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KILIKIA ARKEOLOJİSİNİ ARAŞTIRMA MERKEZİ
BİLİMSEL SÜRELİ YAYINI 'OLBA'

YAYIN İLKELERİ

Amaç

Olba süreli yayını; Anadolu, Akdeniz dünyası ve ilişkili bölgelere dair orijinal sonuçlar içeren Arkeolojik çalışmalara yer verir; 'Eski Çağ Bilimleri'ni birbirinden ayırmadan ve bir bütün olarak benimseyerek bilim dünyasına değerli çalışmalar sunmayı amaçlar.

Kapsam

Olba süreli yayını Mayıs ayında olmak üzere yılda bir kez basılır.

Yayınlanması istenilen makalelerin her yıl 31 Ağustos - 31 Ekim tarihleri arasında gönderilmiş olması gerekmektedir.

Yayın için değerlendirmeye alınacak makalelerde aşağıdaki kriterler gözetilir:

- Prehistorya, Protohistorya, Klasik Arkeoloji, Klasik Filoloji (ile Eskiçağ Dilleri ve Kültürleri), Eskiçağ Tarihi, Nümizmatik ve Erken Hıristiyanlık Arkeolojisi (İS 7. yüzyıla kadar) alanlarında yazılmış makaleler, yayın için değerlendirmeye alınır.
- Makaleler tanıtım veya katalog niteliklerinin ötesinde, araştırma sorusuna/ problemine dayanmalı, somut kanıtlar ve tartışmalarla desteklenen, verilerin tartışıldığı ve bağlantıların kurulduğu içeriklere sahip olmalıdır. Tartışma içermeyen ve kontekslerinden kopuk şekilde ele alınan arkeolojik malzemeler, kataloglar, buluntu raporları, derleme yazılar değerlendirmeye alınmaz.
- Olba Dergisi, Arkeoloji bilim dalını temsil eden bilimsel bir süreli yayındır. Bu sebeple, verileri farklı bilim dallarının (Harita Mühendisliği, Mimarlık, Arkeometri, Jeofizik ve Antropoloji vb.) işbirliği ile oluşturulan çalışmaların makalelerinde, arkeolojik değerlendirmenin ön planda tutulması beklenir.

Yazım Kuralları

1. a- Makaleler, Word ortamında yazılmış olmalıdır.

   b- Metin 10 punto; özet, dipnot, katalog ve bibliografya 9 punto olmak üzere, Times New Roman (PC ve Macintosh) harf karakteri kullanılmalıdır.

   c- Dipnotlar her sayfanın altına verilmeli ve makalenin başından sonuna kadar sayısal süreklilik izlemelidir.

d- Metin içinde bulunan ara başlıklarda, küçük harf kullanılmalı ve koyu (bold) yazılmalıdır. Bunun dışındaki seçenekler (tümünün büyük harf yazılması, alt çizgi ya da italik) kullanılmamalıdır.

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   c) Metin içinde yer alan "fig." ibareleri, parantez içinde verilmeli; fig. ibaresinin noktasından sonra bir tab boşluk bırakılmalı (fig. 3); ikiden fazla ardışık figür belirtiliyorsa iki rakam arasına boşluksuz kısa tire konulmalı (fig. 2-4). Ardışık değilse, sayılar arasına nokta ve bir tab boşluk bırakılmalıdır (fig. 2. 5).

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Corsten 1995 Corsten, Th., "Inschriften aus dem Museum von Denizli", Ege Üniversitesi Arkeoloji Dergisi III, 215-224, lev. LIV-LVII.

Dipnot (kitaplar ve makaleler için)

Richter 1977, 162, res. 217.

Diğer Kısaltmalar:

age. adı geçen eser
ay. aynı yazar
vd. ve devamı
yak. yaklaşık
v.d. ve diğerleri
y.dn. yukarı dipnot
dn. dipnot
a.dn. aşağı dipnot
bk. Bakınız

4. Tüm resim, çizim, tablo ve haritalar için sadece “fig.” kısaltması kullanılmalı ve figürlerin numaralandırılmasında süreklilik olmalıdır. (Levha, Resim, Çizim, Tablo, Şekil, Harita ya da bir başka ifade veya kısaltma kullanılmamalıdır).
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11. Figürlerde çözünürlük en az 300 dpi; format ise tif veya jpeg olmalıdır; bunlar Microsoft Word türünde başka bir programa gömülü olmamalıdırlar.
12. Dizilim (layout): Figürler ayrıca mail ekinde bir defada gelecek şekilde yani düşük çözünürlükte pdf olarak kaydedilerek dizilimi (layout) yapılmış şekilde yollanmalıdır.

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JOURNAL 'OLBA'

PUBLISHING PRINCIPLES

Scope

The Journal 'Olba', being published since 1998 by the 'Research Center of Cilician Archeology' of the Mersin University (Turkey), includes original studies on Prehistory, Protohistory, Classical Archaeology, Classical Philology (and ancient languages and cultures), Ancient History, Numismatics and Early Christian Archeology (up till the 7^{th} century AD) of Asia Minor, the Mediterranean and related regions.

Articles should present new ideas and not only have catalogues or excavation reports as their contents. The articles of archaeological studies undertaken together with other disciplines such as geophysics, archaeometry, anthropology etc should give more emphasis to the archaeological part of the work as the Journal Olba is an archaeological journal.

Olba is printed once a year in May. Articles can be sent from 31 August - 31 October each year.

Submission Criteria

1. a. Articles should be written in Word programs.

   b. The text should be written in 'Times New Roman' in 10 puntos; the abstract, footnotes, catalogue and bibliography in 9 puntos (for PC and for Macintosh).

   c. Footnotes should take place at the bottom of the page in continous numbering.

   d. Titles within the article should be written in small letters and be marked as bold. Other choises (big letters, underline or italic) should not be used.

2. Punctuation (hyphen) Marks:

   a) One space should be given after the comma in the sentence and after the dot at the end of the sentence.

   b) The footnote numbering within the sentence in the text, should take place before the comma in the sentence or before the dot at the end of the sentence.

   c) The indication fig.:

* It should be set in brackets and one space should be given after the dot (fig. 3);

* If many figures in sequence are to be indicated, a short hyphen without space between the beginning and last numbers should be placed (fig. 2-4); if these are not in sequence, a dot and space should be given between the numbers (fig. 2. 5).

d) In the bibliography and abbreviations, if the author has two family names, a short hyphen without leaving space should be used (Dentzer-Feydy); if the article is written by two or more authors, after each author a space, a long hyphen and again a space should be left before the family name of the next author (Hagel – Tomaschitz).

3. The 'Bibliography' and 'Abbreviations' should take part at the end of the article. The 'Abbrevations' used in the footnotes should be explained in the 'Bibliography'. The bibliography used in the footnotes should take place as abbreviations: Name of writer, year of publishment, page (and if used, number of the illustration). This rule should be applied even if a publishment is used only once.

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Bibliography (for articles):

Corsten 1995 Corsten, Th., "Inschriften aus dem Museum von Denizli", Ege Üniversitesi Arkeoloji Dergisi III, 215-224, pl. LIV-LVII.

Footnotes (for books and articles)

Richter 1977, 162, fig. 217.

Miscellaneous Abbreviations:

op. cit. : in the work already cited
idem : an author that has just been mentioned
ff : following pages
et al. : and others
n. : footnote
see : see
infra : see below
supra : see above

4. For all photographies, drawings and maps only the abbreviation 'fig.' should be used in continous numbering (remarks such as Plate, Picture, Drawing, Map or any other word or abbreviation should not be used).

5. Photographs, drawings or maps taken from other publications are in the responsibility of the writers; so the sources have to be mentioned.

6. A list of figures should take part at the end of the article.

7. The text should be within the remarked formats not more than 20 pages, the drawing and photograps 10 in number.
8. Papers may be written in Turkish, English or German. Papers written in Turkish must include an abstract of 300 words in Turkish and English or German. It will be appreciated if papers written in English or German would include a summary of 300 words in Turkish and in English or German. The title of the article should be given in two languages.
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THE HISTORICAL, TOPOGRAPHIC AND ARCHITECTURAL DEFINITIONS OF "GELÄNDEMAUER" CITY WALLS IN KARIA

Sinan PAKSOY — Abdulkadir BARAN*

ÖZ

Karia'da 'Geländemauer' Planlı Kent Surlarının Tarihi, Topoğrafik ve Mimari Tanımları

MÖ 4. yüzyılın başlarında Hekatomnidlerin yönetimi altında olan Karia Bölgesinde «Geländemauer» planlı kent surları sistemli biçimde inşa edilmeye başlanmıştır. Bundan sonra «Geländemauer» kent surları, MÖ 3. yüzyılın sonuna kadar hem savunma taktiği hem de topoğrafya planı bakımından Batı Anadolu'nun en gelişmiş tahkimat sistemi haline gelmiştir. Bilim adamları tarafından "Geländemauer" planlı çevirmeler olarak tanımlanan bu tip kent surlarında topografyanın doğal savunma üstünlüğünün elde edilmesi amaçlanarak savunma duvarlarının güzergâhları, askeri mimarlar ve istihkâm uzmanları tarafından arazi üzerindeki yükseltilerin sırtlarını ve zirvelerini takip edecek şekilde tasarlanmışlardır. Bu nedenle "Geländemauer" modeline göre inşa edilen kent surları, kent yapılarının gerektirdiğinden çok daha geniş bir araziyi çevrelemektedir. Bu tür tahkimat yapılarının topografik düzeni, taktik tasarımı ve inşaat yöntemleri, gelişmiş bir arazi savunma anlayışını ortaya koymaktadır. Hekatomnidler'in Karia'daki egemenliklerinden önce bölgede köklü bir şekilde mevcut olan kırsal "Karia/Leleg" mimari geleneği de Klasik ve Hellenistik dönemlerin tahkimat tasarım anlayışlarına uygun hale getirilecek olan Hekatomnid 'emplekton' duvar tekniğinin rüstik görünümünü ve ekonomik işçiliğini biçimlendirmiştir. Ayrıca birçok durumda asıl yapım evresinin ardından surların üzerinde yapılan onarım ve tadilatlar hariç olmak kaydıyla; farklı topoğrafya koşulları göz önünde tutulduğunda "Geländemauer" kent surlarının inşaatı, çoğunlukla 'emplekton'un farklı duvar örgü biçimlerine (kesmetaş, trapezoidal, polygonal, pseudo-polygonal) dayanan inşaat teknikleri kullanılarak gerçekleştirilmiştir. Öte

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This paper is the revised version of the unpublished text which was presented in the International Symposium on Fortifications in Western Asia Minor, held at Muğla on September 11-15 2019, based on the doctoral dissertation entitled "Antik Dönemde 'Geländemauer' (Hattı Balâ) Tipi Kent Surlarının Ortaya Çıkışı ve Gelişimi", submitted in the Archaeology Department of Muğla Sıtkı Koçman University in 2019.

yandan Hekatomnidlerin Karia Bölgesinde kentleşme sürecini teşvik etmeleri, Karia Birliği'nin (Hoi Kares) belli başlı kutsal alanlarını yeniden imara girişmeleri ve Karia Satraplığının topraklarının savunulması için bölgede yaygın bir tahkimat ağı meydana getirmeleri sonucunda 'Geländemauer' surlarının karakteristik mimari özellikleri ortaya çıkmıştır. Bu bakımdan Hekatomnidlerin askeri mimari alanında gerçekleştirdikleri inşaat faaliyetleri, Hellenistik Dönem tahkimat yapıları üzerinde uzun vadeli etkileri olan karakteristik özelliklere sahiptir. Maussollos'un bölgedeki kentleşmeyi esas alan ve Karia'nın kırsal yerleşim modelini derinden etkileyen iskân politikaları, bu tahkimat modelinin bölgedeki gelişiminde belirleyici rol oynamıştır. MÖ 4. yüzyılın sonlarından itibaren Makedon askeri liderler (Assandros, Eupolemos, Pleistarkhos, Demetrios Poliorketes, Lysimakhos), Maussollos'un 'synoikismos' düzenlemeleri ile benzer bir iskân modelini benimseyerek egemenlikleri altında olan 'metropolis' konumundaki kentlerin büyük bir bölümünü 'Geländemauer' surlarla tahkim etmişlerdir. Bu nedenle Hellenistik Dönemde Pleistarkhos tarafından yeniden kurulan Latmos Herakleia'sında görüldüğü üzere Makedon birliklerinin lojistik merkezi konumundaki tahkimli yerleşimlerin savunmasında bu tahkimat modeli, Hellenistik Dönemin gelişmiş istihkâm yöntemlerine uygun hale getirilerek gelişimini devam ettirmiştir. Aynı zamanda Halikarnassos kent surlarında izlenebilen Hekatomnid 'emplekton' duvar işçiliğinin mimari stillerinin Erken Hellenistik Döneme ait Latmos Herakleia'sının kent surlarına büyük ölçüde aktarılmış olduğu dikkate alındığında, her iki kentin surlarının, Karia'daki 'Geländemauer' sur modelinin mimari hafızasını taşıdıklarını söylemek mümkündür. Böylelikle Halikarnassos ve Latmos Herakleia'sı (Pleistarkheia) kentleri, 'synoikismos'a bağlı benzer iskân süreçlerinin yanı sıra Hekatomnidler Dönemi ile Hellenistik Dönem 'Geländemauer' kent surlarının mimari ve topoğrafya özelliklerinin tanımlanabileceği kentlerin başında gelmektedir. Bu nedenle her iki kentte farklı dönemlerde yapılan sur inşaat çalışmaları, bu tahkimat modelinin Karia Bölgesi'ndeki mimari gelişiminin sürekliliğine büyük katkıda bulunmuşlardır. Bu bakımdan Karia, Hekatomnid Dönemden V. Philippos'un ve III. Antiokhos'un bölgeyi işgale teşebbüs ettiği MÖ 3. yüzyılın sonu/2. yüzyılın başına kadar 'Geländemauer' kent surlarının mimari gelişiminin kronolojik olarak neredeyse kesintisiz bir şekilde izlendiği bir bölgedir. «Geländemauer» planlı surlarla tahkim edilen antik kentler çoğunlukla «koinon» olarak tanımlanan politik konfederasyonların (Örn. Messene) ya da bir krallığın veyahut bölgesel bir merkezi siyasi gücün (örn. Sicilya›da Syrakoussai, İonia›da Samos, Karia›da Halikarnassos, Thessalia›da Demetrias, Kilikya›da Antiokheia) başkentleri konumundadırlar. Antik dönem savunma sistemlerini mimari tekniklerine, topografik tasarımlarına ve kronolojik evrelerine göre sınıflandırmak amacıyla Karia›daki «Geländemauer» planlı kent surlarının mimari gelişiminin tarihi ve arkeolojik veriler ışığında araştırılması, aynı zamanda Klasik ve Hellenistik dönemlerde bölgede gerçekleşen kentleşme ve yerleşim modellerinin biçimlenmesi hakkında bilimsel bilgilerin geliştirilmesine de katkı sağlayacaktır.

Anahtar Kelimeler: İstihkam, Kentleşme, Karia, Geländemauer, Halikarnassos, Emplekton

ABSTRACT

In the early 4th Century BC, the systematical constructions of 'Geländemauer' city walls began in Karia under the Hekatomnid rule. Henceforth, 'Geländemauer' city walls became the most advanced and sophisticated fortification system in Western Anatolia, both in tactical and topographical points, until the end of the 3rd century BC. On this type of city wall, defined by scholars as "Geländemauer" circuits, the traces of walls follow the high ridges and summits of the lands, aiming to gain the topography's natural defense advantage. Therefore, the city walls built according to the "Geländemauer" planning model surround larger areas than those required for civic buildings. These fortifications' topographical layout, tactical design, and construction

method demonstrate the concept of advanced territorial defense. At the same time, the tradition of rural "Lelegian" residential architecture and stonework, entirely existing in the Halikarnassos Peninsula before the Hekatomnid rule in Karia, gave shape to the rustic appeal and economic character of the Hekatomnid 'emplekton' technique which would be adopted to requirements of the art of the 'poliorketic' siege warfare in Hellenistic period. In many cases, the initial construction of "Geländemauer" city walls was also carried out using various masonry techniques based on distinct variants of 'emplekton' (ashlar, trapezoidal, polygonal, pseudo-polygonal) while considering the different topographical conditions, except for later repair. On the other hand, the architectural characteristics of 'Geländemauer' in the region emerged as the consequence of the fact that Hekatomnids had supported the urbanization process and had undertaken the reconstructions of the prominent sanctuaries of the Karian League while installing an extent fortification network for defending the territory of the Karian Satrapy. In this regard, the Hekatomnid building program in military architecture has distinct characteristics that had a long-term influence on the design of Hellenistic fortifications. Maussollos' settlement policy based on urbanization by 'synoecism' that radically transformed the rural residential organization in Karia essentially determined the development of 'Geländemauer' in the region. Since the end of the 4th century BC, adopting a similar settlement policy to the synoecism of Maussollos, many of the Macedonian leaders (Eupolemos, Pleistarkhos, Demetrios Poliorketes, Lysimakhos) principally fortified their 'metropoleis' with 'Geländemauer' city walls. Accordingly, as appeared in the City of Herakleia ad Latmum (Pleistarkheia), reestablished by Pleistarkhos at the end of the 4th or the beginning of the 3rd century BC, this fortification technique was promoted by being modified to the advanced siege warfare engineering (poliorketic). It could be reasonably said that both cities carry the architectural memory of 'Geländemauer' in Karia. Considering the transference of the architectural technique of Hekatomnid 'emplekton' in the city walls of Halikarnassos to the Early Hellenistic fortification of Herakleia ad Latmum, in this respect, Halikarnassos and Herakleia ad Latmum are significant cities of which the city walls could be taken as descriptive patterns to define the architectural and topographic details of 'Geländemauer'; at the same time, it is also essential to emphasize the fact that these ancient Karian cities experienced similar settlement processes depending on 'synoecism' and in this manner, they were fortified with similar 'Geländemauer' city walls. Fortification building projects planned for the defense of Halikarnassos in the second quarter of the 4th Century BC and Herakleia ad Latmum at the end of the 4th – early 3rd century BC contributed to the continuity of 'Geländemauer' in Karia. Therefore, it should be considered that Karia is among the places where the architectural improvements in the design of 'Geländemauer' city walls could uninterruptedly be pursued during the period from Maussollos' rule to the end of the 3rd – the beginning of the 2nd century BC when Philippos V. and Antiokhos III attempted to invade this region. Ancient cities fortified with "Geländemauer" are mostly the centers of the political confederations called "koina" (e.g., Messene), or administrative centers of a kingdom or a regional political power (e.g., Syracuse in Sicily, Samos in Ionia, Halikarnassos, Herakleia ad Latmum in Karia, Demetrias in Thessalia, Antiokheia in Kilikia). Studying the evolution of "Geländemauer" city walls in Karia to classify the ancient defense systems according to their architectural techniques, topographical designs, and chronological phases will undoubtedly contribute to the knowledge about urbanization and resettlement patterns in the region during the Classical and Hellenistic periods.

Keywords: Fortification, Urbanization, Karia, Geländemauer, Halikarnassos, Emplekton

The construction of the 'Geländemauer' city walls in Karia and their architectural development are closely linked to the region's urbanization process that has advanced since the beginning of the 4th century BC, and the establishment of border defense systems in rural areas. The urbanization carried out with "synoecism" under the rule of Maussollos and the installation of fortresses and monitoring towers throughout the countryside shaped the defense system of Karian Satrapy. In particular, the re-establishment of Halikarnassos as the "metropolis" of the Karian Satrapy[1] marks an important turning point in the planning of fortifications in the form of 'Geländemauer', a construction consisting of curtain walls that follow the natural defense line of the topography and surround areas larger than the urban zone (fig. 1). This topographic layout is also seen at Myndos (fig. 2) and Theangela (fig. 3) on the Halikarnassos Peninsula. Additionally, the extensive constructions of the "Geländemauer" city walls in Kaunos, Latmos, Knidos, Alinda, Alabanda, Herakleia ad Latmum, Stratonikeia, and Iasos[2] that had been built since the period of Maussollos reflect the geo-strategic preferences of the Hekatomnid rulers and their successors as well as their defense policies that determined the architectural character of the region's fortification systems. The improvement of the defense capacity in the design of "Geländemauer" city walls through the natural defense line by reinforcing them with ridges and summits of high lands has been the favored principle of construction for the defense system of the city walls planned during the Hekatomnid period.

Military conflicts between Persian, Athenian, and Spartan states for the sovereignty of Western Anatolia before the 4th century BC brought along a decline in the urbanistic development by obstructing long-term and regular architectural activities. From the establishment of the Delian League up until the Antalkidas Treaty of 387 BC, city-states and rural settlements in Western Anatolia were quite vulnerable to the actions of the three great military and economic forces[3]. The fact that Amorges was based in Iasos with the support of Athens in the course of his revolt against the Achaemenid King in the late 5th century BC, and that Halikarnassos was used as a harbor by the Athenian Navy, while Knidos was used in a similar manner by the Spartan Navy during the Peloponnesian Wars, has shown the importance of the harbor cities of Karia for the military expeditions of the Athenian, Spartan and Persian forces as well as their allies[4]. As can be seen from these developments, the priority of any military power which aimed to gain the control of the Karian costlines and to secure its position was naturally to capture these strategically important harbor cities in the region. On the other hand, the defensive weakness of Karian cities facilitated the military interventions of Athens, which pursued to revive its Aegean Sea domination by the agency of the Second Delian League in the 4th century BC. The City of Halikarnassos was subject to attacks by the fleet of the Athenian Ergokles in 389 BC when Karia was under the rule of Hekatomnos[5]. His successors[6], who were aware of the vulnerability

1 Diodorus XV 90. 3; Hornblower 1982, 297.
2 For detailed descriptions and discussions, see Paksoy 2019.
3 Hornblower 1982, 24-25; Ruzicka 1992, 8-14; Sato 2006, 23-37.
4 Hornblower 1982, 24-25; Ruzicka 1992, 11.
5 Hornblower 1982, 78; Ruzicka 1992, 17.
6 McNicoll – Milner 1997, 15-45; Pedersen 2010, 269-316; Pimouguet-Pédarros 2000, 217-302.

of the Karian cities, initiated the building program of fortifications that resulted in a comprehensive and geographically consistent fortification network throughout the region. This defense strategy is based on building "Geländemauer" type circuits that match the topography's natural defense lines, especially around the coastal cities, against the military power of Athens and its allies, who could have navally threatened the domination of the Karian Satrapy.

The rule of Hekatomnids coincides with the period during which the balance of economic and military power in Western Anatolia, the Aegean coast, and on mainland Greece changed significantly. In 387 BC, Persians, together with the Spartans, forced Athenians to accept the terms of the treaty called the Peace of Antalkidas, also known as the King's Peace[7]. As a result of this agreement, the military pressure of the Athenians on the coastal cities of Karia largely came to an end[8] and a new and stable urbanization period under the rule of the Hekatomnid Dynasty began. As mentioned earlier, Maussollos' coming into power as "Satrap" in Karia (377/376 BC) coincided with the period during which Athens attempted to revive the Delian League. Therefore, the primary defensive strategy of Maussollos was to terminate the Athenian political influence and military activities in the region by building an efficient navy and also by fortifying the coastal towns of Karia, such as Halikarnassos, Myndos, Knidos, Kaunos, and Latmos, with 'Geländemaeur' city walls. The first step of this defense strategy was the relocation of Karia's administrative center from Mylasa to Halikarnassos.

'Synoecism' of Halikarnassos and 'Geländemauer' Type of City Walls

To convert Halikarnassos into the administrative center and naval base of the Karian Satrapy, Maussollos embarked on major urban planning and construction works, which would completely change the physical appearance of the city. With the migration from "Lelegian octapolis", Halikarnassos became a *metropolis*[9]. The 'synoecism' of Halikarnassos was the starting point of fortifying the Karian cities with 'Geländemauer' city walls. Estimated to be built around 375-370 BC, the city walls of Halikarnassos were constructed with a plan, which should have been arranged in a single construction phase[10]. When determining the topographic position of the fortification system of Halikarnassos, the purpose was to set up the defense line of the city walls to adapt to the ridges and summits of the surrounding hills (fig. 4). Therefore, the circuit of the fortification gained a defensible line at a required length and depth to protect the harbor and the town center. For this reason, the city walls, which stretch from the Zephyrion Peninsula to the north, pass through the summit of Göktepe Hill, and finally turn in the direction of Cape Salmakis (fig. 5), can be considered as a true 'Geländemauer' with a length of approximately 7 kilometers (fig. 1, 6). According to F. E. Winter, the installation of the outline of Halikarnassos' city walls dates to the second quarter of 4th century BC, at least 20 or even 50 years before

7 Ruzicka 1992, 24. 27.
8 Hornblower 1982, 78; Pedersen 2010, 270.
9 Bean – Cook 1955, 168-169.
10 Pedersen 1994, 215-235; Pedersen 2003, 97-130; Briese – Pedersen 2003, 257-272; Pedersen 2013, 33-64; Pedersen – Ruppe 2016, 563.

the construction of the city walls of Priene[11]. Winter's dating is consistent with the fact that the walls of Halikarnassos, which have a loose and irregular defense line, do not possess a large number of towers and sally ports, and that curtain walls were not systematically designed in the form of an indented trace, as seen in the walls of Priene, Iasos (mainland walls) and Miletos (southern walls). Moreover, the fact that the city walls of Halikarnassos did not have such sophisticated configurations against the advanced siege techniques and weapons, namely the "Poliorketik" of the early Hellenistic period, supports these dating suggestions. The real defense power of the circuit of Halikarnassos arises from the topographic location of the fortification walls. The fortification circuit nearly covers all the steep and rugged areas of the ridges around the bay of Halikarnassos (fig. 4-6). For this reason, the builders of the Halikarnassos city walls must have mainly focused on strengthening the capacity of the structures by linking the naturally defensible areas with curtain walls (fig. 6). This can also be observed in the fortifications of Phigalia and Messene, which were constructed in the second quarter of the 4th century BC[12]. In this regard, the Halikarnassos city walls represent an early example of the 'Geländemauer' type of fortifications in the Classical period.

There are four individual citadels in Halikarnassos which are independent of the city walls[13]. These citadels are located at Zephyrion and Salmakis promontories, as well as at the summit of Göktepe Hill, and on the northeast side of the city walls, forming an outward projection in the defense line of the fortification[14]. Thus, the strongholds were created within the 'Geländemauer' city walls of Halikarnassos, which surrounded a larger area than the urban zone. Ancient sources also confirm such features. While mentioning Alexander the Great's siege of Halikarnassos, Diodorus reports that the city was fortified with citadels called 'acropoleis'[15]. Thanks to this fortification layout, even if the whole city had been captured by besieging troops, these four citadels included by the city walls would have resisted the invaders for a while. The information given by both Arrianos and Diodorus about the Macedonian Army's siege of Halikarnassos shows that, after the outer defense wall had been breached by besiegers, the citadels in Halikarnassos continued to survive for a long time. The separation of the land inside the fortification circuit into different defense sectors by building inner fortresses as *tetrapyrgion,* and constructing *diateikhismata* type inner fortification walls is a common arrangement for 'Geländemauer' construction. Such arrangements can also be seen in the city walls of Theangela, Latmos, and Herakleia ad Latmum. Being topographically vulnerable for an attack, some extensions of the Halikarnassos city walls that run around the Myndos Gate, and the sections of the walls extending from the northeast salient to the vicinity around the Mylasa Gate were reinforced with ditches[16] (fig. 7). The construction works of the fortification ditches, which had been hastily launched before the attack of Alexander the Great's army,

11 Winter 1971a, 416.
12 Cooper – Myres 1981, 128-129; Winter 1971b, 111; Müth 2010, 57-83.
13 Pedersen – Ruppe 2016, 563.
14 Briese – Pedersen 2003, 260.
15 Diodorus XVII 23. 4; Lawrence 1979, 140-141.
16 Briese – Pedersen 2003, 259; Pedersen 2010, 275-300.

could not be completed. Their incomplete state supports the text of Arrianos in which he mentions that Memnos of Rhodos, the commander of the Persian forces, suddenly attempted to strengthen the fortification of Halikarnassos[17]. Further, the extensions of the city walls that follow the ridges around the northeast salient of the fortifications and the steep slopes of Göktepe Hill were worked up into inaccessible positions by shaping the rugged terrain into steeper formations. Therefore, the defense capacity of the fortifications of Halikarnassos was improved by utilizing the geomorphological structure of the land.

Having a long usage period since its construction, the city walls of Halikarnassos must have undergone many repairs and renovations during the Hellenistic period. The traces of such modifications can be somewhat noticed in the masonry of the curtain walls. However, the question of how far the fortifications were strengthened and repaired in the early Hellenistic period cannot be addressed with certainty, as there is no concrete and definite architectural data for the Hellenistic phase of the city walls. L. Karlsson reports that the majority of the city walls, which were heavily damaged by the attacks of the Macedonian Army, may be dated to the Hellenistic period[18]. In particular, the large towers of the Myndos Gate display a sturdier architectural design to resist the 'Poliorketik' siege techniques in early Hellenistic times. L. Karlsson describes the towers of the Myndos Gate as artillery towers and states that these structures have a Hellenistic outlook[19]. Likewise, A. W. Lawrence dates the towers of the Myndos Gate to the same period[20]. In addition, there are towers in the northern part of the western walls, which are not bonded to the curtain walls mainly built with soft andesite (fig. 8). These towers were made of high-quality limestone. Their dimensions and high-quality masonry resemble the towers of the city walls, constructed under Lysimakhos rule, on the ridges of Mount Pion in Ephesos[21]. Although there are no accurate archaeological data so far for identifying the Hellenistic renovations and alterations on the fortifications, it seems possible that some of the towers on the western walls were added to the fortifications during that time. Despite these renovations, it is almost certain that the topographic layout of the fortifications was arranged during their original construction phase in the period of Maussollos[22]. A similar situation can be observed on the city walls of Samos (fig. 9). The line of the fortification circuit from the late 6th century BC has been widely maintained during the Hellenistic period. Even though the curtain walls were renovated and big artillery towers in various shapes were added in Hellenistic times, the topographic plan of the previous walls, dated to the reign of Polykrates, determined the line of the fortification circuit in the subsequent phases[23].

As a result of the re-establishment of Halikarnassos with a 'synoecism', the defense concept, which is based on the fortification network supported by the walls

17 Arrianos I. 20; Briese – Perdersen 2003, 259.
18 Karlsson 1994, 145.
19 Karlsson 1994, 145, n. 14.
20 Lawrence 1979, 400-402.
21 McNicoll – Milner 1997, 96-101; Winter 1994, 39.
22 Pedersen 2010, 285.
23 Kienast 1978, 9-10, 94-103.

with 'Geländemauer' plan, became very common in Karia. The defense strategy of the 'Geländemauer' city walls, constructed during the reign of Maussollos, aimed to scale down the capacities of the besieging force by using topographical opportunities. Natural ridges that provided an advantageous location were hereby included in the fortification walls. According to this defense approach, an invading army in Karia would be forced into a destructive siege war against the 'Geländemauer' city walls that were fortified by the elements of topography.

The fact that the 'Leleg' population was resettled into the commercial metropolis of Halikarnassos as a result of 'synoecism' radically changed the settlement model in Karia. In this process, the monumental city-building program that turned Halikarnassos into the 'metropolis' of Karia during the period of Maussollos shaped the new capital city's landscape. The building project of the 'Geländemauer' city walls derived from the urbanization in Karia and was the product of Maussollos' efforts to secure his position in administrative and military terms. Furthermore, Maussollos' urbanization policy, which was based on the Hippodamian city layout, included the re-planning of many Karian cities located on the coasts or along the ancient main roads in the inland regions[24]. From this perspective, Halikarnassos had a pioneering role in the improvement of urbanization accompanied by the construction of 'Geländemauer' city walls in Karia with its orthogonal city planning and fortification system strengthened by elements of topography. In Halikarnassos, the ancient city plan developed during Maussollos' reign has been adapted to the topography in a sophisticated way[25]. Hilly grounds, which lie down towards the harbor, were terraced for monumental structures when the city was re-established. Advantageous positions on the slopes of ridges were widely used to display the monumental buildings in the city, such as the temenos of Maussolleion, the ancient theatre, and the Ares Temple. In this way, the city plan gained an appearance resembling the 'orchestra' and 'cavea' of an ancient Greek theatre. The physical design of urban planning, which Vitruvius described as "theatri curvature similis", is observed in the city of Halikarnassos[26]. Although the line of the fortification circuit was determined not by the boundaries of the built-up area, but by the topographic features, the traces of the fortification walls that surround the city from the north and north-east have a resemblance to the 'analemma wall', which determines the upper border of the 'koilon' of the ancient Greek theatre. In this respect, the 'Geländemauer' city walls of Halikarnassos are the reflection of Maussollos' activities in urban design projects. That is why the 'Geländemauer' city walls of Halikarnassos should be regarded as a visual component of Halikarnassos' cityscape.

From a historical point of view, Maussollos' construction program of 'Geländemauer' city walls in Karia coincided with a period during which the political authority of individual city-states, called *poleis,* deeply declined, resulting in them being subjected to the influence of great powers such as Athens, Sparta, and Thebes. In mainland Greece, the expansionist policies of the states such as Athens and Sparta obliged smaller *poleis* or *demoi* to either establish political leagues or alliances as 'koinon' or to unite their

24 Caliò 2018, 27.
25 Hoepfner – Schwandner 1986, 187-196.
26 Vitruvius II. 8. 11; Caliò 2018, 27-29; Pedersen 1988, 98-103.

political institutions through 'sympoliteia'. In the first half of the 4th century BC, these political leagues carried out the construction projects of the 'Geländemauer' city walls. After the Peloponnesian Wars, the tendency towards urbanization through 'synoecism' or 'sympoliteia' increased in the regions of Messenia, Arcadia, Aitolia, and Akarnania in mainland Greece[27]. When Mantineia was re-established in 371 BC, the settlers of the city began to construct their city walls with the financial support and labor force provided by the cities of Arcadia and the city of Elis[28]. Two years after that, Thebes and its allies, Boeotian and Arcadian city-states, started the foundation of Messene to encircle Sparta and neutralize its military threat in Messenia[29]. The City of Messene was founded as the capital of the Messenian League in 369 BC and its fortification walls were planned as 'Geländemauer', following the contours of the topography[30]. The topographic features of the Messene city walls, which measure 9 kilometers in length, show that a 'Geländemauer' model was adopted for the protection of the city's land[31]. Phygaleia[32] in Arcadia and Stratos in Acarnania[33] were similarly the 'koinon' centers in which nearby rural populations were settled through 'synoecism'. Their fortification walls also have the topographic features of 'Geländemauer' city walls, as seen in Messene and Halikarnassos.

Despite being a coastal town, the re-foundation of Halikarnassos by the act of 'synoecism' bears similarities with the cities of Mantineia, Megalopolis, Phigalia, and Messene. Fortifications of these cities enclosed larger areas than the urban zones. At the same time, the similarities detected in the topography of these fortification circuits and the positional relationship of their fortifications with 'asty' and 'chora' can be ascribed to their urban foundation processes, which were executed according to a similar habitation model. In these settlements, which obtained status as the 'metropolis' of a 'koinon', military architects and builders must have combined the fortifications of 'asty' with the defense structures of their agrarian territory or 'chora'. As a result of this situation, there is a similarity between the fortifications of 'asty' and rural defense structures, in terms of architectural techniques and topographic layout. Particularly noteworthy are the similarities in masonry techniques between the rural castles (Eleutherai, Siphai) constructed for border defense by Boeotian military architects and stonemasons, and the city walls of Messene, built in the second quarter of the 4th century BC[34]. These architectural affinities reveal that rustic fortresses and monitoring towers situated in rural areas of Boeotia, Megara, and Attika most likely influenced the building techniques of 'Geländemauer' city walls during the period when the State of Thebes under the rule of Epaminondas organized extensive fortification-building activities. A technical interaction between the city walls and rural fortifications is also observed in 'Geländemauer' city walls that were constructed during the period

27 Cornieti 2018, 67.
28 Hodkinson – Hodkinson 1981, 236-230; Lawrence 1979, 210.
29 Cooper 2000, 155-191; Müth 2014, 105-122.
30 Giese – Müth 2016, 278-285, fig. 2; Müth 2020, 209, fig. 1.
31 Giese – Müth 2016, 278-285; Müth 2010, 57-83; Müth 2010, 199-214; Winter 1971b, 111.
32 Cooper – Myres 1981, 128-129; Winter 1971b, 111.
33 Lawrence 1979, 153; Ley 2010, 49-54; Ley 2016, 337.
34 Cooper 2000, 155-191; Müth 2020, 199-214.

of Maussollos in Karia. Following the 'synoecism' of Halikarnassos, small fortresses and fortification towers, which bear resemblance in design to the rural defense systems of Boeotia, Megara, and Attica[35], were built in the province of Halikarnassos, where the rustic Karian or Lelegian settlements were located. Thus, in the Halikarnassos Peninsula, the systematic integration of rural fortresses and monitoring towers into the 'Geländemauer' city walls of Halikarnassos enabled the Karian Satrapy to mobilize and deploy the defense units into fortification lines along the region in the event of an invasion threat.

As previously explained, the 'Geländemauer' city walls of Halikarnassos form a regional defense network together with rural fortification systems in the territory of Halikarnassos and other Karian cities fortified with 'Geländemauer' under Hekatomnid rule. In this respect, the fortification structures in which the Hekatomnid architectural techniques can be traced, indicate the geographical boundaries of the region where the Hekatomnid Satrapy held administrative and military power. The urbanization process in Hekatomnid Karia, which included the 'synoecism' of the rural populations into 'metropolis', and fortifying them with 'Geländemauer' city walls, continued during the Hellenistic period. Amidst the conflicts between the Antigonids and Lysimakhos for the sovereignty of Anatolia in the late 4th and early 3rd centuries BC, Pleistarkhos Antipatrou founded Herakleia ad Latmum[36] (fig. 10) as the military base and residence, strongly fortified with 'Geländemauer', while Eupolemos restructured the fortifications of Theangela (fig. 3)[37] and re-established it as a garrison-city. Thereafter, approximately in the 280s BC, Lysimakhos had the 'Geländemauer' fortifications constructed for the metropolitan city of Ephesos, which was also established by compulsory 'synoecism'[38]. As seen in these fortification constructions, one of the main functions of 'Geländemauer' city walls was to dominate the geopolitics of the urbanization policy which had been sustained during the early Hellenistic period.

'Emplekton' Masonry Technique and 'Geländemauer' Construction Program in Karia

'Emplekton' describes a masonry technique in which the outer and inner wall layers are connected to a rubble filling, or directly to each other, by inserting binder blocks or headers[39]. At the end of the 5th century BC, early and well-developed examples of the Classical 'Emplekton' can be found in the fortifications designed in Sicily under the rule of Dionysios I of Syracuse[40]. L. Karlsson reports that on the fortifications of Selinous and Syracuse constructed with the 'emplekton' technique, the builders placed

35 Munn 1993; Ober 1985; Ober 1987, 569-604.
36 Hülden 2000, 382-408; Krischen 1922; Peschlow-Bindokat 2005, 4-6, 18-19.
37 Pimouguet-Pédarros 2000, 235-236.
38 Strabon XIV. 1. 21; Hülden 2000, 397-398; Ladstätter 2016, 240-244; Lawrence 1979, 122.
39 Karlsson 1992, 67-68; Müller-Wiener 1988, 68-73; Tomlinson 1961, 134. Some scholars like Karlsson in the field of ancient Greek fortification techniques tend to regard 'emplekton' as a masonry technique with inserting headers into the fill of the wall, thus making it solid and compact. Conversely, Pedersen argues that 'emplekton' is an entirely different type of masonry with no filling but solidly built of ashlars (Pedersen 2019, 1-10).
40 Karlsson 1994, 143.

the headers vertically above one another, creating 'masonry chains' while forming horizontal compartments at regular intervals inside the wall[41]. On the fortifications of the acropolis at Selinous, the masonry chains resulting from the header formations on the outer wall were placed at intervals measuring approximately 3 meters[42]. Similarly, these kinds of 'masonry chains' can be found in wall sections of Syracuse's fortifications near Epipolai[43]. This 'emplekton' technique must have been developed in order to make fortifications more resistant against the advanced siege weapons of Carthaginians. P. Pedersen[44] states that the compartments inside the walls, created by the masonry chains, make the fortifications so resistant that even if the besiegers managed to open a breach in the walls, it would be very limited in size.

In the first half of the 4th century BC, the 'emplekton' technique was also systematically applied in the fortification structures built by Boeotian stonemasons and military architects under the rule of Epaminondas of Thebes[45]. In the Arcadian cities of Mantineia, Megalopolis, and Messene in Messenia, some extensions of the fortifications were constructed using 'emplekton' in which the headers were inserted at regular intervals, forming compartments within the inner sections of the walls, as seen on the fortifications of Syrakoussai and Selinous[46]. In particular, on the fortifications of Messene that lie near the west of the Arcadian Gate, inner sections of the curtain walls were subdivided into compartments, as observed in the curtain walls of the fortifications near Epipolai Fortress in Syracuse, where 'masonry chains' were periodically set on the wall[47]. The structural similarities encountered on the fortifications of Syrakoussai, Messene, and Arcadian cities demonstrates that the adoption of 'emplekton' for the construction of 'Geländemauer' is a far-reaching process.

The application of the 'emplekton' masonry technique is also seen in all 'Geländemauer' city walls designed in Hekatomnid Karia. However, these Hekatomnid fortifications technically bear some differences from Sicilian, Arcadian, and Messenian 'Geländemauer' fortifications, which made extensive use of 'masonry chains'. During the period of Maussollos Hekatomnid's 'emplekton' masonry was not as sophisticated as the fortifications of Syracuse and Messene. In this era, the 'emplekton' technique used in Karian 'Geländemauer' city walls was not intended as a prevention method or a structural defense tactic against an imminent invasion risk, such as the Carthaginian or Athenian threat in Sicilia, or the Spartan's invasion threat in Messenia and Arcadia. Instead, its stylistic improvement in Hekatomnid Karia was simultaneous with monumental civil building projects. That is why the stonework and masonry in 'emplekton' technique of the 'Geländemauer' fortifications in the Karian Satrapy have striking architectural techniques that can be compared to Hekatomnid monumental architecture. The temenos wall that surrounds Hekatomneion in Mylasa has stonework and masonry similar to those fortifications situated near the Myndos

41 Karlsson 1992, 70-71.
42 Karlsson 1992, 70, fig. 54.
43 Karlsson 1992, 71, fig. 55-56; Mertens 2002, 243-252.
44 Pedersen 2019, p. 3.
45 Cooper 2000, 179-188; Roy 2014, 123.
46 Karlsson 1992, 73-78; Müth 2010, 69-70; Roy 2014, 123.
47 For the compartments of the inner walls of the fortifications in Messene, see Müth 2010, 69, fig. 9.

Gate (Tripylon) in Halikarnassos[48]. At the same time, the masonry styles of the terrace walls of the Ares Sanctuary in Halikarnassos and the southern terrace wall of the Artemis Sanctuary in Amyzon resemble the city walls of Halikarnassos and Myndos, constructed in ashlar masonry with an isodomic appearance[49]. The characteristics of these Hekatomnid structures can be clearly identified. The header blocks, or binders, that connect the wall layers to the inner filling were inserted at irregular intervals, creating an unrhythmic sequence along the courses of the walls. In Karia, Maussollos' architects and stonemasons applied a characteristic masonry technique to the corners of the fortification towers or bastions, described by Pedersen as "double corner bond"[50]. Using double binder blocks on the wall corners, which makes the structure more resistant than using a single binder, is regarded as the innovation of the architects and workers of Hekatomnid Karia[51]. The 'emplekton' masonry technique, which was employed in fortifications as well as monumental civil architecture in Hekatomnid Karia, reached a higher level of perfection with bossed surfaces and better fittings of the blocks, in comparison to the previous examples. This perfection in workmanship enabled Hekatomnids' builders to construct the fortifications with improved stability and less expense[52].

The 'emplekton' technique used for the construction of the fortifications of Halikarnassos was also taken as a model for the 'Geländemauer' fortifications of Myndos, Theangela, Kaunos, Latmos, Knidos, Alinda, Alabanda, Herakleia ad Latmum, Stratonikeia, and Iasos in Karia. The 'emplekton' masonry technique employed in the fortifications in Alinda and Alabanda presents many developed features as they are the latest examples of the Hekatomnid fortification building projects and might be considered as transitional examples from the mid-4th century BC to the Hellenistic period. Another architectural source for the transfer of Hekatomnid styles in ashlar masonry and 'emplekton' technique into Early Hellenistic fortifications is situated in Latmos. As reported by A. Peschlow-Bindokat[53], the Hekatomnid-style of Latmos walls was transferred to the masonry techniques in the early Hellenistic fortifications of Herakleia ad Latmum (Pleistarkheia). Consequently, the highly developed 'emplekton' technique that was used in 'Geländemauer' fortifications in Hekatomnid Karia deeply influenced the building techniques of Hellenistic city walls in Western Anatolia.

Conclusion

The construction of 'Geländemauer' city walls since the reign of Maussollos in Karia is the result of a comprehensive defense strategy aiming to achieve a geographically

48 For stonework and masonry techniques of the temenos of Uzunyuva Monument, see Pedersen 1991; Rumscheid 2010, 69-102.

49 About the architectural features of the temenos walls in Ares Sanctuary in Halikarnassos and of the Artemis Sanctuary in Amyzon, see Pedersen 1991, fig. 97-98, fig. 100-101

50 Pedersen 2010, 269-316; Pedersen – Ruppe 2016, 560-580; Pimouguet-Pédarros 2013, 160-161; Waelkens 2013, 392.

51 Pedersen – Ruppe 2016, 560-580.

52 McNicoll – Milner 1997, 15-46; Pimouguet-Pédarros 2000, 63-100; Pimouguet-Pédarros 2013, 159.

53 Peschlow-Bindokat 2005, 8: She states that the ashlar blocks of fortifications of Latmos were dismantled and reused in the construction of Herakleia ad Latmum in the late 4th- early 3rd century BC under the rule of Pleistarkhos.

consistent fortification network throughout the territory of the Hekatomnids. Hence, the most innovative aspect of the fortification works in the Hekatomnid period is to fortify *metropoleis* in the region with 'Geländemauer' city walls. The fortification of the newly founded 'metropolis' of Halikarnassos with a 'Geländemauer' was most likely done simultaneously with the construction of fortresses and individual towers in the countryside of Halikarnassos. Such rural fortifications, which bear architectural resemblance and similarity in masonry techniques to the 'Geländemauer' city walls in the period of Maussollos, can be found in the territories of the ancient Lelegian settlements[54]. The Hekatomnid building program also comprised the fortification works of the coastal cities in Karia, namely Kaunos (fig. 11), Knidos (fig. 12), and Latmos (fig. 10). Thus, the fortification building program in the period of Maussollos had far-reaching implications for the military architecture of Western Anatolia. Therefore, the regions in which the Hekatomnids' political impact was felt largely coincides with the geographical distributions of the city walls and rural fortifications surely attributed to Maussollos and his successors through archaeological and epigraphical data. The improved 'emplekton' masonry technique, which made it easier to build 'Geländemauer' fortifications, reached a higher level in perfection with bossed surfaces and better fittings of the blocks. This perfection in workmanship enabled Hekatomnids' builders to construct the fortifications with improved stability and less expense. This architectural knowledge was well appreciated by the successors of the Hekatomnid rulers in Karia. Consequently, construction projects attributed to the Hekatomnids served as the technical and stylistic groundwork for Hellenistic builders and contributed to the construction works of 'Geländemauer' city walls in the Hellenistic period, as seen in the stylistic influence of Phytheos on the works of Hermogenes.

Eventually, the historical process of 'Geländemauer' construction projects in Karia from the Second Quarter of the 4th century BC to the end of the 3rd century BC allows us to make a general consideration about the geopolitical determinants that made "Geländemauer" nearly the most preferred fortification system for the defense of *poleis* in Karia Region. As mentioned above, according to Hekatomnid's regional defense concept, the harbor cities were fortified with 'Geländemauer', while the rural 'Lelegian' villages which were synoecized for the resettlement of Halikarnassos in the peninsula were provided with a provincial fortification network consisting of monitoring towers and garrison forts. Thence, the fortification building program conducted by Maussollos in the Halikarnassos Peninsula is the milestone for the occurrence of this type of fortification in Karia in early 4th century BC. However, as Maussollos' regional defense strategy was utterly distinct from those of Themistokles and Perikles who mainly relied on the strength of Athenian city walls and 'Long Walls' along with the Athenian Navy, fortification network in Karia also included many rural forts in the territory, in other saying 'chora' of Hekatomnid *poleis* and border zones of the Karian Satrapy. On the other hand, the inheritance of the Archaic 'Lelegian' stonemasonry also facilitated the Hekatomnid organization of the large extent of the fortification projects as seen in the Boiotian and Arkadian stonemasons' contribution

54 Bean – Cook 1955, 168; Hornblower 1982; Radt 1970.

to the fortification works under Thebain hegemony ruled by Epaminondas in Megara, Boiotia, Messene and Arcadia. As a result of the Hekatomnid construction projects of 'Geländemauer' in Karia, 'emplekton' with the rustic applications nearly became a standard masonry technique for the Hellenistic 'Geländemauer' city walls in Western Asia Minor. In this regard, Karia is the region in which the architectural and topographic evolution of 'Geländemauer' could be traced during the period from the early 4th century BC to the late 3rd century BC that witnessed the invasion attempts of Antigonid and Seleucid Kingdoms. Additionally, in Early Hellenistic Period, refortification of the Karian *poleis* has been carried out by Macedonian rulers such as Eupolemos, Pleistarkhos, Demetrios Poliorketes and Lysimakhos, and newly founded Macedonian colonies in region contributed the development of 'Geländemauer' fortification technique throughout the 3rd century BC.

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Fig. 1 Topographic map of Halikarnassos, showing the contours of the ‘Geländemauer’ city walls (Newton, C. T., Travels and Discoveries in the Levant, Vol. II, Day & Son, Limited, London 1865, Plate 1).

Fig. 2 Admiralty Chart no. 1531 showing a topographic map of the city walls of Myndos, sourced from the United Kingdom Hydrographic Office, retrieved from https://de.wikipedia.org/wiki/Myndos#/media/Datei:L1573_(2)_comp.jpg

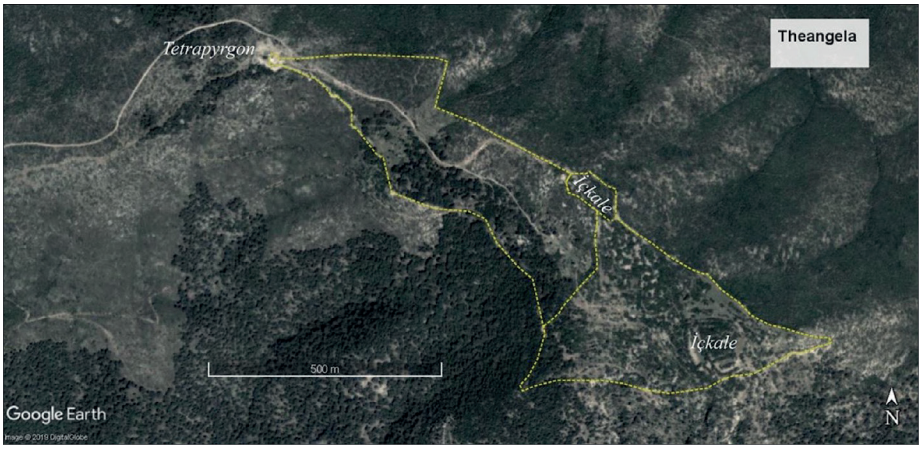

Fig. 3 Topographic locations of the city walls of Theangela.

Fig. 4 The fortification lines of the city walls in Halikarnassos, following the ridges and summits of the hilly ground at north of the bay (Taken by author).

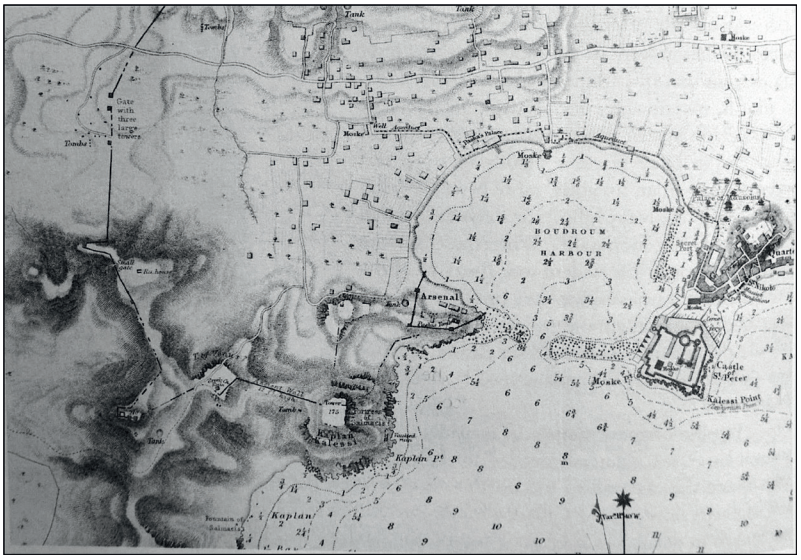

Fig. 5 Topographic map of Halikarnassos, showing the western extension of the city walls from Salmakis Cape to Myndos Gate (Pedersen, P., "The City Wall of Halikarnassos", In: Hellenistic Caria, Proceedings of the First International Conference on Hellenistic Karia, Oxford 29 June-2 July 2006 (ed. R. V. Bremen – J.-M. Carbon), Paris 2010, fig. 3).

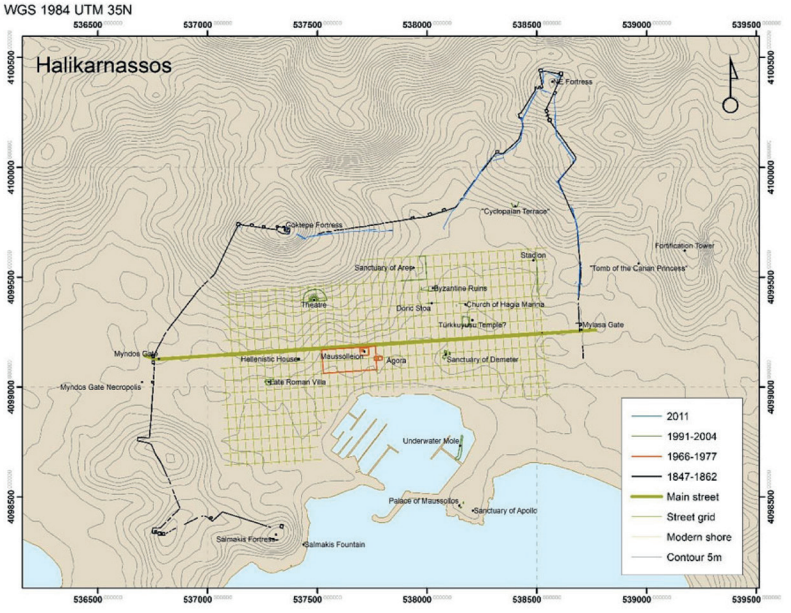

Fig. 6 Map of Halikarnassos illustrating locations of the city walls, retrieved from https://www.carlsbergfondet.dk/en/Forskningsaktiviteter/Research-Projects/Other-Research-Projects/Poul_Pedersen_The_Danish_Halikarnassos_Project

Fig. 7 Fortification ditches in front of the Myndos Gate in Halikarnassos (Taken by author).

Fig. 8 The curtain wall built with andesite and adjoining tower built with hard limestone, north of the Myndos Gate in Halikarnassos (Taken by author).

Fig. 9 The topographic map of the city walls in Samos, by Armin von Gerkan (1924) (Kienast, H. J., Die Stadtmauer von Samos, Samos XV, Bonn 1978, Pl. 6, fig. 1).

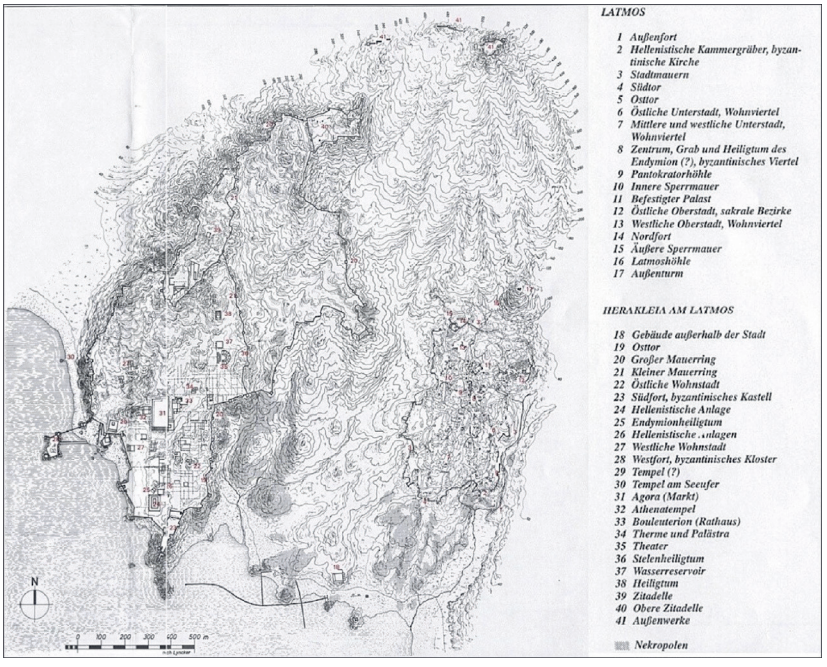

Fig. 10 Plan of the city walls of Latmos and Herakleia ad Latmum (Peschlow-Bindokat, A., "Beilage zum Sonderheft Anneliese Peschlow-Bindokat 'Der Latmos'", Antike Welt 28-1 (1997), fig. 23).

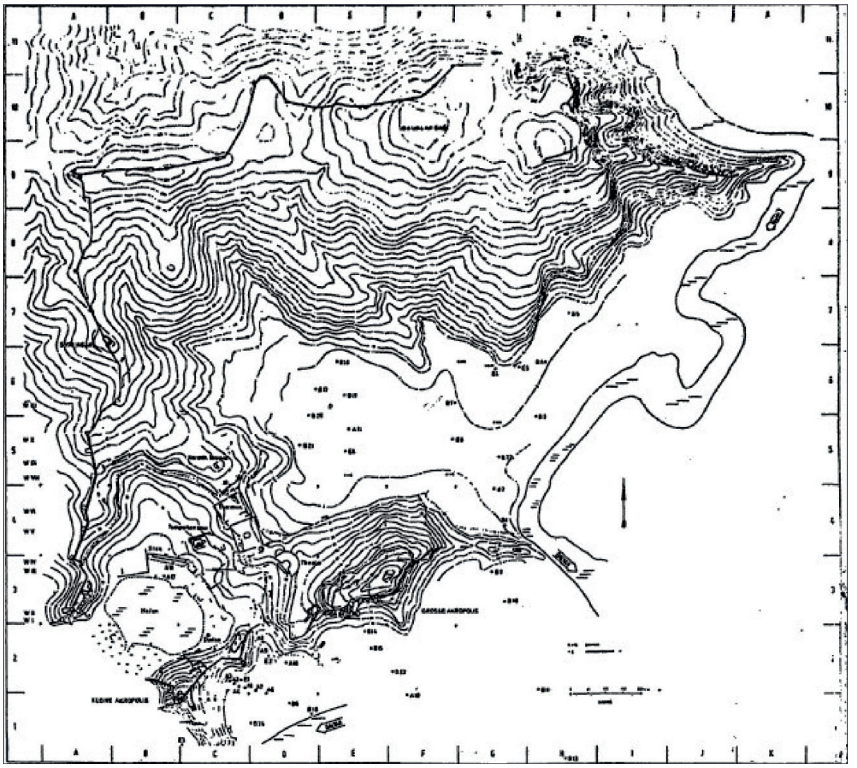

Fig. 11 Plan of the city walls in Kaunos (Öğün, B.,"Warum Kaunos?", Kadmos 37, 1998, p. 176, fig. 1).

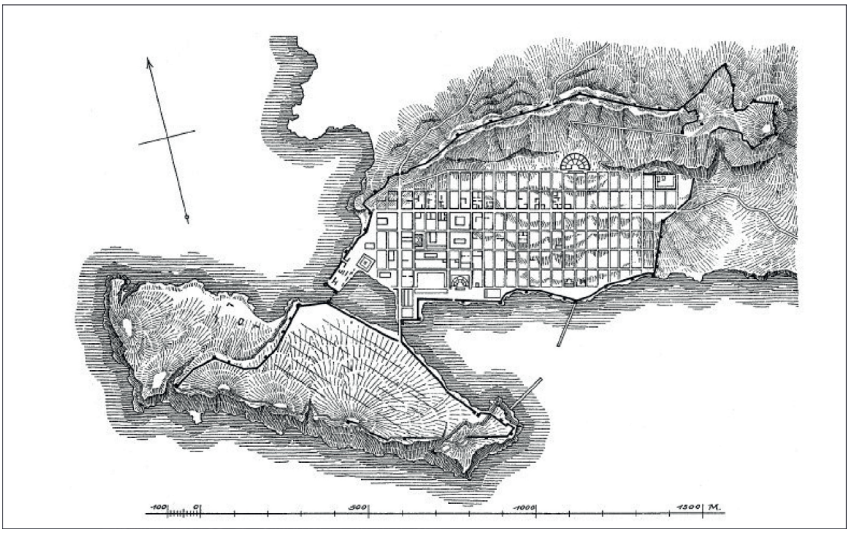

Fig. 12 Plan of Knidos (von Gerkan, A., Griechische Städteanlagen, Untersuchungen zur Entwicklung des Städtebaues im Altertum, Berlin, 1924, pl. 10).