

# Greek City Planning in Theory and Practice

Ἐνθεν ἀναστήσας ἄγε Ναυσίθοος θεοειδῆς,  
εἶσεν δὲ Σχερίη ἐκὰς ἀνδρῶν ἀλφηστάων,  
ἀμφὶ δὲ τεῖχος ἔλασσε πόλει καὶ ἐδείματο οἴκους  
καὶ νηοὺς ποίησε θεῶν καὶ ἐδάσσατ' ἀρούρας.

From here godlike Nausithoös had removed [the Phaiakians] and led  
 a migration,  
 and settled in Scheria, far away from men who eat bread,  
 and driven a wall about the city, and built the houses,  
 and made the temples of the gods, and allotted the holdings.

(Homer, *Odyssey* 6.7–10, trans. Lattimore)

In this earliest reference to Greek colonization, the basic elements of founding a new polis are already in place: the uninhabited land, the construction of fortifications and the temples of the gods, the division and allotment of agricultural land, and the building of houses, presumably on lots assigned to the colonists like the farmland. In its essence, the process remained basically the same for a thousand years.

The goal of this chapter is not to provide a history of Greek city planning.<sup>1</sup> Rather, it will consider a few literary accounts and historical cities which develop issues concerning the relations between polis and household, issues which relate to the understanding of the archaeological remains at Olynthus. These issues include the composite nature of the citizen body in new cities and the consequent need to unify a diverse population, the correspondence between physical organization and social structure, and the importance of the distribution of land as a mechanism for achieving unity and order.

A variety of situations could lead to the creation of a new Greek city. Colonization and clerouchies far from the homeland were frequent and familiar phe-

nomena. Villages, small towns, and cities were joined in synoikisms (literally “a dwelling together”) to form a single larger city. Cities were destroyed and rebuilt, or moved and refounded on a new site, or expanded onto a new terrain. According to one estimate, by the fourth century B.C. one-third of all Greeks who lived in cities, lived in cities which had been newly founded since the Geometric period.<sup>2</sup> This continuous founding and rebuilding of cities gave the Greeks ceaseless opportunities to develop theories about the organization of the ideal state, and left traces of those theories in philosophical writings, in the accounts of historians, in inscriptions, and in the remains of the cities themselves. The processes of colonization, synoikism, and refoundation, repeated over the centuries, were important motivating factors in the development of the polis as a characteristically Greek institution. The problems of organizing a new settlement—of drafting laws, designing a city, building its walls, dividing the land, distributing temples to the gods and houses to the citizens—had to be worked out over and over, and the process of solving these problems gave the planners and the inhabitants of these new communities fresh insights into the nature of human society.

By the sixth century B.C. and probably earlier, theorists and oikists had begun to design ideal states based on principles of cosmology and natural history, and to apply those ideas to the foundation of actual cities. They began to recognize explicitly and study the dual aspect of the polis, as concrete city and as social community, and to redefine the relation between those twin aspects to create a society whose social and spatial organizations were correspondent and reflected higher moral and philosophical ideals. In a general way, such redefinition and restructuring occurs in any city foundation. But these processes are particularly important in highly planned and organized communities like the Greek colonies where new laws, new constitutions, new systems of land tenure, and the like were drawn up at the outset, and the city and citizen body laid out and organized taking future expansion into consideration.

We know little about the earlier civic theorists. We know some names, but none of their written works survive save Plato’s and Aristotle’s. Aristotle’s *Politics*, the most complete surviving discussion of ideal states, mentions a few notables: Hippodamus of Miletus, Phaleas of Chalcedon, and Plato; and these are all rather late in the development of Greek urban planning. We can draw some conclusions from extant city plans and from surviving laws and constitutions, but while this evidence suggests that the planners of these early communities were concerned with many of the same problems as later theorists, and seem to have come to sophisticated conclusions about the planning and organization of towns, it does not for the most part help us to reconstruct their thoughts. Their theories were nevertheless familiar to a contemporary audience: Aristophanes could draw a laugh from his Athenian audience by parodying these thinkers in the *Birds*.<sup>3</sup> The reforms of early lawmakers, such as Cleisthenes in Athens and Aletes in Corinth, also demonstrate their concern that the physical organization of the polis reflect its social

organization (and vice versa) and help us identify different means of achieving such correspondence.

#### HIPPODAMUS OF MILETUS

The most famous Greek urban theorist, and the earliest of whom we have any real knowledge, was Hippodamus of Miletus. If he wrote treatises they are long gone, and we know of his personality and thoughts primarily from Aristotle's brief description in the *Politics*.<sup>4</sup> Although (wrongly) famous as the inventor of the grid-planned city and discussed today mainly as an architect and city planner, Aristotle tells us that Hippodamus "wished to be a man of learning in natural science generally, [and] was the first man not engaged in politics who attempted to speak on the subject of the best form of constitution" (*Politics* 1267b). Hesychius and Photius, both late lexicographers, describe Hippodamus as a *meteorologos*, a natural philosopher. Hippodamus thus seems to have come to city planning from the theoretical, rather than the practical side of things; he was concerned not solely with the physical layout of cities but in the ordering of an ideal society, and he designed his ideal city to accommodate such a community.<sup>5</sup> But he was also involved in the planning of a number of historical cities: the Piraeus is securely attributed to his hand, and Thurii and Rhodes are also associated with him.<sup>6</sup> Thus although we know few details of his utopia, we can fill out some of his thoughts, at least about its physical appearance, from its realization at those sites.

Aristotle tells us that Hippodamus "discovered the division of *poleis*" (*τὴν τῶν πόλεων διαίρεσιν εὗρε*). This could refer to the physical planning of the city—not the invention of the grid plan, which was already ancient when Hippodamus was born, but some other aspect of the city's organization—as well as to the division of the polis as a community of citizens. It very probably refers to both, and to the correspondence between physical and social planning.<sup>7</sup> Hippodamus organized his ideal state in a tripartite system. The polis, of 10,000 citizens, was divided into three sections based on occupation: one section of artisans, one farmers, and the third soldiers. Likewise the land was to be divided into three parts, religious, public, and private sections; the laws were organized into three classes, wanton assault, damage, and homicide; and the magistrates were to attend to three subjects, public matters, matters relating to aliens, and matters relating to orphans. Such an attention to numerology is sometimes attributed to either Hippodamus's background in Ionian natural science or to Pythagorean influence, but it is encountered in other political and architectural works, for instance in the *Laws* of Plato, and could be seen as characteristic of general Greek ideas about city and social planning rather than of Ionian thought in particular.<sup>8</sup>

All citizens of Hippodamus's state were not landholders: the private section of land was owned by the farming class, while the public section of land was de-

voted to producing food for the soldiers, and the artisans presumably lived off their work.<sup>9</sup> But although the majority of the population did not own land, all citizens were equally enfranchised: Aristotle says that the *demos* was composed of all three “sections” (*μέρη*) of citizens, and formed the assembly which elected the city magistrates.<sup>10</sup> The aim of Hippodamus here is to create a state in which, although both the citizens and the civic space are divided into specialized sections, these sections are uniform, parallel, and equivalent to one another. Thus although his state is organized along different lines from such previous states as Cleisthenes’ Athens, it is still not explicitly hierarchical in its social organization nor in its conception of space.

Aristotle further tells us that he “cut up” (*κατέτεμεν*) the Piraeus, and refers to cities planned “according to the newer and according to the Hippodamian manner” (Pol. 1330b). Hippodamus was a practicing planner, and aspects of his thought can be understood through how it was carried into practice. Hesychius and Photius provide glosses on *Ιπποδάμου νέμησις*, “the nemesis of Hippodamus,” explaining it as “Hippodamus, son of Euryboön and a meteorologos, divided (or distributed) the Piraeus for the Athenians.”<sup>11</sup> These nemeses thus seem to be related to the “division of cities,” at least of the Piraeus.

A group of boundary stones from the Piraeus documents these nemeses.<sup>12</sup> The inscriptions are dated by letter forms to the fifth century, and some at least probably belong with Hippodamus’s replanning. Of particular interest are three boundary stones delimiting the nemeses of the city (*ᾶστυ*) and of the Mounichia hill. These inscriptions read: [ἀ]χρὶ τ[έσ]δε τῆς ῥοδὸς τείδε ἡ Μονιχίας ἔστι νέμησις, “Up to this road here is the nemesis of the Mounichia,” and two stones read ἀχρὶ τῆς ῥοδὸς τεσδὲ τὸ ἄστυ τείδε νενέμεται, “up to this road here the City has been ‘neme-sized.’”<sup>13</sup> The word *νέμησις* is derived from the verb *νέμω*, a rather general verb meaning “to divide, apportion, distribute,” and is occasionally used, by itself and in compounds, in contexts of urban planning for the division of land or citizens into smaller sections, for distribution of land to citizens, and the like.<sup>14</sup> McCredie suggests that in this context *νέμησις* had a technical meaning, and translates it as “‘plan,’ ‘layout’ or even ‘grid,’ rather than simply ‘occupation’ or some such.”<sup>15</sup>

The boundary stones themselves directly attest only one nemesis, the Mounichia, a hill in the eastern part of the city. This stone was found in situ just northwest of the hill. The other two stones, reading ἀχρὶ τῆς ῥοδὸς τεσδὲ τὸ ἄστυ τείδε νενέμεται, were not found in situ.<sup>16</sup> McCredie translates the inscriptions “Here, up to this street, the City has been planned,” suggesting that the *ἄστυ*, as distinct from the Mounichia and other regions, formed one nemesis.<sup>17</sup> But the different phrasing of the two inscriptions might suggest a different meaning, and the second text might just as easily be translated “Here, up to this street, the City has been divided into nemeses.” The City would then not be a single nemesis but a series of nemeses, of which the Mounichia is one.

Unfortunately the actual plan of the Piraeus is rather poorly known, since the

Sullan destruction left the city in ruins and the modern port has destroyed or buried what was left. The little that is known, primarily from nineteenth-century observations, suggests that the hills of Mounichia and Akté were laid out without a true grid plan. Since the Mounichia formed one nemesis it is possible that the Akté formed another. The flatter central part of the Piraeus, in contrast, was laid out in a regular grid, with four main streets oriented northeast-southwest, and a number of main streets (five?) oriented northwest-southeast. These seem to define a series of large parcels of land, about  $250 \times 275$  m, which were subdivided by smaller streets into house blocks.<sup>18</sup> This type of hierarchical divisive planning, with wide streets defining “major rectangles” which are then subdivided into blocks, is a method quite different from that of cities like Olynthus, where streets of equal width divide the city into blocks, without larger arteries or clearly divided sectors.

Hippodamus’s most significant contribution to city planning, then, is probably this special method of division of land and territory. Although Aristotle describes only three broad functional categories of land in Hippodamus’s ideal state, his “division of cities” seems to be more complex, flexible, and generally applicable than a simple division of land by function. As McCredie points out, it is this aspect of Hippodamus’s planning, rather than any innovations in orthogonal street patterns, which established his position as the father of Greek city planning.

At least in Aristotle’s account of Hippodamus’s thought, we find established most of the technical terminology used later in planning cities. Hippodamus’s discovery of the “division of cities” and his “distribution” of the city into nemeses set the groundwork for later planners, both of utopias, such as Plato’s Magnesia and Aristotle’s city in the *Politics*, and of real cities.

#### PLATO’S LAWS

Of Plato’s three utopian works, the *Republic*, the *Statesman* and the *Laws*, the last is his fullest account of the design and establishment of a new city. Published in 346 B.C., a year after Plato’s death and two years after the destruction of Olynthus, the *Laws* is couched in terms of a plan to establish a colony—Magnesia—near the south coast of Crete. Although replete with details about the location of the city, the origins of its citizens, and so forth, and although Plato claims that this is not going to be an ideal utopia but will take into account the imperfections of human nature, the *Laws* is not meant to be a blueprint for an actual city, any more than the dialogue is intended as a record of a real conversation.<sup>19</sup> Nonetheless, Plato’s prescription for the foundation of Magnesia seems to agree in many respects with what we know or would expect of the planning of real Greek cities, and just as many of his laws are based on actual Greek codes, his account of the foundation of his Cretan “almost-utopia” may reflect, in some respects, actual Greek practice.<sup>20</sup>

Plato's city is to be established in the middle of the countryside, far enough from the sea to be safe from the pernicious influences of ports and commerce.<sup>21</sup> It is surrounded by farmland sufficiently fertile to make the state self-sufficient, and by mountains and forests for other resources. Moreover, it will have no neighbors, for the land has been deserted for many ages; so the problems of relations with the outside world will be minimized. The setting is staged as an ideal environment for the nurture of civic virtue and for the creation of a polis based on principles of what is best for men, rather than what is necessary or expedient in the political climate of a real Greek city.

### A Composite Community

The population of Magnesia is to be mixed, from all over Crete and the Peloponnesus: a sort of joint colonization and *synoikismos* led by settlers from Knossos.<sup>22</sup> These were the most common methods of assembling a citizen body: from groups emigrating from their homeland as colonists to found or join another city, or by whole communities moving and joining together to form a larger polis. Plato discusses the advantages and disadvantages of such a composite community, made up of citizens from different origins, different *γένη*:

It would not be equally easy for States to conduct settlements in other cases as in those when, like a swarm of bees, a single clan goes out from a single country and settles, as a friend coming from friends, being either squeezed-out by lack of room or forced by some other such pressing need. . . . All such cases [of a single group emigrating] are in one way easier to manage, as regards settling and legislation, but in another way harder. In the case where the race is one, with the same language and laws, this unity makes for friendliness, since it shares also in sacred rites and all matters of religion; but such a body does not easily tolerate laws or polities which differ from those of the homeland. . . . On the other hand, the clan that is formed by fusion of various elements would perhaps be more ready to submit to new laws, but to cause it to share in one spirit and pant (as they say) in unison like a team of horses would be a lengthy task and most difficult. (*Laws* 708C–D)<sup>23</sup>

Another advantage of having diverse sources of colonists, says Plato, is that one can recruit only the best citizens and so avoid the common afflictions of crime, *stasis*, and other “diseases of the polis.” For Plato admits that laws alone are unable to cure the strife, the demands for redistribution of land, the cancellation of debts that were so feared by the landowners of Greek cities. The remedy for this dissension must lie with the landowners themselves, who must be willing to redistribute their own property and cancel debts. “For when a state is obliged to settle such strife by law, it can neither leave vested interests unaltered nor yet can it in any wise alter them, and no way is left save what one might term that of ‘pious

aspiration' and cautious change, little by little, extended over a long period" (*Laws* 735C–737B).

### Inequalities and Civil Strife

This concern about civic strife between citizens was a decisive consideration in the design of a new community, for Plato and for the planners of actual cities. In both the *Republic* and in the *Laws*, Plato attributes such strife to economic inequalities among citizens, a view shared by some other Greek urban theorists: "It is, as we assert, necessary in a state which is to avoid that greatest of plagues, which is better termed disruption [*διάστασις*] than dissension [*στάσις*], that none of its citizens should be in a condition of either painful poverty or wealth, since both these conditions produce both these results; consequently the lawgiver must now declare a limit for both these conditions" (*Laws* 744D).

Theories regulating the amount of citizens' wealth were proposed by other lawmakers. "The question of property, they say, is universally the cause of party strife," writes Aristotle, who then describes the constitution of one of these theorists, Phaleas of Chalcedon (Pol. 1266a-b). This man was the first to introduce the idea of equalizing the property of citizens, by edict in a newly founded city or by regulating dowries in cities that already existed. In other states, too, "some of the laws that were enacted . . . in early times prohibited the ownership of more than a certain amount of land." Aristotle criticizes Phaleas's single-minded focus on inequality of property, saying that "equality of property among the citizens is certainly one of the factors that contribute to the avoidance of party faction; it is not however a particularly important one." But in his long discussion of the causes of stasis, Aristotle himself writes, "For stasis is everywhere due to inequality . . . for generally the motive for stasis is the desire for equality."<sup>24</sup> Aristotle's "equality" is not simply economic equality, but social and political as well, and "equality" itself may be defined in a number of ways; but economic inequality is certainly among the motives. And from the eighth century on, planned colonies seem to have attempted to equalize the amount of land distributed to each citizen and so maintain a balance between poverty and wealth.

The lawmaker may avoid the evils brought about by economic inequalities, writes Plato, through proper distribution when the community is laid out: "But as for those to whom—as to us now—God has given a new state to found, and one free as yet from internal feuds,—that those founders should excite enmity against themselves because of the distribution of land and houses [*διὰ τὴν διανομὴν τῆς γῆς τε καὶ οἰκήσεων*] would be a piece of folly combined with depravity of which no man could be capable" (*Laws* 737B).

But how to do this? "What then would be the plan of a right distribution? First, we must fix at the right total the number of citizens; next, we must agree about the distribution of them, into how many sections [*μέρη*] and each of what size,

they are to be divided; and among these sections we must distribute, as equally as we can, both the land and the houses" (737C).

In his more "realistic" Laws, Plato does not attempt to absolutely equalize the wealth of all the citizens as he does in the Republic. Instead he institutes four property classes, depending on the amount of wealth each colonist brings to the new city; a citizen may however move from one class to another if he becomes richer or poorer. Through the principle of "proportionate inequality" (*τῷ ἀνίσῳ συμμέτρῳ*) citizens are given offices and honors according to their wealth and class; and this, he argues, should reduce friction among the citizens and lead to greater friendship. The property classes also play a role in the election of the council, in taxes and contributions, and in disbursements.<sup>25</sup>

The difference in wealth between the richest and poorest citizens is to be strictly limited, however. The lower limit is set at the citizen's allotment, which is to be inalienable; while the upper limit is three, or four, or five times this amount.<sup>26</sup> If a citizen accumulates more than this amount, the surplus is given to the city and "to the gods who have the state in their keeping." Citizens are not allowed to accumulate gold, silver, or other precious metals, nor are they allowed to keep foreign currency; the state will use its own currency which has only token value.<sup>27</sup>

### The Division of Citizens and Polis

The number of households in Magnesia is fixed at 5,040, a number which attains an almost mystical significance in the Laws.<sup>28</sup> In keeping with his aim of the equitable and harmonious division and distribution of land and citizens, Plato chooses this number because it is divisible by all the whole numbers from one to twelve, excepting eleven; in all it is divisible by fifty-nine divisors. In choosing this number, Plato's aim is to allow the citizen body to be divided evenly into the various subdivisions a polis needs to function and, through this process of rational and harmonious subdivision, to achieve (or at least foster) the harmony among the citizens which will allow the state to avoid stasis.<sup>29</sup>

That very self-consistency we must now do our best to consider in conjunction with the proposed division of the state into twelve parts, inquiring in what conspicuous way the twelve parts, which in their turn admit of being divided into very many ways,—these and their immediate subdivisions, and those which spring from them, until we get down to the 5,040 individual citizens—and such divisions will give you your phratries, your demes, and your villages, and besides these, your military divisions and levies, yes, and your money-values and your measures, whether of solids, liquids, or weights — how all these, I say, are so to be fixed by law as to harmonize with and to fit in with each other (746D, text and translation England).<sup>30</sup>

Plato thus institutes three different principles of the subdivision of the citizen body, all of which, he believes, will enhance civic harmony: a diverse population from various states, which may be more receptive to a new law code; a well-thought-out system of subdividing the population into smaller groups, tribes, phratries, demes, and the like; and a system of property classes. These all crosscut each other, so that for instance the tribes are all of equal wealth with, presumably, members of the four property classes distributed equally among them. On the other hand, Plato rejects Hippodamus's division of citizens by occupation. All citizens own land or at least belong to land-owning families, and all participate in the military defense of the territory, while crafts and other such activities are expressly forbidden to citizens and even the slaves of citizens, and are restricted to metics. The citizen body is thus homogeneous, not specialized, and the tribes all equivalent and interchangeable. This homogeneity is further extended to the spatial organization of the state, which thus reflects the social structure of the polis.

For understanding the physical planning of this semi-utopia, and the relation between its physical and social organization, the most explicit section of the Laws is in Book 5, where Plato prescribes how the city and countryside will be divided, the allotments distributed, and the population organized (Laws 745B–747E). Although the description is of a purely hypothetical state, Plato uses a terminology which seems to reflect actual practice, and his procedure may, in some respects, follow that of genuine city planners. Although this is one of the fullest preserved descriptions of the founding of a state, his description of the physical planning of the polis is brief and sketchy: the physical realization of his system is of less interest than the design of that system and the "moral planning" of the citizens through proper laws. This attitude is prevalent, not only among philosophic writings but among Greek historians and in documentary sources concerning the foundations of actual cities.

The lawgiver must set aside a fortified acropolis for the city gods—Hestia, Zeus, and Athena. This area is kept independent of the land which is to be divided, assigned to one purpose or another, and allotted to the citizens; it remains a separate entity within the polis but unconnected with its physical and social divisions.

Like the citizen body, the city and countryside (*chora*) are divided up on a number of levels:

After this, he [the lawmaker] must divide twelve sections, first setting aside a sacred precinct for Hestia, Zeus and Athena, calling this the acropolis and enclosing it with a ring-wall; starting from which [i.e., the acropolis] he must cut the city itself and all the country into twelve sections. It is necessary that the twelve sections be equal, by making those of good land small, and those of inferior land larger. He must divide [the land into] 5,040 *kleroi*, and further cut each of these in two, and join two pieces into a composite allotment, each containing a near plot and a distant plot—joining the plot

nearest the city with that nearest the border, and the second nearest with the second furthest, and all the rest likewise. And with these double-allotments he must use the same device which we just now spoke of, about the poor land and good, making them equal through the greatness or smallness of the distribution. He must also distribute the citizens into twelve sections, making the twelve sections as equal as possible with respect to the other property [i.e., other than the allotted land], after a census of all [the citizens] has been made. And finally he must allocate twelve sections to the twelve gods as *kleroi*, and name the allotted section after each god and dedicate it to him, and name the tribe itself [after the god]. And then he must cut up the twelve sections of the city in the same manner as he distributed the other country, and he should distribute to each [landholder] two houses, one near the center and the other near the borders. And thus the settlement will be completed.<sup>31</sup>

The polis is first divided into twelve “sections” (*μέρη*), city and country independently, starting from the acropolis.<sup>32</sup> The countryside sections are made equivalent in worth, rather than equal in size, by making those of fertile land smaller and those of poor land larger. The urban core (*ἄστυ*) is likewise divided into twelve sections. The citizen body, too, is to be divided into twelve sections (also *μέρη*), again making each section equivalent in wealth.

These “sections” of the city, the territory, and the citizen body are obviously parallel, and although in this rather elliptical passage Plato never explicitly states that one section of citizens will inhabit one section of city and territory, that seems to be his intention. Sections are appointed to each of the twelve gods as allotted holdings, *kleroi*, and these would seem to refer to the sections of territory; but then each is consecrated to the god and the tribe named after him; this would imply a section of citizens. The logical interpretation is that the tribe (both a *φυλή* and a *μέρος*) of citizens named after each god will inhabit the section (also a *μέρος*) of territory which is that god’s allotted *kleros*.<sup>33</sup> Likewise, craftsmen (*δημιουργοί*, who are not citizens but nevertheless are necessary to the functioning of the state) are to be divided into thirteen “sections,” one of which will be settled in the city, and the others distributed through the country sections.<sup>34</sup>

Plato thus describes a perfect correspondence between the social and physical organization of the polis. Citizens and territory are divided into sections, which are identical in wealth, fertility, and structure. These tribal sections form semi-independent units within the state. Each section of the countryside has its own internal administration: a central village with temples, marketplace, artisans for self-sufficiency, its own fortress and defense organization, and its own courts.<sup>35</sup> The sections are also religious units, each with its own god or daemon or hero assigned to it, with sacred land, sanctuaries, and urban and rural festivals.<sup>36</sup>

On a lower level, the agricultural territory is divided into 5,040 *kleroi* corre-

sponding to the 5,040 households, and each *kleros* divided in two: these halves are then joined, one near to the city with one far from the city, to form one composite *kleros*. Like the sections, these *kleroi* are to be made equivalent in worth rather than equal in size. The city, too, is to be divided “in the same manner” as the countryside into 5,040 *kleroi*. Each citizen thus has three parcels: one of the 5,040 city *kleroi*, and one of the composite countryside *kleroi*, which is composed of two half-lots. Each citizen also receives two dwellings, “one near the center and one near the outskirts.” By this Plato probably means a city house and a country house, as was usual in Classical Greece, although in theory he could instead mean one house on the half-*kleros* near the city, the other in the half-*kleros* far away.

Making sections of land and *kleroi* equivalent in worth or produce rather than equal in size was practiced in some historical Greek states. Two bronze tablets from Heraclea in Lucania record the resurveying and rental of sacred properties of Dionysus and Athena Polias, and although Dionysus has more than three times as much land as Athena—roughly 330–350 hectares as opposed to 93–98 hectares—the amount of arable land is much closer: Dionysus has 109–117 ha, Athena 83–88. This may have resulted from a deliberate attempt to equalize the holdings of the two deities by giving Dionysus a larger area of less fertile land.<sup>37</sup> In a related manner, Cleisthenes equalized the representation in the ten tribes of the three different regions of Attica through a proportional reallotment of the demes depending on their population, an analogous process. And at Sparta, the *πολιτικὴ χώρα*, land belonging to the citizens rather than the *περιοίκοι*, was divided into lots which were equal in yield rather than in extent.<sup>38</sup>

Plato is a philosopher, not an architect or an *oikist*, and so does not describe in detail how the sections and *kleroi* are to be organized in the city and the countryside: how the sections are to be laid out, how they are distinguished from one another, whether there are to be boundaries between them, how city blocks are to be designed, houses constructed, and so forth. He does lay down some of the building codes for public buildings, particularly about city walls. Like so many of his contemporaries, Plato believed that ideally “walls should be made of bronze and iron, rather than earth”; but like any pragmatist of the fourth century, he realized that a real city would need walls.<sup>39</sup> He therefore prescribes that if a city must have walls, then “the building of the private houses must be arranged from the start in such a way that the whole city may form a single wall; all the houses must have good walls, built regularly and in a similar style, facing the roads so that the whole city will have the form of a single house, which will render its appearance not unpleasing, besides being far and away the best plan for ensuring safety and ease of defense” (779B).

This scheme is actually used at Olynthus, where the fortification wall formed the back walls of the houses in Rows A and A', and probably along the east side of the city as well.

Plato’s Magnesia is thus a complex and highly organized community, its social

organization mirrored in its physical layout. The twelve tribes which form basic divisions of the citizens are reflected in the twelve sections of the city and of the countryside, and in the religious festivals and other civic institutions. The 5,040 households are distributed into 5,040 *kleroi*, whose tripartite nature also manifests the various concerns of the citizens: as members of an urban community, as agricultural smallholders, as defenders of the territory. Both the “sections” and the *kleroi* are geographically mixed, each containing segments of city, country, and borderland, thus integrating the different regions of the state and spanning local concerns, just as Cleisthenes tried to span local concerns in his reorganization of Attica. The division of territory into villages, demes, and the like may further reflect social ties; while other types of land division, such as functional separation of public and private spaces, will reflect more general views of the relations between man, the polis, and the gods. We will see many of these equivalences repeated in other theoretical works, such as Aristotle’s *Politics*, and manifested in actual cities.

#### ARISTOTLE’S POLITICS

Whereas Plato’s *Laws* develops a complex, detailed system for establishing a new society, the *Politics* of Aristotle is more analytic, and his thoughts about constitutions, social orders, and the design of states tend to be descriptive rather than prescriptive and utopian. As an analysis of ideal and existing states, of the causes of revolution and dissension in historic states, of the relation between *oikos* and *polis*, the *Politics* is probably our most important source for understanding Greek urbanism. Here, however, I only wish to consider Aristotle’s rather short section of prescriptions for the founding of the ideal state in Book 7.

Aristotle makes only general recommendations about the size of the population and territory of his state. They should be neither too large nor too small; for a state that is too small cannot be self-sufficient, while one that is too large cannot be governed. “Ten people would not make a city, and with a hundred thousand it is a city no longer.”<sup>40</sup> He does not give figures as Plato or Hippodamus do, but only rules of thumb: the population should be “the greatest surveyable number required for achieving a life of self-sufficiency,” and the territory “should be large enough to enable its inhabitants to live a life of leisure which combines liberality with temperance.”<sup>41</sup>

Aristotle bases the organization of his ideal state on his analysis of the elements necessary to its existence: food, handicrafts, arms, property, public worship, and a system of deliberation and jurisdiction. From this he defines the occupations necessary to each state: farmers, craftsmen, soldiers, a propertied class, priests, and judges. These occupations lead to the question of the division of labor

within the state; for the distribution of labor, says Aristotle, is the main cause of the differences between constitutions.<sup>42</sup> Some of these occupations may be relegated to noncitizens, however, if they are considered unsuitable for the elements which are true “parts” of the state.<sup>43</sup> His system is unusual, though, in relegating not only industry, trade, and commerce to noncitizens, but also farming, on the grounds that farming prevents the leisure “necessary both for growth in goodness and for the pursuit of political activities.”<sup>44</sup>

Property, he argues, should be owned by citizens, to allow them that leisure; property ownership therefore will not be a separate class or occupation.<sup>45</sup> This leaves the military, judicial, and religious functions as the proper occupations for a citizen, and Aristotle distributes these to the young, mature, and elder citizens respectively, so that each citizen performs all three functions but in different phases of his life.<sup>46</sup> Thus Aristotle does not construct a class system based on property, as does Plato, but a system based on occupation.

In addition to dividing the citizens into occupations, he divides them into smaller groups which share “common tables” (*συσσίτια*). The organization of these groups is not specified in detail, but in part at least they have a military function since the messes of some of the younger citizens will be in guard posts distributed along the walls. Similar systems of defense based on social units are prescribed by Aeneas Tacticus, and were found in Smyrna, Stratonikeia, and elsewhere.<sup>47</sup> He does not mention civic groups such as tribes, demes, or other such divisions, but he must have taken these divisions for granted as parts of any state, which need not be specified or described in detail.

Aristotle is much more conscious than Plato of the relations, often hostile, between neighboring states, and many of his prescriptions about the siting, layout, and division of states are determined by military considerations. He is also more concerned with the friendly relations between states: with the market, imports and exports, and with diplomatic relations. His state does not exist in a vacuum with no neighbors, no foreign currency or other contacts with the outside world, as does Plato’s Magnesia; it exists within the contemporary realities of Greece at the beginning of the Hellenistic period, and these realities constrain the design of his state so that its physical layout cannot perfectly reflect his social ideals.

Aristotle’s description of the siting and organization of a city is justly famous, although confusing in a number of points.<sup>48</sup> The question of the proximity of the sea to his ideal state is a concern to Aristotle as it is to Plato. Unlike Plato, however, he recognizes the advantages of commerce and naval power to a real-world polis and so recommends that the state have a port, but that it be far enough away to allow the state to regulate and legislate the dangers of strangers and foreign contacts to the moral development of the citizens.<sup>49</sup> The specific siting of a city, says Aristotle, depends on its constitution: “an acropolis is suitable for oligarchy and monarchy, a level plain suits the character of a democracy; neither suits an aristoc-

racy, for which a number of different strong places is preferable" (Pol. 1330b). He again draws parallels between the social organization of a state and its physical situation.

Like Plato's Magnesia, Aristotle's city is placed in the center of its territory for ease of communication and transportation. The siting should be determined by four considerations: health, political life, military security, and water. It should be on sloping ground, preferably facing east or towards east breezes or, failing that, facing south.<sup>50</sup> It should be difficult of access for the enemy but easy for the inhabitants to escape from. It should have plentiful fresh water and healthy breezes; and if all the water is not equally pure, drinking water should be kept separate from other sources.

Like other planners, Aristotle divides the territory of his ideal state into sections (*μέρη*). He first divides the land into two sections, public and private.<sup>51</sup> Each of these sections he then divides in half: the public section into land used to support religious functions and land used to support the "common tables," and the private section into a district nearer to the city and a district nearer to the borders of the territory. Each citizen will then receive one plot in each section. Like Plato, he wishes to avoid civil strife over the ownership of land near the city and also wants all citizens to "share in both districts" so that all have a common interest in defending the frontier. These sections are thus more similar to Hippodamus's tripartite functional division than to Plato's semi-independent districts, just as Aristotle's division of citizens into groups based on occupation is more similar to Hippodamus's than to Plato's tribes.

Aristotle is one of the few authors to make specific comments about the design and layout of a city, its street pattern, blocks, and houses. In an important but somewhat obscure passage, he recommends that

Ἡ δὲ τῶν ιδίων οἰκήσεων διάθεσις ἡδίων μὲν νομίζεται καὶ χρησιμωτέρα πρὸς τὰς ἄλλας πράξεις ἃν εὔτομος ἦ καὶ κατὰ τὸν νεώτερον καὶ τὸν Ἰπποδάμειον τρόπον, πρὸς τὰς πολεμικὰς ἀσφαλείας τούναντίον ὡς εἶχον κατὰ τὸν ἀρχαῖον χρόνον· δυσείσοδος γάρ ἐκείνη τοῖς ξενικοῖς καὶ δυσεξερεύνητος τοῖς ἐπιτίθεμένοις.

The arrangement of private dwellings is considered to be more pleasant and more convenient for other purposes if it is regularly planned [*εὔτομος*], both according to the newer and according to the Hippodamian manner; but for security in war [the arrangement is more useful if it is planned in] the opposite [manner], as it used to be in ancient times. For that [arrangement] is difficult for foreign troops to enter and find their way about in when attacking. (Pol. 1330b, adapted from the Loeb translation)

Aristotle is clearly contrasting regularly with irregularly planned cities, and seems to suggest that the "Hippodamian manner" is a special instance of the

“newer,” being both *εὔτομος*, “regularly planned,” but also having other characteristics, such as division into larger regions (*nemeses?*).<sup>52</sup>

The meaning and implications of the term *εὔτομος* (literally “well cut,” but in this context generally translated “well divided, regular,” or “regularly planned”) are not completely certain. Kondis takes *εὔτομος* as applying only to the residential portion of the city.<sup>53</sup> To him, it implies “cut by frequent streets”—and hence, through its easy communication, a “well-cut arrangement” (*εὔτομος διάθεσις*) would be convenient for other purposes but vulnerable and easy to penetrate in wartime.

Although in this passage Aristotle is only discussing the residential district of the city, I suspect that the term ought to apply to the plan of the whole city. *Τέμνω, κατατέμνω* and related terms meaning “to cut” are frequently used to describe the process of laying out an entire city and its surrounding territory. We have already seen how Hippodamus himself was said to have “cut up” (*κατέτεμνεν*) the Piraeus, and how Plato “cuts” (*τέμνειν*) the city and the countryside into twelve pieces. These processes are applied to whole cities and their territory, not simply to residential areas. *Εὔτομος* then should be a feature of the plan of the entire city; Aristotle notices it particularly in the context of the residential quarter because the geometric layout of blocks, the regularity of the streets which divide them, and the relation between streets, avenues, alleys, and other such dividing features of the city plan would have been most obvious there. Public areas and buildings, on the other hand, would be characterized by more monumental architecture, distinctive siting, and other features besides their layout in the city grid.

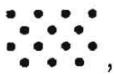
A “well-cut arrangement of private houses” might imply a specific geometric pattern to Aristotle, a particular relation between the length and width of blocks (or the rhythm of streets and cross streets), or between wider avenues and narrower streets (*πλατεῖαι* and *στενωποί*); but what that geometric pattern would be is difficult to say. Aristotle only describes it as “pleasing and convenient” but says that its disadvantage is that it is easy for an enemy to penetrate and explore; and those could be true of almost any type of grid plan.

Aristotle’s solution to this dilemma is that

διὸ δεῖ τούτων ἀμφοτέρων μετέχειν (ἐνδέχεται γὰρ ἂν τις οὕτω κατασκευάζῃ καθάπερ ἐν τοῖς γεωργοῖς ἃς καλοῦσί τινες τῶν ἀμπέλων συστάδας) καὶ τὴν μὲν ὅλην μὴ ποιεῖν πόλιν εὔτομον, κατὰ μέρη δὲ καὶ τόπους· οὕτω γὰρ καὶ πρὸς ἀσφάλειαν καὶ κόσμον ἔξει καλᾶς.

Hence it is well to combine the advantages of both plans (for this is possible if the houses are laid out in the way which among the farmers some people call ‘on the slant’ in the case of vines), and not to lay out the whole city in straight streets, but only certain parts and districts, for in this way it will combine security with beauty. (Pol. 1330b)

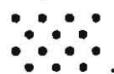
No really satisfactory explanation for Aristotle's simile to a vineyard has been offered. A *σύστασ*, literally "a closely planted vineyard," has generally been interpreted as the Roman quincunx, in which grapevines are planted in the spaces between rows, thus:



in contrast to vines planted in rows (*κατὰ στοῖχον*). In a long discussion of this passage, however, Kondis emphasized that the ancient sources do not specify a particular geometric arrangement of vines, but only that the vines are planted very close together. He therefore suggests that Aristotle is describing an arrangement of dwellings which minimizes the number of streets, packing the houses closer together and reducing the number of access routes into the heart of the city. The arrangement of the Piraeus, Rhodes, and Thurii, for instance, with a fairly small number of wide avenues (*plateiai*) dissected by narrower streets (*stenopoi*) which would allow access to the houses but not easy passage through the city to foreign troops would satisfy this interpretation.<sup>54</sup>

But if the main feature of Aristotle's arrangement of houses was that it was closely packed, there are certainly less ambiguous ways to express that idea. His simile ought to be to the arrangement of the vines rather than to their proximity to one another. In modern vineyards, one of the most striking features of the arrangement of vines is that as you move through the field, a variety of different alignments appears from different points: from one vantage point you look straight down a row, from another vantage point only a few feet away you can see through the vines at an angle, and new alignments and paths seem to appear at every moment. Aristotle may envision an arrangement which is geometrically regular but more complex than a simple grid: one which includes diagonal streets, for instance; this would make the arrangement confusing to foreign troops.

Another possible explanation might be derived from the way a closer planting of grapevines is achieved by using the quincunx pattern. A quincunx may be considered as a grid of grapevines whose interstices have been planted with more vines, thus achieving the "dense planting" described by ancient authors:



Those extra vines essentially block the paths between the vines, thus meeting Aristotle's demand that the arrangement be "difficult for foreign troops to enter and find their way about in when attacking." Translated into a system of blocks rather than vines, his arrangement might look like this:



There would still be straight access in one direction, but in the other direction the offset blocks would interrupt any direct route from the outside of the city to its heart. By applying this system "in sections and regions," a city planner could ori-

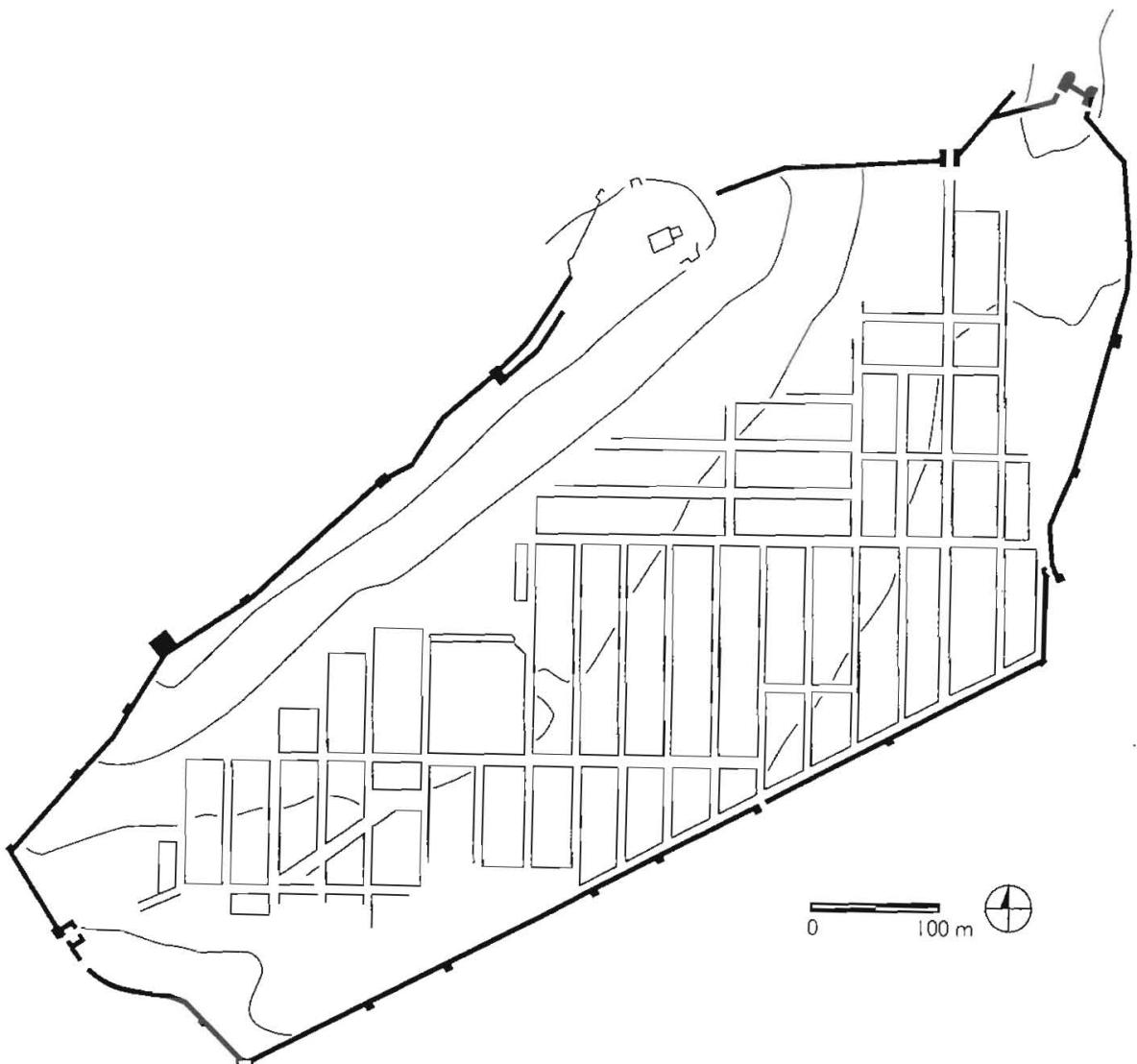


FIGURE 2. Plan of Goritsa

ent the offsets so that most of the major accesses from the gates were blocked. The system would thus be "well-cut" and secure at the same time.

No examples of these exact schemes of city planning are known, and they remain theoretical constructions, whether Aristotle's or merely my own. But peculiarities of the layouts of a few cities may be associated with this passage of the *Politics*. The city of Goritsa in Thessaly was laid out in the last quarter of the fourth century—just after the *Politics* was written. Although Goritsa could have been laid out on a very regular grid oriented northeast-southwest, it was in fact oriented almost due north-south, forcing a more irregular layout of blocks (fig. 2). The city is divided into a number of regions with different layouts, some with the blocks

oriented north-south, some oriented east-west; and at the boundaries of these regions the blocks are offset from one another so that only a few streets run from the gates into the center of the city. The city thus might be seen as laid out both as a closely planted vineyard and in sections and regions, with offsets between the sections.<sup>55</sup> Likewise, an offset in the grid of Stymphalus has been interpreted as planning “in sections and regions.”<sup>56</sup> It is tempting to attribute irregularities in the grid plan in the Villa Section of Olynthus to such considerations as well (see chapter 2).

Within the “well-cut arrangement” of the city, Aristotle specifies the location of a number of institutions (*Pol.* 1331a-b). Certain temples, and the common tables of the officials, are together given a separate location in the city, distinguished by natural prominence and fortified (or at least naturally defensible) from the neighboring sections of the city. Below this is an area reserved exclusively for the full citizens. Aristotle compares it to the Thessalian “free agora” and stipulates that it should be free of buying and selling, reserved for leisure activities. The commercial agora, on the other hand, is to be set apart, outside the rest of the city, in a central spot convenient to both port and countryside. This will also be the civic center, with law courts, administrative buildings such as the offices of the market officials and city officials, and other matters of business. Other temples must be set apart, their locations governed by the requirements of their separate cults. The locations of these institutions are thus determined primarily by topography and by natural qualities of the land, just as the location of the city itself is determined by the topography suitable for its constitution. Aristotle is again striving for a complete functional division of space: he does not divide the city into parallel sections like Plato’s *μέρη*, but into regions which are both topographically and functionally separated.

These same principles govern the division of the territory of the city. There are to be temples to gods and heroes, administrative centers, guard posts for defense and other features of the city. Aristotle spends little time describing these, however, but ends his discussion of the organization of his city: “But to linger at this point over the detailed statement and discussion of questions of this kind is a waste of time. The difficulty with such things is not so much in the matter of theory but in that of practice; to lay down principles is a work of aspiration, but their realization is the task of fortune. Hence we will relinquish for the present the further consideration of matters of this sort” (*Pol.* 1331b).

#### IDEAL AND PRACTICE

But while an ideal constitution and organization were philosophically desirable, they were not possible in practice, a fact even Plato recognized in his *Laws*. This discrepancy between theory and practice introduced tensions into the Greek po-

lis. The initial conditions set by the oikist, or founder of a city, were held sacred and not lightly changed; yet change was constant in cities. Land was bought and sold; divided among multiple offspring; or united through marriage, purchase, or rental. The principle of equal allotments of land, which was applied in the earliest colonies, was counterbalanced by inequalities in status and wealth among the citizen body; and as Aristotle pointed out, this could lead to stasis.

Greek historical and epigraphic sources are often quite taciturn about the structure and makeup of actual citizen bodies, however, and we know even less about the relation between the organization of citizens and the layout of the city. Jones's study of public organization in Greece emphasizes how disparate our surviving sources are and how frequently we are forced to reconstruct hypothetical systems of organization from a few preserved tribe names or casual and often ambiguous observations.<sup>57</sup>

Many Greek cities had composite populations, with citizens drawn from different cities or regions of Greece. Olynthus, whose population was a mix of natives, Bottiaeans, Chalcidic settlers who settled on the South Hill, new immigrants arriving in the *anoikismos* of 432 B.C., and later arrivals during the fourth century, is only one example. The difficulties of unifying a diverse population, which Plato alludes to in his description of Magnesia, would have been common to any such composite city: Aristotle notes that "hence most of the states that have hitherto admitted joint settlers or additional settlers have split into factions."

A famous example of such a composite city dissolving into factional strife is the city of Thurii, founded on the site of Sybaris in southern Italy. The neighboring city of Croton had wiped out the majority of the Sybarites in 511 B.C. and laid the city to waste. After a lapse of fifty-eight years, according to Diodorus, the city was refounded as a synoikism with a group of Thessalians; but they too were driven out shortly afterwards by the Crotoniates. The refugees sent ambassadors to Greece and invited settlers from the Spartans and the Athenians. The Athenians sent a group of colonists in ten ships led by Lampon and Xenocritus, and also announced the formation of the colony to the Peloponnesian cities, inviting whoever wished to join. Thurii was thus from the first a very heterogeneous community, formed from the original Sybarites, Athenians, and Peloponnesians. It was also a community with an all-star cast: among the many famous thinkers who emigrated were Hippodamus himself (who is thought to have planned the city, although no ancient source actually says he did), Herodotus, Thucydides the son of Melesias, Lysias, and other notables.<sup>58</sup>

Tensions among citizens of such a mixed community led to stasis, however:

For a short time only did the Thurians live together in peace, and then they fell into serious civil strife, not without reason. The former Sybarites, it appears, were assigning the most important offices to themselves and the lower ones to the citizens who had been enrolled later; their wives they also

thought should enjoy precedence among the citizenesses in the offering of sacrifices to the gods, and the wives of the later citizens should take second place to them; furthermore, the land lying near the city they were portioning out in allotments among themselves, and the more distant land to the newcomers. And when a division arose for the causes we have mentioned, the citizens who had been added to the rolls after the others, being more numerous and more powerful, put to death practically all of the original Sybarites and took upon themselves the colonization of the city. Since the countryside was extensive and rich, they sent for colonists in large numbers from Greece, and to these they assigned parts of the city and gave them equal shares of the land. Those who continued to live in the city quickly came to possess great wealth, and concluding friendship with the Crotoniates they administered their state in admirable fashion. Establishing a democratic form of government, they divided the citizens into ten tribes, to each of which they assigned a name based on the nationality of those who constituted it: three tribes composed of peoples gathered from the Peloponnesus they named the Arcadian, the Achaean, and the Eleian; the same number, gathered from related peoples living outside the Peloponnesus, they named the Boeotian, Amphyctyonian, and Dorian; and the remaining four, constituted from other peoples, the Ionian, the Athenian, the Euboean, and the Islander. They also chose for their lawgiver the best man among such of their citizens as were admired for their learning, this being Charondas. (Diod. Sic. 12.11)

Unequal distribution of land and privileges led to the dissolution of the state; and the remedy was to distribute equal shares of land, establish a rational division of the citizen body—in this case based on origin—and a well-ordered system of laws, which Diodorus describes at some length.

Diodorus also describes the layout of the city, which he attributes to the Athenians led by Lampon and Xenocritus:

νομίσαντες εἶναι τοῦτον τὸν τόπον τὸν δηλούμενον ὑπὸ τοῦ θεοῦ περιέβαλον τεῖχος, καὶ κτίσαντες πόλιν ὀνόμασαν ἀπὸ τῆς κρήνης Θούριον. τὴν δὲ πόλιν διελόμενοι κατὰ μὲν μῆκος εἰς τέτταρας πλατείας, ὃν καλοῦσι τὴν μὲν μίαν Ἡράκλειαν, τὴν δὲ Ἀφροδισίαν, τὴν δὲ Ὄλυμπιάδα, τὴν δὲ Διονυσιάδα, κατὰ δὲ τὸ πλάτος διεῖλον εἰς τρεῖς πλατείας, ὃν ἡ μὲν ὀνομάσθη Ἡρά, ἡ δὲ Θουρία, ἡ δὲ Θουρίνα. *(τῶν)* ὑπὸ δὲ τούτων *[τῶν]* στενωπῶν πεπληρωμένων,<sup>a</sup> τὰς οἰκίας<sup>b</sup> ἡ πόλις ἐφαίνετο καλῶς κατεσκευάσθαι.

<sup>a</sup> Kondis; ὑπὸ δὲ erased in P, S; Vogel: τούτων δὲ τῶν στενωπῶν πεπληρωμένων; Casevitz: ὑπὸ δὲ τούτων τῶν στενωπῶν πεπληρωμένων

<sup>b</sup> codd., accepted by Castagnoli, Kondis. Wesseling, Casevitz, Vallet etc.: ταῖς οἰκίαις

Believing this to be the place which the god had pointed out [in an oracle], they threw a wall around it, and founding a city there they named it Thurium



**FIGURE 3.** Plan of Thurii. After D. Mertens, in D. Mertens and E. Greco, "Greek Architecture in the West," in *The Greek World: Art and Civilization in Magna Graecia and Sicily* (New York, Rizzoli, 1996) 259

after the spring. They divided the city lengthwise with four avenues, the first of which they named Heracleia, the second Aphrodisia, the third Olympias, and the fourth Dionysias, and crosswise they divided it with three avenues, of which the first was named Heroa, the second Thuria, and the last Thuria. And when the rectangles enclosed by these avenues were filled out with streets, the city appeared well laid out in its residential districts. (Diod. Sic. 12.10, adapted from the Loeb translation)

Diodorus's account distinguishes between *πλατεῖαι* and *στρενωποί* (wide avenues and narrow streets), creating a two-tiered street system. An initial division by means of four lengthwise *πλατεῖαι* and three *πλατεῖαι* across the width of the city was followed by a subdivision of these large areas by means of *στρενωποί*.<sup>59</sup> This has been confirmed in the limited excavation of this site. The high water table, deep burial and the later occupation layers of the Roman city of Copiae have hindered

our understanding of the Greek remains, but the results have suggested that the city was divided by streets ca. 13 m wide into major rectangles 1,000 Greek feet (295 m) wide by perhaps 1,200 feet long. These major rectangles were then subdivided by smaller streets, ca. 3 m wide, forming blocks with a ratio of 1:2 (fig. 3). The use of round proportions and measures suggests that the major rectangles were a primary unit of the layout of the city, as Diodorus's account suggests. The results are not secure enough, either in chronology or physical extent, to confirm the general process of layout described by Diodorus, but they are certainly not inconsistent with his account and give us some hope that we may understand this city better.

"City planning" encompasses more than simply deciding where the streets, agora, and temples will be. A city is built for its citizens to inhabit, and in some ways the most crucial and yet least understood part of the process is determining how the community will interact with its physical environment, and how the physical environment should be tailored to fit the community. This seems to have been a primary concern of early Greek planners and theorists.

We know so much less about the organization of real poleis, however, that it is difficult to document such correspondences between social and physical layouts. On one hand there is evidence at some cities for deliberate, public acts arranging tribes and other public units of organization locally, so that each tribe occupied a certain area of the city. These examples are somewhat rare, but show an interest in that correspondence between social and geographic divisions of the city. Other processes lead to a more "natural" ordering of the citizen body: the distribution of land, for instance, may cause citizens of like interests or affiliations to choose plots of land in the same region of the city (see "The Distribution of Land at Korkyra Melaina" in chapter 5). This could lead to a fairly well-defined system of zoning which reflects private concerns and ties, rather than the public organization of the city. Such a system of zoning can be distinguished at Olynthus.