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ABSTRACT

The Late Archaic Fort in Larisa East (Aeolis) with an Emphasis on Masonry Techniques

Turgut Saner – Elke Richter – Ilgın Külekçi – Figen Öztürk Akan

Ancient Larisa is located in Aeolis, dominating the fertile Hermos plain. The visible remains of the city date back to the timespan between the 7th and 4th centuries B.C., primarily illustrating a city under Persian rule. In addition to the excavations in the 20th century, the site was thoroughly re-investigated as part of an architectural survey in the years 2010–2021. Recent studies have revealed the extent of the settlement on and around the two hills (Larisa East and Larisa West), including an extensive necropolis and farmland. The higher eastern hill was reserved for a strong fort and a smaller settlement on its slopes. The fort is notable for its position overlooking the plain, the river of Hermos and the surrounding mountains in the background. This paper explores the noteworthy remains of the fort crowning Larisa East, focusing particularly on its articulation, masonry techniques and stone working details. On site observations and comparisons with the already dated monumental buildings of Larisa West make it possible to identify the challenges of the construction and also probable building phases. New perspectives on the fort's function within the larger urban area ›Larisa‹ and insight into the ambitions that drove the building of the fort are among the foci of the study.

KEYWORDS

Larisa (Buruncuk), ancient forts, Lesbian masonry, Persian rule, late Archaic

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Introduction

1 Aeolian Larisa is located very close to the river of Hermos (Gediz) on a promontory extending to the southwest from the Sardene Mountain (Dumanlı Dağ). Larisa is in close proximity to renowned cities such as Kyme, Myrina, and Phokaia. The ancient city consisted of a ruler's residence and an urban area (Larisa West), as well as a fort and a smaller settlement at its foot (Larisa East; Figs. 1. 2). An extensive necropolis with tumuli and farmland with agricultural units connected the two settlements that operated together in antiquity.

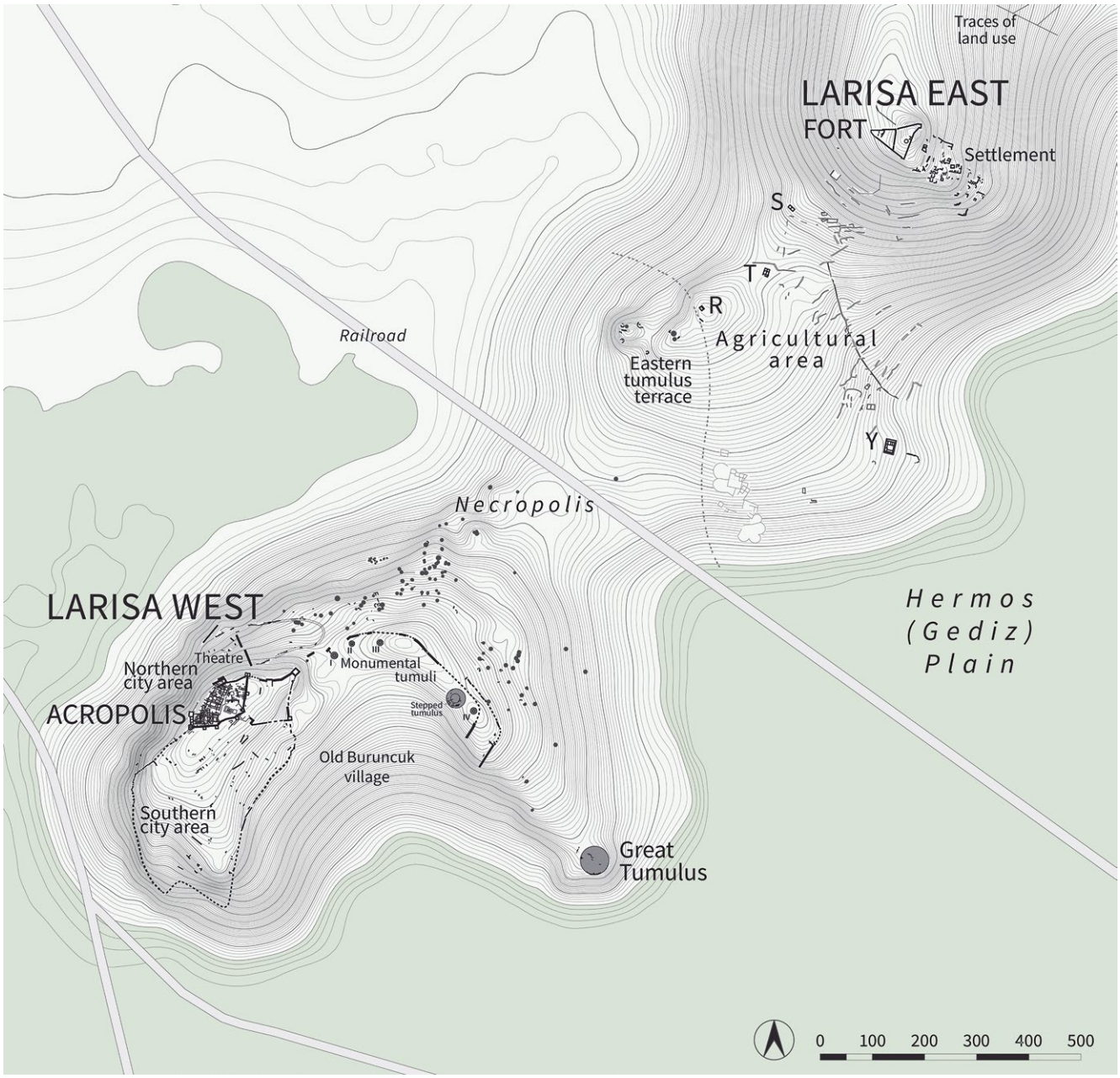
2 The fort in Larisa East is located on a hill overlooking the broad Hermos plain and the river to its south. Since the 20th century researchers referred this fortified arrangement as a »Burg« and described it as »the natural acropolis of Larisa«[1]; it is also called a »fort« in the architectural survey studies and thus in this paper, too. The survey studies also supported the view that Larisa East was corresponded to Larisa West – the representational acropolis and the urban areas below – and functioned as the »true« acropolis to secure the settlement expanded on the Buruncuk ridge. This article focuses on the impressive remains of the fort, while stressing its architectural features, especially the wall construction techniques with the aim of providing new insight into the ambitions of the construction. The research history of Larisa, an outline of the city's history, brief presentations of its environmental characteristics and its fort, and detailed descriptions and analyses of the individual wall courses are the essentials of the text.

Research History

3 The earliest archaeological field studies in Larisa were carried out in 1902 by Lennart Kjellberg (Uppsala) and Johannes Boehlau (Kassel). It was only in 1932 that the second campaign could be accomplished due to the interruptions caused by World War I and economic difficulties of the time. Three excavations took place until 1934 and the site was literally abandoned thereafter. Excavations focused primarily on the

Title page: The southern wall of the fort with blocks of ›flat hexagonal‹ forms worked with Lesbos technique. Looking towards the southeast with partial views of the Hermos Valley and outskirts of Sardene mountains.

1 Boehlau – Schefold 1940, 116.



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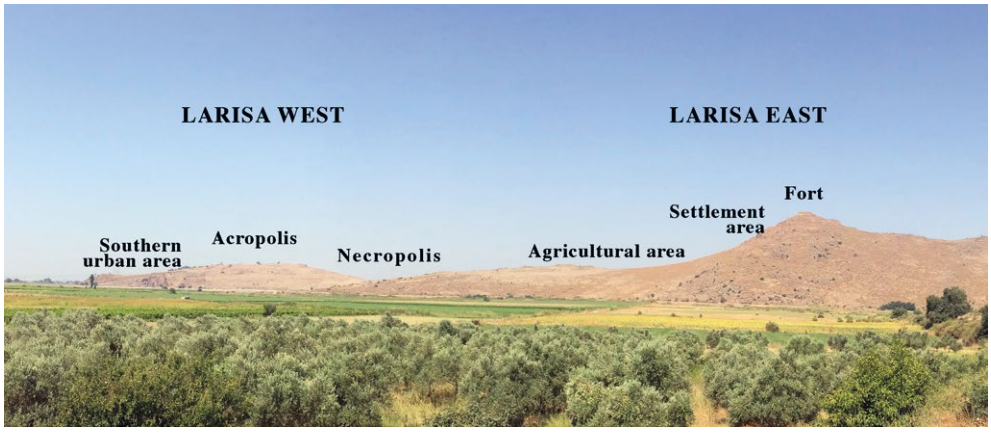

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Fig. 1: Larisa (Buruncuk), greater settlement plan

Fig. 2: Buruncuk ridge, seen from southeast

acropolis in Larisa West, including five trial trenches in the urban area and a group of grave units. In 1911, Boehlau and Armin von Gerkan briefly stayed in Larisa for some complementary work, and by then a quite detailed sketch of the fort in Larisa East was prepared. Otherwise, there were no excavations in the fort area. While it was understood there was a settlement below, it was not documented during this period. The results of the excavations were gathered in the well-known »Larisa am Hermos« publications of 1940 and 1942[2]. The architectural remains were extensively discussed in the first volume, in which only a few pages are reserved for the fort of Larisa East[3]. The two other volumes are on painted architectural terracottas and small finds. Kjellberg, Boehlau and Schefold published excavation reports and comments in various journals, yet none of them includes additional information about the fort.

4 Between 2010 and 2021, an architectural survey was carried out under the direction of Turgut Saner (Istanbul Technical University). The team was able to determine that the settlement area on a ca. 2 km long ridge was furnished with diverse urban, extra-urban, and rural functions. The fort and the settlement in Larisa East became a focus of the same fieldwork, already starting with the initial season[4]. Based on the Larisa am Hermos publications in three volumes, most of the recent studies on Archaic settlements or fortifications actually refer to Larisa West, thereby implying the entire settlement. The recent documentations now display the extension of the city including Larisa East.

History

5 The settlement history of Larisa dates back to the late Neolithic–early Chalcolithic period[5]. The Bronze Age is also present among the small finds, as well as on the site with the architectural remains underneath the main temple and the wall course below the late Archaic acropolis circuit. Apparently Bronze Age Larisa was not a leading urban centre, but rather a walled settlement with predominantly local features[6]. The most evident architectural remains, still visible on the site, date between the 7th and 4th centuries B.C. Larisa was a flourishing centre during the Archaic and Classical periods and was ultimately abandoned at the beginning of the 3rd century B.C. The temple with the stoa and the old palaces, Aeolic column capitals, and architectural terracottas are evidence of a wealthy habitation of the earlier period (7th–6th centuries B.C.). The archaeological excavation in early 20th century identified the two main construction phases in Larisa West: In the first main phase – dominated by Lesbian masonry –, the construction of the megaron, monumental acropolis walls, prestigious buildings (including the necropolis), and the arrangement of the urban area by the early 5th century B.C. point to a powerful authority loyal to Persian rule. Following the destruction in the late 5th century B.C., Larisa was reorganised in a second main phase in the 4th century B.C. – again under Persian rule –, creating a larger acropolis area to include, among others,

2 Boehlau – Schefold 1940; Kjellberg 1940; Boehlau – Schefold 1942.

3 The chapter on the fort titled »Das Kale bei Larisa« was written by von Gerkan (with some additions by Schefold) and published in Boehlau – Schefold 1940, 113–116.

4 In the campaigns of 2010–2011, an accurate stone plan of the eastern wall of the fort was prepared, the rest being scanned in 2014. The authors collected detailed and complementary observations in the field on 28–30 September 2022. The settlement area below was documented in the campaigns of 2011–2013 and 2018. In 2017–2019, imagery of the fort area was captured by drone. For an overall description of Larisa Architectural Survey project, see Saner 2018.

5 The earliest finds of Larisa are displayed and partially discussed in the Larisa am Hermos volumes. The third volume on the small finds presents the earliest archaeological evidence as »vorgriechische Funde« (»pre-Greek finds«), yet they are not discussed in detail (Boehlau – Schefold 1942, 3–22). The first volume also includes notes on the earliest architectural finds under the temple and the acropolis walls on Larisa West (Boehlau – Schefold 1940, 15. 44. 58). For a recent overview on the earliest history of Larisa, see Özdoğan 2018.

6 Boehlau – Schefold 1942, 7.

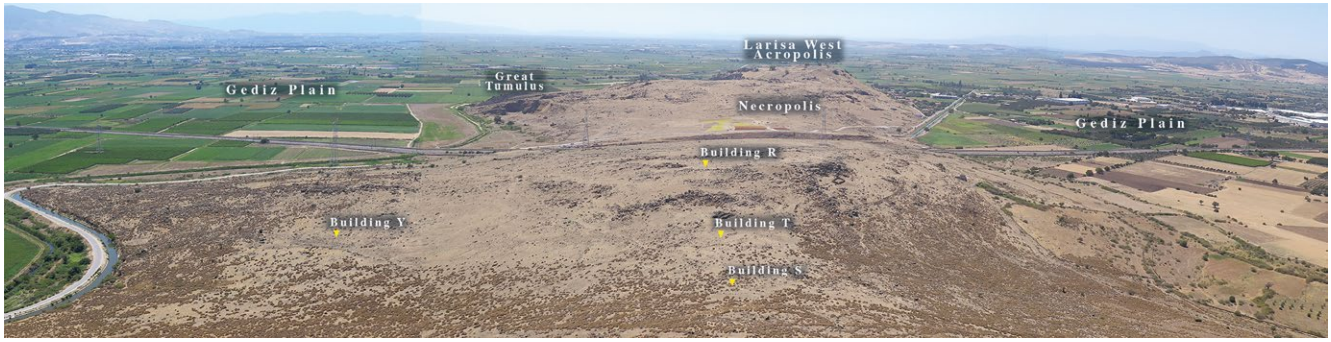

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Fig. 3: View from Larisa East, overlooking the agricultural area (buildings and terraces) and Larisa West all along the Buruncuk ridge

the New Palace and additional circuit walls with rectangular masonry. Following its abandonment in the early 3rd century B.C., Larisa was never resettled again. Although the excavations were only undertaken in Larisa West, remarkable parallelisms by means of construction and masonry techniques allow for the suggestion of a similar chronological development for Larisa East, too. The eastern and western settlements can be considered to have been operating together under the same initiative in the early 5th and 4th centuries B.C.

Landscape, Topography, Visual Connections

6 Larisa's settlement structure is strongly characterised by its natural environment and topography. The fertile Hermos plain and the eponymous river apparently defined the basic resources for living and allowed connectivity in all directions, seawards and landwards. Thus, Larisa possessed a strategic locality at the crossroads, linking Aeolis with Ionia, and the Aegean Sea landwards with Lydia. Although the coastline was closer, studies on the Hermos delta have shown that Larisa was never a coastal city in the ancient periods[7]. The 100 m high hill of Larisa West was architecturally organised as a ruler's fortified residence with a temple, palaces, a megaron, urban areas including a theatre, and a large necropolis extending toward the northeast, east, and south. The 180 m high hill of Larisa East was crowned with a fortress, and its southeast slopes were occupied by a rather small settlement. The entire area south of the eastern settlement was furnished with agricultural terraces and a group of farm buildings with sophisticated designs.

7 Unlike Larisa West, Larisa East is steeper, and dense rock clusters dominate the topography. The southeast slopes of the hill, with a grade of 32 % inclination on average, are the gentlest, while the rocks rise as large vertical masses closer to the peak. To the west and southwest, Larisa East's habitation outline is marked by sudden changes in topography. To the north, the topography is inclined downwards, then rises again and stretches towards the Sardene Mountain. A pathway in the north is oriented to the northwest and south, and leads to the agricultural area following a gentler course.

8 Larisa East immediately overlooks the city's farmland and Larisa West (Fig. 3). The panoramic views from the fort include Sardene and the neighbouring city of Neonteichos. Koca Tepe on the plain presents the ruins of a large courtyard building. Today Hermos runs about 580 m south of the ridge. The gulf of Smyrna and the Phocaean peninsula are on the horizon.

The Settlement of Larisa East

9 The eastern settlement of Larisa lies below the eastern wall of the fort, on the gentlest slopes of the hill (Fig. 4). The settlement layout reflected the natural

7 Kayan – Öner 2016, 18.

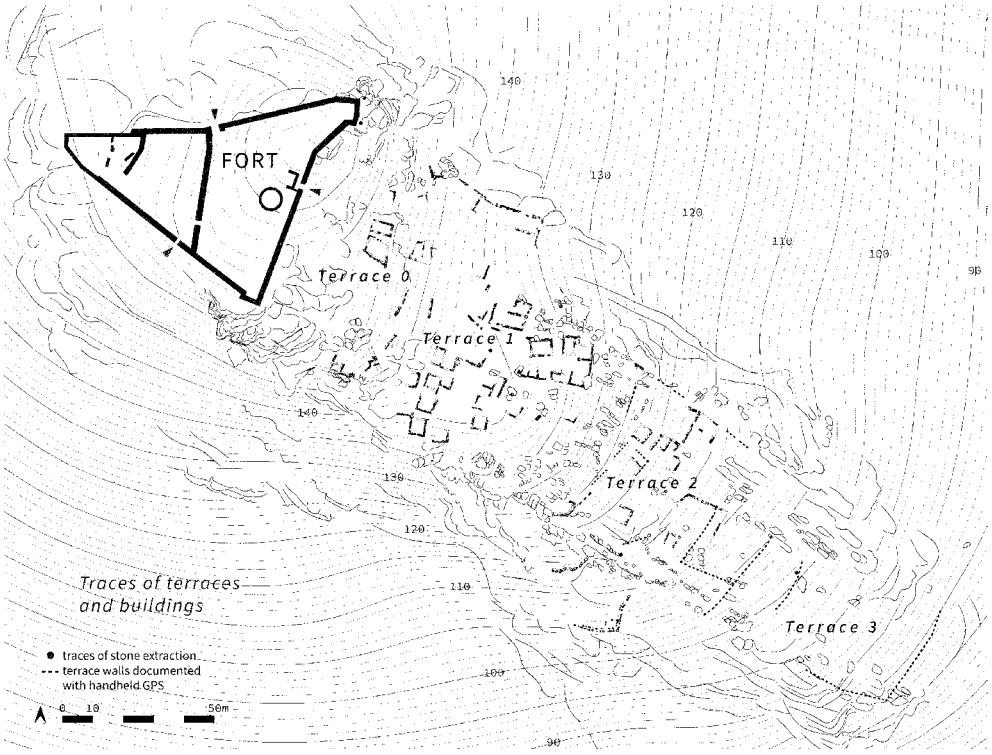

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Fig. 4: Plan of Larisa East fort and settlement

topography, bounded with big masses of rocks on the north and south sides, and followed the descending topography in the northwest–southeast orientation. The building remains cover an area of 1.7 ha (roughly five times larger than the fort) between 80 and 152 m asl. They are dispersed on four natural terraces interrupted by dense rock clusters and sudden topographical changes. The uppermost Terrace 0 includes massive rocks defining the northeastern and southeastern projections of the fort. The rock clusters are complemented with large hewn blocks. Terrace 1 offers the most suitable flat area for dwelling, dotted by a multitude of housing units. Terrace 2 and Terrace 3 are steeper, and the building density is lower. The walls and their spatial relationship suggest that they were parts of 20–30 m^2 big, sometimes multi-roomed buildings. They can only be differentiated by their position regarding the topography as retaining walls and/or by their wall thickness (varying 0.50–1.0 m) as outer and inner walls. The rock clusters all over the hill were frequently incorporated into the buildings.

10 The settlement was not completely surrounded by defence walls, the boundaries clearly follow the sheer rocks, and the natural gaps were reinforced with walls. A particular arrangement to the north of Terrace 1 displays an 0.8 cm thick wall, on a continuous line of 61 m. Its masonry also draws attention with finely joined blocks with smoothed surfaces. Apparently, this was an additional structure with two or three inner compartments strengthening the northern boundary of the settlement. Compared to the size and the architectural sophistication of the fort, the settlement appears modest, and unlike Larisa West, it lacked urban structures to serve diverse public functions. The survey could not allow to date the settlement remains. However, regarding its location and limited capacities, the eastern settlement must belong to a different period or must be considered as a secondary habitation in Larisa's urban hierarchy.

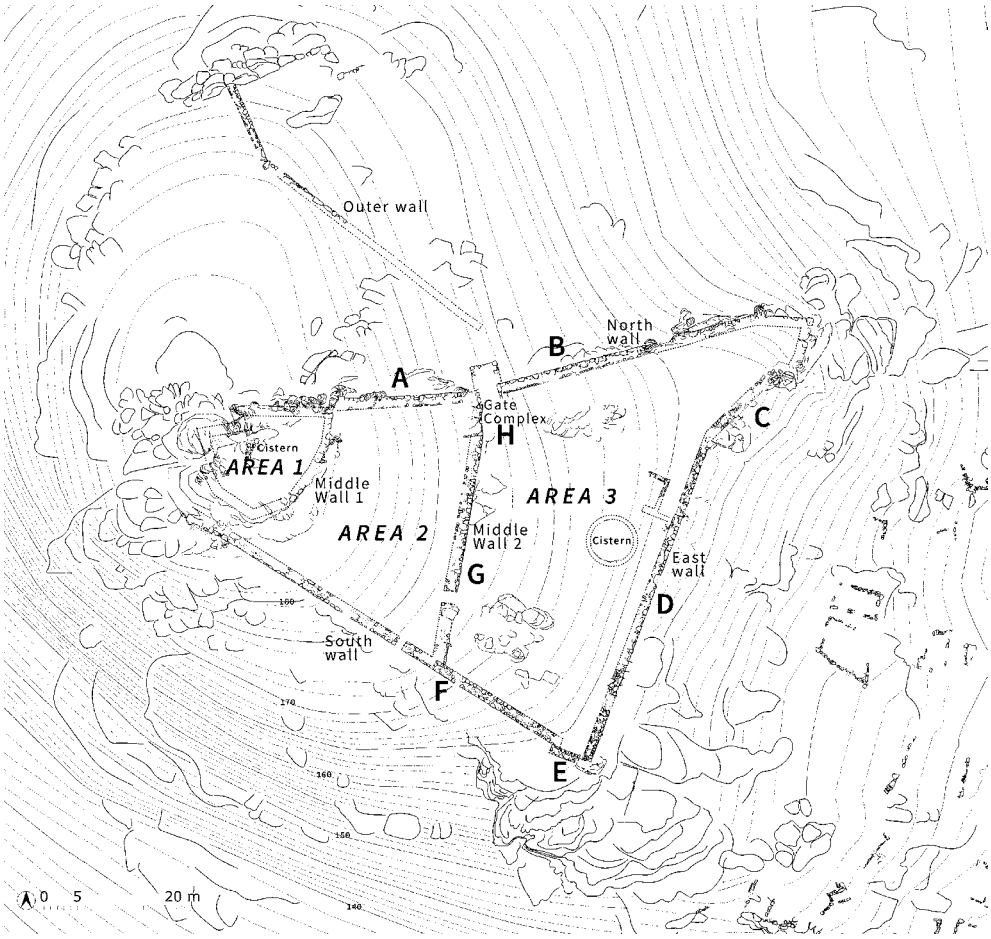

Fig. 5: Plan of the fort

5

Description of the Fort

11 Encircling the highest ground of the eastern hill, the fort has a triangular plan (Fig. 5). This particular form evidently derived from the topographical conditions including the major rock clusters. The eastern edge of the fort is on the lowest level (ca. 165 m asl), whereas the highest point on the northwest rises up to ca. 185 m asl, resulting in an overall difference in height of up to 20 m. The structure was not reinforced by towers, while platform-like projections in the northeast and southeast must have followed the position of the rocks.

12 The 90 m long North wall runs from the uppermost plateau eastwards down the slope and ends at the northeast corner where a massive rock plateau rises almost vertically 3.8 m above the actual ground level of the field. The 76 m long East wall runs almost parallel to the slope and ends again on a rock plateau in the south. The bending course of the wall follows the major rocks and the topography in general. The South wall extends 67.5 m up to the northwest and reaches another rocky area at this corner, with a height difference of around 13.8 m. Outside the wall, on its southern side, a 4–5 m wide and almost horizontal area allows for movement along the wall. All three walls are equipped with gates and posterns[8].

8 Although there exists no clear definition to differentiate the gates and the posterns, throughout the text the terminology will be used as Müth et al. propose in the Site Catalogue: the openings with a width of more than 2 m, which can also allow wagon traffic, are defined as »gates«, and all narrower ones as »posterns« (Müth et al. 2016, 261–354).

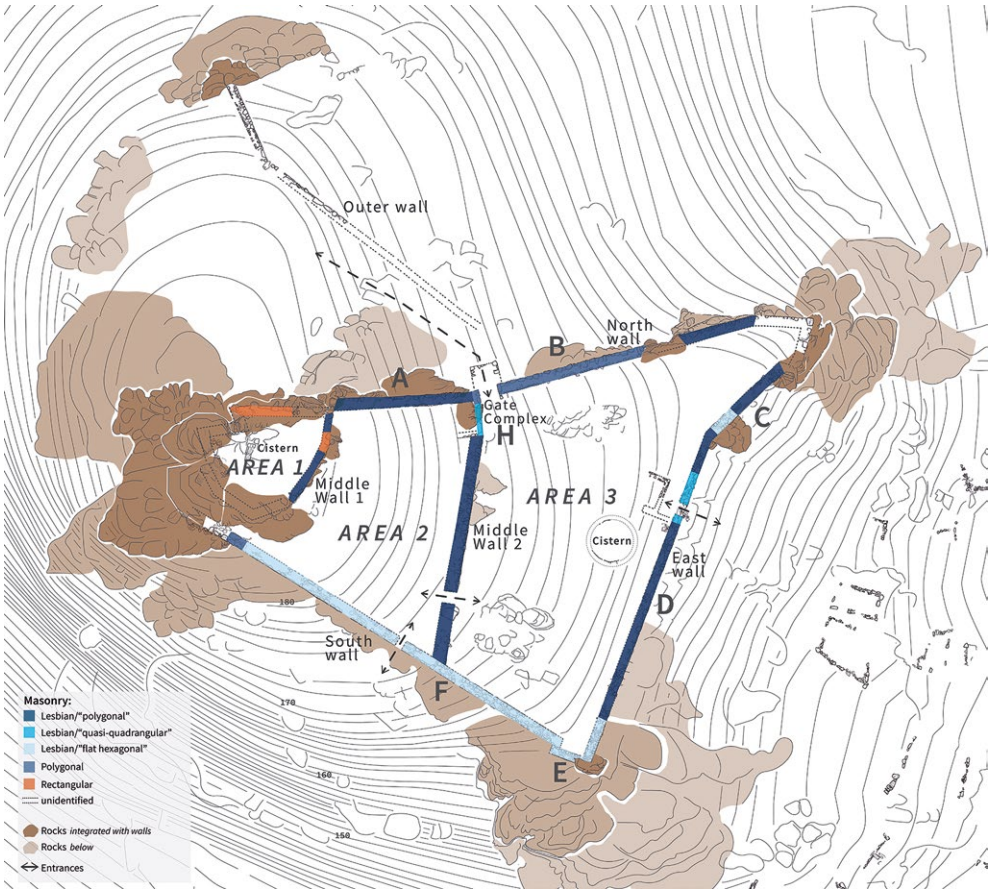

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Fig. 6: Plan of the fort, showing the concentration of the rocks and the masonry types

13 The inner sector of the fort is divided into three areas by two cross walls, which extend roughly parallel to the topographical contour lines. The upper Middle wall 1 on 183 m asl limits Area 1, i.e., the uppermost rocky plateau. The 42 m long Middle wall 2 is situated on 172 m asl and has an almost north–south orientation with a slight deviation of 9° to the east. Area 2 between the two middle walls is accessible via the postern of the South wall or the postern of Middle wall 2. Area 3 between Middle wall 2 and the East wall is the largest sector and includes a cistern near the opening of the East wall.

14 All the walls are integrated into the rock clusters and structurally function as retaining/terrace walls. As a rule, they are constructed of double shells with rubble filling inside, and the outer shell is made of considerably larger stones than the inner shell. The blocks of the better-preserved outer shell occasionally reach almost half of the wall thickness; the blocks of the inner shell are mostly visible as one single row today.

15 Two major masonry types can be clearly differentiated in the walls of the fort (Figs. 6. 7). The first one is »Lesbian masonry« with curved block edges ensuring relatively tight joints with adjacent stones. This method of shaping is applied to different block forms including polygonal, trapezoidal, and those approaching a rectangle. Lesbian masonry is generally dated to the Archaic period and characteristically distinguished by the curved edges of the blocks, hammer faced or roughly faced[9]. This type of masonry is mostly seen in the Aeolis region between Smyrna and Neandreia, and also in the north Aegean islands of Lesbos, Thasos and Samothrace; and accepted as one of the characteristic architectural features of Aeolian architecture[10]. This Lesbian

9 Scranton 1941, 25.

10 Des Courtils 1998, 135. 138.

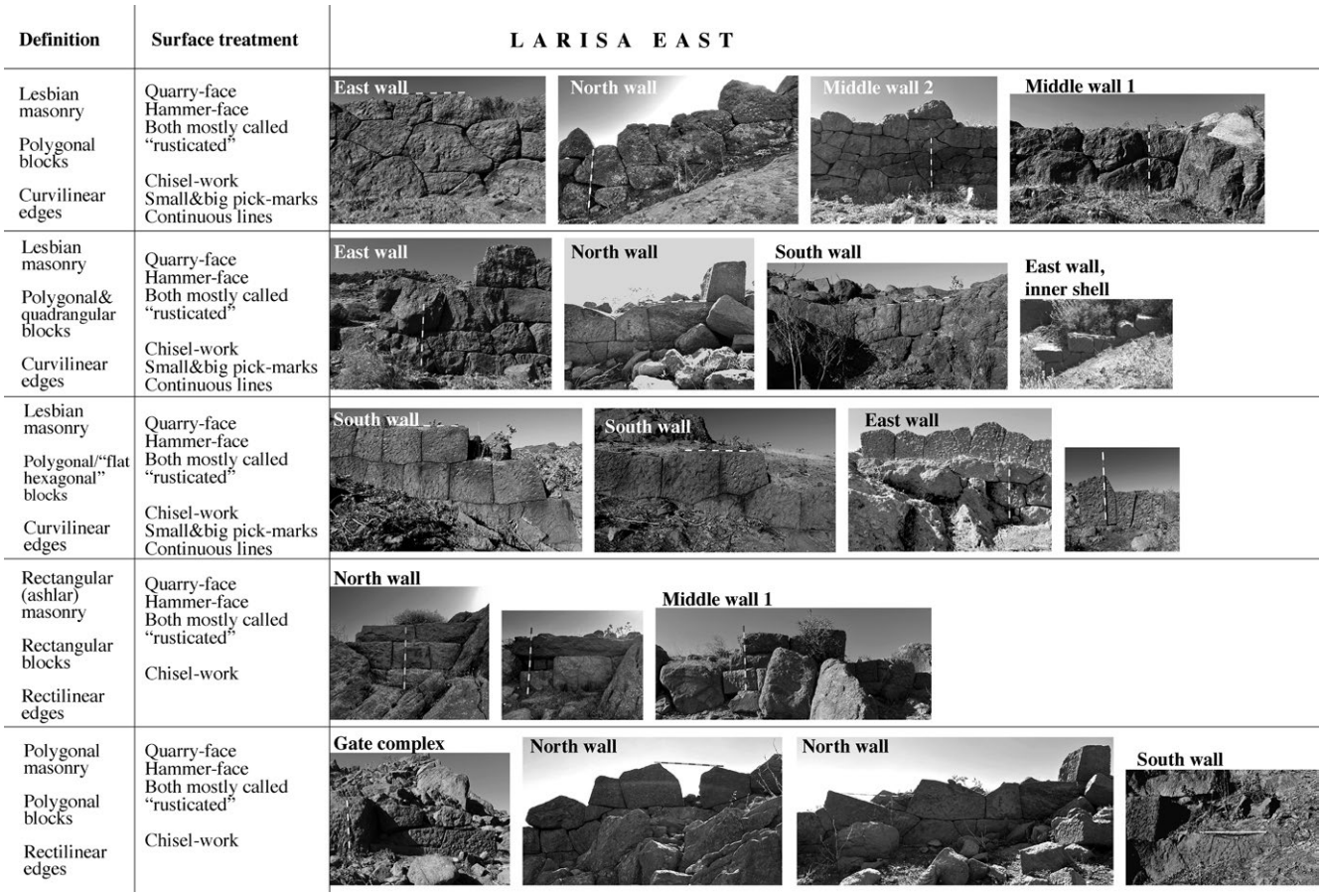

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Fig. 7: Guideline for the wall sections of the fort with different types of masonry

masonry can be seen throughout the entire enceinte of the fort, and it obviously puts emphasis on the efficient use of material with minimum loss. Horizontal continuity of individual courses, slightly or heavily undulated, can be identified in many cases. It must be considered that this wall base of stone masonry carried a mudbrick upper part, taking into account that the preferred construction method in the late Archaic and Classical period is accepted as the mudbrick superstructure on a stone socle[11]. The second type is rectangular stone masonry with straight block edges. It can only be seen in the uppermost parts of the fort; namely, on the course of the North wall and the northern part of Middle wall 2.

16 As for the surface treatment, quarry-face and/or hammer-face works were preferred for less prominent areas, such as fillings between the rocks and lower layers of main walls, whereas pointed chisel work is generally applied to more evident and primarily visible surfaces. On smoothened surfaces, big hollows created by the mason's blows are significant as a chiselling feature.

Area 1 and Middle Wall 1

17 Area 1 features the uppermost platform on the northwest corner of the fort occupying an area of 250 sqm. It is enclosed by Middle wall 1 on the east, the North wall on the north, and large rocky formations to the west and south. Middle wall 1 does not reach the South wall, since the rocks and especially the difference in altitude at the southern extension of Middle wall 1 block a direct bonding. Middle wall 1 is oriented in two different directions: the northern part consists of hammer-faced ashlar blocks 0.2–

11 See Lang 1996, 28; Müller-Wiener 1988, 88.

8

0.6 m high, whereas the southern part is constructed of bigger polygonal blocks 0.6–1.2 m high with roughly carved surfaces (Figs. 8. 26).

18 The entire Area 1 is marked by natural rock clusters that are worked off to form an almost horizontal platform of about 250 sqm. Only the stone beddings at the edges of this plain area indicate the position of an enclosing wall. At the northwest the stone beddings imply a wall thickness of ca. 1.5 m, which repeats the dimensions of the other sections of the fort. Further south, the smoothed areas increase to 3.0 m, but it can be assumed that the fortification kept the 1.5 m thickness. Thus, it probably covered only part of the smoothed surface, and the levelled strip might have guaranteed good accessibility to the enceinte from the inner side and/or ensured a clear view of the plain. Von Gerkan described some stone beddings as a »two-stepped threshold« with two recesses carved into the lower step that he interpreted as mounting holes for a stele or the position of a sanctuary[12]. Re-examination of the actual state of the area suggests that it is more likely to be the worked rock for the fortification wall.

9

Fig. 8: The northern (on the left) and southern sections (on the right) of Middle wall 1

Fig. 9: Ashlar wall fragment at the northern edge of the North wall

19 At the northern edge, the stone beddings follow the rocks with several 1.5–2.0 m offsets in the north–south direction. Gaps in the rock were bridged by ca. 2 m long wall sections that were inserted between the rock portions and consist of three pseudo-isodomic layers with trapezoidal, almost ashlar blocks. The blocks are finely worked to fit the rock (Fig. 9). This area is also reinforced with stepped layers of rock, with its stepped layers that formed the natural base of the fortifications line[13]. The south and west of Area 1 offer a natural boundary with almost 2–3 m high sheer rocks that are smoothened on the upper surfaces. However, the stone beddings cannot be followed regularly, but von Gerkan assumed that the enceinte must have followed the line of rocks, which shaped the defence line[14]. Neither an entrance from the exterior nor the connection with the lower areas are clear. Von Gerkan suggested a ramp, roughly in the middle of Middle wall 1, or a passageway on the southwest side[15].

20 The plan published by 20th century researchers indicates additional wall remains and a water drain crossing Middle wall 1, which are not visible today in situ. However, a cistern with a bottle-shaped section is the most significant man-made

12 von Gerkan 1940, 116.

13 Nevertheless, it cannot be ruled out that the 1.2 m wide rock to the north could have been part of the enclosing wall. It is more likely that this was the northern wall of the cistern building. See below.

14 von Gerkan 1940, 115.

15 Von Gerkan imagined a ramp that would be based on the rocks and a block with a round carving, but at the same time he rejected this idea because of the possible position of the door (von Gerkan 1940, 115).

10

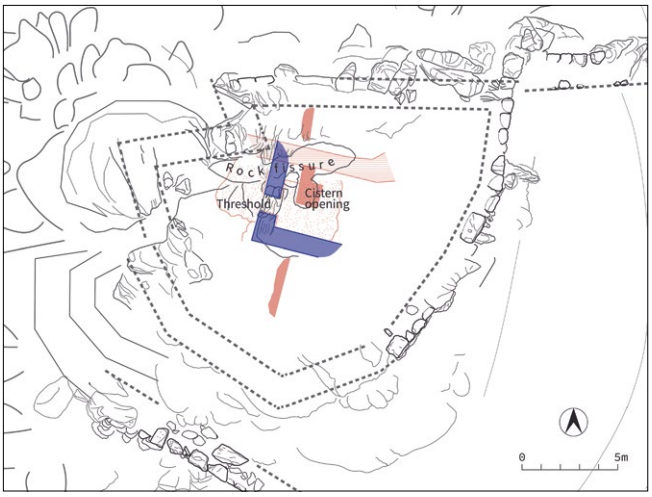

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Fig. 10: The flat rocky area to the west and south of the cistern in Area 1

Fig. 11: The reconstruction drawing for the structures in Area 1; red: drawings of 20th century researchers, adapted from Boehlau – Schefold 1940, pl. 39; blue: possible traces of the building

element of this area. The cistern is cut out of the rock, and the remains of plaster inside indicate the measures taken to prevent leakage of water. An opening 7.5 m long and more than 1.5 m wide reveals the underground rock fissure[16]. To the north of the original oval opening (1.0 × 1.5 m), the rock covering the subterranean space collapsed (or never existed). To the west and south of the original cistern opening, the rocks are specifically worked and set up a horizontal L-shaped plane of about 5 m² (Fig. 10). On its western edge, a slightly elevated threshold was formed within the rocks[17]. The postholes (ca. 4–5 cm × 9–10 cm) at the northern and southern ends suggest a door frame with a ca. 0.6 m wide passageway. To the east of the threshold, a well-smoothed area of a recognisable length of at least 2 m marks the floor of an indoor space. On the south side, a 10–20 cm high edge shows the rocky foundation of an outer wall, which has an angle of 91° to the threshold. This shows the southwest corner of a building, but its full boundaries remain unclear. Certainly, the building covered an area of 10 m² or slightly more[18] (Fig. 11). As the cistern is situated at the topmost point of the fort and cut into the rocks, the actual source of water is unclear. There is not enough space to collect water and to lead it into an underground storage. However, the possibility that the structure was integrated into another water system must be considered.

North Wall

21 The North wall represents the longest wall course of the fort and it stretches between two large rock clusters comparable to the other walls of the fort. A gate is situated around the middle of the wall, at the junction with Middle wall 2. This particular area will be examined in detail as the »Gate Complex« below.

16 Von Gerkan assumed that the cistern was connected to the rock fissure, which could be accessed by a stair or ramp (von Gerkan 1940, 115). However, this assumption cannot be clarified on site.

17 Von Gerkan noted a wider passage of 0.85 m, maybe not seeing the postholes; von Gerkan 1940, 115.

18 The inner room probably extended through the south and east of the cistern, as some more or less smoothed areas are visible. The position of the northern wall is unclear due to the collapse of a rock. The stone beddings around the threshold imply a wall of 0.9 m thickness, which seems unusually strong for a house wall. In comparison, the house walls in Area 3 as well as in the settlement below the fort average 0.5 m. However, on other parts the thickness of the beddings varies between 0.7 and 1.4 m. The room/building would have offered only little space of 0.6 to 1.5 m around the cistern opening (0.6 m west of the cistern, 1.4 m in the south and 1.0–1.5 m in the east). West of the threshold another smoothened triangular area ensured easy access. The building could also have extended further to the east. If one assumes that a more or less wide corridor along the fortification wall left enough space to walk along the wall, then the building could have had a maximum floor area of approximately 25 m².

12

13

Fig. 12: North wall, seen from Area 1

Fig. 13: The east of the North Wall (section B), with the filling of polygonal blocks

22 The outer shell of the North wall is preserved for only 2–3 layers and it mostly consists of polygonal and partly trapezoidal blocks, although in some cases the blocks appear somewhat roundish due to heavily splintered edges (Figs. 12. 26). The blocks of the outer shell vary in width between 0.6 and 1.1 m with relatively smaller blocks in the lower layer. The surfaces of the blocks are mostly hammer-faced. On the west side of the gate, continuously aligned horizontal joints can be followed, which at some points reach a length of up to 6 m. The top surfaces of the upper stone layer are mostly carefully smoothened to ensure a finely fitting joint. The blocks and the rocks are also generally elaborately worked, but at the western end of the wall, small rubble stones indicate a repair or loose joints. In this part, the blocks seem to be original but they are slightly displaced from their original position.

23 The North wall can be investigated in two parts running in different orientations: Wall A between the two middle walls, and Wall B between Middle wall 2 and the northeast corner of the fort. Wall A is a 20 m long course, 1.75 m thick on its west side and decreasing to 1.55 m on its east. This indicates an intentional change, probably according to the topographical conditions. Wall B is 43 m long, and its thickness varies from 1.45 to 1.6 m. The east of Wall B represents the northeast corner of the fort. Almost 4 m high rocks form a natural defence, and a 3 m high filling of polygonal blocks strengthens this corner (Fig. 13). The blocks are irregular in shape and position. Their surfaces are roughly worked, and the joints are not finely fitted. The platform-like structure of this northeast corner is about 9 m wide and protrudes about 2 m outwards from the East Wall course. The continuation of the surface treatment, the stone beddings, and some additional blocks clearly prove the existence of an uninterrupted enceinte from North wall to East wall. The platform covering an area of around 40 m^2 might also be interpreted as a tower-like structure, since it is set upon the 3 m high massive rocks from the level of the settlement area. As the area is shaped to take account of the rocks, it presents an irregular plan.

East Wall

24 The East wall lies between the rocky northeast and southeast corners overlooking the settlement area (Fig. 14). A postern is located approximately in the middle of the wall. Similar to the North wall, the East wall can be described in two sections with two different orientations, namely Wall C and Wall D. Following the rocky platform at the northeast corner, Wall C extends for 15 m to the southwest and reaches a large rock; then the 52 m long Wall D, oriented 25° more to the south, joins the southeast corner. These two sections bear different characteristics: Wall C is 1.52–1.55 m thick, whereas the Wall D is significantly thinner and changes its width several times. The northern

part is 1.15–1.21 m thick, the middle part around 1.4 m, and the southern end 1.33 m. The southern extremity joins the large rock clusters of the southeast corner of the fort. Here, the uppermost surface of a massive rock rises ca. 3.5 m above the actual ground level to form a perfect bedding for the junction of Wall D and E.

25 The wall is constructed directly on the bedrock and is composed of polygonal blocks with curved edges. The block surfaces are mostly hammer-faced and the joints are roughly fitted. However, the blocks around the postern can be distinguished by their more elaborate masonry. The better-preserved Wall D displays almost horizontal joints running continuously for several metres. On the north part of the postern, the blocks of the lower courses are smaller and more irregular than the upper courses. Around 1.5 m above the actual ground level, horizontal joints provide a base for larger blocks (Figs. 15. 16. 26). A similar layering is to be found on the southern part of the postern. Here, the lower part of the wall consists of polygonal hammer-faced blocks. Their top surfaces create a horizontal joint, above which the upper layers with smoothly chiselled trapezoidal/polygonal blocks are placed with a recess of ca. 10 cm[19]. In addition, on the top surfaces of this upper part, a bedding is prepared for one or more additional layers. The finely chiselled stones have a counterpart in the three southernmost blocks of Wall C, with similarities in block shape, surface and joint treatment (Fig. 17). They are set directly on the rock. Interestingly, all the well-smoothed blocks are positioned at the same height, which might lead to the conclusion that above a level of 210.5 to 211 m asl, the entire East Wall consisted of two or more layers of similarly well-smoothed stones. This might have been the terminating layer of the stone base (*toichobat*) that carried the mudbrick superstructure[20].

26 On the southern jamb of the postern, there are two square blocks with a chiselled surface facing the passage. The northern jamb is not preserved, but it must have been positioned next to the large unworked block there. Assuming a minimal width of this neighbouring block, the passage would have been max. 1.7 m wide[21]. To the west of the postern, at a distance of 2.5 m and parallel to the East Wall, there is a 0.65 m thick double-shelled wall made of small- and medium-sized stones, which can be followed for 2.84 m. To the north, this short wall forms a right-angled corner, and continues for another 3.39 m westwards[22]. These walls might have belonged to an additional construction or might represent the remains of a building of a later date than that of the fortification.

27 A large cistern is located to the south of these walls, 3.5 m from the East Wall. It presents a regular circle with a diameter of 6.43 m. Today, the cistern is filled with debris, especially the northern part, so the original depth remains unknown. The masonry of the encircling wall consists of roughly worked and compact stones of various sizes and it resembles the northeast sector of the North wall. The blocks are placed in rows and eight courses can be recognised, of which the uppermost two layers are chisel-worked, whereas the blocks of lower courses carry hammer-face surface; the masonry type is Lesbian, as dominates the entire construction of the fort.

South Wall

28 The South wall also consists of two sections with slightly different orientations, yet linear and regular, and a postern leading to Area 2, almost in the middle of the course (Fig. 6). The short section on the east – Wall E – is only 4.1 m long and it runs exactly perpendicular to Wall D of the East wall. Both portions are 1.3 m thick and have similar structural characteristics. The outer shell of Wall E consists of polygonal and roughly work-

19 The blocks are quadrangular in shape with side lengths of 0.4–0.7 m except for one larger block of ca. 0.8 m × 0.95 m.

20 See the footnote no. 9 above.

21 The width of the opening cannot be determined with certainty; von Gerkan 1940, 114 noted 1.20 m.

22 von Gerkan 1940, 114 observed some more wall fragments which are not visible today and interpreted them as a one-room building. The space between the East wall and the building he called »Wallgasse«.

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ed blocks; the inner shell is preserved with more layers. Although the exact junction at the corner of Wall D and E is not preserved, the common wall thickness of 1.3 m and the perpendicular position imply that both portions were built together to form a platform above the rock cluster.

29 To the northwest is Wall F, which measures 63.4 m and it is oriented 12° more to the north. The connection point between Wall E and F is quite unusual (Fig. 18). Wall E clearly ends in the west with two blocks with smoothed edges and thus it neither continues nor is bound to Wall F. Nevertheless, the inner shell of Wall E is attached to the outer shell of Wall F forming an overlap for at least 0.45 m and a setback that corresponds to the wall thickness of Wall E. The eastern end of Wall F is not traceable, but it probably continued eastwards, which would have formed a longer and more secure overlap with Wall E. Wall F is well preserved along its inner and outer shells, especially between the eastern end and Middle wall 2. The lowest course of the wall is probably not visible as there is no evidence for a rocky base. However, outside the wall is a rocky area, and a width of 4–5 m allows for movement along the wall.

30 The type of masonry is polygonal/trapezoidal with regular or slightly undulated layers, which can be clearly observed near the postern (Figs. 19. 26). Only near the northwest end of the wall are the blocks placed less horizontally, though the intention towards horizontality can still be recognised. The blocks have approximately the same size of 0.6–0.7 m along the entire wall, and show – in contrast to the rest of the enceinte – no difference between the inner and the outer shell. Moreover, only on the South

Fig. 14: East wall (section C)

Fig. 15: East wall and the rocky terrace of the settlement area below, seen from the northeastern corner of the fort

Fig. 16: East wall (section D)

Fig. 17: The three southernmost blocks of Wall C (of the East wall)

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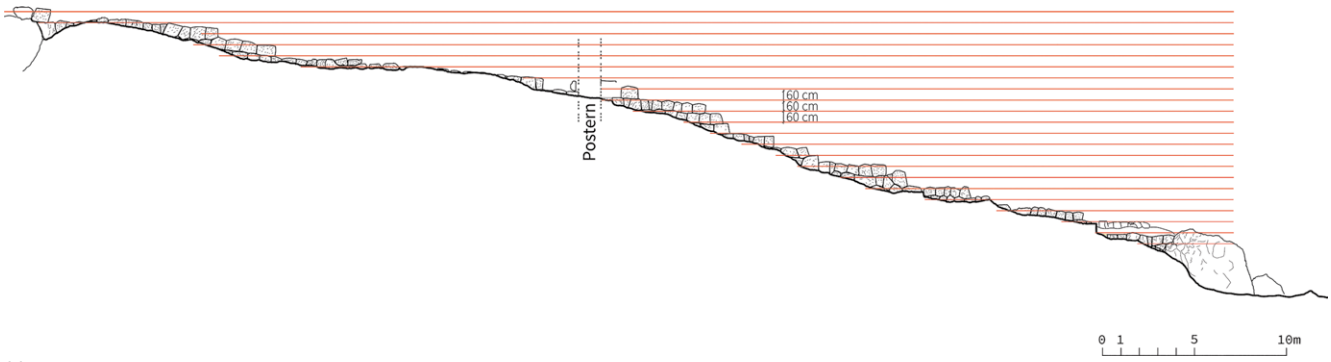

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Fig. 18: Wall E (the lower course on the right) and Wall F (the upper course on the left) of the South wall

Fig. 19: South wall of the fort, near the postern

Fig. 20: Regular horizontal rows of the South wall

Fig. 21: Elaborately worked blocks of the South wall, seen from the southeastern corner, outside the fort

wall was a regular layer height of 0.6 m on average applied to all 21 preserved layers (Figs. 20. 21). The vertical joints of the blocks are elaborately worked and the block surfaces are finely smoothed with a chisel, thus displaying a pointed texture. Especially the blocks on the east of the postern stand out for their elaborate work.

31 The wall thickness of Wall F is around 1.53–1.57 m. At the northwest end, the inner shell is less visible, and the masonry is less regular, possibly because of the rock clusters. Here, the wall thickness increases to 1.64 m, and larger blocks were used in the masonry. Additionally, on the lowest layer of this part, the surface treatment is less elaborate with no pointed work and less precise joints.

32 On the South wall, a postern can be identified where its western corner block shows a smoothed surface facing the passage way. To the north, a second and rather slim, smoothed block is partly positioned upon the corner stone; it is recessed by 0.2 m towards the west. At this inner corner, either a wooden door frame was positioned or the smaller stone marks the position of the jamb, and the lower corner stone was part of the threshold. For the eastern jamb, one block of the inner shell can be considered as being the corner stone; if so, the width of the passage would measure around 1.2–1.4 m. Thus, this postern would have been the narrowest of the four passages into and within the fort.

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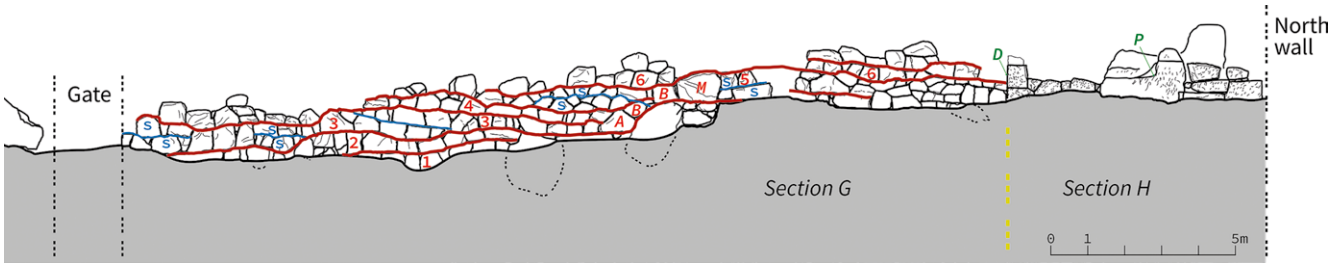
Fig. 22: Section G of Middle wall 2 with a large rock as the foundation block

Fig. 23: Six distinct layers within the masonry of Middle wall 2



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Middle Wall 2

33 Middle wall 2 extends between the South and North walls and uses the rocks inside the fort as a base (Figs. 22. 26). It consists of sections with different orientations: The longer part, Wall G, is attached to the South wall and its length measures 34.9 m; the shorter part, i.e., the 7 m long Wall H adjoins the North wall with an orientation more inclined towards the west.

34 Wall G has an average height of 1.8 m above the actual ground level, and its width varies between 2.06 m (south) and 1.81 m (north). A 1.85 m wide opening near the southern extension of the wall connects Areas 2 and 3. Although being an inner wall, Wall G shares the basic characteristics with the main walls of the fort. It was constructed on a chain of natural rocks and functioned as a terrace wall at the same time. Following the overall pattern, it is a wall with double shells displaying bigger blocks on the southern face. The polygonal/trapezoidal blocks show curved edges attached by relatively tight joints with occasional gaps between them. The block surfaces of the outer shell are hammer-faced, whereas the upper surfaces reveal the traces of a pointed chisel.

35 Between the South wall and a 1.25 m high rock, the southernmost part of the Wall G is poorly preserved; it is built of smaller stones than other walls. The surface of the rock was smoothened to receive a block of the inner shell and the blocks of the southern jamb of the postern. The northern jamb is well preserved with its western corner block being relatively large.

36 To the north of the postern, the wall stretches for almost 24 m in a good state of preservation with integrated natural rocks as a foundation and/or as a part of the wall. Compact blocks of ca. 0.5 × 0.7 m are arranged to fit together with the insertion of small size stones. Within the masonry, at least six distinct layers can be identified (Fig. 23). The layers are defined by the height of bigger blocks, and the lower stones form »sub-courses« (marked with blue), which are divided by a straight, inclined bed joint at some parts (L). Starting from the actual ground level, the first two layers (1 and 2) are partly interrupted by rocks, while the layers 3 to 6 extend continuously from the postern northwards (3 and 5). Even 5th and 6th layers can be identified or at least suspected.

Although the layering is interrupted by a rock and large blocks (B and M), horizontal lines of layers 5 and 6 can be recognised further to the north.

The Gate Complex

37 Wall G and H are attached to each other, and a rectangular block with a drafted margin on its outer edge marks the corner block of Wall H (Fig. 24). A 3 m long course of five blocks, including the corner stone, extends to the west, running exactly perpendicular to Wall H. Together they provide evidence for an independent structure. No other walls are visible towards the west, probably because they are buried beneath the debris due to the inclination of the slope. The inner shell cannot be identified either since it did not survive or it never existed as the outer shells just mantled a rocky area to create a foundation or a platform above for a superstructure.

38 The core area of Wall H is marked by a massive rock, which occasionally displays carefully chiselled surfaces and beddings for upper block layers. A row of three wedge-holes, each about 7 cm long, indicates that the extraction of the rock was originally planned but not accomplished. The masonry of Wall H consists of mostly polygonal blocks with curved edges and tight joints; however, the corner stone and a few other blocks have straight edges. The block surfaces are well-smoothed with a pointed chisel leaving smaller and larger pick marks.

39 The rock of the core area with stone beddings protrudes out of the wall alignment and it appears as if the wall continued turning slightly to the north (Fig. 25). Instead, the wall continues in the same direction and then forms the western jamb of the axial gate of the North wall, a passage of 2.8–2.95 m wide. The eastern jamb of the gate is parallel to the western one and it has a clear width of 2.2 m. So, the eastern jamb wall exceeds the main North wall by 0.7 m to the south, forming a small wall with an irregular end. As the inner shell of this wall has not survived, it is unclear if this wall originally continued further to the south. There must have been a connection between the inner shells of this wall and the curtain. The inner shell of the curtain wall has one small block, showing a change of surface treatment. Here, the connection point between the curtain wall and the eastern jamb could be expected, which would then indicate that the width of the jamb wall was 1.10–1.15 m.

40 Wall H, Wall B, and the gate of the North wall are all perpendicular to each other, which emphasises a special arrangement for the opening on the North wall. Additionally, three wall sections are situated north of the gate, outside the fortress grounds[23]. They are almost perpendicular to each other, and the wall thickness must have been at least 0.75 m[24]. No thresholds can be identified, yet this may be due to this area's poor state of preservation. Possibly, these walls were part of an additional arrangement to create a small space in front of the major passage. Another possibility is that they blocked the aperture, which means that the main entrance of the fort must have been relocated to one of the posterns.

41 A further security measure immediately outside the fort is the outer wall on the north side. This wall is visible approx. 8.5 m north of the gate in some single blocks. A 15 m-long section of the wall is clearly visible 25 m further to the north, with only one layer above the surface and only the eastern shell. The rather poor condition of the wall improves slightly after it turns towards the north. The 12 m long section up to the cliff, where it intentionally ends, widens continuously from 1.0 in the south to 1.26 m in the north. The block sizes vary significantly, with generally smaller, hand-size blocks in the

23 These fragments were also added to the plan of von Gerkan by Meyer-Plath. Boehlau – Schefold 1940, pl. 39 b.

24 The inner shell of the walls is not visible. However, with the largest block of 0.75 m thick in the eastern part, the minimum wall thickness is estimated to be over 0.75 m.

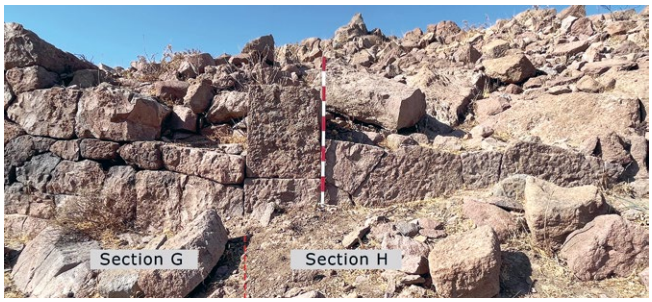

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Fig. 24: The Gate Complex, joint of the sections G and H

Fig. 25: The rock protruding out of the wall alignment and the western jamb of the axial gate of the North wall

western shells and larger blocks in the eastern shells (up to 0.7 m in the north stretch, and up to 2.0 m in the south). Following the common practice that larger blocks were used on the outside, the exterior would be the north-eastern area. The south-western area including the path leading to the Gate Complex would then be designated as an inner area, with its western boundary which is also formed by rocks. In conjunction with the rocks, the outer wall constituted a forecourt-like area in the immediate vicinity of the north gate.

Common Features of the Walls

42 The walls of the fort have different architectural characteristics and details (Figs. 7. 26). Differences in wall thickness, masonry style, and junction points are noticeable. However, some of the basic features are common and they suggest an overall plan.

43 Firstly, during the construction process of the fort, as well as the settlement, natural andesite rocks were used. The traces on the rocks and the blocks indicate a particular block extraction technique, which is based on the opening of wedge-holes (Fig. 27, each about 7–9 cm long) and applying hammer blows to the wedges. The position of the rocks apparently dictated the triangular form of the fort. The wall courses were built on the most suitable chains of rocks. In line with the prevailing practice of construction, the rocks were used to construct the first natural foundation, and this was followed by a second foundation layer of roughly shaped large blocks. The second layer would be levelled out by inserting a *toichobat* layer, or the main wall would begin immediately on the second foundation layer with some recess. However, each single section of long wall portions presents slightly different features regarding the immediate topography. The eastern wall took advantage of the rocks as fixed points and presents a modest wall thickness. The North wall utilised the continuous rocks as a wall base along the entire slope, and the inner and outer shells are closely fitted to high rocks. The South wall lacks rocky areas for its foundation level, yet a coherent and elaborate structure was attempted. Finally, Middle wall 2 was constructed as the strongest wall despite its irregularities regarding the masonry.

44 As for the articulation of the masonry, Lesbian working technique was applied as the basic common practice. Blocks of many different dimensions were generally worked polygonally, whereas blocks with four and three edges were also used. Individual layers can occasionally be recognised. In the North wall, blocks of considerable size and very small ones were used together; there are no well-defined parallel layers. On the eastern wall, the foundation layers are marked by natural rocks and large roughly hewn blocks. The quasi-quadrangular blocks of the upper layers are placed somewhat

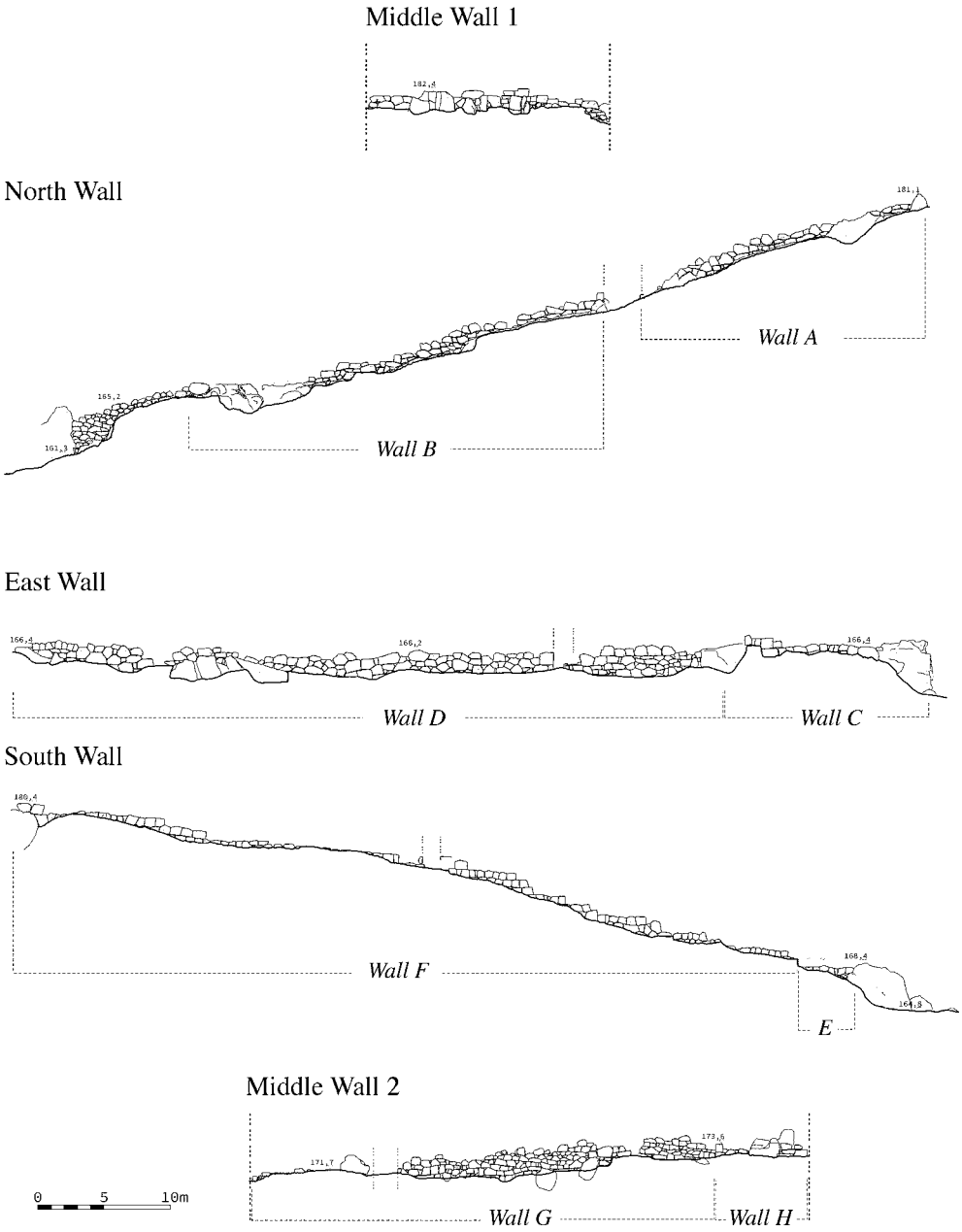

Fig. 26: Elevation drawings of the walls

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vertically presenting better smoothed surfaces. The South wall facing Larisa West shows the most elaborate workmanship. The prevailing block shape can be defined as »flat hexagon«; their vertical joints were variably placed, giving the wall a honeycomb-like texture. Middle wall 2 has blocks of many different dimensions. Both in the East wall and both middle walls, undulated courses and their sub-courses can be recognised.

45 The well-smoothed block surfaces of the main layers resting on the foundations show traces of pointed chisel work. Pick marks left by chisel blows predominantly created a homogenous small-pointed texture, whereas in some cases the blows caused deeper and larger holes. On some of the blocks in the North wall, the pointed chisel was held so as to draw continuous lines on the surface. The most homogenous surface texture can be seen in the South wall. In addition, quarry-face and hammer-face work can be found in the North wall, both in the filling between the rocks and in the main walls. Middle wall 2 displays this kind of surface treatment throughout. At a few spots with rectangular work, blocks are varied in dimensions. The surface treatment

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Fig. 27: The wedge holes seen on the northeastern corner of the fort

bears traces of a pointed chisel, yet the pick marks are smaller, and blocks display conspicuous projections (or »pulvinations«).

46 The variety in details gives impression that the individual wall courses were constructed separately. However, the overall plan of the fort represents a coherent whole since the architecture responds to the topography and the structural solutions are finely fitted to the natural rocks. Differences in masonry – such as Middle wall 2 and the rectangular masonry on the north side – might indicate individual groups of masons and/or successive stages of construction. Furthermore, the settlement area with strengthened walls on its uppermost levels and the long wall immediately outside the north gate complement the fort's entire articulation regarding the best defence.

Probable Construction Phases of the Fort

47 The variety in constructional features necessitates questioning the building phases of the fort and investigating conspicuous irregularities in detail. The difference in wall thickness represents one of these irregularities. This might have indeed resulted from the construction process, where a precisely laid straight line of inner and outer shells was not necessarily considered. Alternatively, it might refer to different mason groups and construction works dictated by the topographical conditions. Von Gerkan also notes that differences in wall thickness do not seem to have any particular significance[25]. Nonetheless it contrasts with the elaborate stone workmanship and the comprehensive planning process. It cannot be a coincidence that the wall thicknesses differ significantly among all the wall sections, but only minor differences of a few centimetres are observed within individual sections.

48 The walls of the fort can be divided into at least three categories. Category 1 with the longest sections is formed by ca. 1.55 m thick walls: Wall A–C and Wall F. Walls A and F widen slightly towards their western ends, where they are connected to the rock. To the second category belong the only 1.35 m thick Wall E and Wall D (south of the postern), that clearly form a unit[26]. Third category is Wall G (Middle wall 2) that

25 von Gerkan 1940, 114.

26 At approximately 1.5 m north of the postern, Wall D narrows to less than 1.2 m, but especially the rather continuous narrowing makes it difficult to attribute this part to a separate wall category. Also, the uninterrupted masonry of the outer shell does not indicate a separate building phase. Instead, 5.5 m south of the postern three blocks of the outer shell form an almost vertical joint that resembles the end of the wall.

represents the strongest of the walls with its 1.9 m thickness. This wall is attached to the Gate Complex, which has an almost rectangular plan, and differs in terms of its masonry type. Such differences lead us to interpret the Wall G as a later addition.

49 Concerning the rest of the walls, the construction phases are not clearly recognisable due to the poor state of preservation, especially at the transition points. Firstly, there is the possibility that the enceinte in the north, south and east belong to the same phase, but during the construction works the wall thickness was changed. However, in this case it remains unclear why the builders would accept the weak connection point between Wall E and F if the plan and layout of such an elaborate construction measure was part of a comprehensive planning process. The second possibility is that the North wall with the Gate Complex and the South wall were erected in the first stage. Wall E and D were added to Wall F in a later phase, because it is easier to place a new wall (E) in front of the older one (F). Maybe the eastern flank was only secured by the terraces of the settlement[27]. In both scenarios Wall G was added at a later point as an additional *diateichisma*. The wall parts with the rectangular blocks – the North wall in Area 1, where short walls fill the gaps between the rocks, and the middle of Middle wall 1 – might point to an even later building phase. The 20th century researchers stated that these walls bear features of Hellenistic practice and thus dated them to the 4th century B.C.[28].

Comparison with Larisa West

50 The archaeological excavations in Larisa West revealed that differences in masonry also allow a distinction between the major construction phases. Lesbian masonry is exemplified in the old palaces, temple, megaron and the acropolis walls. Especially the acropolis walls, dated to early 5th century B.C., are notable for the different colour combination of their blocks and the fine workmanship, thus representing one of the prominent examples of Aeolian architecture. The acropolis walls ground on the bedrock; the block surfaces of the first row are preserved in their rough form as they were extracted from the rock, whereas in the upper rows they are finely smoothed. In Towers I and VII the horizontal rows can be followed in the polygonal blocks, forming relatively straight rows. The steps of the temple terrace in Lesbian masonry, dated to the 6th century B.C., consist of rough blocks which do not tightly interlock. In the walls of the Oldest Palace, dated to the 6th century B.C. and preserved at the foundation level, small and medium-sized blocks with quarry face were used, and the gaps between the non-abutting blocks were filled with rubble stones. The megaron, dated to the early 5th century B.C., along the acropolis walls, is another structure where Lesbian masonry is observed. The foundation walls of the megaron consist of roughly faced blocks, with the upper row composed of neatly finished blocks, and curved polygonal blocks align with rectangular blocks at the corners. The Lesbian masonry identified in Larisa repeats the architectural features seen in the Aeolian region during the 6th century B.C., such as the use of different colours, corner strips on the edges, and continuation with neatly finished blocks over a row of rougher stones[29]. However, in structures such as the North Building and Propylon on the acropolis, dated to the late 5th century B.C., the edges of the

However, the wall is as wide as the adjacent sections (1.4 m) and does not confirm a building joint either. Thus, it cannot be stated that the different parts of Wall D were erected in different construction phases.

27 It seems unlikely that Walls D and E were built as a free-standing barrier-like wall, as the small rock in the north does not form a strong natural barrier. Thus, the walls together with the rocks would not have effectively cut off the higher areas from the eastern slope. Another possibility would be that Walls D and E were built as the earliest fortifications, but no remains of an enceinte are preserved.

28 von Gerkan 1940, 114.

29 Saner – Sağ 2012, 432 f.

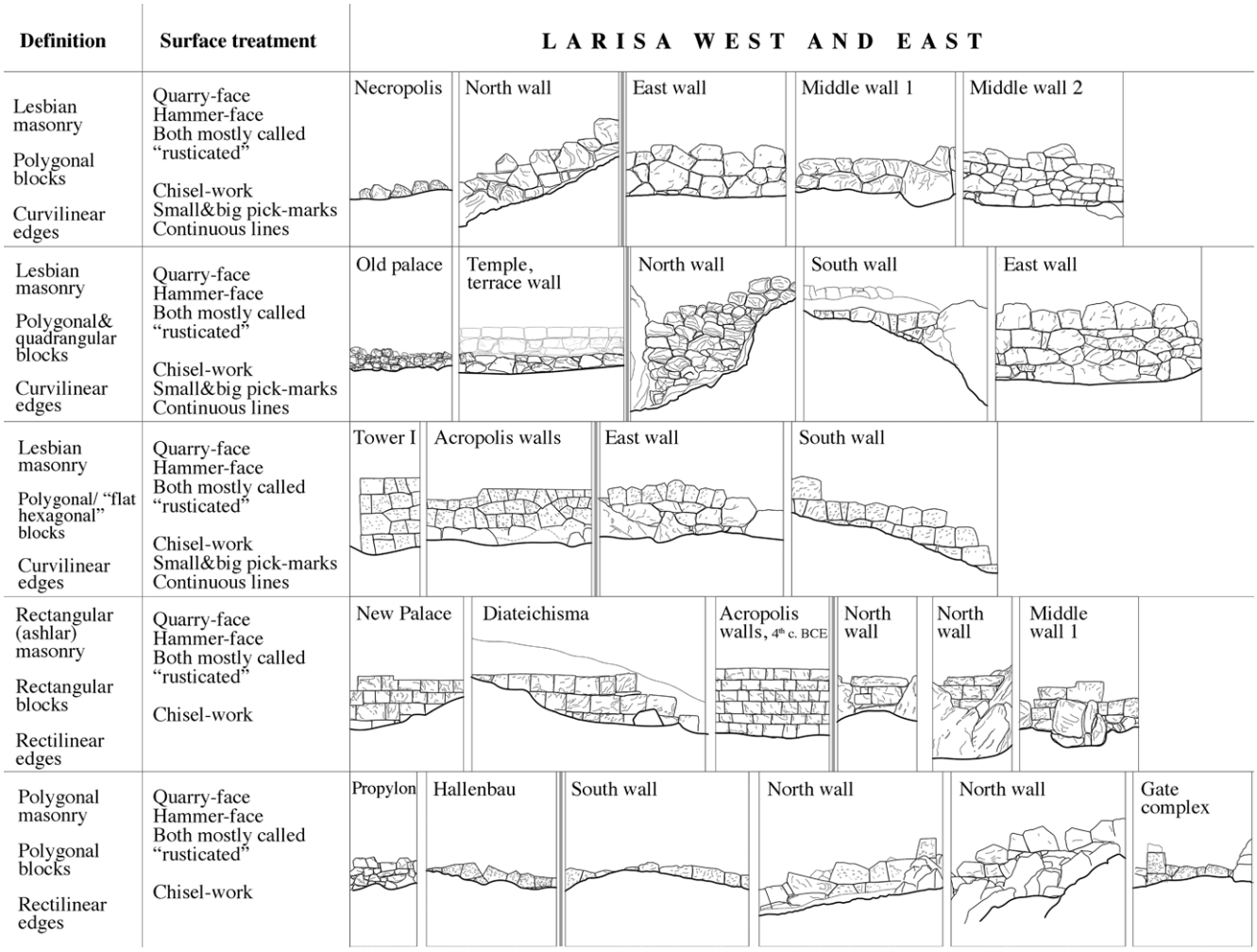

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Fig. 28: Guideline for the wall sections on Larisa East and West with different types of masonry

polygonal blocks are not curved, distinguishing them from Lesbian masonry. The wall masonry in these structures is defined as regular polygonal masonry. On the other hand, the walls of the New Palace, dated to the 4th century B.C., and the later acropolis walls consist of regular rectangular blocks. As a result of these findings, the wall masonry in Larisa can be roughly dated. Accordingly, it is understood that in Larisa, Lesbian masonry was used in structures between the 7th century B.C. and the early 5th century B.C., regular polygonal masonry at the end of the 5th century B.C., and regular rectangular blocks in the 4th century B.C.[30]. This basic distinction allows us to make comparisons and to at least roughly date the structures in Larisa East, since no archaeological excavation has been undertaken in Larisa East (Fig. 28).

51 In terms of building material (andesite) and methods, masonry technique and workmanship, the walls of the fort in Larisa East present obvious similarities to the walls of Larisa West. The stone quarrying process based on opening wedge-holes was practiced in both settlements exactly in the same manner. So is the construction method with double foundations (natural rocks and big size blocks upon them) and a *toichobat* layer with some recess to carry the upper part of the wall. The megaron and the acropolis circuit are the typical examples in Larisa West. Here, the Lesbian masonry technique was applied to many different block forms, and the particular surface treatment, which left small and big pick marks of chiselling, are among other common features. In addition to the megaron and acropolis walls, the ring walls of many grave

30 Saner 2016, 64.

Fig. 29: Tower I on Larisa West 29

units in the necropolis were worked in the same fashion. The drafted corner practice – as seen in the Gate Complex in Larisa East – is another complementary aspect, which can also be identified in Tower I in Larisa West (Fig. 29).

52 Another coinciding practice is that the walls were constructed of double shells with larger blocks placed in the outer shell and smaller stones on the inner side. One obvious example in the western settlement is the Old Palace on the acropolis from 6th century B.C. As a counterpart to varying wall thickness in the fort, the acropolis circuit in Larisa West can be mentioned with its wall thickness between approximately 2.5 and 2.8 m.

53 In Larisa West, the circuit of the enlarged acropolis grounds, including the *diateichisma*, the walls of the New Palace and those of the bastions immediately to the north of the New Palace that date back to the 4th century B.C., are composed of regularly carved rectangular blocks (with quarry-face, hammer-face and »pulvinated« works; Fig. 30). Similar block types can also be seen in the uppermost sections of the North wall of the fort and the northern part of Middle wall 1 (Fig. 9).

Conclusion

54 Larisa East and Larisa West represent together a multi-foci urban structure. The walled monumental centre of Larisa West was secured by the fortified (and higher) hilltop of Larisa East, which also provided a secondary habitation area. Compared to the acropolis walls reinforced with towers, the walls of the fort are thinner, yet its higher location and the extremely rocky topography would have provided natural defence.

55 The three openings in the walls of the fort show potential connections in all directions. The postern in the East wall leads to the settlement area below. The uppermost terrace of the settlement was apparently also considered as a fortified area with big rock masses extending below the two corners of the fort. The area outside the gate of the North wall is also secured by the outer wall. A pathway to the northwest, turning then to the south, led to the agricultural area between Larisa East and West. The postern of the South wall facing Larisa West is connected with a very steep topography, yet a rocky area immediately outside the wall allows for movement along the wall. This area might have served an observatory function rather than being a frequently used passageway.

56 The »platform« and the building-like structure atop the fort must have functioned as an observation place. However, the presence of stone beddings with two pits similar to stele holes raises the question of whether this place also held sacred significance. In the main sanctuary in Larisa West, the rocky area on the acropolis was levelled and utilised as an altar, featuring cup marks carved into the rocks for various

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Fig. 30: The *diateichisma* (on the left) and the southern course of the 4th century B.C. acropolis walls (on the right) on Larisa West

rituals, and sanctity was attributed to the rocky area. It is possible that, in the fort, an arrangement was made for a similar cultic practice.

57 The panoramic view from the fort emphasises the advantageous location of Larisa. Beyond serving the urban centre of Larisa West, Larisa East probably had the potential to support a regional system, especially under Persian rule. With the increasing movement on the Achaemenid Royal Road from the 6th century B.C. and the Greco-Persian wars, forts, settlements and groups of tumuli served as guard posts along the way[31]. This favourable location of Larisa and its fort must have broadened its impact area and enhanced the city's prosperity. It is so far unclear if Larisa is representative of the settlement dynamics of its region, since none of the sites in the immediate vicinity has been excavated or thoroughly studied yet. The originality of the design of the fort and the refined execution of basic masonry techniques (in relation with those in Larisa West) refer to centrally organised building activity by the early 5th century B.C. In the absence of study objects to compare with, Larisa East's description here would certainly represent a starting point for future research.

31 For Lydian examples see Roosevelt 2017, 162–167; Dusinberre 2013, 85. 104. Some of these settlements/forts also worked the farmland in the vicinity and represented garrisons (Foss – Hanfmann 1975, 25–30). Besides, the natural road along the Hermos River and the roads between Aiolis and Ionia were also reinforced with towers (Miltner – Miltner 1932; Cook et al. 1998, 181; Gezgin 2001, 186 f.).

References

Boehlau – Schefold 1940 J. Boehlau – K. Schefold (eds.), Larisa am Hermos. Die Ergebnisse der Ausgrabungen 1902–1934 I. Die Bauten (Berlin 1940)

Boehlau – Schefold 1942 J. Boehlau – K. Schefold (eds.), Larisa am Hermos. Die Ergebnisse der Ausgrabungen 1902–1934 III. Die Kleinfunde (Berlin 1942)

Cook et al. 1998 J. M. Cook – R. V. Nicholls – D. M. Pyle, Old Smyrna Excavations: The Temples of Athena, BSA Suppl. 30, 1998, iii–xxviii. 1–214

Des Courtils 1998 J. Des Courtils, L'appareil polygonal »lesbien« et l'architecture éolique. REA 100, 1998, 127–137

Dusinberre 2013 E. R. M. Dusinberre, Empire, Authority, and Autonomy in Achaemenid Anatolia (New York 2013)

Foss – Hanfmann 1975 C. Foss – G. M. A. Hanfmann, Regional Setting and Urban Development, in: G. M. A. Hanfmann – J. C. Waldbaum (eds.), A Survey of Sardis and the Major Monuments Outside the City Walls, Report / Archaeological Exploration of Sardis 1 (Cambridge 1975) 17–34

von Gerkan 1940 A. v. Gerkan, Das Kale bei Larisa, in: J. Boehlau – K. Schefold (eds.), Larisa am Hermos. Die Ergebnisse der Ausgrabungen 1902–1934 I. Die Bauten (Berlin 1940) 113–116

Gezgin 2001 İ. Gezgin, Defensive Systems in Aiolis and Ionia Regions in the Achaemenid Period, in: T. Bakır – H. Sancisi-Weerdenburg (eds.), Achaemenid Anatolia. Proceedings of the First International Symposium on Anatolia in the Achaemenid Period. Bandırma 15–18 August 1997, Uitgaven van het Nederlands Historisch-Archaeologisch Instituut te Istanbul 92 (Leiden 2001) 181–188

Kayan – Öner 2016 İ. Kayan – E. Öner, Larisa Antik Kenti Çevresinin Coğrafi Özellikleri, Paleocoğrafik Evrimi ve Jeoarkeolojik Değerlendirmeler / Geographical Environment of Ancient City of Larisa: Paleogeographical Evolution and Geoarchaeological Interpretations, in: T. Saner (ed.), Larisa Buruncuk. Mimari Araştırmaları / Architectural Survey (Istanbul 2016) 7–26

Kjellberg 1940 L. Kjellberg, Die architektonischen Terrakotten, in: Å. Åkerström (ed.), Larisa am Hermos. Die Ergebnisse der Ausgrabungen 1902–1934, Larisa am Hermos 2 = Arkeologiska monografier 28 (Stockholm 1940)

Lang 1996 F. Lang, Archaische Siedlungen in Griechenland. Struktur und Entwicklung (Berlin 1996)

Meyer-Plath 1940 B. Meyer-Plath, Die heutige Landschaft, in: J. Boehlau – K. Schefold (eds.), Larisa am Hermos. Die Ergebnisse der Ausgrabungen 1902–1934 I. Die Bauten (Berlin 1940) 1–5

Miltner – Miltner 1932 H. Miltner – F. Miltner, Bericht über eine Voruntersuchung in Alt-Smyrna, ÖJh 27, 1932, 127–189

Müller-Wiener 1988 W. Müller-Wiener, Griechisches Bauwesen in der Antike, Beck's archäologische Bibliothek (München 1988)

Müth et al. 2016 S. Müth – P. I. Schneider – M. Schnelle – P. D. De Staebler, Ancient Fortifications. A Compendium of Theory and Practice, Fokus Fortifikation Studies 1 (Oxford 2016), 261–354

Özdoğan 2018 M. Özdoğan, Larisa in Prehistory. Some Considerations, Inferences and Prospects, in: T. Saner – I. Külekçi – Ö. E. Öncü (eds.), Larisa: Different Lives Different Colours / Farklı hayatlar farklı renkler, Mimarlık Tarihi Araştırmaları 3 (Istanbul 2018) 122–143

Roosevelt 2017 C. H. Roosevelt, Gyges'ten Büyük İskender'e. Lydia Arkeolojisi, Koç Üniversitesi yayınları 115 (Istanbul 2017)

Saner 2016 T. Saner, Architectural Survey in Larisa (Buruncuk) 2010–2015, in: T. Saner (ed.), Larisa Buruncuk. Mimari Araştırmaları / Architectural Survey (Istanbul 2016) 61–93

Saner 2018 T. Saner, Architectural Survey Project Larisa. Different Lives Different Colours Exhibition, in: T. Saner – I. Külekçi – Ö. E. Öncü (eds.), Larisa: Different Lives Different Colours / Farklı hayatlar farklı renkler, Mimarlık Tarihi Araştırmaları 3 (Istanbul 2018) 13–31

Saner – Sağ 2012 T. Saner – K. Sağ, The Aeolian-Style Polygonal Masonry in Larisa (Buruncuk) and its Regional Context, in: R. Carvais et al. (eds.), Nuts and Bolts of Construction History, Culture, Technology and Society 2 (Paris 2012) 427–434

Scranton 1941 R. L. Scranton, Greek Walls (Cambridge, Massachusetts 1941)

ZUSAMMENFASSUNG

Das spätarchaische Fort in Larisa Ost (Aeolis) mit besonderer Beachtung der Mauerwerkstechniken

Turgut Saner – Elke Richter – Ilgın Külekçi – Figen Öztürk Akan

Das antike Larisa in der Aiolis beherrscht die fruchtbare Hermos-Ebene. Die sichtbaren Überreste der Stadt stammen aus der Zeit zwischen dem 7. und 4. Jahrhundert v. Chr. und zeigen vor allem eine Stadt unter persischer Herrschaft. Zusätzlich zu den Ausgrabungen im 20. Jahrhundert wurde die Stätte 2010–2021 im Rahmen einer architektonischen Bestandsaufnahme intensiv neu untersucht. Diese Arbeiten zeigten erstmals die Ausdehnung der Siedlung um die beiden Hügel (Larisa Ost und Larisa West) auf, die auch eine ausgedehnte Nekropole und Ackerland einschließen. Der höher gelegene östliche Hügel war für ein Fort und eine kleinere Siedlung an seinen südlichen Hängen reserviert. Ersteres fällt durch seine Lage mit Blick auf die Ebene, den Fluss Hermos und die umliegenden Berge im Hintergrund auf. Dieser Beitrag untersucht die Überreste des Forts von Larisa Ost, das die restliche Siedlung überragt, und konzentriert sich dabei besonders auf den Aufbau, die Mauerwerkstechniken und die Details der Steinbearbeitung. Beobachtungen vor Ort und Vergleiche mit den bereits datierten Monumentalbauten von Larisa West ermöglichen es, mögliche Bauphasen zu identifizieren. Neue Perspektiven in Bezug auf die Funktion des Kastells innerhalb des größeren Stadtgebiets von Larisa und auf die Absichten, die der Errichtung des Forts zugrunde lagen, gehören zu den Schwerpunkten der Studie.

SCHLAGWÖRTER

Larisa (Buruncuk), antike Befestigungsbauten, lesbisches Mauerwerk, persische Herrschaft, Spätarchaik

ÖZET

Doğu Larisa´daki (Aiolis) Geç Arkaik Kale ve Özellikle Duvar İşçiliğine Dair Gözlemler

Turgut Saner – Elke Richter – Ilgın Külekçi – Figen Öztürk Akan

Larisa antik kenti, Aiolis Bölgesi´nde, verimli Hermos Ovası`na hakim bir konumda yer alır. MÖ 7.–4. yüzyıl arasına tarihlenen kentin kalıntıları, özellikle Pers yönetimi altında şekillendirilmiş bir yerleşimi yansıtmaktadır. Ören yeri, 20. yüzyılın ilk yarısında gerçekleştirilen kazıların ardından, mimari yüzey araştırması kapsamında, 2010–2021 yılları arasında detaylı biçimde incelenmiştir. Son bulgular, Larisa'nın iki tepe üzerinde (Doğu Larisa ve Batı Larisa) ve çevresinde, geniş bir nekropol ile tarım alanlarını da içeren geniş bir yerleşim kurgusuna sahip olduğunu göstermiştir. Daha yüksek olan Doğu Larisa üzerinde bir kale ve eteğinde küçük bir yerleşim bulunmaktadır. Kalenin ovaya, Hermos Nehri'ne ve arkadaki dağlık alana hakim konumu dikkat çekicidir. Bu makale, planlaması, duvar örgüsü ve taş işçiliği teknikleri başta olmak üzere, kalenin mimari kalıntılarını incelemektedir. Alanda gerçekleştirilen belgeleme çalışması ve Batı Larisa´nın tarihi bilinen anıtsal yapılarıyla karşılaştırma yoluyla, kalenin inşa süreci ve olası yapı evreleri tartışılmaktadır. Kalenin geniş anlamıyla Larisa yerleşim kurgusu içindeki yeri, işlevi ve inşaasına yön veren temel etkenler ele alınmaktadır.

ANAHTAR SÖZÜKLER

Larisa (Buruncuk), antik kale, Lesbos duvar örgüsü, Pers yönetimi, geç Arkaik dönem

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