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Questioning a grid-planned settlement structure at ancient Larisa (Buruncuk)

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Abstract

Following the excavations at the beginning of the 20th century, recent architectural survey at the ancient city of Larisa (Buruncuk) has re-drawn the layout of the site, especially beyond the acropolis. The remains of the ancient city are spread over the two hills of the Buruncuk ridge: "Larisa East" is the higher hill with a strong fortress on the hilltop and a modest-size settlement below; "Larisa West" represents the acropolis furnished with monumental buildings, along with an extensive necropolis and urban areas. Besides, the lower area between the two hills is included to the city, offering agricultural facilities. Although the 20th century research was concentrated mostly on the acropolis, a few trial trenches were dug in the urban area of Larisa West. The revealed wall fragments led the archaeologists to suggest a grid-planned layout, which was widespread in the ancient Greek cities of 5th and 4th centuries BCE. As part of the ongoing survey this suggestion has been reviewed, and the urban area has been analyzed in detail considering the different architectural characteristics of the wall fragments and the topography. The existing data at Larisa is not enough to confirm the existence of a grid layout. However, the repeated orientations of the walls, a possible road line and the layout of some terrace walls allow to discuss a certain regularity and re-evaluate the urban features of Larisa with its unique context.

Keywords
Aeolis, Ancient cities, Ancient urban planning, Grid, Larisa.

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1. Introduction

Larisa (Buruncuk) is an ancient city located on the fertile valley of River Hermos, to the north of modern İzmir. Archaeological finds indicate that the earliest settlement at Larisa dates back to the Neolithic period, and the earliest architectural finds are from the Bronze Age. However visible remains are predominantly from the timespan between 6th and 4th centuries BCE, which shows that Larisa was an operating city in the late Archaic and Classical periods, most probably under Persian rule. No subsequent layers exist after the beginning of the 3rd century BCE, and thus surveys carried out at the site clearly give results for an Aeolian settlement of 6-4th centuries BCE.

The first archaeological studies at site was realized as a joint expedition of Swedish and German archaeologists in 1902, which was followed by three campaigns in 1932, 1933 and 1934[1]. The publication entitled *Larisa am Hermos* in three volumes, respectively on architecture, architectural terracottas and small finds, covers the results of the research[2]. Due to the tight schedule of the archaeologists, the excavations were only restricted to the acropolis, and supported with minor soundings in the necropolis. No other studies or excavations had been carried out until 2010. From 2010 onwards, an architectural survey conducted by Prof. Turgut Saner has been proceeding with a team from Istanbul Technical University[3]. The survey is not supported by excavations, but focuses on the visible architectural remains spread on the Buruncuk ridge and on the topographical characteristics of the site. As an addition to the *Larisa am Hermos* publication, it aims to complete a detailed architectural documentation and to investigate the areas beyond the acropolis, hence reveal the settlement expansion with its diverse components. One of the research questions put forward by the 20th century archaeologists, is the suggestion of a grid-planned settlement structure. The grid plan is a spatial form, long debated with its origin and diffusion along with its advantages versus disadvantages. In this paper, departing from the recently updated documentation, the possibility of an orthogonal layout at Larisa will be discussed in comparison with the ancient Greek poleis.

2. The settlement layout of Larisa

Larisa is situated in the ancient region of Aeolis, on the Buruncuk ridge (north of Menemen) projecting from ancient Mount Sardene (Dumanlı Dağ) and overlooks the large Hermos (Gediz) valley (Figure 1). The location is strategic and covers the necessities of an ancient city quite well: the mountainous backdrop secures the site, the plain offers a variety of agricultural products, and River Hermos (today running 580m south of Buruncuk) provides well-watered areas for agriculture and grazing, as well as facilitating the communication in east-west direction. Larisa is connected to inland Lydia via Menemen gorge in the east, and around 20km to the west is the Aegean Sea. Hermos plain also offers natural passages on the north to Kyme (today Aliağa) and on the south to old Smyrna. As the most recent study by Kayan and Öner shows, the coastline never reached the outskirts of Buruncuk neither in the Bronze Age, nor in the Classical period (2016, 26).

Larisa was an inland city settled on and around the two hills of the Buruncuk ridge (Figure 2). The higher hill on the east, "Larisa East", is dominated by a monumental fort. The south-eastern slopes of the hill are naturally terraced and are suitable for the habitation units. A settlement area was organized on three main terraces and the dwell-

Figure 1. *Buruncuk ridge on Hermos Plain, view from south.*

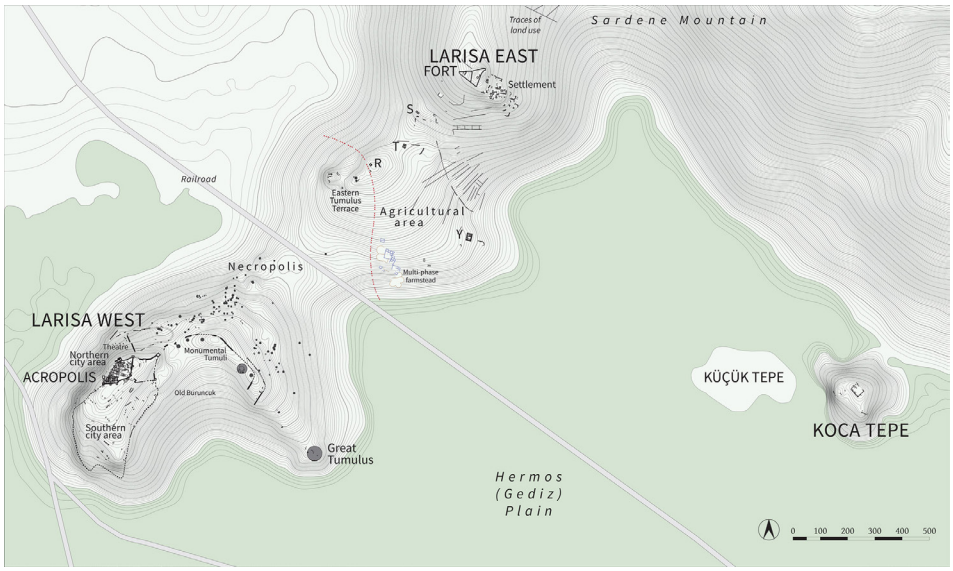

Figure 2. *Greater settlement plan of Larisa (Buruncuk).*

ings were mostly organized around the large rocks. Contrasting the strength of the fort, the settlement area is of modest size and there are neither monumental buildings, nor a precise structured boundary. The rock cliffs shape the boundary of the settlement area. On the other hand, the lower hill on the west, "Larisa West", consists of an acropolis, settlement areas on its northern and southern slopes, and an extensive necropolis on north-eastern and eastern slopes. The acropolis is fortified with monumental defensive walls, and reserved for rulers as evident with palaces, a temple, and various representative buildings. The gentle southern slopes of the hill offer efficient areas to enlarge the habitation and the city walls around it indicate a secured urban area immediately neighbouring the acropolis (Figure 3). In contrast, the northern slopes are quite steep and do not allow a dense expansion. The recent survey here unveiled traces of a theater building, and thus it is added to the urban entity. The large necropolis extends from the northeast of the acropolis along the ridge of the old Buruncuk village, and reaches as far as the agricultural area. The grave units are mostly tumuli with ring-walls varying in diameters of 3-7m. Above the abandoned Buruncuk village there also exist monumental tumuli with diameters of 11-14m, replaced by windmills most probably in 19th-20th century (Saner&Külekçi, 2017). A fifth monumental tumulus is on the same line, but larger than the wind-mill tumuli and in a stepped form. The largest one is "Great Tumulus" situated on the south-eastern extension of the necropolis. With its diameter of 54,6m (200 ancient feet) it addresses the Hermos River and extra-urban posts. The area between the two hills is defined as an agricultural area, following the ancient cultivation terraces and buildings for agriculture. Briefly, the greater settlement concept is evident with a ruling area as an administrative centre and related urban areas on the west, and a stronghold with a smaller settlement area on the east. Larisa West and Larisa East are connected by the necropolis and the agricultural area. According to the urban constellation, the eastern settlement is considered as an "outer town". The architectural characteristics allow an interpretation for the two settlement areas used by residents from different social groups. The western residents were in more direct relation with the palatial area, whereas the eastern residents were neighbouring the agricultural area and must have been engaged for the greater urban operation.

Spread over the traces of the Neolithic period, the early "Greek" layers of Larisa are dated from 7th-6th century BCE. The area around the temple represents the nucleus of the settlement. Fragments of Aeolic capitals, wall bases, wall profiles and architectural terracottas reveal the prosperity of the city in the Archaic period. The stoa and the Old Palace are also among the constructions of this period. However, two major architectural phases

dominate the site. The first one is the early 5th century BCE, when the monumental acropolis walls and Megaron were erected. The structures of the Archaic and late Archaic period can be identified with Lesbian masonry, for which the blocks with curved edges are the primary indicator. The other phase is the restoration of 4th century BCE, differentiated with rectangular blocks. In this period the acropolis was extended to the south and east, New Palace was constructed on the acropolis, Outer Ward was arranged on the east of the acropolis, and finally the outer fortification line and the North Wall represent the military investment. Following the architectural details, it is obvious that Larisa East and Larisa West were furnished together in both periods. This helps us to conceive the overall settlement as a large entity with multiple elements.

Figure 3. *Acropolis with southern and northern urban areas, drone photography by Sinan Kolay.*

Figure 4. *Wall remains in the trial trenches at the "upper part".*

Figure 5. *Wall remains on the steeper "lower part".*

3. Southern urban area of Larisa West

The southern urban area, which is the actual focus of this paper, extends downwards from the southern course of the acropolis walls. Topographical changes designate the expansion of the urban area and city walls of around 1km long trace the boundary of the area. 69 wall fragments have been documented in the southern urban area which show different architectural characteristics.

From the southern course of the acropolis walls at +98m to +80m, the topography displays mild slopes (with a slope changing between 8-15%) and offers quasi plain areas for settlement (Figure 4). The wall remains are mostly concentrated on this "upper part" near the acropolis. This part is naturally terraced around +85-90m, smoothening the slope. Around +80m the rocky formations become dense in all directions and point out a larger difference in the topography. On the east it marks the eastern city walls, and to the south this drastic change divides the urban area in different parts. Because of the sudden 35% ascend of the slope the urban area below +80m can be called the "lower part", and it blocks the visual connection with the acropolis and the "upper part" (Figure 5). The south-eastern corner of the area is interrupted by a stone quarry, which obstructs the survey works and the original tracking of the city walls. This area was also used as a stone quarry in the ancient peri-

ods, as documented by the traces referring to stone extraction processes. The "lower part" extends until +45m, where a small fragment of the city walls is evident. Most of the wall fragments on the lower part are terrace walls running parallel to the topographical contour lines. Generally the topography slopes downwards to the southeast and southwest and the contour lines lay almost perpendicular to each other. This feature must have been advantageous to indwell an ordered urban layout.

20th century research at Larisa focused mostly on the acropolis, and the palatial buildings have been unveiled. The excavations in the urban area were limited to some trial trenches and the wall remains were only demonstrated on the general plan of the city in small scale. The trial trenches roughly cover 1ha area on the "upper part". Among the wall remains only two are described relatively in more detail. A dating for the two walls is offered as well: one is dated to 480/70 BCE according to a sima fragment, and the other to the 4th century BCE, following the rectangular shape and constructional details of its blocks. Therefore it is possible to mention that the urban area was furnished together within the major construction activities at the acropolis. Following the two dominant orientations of the walls, perpendicular to each other, the researchers expected an orthogonal layout (Boehlau&Schefold, 1940, p.107). Although the street network and the orientation of each wall could not be revealed, the grid plan, known also as the "Hippodamic" plan, was a trending practice for poleis in the 5th and 4th centuries BCE and such an impression led the researchers to suggest a similar system.

As part of the ongoing survey the wall remains in the southern urban area have been documented concerning their position and constructional features drawing the stone plans in detail. Having an architectural perspective, the archaeological finds have not been reported, but a few in the close vicinity to the walls have been photographed. The archaeological finds include fragments of terracotta tiles, wall claddings, mortars and Olynthus mills[4]. These finds also confirm a residential pattern and the household activities. Among the 69 documented wall fragments, 21 are situated in the trial trenches and 48 on the ground (Figure 6). 6 of them are classified as part of the city walls.

The orientation of the walls follows basically the topographical contour lines, namely northeast-southwest on the eastern part of the area and northwest-southeast on the western part. The walls in the trial trenches approach each other in perpendicular angles, and have minor differences in orientation. Accordingly, the northwest-southeast orientation is around 39-43°, the northeast-southwest orientation is around 42-58°. The walls outside the trenches repeat approximately the main orientations, which are also coherent with the topography. The walls have been catalogued following the location in the urban area, the dimensions of the blocks and masonry details. Thus they could be classified as terrace walls, walls of monumental architecture and standard walls for dwellings. The terrace walls generally mark a topographical change and are made of larger blocks. They can be examplified with the long D36 on the east, D48-49

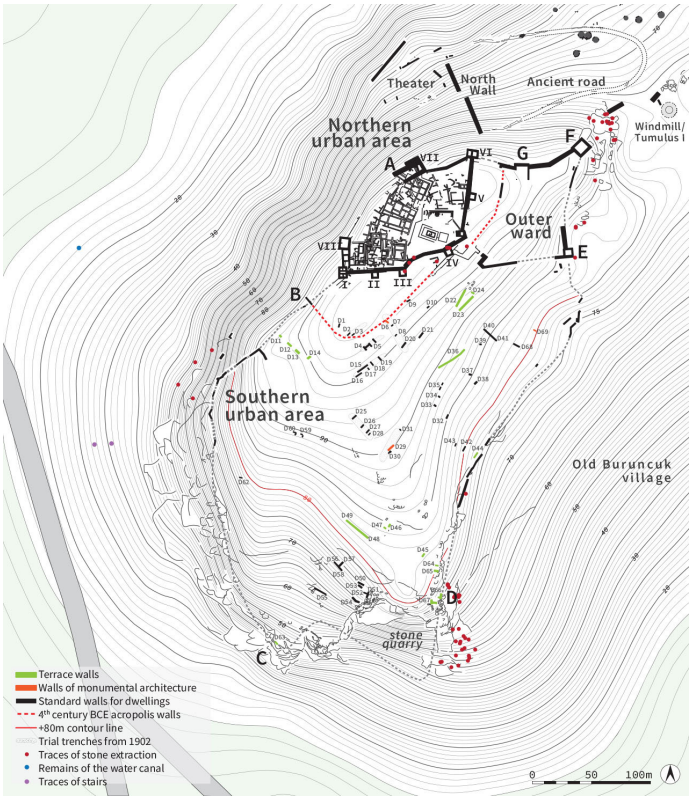

Figure 6. *Plan of Larisa West.*

remarking the +80m between the upper and the lower part, D54-55 attached to large rocks on the lower part, D64-67 making bastion-like intersections close to the city walls on the southeastern corner of the upper part. On the other hand D22-24 on the north do not underline a change in the topography, but the thickness of the blocks exceeds 1m. A similar line can be found on D11-14 perpendicular to the western city walls. Although most of the walls are only preserved with one single shell, it is possible to estimate that the thickness of the terrace walls exceeded 75cm, or even 1m in some cases. Only three of the wall fragments seem to belong to examples of monumental architecture, with their fine masonry and clean cut blocks. D6 in the north and D29 in the southernmost trench are the two wall fragments which drew the attention of the archaeologists. The sima fragment revealed nearby D6 has been dated to 480/70, and D29 had similar features with 4th century BCE constructions. During the survey only the outer shells of these walls could be documented, however the drawings in the 1940 dated publication also show that their thickness were around 1m. In addition to the above mentioned examples, D69 is another fragment on the Northeast, recognized with its two long blocks. The blocks are embedded in the ground, so the masonry and the surface of the blocks cannot be evaluated. The walls which do not present a certain characteristic are classified as standard walls for dwellings. The wall thickness varies between 45-73cm, and a uniform dimension cannot be observed, even intersecting walls may have different thicknesses in some examples (D4). The most coherent remains are situated in one trial trench on the south, the four parallel walls there (D25-28) are 56-57cm thick. The walls in the lower part are around 70cm, which is possibly due to the increasing slope.

In addition, the wall masonry has been documented for the walls exhibiting an elevation. At 11 wall fragments Lesbian masonry has been detected, and this leads to an interpretation that they are similar to the 5th century BCE constructions. Without archaeological finds, it is not possible to set a secure date for the buildings. However, the repeating of a similar construction technique in the urban area verifies its occupation from the 5th century BCE.

The scattered wall remains with varying characteristics show that the urban area was developed by improving the partially plain southern slopes, and reinforcing the rocky areas as part of the city walls. The +80m altitude appears as a natural partition, whereas the lines at +94m (D11-14 and D22-24) indicate an artificial track within the urban arrangement. In this context, the southern urban area is coherently organized with the topography, including private and public buildings in a defined boundary.

4. The grid plan

The grid system is a continuously used spatial form in various fields including urban planning, architecture and industrial design. Although the discussion about its origin and its idealization has been abandoned to avoid the diffusionist point of view, it challenges the given symbolic value of an egalitarian "universal democratic ethos" (Rose-Redwood, 2008, p.51). Thus from the 3rd millennium BCE until modern times the grid has been applied to a variety of urban areas. Among the first examples of the grid plan, settlements in Egypt, Mesopotamia and Minoan palaces can be cited, and Kahun, a village founded in 1897-1879 BCE to shelter the workers of the pyramids and some areas in Tell-el-Amarna in 1396-1354 BCE have a special emphasis with their well-organized plans (Castagnoli, 1971, 56-57). This range also brings along distinguished forms in later periods, such as closed and open gridiron differentiated related to pre-capitalist city and capitalist urbanism (Marcuse, 1987, 290-291)[5]. Interpreting the urban plan in relation to the political and social circumstances is frequent and logical when the attempt of creating a higher order and controlling a population in a regularly designed system becomes easier. Yet for the ancient Greek cities, especially the Ionian cities, the grid plan symbolizes egalitarianism and the idealized democracy at first glance (Hoepfner&Schwander, 1986, p.248). By the Archaic period, the concept of the polis started to gain value and its dual aspect, as concrete city and as social communi-

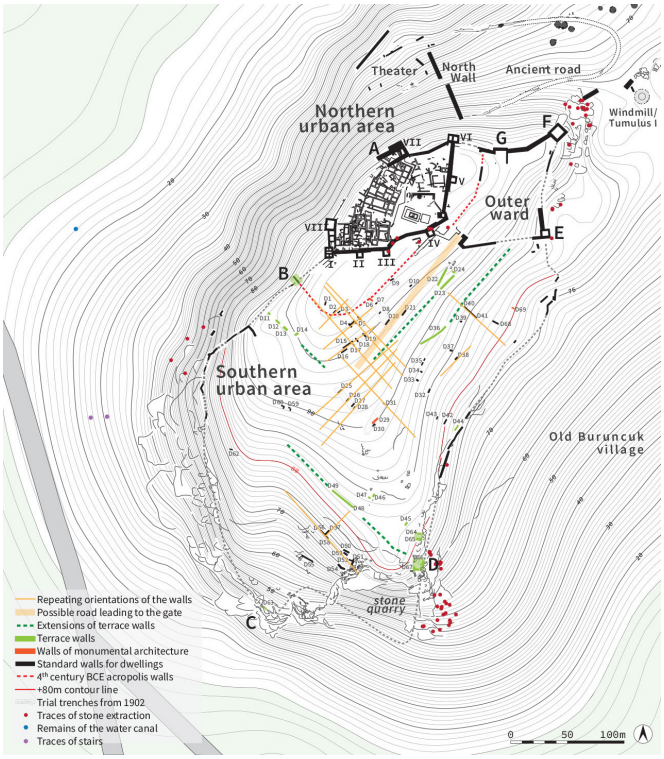

Figure 7. *Plan of Larisa West, highlighted with the architectural remains referring to a grid layout.*

ty was shaped around philosophical and moral ideals (Cahill, 2001, 2). In order to regulate and equalize the property of the citizens, especially Phaleas of Chalcedon, Aristotle and Plato discuss the economic, social and political motives (Cahill, 2001, 7-8). Following the archaeologically confirmed examples, the equal divisioning was better applicable in newly founded cities, such as colonies or re-founded cities after having been totally ruined.

The orthogonal plan is defined with rectangular insulae, repeating orientations of the walls, and uniform housing blocks divided by main and subsidiary arteries (Castagnoli, 1971, 56). The grid plan became widespread in the Classical Greek period and is labelled as "Hippodamic", however it has long been clarified that Hippodamos of Miletos was not the founder of this system, but the one who "invented the division of cities" (Burns, 1976, 414-425). The long history of the orthogonal city plans goes back to the 3rd millenium BCE in early Babylonia, Egypt and Mesopotamia, and to the Bronze Age in Thermi, Troy and the Minoan palaces (Castagnoli, 1971, 56; Stanislawski, 1946, 107-108). As for the Archaic Greek cities, it is widely used in western lands, especially in southern Italy. These cities, founded as colonies on unoccupied fields, were laid out after establishing the main axes between the city and the outer agricultural areas. Before the division of the city area, the agricultural lands were aimed to be divided in regular geometrical pieces and the roads leading to the chora were built beforehand (Mertens&Greco, 1996, 248-252). This system is called per strigas and was developed in order to allocate the land as efficiently as possible. Therefore, the grid plan cannot be generalized as a system repeating an older layout or a knowledge, but an independent installation (Castagnoli, 1971, pp.10-12). For the ancient Greek cities in western Anatolia, too, in the Archaic period the orthogonal insulae are found in Miletos and old Smyrna. Instead of the well-known "Hippodamic" plan dating to 478 BCE, the grid in Miletos is attributed to Milesian Thales from 575-550 BCE, and old Smyrna is recognised as the oldest grid-planned city dating to the 7th century BCE (Her¬da, 2019, 97; Akurgal, 1997, 40). Stanislawski argues that the diffusion of such planning in the Classical Greek period was a result of the power of the tyrants and the expanded trade through eastern cities, since it eases a centralized control to found a brand new city, and the knowledge of the grid was available from the East (1946, 114-115). However, regarding the historical record and the applications, a direct influence or an overall inspiration cannot be imagined. On the other hand, the physical advantages of the grid logically fit the urban requirements for this period. The equal distribution of the property avoids inner strife; the facility of determining main axes helps to sketch and then furnish the land more rapidly; the given space can be used more efficiently; and a controlled urban area can also be better defended under a military attack. The grid plans following the 5th century BCE examples of Pireus, Rhodes and Miletos are much more evolved in the 4th century BCE, such as in Priene, Halikarnassos and Knidos. This later period of extensive urbanism after the turbulent years of Greco-Persian wars is known as the Ionian Rennaissance and it includes a cultural shift. The attempt of an ur-

ban monumentalization was achieved through orthogonal planned settlement areas and large terraces (Pedersen, 2003, p.112; Pedersen, 2011, p.380).

The given data at Larisa is not enough toThe given data at Larisa is not enough to prove the existence of a grid layout. Furthermore, the Old Palace and the New Palace show that the city was ruled with tyranny in the Archaic period and the 4th century BCE, in contrast to well-known grid planned cities Pireus, Miletos or Rhodes. However, with a detailed architectural analysis, some features support a possible grid system in several parts of the southern urban area. These are the repeated orientations of the walls, the possible road line directed to a gate and the layout of the southern course of the 4th century BCE acropolis walls and the terrace walls in the "upper part" (Figure 7).

The two main perpendicular orientations of the walls revealed in the trial trenches are partially supported by other walls documented within the survey. The walls in the trial trenches exhibit a more coherent layout, although not too rigid. The walls in the "lower area" (D54, D56, D58, D63) and another fragment on the northeast (D40-41) repeat closely the main orientation of northwest-southeast. The main topographical contour lines in the area are also almost perpendicular to each other, preventing a certain assumption. The majority of the walls follow the topography; this is why it is confusing to interpret them as being dependant on the topography or on an overall orthogonality.

Another requirement for determining the existence of the grid is a defined road network. A direct identification for Larisa is missing, yet there exist two wall fragments, the directions of which match with the gate of the Outer Ward. As part of the 4th century BCE arrangements, this gate is the only opening connected to the southern urban area. The eastern extensions of D20 and D21 on the north reach the gate and give the impression of a directed way. These walls differ from the rest of the walls with their thickness around 77cm and their orientation is similar with around 13 other wall fragments. The large blocks exceeding 60cm are only seen among terrace walls, however the location of D20 and D21 defines neither a sloping area, nor a possible boundary, since its western extensions pass between two trial trenches, which reveal an occupied housing area.

The main orientations are also in accordance with the southern course of the 4th century BCE acropolis walls. Even though the southern course cannot be entirely followed, the western and eastern ends, attached to the city walls and the gate of the Outer Ward, are visible. The walls D11-14 and D22-24 which are classified as terrace walls identifying an artificial boundary have the exact same orientation and are offset to 37m (125 ancient feet) south from the southern course of the 4th century BCE acropolis walls. The Lesbian masonry identified at D22 and D23 refers to the 5th century BCE constructions at Larisa, hence these fragments might point out an earlier set arranged within the urban layout. Further 9 wall remains also exemplify Lesbian masonry. They can be found both on the south and north of this set (the possible track of D11-14 and D22-24). Regarding their regular orientations, it is plausible to imagine an orthogonal layout in the 5th century BCE. Besides, with the securely dated monumental wall fragment (D6) to 478 BCE a significant building close to the acropolis is added to this layout. Therefore, the dating of the grid system, if there is one, must have been related to the 5th century BCE. The identification of the 4th century BCE constructions, evident with rectangular blocks at the fortifications and buildings at the acropolis, cannot be realized due to the condition of the walls mostly embedded in the ground and the question of its regular usage for housing walls. However the 20th century research has resulted that the other monumental wall D29 might date to 4th century BCE (Boehlau&Schefold, 1940, p.107-108). Consequently the southern urban area was built up in both centuries in accordance with the major construction activities, and a moderate number of population was resided close to the acropolis.

The area between the early 5th century BCE acropolis walls and the city walls covers around 8,3 ha, which is approximately 10 times bigger than the acropolis area. After the enlargement of the

acropolis and the insertion of the Outer Ward in the 4th century BCE, the fortified settlement must have been diminished to 7,2 ha. As part of the 4th century BCE fortifications the North Wall was constructed on the northern slopes of the acropolis and the most recent revelation of the survey is the remains of theatre immediately on the west of the North Wall. This area can be considered as a northern urban area bearing the theatre as a monumental assembling area. The steep topography does not allow a dense settlement and must have been developed secondarily compared to the wide mild slopes on the south. The examination of the theatre is still in process. No other wall fragments have been documented on the west of the theatre, and the entire usage of the area remains obscure. Another arrangement of the 4th century BCE is the outer fortification line on the east of the acropolis, following the ridge over the abandoned Buruncuk village. This line ends with the large rocks on the east, yet its connection to the city walls is unknown. The area of the old Buruncuk village has the potential of having been used as another settlement area, although there is no data to support this theory. The only remain immediately south of the windmill/tumuli 2 and 3 is a large building of about 33x43m, and in the preliminary evaluation it is considered as a military building. All in all the southern and northern urban areas of Larisa covers around 9ha in total, and the unclear area of the old Buruncuk village cannot be included to the settlement expansion. With this capacity Larisa is a modest small-sized city. The well-known cities with a grid-plan are much larger: Miletos covers 100ha, Priene 28ha, Neandria 35ha and Burgaz 20ha. The dimensions of the area are not seen as a precondition for such an organization, and at Larisa the orthogonality could have been established as an attempt for monumentalization. Around 100 housing units can be fitted into the southern urban area, if the whole was made use of. The terrace walls may point to the boundaries of hypothetic insulae. The area between the southern acropolis walls and +92-94m where the terrace walls D11-13 and D22-24 are situated can be imagined as a more monumental area due to its proximity to the acropolis. Through southeast D36 smoothly steps the topography at +88-90m, and to the south D48-49 highlights the topographical difference between the upper and lower areas. The mentioned walls might refer to the outer limits of the insulae. Having minor differences in orientations, a potential grid at Larisa can be compared to old Smyrna and Burgaz, which allow minor differences in the orientations of the walls. In Larisa in order to provide access to the area the dimensions of the insulae should have been smaller as well, compared to Miletos or Priene. On the other hand, the larger dimensions of the insulae in Neandria and Klazomenai also show that the dimensions of the insulae might not point out a proportional relation with the size of the settlement.

5. Concluding remarks

There is very little knowledge about the methods of organization and the urbanization process of ancient cities. A city is primarily built for the citizens and early Greek planners must have tailored the physical environment to fit the needs of the community (Cahill, 2001, p.22). The idealization of the grid derives from the equal distribution of property, however regarding the archaeological evidence, ancient theoretical discussions go beyond the practice and it might be misleading to attribute the practice a pure symbolic value ignoring the environmental, social and political aspects.

The study of the southern urban area of Larisa demonstrates that the topography played a major role in the urban design. Firstly, the boundaries, then the inner terrace walls follow the topography, and the orientations of almost all the wall remains are laid out coherently with the natural contour lines. The rigid orthogonality neglegting the topographical conditions (as seen in Priene) cannot be found at Larisa. Although the density of the settlement cannot be exposed, right-angled insulae can be imagined in limited areas with several building groups on the “upper part” of the area. Besides, despite the steepness of the southernmost slopes, the remains documented on the “lower part” show

that the housing units reached the southern boundaries and the site was intensely used. In addition, the overall urban arrangement gives the impression of a regularity, since the area was organized properly and fits the topography. The terrace walls control the sloping areas and support a part of the settlement or the building complex they belong to, or divide the area in different parts.

Another characteristic of Larisa is its urban area directly attached to the acropolis from the same altitude. In the well-known grid planned cities, such as Miletos, Pireus and Priene, the acropolis is away from the city area and all the public and sacred buildings are situated within the same grid. On the contrary, at Larisa the neighbouring acropolis includes the temple and palaces along with many other prestigious buildings. In this context Larisa is more comparable to cities such as Neandria, Pergamon or Kolophon, which extend below an acropolis[6]. It also allows for another discussion relating to the Bronze Age model consisting of defined upper and lower towns, with a special emphasis on central power.

From a larger scale, Larisa West represents the domestic district of the urban elite, having a large necropolis on the north and the east, and supported by the settlement area at Larisa East. Spread on two hills this constellation draws attention and remarks the settlement expansion with an outer control. Following the different architectural characteristics of the habitation areas with their neighbouring functions, the orthogonal layout of Larisa West might be evaluated as an attempt for monumentalization with a special care for the urban landscape.

Regarding the diverse examples of Western Anatolian city-states, it is almost impossible to ask for a general description of a settlement type. Since the settlement areas are less preserved compared to the monumental buildings, the survey of smaller cities is lacking of dwellings' layout and comparisons with larger settlements might be misleading. Each individual case is of utmost importance in unveiling the tendencies of urban dynamics. In this context, with regards to the extent of the construction activities, Larisa shows the ambitions of its rulers in architectural details on the acropolis. So, having this constructional care and significance, a similar attention would have also been paid to the urban furnishing. Larisa West is not large enough to house large numbers of insulae, however, the character of the surviving remains sufficiently indicates a well-organized planning for its population. Further archaeological investigation of this area may help to understand a modest sized settlement structure and reveal the inner urban relations with its unique context.

Endnotes

[1] For an overview of the history of research in Larisa, see Mater 2016, 41-60.

[2] Boehlau-Schefold 1940; Åkerström-Kjellberg 1940; Boehlau-Schefold 1942.

[3] The ITU survey started in 2010 with the permission of the Turkish Ministry of Culture and Tourism - General Directory of Cultural Assets and Museums; and with the financial support of ITU (Project numbers 37267 and 33992). Besides the fieldwork, research carried out by ITU graduate students help create a solid picture of Larisa: Research history of Larisa based on archival documents (G. Mater, 2013), stone pieces of architecture kept in Istanbul (M. Arseven, 2013) and Izmir museums (F. Öztürk, 2016), the architecture of the Northeast building (O. Yıldırım, 2018) and of the Propylon (E. Kapulu, 2018), and the agricultural area close to Larisa East (S. Kolay, 2020) have been completed as master's theses. Remains of ancient quarrying activities (G. Mater), the acropolis circuit (E. Denktaş), the so-called New Palace (D. Göçmen), the settlement structures (I. Külekçi), the "Athena Temple" (F. Öztürk), and the necropolis (O. Yıldırım) are currently being studied as doctoral theses.

[4] Olynthus mill is a hand mill, operated by means of a lever. Mostly the upper stone, rectangular or square in shape, is documented as an archaeological find, which is also the case in Larisa. For the functioning of this milling system, see Frankel 2003, 1-21.

[5] The closed grids define the complete areas enclosed by the city walls, whereas

the open grids are unlimited and foresee an expansion in many directions.

[6] Regarding the city plan, the acropoleis of Neandria, Pergamon and Kolophon neighbour the urban areas. However, they show different topographical and architectural characteristics, and an exact similarity with Larisa cannot be found. The major difference of Larisa is its smaller size, and the acropolis and the urban areas have been developed concurrently over the active periods.

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