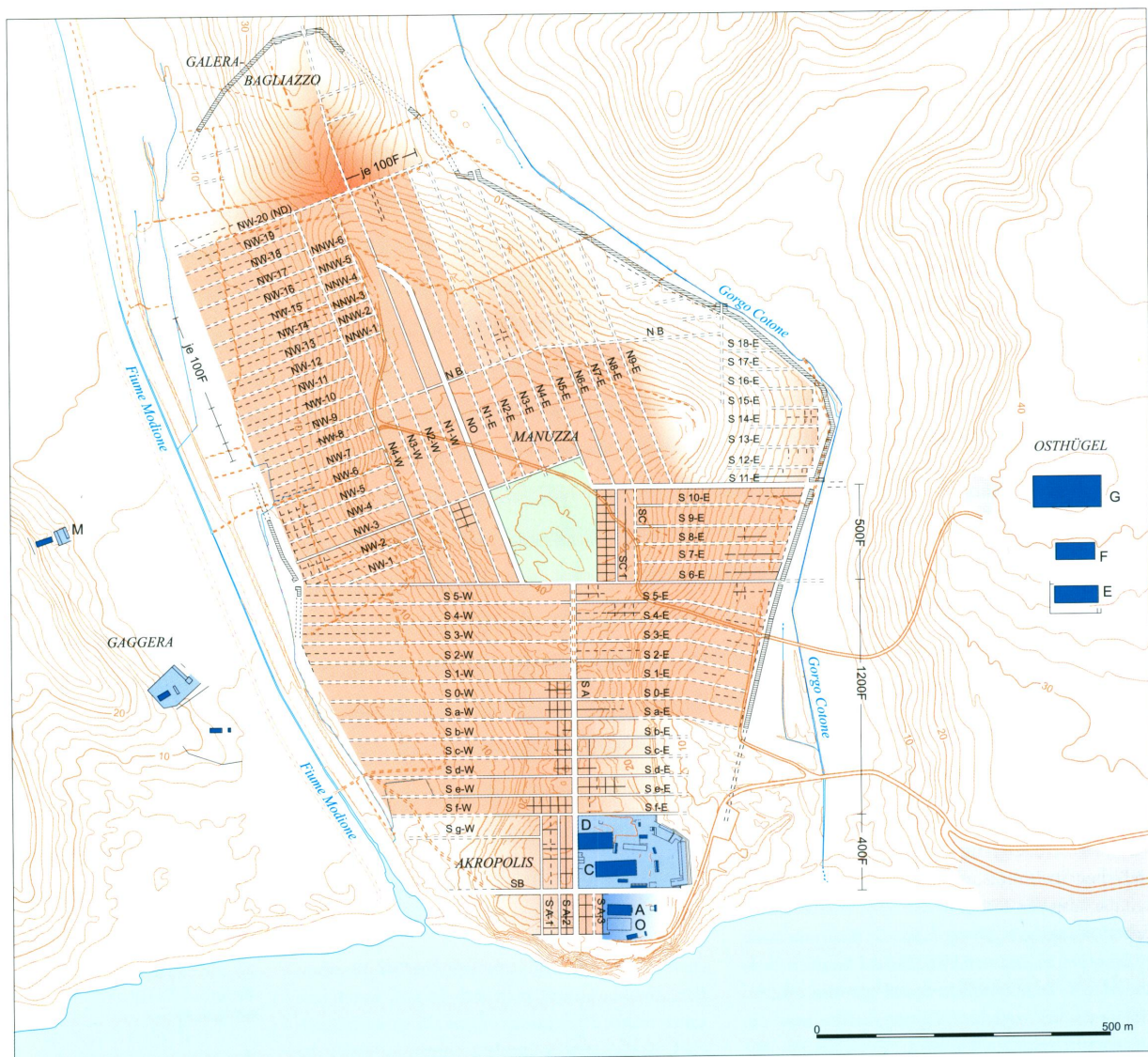
The plan of Selinus places a higher emphasis on the insula as a building block than prior city plans.¹⁰⁰ Di Vita points out that although the primary axes appear to have been laid out carefully, the individual *insulae* and streets were not (Di Vita 1996, 284). Minor *plateiai* varied from 6-6.75 m wide and major *plateiai* from 8.5-9.4 m wide. Similarly, the *stenopoi* on the acropolis were 3.49-3.8 m wide, whereas those in the north Manuzza system were 3.3-3.8 m wide. The roadbeds consisted of gravel and grit covered with reddish sand sometimes with rock and a layer

⁹⁸ The necropolis near the northwest sector of Manuzza was never moved, even when the area became densely occupied and included in the city walls. De Angelis suggests that the area may have been used as a hero shrine, and since these usually appear in the agora, he posits that the area may have been used as an agora at an earlier date (De Angelis 2003, 140).

⁹⁹ The middle street measures to 6.3 m wide and the others are 3.8 m wide. The resulting insula are 29 m wide (De Angelis 2003, 133).

¹⁰⁰ Di Vita defines the basic unit as 32.5 m (100 ft of .325 m) comprising a 90 ft insula plus a 10 ft street (Di Vita 1996, 283). Thus the basic insula was in a ratio of 1:6 (29.25 m wide by 175.5 m long) within module of 600 ft (195 m) of 6 insula and blocks between them (Di Vita 1996, 283). Di Vita draws a distinction between the early settlement, which passively formed around natural axes and this reworking which made active use of natural features (Di Vita 1996, 284).

of marlstone or clayey earth to create a level surface (Di Vita 1996, 284). Many streets were “humped” in order to mitigate the sharp incline (Di Vita 1996, 284).



Urban plan of Selinus (Mertens 2006, 174)

An early *agora* may have existed on the acropolis hill, but it has not yet been concretely identified.¹⁰¹ The later *agora*, however, was located on the Manuzza hill. Rallo and de la Genère

¹⁰¹ Metraux argues that Selinus adopted the cramped quarters of civil and religious space that was a necessity in Megara Hyblaia as an intentional attribute of their own city (Metraux 1978, 184). This was before the *agora* on Manuzza was found, however, and Metraux is referring only to the space to the west of the acropolis temples. De Angelis suspects that the *agora* may have been moved from an earlier position.

both locate the *agora* at the meeting of these three different orientation systems. It is delineated in the west by Plateia 0, in the north by the ends of the *stenopoi* from the north Manuzza system and in the south by street 6 from the acropolis-south Manuzza system. The east side of the *agora* has yet to be completely defined. The *agora* appears to have formed a trapezoidal shape, similar to the *agora* at Megara Hyblaia. At Selinus, however, there were physical reasons for the various grid alignments that caused the irregularly shaped *agora*. Therefore the connection to the *agora* Megara Hyblaia is tentative at best. For example, the slope of the hill necessitates that Plateia 0 run NNW-SSE, while the natural ridge between the two hills dictates the orientation of the north-south plateia and all the *stenopoi*, which derive their orientation from it. Moreover, it should not be assumed that the trapezoidal shape was considered unusual or unique. It was not until the Hellenistic period that square *agorai* became the norm and in this period a triangular or trapezoidal *agora* may have been just as common as a square one.

At Selinus, unlike at its *metropolis* Megara Hyblaia, public buildings can be seen as early as the 1st or 2nd generation (end of the 7th century BCE).¹⁰² Unfortunately little is known about the buildings in the *agora*. Rallo has postulated that two unidentified walls of ashlar masonry were part of *stoa* (De Angelis 2003, 140). It is not surprising to find *stoa* in an *agora* of this date. In fact, Selinus' own *metropolis*, Megara Hyblaia, was home to some of the earliest known *stoa*, dating back as far as 650 BCE. Herodotus referenced a temple of Zeus Agorios in Selinus, but so far none has been excavated (De Angelis 2003, 140). Other buildings have been identified as public because of the high quality of building materials and techniques but no specific function can be confidently assigned to them. One of these is a building of unknown function dating to the early 5th century on street B1, with ashlar masonry preserved to three courses (De Angelis 2003,

¹⁰² De Angelis suggests that this is because Selinus was founded later and by that time the traditions of public buildings were better established (De Angelis 2003, 143).

139). Another public building on the north side of Street 1 dates to the end of the 6th century and a third building is found to the south of street 5 from the first half of the 5th century, also with ashlar masonry (De Angelis 2003, 139). It is interesting to note that many of the public buildings identified at Selinus were not in the *agora* proper. This suggests that there might be public buildings in the unexcavated areas of other cities. It also suggests that the characteristic “zoning” in Greek colonies was perhaps not as strict as it has sometimes been considered.

4.8 Kasmenai (founded 643 BCE)

Kasmenai was established by Syracuse two or three generations after its own foundation, as a military outpost to secure its position in the hinterland.¹⁰³ Located in the valley of the rivers Irminio, Tellaro and Anapo, Kasmenai has been interpreted as a stepping-stone towards Kamarina in Syracuse’s expansion program (Di Vita 1996, 276).

The military nature of the settlement was reflected in the regular arrangement of the houses. A series of parallel streets 3.1-3.5 meters wide run north to south across the whole city (Di Vita 1996, 276). These housing blocks extended all the way to the fortification walls allowing direct access to the defense walls. These *stenopoi* have consequently been interpreted as a system to allow the *hoplites* to reach the wall and ward off attackers. The city contained no major east-west *plateiai*.¹⁰⁴ Instead, the streets were simply marked off at the southern end by small alleyways.

The absence of *plateia* suggests a city controlled by *hoplites* (foot soldiers) rather than *hippeis*

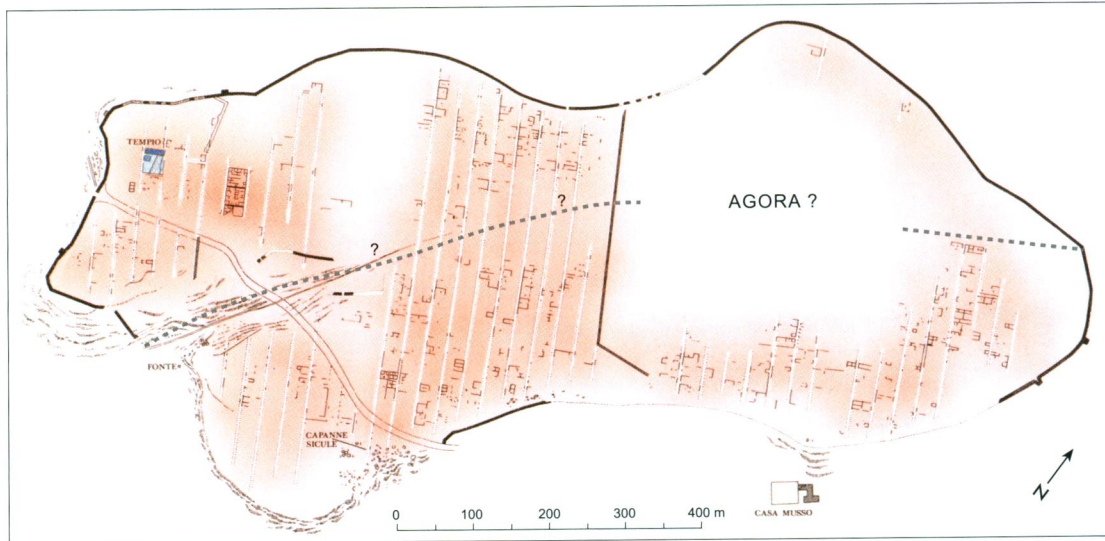
¹⁰³ Producing a population estimate is uniquely possible at Kasmenai, because of the extreme regularity of the plan. The total area is 55-60 hectares. There are 42 *strigae* (housing blocks) running NNW-SSE, which each measure 25 m wide and 400 m long and there are 16 housing blocks *per striga*, giving a total of 672 housing blocks. There are four houses in a block, so there are 2,688 houses of 156 sq m each. In sum we can estimate a population of about 8,000 people, which is similar to that of Megara Hyblaia (Di Vita 1996, 278).

¹⁰⁴ Metraux has suggested that the absence of *plateiai* may have been a political tool to block direct access to the acropolis. This was of critical importance because if someone could gain control of the well-defended acropolis, they would be in a position to dominate the city (Metraux 1978, 136). Similarly, Di Vita remarks that a city without *plateiai* is a city without *hippeis* (Di Vita 1996, 277). This suggests that the city should be seen as a hoplite military base without a prominent aristocratic *hippeis* class. The plan of Kasmenai allows its hoplite inhabitants the ability to reach any part of the wall that is under attack and to contain the enemy if they break through the wall (Di Vita 1996, 278).

(knights). The most plausible explanation, which has so far been offered for the lack of *plateiai* is that without them it would have been incredibly difficult for an invading force to take control of the acropolis and the temple, which would have been the most defensible area of the city. The rest of the city plan, however, does not suggest that the inhabitants were living under constant fear of attack. It is also worth noting that *plateiai* were used not only for armies when necessary, but also for trade and commerce on a much more regular basis. In other cities the *plateia* led from the *agora*, through the city gates, and out to harbors, nearby towns, or the *chora*. These *plateia* were used for the transport of goods to and from all of these places on carts or on the backs of pack animals. The absence of *plateiai* in Kasmenae then suggests that the city lacked the volume of trade common to other cities.

Each 25 m long block contained four houses, which were separated from each other by an *ambitus* walkway or a wall running north-south (Di Vita 1996, 276).¹⁰⁵ The variation between homes suggests that the homeowners had a choice of leaving a wider or narrower space between their houses. Thus within the publicly allotted spaces, there was some variation that was privately decided. The houses all displayed a similar arrangement of three rooms and a court, not at all unlike the types found in Megara Hyblaia and Syracuse (Di Vita 1996, 277). This suggests that the population consisted of functional family groups, rather than military troops living in barracks.

¹⁰⁵ Metraux suggests that the variations in width of blocks may be due to alternatives of land tenure and house design, which were available to the inhabitants. (Metraux 1978, 131) Metraux suggests that the state had little or no interest in controlling the subdivision of land or the organization of public thoroughfares and thus it was left to the discretion of homeowners whether or not to make their streets accessible (Metraux 1978, 134). Metraux remarks that the city planner can “only supply regular means of registering title deed to city property” and the rest is left up to the discretion of the homeowner (Metraux 1978, 134).



Urban plan of Kasmenai (Mertens 2006, 78)

The public spaces were relatively few and they were clearly separated from the residential sector of the city. The *agora* and *temenoi* were located on the northwest side above steep cliffs. The location of public space on a hilltop recalls the plan at Selinus and Himera. Since Kasmenae did not have a river or coastline nearby, the hilltop was the most visible location in the city. Furthermore, the hilltop was the most easily defensible area in the city, so it was a logical choice. The *temenos* and *agora* were separated from the city by a north-south boundary wall (Metraux 1978, 130).¹⁰⁶ The strict division of space, delineated with a boundary wall from an early period of occupation is at odds with the trends in cities like Metapontum, which did not erect boundary stones until the renovation of the urban grid in the second generation of settlement. Since the hilltop was a critical military position in the city, however, the wall probably served a defensive purpose.

4.9 Poseidonia (founded 600 BCE)

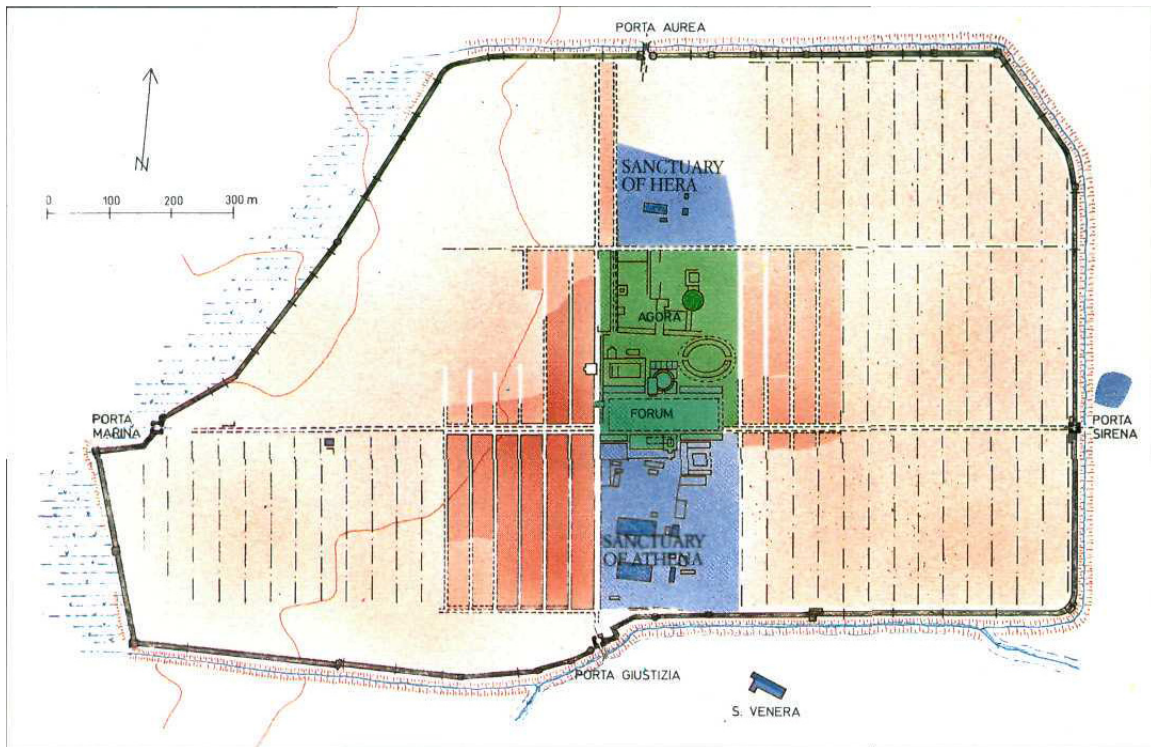
¹⁰⁶ Di Vita suggests that unlike contemporary cities, Kasmenai never had any intention of developing politically and therefore did not require a large agora space (Di Vita 1996, 277). This belief is based on the idea that the only function of the city was as a military fort. On the contrary, while the city's presence may have had a pacifying influence in the region, it is extremely unlikely that the occupants were exclusively soldiers engaged in active warfare. Furthermore, the inhabitants would need to have a market and some kind of political buildings for the

Poseidonia sat upon a limestone platform on the left bank of the river Sele. A lagoon to the west of the settlement connected the city with the sea and possibly served as a port (Cerchiaia, 65). The excavators posited that the street plan was conceived of at the time of foundation but not instituted until last quarter of 6th century (Cerchiaia, 66 and Ward Perkins, 22). The conceptualization of the early plan probably included a nebulous sense of zoning between public and private and religious and secular space. A strip of public land (.6 mile long and 330 yards wide) lay to the east of the original residential section. Later an eastern residential area was added, making the public land a central area.¹⁰⁷ The strategy of expanding the city's population capacity by the addition of a second residential sector in an area unconnected to the first has already been seen at Metapontum. Unlike at Metapontum, however, the second residential sector in Poseidonia was actually inhabited.

The grid plan instituted in the 6th century involved two main *plateiai*, which crossed the city at right angles, one running between the east and west gates and the other between the north and south gates. Two more main *plateiai* ran from east to west on either side of the major east-west *plateia* at intervals of 300 m. The east-west *plateiai* connected the harbor to the *chora*, like the *plateia* at Naxos and Lokroi. In all three of these cities, the transportation of goods for import and export along these roads would have necessitated their upkeep and importance. These *plateiai* were intersected by north-south *stenopoi* (5 m wide). This network formed *insulae* of 35x300 m (Owens, 40 and Metraux 1978, 180).¹⁰⁸

¹⁰⁷ Metraux notes that while the public land was incorporated into the private, there was no room for it to grow with the population (Metraux 1978, 179). This argument assumes that public buildings could not overflow into private sectors of the city, as they did at Megara Hyblaia in streets adjoining the *agora* or in Selinus where several public buildings were scattered throughout the city.

¹⁰⁸ At Poseidonia, Metraux argues "unity was stressed over variety, and clarity in the relationship of spaces, rather than complexity of uses" (Metraux 1978, 181). Although the relationships between spaces seem very clear to a modern audience, while the spaces were still in the process of coalescing they may not have been so clear to the city inhabitants.



Urban plan of Poseidonia (Mertens 2006, 166)

The two *temenoi* on either side of the *agora* were consecrated as religious space from the inception of the colony. The northern section of the central strip of public land was occupied by the sanctuary to Athena. The oldest monument found there was a small temple dating to the beginning of the 6th century (Cerchiaia, 66). It was replaced by a larger temple at the end of the 6th century (Cerchiaia, 66). In the southern section of the strip there was a sanctuary, which contained a stone temple to Hera built in the mid-6th century. Worship of Hera, as well as Apollo and Zeus Xenios, in that area probably predated the temple (Cerchiaia, 69). The location of these sanctuaries along the course of some of the most important *plateiai* in the city is not surprising. Sanctuaries were located along major roads at Syracuse, Metapontum, and Selinus. These wide roads were necessary in order to hold the large processions to the temple complexes, which made up a major part of cultic activity in Greek cities. The location of the sanctuaries at Poseidonia was somewhat unusual because of their distance from the shoreline, where they might have been

visible to people sailing by. Before the western residential section was added, however, they were the closer to the shore, even if they were not quite visible from it. These sanctuaries, which were laid out during the 6th century, predated the grid plan and had to be incorporated into it after the fact (Ward-Perkins 1974, 22). Therefore the temples did not conform to the orientation of the streets.¹⁰⁹ Unlike at Metapontum, no attempt was made to rebuild the temples according to the new orientation of the grid. Poseidonia was probably prosperous enough in this period to have rebuilt their temples, since they had recently invested in the large-scale addition of a second residential sector. They chose not to do so, because for some reason the alignment of the temples with the urban grid was not a priority for them.

The *agora* was situated in between these two sanctuaries. The 330x300 m area was left open for some time (Cerchiaia 2002, 71). Early *agora* spaces were just open market places and it was common not to begin constructing permanent buildings until the second generation of settlement, as was the case at Megara Hyblaia. It was not until the 6th century that significant building activity took place in the *agora* at Poseidonia. The “Hypogeal Shrine,” dated to 520 BCE, has been identified as a hero shrine. It is a large cenotaph divided into several rooms, partially carved out of rock with some built walls, a stone slab roof and a pitched roof above it. A hero shrine, although it is a religious monument, could also be significant for the specific *polis*, which raises questions about the classification of public and religious space. At Poseidonia, like at Megara Hyblaia, public and religious space merged to some extent. Although the major east-west *plateia*

¹⁰⁹ Schlalger argues that the city plan was established after the temples were already in place. (Metraux 1978, 179) However, Castagnoli believes the temple buildings and the grid plan are contemporary based on the foundations in the temple area (Metraux 1978, 179). Castagnoli explains different orientations of three temples by recreating an early “via Sacra” connecting the “Porta Aurea” with the “Porta Giustizia,” with which the temples were aligned (Metraux 1978, 179). Owens and Metraux both suggest the alternative hypothesis that the temples may have been oriented East-west according to religious tradition, whereas the streets are oriented in a way that facilitates drainage in such a swampy area (Owens 1991, 41 and Metraux 1978, 180).

divide the *agora* from the Hera *temenos*, the boundary should be considered somewhat permeable.

4.10 Kamarina (founded 599/8 BCE)

Thucydides claimed that Kamarina was colonized in 599/8 by Daskon and Menekolos. The site of Kamarina was located on a promontory overlooking the sea. The location resembled Selinus in that it was bordered on both sides by the rivers Oanis and Hipparis and the hill had a prominent ridge, which came to define the main axis of the grid plan (Di Vita 1996, 293).

The earliest houses were found nearest the shore, with a sacred *temenos* slightly further inland.¹¹⁰ The full 150 hectares of occupied land were filled somewhat sporadically. Even though Kamarina was founded over a century after the early colonies at Syracuse and Megara Hyblaia, the first generation of settlement was still somewhat scattered. It still took several generations to develop the fully gridded plan. The earliest houses were scattered on all the hills but concentrated mostly near the coast where the Classical period *agora* was located. It is likely that this was the location of an earlier *agora* as well since no housing remains have been found in the area and it was in area devoid of humus and therefore unsuitable for agriculture (Di Vita 1996, 293).¹¹¹

The excavated city plan dates to 4th century, but it may follow an earlier grid (Metraux 1978, 138). Some buildings such as the Temple of Athena and an unidentified large building standing in the middle of a crossroad are not aligned to the grid, perhaps because they follow an earlier orientation. Like at Poseidonia, these buildings were never renovated to align with the urban grid. The housing *strigae* measure about 35 m by 70 m (Metraux 1978, 138). The urban plan

¹¹⁰ Di Vita points out the similarity to the earliest settlement of Selinus. (Di Vita 1996, 293)

¹¹¹ Metraux asserts that there was no commercial development in strips through the city; all commerce was centralized in the *agora* (Metraux 1978, 140) It is unclear how Metraux defines “commerce,” but it seems very unlikely that no economic activity was taking place anywhere else in the city.

displayed limited accessibility, because the plan was dominated by narrow *stenopoi* rather than long, wide *plateia*. In this respect Kamarina's urban grid resembled Kasmenai's, which lacked *plateiai* altogether.¹¹²

4.11 Akragas (founded 580 BCE)

Akragas was established by a group of Geloans and Rhodians led by Aristomous and Pistilus in 580 BCE, possibly in response to Syracusan expansion in their direction (Finley 1968, 22). It was an independent colony from the time of its inception, reaching three times the size of its *metropolis* (Metraux 1978, 161). The settlement was located in a glade overlooking the sea with two rivers flanking it. There was a sharp crag to its north and row of temples to its south (Di Vita 1996, 294).

Di Vita believes that the first settlements were irregularly clustered houses within a zoning scheme (Di Vita 1996, 294). The valley was encircled by walls in the late 6th century, but not organized into a grid until fifty years later.¹¹³ Hence the city gates were oriented according to the road to the *chora* and do not follow the grid plan (Di Vita 1996, 294). Gate II, which led to Gela, was linked to Gate V, where the sanctuaries were located, by a 12 m wide *plateia*, which became a major axis of the city. Parallel *plateiai* (7 m wide) have also been excavated by Ernesto De

¹¹² Metraux argues that the plan of Kamarina is a revised version of the plan at Kasmenai. He points out that the houses in Kamarina are arranged in a *per strigas* plan with their short ends facing the five long streets, which lead to the temple. (Metraux 1978, 138) He claims that this was intended to limit "long continuous private frontage" along streets that were strategically important. (Metraux 1978, 138) He also includes the irregular *ambitus* roads as part of an attempt to facilitate more movement without jeopardizing the safety of the acropolis. Finally he points out that none of the Syracusan colonies has a double row of rooms along a major street, which suggests that roads are for purpose of separating houses not for major commercial traffic. (Metraux 1978, 140) Metraux believes that Kamarina is a prime example of the way in which Syracusan colonies place private land ownership at the forefront of their concerns. He argues that the private land holdings were considered the most important and the temples and *agoras* were pushed off to one side where they would not interfere with private land holdings. (141) He also argues that the government espoused a conservative policy of land use, including equal property holdings and discouragement of selling land. He posits, "the initial division of the land would be preserved, because land-value would not vary in accordance with the position, use, or improvements (in the form of buildings) of the allotment." (Metraux 1978, 142)

¹¹³ The city plan dates to late 6th or early 5th century and it may be associated with accession of Kleandros in Gela or alternation between oligarchy and tyranny in Akragas (Metraux 1978, 161).

Miro and a set of *stenopoi* (5.5 m wide) ran perpendicular to the *plateiai* (Di Vita 1996, 295).¹¹⁴ Occasional *ambitus* alleyways, like those at Kasmenai, ran down the middle of housing *strigae*.¹¹⁵ The plan of Akragas was quite unusual and seems to reflect the fact that the locations of the major gates were determined before the grid was in place, disrupting the natural growth pattern that was typical for the other colonial cities in Sicily and Magna Graecia.¹¹⁶

The religious areas of Akragas were placed conveniently out of the way of the urban fabric. For example, *sacella*, which were later made into temples, on the south hill and the spur to its northwest were conveniently located near gates IV and V. The location of *temenoi* near the city gates has also been seen at Lokroi. These temples are still along the side of major roads and they function as symbolic protectors of the city's boundaries. This may have been especially important at Akragas because the definition of the territory with walls seems to have been a priority for the inhabitants. Later 6th century coroplast workshops were placed near the temples (Di Vita 1996, 295). The association of temples and coroplast workshops can also be seen at the *temenoi* of Athena and Apollo at Syracuse.

The *agora* has been tentatively identified in the south of the city.¹¹⁷ The evidence for the *agora*, however, relies primarily on the assumption that the existence of a Classical period *agora* implies the existence of an earlier *agora* in the same area.

¹¹⁴ The *stenopoi* were 5 m wide and oriented almost exactly NS (Metraux 1978, 176). They were crossed at right angles by six *plateiai*, each 10 m wide, forming *insulae* of about 35 x 300 m (Metraux 1978, 176).

¹¹⁵ Metraux interprets these *ambitus* alleys as signifying that the orthogonal allotments were not meant to facilitate traffic but to define easily parceled out allotments (Metraux 1978, 177).

¹¹⁶ Metraux sees Akragas as a precursor to the Hippodamian plan. He argues that the siting of the city and the monumental conceptualization of its plan are typical of Hippodamian plans, although it lacks the integration of religious, civic and residential space that is typical of Hippodamus (Metraux 1978, 177). Di Vita believes Akragas displays the growing importance of the *insula* and the movement of temples to the edges (Di Vita 1996, 296).

¹¹⁷ Di Vita argues that these 450 hectares of land must have been the *agora* because it is central to the town and it contains no burials or *temenoi* (except San Nicola). Moreover that land contains a *bouleterion* and *ekklesiasterion*, which date to Timolean's era. The space was most likely used for public functions before Timolean as well. At the end of the 6th century there may have been an L shaped *stoa* on north slopes of hill and possibly a classical *bouleterion* (Di Vita 1996, 294).

5. ANALYSIS OF THE PRAXIS OF COLONIZATION IN THE STUDY SITES

Between the 8th and 6th centuries BCE some aspects of city planning surfaced as the most salient features, while other characteristics were open to continual experimentation. I will argue that the development of these themes and variations in urban planning developed within a network of intense competition between all the Greek cities in Sicily and Magna Graecia. Peer polity interactions among these cities encouraged the adoption of popular aspects of city planning and simultaneously stimulated the innovation of new trends. First, I will argue that concepts of city planning were transmitted through overlapping networks of elites families, merchants, and artisans and furthermore that they were transferred imperfectly either by firsthand experience or word of mouth. Next, I will examine the two aspects of city planning, which were common to all the colonies of Sicily and Magna Graecia, zoning and the use of a grid in the domestic sectors of the city. These two aspects of city planning were developed for practical as well as aesthetic reasons and they became the hallmarks of state of the art city planning. Alongside these standard features of urban planning, some irregular features also emerged. The two main causes for these unique elements were the differences in the topography of each site and the difference in economic prosperity. Factors such as the date of foundation and the *metropolis* of each city had less impact on the urban plan.

The transmission of ideas of urban planning took place within a complex web of interaction between the inhabitants of neighboring cities and a somewhat less intense link to Greece and other Greek and non-Greek ports around the Mediterranean. A high volume of information was continually flowing between the cities in Sicily and Magna Graecia through a variety of networks, including kinship ties among elite inhabitants and business relationships among

merchants and artisans traveling throughout the region. It is likely that many city inhabitants would have travelled at least to neighboring cities. The city's elite, on the other hand, would almost definitely have travelled to cities throughout the territory of Sicily and Magna Graecia. The few elite families of each city were acquainted with each other either through guest-friendships and intermarriage. These connections allowed members of these families to travel throughout the region, staying with guest-friends in other cities. It may not be too farfetched to suggest that they would also have visited a good many cities in the Greek mainland. In later periods, dedications at Delphi and especially Olympia as well as odes commemorating the athletic victories of tyrants such as Hieron of Syracuse, confirm that at least the elite members of these colonial cities would have been involved in the Panhellenic games and would consequently have been familiar with major Greek sanctuaries and nearby cities.¹¹⁸ There is also evidence from the Classical period of delegations travelling from a colony to its *metropolis* to present various petitions.¹¹⁹ While it can be inadvisable to retroject evidence from the classical period back to earlier times, in this situation it is unlikely that the colonies temporarily lost contact with their home cities, only to renew relations in the Classical period. The wide-ranging network of merchants and sailors should be added to this image of a complex network of elite guest-friendships. Trade activity between local cities was very common and merchants would have contact with many of those cities. Furthermore, merchants probably frequented trading posts outside the immediate Greek "sphere of influence" in order to make the most profit. A third network of artisans and particularly of surveyors, architects, and builders should be mapped on top of this overlapping web of interactions. Artists travelled frequently in order to find the most

¹¹⁸ Pindar wrote odes to aristocratic men from many Greek cities in Sicily and Syracuse who were victorious at the Olympic games, as well as The Pythian, Nemean, and Isthmian games.

¹¹⁹ Thucydides 1.26.

profitable work. In addition to local travel, many artists moved from the Greek homeland to the colonies to take advantage of the new markets in Italy.

Ideas about city planning, unlike trends in more portable art forms, were not easily transported between cities and over oceans. Since maps had not yet emerged as a common medium for communicating information about a city, an accurate mental image of a city could only be obtained through visiting that city or by word of mouth. Either scenario was unlikely to produce a precisely accurate mental image. Consequently, the details of a city constructed based on these models would certainly be quite different from those of the original. The actual cities were planned as a result of the intersection of both ideas about what a city should be and the technical knowledge of how cities were surveyed. The former was likely decided by a city's most prominent citizens, whereas the latter was within the domain of the professional surveyor.

The similarities and differences between these city plans can both be understood within the model of peer-polity interaction between cities in Sicily and Magna Graecia. Competition between these cities has a unifying force because some aspects of urban planning, once implemented, become popular and are recreated in other cities. The question of why some elements became fashionable and others did not was most likely a matter of taste. Once this set of desirable characteristics became canonized they could not be ignored and no individual city could stray too far from the agreed upon desirable features. Yet the competition between cities also created differences because each city was trying to distinguish itself from its peers. These distinguishing features, however, are fitted into the standard features, which must be retained.

The consistently occurring features of urban planning in Sicily and Magna Graecia were (1) the zoning of the city into religious, public, and domestic space and (2) a grid pattern of streets, particularly in the domestic sectors of the city. These two features have often been exaggerated,

especially with regard to their ideological conclusions. The widespread implementation of these two features was likely due in part to their practicality and efficiency in organizing a city and in part because once they were developed they were considered *avant-garde*. Once this system of urban planning was developed it would have made the older *kata komas* plans seem out of date, so a newly founded city or a city which was reorganizing its urban grid would want to adopt the most up to date grid plan.

Zoning, while not strictly enforced, did emerge as a common attribute of most Greek colonies in Sicily and Magna Graecia by the end of the 6th century BCE. Although a large emphasis has been placed on “zoning” as a characteristic of early Greek urban plans and a precursor to more elaborate grid systems, the separation of *temenoi*, *agorai*, and *oikoi* has often been overstated, since these areas were not always completely disconnected, especially in the earliest period. Furthermore, in as far as they did exist “zones” developed organically over time because buildings of a similar nature, which required proximity to certain features of the landscape to function, tended to be clustered together, not because the “zones” were arbitrarily separated from each other at the inception of the colony. There were still commercial properties and small shrines interspersed in some of the domestic areas. For example, some buildings outside of the *agora* at Selinus have been identified as public because of the high quality of building materials and techniques.¹²⁰ Similarly, at Zancle altars were found jutting out into the streets on every corner (Di Vita 1990, 375). These public and religious structures suggest that the characteristic “zoning” in Greek colonies was perhaps not as strict as modern scholars currently understand it. By the time *horoi* stones were erected to delineate public from private and sacred

¹²⁰ No specific function has yet been identified for them. One of these is a building of unknown function dating to the early 5th century on street B1, with ashlar masonry preserved to three courses (De Angelis 2003, 139). Another public building on north side of street 1 dates to the end of 6th century and a third building to the south of street 5 from the first half of fifth century also has ashlar masonry (De Angelis 2003, 139).

from secular space, the space was already understood as public or sacred, so that the *horoi* were just indicators of an already completed process.¹²¹ The establishment of *horoi* stones demonstrated that the zoning process had become reified. Subsequently these domestic, religious, and public zones were intentionally recreated in order to reference the well-known cities, which had successfully implemented a zoning scheme already.

Another outstanding feature of these Italian colonies was their adherence to a grid on privately owned land. The residential quarters of the Greek colonies in Italy were known for their regularity and equality.¹²² There were practical reasons for the parceling out of domestic land according to an overarching grid. For example, it was easy to dole out land, which had already been surveyed as well as to resolve issues of property rights or boundary disputes. Public land, on the other hand, was largely free from these kinds of issues. Although the boundary of public space was often delineated with *horoi* stones, within the *agora* boundaries there was no need for a gridded system. The considerations involved in the placement of buildings in an *agora* or a *temenos* were more likely to have been factors related to the aesthetics of the interplay of buildings and space. These practical concerns were influential in the development of gridded land in the early colonial city plans. After this process of organizing land on a grid system was already established, however, it began to be interpreted as a visual argument for equality in the colonies. Later Greek authors, especially Aristotle and Plato, espoused the principles of *isonomia* in urban planning, using the grid plan as evidence supporting their metanarrative of equality.¹²³ Modern scholars have also pointed to the physical arrangement of equal allotments in a city and

¹²¹ See Fine 1951 and Nevett 2000.

¹²² Boyd and Jameson argue that equality was mandated in the colonies for everyone who was not a god or an *oikist* (Boyd and Jameson 1981, 327).

¹²³ Aristotle's Pol. 3.1286a and Plato's Rep. 8.563b

the surrounding *chora* as evidence of the primacy of private land.¹²⁴ The arguments made in the literature and the bare outlines of the physical remains, however, should not be taken as indicative of the actual social practices of the city. There were many ways to display wealth and status, even within the confines of regular housing units. The decoration and contents of the houses would have provided one basis upon which they could be compared. Unfortunately, these less permanent features of the houses are unlikely to have survived in the archaeological record. Location is another factor that influenced the price of housing. Houses located near the *agora* or on major thoroughfares, for example, would have a higher value than those located on dead-end streets, regardless of their equal size. Furthermore, spatial uniformity does not imply the political or economic equality of citizens.

While these characteristic features of Greek cities in Sicily and Magna Graecia may have originally developed for practical reasons, such as those enumerated above, they continued to be imitated in later cities because they were considered fashionable. Alternative ways of organizing a city undoubtedly existed and were in use in other communities. For example, contemporary Etruscan and early Italic cities almost always contained a *cardines* and *decumanus* at right angles (Castagnoli 1971, 2). Consequently their grid plans were based on square rather than rectangular housing blocks. The adoption of a gridded system was an intentional choice made by the inhabitants of these cities, not only because it was practical, but also because it was fashionable. In fact, certain elements of a *per strigas* plan were assuredly not practical, such as the relatively small number of major streets, which inhibited the movement of people and goods around the city. Nevertheless, once these features became the standard mark of an *avant-garde* city, they were recreated by each city seeking to broadcast its newfound wealth and status.

¹²⁴. The city of Olynthos, especially, has an incredibly regular plan. See Cahill 2002. The equal division of the *chora* has been extensively studied especially at Metapontum. See Carter 2004.

In apposition to these universally accepted features, the Greek colonies in Sicily and Magna Graecia displayed a vast array of unique, experimental features. There was great variety in the way the zones related to each other. The internal organization of the buildings within each agora and *temenos* also displayed a great deal of diversity. There was no universal, ideal model of an urban plan, which was recreated in each city in Sicily and Magna Graecia. Rather, many different conceptions of “city” were being continually formed and reformed by many individuals, who came into contact with a variety of influences and selectively internalized them based on their own taste. Therefore a multiplicity of urban plans were conceptualized and applied to various cities in order to best accommodate each individual city’s needs and emphasize its assets. Many factors shaped these individual city plans, including (1) the local topography, (2) economic prosperity.

The Greek colonies showed significant variation because their urban plans were designed to take full advantage of the geographical landscape. Because early city plans responded to the topographic aspects of the geography, such as the coastline and the slopes of hills, and to manmade features of the landscape, such as the location of nearby cities, *necropoleis*, and harbors, in later generations, when efforts were made to regularize these cities into gridded plans, these features of the landscape continued to influence the city plan, since it was neither feasible nor desirable to reallocate the most essential spaces of the city.¹²⁵

In the first generation of the colonial settlements, the courses of the major roads were often determined by the topography of the site, running between cities, towards the interior *chora*, or

¹²⁵ It may have been difficult to relocate major roads because elite residents of the city had a vested interest in their remaining in their original location. Religious *temenoi*, additionally, would not be relocated because the land would already be considered sacred and deconsecrating it would be undesirable.

parallel to the coast.¹²⁶ When the cities expanded their grid plans in the following generations, those roads often remained fixed in space, becoming the *plateiai* of the new city. The subsequent *plateiai*, therefore, led out through the city gates and continued on their way to the neighboring towns, the *chora*, or the harbor. These *plateia* could then be used to transport goods from the harbor or from the *chora* into the market place. One of the *plateiai* at Selinus, for example, led from the harbor up the side of the Manuzza hill to the *agora*. The *plateiai* at Akragas provide an even more drastic example of this phenomenon, since they were oriented to the gates instead of the city grid.¹²⁷ The retention of early roads has been cited as the reason for some irregular plans, like the trapezoidal *agora* at Megara Hyblaia, which was defined on many of its boundaries by old roads. Smaller streets (*stenopoi*) may have started out with courses as irregular as the *plateiai*, but in contrast to the *plateiai* they were usually regularized when the cities adopted a grid plan. This disparity can perhaps be explained by their relative lack of importance, in the sense that they may have been easier to relocate than *plateia*, either because they were never paved or because influential people did not have an interest in their relocation.

The placement of these roads in accordance with the geography of the site in turn affected the location of the cities' *agora* spaces. While space was probably allocated for public use in each colony from the time of its inception, these spaces are often very difficult to recognize in the archaeological record. It is likely that the earliest *agorai* were nothing more than empty areas, which could be filled with temporary wooden stalls when necessary. The evidence for early *agorai*, therefore, is often simply the absence of any domestic or religious building activity, such as at Akragas and Kamarina. When a city contained multiple grid alignments the *agorai* was

¹²⁶ At Naxos, for example, *plateia* Sp led to Zancle and at Metapontum the major *plateia* led to the *chora*. At Naxos two 8th century streets (Sh and Sg) ran parallel to coast. At Locri the sloping land necessitated that the major roads run perpendicular to the hill.

¹²⁷ For example, a 12 m wide *plateia* linked Gate II, which led to Gela, with Gate V, which led to the sanctuaries.

frequently located at the intersection of these orientations, which were points of irregularity in the grid and were often located in the middle of the city. Two very dramatic examples of this phenomenon are provided by Megara Hyblaia and Selinus, which both display trapezoidal *agorai* at the intersection of two or three different orientation systems. The colonists at Selinus may have been copying what was familiar to them, since Megara Hyblaia was the *metropolis* of Selinus. The more likely reason for the trapezoidal *agora* at Selinus, however, was that the three street orientations were necessary because of the slope of the hill. Irregularity of shape, however, was not a consistent feature of *agorai*, because in cities where the major *plateiai* met at right angles, the *agorai* were square, such as at Metapontum and Poseidonia. Rather, the most important criterion for the placement of *agorai* was their orientation with respect to major thoroughfares, upon which goods could be transported to and from the market. Since these *plateiai* led to the countryside and to neighboring cities and they were wide enough for cart traffic, they were the roads on which goods would be brought into and out of the city. The *agora* would be placed at the heart of this network of important trade routes because one of its primary functions was to serve as a marketplace. For example, at Metapontum the *agora* was located at the cross section of the main *plateia*, which led from the coast to the *chora*, and the widest street running perpendicular to it, which led straight from one of the city gates to the *agora*. Similarly, at Poseidonia the *agora* was bounded on one side by the major north-south *plateia*, which led to the Porta Giastizia and on two other sides by large east-west *plateiai*, one of which connected the Porta Marina with the Porta Sirena. Also at Syracuse, the *agora* was located at the end of the road that led from the island of Ortygia to the Achradina area on the mainland. These examples suggest that the location of the major *plateiai* was the critical factor in the placement of the *agora*. The reason for the irregularity of *agora* shapes was that the important roads, on which the

agorai were located, were the old, irregular roads, whose orientation was based on the surrounding landscape rather than the later grid. Consequently the agora spaces were aligned with the pre-grid urban design and the topographical features surrounding the city.

Production areas such as *kerameikoi* and transport areas such as harbors can be categorized as economic space, although they served very different functions than *agorai* and therefore they responded to much different aspects of the landscape. *Kerameikoi* produced a great amount of smoke and were likely to cause fires and so when possible they were kept away from domestic areas. Furthermore, because ceramic goods were very fragile, it was best to minimize the amount of transport they were subjected to between place of production and sale. *Kerameikoi* were often located near harbors, where their ceramic products could be loaded onto ships without excess land-transport. Kilns were found near the harbor at Naxos. The kilns at Metapontum were not originally located near the port, but in the 4th century a canal was built connecting the harbor to the city and it passed by the *kerameikos*. They were also placed near temple complexes, where ceramic votives were sold to visitors, who wished to leave a dedication to the gods. At Syracuse, 7th century pottery workshops were located behind the Ionic temples on the west side of the island.¹²⁸ Similarly, at Akragas there were coroplast workshops near the temple complex in the southern end and the spur to its northwest.

The topography of the city influenced the location and dedication of religious land, which was crucial to the early generations of colonists.¹²⁹ There are a variety of nuanced explanations for the marginal placement of sanctuaries.¹³⁰ Religious space was frequently placed in highly

¹²⁸ Di Vita and Pelegatti have identified this area as an early *agora* (Di Vita 1996, 270). While there was clearly pottery production, and most likely sale, going on at this location, that activity is not enough to define the space as an *agora*.

¹²⁹ The small *sacella* in Naxos as well as the wooden Athenaion in Syracuse, which both date to the first generation of settlement.

¹³⁰ Jameson argued that uniform housing blocks took precedence over sacred and political space (Jameson, 1990 177). Di Vita also argues that sanctuaries were placed in outlying territories so they did not interfere with the equal

visible locations, either on a hill or along the coastline where it would have been noticed by approaching ships and often these spaces were at the edges of the city. The sanctuaries on the promontories of Selinus and Kamarina provide the most striking examples of this practice, although there were also sanctuaries along the coast at Naxos, Metapontum, Himera, and Zancle.¹³¹ Other sanctuaries' locations were determined by some grounding feature in the landscape, especially sanctuaries to chthonic deities such as the Demeter Malophoros sanctuary at Selinus. In cities with no obvious hill or coastline, religious space was often placed either in the center of the city, frequently near the *agora*. At Megara Hyblaia the *agora* and *temenos* complex is located in the center of the city. At Poseidonia *temenoi* of Hera and Athena border the *agora* on either side. The entire complex was originally off to the side of the residential area, but a later residential area was added on its other side. Similarly, at Metapontum, the *temenos* of Apollo is located next to the *agora* off to one side of the residential area. Alternatively, sanctuaries are frequently located at the border of the settlement to mark the boundary.¹³² Akragas, for example, had sanctuaries surrounding the gates of the city. Lokri also had a U-shaped stoa to Aphrodite at the harbor gate and sanctuaries in Marasa quarter near the town wall. While there was no single model of a town plan that encompassed all these examples, there were several patterns of organizing religious space that were generally adhered to.

The second factor, which played a role in shaping the irregularities in urban plans, was economic prosperity, because it affected the scale on which the first generation of colonists

division of land (Di Vita 1990, 350). There are, however, many other reasons for the placement of sanctuaries at borders are enumerated in De Polignac 1995.

¹³¹ The harbor area at Zancle was used intensively. P Orsi interpreted small votive jars found near the harbor as evidence of an 8th century sanctuary (Mettraux 1978, 110).

¹³² De Polignac posited that "border sanctuaries" in suburban sanctuaries often acted as intermediary agents, which provided for the incorporation of native populations into the Greek city by means of "religious citizenship" (De Polignac 1995). At Metapontum, for example, three large Hera temples protected the borders of the territory: the Bradano River Temple protected Metapontum from Tarentum, the Sele River temple marked Poseidonia's frontier to Etruscan Campania, and the Capo Colonna Temple marked the border of Croton (Greco and Mertens 1996, 244). It is possible that these sanctuaries at the gates of cities also played a mediating role.

originally conceived of their cities as well as the rate at which they expanded. Some cities were conceived on a far more monumental scale than others. No matter how large-scale the original plan was, however, almost every colonial city was forced to expand from their original plan in subsequent generations.¹³³ These expansions were very expensive and could only be undertaken when a city was thriving. For example, the grid plan adopted by Metapontum at the end of the 6th century corresponded a generation of prosperity, which has been plausibly linked to the occupation of Siris (Metraux 1978, 158). Often these expansions also necessitated a reevaluation of the organization of urban space. The strategies employed by each city to expand and regularize urban space differ in both concept and execution.

There may have been slight differences in the amount of money available to the first generation of colonists in each city in Sicily and Magna Graecia. On the whole, however, no city appeared to have an overwhelming amount of start-up capital. Therefore the first phase of city planning usually consisted of houses spaced sporadically in separate nuclei with large open spaces in between them. This *kata komas* style of housing distribution can be seen in the earliest phases of housing at Naxos, Syracuse, Metapontum, Kamarina, and Akragas. These sites were founded over a period of a hundred years, but the pattern of leaving large open spaces and then filling them with buildings later remains typical of the first generation of settlers. A high level of bureaucracy was not required for these early housing phases. This early style of housing did not represent a significant investment in the site for several reasons. First, it was not necessary to survey the land, because houses were placed in irregularly organized clusters. Second, only semi-permanent materials and construction methods were used in the construction of the earliest apsidal and square one room houses with thatched roofs. This may indicate that the first

¹³³ Only the cities that succeeded and expanded were preserved in the literary and archaeological record. While there certainly were unsuccessful cities but they have been long forgotten and are therefore excluded from this paper (Boardman 2001, 322).

generation of colonists usually consisted of a small group of people, who moved tentatively into a new area with every expectation that they may have to move because of any number of catastrophes. If the location proved favorable to economic growth, more money and more inhabitants would be attracted to the area and the higher population density would encourage a more formal organization of space. Furthermore, the rise in economic prosperity would allow for the monumentalization of religious and public space. It is important to keep in mind that many colonies failed especially in their early years, so it was unwise to invest in the location before there was significant reason to believe that the investment produce significant returns.¹³⁴ The houses were eventually organized in square plots and expanded into 3 room *pastas* type houses, often with large plots of land around them (*oikopeda*).¹³⁵ While settlements were arranged in this manner, one or two major *plateiai* would typically develop, often leading to nearby towns or into the *chora*. These major roads subsequently determined the orientation of the rest of the grid.

In the domestic sectors of these cities, the increase in economic prosperity influenced the speed with which each city adopted a gridded plan. After varying lengths of time, each city abandoned their *kata komas* system in favor of a grid consisting of *plateiai* and *stenopoi*, which divided the urban area into a grid of long, rectangular housing *strigae*. This process occurred gradually by both altering the orientation or preexisting non-gridded domestic sectors and the addition of new fully surveyed and parceled domestic land. Once the decision had been made to adopt a gridded system, all the new territory that was added to the city as additional residential space was surveyed into equal plots before it was incorporated into the urban topography. There is evidence that when a city needed to expand its domestic sector, a supplemental area was

¹³⁴ The memory of these failed colonies survives in the literary record in accounts such as Thucydides' description of the Megarians' long and arduous search for a new home. The specific sites, however, survive in neither the historical nor archaeological record.

¹³⁵ *Oikopeda* can be seen at Syracuse, Megara Hyblaia, Metapontum, and Selinus.

surveyed and the plots were subsequently distributed. The best example of this can be seen at Metapontum where a plot of land was surveyed but never inhabited. Perhaps the growth in population or economic prosperity fell short of the city's expectations and the extension was no longer needed. A more successful expansion can be seen at Poseidonia, where an original residential sector was located to the west of the strip of public space and an additional residential block was added on the other side of the public space at a later date. Instances of multiple grids with varying orientations being implemented on one site may indicate that the grid was adopted in a piece-meal fashion.¹³⁶ There are other plausible reasons for their inconsistency, however, such as the slope of the terrain or course of the major *plateia*, which predate the grid. In domestic areas that already existed, however, aligning to the grid would have been a much more difficult process involving both high levels of organization at the level of the state and cooperation at the level of individual homeowners. This process probably occurred organically and gradually with *oikopeda* being subdivided and sold off until smaller units emerged. Eventually, strictly uniform housing *strigae* replaced the more spacious and free form *oikopeda*, often incorporating the already rectilinear blocks. In some cities, like Megara Hyblaia, the houses were designed to align with the streets from the very beginning, which made this process less dramatic. While it is unclear who made the decision to adopt a grid, there was likely a good deal of public involvement and support, since there is no evidence that people were forced to move their homes. The decision to adopt a fully gridded city plan had a direct affect on the city inhabitants who had to relocate or at least reorient their homes to align with the streets. Usually several

¹³⁶ Multiple unaligned grids of this nature can be seen at Naxos, Megara Hyblaia, and Selinus. At Naxos the east domestic sector predated the west. In Megara Hyblaia Owens has postulated that the grid to the east of the *agora* predated the one on its left, although many other reasons for this disjuncture in the grid have been given by other scholars (Owens 1991, 39). The three different grid orientations at Selinus arose almost assuredly to accommodate the shape of the hill, but they were also probably surveyed at different times. They were all completed by 580-570 BCE.

houses had to share the space of one *insula*, causing the creation of *ambitus* alleyways, which divided the houses from one another. In some cities it appears that the choice between wall or alleyway was made by the homeowner on a case-by-case basis. Homeowners, therefore, should be seen as active participants in the execution of the grid plans.

Although the domestic sectors of the city were often reorganized, many original features in the urban fabric, such as *plateiai*, *temenoi*, and *agorai*, were incorporated into the new system without any change of location. These original features intersected with the new increase in economic prosperity to determine the form of the new urban plan. The increased economic prosperity can often be seen in the *agora* and *temenoi* more through the monumentalization of the preexisting space than a total renovation or repurposing of the area.

The major *plateiai* in each city, for example, were never relocated once they were established, although they were frequently upgraded. Therefore, economic prosperity can be seen in the scale and level of execution of the new roads. As a city became more prosperous and invested in the improvement of its urban spaces, the older packed earth roads were often replaced with more elaborate pavement. At Selinus, for example, the roads were constructed of gravel and red sand with an occasional rock or clay top layer to create a smooth surface.¹³⁷ While the old *plateia* were retained and they usually determined the orientation of the rest of the grid, many *stenopoi* were added to the preexisting structure during renovations. The quality of these minor streets varied and they were frequently less precisely laid out than the major *plateia*. At Selinus the major roads were carefully laid-out, but the side streets were not.

Evidence suggests that during the reorganization of each city from a *kata komas* to Hippodamian layout the *agora* remained in its original location. There is, however, a significant bias in the available evidence. Many early *agora* spaces have either not been excavated yet or

¹³⁷ Di Vita 1996, 284.

have gone unnoticed by excavations. Compounding this issue is the fact that in many cases when an early *agora* cannot be found, it is assumed to have been located underneath the later *agora* as it has been at Kamarina and Akragas, for example. This argument, while it seems logical, cannot be used to prove that *agora* spaces were often retained without inevitably relying on circular logic. In the cities where an early *agora* has been located, however, it was generally not moved during the gridding process. Megara Hyblaia, for example, retains the same *agora* space from the colony's inception. An extreme example can be seen in Metapontum where the *agora* was kept in the same location even though it was inconveniently far from the water. Instead of moving the *agora* towards the shore, they constructed a canal from the ocean to the *agora*. Some cities also added additional public spaces throughout the newly added sections. At Megara Hyblaia, for example, the original *agora* quickly became too small to service the whole community, but as the city was expanded public space was incorporated into the newly incorporated territory in a similar ratio to that of the main *agora* to the surrounding domestic space.¹³⁸ There are some possible exceptions to this rule, where the *agora* was moved during a later organization of the city such as at Syracuse and Selinus. At Syracuse an early *agora* has been postulated on the island of Ortygia, although it has not been identified. The later *agora* on Achradina may have been the result of a relocation of the earlier *agora*, but it may also have been an additional space meant to supplement the earlier *agora*. In Selinus an early *agora* was probably located on the tip of the promontory next to the acropolis sanctuary. It was later moved to the Manuzza hill, when the full grid was implemented in 580-570 BCE. The decision to relocate the *agora* in these two instances seems to come out of the growth in population, which made the space far too small to be serviceable to the whole community. The decision to add additional *agorai* or to relocate the

¹³⁸ De Angelis 2003, 38.

existing *agora* to a location where it could have more room for growth seems to be an arbitrary one. The lack of physical evidence of *agorai* precludes drawing any substantial conclusions.

Increasing economic prosperity was reflected in the monumentalization of the religious complexes. The vast majority of temples remained fixed in their original locations, even when they outgrew the space. For example, the desire to retain the original location of the temples can be seen in the extensive terracing programs undertaken in Selinus in order to alter the *temenos* on the promontory so that it could accommodate the new temples being built as a result of increasing prosperity in 580-570 BCE. Economic prosperity may also have manifested itself in the rebuilding programs, which were undertaken in order to align temples with the urban grid. Although temples were very rarely moved to a new location, they were sometimes reoriented to align with the urban grid. Temples on the acropolis at Selinus aligned to the grid, but the other hills had no grid with which the temples might align. Temples to Olympian gods may have been more at home in a highly organized space in the center of the community, whereas temples to the chthonic deities were more comfortable on the margins of the city. Often the temples predated the grid system, and were rebuilt to align with the new grid. For example, at Metapontum temples AI, AII, and Apollo Lycias all originally faced east and were all rebuilt in the mid to late 6th century so that they would align with the grid. Interestingly, this occurred at the same times as *horoi* stones were put up. The *temenoi* of Athena and Hera, which surround the *agora* at Poseidonia, however, do not align to the grid. In Kamerina a temple of Athena also does not conform to the 4th century grid. It is possible that these temples have a different orientation for a religious reason. There were several reasons why some temples might not have aligned with the grids, which surrounded them. First, temples often faced east for religious reasons, although this was by no means a strict rule. Second, older temples may have been aligned with an earlier

street, which was obliterated by a more recently implemented grid. In fact, some theoretical roads which predated the known grid have been reconstructed based on temple alignment, such as the one Di Vita imagines running from the Latomia del Paradiso to the Latomia di Santa Venera in the Achradina *agora* at Syracuse in the 4th and 3rd centuries. Temples in the middle of the city were more likely to be aligned to the grid than those on the outskirts of the city, possibly because they were more instrumental in emphasizing the unity of the urban plan. At Metapontum the temples in the *temenos* bordering the *agora* in the city center were rebuilt in order to align to the urban grid in the mid 6th century BCE. Nevertheless, the temples at the margins of the city were often equally instrumental to the city plan, especially in determining the location of the city gates, such as at Akragas. Similarly at Lokroi, the religious *temenoi* were located on the outskirts of the city. At Lockroi, however, the location of the *temenoi* was related only the location of the gates, and they had no relationship to the course of the roads inside the city.

Furthermore, integration of all the city's component parts did not emerge as a salient feature of these early Greek colonies in Sicily and Magna Graecia. Irregularly shaped *agorai*, temples at odd alignments, and even various grids with different orientations were very common in Greek cities and often no attempts were made to regularize them. Indeed, every city that could afford to rebuild its temples in alignment with the city blocks did not necessarily do so. Instead, altering the orientation of the temple buildings was only one of many ways that these cities asserted their wealth and power. Changing the orientation of a building involved alterations to the foundations, which would have been very costly. A city may have been just as likely to spend its money on a new terracing program, a larger temple, nicer architectural sculpture, or even a more expensive cult statue.

Some other factors, which might be expected to have had an impact on the unique attributes of individual urban plans, were surprisingly immaterial. The date of foundation, for example, had very little effect on each city's development.¹³⁹ A variety of stages of preplanning were in play at colonies founded in every time period. One might expect the organization of cities to become more strictly organized as time progressed. The evidence does not indicate such an evolution, however. In fact, most of the second-generation colonies went through the same process of development as the first-generation colonies. Early cities, such as Megara Hyblaia, could be quite forward-looking in their plans, even to the point of surveying streets for subsequent development. Cities founded at much later dates, on the other hand, were often haphazardly clustered in a small portion of the territory in their first generation. Selinus provides a particularly interesting example of this phenomenon, because it was the daughter-colony of Megara Hyblaia. Yet the first generation of occupation at Selinus was congregated around the tip of the promontory, displaying unorganized housing units, only one *plateia*, and an *agora* that was probably moved.

Similarly, the date of foundation did not influence the speed at which the cities transformed from a *kata komas* system to a fully gridded "Hippodamian" plan. On the contrary, some of the earliest cities to be founded were among the fastest to adopt a gridded urban plan.¹⁴⁰ This suggests that factors such as economic prosperity and experience with planning had a larger impact on the decision to adopt a grid plan than the date of foundation. Megara Hyblaia, in particular, appears to have been exceedingly well organized at the time of its original foundation. Thucydides relates that the settlers of Megara Hyblaia founded cities in three different locations before being expelled from each in turn (6.4.1). If this story has any element of credibility, it is

¹³⁹ It should be noted that the dates of foundation of these cities are not universally accepted. Because of the debate over these dates any conclusions, which rely on them must be considered tentative.

¹⁴⁰ Syracuse 30 years after foundation, Megara Hyblaia looks forward from beginning.

probable that the colonists of Megara Hyblaia had significant experience with city building and particularly with the necessities and pitfalls, a skill-set, which prepared them to take maximum advantage of their final site of occupation. By contrast Naxos, which was founded at an earlier date than Megara Hyblaia, waited 80 years after the colony's original foundation to form a grid.¹⁴¹ Metapontum did not reorganize into a grid for 250 years, although it was founded about 30 years after Naxos and Syracuse. Based on these examples it appears that there was no linear correlation between time of foundation and time until the grid was implemented. The norm, however, seems to have settled right under a hundred years. Himera, Poseidonia, and Akragas all took almost a century to fully enact their grid systems. Many cities did not conform to this rule, however, so the rate of progression from a *kata komas* system to a *plateia* and *stenopos* grid must be attributed to some other factor, such as economic growth.

Another factor, which does not appear to have influenced the individual form of the urban grid in each city, was the colonists' cultural ties to its metropolis or other "familial" cities. Scholars have attempted to discover reflections of the metropolis not only in the various cities' urban plans, but also in their forms of government, religious rites, language, and treatment of the native population.¹⁴² This line of reasoning, however, is founded on arguments presented in Thucydides, which emphasize ethnic ties and especially the differences between Ionic and Doric

¹⁴¹ Naxos is unusual because the original alignment of the earlier is totally ignored in the re-planning process. The only two identifiable roads were constructed parallel to the coast. Both these roads and the *sacella* associated with them were completely ignored in the later planning of the city. At several sites the location of the Greek occupation shifted significantly after the first several generations. This is the case at Naxos, where the early settlement was very close to the coast and it was later moved inland. At Selinus and Himera the early settlements were behind the religious *temenoi* on the edges of the cliffs, but at Selinus it was later moved inland perhaps to allow for further expansion of domestic land use.

¹⁴² Thucydides describes the cities in terms of the ethnic groups to which they owe allegiance. Mettraux exemplifies this logic as far as it is applied to urban planning. For example, Mettraux argues that Chalcidian colonies all located their harbors far from their city centers to avoid contamination, whereas Syracusan colonies invited in trade (Mettraux 1978, 113; 120).

because it was relevant to the arguments begin made in the Peloponnesian war.¹⁴³ In the period of colonization under discussion, however, there is no reason to believe that “ethnic” traditions were a major factor in urban planning. Each city was likely made up of a conglomerate population of Greeks from various city-states, Italian locals, and perhaps Phoenicians.

6. CONCLUSIONS

The earliest phases of Greek colonies dating to the 8th century BCE display *ad hoc* urban plans with little to identify them as a cohesive group and little to indicate that a shared conceptual framework informed the decisions resulting in their local form of urbanism. By the end of the 6th century BCE, however, the Greek cities in Sicily and Magna Graecia displayed many common features, including *plateiai* and *stenopoi*, which divided urban space into a *per strigas* layout, often with *ambitus* pathways in between the houses. Despite extensive intersection in the global aspects of city design, each city displays its own peculiarities and experimental design elements. Over the course of these two centuries the concept of a gridded city was developed, not in a single moment of inspiration by an urban planner like Hippodamos, but through a gradual process, occurring within a tight-knit network of affluent cities in Sicily and Magna Graecia, which were in constant discourse with one another. During this time period, colonists did not indiscriminately apply a strict gridded model over whatever terrain they inhabited. Instead the interplay between standardization and idiosyncrasy in every city developed due to the competition between cities, which both urged the adoption of popular ideas and encouraged the continuous invention of new trends. In this context, the idiosyncratic goals of groups and individuals within each *polis* created the nuance and variation within the common parameters of the competition.

¹⁴³ Antonaccio 2001, 113.

As the colonists became more invested in the land and prospered economically, they reinforced the most important structures, paving roads that were frequently used, renovating temples, and building permanent structures bordering their *agora* spaces. This investment in the physical features of the city was likely to have accompanied a growing sense of local identity as a distinct *polis*. The trend toward adopting more uniform urban grids, which were similar to those found in other local cities, particularly in the domestic sectors, suggests that the colonists were in very close contact with one another and that they were adopting each others innovations. It may potentially reflect a growing sense of identification with the Greeks in Sicily as a unified cultural group. The retention of unique elements of early city plans, however, suggests that the colonies also exploited whatever individual traits were available to them, such as a promontory overlooking the sea, as a platform on which to make a visual argument for their superiority.

These conclusions about the development of urban planning have implications for the way we understand Greek colonization in this period. The view of city planning in the Greek colonies in Sicily and Magna Graecia, which emerges from the available evidence supports an understanding of colonization as a non-linear process, which involved expeditions, in which Greeks from various communities as well as non-Greeks joined together to form new cities. None of the colonial cities in Sicily an Magna Graecia were envisioned with an entirely premeditated grid plan suggesting that the earliest phase of each colonial venture was not highly organized and that the settlements dating to this phase resulted from a more organic process of local adaption and negotiation. This evidence suggests that during their first few generations of occupation, colonies throughout the 8th to 6th centuries BCE were not stable enough to invest the time and money that it took to develop an overarching grid plan for the entire city. It also indicates that these new urban forms were not conceived of in Greece, but developed organically

after the colonists had already arrived in Italy. This evidence supports a view of the colony as only loosely connected to its metropolis, a supposition, which is supported by the lack of more extensive similarities between colonies originating from the same *metropolis*.

On a broader scale, the development of urban planning can provide a model for understanding cultural production in the ancient world. The development of the concept of the Greek *polis* was only one of many aspects of Greek culture, which came to define a “Greek” identity over the course of the 8th to 6th centuries BCE. A close examination of the development of the physical form of the *polis* can, however, shed light on the process by which all the central pillars of Greek identity were formed. In the 8th century BCE, the Greeks possessed no cohesive cultural or ethnic identity. This lack of unity was reflected in the haphazard layout of cities, both in the Greek homeland and abroad. Over the following two centuries, however, the Greeks were continually developing and reevaluating their sense of identity. Concurrently, the form and function of the *polis* were being proposed and renegotiated on local, regional, and pan-Mediterranean scales. Each city in the Greek world was simultaneously aware of the developments occurring in other cities and concerned with its unique definition of the *polis*. Like other expressions of culture, the form of the city plan was constantly being subjected to experimentation during the developmental phase; with the result that the early city plans displayed considerable variety. As time progressed, however, a trend towards one system of city planning emerged out of the scattered assortment of city types. The codified image of an ideal city plan, which emerged from this process, eventually came to stand as a symbol of “Greek” identity and specifically of “Western Greek” identity. The model of the interplay between experimentation and standardization leading to the eventual codification of a certain set of

standard features in the urban planning of the Greek cities in Italy, which is presented in this paper, can serve as a lens through which to view the progress of identity formation.

Bibliography

- Antonaccio, Carla. "Siculo-Geometric and The Sikels." In *Greek Identity in the Western Mediterranean: Papers in Honour of Brian Shefton*, ed. Kathryn Lomas. (Leiden: Brill, 2004), 55-82.
- Antonaccio, Carla. "Ethnicity and Colonization." In *Ancient Perceptions of Greek Ethnicity*, ed. Irad Malkin. (Cambridge: Harvard University Press, 2001), 113-158.
- Antonaccio, Carla, "The Western Mediterranean." In *A Companion to Archaic Greece*, eds. Kurt A. Raaflaub and Hans van Wees. (Malden: Wiley Blackwell, 2009), 314-329.
- Blakeway, Alan. "Prolegomena to the study of Greek commerce with Italy, Sicily, and France in the 8th and 7th centuries BC." *The Annual of the British School at Athens* 33 (1932/1933), 170-208.
- Boardman, John. "Aspects of 'Colonization.'" *Bulletin of the American Schools of Oriental Research*. 322 (May 2001), 3-42.
- Boardman, John. *The Greeks Overseas*. (London: Thames and Hudson, 1999).
- Boersma, Johannes. "Peisistratos' Building Activity Reconsidered." In *Peisistratos and the Tyranny: A Reappraisal of the Evidence*, ed. Heleen Sancisi-Weerdenburg. (Amsterdam: JC Gieben, 2000), 49-56.
- Boyd, Thomas D. and Jameson, Michael H. "Urban and Rural Land Division in Ancient Greece." *Hesperia* 50.4 Greek Towns and Cities: a Symposium (Oct.-Dec. 1981), 327-342.
- Brea, Bernabo. *Sicily before the Greeks*. (London: Thames and Hudson, 1957).
- Burns, Alfred. "Hippodamus and the Planned City." *Historia* 25.4 (4th Qtr. 1976), 414-428.
- Cahill, Nicholas. *Household and City Organization at Olynthus*. (New Haven: Yale University Press, 2002).
- Camp, John McK. II "A Drought in the Late 8th century B.C." *Hesperia* 48.4 (Oct.-Dec., 1979), 397-411.
- Camp, John. "Before Democracy: Alkmaionidai and Peisistratidai." in *The Archaeology of Athens and Attica under the Democracy*, ed. WDE Coulson, O. Palagia, TL Shear Jr., HA Shapiro, and FJ Frost. Oxford: Oxbow Monograph 37, 1994.
- Carter, Joseph. "The Greek Identity at Metaponto in Greek Identity in the Western Mediterranean." *Greek Identity in the Western Mediterranean: Papers in Honour of Brian Shefton*, ed. Kathryn Lomas. (Leiden: Brill, 2004), 363-390.

- Castagnoli, Ferdinando. *Orthogonal Town Planning in Antiquity and Ancient Landscapes*. (Cambridge: MIT Press, 1971).
- Cerchiaia, Luca. *The Greek Cities of Magna Graecia and Sicily*. (Los Angeles: The J. Paul Getty Museum, 2002).
- Cooper A. B. "The family farm in Greece." *The Classical Journal* 73.2 (Dec., 1977-Jan., 1978), 162-175.
- Cordano, Frederica "A project of Greek colonisation from Sicily to Etruria?" *ASAA* 84.1 (2006), 465-480.
- Coulton, J.J. *The Architectural Development of the Stoa*. (New Haven: Yale University Press, 1976).
- Demand, Nancy M. *Urban relocation in Archaic and Classical Greece: Flight and Consolidation*. (Oklahoma City: University of Oklahoma Press, 1990).
- De Angelis, F. *Megara Hyblaia and Selinous: The Development of Two Greek City States in Archaic Sicily*. (Oxford: Oxford School of Archaeology Monograph 55, 2003).
- De Angelis, Franco. "Ancient Past, Imperialist Present: The British Empire in T.J. Dunbabin's *The Western Greeks*." *Antiquity* 72.277, (1998), 539-49.
- De Polignac, Francois. *Cults, Territory, and the Origins of the Greek City-State*. (Chicago: University of Chicago Press, 1995).
- Di Vita, Antonio. "Town Planning in the Greek Colonies of Sicily from the Time of their Foundations to the Punic Wars." In *Greek Colonists and Native Populations: Proceedings of the First Australian Congress of Classical Archaeology held in Honor of Emeritus Professor A.D. Trendall*, ed. Jean-Paul Descoeudres. (Oxford: Clarendon Press, 1990), 343-364.
- Di Vita, Antonio. "Urban Planning in Ancient Sicily." In *The Western Greeks*, ed. G. Pugliese Carratelli. (London: Thames and Hudson, 1996), 263-308.
- Dougherty, Carol "When Rain Falls from the Clear Blue Sky: Riddles and Colonization Oracles." *Classical Antiquity* 11.1 (Apr., 1992), 28-44.
- Doxiadis, C.A. "How Can We Learn About Man and His Settlements." In *Mutual Interaction of People and their Built Environment*, ed. Amos Rapoport, (The Hague: Chicago, 1976), 77-117.
- Dunabin, Thomas James. *The Western Greeks*. (Oxford: Clarendon Press, 1948).
- Fine, John V. A. "Horoi: Studies in Mortgage, Real Security, and Land Tenure in Ancient Athens." *Hesperia Supplements* 9 (1951), 219-225.

- Finley, M.I., *A History of Sicily: Ancient Sicily to the Arab Conquest*. (New York: The Viking Press, 1968).
- Finley, Moses J. *Studies in Land and Credit in Ancient Athens*. (New Brunswick: Rutgers University Press, 1985).
- Gorman, Vanessa B. "Aristotle's Hippodamos ('Politics' 2.1267 b22-30)." *Historia* 44.4 (4th Qtr. 1995), 385-395.
- Graham, A.J. *Colony and Mother City in Ancient Greece*. (Manchester: University of Manchester Press, 1964).
- Graham, A.J. "Patterns in Early Greek Colonisation." *The Journal of Hellenic Studies*. 91 (1971), 35-47.
- Greco, E. and Mertens, D. "Urban Planning in Ancient Magna Graecia." In *The Western Greeks*, ed. G. Pugliese Carratelli. (London: Thames and Hudson, 1996) 243-262.
- Gwynn, Aubrey. "The Character of Greek Colonisation." *The Journal of Hellenic Studies*. 38 (1918), 88-123.
- Hall, Jonathan M., *Ethnic Identity in Greek Antiquity*. (Cambridge: Cambridge University Press, 1997).
- Hall, Jonathan. *Hellenicity: Between Ethnicity and Culture*. (Chicago: The University of Chicago Press, 2002).
- Hall, Jonathan. "How 'Greek' were the early Greeks in Greek Identity in the Western Mediterranean." In *Greek Identity in the Western Mediterranean: Papers in Honour of Brian Shefton*, ed. Kathryn Lomas. (Leiden: Brill, 2004.) 35-54.
- Haverfield, Francis. *Ancient Town Planning* (Oxford: The Clarendon Press, 1913).
- Holloway, Ross. *The Archaeology of Ancient Sicily*. (London: Routledge, 1991).
- Hurwit, Jeffrey M., *The Art and Culture of Early Greece: 1100-480 BC*. (Ithaca: Cornell University Press, 1988).
- Jameson, Michael. "Private Space and the Greek City." In *The Greek City: from Homer to Alexander*, eds. Oswyn Murray and Simon Price. (Oxford: Oxford University Press, 1990), 171-195.
- Kostof, Spiro. *The City Shaped: Urban Patterns and Meanings Through History*. (London: Thames & Hudson, 1999).

- Lewis, David. "Public Property in the City." In *The Greek City: from Homer to Alexander*, eds. Oswyn Murray and Simon Price. (Oxford: Oxford University Press, 1990), 245-263.
- Malkin, Irad. "Exploring the Validity of the Concept of 'Foundation': A Visit to Megara Hyblaia." In *Oikistes: Studies in Constitutions, Colonies, and Military Power in the Ancient World. Offered in Honor of A.J. Graham*, eds. V.B. Gorman and E.W. Robinson. (Leiden: Brill, 2002). 195-224.
- Malkin, Irad. "A colonial Middle Ground: Greek, Etruscan, and local elites in the Bay of Naples." In *The Archaeology of Colonialism*, eds. Claire L. Lyons and John K. Papadopoulos. (Los Angeles: Getty Research Institute, 2002), 151-181.
- Malkin, Irad. "Postcolonial Concepts and Ancient Greek Colonization." *Modern Language Quarterly* 65.3 (Sept., 2004), 341-364.
- Malkin, Irad. 'Foundations.' In *A Companion to Archaic Greece*, eds. Kurt A. Raaflaub and Hans van Wees. (Malden: Wiley Blackwell: 2009), 373-394.
- McCredie, James R. "Hippodamos of Miletos." in *Studies Presented to George A. Hanfmann*, eds. D. G. Mitten, J. C. Pedley, and J. A. Scott. (Mainz: Fogg Art Museum, 1971).
- Mertens, Dieter. "Some Principal Features of West Greek Colonial Architecture." In *Greek Colonists and Native Populations: Proceedings of the First Australian Congress of Classical Archaeology held in Honor of Emeritus Professor A.D.Trendall*, ed. Jean-Paul Descoeudres. (Oxford: Clarendon Press, 1990), 343-364.
- Mertens, D. *Städte und Bauten der Westgriechen: Von der Kolonisation bis zur Krise am Ende des 5. Jh. v. Chr.* (Munich: Hirmer Verlag, 2006).
- Metraux, G. *Western Greek Land-use and City-planning in the Archaic period*. (New York: Garland Publishers, 1978).
- Mitchell, Lynette G. and Rhodes, P.J. *The Development of the Polis in Archaic Greece*. (London: Routledge, 2011).
- Morakis, Andreas "Thucydides and the Character of Greek Colonisation in Sicily." *Classical Quarterly* 61.2 (2011), 460-492.
- Morris, Ian. "The early polis as city and state." In *City and Country in the Ancient World*. Eds. John Rich and Andrew Wallace-Hadrill. (London: Routledge, 2003).
- Morrow, Glenn R. *Plato's Cretan City*. (Princeton: Princeton University Press, 1960).
- Nevett, Lisa C., *House and Society in the Ancient Greek World*. (Cambridge: Cambridge University Press, 1999).

- Nevett, Lisa C., "Real Estate 'Market' in Classical Greece? The Example of Town Housing." *The Annual of the British School at Athens* 95 (2000), 329-343.
- Osborne, Robin. "Early Greek colonization? The nature of Greek settlement in the West." in *Archaic Greece: New approaches and New Evidence*, ed. N Fisher and H. van Wees. (London, 1998) 251-270.
- Owens, E.J. *The City in the Greek and Roman World*. (London: Routledge, 1991).
- Papadopoulos, John K. and Schilling, Michael R. "Ceramicus Redivivus: The Early Iron Age Potters' Field in the Area of the Classical Athenian Agora." *Hesperia Supplement* 31 (2003), 1-370.
- Pugliese Carratelli, G. *The Western Greeks*. (London: Thames and Hudson, 1996).
- Ridgeway, David. *The first Western Greeks*. (Cambridge: Cambridge University Press, 2004).
- Rose, C. Brian. "Separating Fact from Fiction in the Aiolian Migration." *Hesperia* 77.3 (Jul.-Sept. 2008), 399-480.
- Sakellariou, M.V. *Between Memory and Oblivion: The Transmission of Early Greek Historical Traditions*. Research Center for Greek and Roman Antiquity, National Hellenic Research Foundation, *Meletemata* 12, (1990).
- Scheidel, Walter. "The Greek Demographic Expansion: Models and Comparisons." *Journal of Hellenic Studies* 123 (2003), 120-140.
- Scranton, Robert. "Group Design in Greek Architecture." *The Art Bulletin* 31.4 (1949), 274-268.
- Shear, T Leslie Jr. "The Agora and the Democracy." In *The Archaeology of Athens and Attica under the Democracy*, ed. WDE Coulson, O. Palagia, TL Shear Jr., HA Shapiro, and FJ Frost. (Oxford: Oxbow Monograph 37, 1994). 225-248.
- Shepherd, Gillian "Greek 'Colonization' in Sicily and the West. Some Problems of Evidence and Interpretation Twenty-Five Years On" *Pallas* 79 (2009).
- Van Dommelen, Peter. "Colonial Interactions and Hybrid Practices: Phoenician and Carthaginian Settlement in the Ancient Mediterranean." In *The Archaeology of Colonial Encounters*, ed. Gil J. Stein. (Santa Fe: School of American Research Press, 2005).
- Wycherley, R.E. "The Ionian Agora." *The Journal of Hellenic Studies* 62 (1942): 21-32.
- Wycherley, R. E. "Notes on Olynthus and Selinus." *AJA* 55.3 (Jul., 1951), 231-236.
- Wycherley, R. E. *How the Greeks Built Cities*. (London: Macmillan & Co., 1962).

Wycherley, R. E. "Hippodamus and Rhodes." *Historia* 13.2 (1964), 135-139.

Ward-Perkins, W.B., *Cities of Ancient Greece and Italy: Planning in Classical Antiquity*. (New York: George Braziller, 1974).