

ASIA MINOR STUDIEN BAND 95

**Forschungsstelle Asia Minor im Seminar für Alte Geschichte  
der Westfälischen Wilhelms-Universität Münster**

# **ASIA MINOR STUDIEN**

Band 95

## **Urbanism and Architecture in Ancient Aiolis**

**Proceedings of the International Conference from 7<sup>th</sup>–9<sup>th</sup> April 2017 in  
Çanakkale**



2020

DR. RUDOLF HABELT GMBH · BONN

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edited by

Eva-Maria Mohr, Klaus Rheidt and Nurettin Arslan



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Front cover: Aiolian Sanctuary at Klopedi, Temple B (Photo: K. Rheidt 2018)

Inner front cover: General map of ancient Aiolis 1 : 1.500.000 (K. Heine, K. Rheidt 2020)

Inner back cover: Detailed map of ancient Aiolis 1 : 550.000 (K. Heine, K. Rheidt 2020)

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## PREFACE

The conference on *Urbanism and Architecture in Ancient Aiolis* in April 2017 at the Onsekiz Mart University Çanakkale was – hard to believe – the first scientific meeting on this widely discussed topic, looking back on a research history more than 130 years old. The conference of Greek, German, Italian, and Turkish scholars can be seen as a renewed approach to dialogue, collaboration, and knowledge exchange among researchers concerned with Lesbos, the border islands of the northern Aegean, and northwest Anatolia. Ancient Aiolis and its cities unified the various international research groups at the conference, as they focussed their extensive research experience on urban and architectural questions.

Further meetings followed that clearly substantiate the potential for exchange on a broad scale. In June 2018, an international scientific meeting at the German Archaeological Institute in Istanbul was devoted to *Funerary Archaeology in Anatolia*, including recent archaeological research in the Aiolis and Lesbos. The international conference *Sanctuaries and Cults in the Aegean from Early Historic Times to Late Antiquity (11<sup>th</sup> c. BC – 6<sup>th</sup> c. AD)* at Lemnos in September 2019, organized by the Ephorate of Antiquities of Lesbos, intensified the dialogue between researchers of Asia Minor and the Greek islands. It was immediately followed by the conference *Joint Heritage of the Maritime Micro-Region of Lesbos and Pergamon* (November, 2019) in Ayvalık (collaboration of Koç University Mustafa V. Koç Maritime Archaeology Research Center (KUDAR), German Archaeological Institute Istanbul (DAI), American Research Institute Turkey (ARIT), and ICOMOS Turkey), further increasing collaboration in archaeology and building research in Aiolis – a highly positive development that contrasts with current partitioning policies.

We are happy that most of our colleagues enthusiastically agreed to meet at the highly appropriate Manfred Korfmann Troia Cultural Centre at Çanakkale University to share extended discussions on scientific topics with us, spilling over from the lecture hall to evening dinners and receptions, and enriched by our excursions to Troy and Assos. For different reasons, some important Aiolian city excavations were not represented at the conference (Antandros, Phokaia). Moreover the completed architectural surveys of the Alexandria Troas excavation team in Neandria, the survey in Atarneus, and in other sites near Pergamon revealed highly relevant findings that could not be included in the present publication. It would have been interesting also to include the results of excavations in Troy, Ainos, Parion, Daskyleion, Smintheion (Gülpınar), Izmir, and Notion, as well as presentations concerning Eresos or Antissa and the analysis of the surveys in Imbros (Gökçeada), Sigeion, Myrina, and Gryneion, some of them being important influencers at the borders of Aiolis proper, others still lacking architectonic and large-scale urban structures to be compared with the excavated cities. The focus on current or recently finished research led to the exclusion of some places, which however are highly interesting from an architectonic perspective. In Cebren at Mount Ida, for instance, research at the city walls and the temple was carried out by Yusuf Boysal in 1971, and a considerable number of architectonic terracottas was documented. Worthy of mention are also the rescue excavations in Skepsis following the construction of a reservoir-lake at the upper Skamandros carried out by the Çanakkale Museum between 1993 and 1995.



Some colleagues were not able to attend the conference but kindly included their papers in the present proceedings (Lilian Acheilara, Christine Wilkening-Aumann). The valuable contributions on Pergamon (Felix Pirson, Burkard Emme/Kıvanç Başak) are published elsewhere. Most of the papers presented in the present volume deal with highly topical issues and partly present unfinished research work on the ancient architecture and urbanism of the region. To section them off into meaningful chapters and to structure the present book, we arranged the papers thematically and in a roughly north–south direction, preceded by introductory and synthetic contributions.

The conference received generous support from the Fritz Thyssen Foundation and the German Research Foundation (DFG). In addition the University of Technology Cottbus-Senftenberg and the Onsekiz Mart University Çanakkale supported the conference and the publication in various ways. The İÇDAŞ Çelik Enerji Tersane ve Ulaşım San. A.Ş, official sponsor of the Assos Excavation, supported the conference logistically by providing transport to conference members within the city, and during their arrival and departure journeys and excursions, and by financing the conference reception at the Çanakkale Museum. The museum and its director Sevim Tunçdemir, as well as the cultural director of the province of Çanakkale Kemal Dokuz, warmly welcomed the international members of the conference. A special thank you is due to the employees of the archaeological department of the Çanakkale University, particularly Caner Bakan, for various support and help during the conference. Special thanks also go to the director of the 20<sup>th</sup> Ephorate of Prehistoric and Classical Antiquities at Mytilene, Pavlos Triantafyllidis, and to our colleagues there, especially Yannis Kourtzellis, for connecting and organizing the attendance of our Greek colleagues.

The publication of this book was sponsored by the German Research Foundation (DFG) within the Assos research project. For English proofreading many thanks go to William Hatherell. Finally the editors would like to thank the publisher, *Asia Minor Studien*, and the as ever professional publishing team for their great work in editing and developing a consistent layout for the highly diverse papers collected in this volume. Furthermore the editors thank all congress participants and authors for their presentations, their excellent scientific cooperation, and finally also for their patience during the time leading up to the publication of the present volume.

We hope that an increasing and border-free scientific exchange and collaboration between research projects concerned with the Aiolis will lead to a better understanding of the various cultural links between the mainland and insular cities and their history. In this sense we kindly invite the readers of the present book to explore the variety of landscapes, urban concepts, political affiliations, and cityscapes of the region, which do not end in antiquity but continue to the present in showing the close relations of culture and people in the former Aiolian Lands.

Eva-Maria Mohr – Klaus Rheidt – Nurettin Arslan



## NEW RESEARCH ON THE ARCHITECTURE AND URBANISM OF AIGAI (AIOLIS)

Aigai, one of the twelve Aiolian cities, was situated on the mountain of Gün within the boundaries of the modern city of Manisa. According to ancient written sources, the settlement was founded during the migration waves of the 11<sup>th</sup> c. BCE by Aiolians arriving from mainland Greece. However the earliest findings of material culture within the settlement stratigraphy date from the last quarter of the 8<sup>th</sup> c. BCE. This study investigates the architecture of Aigai, and the development and transformation of the settlement plan of the city, which was continually inhabited until the middle of the 3<sup>rd</sup> c. AD, when the settlement was abandoned. Monumental public buildings, religious buildings, the sector of Insula One, and the fortification system are the main construction groups studied in this paper. The interrelations and functionalities of the settlement zones partitioned by the diateichismas, the necropolis areas, the ancient roads, and the urban water management system are discussed. In addition to presenting micro-scale research about different phases of construction and planning and construction techniques, comparisons with other cities of the Aiolis region and elsewhere are emphasized. Based on the situation in Aigai, this study examines common assumptions about distinctive features of Aiolian culture and tradition in the Hellenistic period.<sup>1</sup>

### Topography

More than 2500 years before the gradual rise of the Greek city-states, urban centres with public and private, profane and cultic, or mercantile and representative architecture existed in the eastern Mediterranean, Mesopotamia, and the Middle East.<sup>2</sup> These early city-states were based on special political, agricultural, and mercantile principles, which often marked the rule over a larger region – mostly in the interior of a country. The Greek city-states of the 1<sup>st</sup> millennium BCE were founded on different political, social, and economic principles, and in this sense display a different character from the Mesopotamian examples. Concentrated around the Mediterranean and Black Sea basins, they were mainly located on the coast with direct access to the sea or in coastal areas (especially on promontories around river mouths). The main reason for this location was that, unlike now, the maritime connections in antiquity were safer, less complicated, and less costly than overland routes.<sup>3</sup> In this respect the Greek poleis appear to be quite similar to the Phoenician city-states.<sup>4</sup>

From the time of its establishment Aigai displayed the structural and topographical characteristics of a Greek city-state with an institutionalized central city (*polis*), surrounding rural settlements in its *chora*,<sup>5</sup> and isolated farms spreading over partially fertile agricultural plains and small villages (*komai*) in the centre of groups of farms. The city of Aigai was situated on the rocky and barren Yund Mountains known as the *Aspordene (Aspordenum)*<sup>6</sup> in ancient times (today Manisa Province).

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<sup>1</sup> We would like to thank Res.Asst. Ayşe Çelebi from Ege University, Faculty of Letters, Department of Archaeology for her help with the translation and revision of this text.

<sup>2</sup> Mieroop 2016, 21. 23.

<sup>3</sup> Hansen 2013, 260.

<sup>4</sup> Frankenstein 1977, 13.

<sup>5</sup> Hansen 2013, 259.

<sup>6</sup> Strab. 13. 2. 6.

According to ancient written sources, Aigai<sup>7</sup> (*Aegaeae*,<sup>8</sup> *Aegeatas*,<sup>9</sup> *Aegae*,<sup>10</sup> *Ægae*,<sup>11</sup> the names on the city's coins are *Aigeaion*, *Aigaion*, and *Aigeon*<sup>12</sup>) was established during the Greek migration waves to Asia Minor in the 11<sup>th</sup> c. BCE as one of the twelve Aiolian city-states. However the earliest foundation date of Aigai suggested by current research on the city's material culture is the end of the 8<sup>th</sup> c. BCE. If this foundation date is correct, Aigai might have been founded as an outpost for the protection of the coastal Aiolian cities from possible internal threats during this turbulent and restless period in western Anatolia. The infrastructural and topographical location of Aigai includes another important feature: because of its dominant position between the Kaikos and Hermos valleys – extending from the Lydian interior to the Aiolian shores<sup>13</sup> – Aigai together with Temnos constitutes the easternmost border of the *dodecapolis*.<sup>14</sup> Aigai could also have hosted the growing population of big coastal cities like Cyme.

Aigai was situated in an elevated position, dominating the limited farmlands and river valleys on its environs in accordance with the ›hilltop settlement‹ model<sup>15</sup> also chosen for other Aiolian cities such as Larisa/Buruncuk, Temnos/Görece, Pergamon, and Assos. The Setlik River to the west and the Kocaçay/Güzelhisar (*Pythikos/Titnaios*)<sup>16</sup> to the east are the two water supplies of vital importance for Aigai. These two rivers converge on the south, giving the settlement the appearance of a peninsula connected to the mainland in the northeast. Therefore, except for the slope in the northeast, Aigai had natural borders and could construct its defence system within these borders (fig. 1). Good defence capabilities, as well as proximity to a safe water supply and expansion possibilities towards the northeastern and southern slopes, played a primary role in the establishment of the city twelve kilometres from the coastline. The topographical conditions of the region affected the settlement pattern and fortification system of the city. The northern and eastern slopes are rather steep, while the southern and southwestern slopes are sheltered from northern winds, providing an area suitable for settling. Settlement areas divided by diateichismata were formed according to historical events and the subsequent expansion of town-planning activities in different periods.

<sup>7</sup> Ps.-Skylax, *Periplus* 98. Here it is reported that, like Cyme and Myrina, Aigai is also situated within the borders of Lydia.

<sup>8</sup> *Hdt.* 1. 149; *Plin. nat.* 5. 49.

<sup>9</sup> *Tac. ann.* 2. 47.

<sup>10</sup> *Plut. them.* 26. 1; *Polyb.* 33. 13.

<sup>11</sup> *Strab.* 13. 3. 5.

<sup>12</sup> Ramsay 1881, 296.

<sup>13</sup> Aigai and Temnos, along with Magnesia ad Sipylum, are among the few cities situated inland from the coast before the 4<sup>th</sup> c. BCE. Despite economic and cultural relations, Lydia and even Phrygia avoided dealing with the Aegean coastal trade on their own, but rather dealt with eastern and southeastern trade routes (Winter 1971, 37–38; Young 1960, 386). This situation may have enabled cities like Aigai, Temnos, and Magnesia ad Sipylum to play a role and to become road stations in the trade between the interior regions of Lydia and the Aegean coasts to the extent permitted by Lydia. There is considerable evidence indicating that Aigai was in the Lydian cultural and economic contact zone. A well-preserved skyphos and numerous skyphos fragments and streaky-glazed skyphoi recovered (Greenewalt 2010, 118. 468–470 No. 77–80) from the filling below a floor level in the sector of Insula one are examples of Lydian production from Aigai.

<sup>14</sup> Hansen – Nielsen 2004, 1034.

<sup>15</sup> Security reasons are the most significant factors behind the choice of this type of settlement (Winter 1971, 16); Hansen 2013, 263.

<sup>16</sup> Reinach et al. 1887, 20. 34 f.; Berlet 1912, 40; Schuchhardt 1912, 69. 105 f.

### Remains of the early settlement

During the Archaic period Aigai had a triangular-shaped acropolis enclosed by fortification walls (fig. 1 no. 1). The area inside the acropolis is about six hectares. Based on demographic studies of ancient Greek city-state culture,<sup>17</sup> it can be proposed that in the Archaic period the area enclosed by walls could host a maximum population of 600–800 individuals. However the southern and western slopes outside the acropolis walls must have been converted to residential areas in the course of the following centuries. Thus, until pre-Hellenistic times, an area of 23 hectares in total was probably occupied by an estimated maximum population of 2300–3000 individuals.

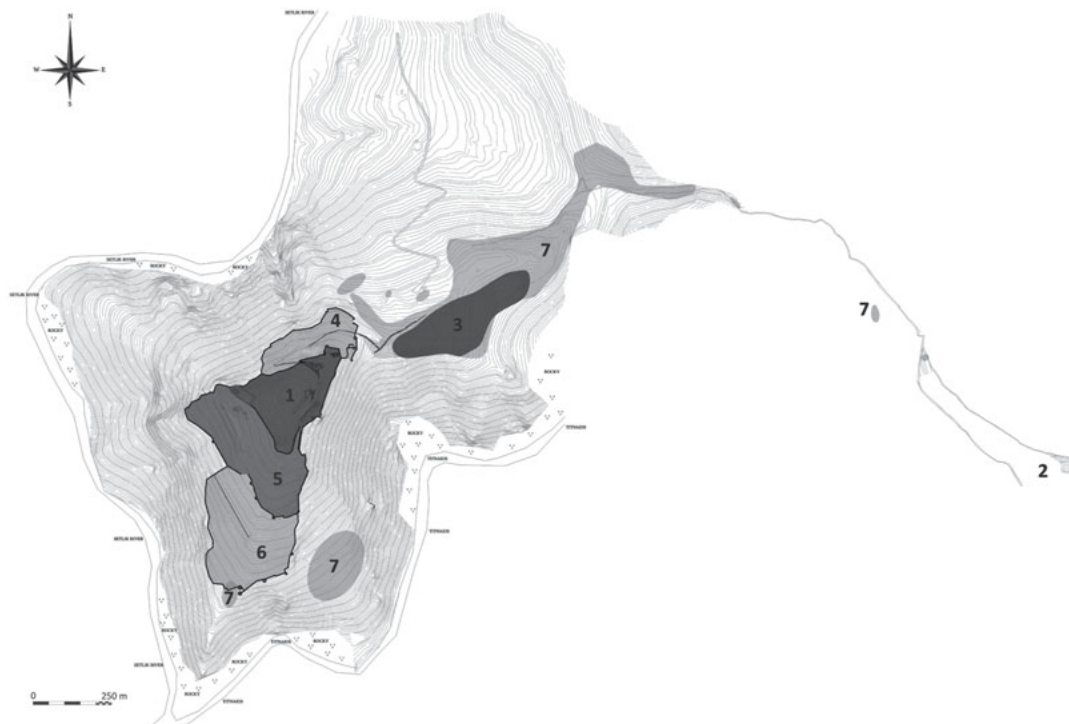


Fig. 1: Settlement zones and boundaries of the necropolis in Aigai

In terms of the distribution of sacred, public, and residential areas, Aigai shows obvious similarities to other Greek poleis. The early city council plan from the end of the 4<sup>th</sup> c. BCE shows that the area where the bouleuterion, the agora, and the West Stoa are located had already been dedicated as the public city centre in early Hellenistic times and probably goes back to the foundation of the city (colour pl. 22, 1). The terrace where the Temple of Athena was built must have also been used as a sacred place since Archaic times. At many sites, such as Athens, Rhodes, Assos, Pergamon, Phocaea, and Miletus, the Sanctuary of Athena is located on the acropolis.

<sup>17</sup> Some studies on population density have been carried out on large cities such as Olynthos and Priene as well as on small and medium-sized cities. These studies, few of which are supported by excavations and surveys, indicate that for medium-sized cities such as Aigai a maximum of two-thirds of the area inside the city walls is residential with an assumed population of 150–200 inhabitants per hectare. Consequently, based on the results of case studies for medium-sized cities, it is possible to make an estimation about the population of the area within the fortification in Aigai (Hansen 2006a, 74 f.). For additional details about the ›shotgun method‹, see also Hansen 2006b.

The cult of Zeus usually accompanies Athena in the sanctuary near the temple.<sup>18</sup> The possible ruins of a large altar (of Zeus?)<sup>19</sup> east of the temple of Athena inside the sanctuary indicate that the Aigaian sanctuary was designed in this common tradition. The Sanctuary of Apollo situated within the city limits but outside the acropolis can be included in the category of suburban sanctuaries,<sup>20</sup> for example, the temples of Apollo in Thebes (Ismenion), Argos (Deiras), and Naxos or the temples of Artemis in Delos and Ephesus. This temple, located in the Pythikos valley, is 2.5 km away from the city and was dedicated to the cult of Apollo Chresterios (fig. 1 no. 2).<sup>21</sup>

The Archaic fortification wall that surrounded the acropolis was about 1150 m long and 1–2 m wide; today 830 m of this wall can be followed.<sup>22</sup> The preserved parts of the wall use mixed masonry of rough quadrilateral and mainly rough polygonal blocks. The entrance to the Archaic city was provided by the Demirkapı<sup>23</sup> Gate (colour pl. 22, 1 G1) and the Gate of the Agora Street on the northern wall (colour pl. 22, 1 G2). Both gates were designed as overlapping gates.<sup>24</sup>

Although a strong defence system is one of the most significant characteristic elements<sup>25</sup> of the late-Archaic poleis of Asia Minor, no tower or bastion remains were found on the Archaic wall remains in Aigai. However remnants dating to the Archaic period from inside the acropolis are limited to a few wall foundations in the Insula One sector (colour pl. 22, 1 no. 26). An important finding for Aigai's pre-Classical period is a blacksmith's workshop dating from the 6th century BCE, which was discovered on the bedrock of Insula One. Archaeological research in Aigai – which lacks natural plains – has shown that the existing structures and terraces were graded, levelled, or damaged during new construction activities. Thus only limited areas, especially bedrock pits, provide data about the earlier periods of the city.

Sounding on the southeast of the terrace of the Market Building revealed layers homogeneously containing pottery fragments of the 6<sup>th</sup> c. BCE. Additionally, a section of the terrace wall on the southwest of the Market Building has Lesbian polygonal masonry<sup>26</sup> and could date – according to the masonry – to the late-Archaic period (colour pl. 22, 1 no. 3; pl. 46, 1). This masonry was used

<sup>18</sup> Polignac et al. 1995, 21.

<sup>19</sup> Malay – Riel 2009, 42 figs. 1–2, 5. It is thought that the structure on the east of the Temple of Athena, where excavations started in 2017, might be the Altar of Zeus. The identity of this structure will be clarified with further studies in the area.

<sup>20</sup> Polignac et al. 1995, 22.

<sup>21</sup> Fabricius 1885, 272–274; Sezgin 2013, 96 footnote 3; Schalles 1985, 35 f.; Bringmann – Steuben 1995, 285 f. K. Nr.: 251 [E].

<sup>22</sup> Bohn – Schuchhardt 1889, 10; Lawrence 1979, 145 f.

<sup>23</sup> This gate on the north of the Acropolis was mentioned as »Demir-capou« (la porte de fer) by Clerc who carried out studies in the city (Clerc 1886, 277). The same name was later used by German researchers (Bohn – Schuchhardt 1889, 9 figs. 5–6).

<sup>24</sup> The main reason for the preference for an overlapping gate was to protect the gate at less cost. Additionally, the corridor created between the two walls delayed damage to the gate, which was placed on the interior. A gate of this type was found in Alinda (Konecny – Ruggendorfer 2014, 710, 715 fig.1). For this special type of gate, see Lang 1996, 37 (»Eine Mischform tangentialer und axialer Toranlagen sind solche mit einer langen Torkammer«) with examples from Abdera and Aiolian Neandria.

<sup>25</sup> Hansen – Nielsen 2004, 136. Missing tower systems are not atypical for pre-Classical fortifications; see Lang 1996, 31 (»den vorklassischen Befestigungsanlagen fehlt das durchdachte Turmsystem, das in späterer Zeit für griechische Stadtmauern so prägend werden sollte. (...) In den wenigsten Fällen existiert überhaupt mehr als ein Turm«).

<sup>26</sup> This name was first proposed in 1844 during the »Architekten-Versammlung in Prag« meeting and was added to literature by Forchhammer 1847, 7 f.

in an extensive geographical area, especially during the Archaic period.<sup>27</sup> Prominent examples are seen on the fortification walls of Eleon and Tanagra<sup>28</sup> and the retaining wall carrying the terrace of the Apollo Temple in Delphi.<sup>29</sup> This Lesbian wall in Aigai is important in terms of its location. The archaic walls of the acropolis lost their importance due to the construction of the Hellenistic fortification lines after the expansion of the city.<sup>30</sup> They subsequently turned into structures separating the settlement areas, or terrace walls that supported buildings or groups of structures.<sup>31</sup> An analogous situation can be found in Pergamon, where the walls of the period of Philetairos lost their function after the construction of the fortification walls at the time of Eumenes II<sup>32</sup> or in the early fortification wall along the northeast saddle of Assos, which had already lost its function in Classical times and disappeared during later periods.<sup>33</sup>

The Archaic necropolis<sup>34</sup> lies on a ridge northeast of the acropolis and on the slopes overlooking Pythikos (fig. 1 no. 3). The earliest grave in the Archaic necropolis is dated to the late 8<sup>th</sup>–early 7<sup>th</sup> c. BCE. The stone-paved road on this ridge, leading to the city, passes through the northern part of the necropolis. This road is a connection to the military route, running close to Aigai and connecting Elaea and Pergamon with Magnesia.<sup>35</sup> The road is divided into two streets in the southwest of the necropolis. The street leading to the west reaches the city through the Gate of the Agora Street and the Demirkapı Gate. The other street, leading to the south, continues below the terrace of the Market Building and reaches the city on the east. A drainage system lies under the pavement of nearly all the intraurban roads. As seen on the main street leading to the agora, the system can reach depths equivalent to an average human height. Studies of the east of Insula One have shown that this drainage channel collected the rainwater that drained from the roofs of the adjacent buildings and transferred it to cisterns through terracotta pipes.

There is currently no precise information about Aigai's settlement plan and defence system in the Classical period, but during the Hellenistic period an intensive building program resulted in an enormous expansion of the settled area. On the other hand political instability and conflicts during the period of the Diadochoi resulted in a rather insecure setting.<sup>36</sup>

### The Hellenistic settlement

As a result of these security concerns during the Hellenistic period, a new defensive line on the northern slope (fig. 1 no. 4) and two separate defensive lines on the southern slope of the city were built (fig. 1 no. 5–6). Within the context of the Hellenistic fortification of Aigai, the wall

<sup>27</sup> See Acheilara in the present volume and Scranton 1941, 17 f.; Winter 1971, 81; Frederiksen 2011, 65–68.

<sup>28</sup> Burke et al. 2014, 252–254.

<sup>29</sup> Middleton 1888, 319.

<sup>30</sup> Lawrence 1979, 146.

<sup>31</sup> The most recent studies in Aigai prove the existence of an Archaic fortification wall that encloses the acropolis. It has been known since the first studies that this fortification wall was later transformed, particularly on the southwest, into a terrace wall supporting the south of the terrace of the Sanctuary of Athena (Bohn – Schuchhardt 1889, 37 fig. 40).

<sup>32</sup> Pirson 2014, 216 f. fig. 5.

<sup>33</sup> See Mohr in the present volume.

<sup>34</sup> In 2015–2017 surveys and excavations were carried out at the northeastern necropolis as part of the NekroPergEol Project. See: <http://www.nekropergeol.org>.

<sup>35</sup> Bohn – Schuchhardt 1889, 12.

<sup>36</sup> For further details on the subject, see also Klinkott 2000 and Roisman 2014.

that encloses the upper terrace (theatre-gymnasion terrace) to the south is an important subject of debate. There are some clues suggesting that it was constructed in the Classical period and repaired and strengthened with towers in Hellenistic times. Nevertheless the size of the fortified Hellenistic city reached a total area of at least 23 hectares during the second half of the 2<sup>nd</sup> c. BCE.

Two main political situations determined the construction of the Hellenistic defensive lines in Aigai. Firstly, several battles are reported for supremacy between the Kingdom of Pergamon and the Seleucids from the short-lived occupation of the area by Achaeus in 223–218 BCE<sup>37</sup> until the Battle of Magnesia in 190 BCE.<sup>38</sup> It is believed that the defence of Pergamon was reinforced during the peaceful period of Eumenes II (179–174 BCE), succeeding the previous unsteady period.<sup>39</sup> Perhaps the fortification walls of Aigai were repaired, extended, and reinforced during the same years.

Another important incident was the destruction of Aigai during the war between Attalus II and Prusias II in 156–154 BCE. In 154 BCE Prusias II was forced to pay compensation of one hundred talents to the cities he had damaged.<sup>40</sup> The costly monumental public buildings of Aigai, such as the bouleuterion, the Market Building, the stoai of the agora, the theatre, the gymnasion, and the stoai of the Sanctuary of Athena might have been reconstructed, constructed, or finished immediately after the middle of the 2<sup>nd</sup> c. BCE. Reparation, reinforcement, and enlargements of the last phase must have been also applied to the Hellenistic fortification walls of the city at the same period. The length of the Hellenistic wall on the northern slope of Aigai was around 630 m. Today about 500 m of this wall are visible (colour pl. 22, 1 no. 4). The area enclosed by the fortification walls outside the acropolis covers approximately three hectares. A gate is located at the point where the ancient road leading to the city through the northern necropolis reaches the fortification wall (colour pl. 22, 1 G3). This gate is integrated into the course of the wall and shows no overlapping form as do the older gates of the city. It was, however, protected by the adjacent rectangular tower T1 (fig. 2.T1) with its slanted northern façade. Contrary to common planning tradition, the tower rises against the inner side of the city wall.<sup>41</sup>

The southern wall (later diateichisma),<sup>42</sup> which encloses the upper terrace, must have been 1080 m long (colour pl. 22, 1 no. 5) and is well preserved up to almost 1000 m. The area enclosed by the walls is around seven hectares. The fortification wall enclosing the upper terrace with its monumental structures (theatre, gymnasion, Temple of Demeter [?]) functioned partly as a diateichisma after the construction of the exterior wall on the southern end (colour pl. 22, 1 no. 6) in the Hellenistic period, most probably under the reign of Eumenes II (197–159 BCE).<sup>43</sup>

<sup>37</sup> Polyb. 4. 48. 2; 5. 77. 2; Radt 2002, 29 f.

<sup>38</sup> Liv. 37. 37; App. Celt. Syr. 6; Magie 2015, 19; Radt 2002, 32 f. For detailed information on the Battle of Magnesia, see also Bar – Kochva 2011, 163–173.

<sup>39</sup> Radt 2002, 36.

<sup>40</sup> Polyb. 33. 13; Gillies 1809, 149 f.

<sup>41</sup> Similar examples: tower T11 on the south wall of Dura-Europos (Leriche et al. 2011, 19 fig. 1.2); the towers on the south wall of the lower city in Pedasa (Caria) (Diler – Adıgüzel 2015, 102 fig. 2); the towers on the northeast and northwest walls at Herakleia am Latmos; a tower on the northwest wall at Samos; a tower on the south wall at Torybeia (Akarnania) (Sokolicek 2009, 214. 236. 246 pls. 26. 48. 58).

<sup>42</sup> For the diateichismata, see also Sokolicek 2009.

<sup>43</sup> Lawrence 1979, 146; Sokolicek 2009, 67. 187 pl. 1.



Several masonry techniques can be observed on different parts of the diateichisma. Curtain walls 7 and 8 are particularly striking with their polygonal masonry (colour pl. 22, 1 no. 7–8; pl. 46, 2. 47, 1).<sup>44</sup> Sections 9 and 10 show a rough polygonal masonry (colour pl. 22, 1 no. 9–10; pl. 47, 2).<sup>45</sup> Section 11 uses an isodomic or pseudo-isodomic coursed hammer-faced ashlar masonry with headers and stretchers (colour pl. 22, 1 no. 11; pl. 48, 1). Since only the lower part of the wall, founded on the bedrock, is preserved, irregularities depending on the ground inclination are visible on this course. However the upper levels must have had coursed masonry.<sup>46</sup> Although the masonry of this example is not as elaborate as its counterparts in Pergamon, it still recalls the typical masonry type of the time of Eumenes II.<sup>47</sup>

Polygonal masonry is mainly used on section 12, whereas irregular ashlar masonry appears on the southeast edge near tower T3 (colour pl. 22, 1 no. 12; colour pl. 22, 2). This situation indicates that the original masonry was altered to ensure the stability of the tower, which was a later, secondary construction and added to the fortification wall. The style of layers 13 and 14 is partly irregular ashlar masonry<sup>48</sup> and partly coursed polygonal masonry (colour pl. 22, 1 no. 13–14; pl. 48, 2. 49, 1).<sup>49</sup> A hammer-faced coursed trapezoidal masonry with some ashlar was used on sections 15 and 16 (colour pl. 22, 1 no. 15–16; pl. 49, 2. 50, 1).<sup>50</sup>

The diateichisma walls, particularly on the east and northwest sides, run vertically or diagonally to the inclination. The need for towers or bastions in these sections was met with a special design on the fortification walls: staggered curtains were employed at the east and southeastern edge.

<sup>44</sup> Polygonal masonry consisting of blocks with rectilinear sides and clear-cut corners as in Aigai was widely used, especially after the 5<sup>th</sup>–4<sup>th</sup> c. BCE. A. W. Lawrence dates this masonry type to the Hellenistic period (Lawrence 1979, 349). Similar examples can be found during the Hellenistic period in Western Greek cities (nearly all examples from the regions of Arcadia and Aitolia are dated to the 3<sup>rd</sup> c. BCE, e.g. Messene) in the Aegean Region (Delphi etc.) (Scranton 1941, 45. 54; Winter 1971, 81 f. 90. 96–98; Luraghi 2008, 342) and mostly in Seleucia Pieria, Oenoanda, Canytel, Halicarnassus (McNicoll 1997, 88 pl. 141; 121–123 pls. 52–53), and Kaunos (some parts are dated to the early 4<sup>th</sup> c. BCE, possibly early Hellenistic period, because of the boss on the surface of some stones) in Asia Minor (Bean 1953, 12 f. fig. 4). An example from Cadianda in Lycia (McNicoll 1997, 134–136. 221 pl. 60) and the polygonal wall of the baths in Oinoanda suggest that this technique was used until the Roman Imperial period (Bachmann 2009, 17 fig. 11). On the other hand, if it is assumed that the remains of a polygonal wall on the diateichisma in Aigai are dated to the 5<sup>th</sup>–4<sup>th</sup> c. BCE, a remote possibility emerges that the diateichisma was repaired and strengthened with rectangular towers during the Hellenistic period. This possibility is reminiscent of the development of the acropolis walls in Eretria (Euboea) (Winter 1971, 158).

<sup>45</sup> A similar masonry is known from Halicarnassus and Myndus and is dated before the Hellenistic period (McNicoll 1997, 20. 23 f. pl. 2, 5).

<sup>46</sup> The same case is found on the fortification walls of Kremaste, Larissa (Achaia Phthiotis) (Winter 1971, 84 fig. 62; 150 fig. 128). In this masonry style, which was used in the Hellenistic period, the upper courses of the wall must have had an orthostatic appearance, as in the case of the acropolis walls and towers at Isaura Nova (Winter 1971, 136 f. figs. 107–108).

<sup>47</sup> Conze 1913a, 182 Beiblatt 14; Kästner 2014, 465 fig. 5.

<sup>48</sup> A well-preserved example of this masonry, which was widely used in the Hellenistic period (Winter 1971, 98), is found on the northwest fortification wall at Assos (McNicoll 1997, 183 f. pl. 84). A similar example from Kaunos is dated before the Hellenistic period (Bean 1953, 12 f. fig. 7; McNicoll 1997, 194 f. 199 pl. 91). Other examples are found at Alabanda and Amos (Caria); see McNicoll 1997, 37 pl. 16; 225 pl. 96.

<sup>49</sup> Apart from Aigai, examples of the coursed polygonal or coursed polygonal tending toward irregular ashlar masonry, which first appeared in the first half of the 4<sup>th</sup> c. BCE (Scranton 1941, 55; Winter 1971, 81) and was widely used in Asia Minor especially in the Late Hellenistic period, can be found at Halicarnassus, Kaunos, and Erythrai (Ionia); see McNicoll 1997, 21. 65. 196. 221 pl. 4.

<sup>50</sup> Maher 2012, 469 fig. 7, 20; this type of masonry was widely used in the 4<sup>th</sup> c. BCE and during the Hellenistic period; see Scranton 1941, 71. 77 f. 90. 98; Winter 1971, 81.

Examples of similar designed walls can be found in Priene, Kremna (Pisidia), and Dura-Europos.<sup>51</sup> Parts of the northwestern wall section, which is quite destroyed, show a sawtooth-like course. The best example of this form can be seen on the eastern fortification wall of Gortys (Arcadia).<sup>52</sup> Counterparts in Asia Minor are found on the eastern part of the fortifications walls of the period of Eumenes II in Pergamon<sup>53</sup>, Priene, Miletus,<sup>54</sup> and Ephesus.<sup>55</sup>

The diateichisma is supported by four rectangular protruding towers, especially on the southern and western parts where the terrain is less inclined (colour pl. 22, 1 T2–T5). Tower T3 consists of two parts (pl. 50, 2). The main body of the tower, which is built on the bedrock, is 5.80 x 5 m in size and its masonry is hammer-faced isodomic ashlar with headers and stretchers. The masonry of the 3.60 x 3.60 m-wide buttress, which appears to be a later added reinforcement, is made of hammer-faced pseudo-isodomic ashlar. Both styles are among the most characteristic masonry types of the Hellenistic period<sup>56</sup> and parallel examples are found in Pergamon, especially on walls dating to the periods of Eumenes II and Attalus II.<sup>57</sup> Other similar examples are found in Halicarnassus and Myndus.<sup>58</sup>

The east and west ends of the Hellenistic walls form the exterior defensive line on the southern slope (colour pl. 22, 1 no. 6). With the addition of the exterior wall on the south, the lower city was divided into two parts, but the fortified area was almost doubled with an addition of around 7.3 hectares. Only half of the 865 m-long south wall is preserved, forming the exterior defence. The remains are 1–2 m wide and were only preserved in the lower courses, close to the foundation (pl. 51, 1). On the parts where the wall is not preserved, its course is indicated by foundation beddings cut into the bedrock (pl. 52, 1). Hammer-faced isodomic or pseudo-isodomic ashlar masonry was used in the construction of the entire fortification wall (pl. 51, 2). The exterior fortification wall is similar in style to the 2<sup>nd</sup> c. BCE walls at Pergamon. This defensive line is supported by five round towers (colour pl. 22, 1 T6–T10). Towers T6 and T7 (pl. 58, 2) have exterior diameters of 9.65 m and interior diameters of 7.45 m, and protect a gate (colour pl. 22, 1 G4) at the bottom of the south slope. The two towers have 1.10 m-wide walls of hammer-faced ashlar masonry with headers and stretchers. Even though round towers are more costly and elaborate, they are more resistant to impacts compared to square towers and therefore frequently preferred on the exterior wall rings, especially on less-inclined areas open to attacks and corners. These two towers were constructed reclining to the walls, instead of interrupting them. This prevented breaches on the wall in case the towers were destroyed. It has been suggested that the round towers are contemporary with the south exterior wall and were built in the 2<sup>nd</sup> c. BCE.

Archstones found in the debris of the gate situated at the point where the ancient road from Cyme and Myrina reaches the city indicate the existence of a monumental arched gate. The exterior width of the gate is almost 11 m. Thus the south gate of Aigai, protected by two towers

<sup>51</sup> Martin 1956, 115 fig. 11. 159 fig. 22; 166 fig. 26.

<sup>52</sup> Maher 2012, 466 fig. 7, 19.

<sup>53</sup> Pirson 2014, 216 fig. 5.

<sup>54</sup> Kleiner 1968, 26 fig. 14.

<sup>55</sup> Akarca 1998, 51 fig. 21.

<sup>56</sup> Scranton 1941, 99; Winter 1971, 81.

<sup>57</sup> Conze 1913a, 203. 209; Conze 1913b, pls. 16, 1 and 17, 2.

<sup>58</sup> McNicoll 1997, 19. 25 pl. 1, 7.

as in Perge, Megara Hyblaia, and the Isthmos Gate in Corinth,<sup>59</sup> appears to be comparable to the gates of Mantinea and Stymphalos (Arcadia).<sup>60</sup>

During the Hellenistic period the necropoleis on the south and north showed an expansion parallel to that of the city plan and reached the exterior defensive walls (fig. 1 no. 7). The other ancient road, which reached the city by crossing Kocaçay in the east of the city, must have provided the connection with Temnos. The point where this road entered the city has not yet been found. The road, however, is clearly marked by numerous graves in its vicinity.

The Kingdom of Pergamon played the role of protector of Hellenism, trying to legitimize the mission it undertook by culturally associating itself with Athens. In terms of architectural propaganda, the Attalids adopted the Doric order to reflect ideologically their mission, power, and wealth in the regional architecture. The first example of this adaptation is the Temple of Athena in Pergamon, which is thought to have been modelled on the Temple of Athena Parthenos. During the Hellenistic period two separate concepts were dominant in urban planning. Firstly, the monumental urban layout of Pergamon,<sup>61</sup> in which all land facilities were used for monumental buildings as part of city planning programs; Aigai and Assos are the two other significant representatives of this type of planning. The influence of Pergamon in Aigai is apparent in the building programs of the Hellenistic period, especially in the positioning of the public and religious buildings as well as in architectural details. Perhaps architects and construction foremen from Pergamon participated locally in the planning of these activities in Aigai.<sup>62</sup> The dominance of the northwest corner of the city over the north and west is particularly similar to the southwest corner of Pergamon. Both spaces were reserved for the Athena sanctuaries, each situated on a terrace rising above the theatre.<sup>63</sup> Furthermore the preference for the Doric order is a concrete reflection of the dominance of Pergamon. The bouleuterion, the Market Building, and the stoai as we see them today were redesigned and constructed during the time of Attalus II.<sup>64</sup>

The bouleuterion is dated to the late-Hellenistic period, shortly after the mid-2<sup>nd</sup> c. BCE (reign of Attalus II). The structure was built as a twelve-stepped odeion and probably had a capacity of at least 180 persons (colour pl. 23, 1–2).<sup>65</sup> The inscribed architrave fragments indicate the dedication of the building by Antiphanes, the son of Apollonidas, to Zeus Bollaïos, to Hestia Bollaïa, and to the Demos.<sup>66</sup> The façade oversees the Agora Street and has a three-storey structure. The rectangular-planned building is 22 m in length and 14 m in width.

The northern wall of the bouleuterion and the niche that housed statues on the same wall eventually collapsed into the rooms at the basement level (colour pl. 23, 3). Six portrait heads and their bodies were found in the rubble. More remarkably, inscriptions on the statues that read »Μενέστρατος Ἰππίου Περγαμηνός ἐποίηι« indicate that at least two of these statues were

<sup>59</sup> Akarca 1998, 142.

<sup>60</sup> Winter 1971, 216 f. figs. 216. 218.

<sup>61</sup> Martin 1956, 145 f.; Pedersen 2004, 409–412. For detailed information about the two planning types, see also Radt 1993, 201–209.

<sup>62</sup> Bohn – Schuchhardt 1889, 65; Coulton 1976, 70; Radt 2002, 22. 278.

<sup>63</sup> Bohn – Schuchhardt 1889, 35.

<sup>64</sup> Martin 1956, 135 fig. 17 pl. 23,3; Hansen 1971, 286 f.

<sup>65</sup> For the bouleuterion of Aigai, see Gneisz 1990, 301 fig. 18; Rumscheid 1994, Cat. No. 3; Doğer et al. 2008, 214–218; Sezgin 2013, 99–102; Sezgin – Aybek 2016, 20–28.

<sup>66</sup> Sezgin – Aybek 2016, 21 f. fig. 3.

produced by »Menestratos, the son of Hippias of Pergamon«.<sup>67</sup> The statue of Hestia Bollaia was erected on a pillar situated on the bedrock in the central part of the orchestra. The pillar was elevated to the floor level of the orchestra.<sup>68</sup> Directly under the pillar of Hestia, a bothros was carved into the bedrock (colour pl. 24, 1). The findings of the bothros indicate that it was used during ritual activities prior to the construction of the building. All the findings from the bothros are dated to the mid-2<sup>nd</sup> c. BCE.<sup>69</sup>

Soundings and excavations of the damaged southern section of the cavea, especially in the orchestra and in the backstage, revealed a structure dating to an earlier period. During the construction of the bouleuterion, the earlier structure was extensively damaged, and the in-situ finds related to that structure are scarce. A jug dated between the late 3<sup>rd</sup> and early 2<sup>nd</sup> c. BCE was found in situ, directly under the floor of the earlier structure, situated in a narrow area close to the eastern wall of the structure, which had been identified as the backstage. This date provides the *terminus post quem* for the final stages of usage of the earlier structure.<sup>70</sup>

The sounding of the orchestra of the bouleuterion led to the discovery of a bothros that was probably dug out for a ritual relating to the construction of the earlier structure, probably in the second half of the 4<sup>th</sup> c. BCE. This building must belong to a smaller and earlier bouleuterion.<sup>71</sup> A decree dating to 281 BCE states that the older bouleuterion, to which the remains probably belong, will be reconstructed as Seleukeon.<sup>72</sup>

The West Stoa of the agora is 65 m long and 8.5 m wide. The lower part of the walls is constructed with a pseudo-isodomic technique, which provides an orthostatic appearance. The upper part is put up with rectangular ashlars, either bossage or with smoothed surfaces.

The 80 m-long Market Building has a hammer-faced isodomic ashlar masonry with headers and stretchers. The third floor of this L-shaped building is a single-storey stoa adorned with Doric columns on the exterior and Ionic columns on the interior. The Doric columns are similar to the columns used on the upper agora of Pergamon, while the interior columns resemble the interior columns of the stoai in Pergamon and Athens (Stoa of Attalus II). Moreover the arrangement of the windows and doors on the first floor of the Market Building of Aigai is parallel to that on the first floor of the stoa on the west of the theatre terrace in Pergamon.<sup>73</sup> The first floor of the Market Building housed stores. The excavations carried out in one store revealed two Ionic column drums, bases, and capitals. These columns must have plummeted from the colonnaded portico that constitutes the third floor of the building. A marble portrait head, most probably

<sup>67</sup> For the sculptures found at the bouleuterion, see Sezgin – Aybek 2016. For the signatures, see also Kansteiner et al. 2014, 349 No. 3955 (SEG 58, 1368).

<sup>68</sup> For the statue of Hestia, see Sezgin – Aybek 2016, 24 fig. 7, 28–31.

<sup>69</sup> Doğer et al. 2008, 227 fig. 8; Doğer et al. 2012, 192 drawing 3.

<sup>70</sup> For the *in situ* find of a jug in the backstage, dated to the late 3<sup>rd</sup> – early 2<sup>nd</sup> c. BCE, see: Rotroff 1982, pl. 69. 89. 406; Doğer et al. 2012, 192 fig. 7.

<sup>71</sup> For the early Bouleuterion, see Doğer et al. 2012, 190 fig. 4; Sezgin 2013, 101 fig. 4.

<sup>72</sup> The death of Seleucus I shortly after the battle of Kouroupedion led to a chaotic political situation in the region and many cities in Asia Minor regained their independence. A decree unearthed during the Aigai excavations provides us with important data from this period. In the decree, Seleucus I Nicator and his son Antiochus I Soter are honoured with divinity insignia. Dated to shortly after 281 BCE, the year of the battle of Kouroupedion, this inscription documents the day in which the city regained its autonomy and the beneficence that the Seleucid kings Seleucus I Nicator and his son Antiochus I Soter bestowed upon Aigai. For the decree, see Malay – Riel 2009, 43.

<sup>73</sup> Hansen 1971, 286.

dating to the early Imperial period, was discovered in the northeastern corner of the store.<sup>74</sup> The Market Building and the West Stoa are contemporary and both date to the mid-2<sup>nd</sup> c. BCE. In Pergamon the remnants of an early, two-storey market building resembling that of Aigai are located on the space between the south of the terrace of the Sanctuary of Athena and the Great Altar. This building, which is dated to the end of the 3<sup>rd</sup> c. BCE or even earlier, is wider and longer than its counterpart in Aigai, and it has been suggested that it might have been a model for the Market Building in Aigai.<sup>75</sup>

In the west corner of the acropolis, the Sanctuary of Athena is placed on a 100 x 40 m terrace (colour pl. 22, 1 no. 17; pl. 53). Its location and L-shaped stoa are similar, in terms of planning, to the Sanctuary of Athena in Pergamon.<sup>76</sup> The two-storey stoa had an overall height of almost 7,70 m, excepting the roof system. The lower storey is in Doric while the Ionic order was used for the upper storey. A hearth-shaped corner column drum was found in the rubble at the point where the 64.85 m-long and 6.75 m-wide north stoa meets the 32.50 m-long and 6.75 m-wide east stoa. It is estimated that an Ionic colonnade was placed on the interior of the Doric stoa. The stoa resembles the Stoa of Attalus II in Athens in terms of masonry and the styles of the geison and columns, and is thought to have been built after the destruction of Prusias II in 156–154 BCE.<sup>77</sup>

The entrance to the sanctuary is provided by a *propylon* connected to the rear wall of the north side of the stoa. A 2.30 m-wide threshold was found on the level of the stylobate where the rear wall of the north stoa is set. However a second threshold was discovered 7.60 m west of the threshold of the original propylon. A new propylon with a 2.10 m-wide door must have been constructed at this point, probably after the earthquake of 17 AD. The dimensions of the new propylon are 5.85 x 7.75 m. The mortise holes opened for the placement of the orthostatic blocks of the rear wall of the stoa follow the same track on the threshold of the original propylon. This suggests that the original propylon might have been covered and cancelled, possibly after earthquake-related destruction.

The first studies of the temple in the sanctuary were carried out by Bohn and Schuchhardt in 1886.<sup>78</sup> Information about the existence of a Hellenistic temple, built in the first quarter of the 3<sup>rd</sup> c. BCE at the latest, comes from an inscription discovered in the city.<sup>79</sup> The temple rests on a podium with dimensions of 11.30 x 19.50 m and is set on a northwest-southeast axis. The dimensions of the Doric temple are 7.20 x 15.20 m. It has been suggested that the entrance to the temple was situated at the west side and that it was peripteral in plan.<sup>80</sup> However recent studies indicate that the entrance might have been situated on the east. On the other hand our knowledge of peripteral Doric temples in Asia Minor is scarce, with the exceptions of the late-

<sup>74</sup> For the Agora, see Bohn – Schuchhardt 1889, 14–27; Tül 1995, 23–28; Doğer et al. 2008, 218 f.; Sezgin 2013, 102–104; Sielhorst 2015, 279 f. figs. 73–74.

<sup>75</sup> Rheidt 1992, 262; Radt 2002, 91 f. fig. 39c; Mathys 2014, 325.

<sup>76</sup> Radt 2014, 189. 200 fig. 1,29.

<sup>77</sup> Bohn – Schuchhardt 1889, 37 fig. 38.2; Hansen 1971, 70.

<sup>78</sup> Bohn – Schuchhardt 1889, 35.

<sup>79</sup> The inscription mentioned in footnote 72 was copied on two stelae, one of which was erected on the Altar of Zeus Saviour near the Sanctuary of Athena (Malay – Riel 2009, 42 f. figs. 1–2. 5). Therefore the existence of a temple here at the beginning of the 3<sup>rd</sup> c. BCE is highly probable. Moreover recent studies have examined the remnants lying 10.5 m southeast of the Temple of Athena and identified the plan of the altar, which has the same axis with the temple. This structure is most probably the Altar of Zeus mentioned in the inscription.

<sup>80</sup> Bohn – Schuchhardt 1889, 36 fig. 40.

Archaic Temple of Athena in Assos, the Temple of Athena in Pergamon (end of the 4<sup>th</sup> c. BCE), and the Hellenistic temple of Meter Aspodene in Mamurt Kale (time of Philetairos) not far away from Aigai.<sup>81</sup>

The podium of the temple has hammer-faced pseudo-isodomic ashlar masonry. The thin strips are of header and stretcher courses (pl. 54, 1). The main temple is divided into two unequal parts by a 4.95 x 5.65 m-wide pronaos on the east and a 5.65 x 8.10 m-wide naos behind it. The long walls of the cella are 0.77 m wide, and the short walls are 0.71 m wide. The masonry of the long walls is hammer-faced pseudo-isodomic ashlar in irregular alternate header and stretcher courses (pl. 54, 2). The masonry on the short sides is hammer-faced pseudo-isodomic ashlar in regular alternate header and stretcher courses (pl. 55, 1).<sup>82</sup> A substructure grid, similar to those of the altar of the Temple of Artemis in Magnesia ad Maeandrum and the Great Altar of Zeus in Pergamon, was applied in the naos section of the structure, the foundation walls of which are preserved.<sup>83</sup> It has been determined that 0.60–0.70 m-wide and 1.25–1.30 m-long walls were incorporated into the infrastructure as spaced supports inside the filling between the cella and the podium walls (pl. 55, 2).

The distance between the podium walls and cella walls of the temple is 1.30 m on all sides. Therefore the pteroma on the stylobate level is equal on all sides to that of the Temple of Athena in Pergamon. Unlike Doric temples in mainland Greece, this is a characteristic ascribed to temples of the Hekatomnid period (Temple of Zeus at Labraunda, Temple of Athena at Priene). Dovetail clamps were widely used during the Hekatomnid period, as seen at the Doric stoa at Sinuri, the Temple of Zeus at Labraunda, and the Maussoleion at Halicarnassus.

It is also known that the clamps on the crepidoma and stylobate level at these structures were left visible. This significant detail is found in Aigai, on the stylobate of the stoai of the Sanctuary of Athena and the northern crepidoma of the temple. It is also found on the crepidoma and stylobate of the Temple of Athena at Pergamon. Another detail of importance are mortise holes with vertical pour channels found on the stoai of the Sanctuary of Athena and the northern crepidoma of the Temple of Athena in Aigai (pl. 56, 1). This characteristic is not found in the Hekatomnid period, but it is very common in the Hellenistic period and was used at the crepidoma of the Temple of Athena at Pergamon.<sup>84</sup> All these similarities suggest that some architectural trends of the Ionian Renaissance were influential in the early period of Pergamon and that they reached Aigai through Pergamon.

As part of the intensive building program of the 2<sup>nd</sup> c. BCE, monumental structures such as the Temple of Demeter and Kore,<sup>85</sup> the theatre, and the gymnasium palaestra with L-shaped stoai were erected on the wide terraces and sustaining walls, constructed southwest of the Sanctuary of Athena (colour pl. 22, 1 no. 18–20). These structures are supported by two terrace walls, both with a double-walled structure. The preserved length of the upper terrace wall 21, which extends from the south end of the gymnasium palaestra to the Temple of Demeter and Kore, is 90 m (colour pl. 22, 1 no. 21). The northwestern part of the wall has a polygonal masonry dressed in

<sup>81</sup> Pedersen 2004, 422. For Mamurt Kale, see Conze – Schatzmann 1911.

<sup>82</sup> For terminology suggestions regarding the masonry style, see also McNicoll 1997, 3. 86.

<sup>83</sup> Çetin 2007, 44. 46 f. figs. 3–4. 7–8.

<sup>84</sup> Pedersen 2004, 417–424 figs. 5. 8–10. 14–17.

<sup>85</sup> Bohn – Schuchhardt 1889, 41 f.

straight sides, while on the southeast side hammer-faced isodomic ashlar, header, and stretcher masonry was preferred (colour pl. 23, 4).

Three *thurides toskai* (embrasures) were placed on different elevations of the original masonry. The triangular embrasures resemble examples from Messene, Isaura, Oenoanda, and Iasus,<sup>86</sup> suggesting that the terrace wall might have originally been a defensive line built in the 4<sup>th</sup>–3<sup>rd</sup> c. BCE. If that is the case, this fortification wall must have been transformed into a terrace wall with the construction of a retaining wall on the back, at least shortly before the mid-2<sup>nd</sup> c. BCE. Architectural elements, such as column drums used as spolia and a variety of masonry types, indicate interventions on the fortification wall during its functional transformation and reparation. Following the construction of a second wall around the 2<sup>nd</sup> c. BCE, the parodos of the fortification wall was transformed into a 0.80 m peristasis. The corbelled arches on the parodos of the old fortification wall were converted to binding stones for these two walls.

The gymnasium palaestra located on the upper terrace is surrounded by an L-shaped stoa measuring 60 x 20 m (colour pl. 22, 1 no. 22). The double-faced columns found in the rubble of the gymnasium are in the 2<sup>nd</sup> c. BCE style.<sup>87</sup> Doric columns, triglyphs, and metopes and architraves with taeniae found in the rubble reflect the characteristics of the Hellenistic stoai of Pergamon. The Palaestra of the gymnasium is 1200 m<sup>2</sup>.

The terrace wall of the gymnasium baths is 56.4 m long and has a preserved height of 6 m (colour pl. 22, 1 no. 23; pl. 57, 1). Hammer-faced isodomic ashlar, header, and stretcher masonry was preferred and a double-bond technique was used on both corners of the wall. An example of this technique can be seen on corners of the wall of the market building in Aigai.<sup>88</sup> The technique is also used at Alinda,<sup>89</sup> Halicarnassus,<sup>90</sup> Herakleia on Latmos, Alabanda in Karia,<sup>91</sup> Pergamon,<sup>92</sup> Ephesus,<sup>93</sup> and Priene.<sup>94</sup> It has been suggested that this corner arrangement, the first examples of which were seen in the 4<sup>th</sup> c. BCE, disappeared after the mid-3<sup>rd</sup> c. BCE.<sup>95</sup> Therefore it is thought that the gymnasium must have been constructed in the mid-3<sup>rd</sup> c. at the latest, and that the stoai surrounding the palaestra were added as part of the construction program of the 2<sup>nd</sup> c. BCE. An isodomic-coursed strip is used on the lower level of the wall and bevelling was applied on the both corners as a tradition of the Hellenistic period.

A lower terrace wall with a preserved length of 180 m is located on the west of the upper terrace wall, which supports the gymnasium and the theatre (colour pl. 22, 1 no. 25; pl. 57, 2). The wall lies on the same axis as the upper terrace wall and has several reparation phases. The drainage hole under the wall was set up using the barrel-vault technique. A second supporting wall with

<sup>86</sup> Winter 1971, 174. 190 fig. 164. 186; McNicoll 1997, 227 fig. 52.

<sup>87</sup> Kästner 1996, 160 f. fig. 12.

<sup>88</sup> Kan 2012, 83. 90 pls. 4B. 11A.

<sup>89</sup> The examples on the fortification of Alinda are placed on walls dating to 370–350 BCE; see Konecny – Ruggendorfer 2014, 732. 742 fig. 22.

<sup>90</sup> Pedersen 2010, 311.

<sup>91</sup> Pimoguet – Pedarros 2000, 484–486 figs. 2,2. 3,4–6. 4,3–4. 4,6.

<sup>92</sup> The walls at Pergamon where this practice is found are mainly dated to the reign of Philetairos. Pedersen 2004, 428 figs. 21, 23.

<sup>93</sup> Winter 1971, 180. 242 f. figs. 176. 259. 261.

<sup>94</sup> Ruppe 2007, 295 fig. 19.

<sup>95</sup> Pedersen 2004, 429; Konecny – Ruggendorfer 2014, 739.

dry rubble masonry, known as *logaden* in Greek, is set up behind this wall and on the same axis. The theatre, which is built in the basin west of the Sanctuary of Athena, is sheltered from the northern winds. The *analemma*, where the vomitorium rests on the south, was built at the beginning of the 2<sup>nd</sup> c. BCE with isodomic-coursed orthogonal ashlar with a slight bossage. The wall has similarities with the masonry techniques of the period of Eumenes II. After the earthquake of 17 AD, a vomitorium was added on the southwest of the *analemma*. The vomitorium, which provides access to the *cavea* from the west, is set on an east-west axis and consists of three stepped vaults. The sidewalls were built with isodomic-coursed ashlar with orthostatic appearance and are filled with lime mortar. The theatre must have had only one *diazoma* due to lack of *media cavea*.

The seats have a multipartite form, like the seats of the bouleuterion. The *scaenae frons* is 5.80 x 21.50 m wide and has three passages, each 0.82 m wide. The column drums and entablature fragments with floral motifs found in the rubble suggest a two-storey building. The lime mortar used in the construction, the vomitorium, and the *analemma* indicate a renovation after the earthquake of 17 AD.<sup>96</sup>

### The city in the Roman period

Information about the city's Roman period is available, especially for the Insula One sector (colour pl. 22, 1 no. 26), the northern baths (colour pl. 22, 1 no. 27), Demirkapı, and the north wall of the Bouleuterion. Excavations and soundings have revealed that Demirkapı lost its function with the construction of the northern baths in the 2<sup>nd</sup>–3<sup>rd</sup> c. AD. The gate was closed by a wall constructed with spolia pieces such as architrave blocks. A four-roomed structure to the north is connected to the gate through a door. This indicates that the rooms were responsible for controlling Demirkapı by the time of construction of the northern baths. In the 2<sup>nd</sup>–3<sup>rd</sup> c. AD these rooms were incorporated into a larger structure built on the east side.<sup>97</sup>

A second bath was added to the Hellenistic gymnasium. It is situated on the south of the gymnasium and constructed on three vaults (colour pl. 22, 1 no. 24). The baths were probably constructed after the earthquake of 17 AD, a date supported by the use of opus-caementicium in the construction of the vaults.<sup>98</sup>

The other architectural intervention dating to the Roman period can be tracked in the bouleuterion. The north and west walls of the building were damaged due to an earthquake in the 17<sup>th</sup> c. AD. The western wall and the western part of the north wall were subsequently rebuilt and the door on the north wall was cancelled. In addition, even though the eastern part of the northern wall was not damaged, a 7.50 m-wide buttress was added to this part, most probably due to static problems.<sup>99</sup> Insula One is placed at the northern entrance of the city through the Gate of the Agora Street, south of the northern baths. This area, where 28 rooms and six cisterns have been unearthed so far, was abandoned in the third quarter of the 3<sup>rd</sup> c. AD.<sup>100</sup>

<sup>96</sup> For detailed information about the theatre, see also Bohn – Schuchhardt 1889, 39–41 figs. 40. 45–48.

<sup>97</sup> Gürbüzler 2015, 99 f.

<sup>98</sup> Anatolian examples of the opus-caementicium technique are dated at the earliest to the mid-1<sup>st</sup> c. BCE. The technique became widespread in Anatolia under the influence of romanisation and especially with the building programs of the period of Augustus. Its adaptation to Western Anatolia gained speed during the reconstruction programs after the earthquake of 17 AD (Özer 2012, 477 f.).

<sup>99</sup> Doğer et al. 2012, 201 f.

<sup>100</sup> The latest ceramic finds from the floor of the chambers are bowls and plates of the Eastern Sigillata group (Çandarlı



Several rotary querns, Olynthus mills,<sup>101</sup> stone *mortarium* fragments,<sup>102</sup> segmented mill fragments (Delian mill),<sup>103</sup> press weights, and press beds were found in the area (pl. 56, 2). However most of this production equipment was found split in half and lacking one half, indicating that the stones might have been gathered together for a secondary use of a different purpose. Considering the *pithoi* unearthed in the *latrina* and some other rooms, it is believed that the area might have housed several industrial production organizations.

Data obtained from a dump dating to the 3<sup>rd</sup> c. AD has shown that textile and dye production might have been performed in the city.<sup>104</sup> Blacksmith's and bone workshops existed in the area used for industrial production from the Archaic period. The remaining clues indicate that one of the most important products must have been leather. Olynthus mills broken in half, mostly indicating secondary use, must have been used during the leather-cleaning process. Marble *geisipodes* fragments found in stacks must have provided the lime needed for the tanning of the leather while the pithos in the *latrina* and cesspit must have supplied urine and faeces. The huge amounts of parchment needed by Pergamon might have been provided by its friend and ally Aigai, which had suitable geographical conditions for goat breeding.<sup>105</sup>

The plague epidemic after the earthquake of 262 AD and the subsequent invasion of the region by the Herulii<sup>106</sup> most probably resulted in economic and political weakness for the people of Aigai, who abandoned their city in the third quarter of the 3<sup>rd</sup> c. AD with the prospect of returning. This abandonment hypothesis is supported by the fact that the exterior doors of all buildings were closed up with walls.<sup>107</sup>

## Summary

Aigai was inhabited without interruption from the Archaic period to the Roman period. Details of the beginnings of Aigai in pre-Archaic times are still unknown. The existence of a local ruler's palace at the acropolis as in Larisa or as proposed for Assos<sup>108</sup> would be likely but needs archaeological confirmation. The sanctuary of Athena might go back to Archaic times and was extensively renovated, as in Assos,<sup>109</sup> or may even have been rebuilt in Hellenistic times.

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ware) (Hayes 2008, 51 f. fig. 25); The latest coins found among the floor finds depict *P. Licinius Egnatius Gallienus* wearing a radiate crown, indicating the years 260–268 AD, when Gallienus reigned alone (Klawans 1959, 81 f.).

<sup>101</sup> Moritz 1958, 46; Frankel 2003, 2.

<sup>102</sup> Sparkes 1962, 124–134.

<sup>103</sup> Peacock 2013, 156. 160 fig. 2.

<sup>104</sup> A large amount of clay pyramidal weights and spindle whorls was found as proof of the weaving industry. On the other hand a large number and various species of shellfish and murex *brandaris* remains indicate the existence of a wool-dyeing industry. However the amount of murex found is inadequate for a dyeing industry. (Forbes 1964, 118 f.).

<sup>105</sup> Sezgin 2012, 89.

<sup>106</sup> Steinacher 2010, 322.

<sup>107</sup> The settlement in Aigai resumed in the late 12<sup>th</sup> c. AD after its abandonment in the third quarter of the 3<sup>rd</sup> c. AD. The name of Aigai is listed as one of the assistant episcopates of Ephesus, under the Diocese of Asia, on the council lists which contain historical data of the Middle Ages. The name of the city is found on the Council of Chalcedon in 451 AD and the II. Council of Nicaea in 787 AD. The name of the city is not found on episcopal lists after 1230 AD; see Armağan 2014, 209–219; Doğer – Armağan 2016, 11 f.; Doğer – Armağan 2017, 108; Sezgin 2013, 107 f.; Doğer – Armağan 2016, pl. I–II. For a Byzantine coin treasure found near the Bouleuterion, see Sezgin – Önder 2013.

<sup>108</sup> See Saner – Külekçi and Mohr in the present volume.

<sup>109</sup> See Rheidt in the present volume.

Aigai, however, appears to be a representative example of the transformation of an Archaic-Classical city of decidedly Aiolian character into an early Hellenistic polis by the end of the 4<sup>th</sup> c. BCE, and then in the 2<sup>nd</sup> c. BCE according to Pergamonian urban conceptions based on closed urban spaces surrounded by stoai. As in Assos and Pergamon, the agora and the gymnasium were changed by creating large orthogonal terraces and adding columned stoai to proper urban places after the model of the royal capital.<sup>110</sup> By this time the old Aiolian past of the settlement seems to have been alive only in the overall layout of the hilltop city and in the old-fashioned rough polygonal walls of its archaic nucleus, which were still to be seen at the acropolis gates and probably noticed as witnesses to a far-reaching history. In contrast to Assos, the archaic sanctuary near the highest point of the acropolis was extensively rebuilt, which points to severe destruction during Persian occupation. Parallels to Assos can also be found in the placement of round towers on the enlargement of the city walls, in both cases dated to the 2<sup>nd</sup> c. BCE.

The Roman additions to this city layout – two small bath complexes (colour pl. 22, 1 no. 24 and 27) and several workshops for handicrafts and industrial production – indicate the declining importance of Aigai, which, due to its steep slopes and limited water supply, might have been of less attraction for Roman settlers. This modesty of Roman intervention is the main reason why Aigai and its urban development still represents an impressive model of the major transition processes of a city that appears to have exposed at least some signs of its Aiolian origin even in Hellenistic and Roman times.

### Bibliography

- Akarca 1998 A. Akarca, Yunan Arkeolojisinin Ana Çizgileri: Şehir ve Savunması (Ankara 1998)
- Armağan 2014 M. E. Armağan, Aigai’ın (Aiolis) Bizans Dönemi Piskoposluk Tarihi, *ADerg* 19, 2014, 209–219
- Bachmann 2009 M. Bachmann, Im Spannungsfeld zwischen Tradierung und Innovation. Die Bautechnikgeschichte Kleinasien im Licht der Beiträge des Kolloquiums, in: *Bautechnik Im Antiken und Vorantiken Kleinasien. Internationale Konferenz 13.–16. Juni 2007, BYZAS 9 (Istanbul 2009)* 1–22
- Bar-Kochva 2011 B. Bar-Kochva, *The Seleucid Army: Organization and Tactics in the Great Campaigns* (Cambridge 2011)
- Bean 1953 G. E. Bean, Notes and Inscriptions from Caunus, *JHS* 73, 1953, 10–35
- Berlet 1912 O. Berlet, Karten und Pläne, in: A. Conze (ed.), *Stadt und Landschaft, AvP* 1, 1 (Berlin 1912) 35–42
- Bohn – Schuchhardt 1889 R. Bohn – C. Schuchhardt, *Altertümer von Aegae* (Berlin 1889)
- Bringmann – Steuben 1995 K. Bringmann – H. Steuben, *Schenkungen hellenistischer Herrscher an griechische Städte und Heiligtümer. Teil 1: Zeugnisse und Kommentare* (Berlin 1995)
- Burke et al. 2014 B. Burke – B. Burns – A. Charami, The Polygonal Wall at Ancient Eleon with Reference to the Mycenaean Past, in: D. W. Rupp – J. E. Tomlinson (ed.), *Meditations on the Diversity of the Built Environment in the Aegean Basin and Beyond: Proceedings of a Colloquium in Memory of Frederick E. Winter, Athens, 22–23 June 2012 (Athens 2014)* 249–264
- Clerc 1886 M. A. Clerc, *Les ruines d’Aegae en Éolie*, *BCH* 10, 1886, 275–296

<sup>110</sup> See Rheidt in the present volume; Rheidt 2015.

- Conze 1913a A. Conze, Die Stadt, in: A. Conze (ed.), Stadt und Landschaft, AvP 1, 2 (Berlin 1913) 145–364
- Conze 1913b A. Conze, Die Stadt, in: A. Conze (ed.), Stadt und Landschaft, AvP 1, Tafeln (Berlin 1913)
- Conze – Schazmann 1911 A. Conze – P. Schazmann, Mamurt-Kaleh. Ein Tempel der Göttermutter unweit Pergamon, 9. RgH JdI (Berlin 1911)
- Coulton 1976 J. J. Coulton, The Architectural Development of the Greek Stoa (Oxford 1976)
- Çetin 2007 C. Çetin, Sütunlu-Avlulu Altarlarda Altyapı, Ankara Üniversitesi Dil ve Tarih-Coğrafya Fakültesi Dergisi, 47, 2, 2007, 27–47
- Diler – Adıgüzel 2015 A. Diler – G. Adıgüzel, Pedasa Akropolis Giriş Kapısında Kült Çanağı, in: E. Okan – C. Atila – Ö. Özyiğit (eds.), Prof. Dr. Ömer Özyiğit'e Armağan (Istanbul 2015) 87–100
- Doğer et al. 2008 E. Doğer – L. Doğer – Ş. Tül – Y. Sezgin – M. Önder – S. Akat – M. H. Kan – B. Yener – E. Dereboylu – Ü. Türkan – E. Atay – M. Şahan – F. Genç – O. K. Serttürk – M. S. Çakır, Aigai 2004-2006 Yılı Kazıları, KST 29–1, 2008, 207–232
- Doğer et al. 2012 E. Doğer – Y. Sezgin – L. Doğer – M. Gürbüz – M. H. Kan, Aigai, in: A. Çilingiroğlu – Z. Mercangöz – G. Polat (eds.), Ege Üniversitesi Arkeoloji Kazıları (Izmir 2012) 183–208
- Doğer – Armağan 2016 L. Doğer – M. E. Armağan, Erste Ergebnisse der Archäologischen Untersuchungen des Byzantinischen Aigai (Aiolis), ByzZ 109, 1, 2016, 9–32
- Doğer – Armağan 2017 L. Doğer – M. E. Armağan, Byzantine Glazed Pottery Finds from Aigai (Aiolis) Excavations, in: S. Bocharov – V. François – A. Sitdikov (eds.), Glazed Pottery of the Mediterranean and the Black Sea Region 10th–18th Centuries Vol.2 (Kazan-Kishinev 2017) 107–133
- Fabricus 1885 E. Fabricus, Der Tempel des Apollon Chresterios bei Aigai, AM 10, 1885, 272–274
- Forbes 1964 R. J. Forbes, Studies in Ancient Technology (Leiden: E. J. Brill 1964)
- Forchhammer 1847 P. W. Forchhammer, Über die kyklopischen Mauern Griechenlands und die Schleswig-Holsteinischen Felsmauern (Kiel 1847)
- Frankel 2003 R. Frankel, The Olynthus Mill, Its Origin, and Diffusion: Typology and Distribution, AJA 107,1, 2003, 1–21
- Frankenstein 1977 S. M. Frankenstein, The Impact of Phoenician and Greek Expansion in the Early Iron Age Societies of Southern Iberia and Southwestern Germany (Thesis, University of London 1977)
- Frederiksen 2011 R. Frederiksen, Greek City Walls of the Archaic Period, 900–480 B.C. (Oxford 2011)
- Gillies 1809 J. Gillies, The History of the World, from the Reign of Alexander to That of Augustus: Comprehending the Latter Ages of European Greece, and the History of the Greek Kingdoms in Asia and Africa, from Their Foundation to Their Destruction; with a Preliminary Survey of Alexander's Conquests, and an Estimate of His Plans for Their Consolidation and Improvement (Philadelphia 1809)
- Gneisz 1990 D. Gneisz, Das antike Rathaus: das griechische Bouleuterion und die frühromische Curia (Wien 1990)

- Greenewalt 2010 C. H. Greenewalt, Lydian Pottery, in: N. Cahill (ed.) *Lidyalılar ve dünyaları* (Istanbul 2010) 107–124
- Gürbüzer 2015 M. Gürbüzer, *Aigai Bouleuterionu* (Unpublished Phd Thesis, İzmir 2015)
- Hansen 1971 E. V. Hansen, *The Attalids of Pergamon* (Ithaca, London 1971)
- Hansen 2006a M. H. Hansen, *Polis: an Introduction to the Ancient Greek City-State* (Oxford 2006)
- Hansen 2006b M. H. Hansen, *The Shotgun Method: The Demography of the Ancient Greek City-State Culture* (Columbia 2006)
- Hansen 2013 M. H. Hansen, Greek City-States, in: P. F. Bang – W. Scheidel (eds.), *The Oxford Handbook of the State in the Ancient Near East and Mediterranean* (Oxford 2013) 259–278
- Hansen – Nielsen 2004 M. H. Hansen – T. H. Nielsen, *An Inventory of Archaic and Classical Poleis: An Investigation Conducted by the Copenhagen Polis Centre for the Danish National Research Foundation* (Oxford 2004)
- Hayes 2008 J. W. Hayes, *Roman Pottery: Fine-ware Imports* (Princeton 2008)
- Kan 2012 M. H. Kan, *Aigai Agora Binası* (Unpublished Phd Thesis, Antalya 2012)
- Kansteiner et al. 2014 S. Kansteiner – K. Hallof – L. Lehmann – B. Seidensticker – K. Stemmer, *Der Neue Overbeck. Die antiken Schriftquellen zu den bildenden Künsten der Griechen*, 5 vols. (Berlin/New York 2014)
- Kästner 1996 V. Kästner, Tradition oder Innovation: Besondere Kapitellformen in der Hellenistischen Baukunst von Pergamon, in: E. L. Schwandner (ed.), *Säule und Gebälk. Zu Struktur und Wandlungsprozess griechisch-römischer Architektur*, *Bauforschungskolloquium in Berlin vom 16. bis 18. Juni 1994* (Mainz 1996) 153–161
- Kästner 2014 V. Kästner, The Altar Terrace, in: F. Pirson – A. Scholl (eds.), *Pergamon. Anadolu'da Hellenistik Bir Başkent* (Istanbul 2014) 456–477
- Klawans 1959 Z. F. Klawans, *Roman Imperial Coins* (Racine, Wisconsin 1959)
- Kleiner 1968 G. Kleiner, *Die Ruinen von Milet* (Berlin 1968)
- Klinkott 2000 H. Klinkott, *Die Satrapienregister der Alexander-und Diadochenzeit* (Stuttgart 2000)
- Konecny – Ruggendorfer 2014 A. L. Konecny – P. Ruggendorfer, Alinda in Karia: the Fortifications, *Hesperia*. 83.4, 2014, 709–746.
- Lawrence 1979 A. W. Lawrence, *Greek Aims in Fortification* (Oxford 1979)
- Leriche et al. 2011 P. Leriche – G. Coqueugniot – S. De Pontbriand, New research by the French-Syrian Archaeological Expedition to Europos-Dura and New Data on Polytheistic Sanctuaries in Europos-Dura, in: J. Chi – S. Heath (eds.), *Edge of Empires: Pagans, Jews, and Christians at Roman Dura-Europos* (New York 2011) 14–39
- Luraghi 2008 N. Luraghi, *The Ancient Messenians: Constructions of Ethnicity and Memory* (Cambridge 2008)
- Malay – Ricl 2009 H. Malay – M. Ricl, Two New Hellenistic Decrees from Aigai in Aiolis, *EpigrAnat* 42, 2009, 39–60
- Magie 2015 D. Magie, *Roman Rule in Asia Minor*, Vol. 1, *To the End of the Third Century After Christ* (Princeton 2015)
- Maher 2012 M. P. Maher, *The Fortifications of Arkadian Poleis in the Classical and Hellenistic Periods* (Unpublished Phd Thesis, The University Of British Columbia 2012)

- Martin 1956 R. Martin, *L'urbanisme dans la Grèce antique* (Paris 1956)
- Mathys 2014 M. Mathys, Pergamon Agoraları, in: F. Pirson – A. Scholl (eds.), *Pergamon. Anadolu'da Hellenistik Bir Başkent* (Istanbul 2014) 320–333
- McNicoll 1997 A. W. McNicoll, *Hellenistic Fortifications from the Aegean to the Euphrates* (Oxford 1997)
- Middleton 1888 J. H. Middleton, The Temple of Apollo at Delphi, *JHS* 9, 1888, 282–322
- Mieroop 2016 M. Van de Mieroop, *A History of the Ancient Near East, ca. 3000–323 BC* (Oxford/Malden 2016)
- Moritz 1958 L. A. Moritz, *Grain Mills and Flour in Classical Antiquity*, (Oxford 1958)
- Özer 2012 E. Özer, Antik Mimari'de İki Yapı Ögesi: Opus Caementicium ve Tonoz, in: B. Söğüt (ed.), *Stratonikeia'dan Laginaya: Ahmet Adil Tırpan Armağanı* (Istanbul 2012) 475–482
- Peacock 2013 D. Peacock, Segmented Mills in Classical Antiquity, in: J. Poblome – M. Waelkens (eds.), *Exempli Gratia Sagalassos, Marc Waelkens and Interdisciplinary Archaeology, Vol. 69* (Leuven 2013) 153–164
- Pedersen 2004 P. Pedersen, Pergamon and the Ionian Renaissance, *IstMitt* 54, 2004, 409–434
- Pedersen 2010 P. Pedersen, The City Wall of Halikarnassos, in: R. van Bremen – J. M. Carbon (eds.), *Hellenistic Karia: Proceedings of the First International Conference on Hellenistic Karia, Oxford, 29 June–2 July 2006* (Bordeaux 2010) 269–316
- Pimouguet-Pedarros 2000 I. Pimouguet-Pedarros, *Archéologie de la défense: Histoire des fortifications antiques de Carie (époques classique et hellénistique)* (Paris 2000)
- Pirson 2014 F. Pirson, Hellenistik Dönem Pergamonu'nda KentSEL Alan ve Şehircilik, in: F. Pirson – A. Scholl (eds.), *Pergamon. Anadolu'da Hellenistik Bir Başkent* (Istanbul 2014) 208–227
- Polignac et al. 1995 F. Polignac – J. Lloyd – C. Mossé, *Cults, Territory, and the Origins of the Greek City-State* (Chicago 1995)
- Radt 1993 W. Radt, Landscape and Greek Urban Planning: Exemplified by Pergamon and Priene, in: T. M. Kristensen (ed.), *City and Nature: Changing Relations in Time and Space* (Odense 1993) 201–209
- Radt 2002 W. Radt, *Pergamon: Antik Bir Kentin Tarihi ve Yapıları* (Istanbul 2002)
- Radt 2014 W. Radt, Antik Pergamon Kentinin Konumu ve Gelişimi, in: F. Pirson – A. Scholl (eds.), *Pergamon. Anadolu'da Hellenistik Bir Başkent* (Istanbul 2014) 188–205
- Ramsay 1881 W. M. Ramsay, Contributions to the History of Southern Aeolis, *JHS* 2, 1881, 271–308
- Reinach et al. 1887 E. Pottier – S. Reinach – A. Veyries, *La nécropole de Myrina, Texte* (Paris 1887)
- Rheidt 1992 K. Rheidt – C. Meyer-Schlichtmann, Die Obere Agora. Zur Entwicklung des hellenistischen Stadtzentrums von Pergamon, *IstMitt* 42, 1992, 235–282
- Rheidt 2015 K. Rheidt, Polis und Stadtbild im 4. und 3. Jh. v. Chr., in: A. Matthaei, M. Zimmermann (Ed.), *Urbane Strukturen und bürgerliche Identität im Hellenismus* (Verlag Antike, Heidelberg 2015) 300–329
- Roisman 2014 J. Roisman, Alexander's Veterans and the Early Wars of the Successors (Austin 2014)

- Rotroff 1982 S. Rotroff, *The Athenian Agora*, Vol. 22, *Hellenistic Pottery: Athenian and Imported Moldmade Bowls* (Princeton 1982)
- Rumscheid 1994 F. Rumscheid, *Untersuchungen zur kleinasiatischen Bauornamentik des Hellenismus* (Mainz 1994)
- Ruppe 2007 U. Ruppe, *Neue Forschungen an der Stadtmauer von Priene: erste Ergebnisse*, *IstMitt* 57, 2007, 271–332
- Schalles 1985 H. J. Schalles, *Untersuchungen zur Kulturpolitik der pergamenischen Herrscher im dritten Jahrhundert vor Christus*, *IstForsch* 36 (Tübingen 1985)
- Schuchhardt 1912 C. Schuchhardt, *Historische Topographie der Landschaft*, in: A. Conze (ed.), *Stadt und Landschaft*, AvP 1, 1 (Berlin 1912) 61–143
- Scranton 1941 R. L. Scranton, *Greek Walls* (Cambridge 1941)
- Sezgin 2012 Y. Sezgin, *Antik Dönemde Pergamon-Aigai İlişkileri*, *ADerg* 17, 2012, 81–95
- Sezgin 2013 Y. Sezgin, *Aiolis’de Bir Dağ Kenti: Aigai, Trakya Üniversitesi Edebiyat Fakültesi Dergisi* 3, 5, Ocak-2013, 95–116
- Sezgin – Önder 2013 Y. Sezgin – M. Önder, *Aigai Bizans Definesi*, *ADerg* 18, 2013, 141–148
- Sezgin – Aybek 2016 Y. Sezgin – S. Aybek, *A Group of Portrait Statues from the Bouleuterion of Aigai: A Preliminary Report*, in: R. von den Hoff – F. Queyrel – É. Perrin-Saminadayar (eds.), *Eikones: portraits en contexte : recherches nouvelles sur les portraits grecs du Ve au Ier s.av.J.-C.* (Venosa 2016) 17–44
- Sielhorst 2015 B. Sielhorst, *Hellenistische Agorai: Gestaltung, Rezeption und Semantik eines urbanen Raumes* (Freiburg 2015)
- Snodgrass 1986 A. Snodgrass, *The Historical Significance of fortification in Archaic Greece*, in: P. Leriche – H. Treziny (eds.), *La fortification dans l’histoire du monde grec: actes du Colloque international La Fortification et sa place dans l’histoire politique, culturelle et sociale du monde grec*, Valbonne, décembre 1982 (Paris 1986) 125–131
- Sokolicek 2009 A. Sokolicek, *Diateichismata: zu dem Phänomen innerer Befestigungsmauern im griechischen Städtebau* (Wien 2009)
- Steinacher 2010 R. Steinacher, *The Herules: Fragments of a History*, in: F. Curta (ed.), *Neglected Barbarians* (Turnhout 2010) 319–360
- Sparkes 1962 B. A. Sparkes, *The Greek Kitchen I.*, *JHS* 82, 1962, 121–137
- Tül 1995 Ş. Tül, *Aigai. Aiolis’de Bir Dağ Kent* (Istanbul 1995)
- Winter 1971 F. E. Winter, *Greek Fortifications* (Toronto 1971)
- Young 1960 R. S. Young (reviewed of T. J. Dunbabin – J. Beazley – J. Boardman, *The Greeks and Their Eastern Neighbours: Studies in the Relations between Greece and the Countries of the Near East in the Eighth and Seventh Centuries BC* (London 1971)), *AJA* 64/4, 1960, 385–387

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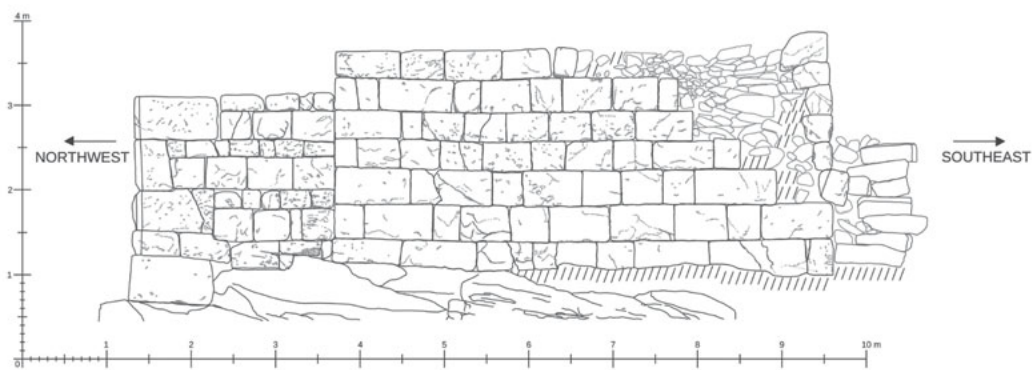
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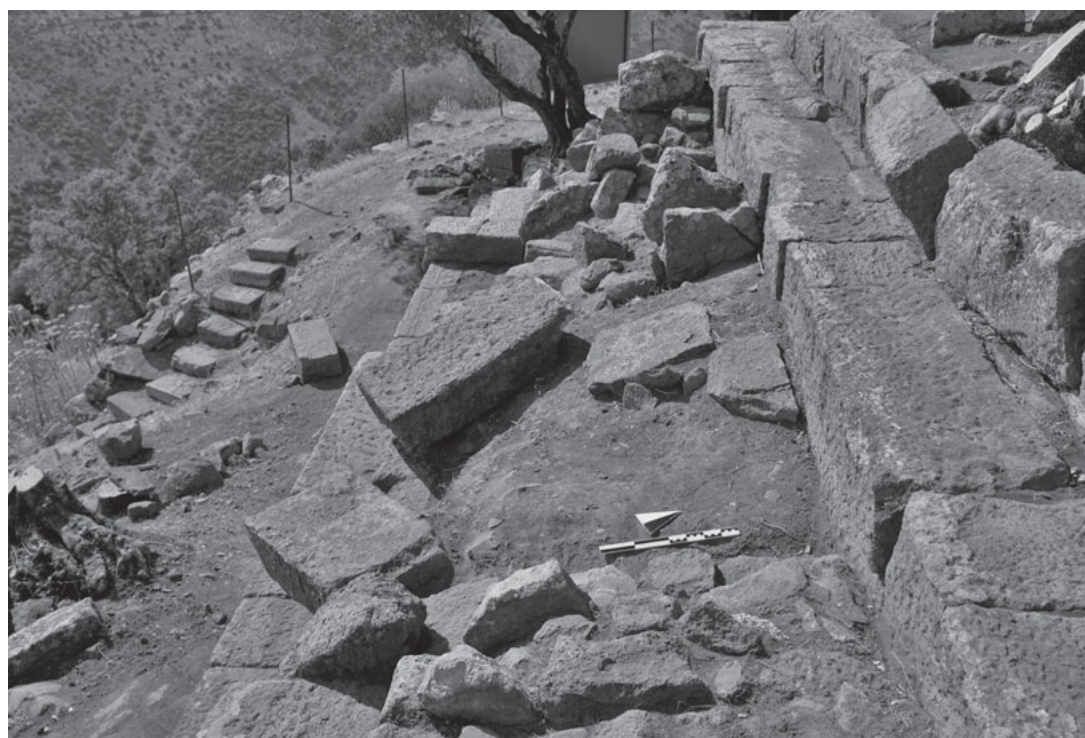
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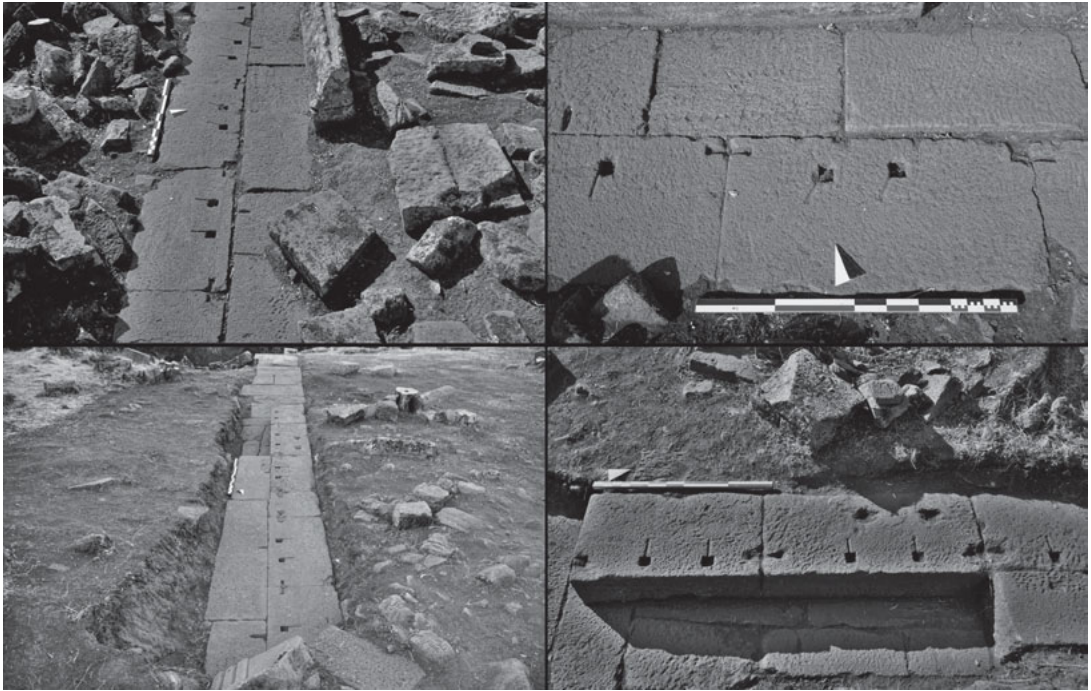
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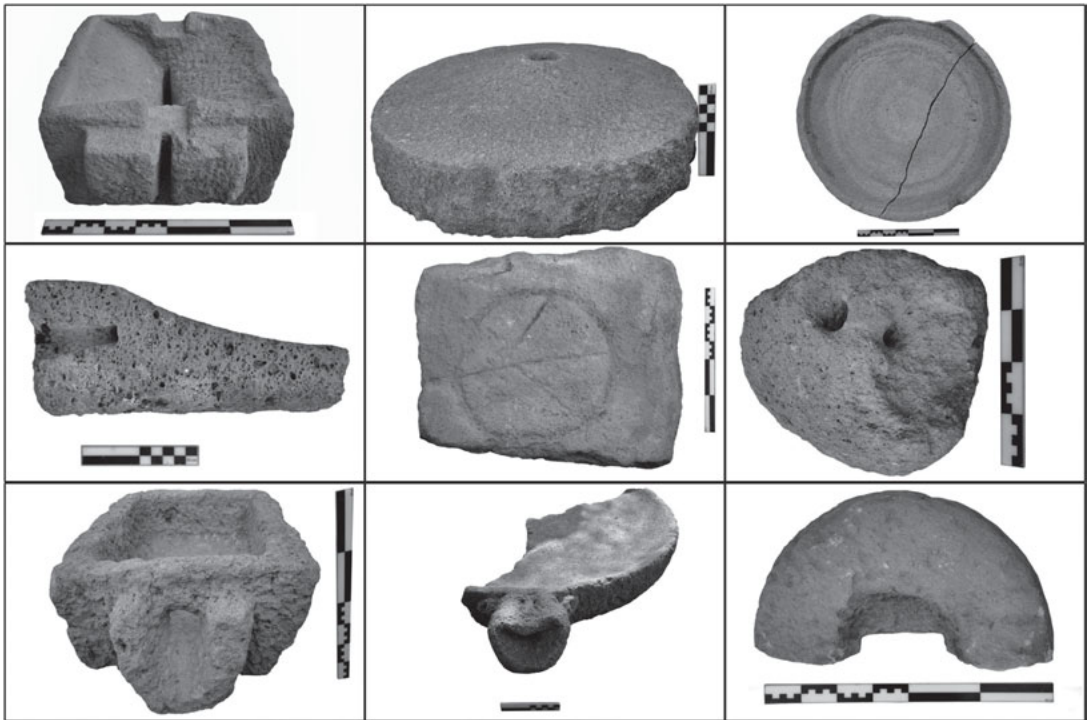
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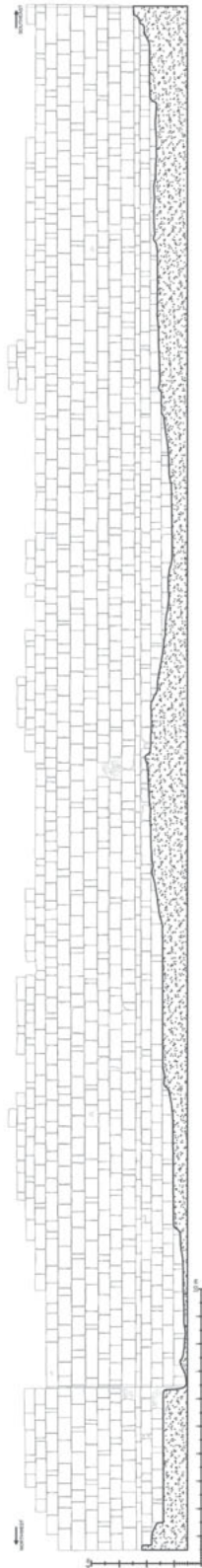
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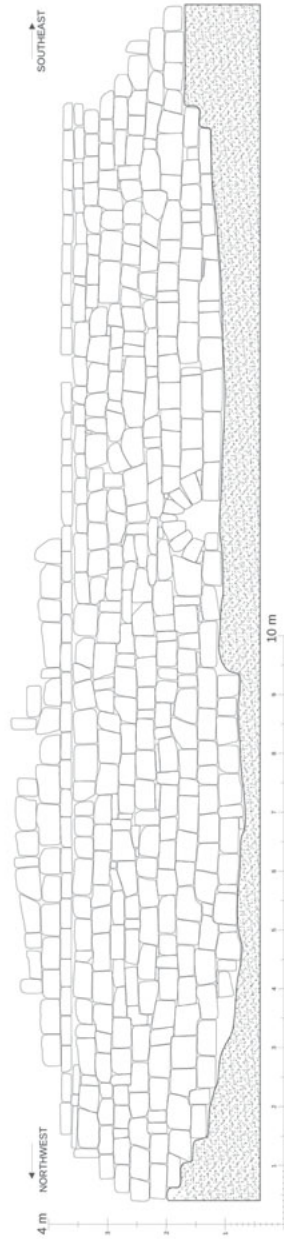
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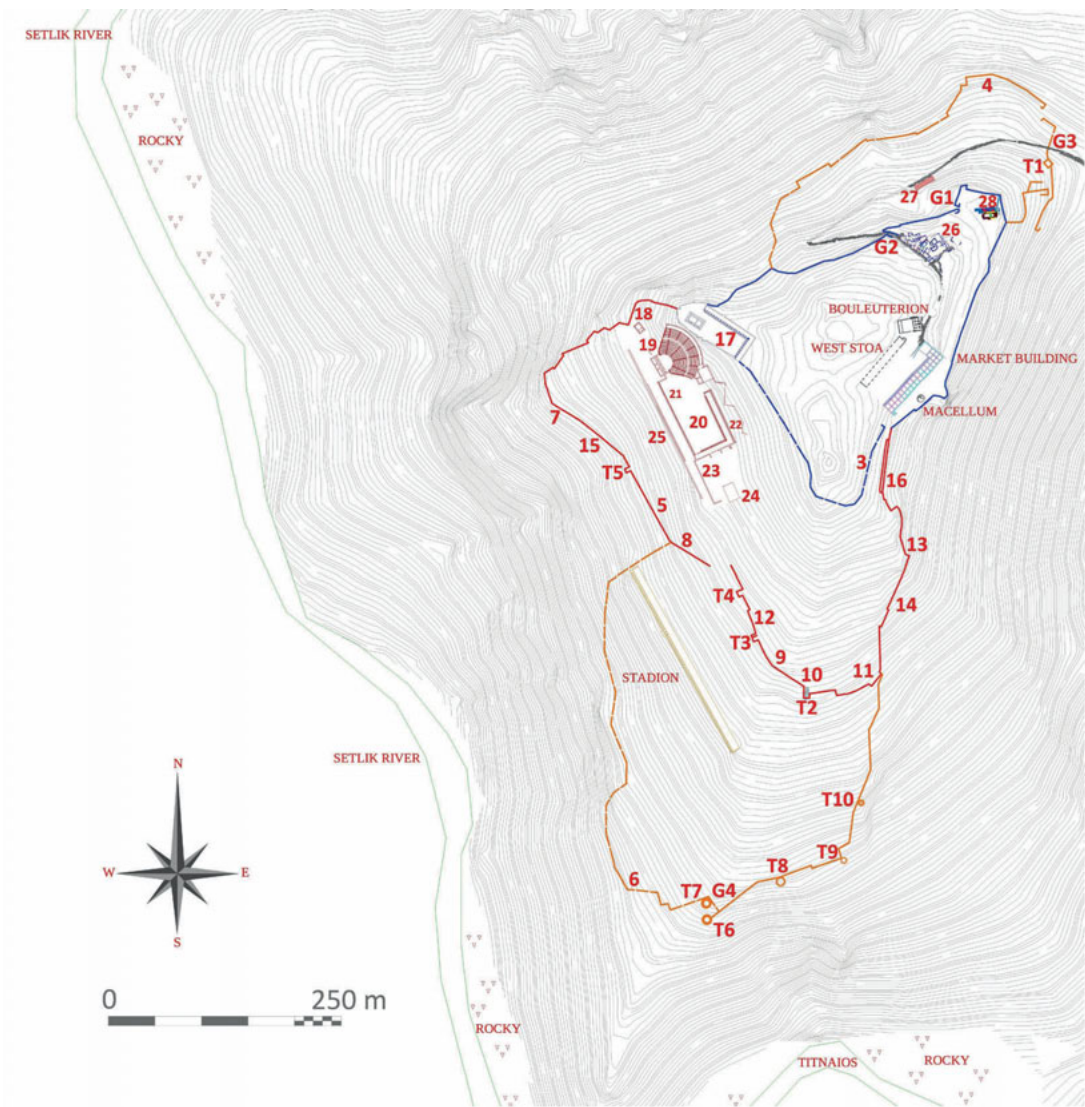
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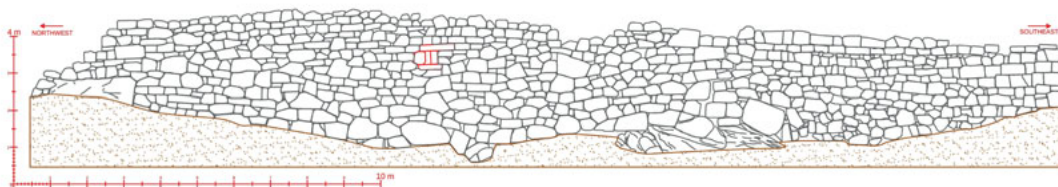
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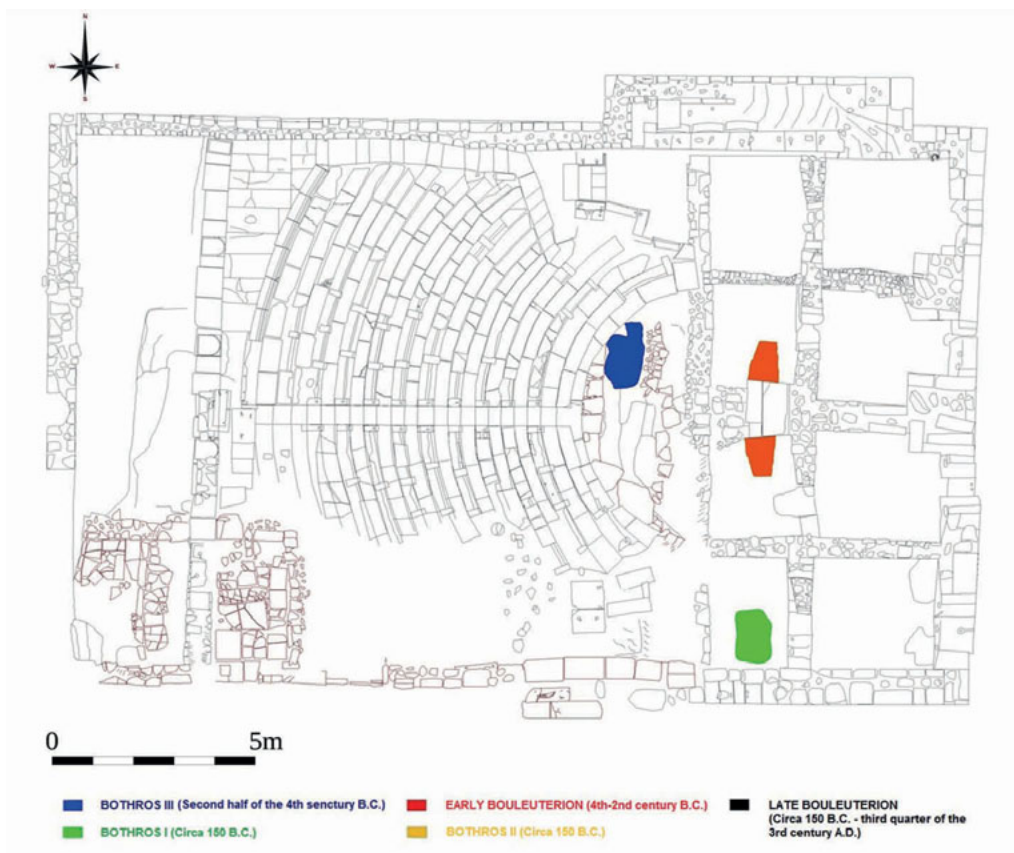
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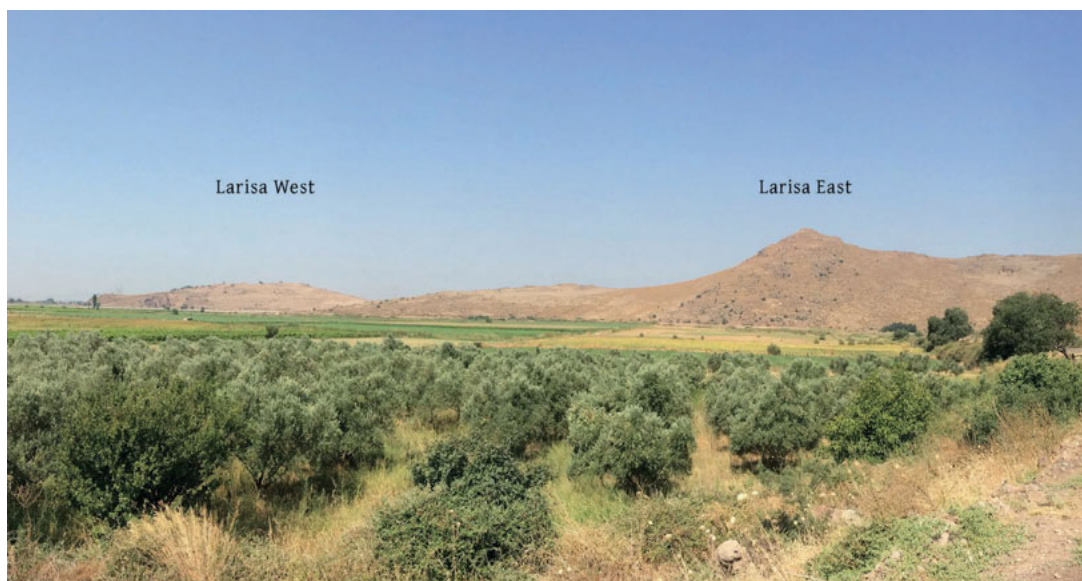
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