

A COMPARATIVE FORMAL INVESTIGATION OF THE BATH-
GYMNASIUM COMPLEX PLAN TYPE IN ROMAN ASIA MINOR AS A
REFLECTION OF ROMANIZATION AND URBAN RENEWAL

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ABSTRACT

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This thesis investigates the formal aspects of the bath-gymnasium complex plan type which was developed in Asia Minor during the Roman era in relation to the development of the imperial *thermae* in Rome, the capital city of the Roman Empire. Close resemblances in the architectural configuration of bath-gymnasium complexes and imperial *thermae* are analyzed in order to provide complementary insight concerning the evolution of Roman bath architecture and bathing tradition. The comparative investigation of the formal aspects of the plan types reveals the contribution of Asia Minor and its role in influencing the architectural developments in the capital. The thesis concentrates on the development of the bath-gymnasium complex plan type in Asia Minor and the imperial *thermae* in Rome in order to elucidate the outcomes of mutual influence in criss-crossing Greek and Italic features. Crucial to this investigation is the understanding of the multiple effects of historical processes such as Hellenization, Romanization and urbanization that were synthesized in the bath architecture of the capital and the provinces. Also, the symbolic, cosmological, and political aspects of Roman bath architecture are highlighted in this thesis.

Keywords: Bath-gymnasium complex plan type, Asia Minor, Roman bath architecture, imperial *thermae*, Romanization, urbanization

ÖZ

ANADOLU ROMA MİMARİSİNDE HAMAM-GYMNASİON PLAN TİPİNİN ROMALILAŞMA VE KENTSEL YENİLENME YANSIMASI OLARAK BİÇİMSEL KARŞILAŞTIRMALI İNCELEMESİ

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Bu tez, Anadolu'da Roma çağında ortaya çıkmış hamam-gymnasion plan tipinin biçimsel özelliklerini Roma İmparatorluğunu başkentinde gelişmiş imparatorluk hamam yapılarıyla birlikte incelemektedir. Hamam-gymnasion yapılarıyla imparatorluk hamamlarının mimari yönden benzerlikleri Roma hamam geleneği ve mimarisinin evrimini anlamak için analiz edilmiştir. Bu bağlamda, hamam-gymnasion plan tipinin biçimsel özellikleri Anadolu'nun Roma mimarisinin gelişimine olan özgün katkısını ve imparatorluğun başkentindeki gelişmeleri etkileme kapasitesini sorgulamak için incelenmiştir. Bu çalışmada, hamam-gymnasion plan tipinin Anadolu'da oluşumu Yunan ve erken Roma özelliklerinin birbirleriyle olan karşılıklı etkileşimlerinin sonuçlarını görmek için imparatorluk hamam yapılarıyla karşılaştırılarak incelenmiştir. Bu bağlamda, Yunanlılaşma, Romalılaşma, ve kentsel yenilenme gibi tarihsel süreçlerin imparatorluğun hem başkentinde hemde eyaletlerinde gelişen hamam mimarisine olan çok yönlü etkilerini anlamak önemlidir. Ayrıca, bu biçimsel incelemenin yanında hamam mimarisinin sembolik, kozmolojik ve politik özelliklerine de değinilmiştir.

Anahtar Kelimeler: Hamam-gymnasion, Anadolu, Roma hamam mimarisi, imparatorluk hamamları, Romalılaşma, kentsel yenilenme

To my family,

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CHAPTER 1

INTRODUCTION

1.1. Identifying the reasons for comparative investigation of the bath-gymnasium complex plan type

Among the institutionalized activities of Roman daily life, “bathing” made its importance felt as one of the most creative and imaginative products of Roman imperial architecture and civilization. The importance of this popular cultural activity is directly related with several significant social, economical, and political aspects of Roman urban life. There is hardly any other activity that exemplifies Roman *humanitas* as a revelation of the Roman mind to this extent because public bathing was not only a widespread but also a highly institutionalized way of socialization for the Roman people. As the setting for one of the daily routine activities of the Roman elite, the public baths were an important part of their *otium* (i.e. leisure) and sometimes even of their business activities. And more generally, although the use and meaning of the public baths varied for citizens coming from different social classes, this was an architectural space in which all could benefit from hygienic, physical, and intellectual facilities as a “public favor” of the empire. In this respect, the Roman bath became an important establishment in the cities of Italy and the provinces as well.

Although there were obviously different dynamics and motives in the evolutionary path of the architectural developments in the capital and the provinces, the Roman bath architecture clearly provides invaluable information on the social and architectural evolution of the bathing tradition as being not only elegant but also prominent and highly recognizable structures in the urban space. Among several reasons that make this topic

worth studying one is the fact that some of the outstanding mature products of bath architecture in Rome and Asia Minor reveal close resemblances in their architectural configuration. The investigation of the formal aspects of these similar plan types provides complementary insight on the evolution of architectural features, the nature of the interaction and influences, and the demands and needs of the capital and the provinces in turn.

In this respect, the technological and structural features are not the only components that evolved through architecture. From a contextual point of view, the Roman bath appears to be a promising choice for researching both the social aspects of Roman life and the architectural aspects of Roman architecture. In addition, the widespread occurrence of Roman baths throughout the empire and their long period of existence indicate that the multiple effects of historical processes such as Hellenization, Romanization and urbanization in the widest sense that reflect on the bath architecture are traceable. The aim in this thesis is revealing the outcomes of mutual influence in criss-crossing Greek and Italic features by focusing on the formal evolution of two selected plan types. More specifically, the thesis will concentrate on the so-called bath-gymnasium type in Asia Minor and its comparison with the imperial type in Rome, the capital of the Roman Empire.

To begin with, the bath-gymnasium complex plan type which was an original product of Asia Minor appears as a unique Greco-Roman solution in meeting the provincial needs through the synthesis of different influences. Then, it would not be illogical to see this creation as an indicator of the capacity of Asia Minor to establish a plan type for a tradition which was as strong and effective as in Rome. The common architectural features between the bath-gymnasium complex plan type and the imperial *thermae* support this idea. For example, both plan types are dominated by a strong bilateral symmetry on an axial arrangement. The

symmetrical and axial designs had long been known in the architectural context of Rome and Asia Minor. However, it is necessary to ask a critical question concerning the reasons of using symmetrical and axial design as a dominant and characteristic element in the Roman bath architecture. Here the important point is that the same design features became inextricable parts of the whole both for the bath-gymnasium complex plan type in Asia Minor and the imperial plan type in Rome. Thus, treating the imperial *thermae* of Rome is essential in order to understand the bath-gymnasium complex plan type in Asia Minor. In this sense, the formal comparative investigation of plan types appears as a useful method to establish the nature of mutual stylistic trends favoring neither capital nor provinces.

The specific bath-gymnasium complexes chosen for this study come from different regions in Asia Minor. Although the plan type in these regions does indicate several differences in detail, its common and clearly recognizable overall configuration establishes this as a unique plan type among Roman baths. Moreover, the occurrence of bath-gymnasium complexes in different parts of Asia Minor lends more authority to the plan as an established plan type rather than being an arbitrary or idiosyncratic local phenomenon. The comparison of the bath-gymnasium complex and the imperial *thermae* plan types thus carries enormous potential to understand better the meaning, manner and role of bath structures in the Roman urban context. Therefore, the locations, design, scale, and massing of the structures are studied as the primary data to explore the ways in which the imperial *thermae* and the bath-gymnasium complexes found their place in the urban composition. In this sense, it is important to relate the establishments in the capital city and the provinces in which they were constructed to comprehend the urban scene according to their own context of visualization. In this way, the original contribution of the bath-gymnasium complex plan type which is directly related with the impact of

Roman rule in Asia Minor might be revealed as an insightful tool in perceiving the nature of the period.

On the west end of the spectrum, the comparative investigation of imperial *thermae* focuses on the plans of only three specific examples: the Baths of Trajan, the Baths of Caracalla, and the Baths of Diocletian, all in Rome. The reason for this choice is to exclude the lesser-defined and more eclectic plans and to concentrate on well-formulated mature specimens in order to reduce ambiguity in interpretation.

A study on formal aspects needs precise archaeological and historical data. Hence the literature review section where the nature of the hard-core evidence is discussed takes place before embarking upon the descriptive analysis of the formal evidence regarding the imperial *thermae* and the bath-gymnasium complexes. The second main chapter of the thesis concentrates on the actual evidence for stylistic evolution as well as the social and political implications of the plan type of the imperial *thermae*. The bath-gymnasium complex plan type itself is investigated in the third chapter. Both in chapters two and three the disposition of the individual units and their functional relationships which established the bathing sequence are the primary concerns in the investigation of the plan types. This exposition is followed by the concluding remarks in the final chapter.

Overall, these concerns are important for exploring the interaction both between the architectural developments of the capital and the provinces and between the special stylistic groups of the bath-gymnasium complexes in terms of the characteristic features of their plans. The main questions are to be found in this exploration of the stylistic interactions between the core and the periphery. One of the most important concerns in this thesis is investigating the creation of such a unique plan type in Asia Minor as a salient architectural product in the eastern periphery. Through the formal characteristics of the bath-gymnasium complex plan

type, the originality of the creation and its reflection on the developments in the rest of the empire are possible to reveal. In terms of originality of the bath-gymnasium complex plan type, the formal integration of the *palaestra* and the main bath block and the functional relationship between these two parts which may be said to open new perspectives on the development of bathing tradition in Asia Minor constitute the pivotal approach of the thesis. From this perspective, the potential capacity of Asia Minor regarding the eastern provinces of Roman Empire which is revealed in the creation of the bath-gymnasium complex plan type is the main motives of this study.

1.2. Literature Review

The practice of bathing in the Roman Empire has attracted many scholars to research the social, technical, architectonic, and typological aspects. This prolific general interest has resulted in more comprehensive publications as books as well as numerous articles on baths in specific regions and studies of individual baths. These publications reveal manifold ways of looking at the subject and many different aspects that can be further illuminated. The problem is not just to place the Roman baths in a broader historical context. Therefore, historical methods alone are not enough to understand the subject entirely. Also, the nature of the baths as an important key to understand different aspects such as technological and structural features of the Roman bath architecture and the cultural components of the Roman urban fabric needs both methodological and regional studies. This is because there are different dynamics that affected the issues concerning the origins and the development of baths in Rome and in the provinces.

As the commonest remains from the Roman period, the bath buildings provide ample material for an analysis of their architectural features and status in both Italy and the provinces. However, there are some problems concerning the archaeological material in particular. The most important is

that complete plans and comprehensive archaeological documentation, and some parts of the relevant structures have not always been published. Even more problematic is the issue of misinterpretation caused by early researches on bath studies. The archaeological testimony of the imperial baths of Rome itself has been relatively well studied. However, the state of preservation and publication reveals a different story for the evidence of provinces in the eastern part of the empire. Although some of the magnificent and well-preserved baths of Asia Minor have been published as comprehensive interim reports, many baths have not been excavated. It is often the case that even the baths, where excavations have taken place, are not excavated entirely.

On the other hand, the ancient written testimony is extensive and copious. While the epigraphic material mostly provides information about technical aspects such as construction, restoration and decoration, the ancient authors seem quite interested in describing the social and medical aspects of the baths rather than their function and appearance. Unfortunately though, these sources mostly describe the situation in Rome. Interestingly, although many ancient authors had moved to the capital from the provinces, they wrote more about the center of the empire rather than their homelands. A few Latin sources, such as Pliny the Younger¹, who was the governor of Bithynia and Pontus, mention the baths of the provinces. As opposed to this, the epigraphical source material is extensive both for the center of the empire and the eastern provinces.

Although the importance of Roman baths in the history of architecture and the magnificence of their standing ruins have fascinated many scholars, the monumental work of Daniel Krencker, *Die Trierer Kaiserthermen* published in 1929 is still one of the most important works about the imperial baths of Trier. One of the most important contributions of this

¹ The Anatolian letters of the Younger Pliny have been translated into Turkish. See Pliny the Younger, *Genç Plinius'un Anadolu Mektupları*, Plinius, epistulae, 10.Kitap, translated from Latin by Ç. Dürüşken and E. Özbayoğlu (2001).

study is its invaluable collection of accurate plans. Although other scholars, such as E. Pfretzschner in 1909, A Grenier in 1960 and H. Manderscheid in 1988, have also prepared cataloged collections of Roman baths, Krencker has become an important figure in bath studies with his critical approach. In the late 1980s, other important studies have appeared such as articles written by K. Dunbabin and J. DeLaine on the institution of public bathing in the Roman world.

More recent decades have witnessed two major and comprehensive studies. The publications of Inge Nielsen and Fikret Yegül have now achieved the status of primary modern references in the subject and both works have made valuable contributions to the overall understanding of Roman baths. The two-volume work of Inge Nielsen, *Thermae and Balnea, The Architecture and Cultural History of Roman Public Baths*, was first published in 1990. It attempts to depict an overall picture of Roman baths with their different aspects while placing them in a broad historical and social context. Nielsen's work offers a considerable wealth of archaeological and epigraphical information where 387 baths from different geographical regions are mentioned in the text and catalogue.

In a similar view, Fikret Yegül's *Baths and Bathing in Classical Antiquity* was published shortly after in 1992.² This combined theme and source book also takes a contextual approach and includes archaeological, topographical, and historical information about a large number of baths in order to understand both the architecture of Roman baths and the institution of bathing. Yegül's main approach is geographical rather than chronological because the baths reveal regional characteristics that are more meaningful than period ones. Although *Thermae and Balnea, The Architecture and Cultural History of Roman Public Baths* and *Baths and*

² Recently a Turkish translation of Fikret Yegül's book *Baths and Bathing in Antiquity* has been published (2006). In this new edition, the chapters on 'The Greek Gymnasium and the Greek Bath' and 'Baths of North Africa' have been eliminated while other chapters have been revised according to the more recent archaeological information.

Bathing in Classical Antiquity are both indispensable sources to understand the social and architectural history of the Roman baths each with its own noteworthy character, the study of Fikret Yegül³ is especially helpful in terms of having overall perception and depth concerning the architecture of the Roman baths in Asia Minor.

Concerning the definition of the bath-gymnasium complex plan type, however, it may be said that these two books taken together provide the means for a somewhat complementary perception. Yet, in Nielsen's book a slightly different approach for defining the bath-gymnasium complex prevails. Although both Nielsen and Yegül generally agree with the definition that the bath-gymnasium is a new architectural type developed in Asia Minor combining the Greek *gymnasium* with the Roman bath, their critical perceptions are different. In this regard, Nielsen separates the bath-gymnasium complexes into two groups: the bath complexes which reveal strict symmetry and having a *palaestra* with surrounding rooms are included in the group of the bath-gymnasium plan type. However, the baths which indicate similarities to the plan type or which were influenced by it are placed in another group as "baths influenced by the bath-gymnasia". According to Fikret Yegül who concentrates on the nature and the peculiar problems of Asia Minor with a more comprehensive interest, what makes this definition of the bath-gymnasium type by Nielsen misleading is the bilateral symmetry that she indicates as a requirement of the plan type. However, Yegül claims that the overall expression represented through integrated elements is the prevailing characteristic of the plan type and some of the important bath-gymnasia do not have symmetrical layouts.

³ Fikret Yegül also reviewed the book of Inge Nielsen, *Thermae et Balnea: The Architecture and Cultural History of Roman Public Baths*. He presents her study as "the most comprehensive treatment of the subject to date". However, he considers her approach as misleading and antiquarian for studying Roman baths which are mentioned as comparable examples of the large *thermae*. See Yegül (1993, 185-186).

Although these sourcebooks on Roman baths are authoritative and comprehensive studies, the subject matter needs more critical analysis of bath architecture together with thematic overviews on different social, political, economical, and symbolical aspects of the culture. As the most creative and imaginative products of Roman architecture, Roman baths have capacity to reveal the dynamics and motives of the civilization in many respects. Thus, the more detailed stylistic examination in this thesis intends to highlight the importance of the special design in selected bath-gymnasium complexes in Asia Minor in order to elucidate one aspect of cultural change.

CHAPTER 2

THE IMPERIAL *THERMAE* IN ROME

2. 1. The evolution of Roman baths

2.1.1. The early development of Roman baths in Campania

The invention and early development of the *thermae* and *balnea*⁴ are associated with Campania (Fig. 2.1), a cosmopolitan area of Italy, where the Greek colonies took hold from the eighth century BC onward. It is not surprising that Campania which had direct contact both with Magna Graecia and Rome reveals the early use of architectural development in the form of *thermae* as a combination of Greek gymnasia and *balaneia*⁵. Although there are no clear definitions in the ancient sources, the terms *thermae* and *balnea*, are designated according to the facilities of the structures. In general, the term *thermae* defines a relatively large public structure with a *palaestra* occupying at least a whole *insula*. However, *balnea*, a public bath without such a sports area, is not so monumental and symmetrical arrangement is not important for the bathing facilities (Nielsen 1993: 3, 25). Naturally there are several factors which affected the evolution of the bath type and various scholars have commented on this issue with somewhat different perceptions. For instance, according to Inge Nielsen, the Roman attitude to sport was a determinative factor in the acceptance of the *balnea* and the *thermae* in Rome. Sport was viewed in the Greek and Greek-influenced areas as an integral part of education but for the Romans this activity was more a form of military training. Therefore,

⁴ *Balnea* and *balneae* are the plural forms of the Latin word *balneum*. While *balnea* is used for a public bath without a sports area, *thermae* signifies a public institution with a bathing block and a sports area.

⁵ *Balaneia* is the plural form of Greek word *balaneion* which means the Greek public bath. The Roman *balneae* are thought to be modeled from the Greek *balaneia*.

the Romans were not inclined to utilize the Hellenistic gymnasium with its combination of athletics and educational training in Rome, the intellectual capital (Nielsen 1993: 36). However, this does not mean that the invention of baths is purely “Roman” even though they were developed within Roman territory. The key position of Campania in between the Greek colonies and the Romans affected the development of bath architecture, providing a medium of diffusion.

On the other hand, Fikret Yegül stresses sport activities as an important part of an intellectual and physical exercise program. Besides bathing, the great walls of the *thermae* also enclosed a suitable area for the cultivation of the body and the mind. Similar to the Greek *gymnasium*, the intellectual and physical activities were important within the enclosed walls of the *thermae*, although the architectural plan type of the *thermae* was more sophisticated (Yegül 1992: 128).

2.1.2. Hellenistic influences on the evolution of Roman baths

For understanding the architectural development of *thermae*, it is thus necessary to study the degree and manner of adoption and also adaptation of Hellenistic features that met the needs of Roman taste. In this respect, it is also important to realize that this taste had been developed by the early influences spreading from the eastern capitals of the Hellenistic world before penetrating southern Italy. This character of the influence derived from an enthusiasm for Greek art mixed with Etruscan heritage. With the bombardment of this Hellenistic taste, Rome created something unique and appropriate to her own nature. The character of early Roman architecture was the result of bilateral influences. Whereby the influence of native Roman traditions upon Greek architectural patterns blended together to form a new Roman taste. Thus, the phrase '*consuetudo italica*' used by Vitruvius describes a new hybrid

situation in which early Etruscan and Roman features came together with visible Hellenistic influence.

The main impetus for this change was the renovation of the Empire (Boethius 1978: 136-137). In this regard, the imperial *thermae* represent the concrete outcome of mixed influences together with Italic tradition synthesized in what came to be Roman architecture. Therefore, a comprehensive understanding of the bath-gymnasium complexes provides a means to realize the mutual influence of Greek and Italic features. In turn, this understanding of bilateral interaction is important to grasp the different meanings and implications which contributed to the ultimate development of these architectural types.

2.2. The importance of the imperial bath type in relation to the bath-gymnasium complex plan type

Both the imperial *thermae* in Rome and the bath-gymnasium complexes in Asia Minor which blended Greek and Roman influences are salient examples for tracing the Roman architectural evolution. Being new and advanced building types, it is quite possible that the *thermae* provided inspiration for the baths of the provinces too. Although the plans of the bath-gymnasium complexes and the imperial *thermae* exhibit similar features, the imperial baths in Rome and the bath-gymnasia in Asia Minor emerge as two distinct groups among the Roman bath types. The imperial type is pivotal in tracing how miscellaneous architectural elements were brought together in a plan that facilitated multiple needs because the plans of the imperial *thermae* indicate only minor variations from early examples through the most grandiose and developed phases.

2.3. The definition of the imperial plan type

On the other hand, in the classification of Roman baths, it hardly comes as a surprise that the imperial type is almost restricted only to Rome. The “imperial” type is one of the categories of the typology of Krencker⁶ together with the “row” type and “ring” type which are found more or less throughout the western part of the empire (Nielsen 1993: 43). Although modern scholars still follow this system established by Daniel Krencker in 1929, various subdivisions and slightly different classifications have emerged since them. In terms of overall layout, however, the *frigidarium*, *tepidarium* and *caldarium* create the main axis of the imperial plan. The characteristic feature of this plan type is the strong bilateral symmetry on both sides of this main axis (Yegül 1992: 130).

The monumentality of the imperial *thermae* which is one of the consequences of the evolution of the imperial plan type is not an imitation from any existing plan or building type. The unique features of the imperial *thermae*, such as monumental scale, complex plan for differentiated activities and lavish decoration, are not the only components that are enough to define the imperial plan type. It is also important to realize that the underlying motive to construct the imperial *thermae* was the social and political impact of the imperial system. Therefore, while considering the definition of the imperial plan type it is necessary to remember its role both as a utilitarian structure providing hygienic, athletic, and entertainment facilities for the urban life of Rome and as an architectural reminder of the imperial system (DeLaine 1999: 72-74).

⁶ According to D. Krencker’s typology, the row type has a single route and the bathers have to pass the same way to turn back. The ring type organizes the bath block around a circular route for the bathers. The imperial type has a symmetrical combination of two ring types placed on a common central axis.

2.4. Problems of dating the imperial *thermae*

In understanding the aspects of the distinctive evolution of imperial *thermae*, the study of the plans, inscriptions, brick stamps, and ancient written sources is helpful. According to the literary sources, baths started to be built in Italy from the second century BC onwards; the most active period for bath construction is the period starting from the second century AD. However, more accurate dating is problematic because of the restorations of these early baths that were carried out in later periods. Inscriptions often refer to these restorations. In addition, literary evidence, the elements of building technique, material and decoration have to be taken into account for the dating of the construction. Yet although the development of building technology in Italy is marked with specific techniques in different periods, the older techniques did not disappear entirely when the new ones became popular. A similar problem is also evident in dating architectural decoration. Although literary sources often mention the elements of decoration and archaeological finds provide more precise dating, successive refurbishing and redecoration due to the heat and damp are obstructive in dating the original construction. In terms of luxury too, embellishments may indicate different dates through the use of different materials. For instance, marble, as a more practical material in terms of heating and dampness prevention, was used to embellish the baths during the first century AD. However, mosaics and paintings continued to be employed for a long time in the less luxurious baths. Likewise the statues and their inscriptions are also helpful in dating. On the other hand, although ancient sources mention works of art, it is not always easy to know whether these embellishments were the original parts from the beginning of the construction or whether they refurbished the baths as part of a renewal project (Nielsen 1993: 39-42). Another and more critical problem concerning the dating of baths is uneven publication. For instance, as one of the most known examples of the imperial baths,

there is no final publication for the Baths of Trajan, although extensive excavations and restoration took place at the time of Mussolini.⁷

2.5. Architectural development of the imperial *thermae*

2.5.1. Symmetrical and axial design

The existence of an extensive network of roads linking urban territories facilitated the spread of Roman culture, clearly influencing architectural production in Rome. Hence this synthesized nature was incorporated into the typologically recognizable designs of the baths in Rome, the capital and Roman architecture in general. When the cultural needs of the capital diversified, this new kind of bath structure was developed in a flourishing and inventive period during the second half of the first century AD. At this time, the Baths of Nero⁸ (Fig. 2.2) and the Baths of Titus⁹ (Fig. 2.3) emerged as an important step in the development of the imperial *thermae*. These two baths may be considered as an inspiring prototype for the design of baths both in Italy and the provinces. According to Inge Nielsen, the symmetrical construction, as a new element, was first employed in these baths together with the connection of two ring types. This revolutionary innovation might be related with the nature of cultural

⁷ Starting from 1820s series of excavations, surveys and restorations for the baths of Caracalla and Diocletian took place and the results of these campaigns were published. However, the Baths of Caracalla has attracted more scholars due to its better preservation.

⁸ There are two different perceptions about the original establishment of the Baths of Nero. Tamm, B. in her article 'Neros Gymnasium in Rom' (1970), argues that the *thermae* is the same structure which had been called as *gymnasium* before the great fire in 64 AD. The other idea is that the *thermae* and *gymnasium* were two different buildings. For more detailed studies about the Baths of Nero see Ghini (1985, 395-399) and Ghini, (1988).

⁹ The Baths of Titus have not been excavated. Only a little part is preserved while the rest is known from Renaissance drawings by Palladio.

associations that Emperor Nero had established with the Greek world.¹⁰ In 60 AD, for example, Nero established an institution for music, athletics and racing competitions called *certamen quinquennale* (Five Yearly Contest). However, the Romans had the prejudice that the athletic activities of the Greeks were directly related with effeminate and homosexual behavior. In a bold move, Nero built a magnificent gymnasium in 61 AD to encourage intellectual and physical training activities which were in the Greek fashion, although the entrenched traditional feeling in Rome limited his efforts (Warmington 1969: 115-116).

The symmetrical design of the Greek gymnasium and the use of axial and partially symmetrical design in the provinces as early as Claudian times may clearly be seen as a strong influence on the evolution of the imperial plan type. Although the actual concept of symmetry and axiality is an outcome deriving from the influence of Hellenistic culture to some extent, the innovative solution which makes the plan more effectively organized is a Roman contribution. However, there is another aspect that makes the discussion of influence more complex. This is the fact that such symmetrical structures were already present in the Hellenized porticos of the second and first centuries BC and the imperial *fora* of Rome at an early stage. Therefore, the comparative investigation of the imperial *thermae* with the bath-gymnasium complexes illuminates important architectural aspects concerning interaction along the evolutionary path of the Roman baths. However, the imperial *thermae* of the later periods which reveal the full development of this plan type are more appropriate

¹⁰ Nero had a great passion for Greek art and administration system and also for the Greek people. For him Greeks were “the only people who know how to listen” and “the only ones who deserve to hear me and my art”. This admiration is described as ‘Nero Philhellen’ by Charlesworth (1950, 40: 74) Nero collected many Greek art works from the provinces and established new festivals, games, and music competitions in a Greek environment created in Rome and later in the provinces. After Nero had visited Greece, he granted freedom to Achaëa. Although this liberation of Greece was cancelled by Vespasian a few years later, Nero gained great popularity among the Greeks. For more detailed studies see Eva Matthews Sanford (1937, 48: 75-103). Another useful chapter ‘Nero, the Philhellene Emperor’ is in Warmington (1969).

for such a comparison. These imperial *thermae* are namely the Baths of Trajan, the Baths of Caracalla, and the Baths of Diocletian.

2.5.2. New principles of Roman architecture and The Baths of Trajan

As the economy flourished everywhere in the empire during the successive reigns of Trajan and Hadrian, the construction of baths rapidly increased also. During this time Roman building reached a stylistic melting-pot by which all the progressive and eclectic architectural experiences became synthesized. According to William MacDonald, in understanding the new principles and meaning of this shift, starting from the latter half of the first century and the beginning of the second century AD, the monuments which were constructed in the new 'modern' style came to represent the visualization of the various aspects of the period. Thus a re-examination of such structures is necessary (MacDonald 1965: IX-XI). These eclectic experiments in new design had initially been restricted to the domain of domestic architecture. After a period of lively experiment in the domestic context, these experiences reflected on public architecture. In this respect, Roman baths reveal the modern synthesis with an expanded functional scenario in Roman architecture. From this perspective, the Baths of Trajan¹¹ may be seen as one of the most instructive monuments of the new style as a product and expression of the new public architecture and Roman social level. In Rome, the Baths of Trajan (*Thermae Traiani*) surpassed all previous baths in size. As such, it reveals the characteristic model for the imperial type with a large perimeter wall, centrally arranged bathing block, and numerous gardens and rooms for various activities (Fig. 2.4). Although the archaeological remains are limited, some Renaissance drawings and the preserved fragments of the ancient city plan *Forma Urbis Romae* confirm the whole design. The

¹¹ For further studies about the Baths of Trajan see Anderson (1985, 89: 499-509) and de Fine Licht (1974: 7).

overall plan presents both similarities and distinctive differences from the predecessors, the Baths of Nero and Titus (Nielsen 1993: 49-51). The latter probably provided an inspiration for the definitive vaulted design which came to dominate bath architecture for more than two centuries (MacDonald 1965: 75). A unified architectonic concept gathered all elements together around a central bath block, a large open space and a perimeter wall. However, the placement of the *frigidarium* at the center of the bath block on a powerful cross axis separates the Baths of Trajan radically from the earlier *thermae* (Nielsen 1993: 50). Similarly, the integration of a double *palaestra* into the design of the bath block flanking the *frigidarium* on either side is considered as another design innovation by Fikret Yegül. On the axis of the *caldarium* and *frigidarium*, an open-air swimming pool, *nataio*, was added to the design as a major element. An open space which was created between the bath block and peripheral establishments on four sides is interpreted by Fikret Yegül as an attempt to establish a physical and social environment like that created by the Greek gymnasium. For the first time in Rome, the intellectual, hygienic, recreational, and athletic concerns that took place in this open space were brought together into the unified architectural program of the imperial *thermae* (Yegül 1992: 142-146).

2.5.3. The Baths of Caracalla as a representation of the mature phase of Roman architecture

The evolution path of the imperial bath architecture advanced through monumentality and more sophisticated functionality in the Baths of Caracalla and the Baths of Diocletian, incorporating the multi-faced social, cultural, and athletic activities. Although the Baths of Caracalla¹² were

¹² For further studies about the Baths of Caracalla see Brödner (1951), Cecchini (1985), Colini (1938), Crema (1952), D'Elia (1985), Jacopi (1985); Marvin (1983); Staccioli (1969).

established far from the traditional centers of Rome, the facilities and prestige of the complex were enough to provide a new urban area becoming a cultural focus (Delaine 1997: 13-14). As the best preserved imperial *thermae* in Rome, the Baths of Caracalla indicates only minor variations in comparison to the Baths of Trajan in terms of organization. In order to collect more activities within a tightly organized complex, the central bath block is entirely isolated from the perimeter wall (Fig. 2.5). It is typical of the large imperial *thermae* that the entrance area has almost disappeared in the row of *tabernae* as in this case. The general design resembles that of Trajan's Baths. However, the bath block becomes more compact and functional. Hence it appears that it was considered logical to follow this same imperial plan scheme in order to construct a more monumental structure by simply increasing the number of entrances, exits, doors and passageways.

The integration of elements in the main bath block pays more attention to geometric organization around axial symmetry. In this axial arrangement, the circular *caldarium* is the most prominent part of the bath block. Delaine emphasizes that although some concerns of Vitruvius still had relevance after more than 200 years, the flexible application with the capacity for change and adaptation illustrates one of the most distinguished achievements of Roman architecture. On the other hand, Delaine also perceives the early influencing factors as underlying signs of "inherent conservatism in the aims and principles of Roman architecture" (Delaine 1997: 45-47, 226). This dualism may be considered as an indication of the flexible adaptive capacity of the plan type incorporating different influences under a logical framework which had also referred to the original design in the very beginning. As such, the contemporary interpretation of the Roman architectural tradition, '*consuetudo italica*' found its continuing reflection later on too and became crystallized in the third century AD. In the nineteenth century, when he wrote about the characteristics of Roman architecture in general, not surprisingly, Viollet-le-Duc chose the imperial

thermae of Caracalla to represent the peak development of Roman architecture. This was because, he felt that all the major features of full-blown Roman architectural developments could be seen together in a single monumental structure (Viollet-le-Duc 1990: 67-82). On the other hand, the use of developed plans, technical skills, and structural innovations are not enough to present the eclectic nature of the imperial baths. The intellectual and commercial activities, provision of water, circulation of air and water, interior design are also part of the complex functional scenario. However, the important thing is that the Baths of Caracalla illustrates both the capabilities and limitations of the Roman building industry and the social, economical and political response of the imperial capital.

2.5.4. The Baths of Diocletian as an indicator of the continuing design and cultural development

Together with the Baths of Caracalla, the Baths of Diocletian¹³ represent the fully developed examples of large imperial plan type in Rome. The overall design of the plan indicates similarities with the earlier bath buildings but the secondary structures, semicircular *exedrae*, rectangular and round halls, around the perimeter wall of Diocletian's precinct were distributed more uniformly (Ward-Perkins 1981: 418-419). The cross-axiality is emphasized with a pair of *exedrae* which expand the short lateral sides of the precinct but this time the overall design of the bath block illustrates more advanced and simplified structural and spatial arrangements (Fig. 2.6). On the other hand, monumental versions of some features such as the rectangular *caldarium* with its projecting apses and the bi-apsidal rooms in the heated section which had already been learned in the Baths of Nero and the Baths of Titus are modified without detracting

¹³ For more detailed studies about the Baths of Diocletian see Aurigemma (1970) and Paribeni (1932).

from the unity of the plan. However, the manner of isolating the bath block and the perimeter wall closely resembles that of the Baths of Trajan and Caracalla (Nielsen 1993: 55-56). The right and left sides of the *frigidarium* provided an arm of the long cross axis which was terminated at both ends by the *exedra* of the colonnaded *palaestrae* as in the Baths of Trajan (Giedion 1971: 250). The *exedra* which was most likely designed for intellectual pursuits was already familiar from earlier for the imperial baths. The close resemblance of the design of the southwest *exedra* in the Baths of Diocletian and the one in the Baths of Trajan may be said to present the continuity of similar purpose.

At this point, it has to be acknowledged that there are different perceptions concerning the variations and similarities of different bath plans. The challenge is in the interpretation of features deriving from different situations. For instance, in the Baths of Diocletian the design of the *caldarium* which is different than the other fully developed imperial *thermae* in Rome (Fig. 2.4, 2.5, 2.6) may be the consequence of an advanced development which allowed a sensibility for variation or else, it might be the direct result of functional and economical concerns. Yet it is clear that the overall plan type with a long cross axis intersecting with a lateral axis at the center of the *frigidarium* was kept intact while the conventional arrangement of the *caldarium*, *tepidarium*, *frigidarium*, and *natio* was basically the same for all the imperial *thermae*. The exterior design and interior decoration of these imperial baths varied but the general tendency for all imperial *thermae* was to cover the exterior with simple masonry work and to adorn the interior with rich mosaics, marble decoration and sculptural works in order to give the same effect of opulence (Ward-Perkins 1981: 419-421). Therefore, it is not surprising that the development of this plan type probably signified more than a single eclectic design process.

2.6. The social, political and cosmological implications of imperial *thermae*

The development of the plan type of the *thermae* described above is not an evolution of model in the architectural sense alone. Among the public institutions, the imperial bath complexes became the most effective building type illustrating the social and political outlook of the imperial system. Monumental scale and lavish decorations constantly reminded the citizens of the wealth and power of the empire and the emperor. It is not surprising that the public nature of these baths played an important role in the promotion of the political and social system of the empire. In connection with this function, there is also the tendency that the plan itself as an abstract entity reflects political, cultural or cosmological vision contracted and symbolized through symmetrical and axial design. However, it is equally important to realize that such symbolizations depended on the values and perceptions of the beholder. For instance, the population of the capital and the visitors from the provinces grasped different messages from the same architectural setting. As indicated by Kostof's comment on the imperial *fora* in Rome, the imperial *thermae* displayed the technological and intellectual ability of the center for the individuals of Rome and the power, wealth, and cultural aspects which consolidated the idea of Roman citizenship for the visitors. The common symbolization in the architectural setting of Rome is connected with the aim of architecture as an instrument of propaganda and the visible manifestation of the imperial system (Kostof 1995: 197-199, 214-215). It is hardly a coincidence that the sociological values revealed with the beginning of the imperial system and the overall axial and symmetrical plan type as a spatial value dominated the plans of these bath buildings. Finding the imperial plan type particularly in the city of Rome bears witness to this idea. Being situated in Rome, the capital of the imperial system, the baths represented the perfect image to constantly remind the citizens of the imperial vision and captivate them.

On the other hand, according to some scholars, the symbolizations which were attributed to the individual elements may be directly related with the significance of the activity held in the structure. In this regard, Sigfried Giedion considers the social bathing activity as a “complete regeneration process” (Giedion 1971: 238). He states that this involves both physical and social aspects of the bathing activity. In fact, the baths created an appropriate environment for the regeneration of the minds of Roman citizens with imperial propaganda. Within the luxurious setting of the baths, a sense of eternal power and contentment in connection with the imperial system was regularly felt. This regularity was further enhanced by a progressive sequence. The axial arrangement of the hot air bath (*caldarium*), lukewarm bath (*tepidarium*), and cold bath (*frigidarium*) made the progressive sequence possible. Also another axis which dominated the layout of the Baths of Trajan, Baths of Caracalla, and Baths of Diocletian crosses the *frigidarium*, and the *palaestrae*, and two large semicircular *exedrae* on either side (Giedion 1971: 78, 238-239, 247). However, the correspondence of the intersecting main axes to the functional arrangement was partly limited. The experiential sequence began in the changing rooms (*apodyteria*) which surrounded the *palaestrae* and then the heated rooms surrounding the *caldarium* had to be passed. The sequence progressed starting from the *caldarium* through the *tepidarium*, and the *frigidarium* to the *natatio*. The functionality of the design depended on the main axis.

Thus, it is not logical to explain the layout of the imperial bath plan with functional considerations alone. The *thermae*, like the city, were in the center of the social, intellectual, and political interests (Schulz 1975: 104-105). In addition to this, it might not be a coincidence that these three imperial baths of Rome were situated on a strong axis in the overall city plan (Fig.2.7).

As the center of Roman social life, it is not surprising to see the baths reflecting contemporary sociological and cultural values. However, the development of axial symmetry in Roman architecture appears to be related with cosmological perception too. In view of this, it is significant that the early Roman settlement was divided into four cardinal parts by the primary *cardo* which ran from north to south representing the axis of the world and the secondary *decumanus* which ran from east to west as the direction of the sun. These axes which intersected in the middle designated the center. The perception of cosmic order was thus reflected in a basic way. In addition, more general attitudes were also detected through cross-axial arrangement. For example, cross-axial symmetry created an active dynamism which provided “continuity and rhythm” of movement. Intersecting axes defining a circle allowed cyclical departure and return to the center. In this way, the Romans caught continuity which was entirely different from the static Egyptian idea about linear eternity (Schulz 1975: 82-96). Therefore, the axial and symmetrical arrangement of the imperial plan type which illustrated continuity and rhythm to a certain extent might be seen as the manifestation of dynamic cosmic order.

This dynamism which radically distinguished Roman composition from Greek ones was also traceable in the spatial arrangements of the domestic structures. Creating this kind of axial spaces both for public and domestic architecture implied that a common basic order characterized the space created by the Romans and that this spatial model symbolized the same mentality (Schulz 1975: 105). Within the walls of the house, for example, the axial arrangement intersected in the middle. For the occupants, the middle of their space that was created in their house was the center of their lives. Just as the city of Rome was in the center of Roman world, axial and symmetrical arrangements created a center for Roman structures. In line with this argument, the Roman bath complex further emphasized the idea of being at the center with rich marble decorations, mosaic floors and sculptural works. This atmosphere was

consciously created according to the aims of the imperial system. A theatrical public environment and a functional scenario were combined in the setting of the baths. The determination of the center was related with the need of a stage where the core idea spread through the empire. In this way, a reality with all its implications was created in these spaces which became appropriate to disseminate imperial messages indirectly. Thus, it is not a coincidence that the axial arrangement dominated the plans of cities and structures in the Roman world. Although the use of axes was already known from Egyptian architecture, the issue of center created by the crossing axes made this organization as a “distinguishing property of Roman architecture” (Schulz 1975: 82-84).

CHAPTER 3

THE BATH-GYMNASIUM COMPLEXES IN ASIA MINOR

3.1. The early development of bathing in the Greek world

The early development of bathing in antiquity was associated with the social and architectural context which was created by the Greek *gymnasium* and the Greek *balaneion*. These establishments are not important just for the Greek world but are also considered as a primary inspiration for the social and architectural evolution of Roman bathing. The use of cold-water in the Greek *gymnasium* and the Greek bath for washing and showering which was part of the physical training activity present the beginning of a bathing tradition.

Although the Greeks were aware of simple heating methods, the architectural exploitation of hot-water establishments was limited in the *gymnasia* and *balaneia*. However, the idea of bathing which first occurred in the Greek world and the developed versions of the discoveries in heating technology later shaped the architectural design and social characteristics of the Roman baths. On the other hand, in following the evolution path of the Roman baths and bathing tradition, the gymnasium and baths are important sources as a key to understanding the impact and contributions of Greek mentality.

3.1.1. The Greek *Gymnasium*

Although there is no adequate information about the early *gymnasium*, the pre-Classical Athenian gymnasia were probably simple structures with

quadrangular enclosures. The Academy, the Lykeion, and the Cynosarges occupied large areas and separate running tracks that were probably included in their original design. In the Archaic and Classical *gymnasia*, the simple structural features were elaborated with the landscaping of plants and trees as open-parks.

The early *gymnasium* probably began to be constructed outside the city or on the outskirts in Archaic and Early Classical times. The idea that the *gymnasium* was originally created for military purposes partly explains the reason of choosing the location of the structure far from the central hub of the city. On the other hand, it might be a consequence of the fact that the Greek cities were not big enough to allow the construction new buildings in the city center. When the cities evolved further later in the Hellenistic period, intellectually at least, the *gymnasium* became a requirement in connection with the physical training purposes (Nielsen 1993: 10). However, the educational and physical activities necessitated a place which could supply both silence and independence. These needs might have been instrumental in the isolation of the *gymnasium* from the busy center of the city (Yegül 1992: 9). After the open-park appearance of the *gymnasium* had been modified with the effects of increasing educational and civic functions of the *gymnasium* during the fourth century BC, a more central position began to be reserved for the *gymnasium* construction. This situation brought some necessities and limitations for the plan of the *gymnasium* in order to fit into a city plan which had already been shaped. The main problem was to organize the sports grounds and running tracks.

Two basic elements created a more or less standard plan for the *gymnasium* constructed after the second half of the fourth century BC. The first part comprised a peristyle building with rooms around a colonnaded courtyard which was normally the *palaestra*. The second part involved the extension of sports grounds and running tracks. However, the determining factor for the plan and the architectural outlook of the structure was

governed by one side of the peristyle colonnade in terms of its emphasis over the others. In the Hellenistic *gymnasium* at Miletus, for example, one colonnade is taller than the other three sides. On the other hand, one side was designed as a double colonnade in the Lower Gymnasium in Priene. The double colonnade was an architectural feature recommended by Vitruvius for protection from rainfall. The domination of one wing of the *palaestra* was another feature. There were several different ways to achieve this kind of domination sometimes. The central room was made relatively larger than the others in order to emphasize one room over the other rooms. In yet another scheme, the room was designed with a colonnade towards the courtyard. The interior decoration accentuated the dominance of the room. However, the most prevalent way of emphasizing an architectural unit over the others was introducing axuality with additional elements such as an apse, *exedra*, projection or recession on the colonnaded fronts, and flanking units which were symmetrically disposed. Although it is important to realize that this Hellenistic *palaestra* design was also used in several contemporary cult structures such as the Heroon in Calydon and the Temenos of the Ruler Cult in Pergamon, the primary significance of using axial design was more related with the influence on the design of *gymnasia* and baths constructed during Roman era (Yegül 1992: 9-14). Therefore, it is logical to think of the possibility of influence from the axial design of the Hellenistic *palaestra* to the strict symmetrical and axial plan type of the Roman baths constructed during the Imperial era. From this perspective, the bath-gymnasium complexes, with the effect of same influence, experienced symmetrical and axial planning in their unique plan type.

The *loutron* was a traditional unit in the *palaestra* connected with cold-water washing and bathing activities. An open-air space was reserved for cold-water ablutions with elevated basins or simple shower equipments in the early Greek *gymnasia*. This arrangement is also evident on several Greek vase paintings from the second half of the sixth century onward.

Some scenes which resemble actual washing and bathing activities in the *palaestra* are painted on the vases. Women and men are seen in these scenes while they are washing their bodies, showering and scraping themselves in specially designed structures for bathing purposes. A small edifice which incorporates a pool appears on a late-sixth-century vase (Fig. 3.1). In this scene, four women¹⁴ are seen washing their bodies under the structure. Although it is difficult to date these vase paintings, the use of word *loutron* in the texts of the late fifth and early fourth centuries BC coincided with the time that covered bathing units were designed in the *gymnasium*.

On the other hand, there was another unit associated with bathing facilities in the *palaestra*. Vitruvius mentions elaborate bathing arrangements with an advanced heating and water distribution system, and specialized bathing and service spaces which were designed according to a fixed relationship to one another. One corner of the *palaestra* was reserved for the bathing unit which consisted of a *frigidarium* (cold-water pool room), *concamerata sudatio* (hot, wet-sweat room), *laconicum* (hot, dry-sweat room), *calda lavatio* (warm bathing room), and a furnace room. However, these heated rooms might have been added to the *palaestra* design during the renovations of Greek *gymnasia* in the Roman era. In addition to this, there is no doubt that Vitruvius described the heating and bathing technologies of his day (Yegül 1992: 17-21).

Although a simple heating system had already been established in the Greek *gymnasium*, the combination of small grounds for athletic activities and units for bathing in hot water never became interrelated functions of the Greek *gymnasium* and public baths (Nielsen 1993: 6). On the other hand, the most important thing is that within the course of the development of bath architecture, the athletic and educational purposes of the *gymnasium* which were joined with the social importance of the Roman

¹⁴ There is no clear explanation for the reason of identifying the figures on the red-figure vase as women. They might be identified as *ephebes*, free-born young men.

public bath played a significant role for the mature phase of the evolution of bathing culture. In this sense, it is less important whether the hot bathing culture was originally a Roman innovation or the simplistic version of this functional feature belonged to the Greeks. The uniqueness of the Roman public baths was directly related with their role within the social and political life of the Romans as urban institutions.

The Greek colonies constructed the *gymnasium* as a characteristic landmark of the Greek city. In this way, the *gymnasia* which were constructed abroad became a trademark of the culture (Nielsen 1993: 10). The *gymnasium* collected social, cultural, physical and religious aspects under a single structure. Although the structure was used for teaching like a university today, lectures and exhibitions, it preserved its religious aspect with the worship of gods and heroes. On the other hand, discussion continues on the idea that the *gymnasium* is sometimes referred as a seat of the ruler cult in later times. The theory began by Josef Keil's identification of the discoveries of the aedicular façades in a grandeur room of the Vedius Bath-Gymnasium Complex at Ephesus as "*Kaisersaal*" (i.e. room for the king). This identification was further utilized and supported by another lavishly decorated hall, 'the Marble Court' with an aedicular façade in the Bath-Gymnasium Complex at Sardis as the indicator of the presence of the ruler cult by Fikret Yegül. He strengthens his idea by indicating the domination of the hall with lavish architectural decoration among the other parts of the complex and the location of it on the main axis of the plan. From this perspective, the specificity of this type of hall with façade decoration reveals as an important feature which is also found in at least seven bath-gymnasium complexes in Asia Minor. However, as Barbara Burrell clearly expresses, there is no exact evidence to accept this theory as a valid one. According to Burrell, this aedicular façade decoration was associated not only with the emperor but also gods, civic donors, and personifications (Burrell 2006: 437-439). Therefore, it is logical to accept that these lavishly decorated rooms in

some of the bath-gymnasia were consciously designed to create a scene. However, it would be a mistake to identify these rooms as a place for worshipping the Roman emperors until the inscriptions, statues, and furnishings of these rooms provide clear evidence.

It is not surprising that the *gymnasium* was accepted as a distinctive structure in Greek architecture and culture. The uniqueness of the combination of physical and intellectual educational purposes made the *gymnasium* the manifestation of certain important aspects of Greek culture. Thus, the role of the *gymnasium* was strong enough to affect the already developed features of Asia Minor and to leave traces on the later establishments.

In the Late Classical and Hellenistic times, the *gymnasium* became a monumentalized urban institution and the architectural components of the structure included a sports ground with rooms on one or more sides, and running-tracks in connection with wooden gardens. The porticos, an anointing room, a room for changing, rooms for cold-water bathing sometimes with a swimming pool, sweat bathing, wrestling, boxing, and for practice with the punching-ball surrounded the *palaestra* (Nielsen 1993: 10). On the other hand, in terms of administration, the *palaestra* was an independent structure which could be publicly or privately owned unlike the always publicly owned *gymnasium*. A wealthy and distinguished citizen taking the official title of *gymnasiarch* directed a *gymnasium* or all of them in a city for a temporary period (Yegül 1992: 8).

The importance of the *gymnasium* in the architectonic development of the Roman *thermae* evolved from the intellectual intention of the *gymnasium* tradition. This aspect, however, was a later addition to the *gymnasium* construction as in the shape of *exedrae* with benches, lecture halls, and libraries. Therefore, it is not a coincidence that after travelling Romans, probably merchants, belonging to the upper class had visited the *gymnasia* in Greece ordered constructions of villas with gardens and

ambulatories incorporating adoptions of some of the features of the *gymnasium*. Thus, this relation provided an appropriate inspiration coming directly from the *gymnasium* of the Greek world and indirectly from the domestic architecture in Italy for the great imperial *thermae* in Rome (Nielsen 1993: 12). The complexity of the subject begins with the bath-gymnasium complexes of Asia Minor because the interactions finally received their final shape in the architectonic whole as a unique plan type. The *gymnasium*, then, becomes a crucial point to start to identify the features of the bath-gymnasium complex plan type.

3.1.2. The Greek public bath, *balaneion*

In addition to the bathing facilities in the *palaestra* of the *gymnasium* for the use of athletes and visitors, there were also public baths. The early stage of bathing and sport activities was already established in the eastern provinces of the empire where the *balaneion* existed in mainland Greece at least from the fifth century BC onward. In the urban centers, the *balaneia* were erected for secular usage and in sanctuaries the purpose was mainly ritual. The establishment of the Greek public baths probably influenced the early development of *thermae* and *balnea* and related cultural activities in Italy (Nielsen 1993: 95). The basic reason is that the hot water was employed as a bathing method in these *balaneia*, although the *balaneia* utilized extremely simple heating systems until the first century BC. The primary form of hot bathing in these *balaneia* was in the shape of individual stone or terracotta bath-tubs which could be cut out of the rock or constructed in rubble and mortar. Also, a kind of hypocaust system¹⁵ i.e. underfloor heating existed in several Greek *balaneia*. The primary usage of this system has been found in Magna Graecia and Sicily.

¹⁵ For a further discussion on the hypocaust system and the Greek connection see Fagan, (2001).

Most of the plans of the *balaneia* indicate a circular plan with a rotunda and a small *omphalos* as recognizable elements. The *rotundae* were covered with conical domes, while the oblong rooms had flat roofs. The baths were small units and there was no fixed organization for the individual rooms and their relation to one another. This architectural planning indicates that the *balaneion* did not serve a fixed bathing routine. Thus, the characteristic features of the Greek public bath distinguished the tradition from the Roman baths (Nielsen 1993: 8-9).

The origin of the *balaneia* stemmed from privately owned baths which were never as widespread as *gymnasia* were in the Hellenistic era. The private character of the *balaneia* distinguished these structures from the gymnasium which enjoyed the public prestige alone. However, the *balaneion* was accepted as an institutional service provided by the community in the Hellenistic period. As a public institution, the *balaneion* gradually started to be constructed in the more central parts of the city (Nielsen 1993: 7). To reiterate, it is important to acknowledge that bathing was a social phenomenon coded in the urban layout and architecture of the cultures.

3.2. The importance of Asia Minor for bath architecture

Asia Minor reveals different historical dynamics in comparison with the western part of the Roman Empire because a strong Hellenistic culture dominated the region during the pre-Roman era. In the fourth century BC, the *gymnasium* which combined the physical and educational activities completed its evolution as an important urban institution in the Aegean. This Greek foundation together with local Anatolian culture had considerable effects on the architectural programs in the region.

Although the major sequences of development can be traced in the provinces with expected local differences, in the eastern part of the Roman Empire, Asia Minor reveals a quite promising and prolific corpus of evidence for bathing activity and bath architecture despite the geographical and physical variations there too. Among the plan types of the Roman baths in the empire, the bath-gymnasium complex type may be singled out as a unique plan type that was created in Asia Minor.

3.3. The period of the construction of the bath-gymnasia in Asia Minor

Although the range of dating is considerably longer for the eastern provinces because of the early development and the continuation of the general bathing tradition without a significant interruption, the bath-gymnasium complex plan type presents a more specific time span. Accordingly, this plan type began to emerge in Anatolia starting from the middle of the first century AD and the majority of the complexes are dated to the second century AD. The long period of peace in the first and second century AD which affected the enormous growth in the cities of the eastern provinces coincides with the popular construction of this plan type in Asia Minor (Nielsen 1993: 104-105).

3.4. The evolution of the bath-gymnasium plan type

The creation of this new architectural plan type can be evaluated from different perspectives. Under Roman rule, the political and social atmosphere began to change according to the circumstances of the empire. The creation of the bath-gymnasium complex plan type in that critical time of change makes bath architecture important to understand as a reflection of this change. Primarily, these bath-gymnasium complexes

developed as a new architectural plan type in this region and combined the Greek *gymnasium* with the vaulted Roman bath. In this regard, the Greek *gymnasium* reflects the features of the preexisting Hellenistic culture and the influence of the latter on this plan type indicates that Asia Minor preserved and modified an already existing architectural feature according to the needs of the time. The use of the Greek *palaestra*, as a major component in the “core design”, indicates that the plans of the bath-gymnasium complexes brought together different “Greek” and “Roman” elements and united them. Although the main bath block of the imperial era was designed with massive tall vaults, the *palaestra* retained its simplistic form like a third-or-second-century BC structure. Nevertheless, the *palaestra* became an integral and major part of the complex comparable to the main bath block in size, rather than an undistinguished and more minor component unlike that of the imperial *thermae* of the capital. From this point of view, the large colonnaded *palaestrae* of the bath-gymnasium complexes which were developed on the basis of the Greek *gymnasium* were obviously incorporated to the design in order to meet cultural, athletic and educational needs of the region.

Naturally common early influencing factors existed for the eastern provinces of the empire; yet the baths in these areas are not marked by uniformity. On the other hand, the bath-gymnasium complex plan type in some parts of Asia Minor provides a kind of uniformity similar to the imperial *thermae* of Italy in the western part of the empire. Although the uniformity of the bath-gymnasias and that of the imperial *thermae* are different in terms of their place of origin in the empire, they both stand out as examples that indicate highly recognizable specific groups among the miscellaneous bath architecture of the empire.

Hence, this fact alone makes the emergence of the bath-gymnasium more important to be compared with the capacity of the capital. Also it is only to be expected that such monumental and creative bath buildings emerged in

the political and social center of the empire. In comparison, Asia Minor is a region which had both the resources and the ambition to create a unique plan type (Yegül 1992: 250-256). In this light, it is easy to see that the bath-gymnasium plan type emerged to meet specific cultural needs of an urbanized population in Asia Minor which can be compared to the level of urbanization in Italy. On the other hand, the same uniformity that is shared by these regions can be the sign of interaction for the creation and development of the Roman baths. Although the individual development of these plan types are indicated by the evolution of the imperial bath examples starting from the first century AD, some features such as bilateral symmetry and integration of elements lead us to observe the formative influence of the development of the bath-gymnasium complexes to the imperial *thermae*.

3. 5. The Bath-Gymnasium Complexes in Asia Minor

The bath-gymnasium complexes of Asia Minor, as the most monumental type of bath building in the eastern provinces, can compete with the imperial *thermae* of Rome in terms of size and monumentality (Nielsen 1993: 105). In this regard, it is important to note that there are almost forty bath-gymnasium complexes in different geographical parts of Asia Minor but not all of them have been excavated. The examples chosen for this study are the Harbor Bath-Gymnasium at Ephesus, the Bath-Gymnasium at Aphrodisias, the “Gymnasium” Bath-Gymnasium Complex at Magnesia, the Bath-Gymnasium at Ankara, the East Bath-Gymnasium at Ephesus, the Theater Bath-Gymnasium at Ephesus, the Bath-Gymnasium at Alexandria Troas, the Vedius Bath-Gymnasium at Ephesus, the Bath-Gymnasium at Aezane, the Bath-Gymnasium Complex at Sardis, the West Baths and East Baths of the Upper Gymnasium at Pergamon and the Baths of Faustina at Miletus (Fig. 3.2).

The choice of these specific bath-gymnasia above has been determined on the basis of the plan groups that are categorized by Fikret Yegül. Although there are no existing firm regional boundaries and “pure” plan types, these groups are established in terms of more recognizable patterns of the plan types. The most popular region for the bath-gymnasia appears to have been the western coastlands of Asia Minor which in the north extend to the Troad and in the south to Caria including some inland cities.¹⁶ The outstanding feature according to Yegül’s categorization¹⁷ is the symmetrical and asymmetrical dispositions of the bath-gymnasium complexes. There are three major plan types for symmetrically disposed bath-gymnasium complexes. The first type involves an arrangement of the bath block proper as a “double row of spaces”; while “U-shaped halls and reversed circulation” are the characteristic features of the second type. In the third type, the bath block and the *palaestra* are “unified on the same axis” (Yegül 1992: 270-284).

In addition to Yegül’s designation, there is another categorization by Farrington who also studied this bath-gymnasium complex extensively. According to the latter, the architectural layouts of the baths as a response to the basic demands of Roman bathing habits and local topography have to be taken into account in designating typological groups. Although Andrew Farrington studied the Roman Baths of Lycia, the imperial baths in the surrounding regions of South-West Asia Minor are also classified by him in order to establish a system in which the typology of Lycian buildings is placed in the context of bath design in general. Hence although there are four major groupings, sub-groupings and minor sub-groups are also

¹⁶ Although the number of excavations steadily increases in Turkey, the current state of evidence causes one to make some generalizations. In fact, the regions which were relatively more excavated present more evidence. Thus, it would be misleading to identify the regions as popular without excavating the sites to a greater extent.

¹⁷ In order to classify the bath-gymnasium plan type into sub-groups, other categorizations might be established. However, our concern is not to create new categories. So, for convenience, the categories established by Fikret Yegül and Andrew Farrington are used in this study.

created. In this designation, the first category is “rectangular bath blocks symmetrical about the short axis with double circulatory patterns”. Due to its diversity among the baths of Asia Minor, there are two major sub-groups. The first one is called “bath blocks with annular double circulatory bathing patterns” and divided into three minor sub-groups: “bath blocks with long narrow rectangular *frigidaria* and large covered galleries”, “other double annular layouts”, “The Baths at Caunus”. The second major sub-group consists of “bath blocks with retractive double circulatory patterns”. Like in the categorization of Yegül, symmetry and row arrangement are one of the determining aspects in designating the major groups. The second major group is “asymmetrical bath buildings on a block arrangement”, while “bath buildings on a row arrangement” is another major group. The surrounding halls (*ambulacra*) are also important for both categorizations. Thus, the last major group is “bath buildings with a central rectangular gallery” (Farrington 1995: 20-21).

In this sense, the formal characteristics and the geographical locations are important in designating the groupings among the bath-gymnasium complexes. The specific bath-gymnasia as the main concern in our study are the examples that represent the formal characteristics of the plan type by focusing on the similarities and differences among each other. These similar and different features are the key elements that allow understanding the overall development of the plan type. This is the reason that the detailed reading of the plans begins with the Bath-Gymnasium Complex at Sardis, as the most mature example of the plan type and continues through the bath-gymnasia which indicate the similar characteristic features. Although the plan categorizations of Yegül and Farrington are utilized, the main aim is to reveal the formal characteristic features of the plan type which are comparable with the imperial *thermae* of Rome. After understanding these features, the development of the plan type provides clues concerning the motives of creating such a unique plan

type in Asia Minor and the interaction of these motives with the imperial *thermae* in Rome.

3. 5. 1. The Bath-Gymnasium Complex of Sardis

The Bath-Gymnasium Complex of Sardis¹⁸ (Fig. 3.3) is one of the clearest representations of a tradition that combined Hellenistic taste with the impact of Roman rule in Asia Minor because it exemplifies a well-established bath-gymnasium complex plan type. The evolution of this plan type during the Early Imperial period in Asia Minor coincided with the new cultural circumstances of the early empire which occurred in the provinces.

The rectangular plan of the Bath-Gymnasium Complex of Sardis was composed of two main parts (Figs. 3.4, 3.5). A square *palaestra* dominated the eastern half of the plan. On the western half of the complex, the main bath block consisted of a series of rooms. Within the bath block proper, there was a strong cross-axis which was created by symmetrical disposition of the bathing rooms. The main axis of the plan started at the East Gate (Fig. 3.6), the entrance of the complex on the eastern half of the complex (Fig. 3.7). The axis continued from the middle of the *palaestra* through the middle of the Marble Court (Fig. 3.8), a narrow *frigidarium* (Figs. 3.9, 3.10), a hall with several niches, a small *tepidarium* and finally terminated in a large *caldarium*.

According to Fikret Yegül, the plan of the Bath-Gymnasium at Sardis belongs to the third type which consists of an arrangement of the bath

¹⁸ An extensive volume was published in 1986 as part of the results of the archaeological exploration of Sardis. See Yegül, (1986); Hanfmann, (1959, 8-43).

block and the integrated *palaestra* on the same axis. However, this type also illustrates characteristics of the first two types. Its resemblance to the first type is seen in the addition of an outer range of heated halls. The arrangement of a range of unheated halls and pools by separating the bath block from the *palaestra* is the characteristic feature of the second type.

As stated above, the relation of the *palaestra* to the main bath block is a determining factor in the designation of the three types of bath-gymnasium complexes. In general, the *palaestra* and the bath block were basically two independent units but in terms of function these units were interdependent. On the other hand, in the case of the bath-gymnasium of Sardis, the *palaestra* and the bath block were strictly organized both visually and functionally as integrated parts within a rectangular frame in relation to the central axis. In this respect, on the west of the *palaestra*, an architecturally lavish room (Fig. 3.11), the so-called MC hall on the plan¹⁹ was located to the bath block side (Figs. 3.12, 3.13). The location of this hall on the main axis of symmetry at a central position, hence, provided a dominant position within the overall design and led Fikret Yegül to designate this architectural space as a presence of the Imperial Cult. However, the Marble Court also known as Imperial Hall,²⁰ was an important architectural element supporting the unification of the main bath block with the *palaestra*. The sequence of the axis runs between the *palaestra*, the Marble Court, and the *frigidarium* and *caldarium* of the bath block. The *palaestra* ambulatory, the two story screen colonnade, the apse of the Marble Court, the broad chamber of the *frigidarium*, and the monumental arch leading to the *caldarium* were visually connected. Therefore it is not surprising that this bath-gymnasium complex is seen as

¹⁹ The Marble Court is related to the discussion on the presence of the imperial cult in the gymnasia and bath-gymnasium complexes. Fikret Yegül identifies this hall as an “imperial hall”, while Barbara Burrell (2006, 110. 3: 437-469) entirely rejects this hypothesis.

²⁰ For a detailed discussion concerning the Marble Court see Yegül, (1976, 169-194).

“the most organic and sophisticated synthesis of the conventional plans of the *palaestra* and the *thermae*” (Yegül 1986: 147-149).

In this Bath-Gymnasium Complex, the plan type reached a mature phase by sustaining the unification of the two main parts of the complex along a symmetrical and axial scheme. The geometrical perfection of planning was crowned by the architectural design of the Marble Court which acted as a transition element in the middle of the axial disposition, although there was no entrance from the Marble Court to the bathing block. The plans of the imperial *thermae* provided the same kind of symmetrical and axial organization. The linear sequence of the main bathing units, *frigidarium*, *tepidarium*, and *caldarium* was traditional both for the bath-gymnasia of Asia Minor and imperial *thermae* of Rome. However, this sequence had different elements before the *frigidaria* in the latter. In the imperial *thermae*, the *natatio* as an open-air facility was integrated into the plan. As in the Sardis example, some of the bath-gymnasium complexes had an additional space sometimes controversially named as *Kaisersaal* (Marble Court at Sardis) between the *frigidarium* and the *palaestra*. The integration of the *natatio* and *Kaisersaal* into the plans of the imperial *thermae* and bath-gymnasium complexes is respectively comparable. In the Bath-Gymnasium Complex at Sardis, the Marble Court was elaborately decorated. In addition, the extension of the Marble Court to the sides was parallel with the narrow *frigidarium* on the main axis. Similarly, both the size and configuration of the *natatio* of the Baths of Caracalla in Rome were more rigidly planned in relation to the design of the *frigidarium*.

3.5.1.1. The visual resemblance of the Marble Court and the *natatio* in the imperial *thermae*

Although the disposition of the *natatio* in the imperial *thermae* and the Marble Court into the Bath-Gymnasium Complex at Sardis was similar, the

meaning and manner of these spaces could be different due to their functional position in the overall plan. Yet it is clear that while the Marble Court conspicuously framed the entrance of the structure, the *natatio* served the beginning stage of the bathing sequence. The elaborate façades connected with the *natatio* in Rome and the Marble Court in Sardis both illustrate similar visual purpose in such lavish decorations which accentuated to the effect of entrance to imperial, magnificent, and grand structures. The façade of the *natatio* in the Thermae of Caracalla presented decorative scheme which provided an impression of *scaenae frons*. This decoration imitating a theatrical backdrop indicated one purpose of the imperial *thermae* as a stage to give imperial messages to the visitors. In this respect, the columnar decorations of the Marble Court in Sardis as the entrance to the bath block proper approaching from the *palaestra* visually served the similar need of adorning the structure with imperial messages. In both cases, the architectural decorations of the *natatio* and the Marble Court functioned as a backdrop for the bathing activities that took place in the architectural space.

On the other hand, there was a complex interrelation in the emergence of these elaborate façade decorations. The *scaenae frons* decoration was first introduced into the program of the *thermae* in the Baths of Caracalla in Rome which was dated to 212-216. The idea of framing the scene of activity in the *thermae* might have been affected by the decoration program of the *Kaisersaal* (DeLaine 1997: 76-77) or the façade decoration of the *nymphaea* which began to be built during the reign of Nero (Nielsen 1990: 51). More importantly, however, this might be the same intention that influenced the decoration of the Marble Court of Sardis and other columnar decorations²¹ adorning the halls on the axis of the main bathing units and the *palaestra* of the bath-gymnasium complexes and the façade between the *frigidarium* and *natatio* in the Baths of Caracalla in Rome. The resemblance of the spatial context of the *natatio* and *Kaisersaal*

²¹ For a detailed study on the marble style in Asia Minor see Burcu Ceylan, (1994).

indicates the nature of interaction between the imperial *thermae* and the bath-gymnasia. The pervasive theatrical atmosphere which was ostentatiously reflected messages of imperial grandeur by framing the cold waterpool of the imperial *thermae* leads us to lean toward the argument on the purpose of the architectural space in the bath-gymnasia as the presence of the Imperial Cult.²² In the lack of the actual presence of the emperor, the Imperial Cult room would have promoted the idea of imperial presence. If so, it would be natural to consider the elaboration of architectural decoration and structure in the Bath-Gymnasium Complex of Sardis as a stage for activities related with the Imperial Cult and as a visual backdrop for imposing imperial messages.

3. 5. 2. The Vedius Bath-Gymnasium at Ephesus

The Vedius Bath-Gymnasium Complex²³ at Ephesus (Fig. 3.14) was dedicated to Artemis by P. Vedius Antoninus who was a wealthy friend of Antoninus Pius. It is dated to the middle of the second century when the construction of a similar bath-gymnasium complex, the “Gymnasium” at Magnesia on the Meander took place.

The plan of the Vedius Bath-Gymnasium (Fig. 3.15) was relatively narrower and longer than the plan of Sardis Bath-Gymnasium Complex which bears the closest comparison to the Vedius Bath-Gymnasium. On the western part of the plan, the bathing units for different functions were symmetrically arranged on a strong cross-axis organization. The bath block proper extended to the eastern part of the plan which was occupied by a rectangular *palaestra*. The rectangular *caldarium* design, the large rectangular piers which divided the *caldarium* into bays, and the square central halls flanking by oblong chambers are almost identical with the

²² However, as stated by Barbara Burrell (2006, 110. 3: 437-469) there is no inscriptional evidence to validate this proposition yet.

²³ Compared with the other bath-gymnasia, this complex is rather well preserved but it is not entirely excavated.

Bath-Gymnasium at Sardis. The designs of the halls which were flanked by square rooms opening onto the *palaestra* distinguish the plans of these complexes as a group.

Although both complexes are classified as belonging to the same group, there are significant differences. The main axis which passed through the *caldarium*, *tepidarium*, *frigidarium*, and a hall with an elaborate façade terminated at the beginning of the *palaestra*. Unlike the main entrance of the Sardis Complex which was on the main axis of the plan, the entrance gate of the Vedius Complex was on one side of the *palaestra*. An H-shaped hall which lies at the front of the structure between the *palaestra* and the central hall group of the *frigidarium* was unique. However, at Sardis this architectural element was transformed into two symmetrically disposed groups of rooms (Yegül 1986: 149). This radical change may be due to the scale. As DeLaine stresses in the case of the imperial *thermae*, the more practical solution to build a larger establishment is to increase the numbers of the units rather than their size (DeLaine 1997: 45).

These two similar plans of the bath-gymnasium complexes in Sardis and Ephesus exhibit the impact of axial symmetry that had been developed in the baths of Rome in the middle of the second half of the first century AD. The strong cross-axis and strict symmetrical disposition of the baths were dominating features for the plans of these bath-gymnasium complexes and the imperial *thermae*. The central *caldarium* design with parallel rectangular halls on either side was a typical arrangement both for the bath-gymnasium complex plan type and the imperial *thermae*. The plan of the Baths of Titus might illustrate the earlier instance of this *caldarium* design. However, the *caldarium* began to be a projecting unit with semicircular apses on three sides of it in the imperial *thermae* of Trajan.

The main difference between the imperial *thermae* of Rome and the bath-gymnasium complexes of Asia Minor was the *palaestra* design. In the

Vedius Bath-Gymnasium and the Sardis Bath-Gymnasium Complex, the *palaestrae* covered almost half of the plans. On the other hand, the *palaestrae* were internalized and they became part of the symmetrical disposition just like the other bathing rooms on either side of the main axis (Yegül 1986: 150-151).

While the *palaestra* of the Vedius Bath-Gymnasium caught the attention with a large *propylon* and various rooms opening into it on three sides, the other distinctive feature was revealed on the west side of the *palaestra* as a large room flanked by two smaller rooms which might be another pair of *apodyteria*. The large room which was embraced by the long sides of the H-shaped gallery and the long *frigidarium* is identified as 'Kaisersaal' (Farrington 1995: 23). This is one of the most distinctive features for the plans of the bath-gymnasia in comparison to the imperial *thermae*. The manner of integration of the *natatio* in the imperial *thermae* and the so-called *Kaisersaal* in the bath-gymnasium complexes was similar, although their shape and size were not always comparable in structural terms.

In the Bath-Gymnasium Complex of Sardis and the Vedius Bath-Gymnasium of Ephesus, the dispositions of the *frigidarium* and the oblong *natatio* were almost identical. However, the only similarity between the imperial *thermae* and the Vedius Bath-Gymnasium in terms of position and design of the *natatio* and *frigidarium* was their alignment on the principal axis of the bath block. However, as in the other bath-gymnasium complexes, the *natatio* was planned between the *tepidarium* and the *frigidarium*. This was one of the strict differences between the imperial and bath-gymnasium plan types. The design of the *tepidarium* in relation to the *natatio* in the Vedius complex resembled the main *tepidarium* of the Baths of Trajan in Rome. However, after the Baths of Trajan more apsidal forms were adopted for the design of the *tepidarium* and *caldarium*.

Although the principal elements of the plans of the Vedius Bath-Gymnasium and the Bath-Gymnasium Complex at Sardis indicate great similarities, the use of curvilinear forms lead to an important comparison especially for the Bath-Gymnasium at Sardis to the imperial *thermae*. The use of curves in the shape of domes, apses, and vaults heightened the effect of the spacious atmosphere which was strengthened by the axial disposition of the units. However, as in the other bath-gymnasia, the rectilinear forms dominated the plan of the Vedius Bath-Gymnasium Complex. According to Fikret Yegül, the structural limitations caused by the lack of technical skills and knowledge of true Roman concrete of central Italy resulted in more rectilinear planning which was probably not “a deliberate artistic preference” (Yegül 1992: 254). However, it is hard to accept the choice of using rectilinear forms as a consequence of available local material and technological restrictions alone. Although the degree of curvilinear design of the apse and niche formations which were not visible from the outside was not enough to dominate the plan, the tendency towards round forms stands as the evidence of an awareness of the builders in Asia Minor. Therefore, it is logical to think that the forms were the direct result of the demands of the plan type which had different dynamics of evolution. As such it is also inevitable to have different demands and motives for the structures built in the capital and the provinces.

3. 5. 3. The Caracallan Bath-Gymnasium at Ankara

In the highlands of central Asia Minor, the Caracallan Bath-Gymnasium in Ancyra (modern Ankara) was one of the largest bath-gymnasium complexes²⁴. It is dated to the reign of Caracalla between the years 211 and 217. The bath block of the complex is remarkable with the number of

²⁴ Only one half of the fully symmetrical layout of the bath block was excavated. For the details of the archaeological excavation see Dolunay, (1941).

its hot rooms (Fig. 3.16). The rectangular structure was planned symmetrical about its shorter axis (Ward-Perkins 1981: 208). The complex (Fig. 3.17) covers an area roughly 140 X 180 meters with a gigantic *palaestra* (Figs. 3.18, 3.19) which was approximately 95 X 95 meters on the east side of the plan. Thirty-three columns on one side of the *palaestra* give an idea of the grandeur of the structure (Yegül 1992: 279).

The bath block which occupied an area approximately 95 X 80 meters consisted of three main parts: *frigidarium*, *tepidarium*, and *caldarium*. Within the cold bathing unit, two halls one for the *piscina* (a cold water washing room with swimming pool) (Fig. 3.20) and an *apodyterium* (changing room) were planned as parts parallel to each other. The long sides of the large swimming pool had semicircular ends. Also the walls of the long sides of the *frigidarium* on the east and west were designed with semicircular niches to complement the scheme (Akok 1968: 7-8).

The *tepidarium* (Fig. 3.21) consisted of two warm units which both had ten rooms. Between the units of the *tepidarium*, there were elaborately decorated galleries and rooms for the steam bath. The *caldarium*²⁵ of the complex was in the shape of a long gallery which had two integrated parts with a huge vault at the center (Fig. 3.22). A strict symmetry dominated the design of the *caldarium*.

Horizontal and vertical pipes were planned appropriately for the varied roof elevations to allow for varying amounts of snow and rainwater. Furthermore, the organization of the drainage system was planned in conjunction with the overall construction of the complex. The technical perfection of the architectural organization too was revealed in the functionality of this bath-gymnasium complex.

²⁵ The *caldarium* of the complex underwent several renovations because it was extensively used in Byzantine era.

The addition of two rows of major and minor spaces between the main outer and inner rows complicated the simple double row plan type. For the same reason, Yegül identifies the plan type of the Caracallan Bath-Gymnasium as having “impure” design. On the other hand, there were the secondary halls which conventionally decorated many bath-gymnasia and baths in Asia Minor. Regarding these halls, however, Yegül believes that the functional relationship between the inner and outer rows or between the bath block and *palaestra* was not contaminated by the presence of these secondary halls (Yegül 1992: 279).

The bath block of the Caracallan complex in Ankara was integrated to the *palaestra* as an architectonic whole. This arrangement was not only one of the distinctive characteristic features of the bath-gymnasium complex plan type but it also constituted one of the most important differences between the plan types of the bath-gymnasium complexes and the imperial *thermae*. The other distinctive element of the bath-gymnasia in comparison to the imperial *thermae* was the design of the *natatio*. The *natatio* of the Bath-Gymnasium Complex in Ankara was an indoor facility placed in an oblong hall, like that of the other bath-gymnasium complexes in Asia Minor. Although no exact explanation may be given for the choice of designing an indoor *natatio* for the bath-gymnasia, the climatic difference between Rome and inland Asia Minor might be the logical reason. The warm and softer climate of Rome was more appropriate to have an open-air *natatio* for the imperial *thermae* than the cold climatic conditions of Asia Minor especially in the winter (Nielsen 1990: 106-107). Therefore, in considering the differences and similarities between the plan types of the imperial *thermae* and the bath-gymnasium complexes, it is obvious that geographical location played an important role.

3. 5. 4. The “Gymnasium” at Magnesia on the Meander

The “Gymnasium” complex²⁶ at Magnesia on the Meander (within the boundaries of modern Tekinköy) was planned close to the ancient road which divided the city from east to west. The central position of the complex in the city plan and its visibility and proximity to one of the main roads of the city clearly emphasizes the public importance of the structure. Orhan Bingöl, as the head of the excavation in Magnesia, divides the structure into three main sections: the baths, *apodyterion* and *palaestra* (Fig. 3.23). The lowest floor of the bath section included eight symmetrically positioned chambers and two 75m long vaulted galleries which were laid out parallel to each other. The section of *apodyterion*, occupying a 100m long and 25m wide rectangular area (B/A on the plan, Fig. 3.23), consisted of a series of rooms with entrances in each of the four corners of the complex (Fig. 3.24). Between the southeast and southwest entrances, the eastern half of the southern end of the *apodyterion* was designed in the form of an apse with three semicircular niches. The first floor of the *apodyterion* was on the same level with the *palaestra* and acted as a transitional space between the open area of the *palaestra* and the *ambulacrum* of the second storey. On the basis of the inscriptions, according to Orhan Bingöl, the second floor of the *apodyterion* was utilized for intellectual and educational activities which were combined with the physical training activities taking place in the *palaestra*. The composition of the inscriptions found in the *apodyterion* and the general layout of the section reveal a functional resemblance with an architectural unit named as “Museion” in the Baths of Faustina at Miletus. The sequence worked same in these structures in which the second floor was reserved for intellectual activities while the first floor was utilized as

²⁶ Interestingly the name of the structure is changed by Prof. Dr. Orhan Bingöl who is the head of the excavation in Magnesia as ‘The City Gymnasium’ in order both to emphasize its central position in the city and to avoid confusion with the other bath-gymnasium complex on the site. The plan of the other bath-gymnasium complex is not adequate in order to investigate architectural features so this complex is not included in this thesis.

changing room. The second floor did not need an access to the *palaestra*. However, the first floor gave way both to the exercise ground of the *palaestra* and the bathing units. The third part of the structure, the *palaestra*, is thought to have been located to the east of the *apodyterion* on the same level as the first floor of the *apodyterion*.

The plan of the “Gymnasium” Baths²⁷ is classified as the double row plan type by Yegül (Yegül 1992: 278) while it is classified as belonging to the first minor sub-groups “bath blocks with a long narrow rectangular *frigidarium* and large covered gallery” by Farrington. It is interesting to note, however, that the *frigidarium* of the Bath-Gymnasium Complex in Magnesia was laid out with a horse-shoe shaped design like in the Theatre Bath-Gymnasium Complex at Ephesus. These bath-gymnasia are classified in this minor sub-group on the basis of their other close similarities of detail. Depending on the basis of the similarities between the structures within this minor sub-group, the middle of the second century AD may possibly be the date for the construction of the “Gymnasium” Bath-Gymnasium Complex which carries close resemblance to the Vedius Bath-Gymnasium at Ephesus (Farrington 1995: 20).

Although there is only one published plan which is incomplete in many parts for the “Gymnasium” Bath-Gymnasium Complex²⁸ and only a quarter of the whole area (i.e. 250 m²) has been uncovered, the general outline of the layout can be studied in relation to the plans of the other bath-gymnasium complexes such as the East Bath-Gymnasium at Ephesus,

²⁷ The “Gymnasium” Bath-Gymnasium Complex has not been excavated entirely. In 1986, the excavation of the structure was begun by Prof. Dr. Orhan Bingöl in order to prevent the area from illegal diggings. However, the excavations stopped after some parts of the complex had been cleared. Different parts of the complex were excavated in 1986, 1987, 1989, and 1992. For the details of the excavations see; Bingöl, (1986, 63-76). Bingöl, (1987, 43-51). Bingöl, (1989, 105-115).

²⁸ The first plans of the structure were drawn by two French architects, Jean Nicholas Huyot and Jacques Jean Clarget during their researches in 1820 and 1844. For the general layout of the structure, we are still using these drawings which were later published. See Humann (1904).

the Theater Bath-Gymnasium at Ephesus, the Bath-Gymnasium at Alexandria Troas, the Vedius Bath-Gymnasium at Ephesus. All these plans share a basic design scheme.

Small rooms were inserted between the outer row and the inner row similar to the addition of the secondary halls in the Caracallan Baths at Ankara. The long projecting side of the inner row as in the shape of a single hall disrupted the symmetry of the overall plan (Yegül 1992: 278).

3. 5. 5. The Bath-Gymnasium at Alexandria Troas

The early second century is considered as the construction date of the Bath-Gymnasium Complex at Alexandria Troas on the basis of its similarity to the East Bath-Gymnasium of Ephesus, although it has not been excavated. Its plan which was drawn by A. C. Smith²⁹ on the basis of resemblances to the other bath-gymnasium complexes and the accounts of early travelers is incomplete in showing the central part of the bath block and the *palaestra*³⁰. Relying on the similarities with the plan of the East Bath-Gymnasium, the long, west side of the bath block is suggested as the location of the *palaestra* (Fig. 3.25).

The plan of this complex belongs to the first minor sub-groups “bath blocks with a long narrow rectangular *frigidarium* and large covered gallery” in Farrington’s classification. One of the similarities of this group is a large U-shaped gallery lying around the nucleus of the rectangular bath block. On the short sides of the bath block, there were two *apodyteria* at the corners, away from the heated units. In communication with these *apodyteria*, the nearest sides of the corners were reserved for two rooms which are

²⁹ For the details of the remodeling of the plan see Smith, (1979).

³⁰ There is even no consensus concerning the existence of the *palaestra* in the bath-gymnasium complex.

presumably *tepidaria* which had direct communication with the heated section of the bath block and the *caldarium* in the centre. On the main axis of the plan, a small *tepidarium* and *frigidarium* and a long *frigidarium* which communicated with the piered gallery were presumably located after the *caldarium* range. Although the general layout of the structure resembled the whole pattern of the Ephesian East Bath-Gymnasium plan according to Farrington, it is emphasized by Yegül that the core of the bath block, as a square unit without the lines of the *apodyterium-tepidarium* range at either side, was probably modeled from the Bath-Gymnasium Complex at Sardis and the Vedius Bath-Gymnasium at Ephesus.

The plan of the structure reveals an interesting combination of different architectural features taken from different models. According to Fikret Yegül, this kind of adoption caused an awkward design which limited the relationship between the *palaestra* and the bath block. On the other hand, the long U-shaped *ambulacrum* around the central bathing units acted as a significant protection to the heated zone of the baths. However, it is possible that the spacious halls with the benefit of tall, vaulted ceilings provide an alternative space for a variety of functions such as athletic and intellectual activities (Yegül 1992: 282-283). From this perspective, the design of the Bath-Gymnasium Complex at Alexandria Troas, without the *palaestra*, might be compared with the plans of the imperial *thermae* in which the bathing units and areas for other activities were organized within a more compact scheme.

3. 5. 6. The East Bath-Gymnasium at Ephesus

The plan of the East Bath-Gymnasium Complex at Ephesus (Fig. 3.14) represents a strong main axis on which the *palaestra* and the heated range of the bath block were located from south to north (Fig. 3.26). On this axis, the *palaestra* had a gate as the main entrance to the complex.

However, there was no direct access to the bath block because of the double service corridors.

As in the bath-gymnasium at Alexandria Troas, the distinctive feature of the East Bath-Gymnasium plan was the U-shaped piered gallery that surrounded the nucleus of the bath block. The U-shaped gallery communicated with the *palaestra* through two rooms at the two northernmost corners of the *palaestra*. The rooms of the bath block and the *palaestra* communicated each other by two rooms which might probably be *apodyteria* at the two northernmost corners of the bath block. On the south of the *apodyteria*, there were two heated rooms, presumably the *tepidaria*. A barrel vaulted range of rooms, as the sections of the *caldarium*, were located beyond the *tepidaria*. In the center of this unit, there was a large room with heated pools and there were *praeefurnia* (i.e. oven) along the edge of the unit. The long narrow *frigidarium* which terminated the main axis of the symmetry of the bath block maintained another connection with the U-shaped gallery.

Although Andrew Farrington classified the plan of this bath-gymnasium complex to the group of “bath blocks with annular double circulatory patterns” in which the bathing sequence progressed by two ways in opposite directions, it is not clear that the number and narrowness of the openings between rooms were adequate to the circulatory flow in two directions. Both the *palaestra* and piered gallery could be the space for the physical activities. However, the design of the U-shaped *ambulacrum* and the position of the large pool of the *frigidarium* far from the exercise ground of the *palaestra* implied a reversed bathing sequence (Yegül 1992: 279-282) which is also attested by Fikret Yegül. He classifies the East Bath-Gymnasium into the group of “U-shaped halls and reversed circulation” together with the Theater Bath-Gymnasium and the Bath-Gymnasium at Alexandria Troas. The sequence of bathing began in the *apodyterium*. The *tepidarium* was the second place for the bather who

wanted to acclimatize and prepare the body for the heat of the *caldarium*. The pools in the rooms flanking the *caldarium* were part of the preparation process. However, the large pool of the *frigidarium* could be the other choice. The bather could return to the *apodyterium* through the small *tepidarium* and the small *frigidarium* instead of using the *caldarium*. The access between the small *frigidaria*, large *frigidarium* and the piered gallery strengthened the favor of the piered gallery as part of the bathing routine. In addition to this, the rooms which are identified as *apodyteria* were designed far from the *palaestra*. The rooms surrounding the *palaestra* are thought to serve ceremonial functions at least from the beginning of the third century when the *palaestra* was remodeled. Therefore, the character of functional relationship between the bath block and the *palaestra* in relation to the design of the rooms of the *palaestra* and the *apodyteria* suggested that the piered gallery was designed more than an alternative space for exercise but rather its location and relationship with the bathing units were consciously designed for such functionality. In this sense, the connection which was strengthened by the extended arms of the U-shaped gallery right into the *palaestra* might be seen problematic. However, this does not mean that the *palaestra* was the only space to be used as an exercise ground with a direct access to the bath block proper. In addition, this connection emphasized the functional relation between the gallery and the *palaestra* which maintained the main access to the complex.

3. 5. 7. The Theater Bath-Gymnasium at Ephesus

The so-called Theater Bath-Gymnasium at Ephesus (Fig. 3.14) is dated to the early second century like the Ephesian East Bath-Gymnasium, although the details of plan of the Theater Bath-Gymnasium indicate sharp differences from the East Bath-Gymnasium at Ephesus and the Bath-Gymnasium at Alexandria Troas. The central nucleus of the bath block

was again surrounded by a U-shaped gallery (Fig. 3.27). However, the heated row of the bath block was not entirely surrounded by the corridors of the gallery. The halls at the far ends of the heated row maintained the connection between the *palaestra* and the bath block. According to Yegül, this “awkward situation” illustrated the change from the normal bathing sequence through a reversed circulation (Yegül 1992: 282). At the northernmost corners of the *palaestra*, there were small entrance doors. The communication of the *palaestra* with the U-shaped gallery was maintained through a small piered room which opened into the heated bathing units. The exact position of the *apodyteria* is not known. However, according to the logical basic planning, they were probably the pair of rooms which were located along the south side of the bath block communicating both with the *palaestra* and U-shaped gallery and with the heated units of the bath block. The main *caldarium* which projected from the north side of the heated unit in the shape of a longer niched room was in the center of the heated range. A service area and two groups of small rooms were planned around the projecting end of the *caldarium*. A U-shaped *frigidarium* with a rectangular pool had communication at least from three different places with the U-shaped gallery.

The idea that the U-shaped gallery could have served the function of the *palaestra* was stronger for this bath-gymnasium complex because the range of rooms along the outer side of the U-shaped gallery indicated the strengthened importance of the gallery. In addition to this, their disposition reminded the Classical and Hellenistic gymnasium which had similarly disposed rooms around the perimeter. There is also another argument concerning these rooms along the gallery. An open walled room in the center of them resembled the so-called ‘*Kaisersaal*’ which was founded in other similar bath-gymnasia. The idea of diminished importance of the *palaestra* was supported by the elimination of the rooms which could be normally designed for functional or ceremonial purposes. The common functions of the *palaestra* were replaced by the elaborated architectural

features of the U-shaped gallery. The changes in the details of the bath-gymnasium complex plan might be read as a consequence of new demands and interests of the time. However, in this bath-gymnasium complex, there was an important change which might have triggered one of the most important aspects of the plan type. The bathing unit and the *palaestra* which were planned as an integrated elements had separate main entrances. Although these entrances might have indicated the individuality of the parts functioning as independent structures, it supports the idea that the *palaestra* was fulfilled with new functions rather than as a simple exercise court and the U-shaped gallery took the role of the *palaestra*.

On the other hand, the design of the U-shaped gallery in the Theater Bath-Gymnasium might have stayed as an “unrepeated experiment” because the Vadius Bath-Gymnasium Complex which was slightly constructed after the Theater Bath-Gymnasium in the same city illustrated the layout principles which had already established in the East Bath-Gymnasium and the Bath-Gymnasium at Alexandria Troas (Farrington 1995: 23).

3. 5. 8. The Harbor Bath-Gymnasium at Ephesus

The original construction is dated to the reign of Domitian (c. 80-90) but it was rebuilt in the second half of the second century at Ephesus (Fig. 3.14). This bath-gymnasium was part of a complex which also included a gymnasium known as the Porticoes of Verulanus (Fig. 3.28). The bath block was a clear example of the ‘double row of space’ group according to Fikret Yegül. On the west, parallel barrel-vaulted rectangular halls and a projecting *caldarium* in the center shaped the outer row. Among the other bath-gymnasium complexes, its projecting *caldarium* was a unique feature which became canonical in the imperial *thermae* of Rome. However, the plan still carried the longitudinal arrangement on the main axis. In the

same way with the outer row, the inner row displayed a large *frigidarium* in the center. On each side of the *frigidarium*, there was a pair of piered galleries which opened up to the heated units. The main entrance into the bath block was maintained from the adjacent colonnaded street. The entrance and *palaestra* were connected with the inner row which did not contain heated units. The bathing sequence was followed by a connection from the inner row to the heated outer row.

“The functional differentiation of the spaces” was clear on the architectural planning. However, the direct reflection of physical movements on the architecture as a functional and logical plan might be the reason that the complex “lacks dynamism and drama” (Yegül 1992: 272). On the other hand, the bath-gymnasium was still planned on a strong axis by locating the main units of the bath block symmetrically. This plan is classified by Andrew Farrington in the group of “rectangular bath blocks symmetrical about the short axis with double circulatory patterns”. In addition to the design of the bath block, the rooms around the *palaestra* were symmetrically located. Two of them are identified as “*Kaisersaal*” due to their elaborate design (Farrington 1995: 25). This symmetrical arrangement of the two rooms on either side of the *palaestra* reminded the symmetrical units of the Baths of Trajan on the two sides of the *natatio* and the *frigidarium*.

In order to understand the evolution of the plan types of the imperial *thermae* and the bath-gymnasium complex, the Harbor Bath-Gymnasium and the Baths of Trajan were important to follow the last stage of the development. With their projecting *caldaria*, the main axis was extended longitudinally. However, this feature was later eliminated to establish a more compact design in the bath-gymnasium complexes. The problem of length on the main axis was later solved by changing the place of the rooms around the *palaestra*. These rooms were simply added in the middle of the complexes on the main axis. In this way, the relation

between the bath block and the *palaestra* was formalized in the later bath-gymnasium complexes. On the other hand, there was a different evolution in the capital which needed much more space to meet the increasing demands of the citizens. The practical solution of increasing the number of units rather than their size caused rectangular bath block composition in the imperial *thermae* of Rome.

3. 5. 9. The Bath-Gymnasium Complex at Aizanoi

The Bath-Gymnasium Complex at Aizanoi³¹ is another bath-gymnasium dated to the second century showing close resemblance to the complexes at Ephesus and Laodiceia. The structure was dated to the second half of the third century. Its plan presented a less rigid organization but the overall design of the complex was compact. The units were packed in close relation to each other as much as possible. The reason of this compact design might be the need of an extra heating because Aizanoi was exposed to the cold winter climate of the Anatolian plateau.

The bath block was symmetrically laid out in connection with the *palaestra* (Fig. 3.29). In this way, the symmetrical axis was elongated by the bath block. The unification of the bath block and the *palaestra* on the same axis (Fig. 3.30) revealed close similarity with the Bath-Gymnasium of Vedius at Ephesus and the Bath-Gymnasium Complex at Sardis which are grouped by Yegül as “bath and *palaestra* unified on the same axis” plan type (Yegül 1992: 282). On the northeast side of the bath block, there was a row of rooms which were probably *apodyteria* flanking through the *frigidarium*. The *frigidarium* with its *natatio* (Fig. 3.31) communicated with the *palaestra*. The *apodyteria* opened onto the symmetrically disposed piered

³¹ The complex was erected on an earlier structure which was composed of large limestone blocks. Sometime after the fourth or the fifth century, the main hall of the bath-gymnasium complex was renovated in order to serve as the seat of the newly appointed bishop and head of the early Christian municipality of Aizanoi.

galleries which maintained transition to the heated range. The *caldarium* in the center of the heated range dominated the organization. The *caldarium* presented a sequence of bathing following the axis of the bath-gymnasium through the *frigidarium*. In the *frigidarium*, there were choices offered for the bathers as turning back to the piered galleries or attending to the pool in the main *frigidarium* (Farrington 1995:25). This bath-gymnasium complex which was elaborated with high quality mosaic decorations (Figs. 3.32, 3.33) may be seen as an arbitrary decision in a region slightly far from the other bath-gymnasium complexes. However, the erection of this complex on the remains of an earlier structure might be the consequence of a deliberate need to such a complex. The idea of bringing the essential characteristic features of the gymnasium and the baths together in the bath-gymnasium complex plan type might have caused a modification of an earlier structure which had a limited function.

3. 5. 10. The Bath-Gymnasium Complex at Aphrodisias

The Bath-Gymnasium Complex in Aphrodisias (Fig. 3.34) together with the bath-gymnasia in Hierapolis and Laodicea constitute a subgroup to the “double row of spaces” plan type in which certain design features became characteristics for the Carian region. The structure is dated to the middle of the second century.³²

Although the axially of the composition and symmetrical arrangement of the bathing units dominated the plan of the complex, a different kind of dynamism and continuity of the plan type are apparent among the respective relations and integrations of different parts of the complex. The outer row consisted of at least five large, parallel heated halls maintaining the usual layout with *caldarium* on the long axis in the center (Fig. 3.35). The central *caldarium* dominated the plan of the bath block. The inner row

³² A dedicatory inscription provides a *terminus post quem* of 128. The structure was dedicated to Hadrian who may have visited Aphrodisias on the way to Laodiceia in 129.

was designed in the shape of a porticoed hall. This colonnaded forecourt (Fig. 3.36) was probably planned to accommodate the athletic or ceremonial activities. However, the complex was built on the axis of a long colonnaded earlier structure which functioned as the *palaestra* of the bath-gymnasium. In between the rows, there was an additional zone which displayed a group of small rooms and square-shaped double *frigidaria* (Yegül 1992: 273-278). The bath block and the *palaestra* were communicated with each other by only two small doors (Fig. 3.37) which suggested an essential decrease for the functional link between these parts (Farrington 1995: 27). However, this bath-gymnasium complex reveals interesting elements that are open to discussion concerning the functional roles of the units. The entrances from the long *palaestra* through the forecourt were approximately 2m. wide on the axis of the *tepidarium* and the *caldarium*. The idea of constructing the complex in front of a long colonnaded space which was known as the portico of Tiberius (Fig. 3.38) might be related with the functional role of the parts of the bath-gymnasium complex. This long colonnaded space visually increased the effect of a processional way which was suitable to the ceremonial and religious activities. Therefore, it is meaningful to think that the expressive feature of the bathing block projecting to the forecourt is reminiscent of the special hall (Fig. 3.39), the *Kaisersaal*, which could be related with the Imperial Cult which also needed a space for cultic activities. However, in this complex this element as the back side of the *tepidarium* distorted the functional link on the axial approach which was normally started from the *frigidarium*, to the warmer unit, *tepidarium* and continued through the hot rooms of the *caldarium*.

These changes in the bath-gymnasium complex plan type in Aphrodisias suggest a decrease in the functional relation of both the bath block and the *palaestra* in terms of athletic activities and an increase on the functionality of the forecourt for the ceremonial activities. In order to support this idea, a square peristyle hall of the *natatio* (Fig. 3.40) which had one of the

entrances to the complex as a single 2.20 meters wide door (Fig. 3.41) was important. This hall maintained direct access to the rooms of the heated range at the back side of the bathing unit (Fig. 3.42): the forecourt and another room (Fig. 3.43) leading to the *frigidarium*. Both the forecourt and the *frigidarium* range were entered by approximately 1.60m. wide entrances. Although there is no clear evidence for the use of the forecourt and the long colonnaded space functioning as the *palaestra* for athletic activities, the functional relation between the bath block and the open-air space was maintained through the *natatio* which gave an alternative entrance to the complex. Thus, the new position of the *frigidarium* on the plan to either side of the *tepidarium* became logical solution to the entrance from the *natatio*. In addition to this, the position of the *caldarium* was designed lengthwise in order to extend the length of the bath block through the main axis which was shortened by the new position of the *frigidarium*. On the other hand, these changes resulted in a bath block design which resembled the rectangular shape of the imperial *thermae*.

3. 5. 11. The West Baths and East Baths of the Upper Gymnasium at Pergamon

These two structures were organized according to the existing topographical and architectural conditions of the site. The West Baths are dated to the second half of the first century as an early addition to the Hellenistic gymnasium. These baths (Fig. 3.44) were located on a roughly triangular and steeply sloping land behind the west wing of the Upper Gymnasium in which the original *loutron* or cold washing rooms were retained. An apsidal *caldarium* was located at the apex of the triangle. The axially of the plan was maintained by the triangular arrangement of five main rooms “in 3-2-1 fashion”. However, the internal axially was established by the apsidal units (Fig. 3.45). The apses were successfully designed according to the irregularities of the available space. The upper

terrace (Figs. 3.46, 3.47) which functioned as *palaestra* was connected to the bath block by way of a transitional room on the east side of the bath block (Fig. 3.48). During the imperial era, this room was utilized as an entrance hall which improved and organized the functional relation between the bath block and the open-air space. The importance of the functional design was exemplified by the use of irregular spaces that occurred as a consequence of triangular arrangement. These spaces were utilized as structural buttresses and reservoirs.

The East Baths³³ (Figs. 3.49, 3.50) was a later addition to the whole complex. Although the plan of the East Baths on the rectangular terrace was more regular than that of the West Baths, the borders of the bath block were still sharply defined. The same solution was adopted here in order to create internal axially with apsidal units (Yegül 1992: 284-288). Although it is hard to identify the purpose of each room, it is important to understand the intention that was created by the whole design of the bath-gymnasium complex. The importance of this whole complex comes mainly from its modification process of the Hellenistic *gymnasium* into Roman baths. The introduction of hot bathing did not change or restricted the main aims of the *gymnasium*. The educational and physical training activities continued to take place. Therefore, it is logical to identify the evolution of the bath-gymnasium complex plan type with a strong emphasis on the influence of the Greek *gymnasium*. On the other hand, there is no reason to separate the educational and gymnastic activities and the bathing facilities from each other as an answer to the questions concerning the independent usage of the complex as a *gymnasium* or a bath. The idea of surrounding the open-air space on three sides by the bathing units was an adequate solution to create a complex in which different kinds of needs were met. In this sense, the bath-gymnasium complex plan type was later modified as an integrated whole which was composed of bathing units and *palaestra*. From this perspective, this is the point that differs the formation

³³ For further information about the Baths of Upper Gymnasium see Schatzmann, (1923, 84-92).

of the bath-gymnasium complex from that of the imperial *thermae* because like the complex at Pergamon, all the other bath-gymnasium complexes were constructed in combination of two different main aims of the *gymnasium* and the baths. However, the motive of the imperial *thermae* was based on the idea of designing a compact whole bringing various activities together under the bathing construction which can be read visually on the plan type.

3. 5. 12. The Baths of Faustina at Miletus

The Baths of Faustina³⁴ are identified as “a proper bath-gymnasium” by Yegül, although the complex was the largest and the best preserved example of an unaxial and asymmetrical plan among the baths of Asia Minor. The structure was a dedication to the wife of Marcus Aurelius.³⁵

In the plan (Fig. 3.51), there was a shift of the bath block from the *palaestra* in the south-southeast direction. At the corner of the *palaestra*, there was the border of the city stadium. Although the design of eight rectangular halls which composed the bath block presented an irregular planning, the parallel and perpendicular arrangement of the halls to each other established a compact whole. The service areas which were added on the north and east sides of the bath block resulted in an irregular scheme. The major units were disposed at right angles to each other. The secondary units were designed to fill the available areas in between the major units. The ring type circulation pattern was utilized in this bath-gymnasium by the way to the *ambulacrum*, hall F/B, through the heated rooms 1, 2, and 3, the *caldarium*, *frigidarium*, and *apodyterium*. According to Yegül, although the orthogonal plan “provides an easy relationship

³⁴ For further information about this complex see von Gerkan, A., Krischen F., and Weigand, T. (1928, 50-88).

³⁵ The wife of Marcus Aurelius visited Ephesus in 164.

between the units, maintains an efficient flow of circulation, enhances originality and surprise, and, above all, creates an effective structural balance of vault thrusts and counter-thrusts, the grandiosity of the imperial type was missing in this logical, functional, and economical scheme” (Yegül 1992: 291). Thus, one of the most important aspects of the bath-gymnasium plan type is emphasized in the functional intention and compactness of the complex which were determining features in the creation of bath-gymnasium complexes.

CHAPTER 4

CONCLUSION

There is no doubt that the evolution of Roman bathing tradition was influenced by the early cold bathing and gymnastic tradition of the Greeks. From this perspective, it is not surprising to find that some of the features in the plan types of Roman bath architecture displayed direct impacts of the Greek *gymnasium* architecture. However, the crucial point is the process of influence. The evolution of hot bathing tradition in Italy was probably developed in Campania where Greek influence acted as one of the shaping factors in the development of bathing in the architectural and social sense. The interaction between the Greek colonies and the Romans resulted in a diffusion process which not only collected the strong and well established features of tradition but it also synthesized them with the local features of the early Etruscans. In this sense, understanding the paths of this synthesis is also important to reveal insights concerning the adoption and adaptation process in Roman bath architecture. The bilateral influences became reflected in Rome emerging as a unique architectural establishment which indicates both the absorptive and creative capacity of the capital city of the Roman Empire. Thus, it would not be illogical to identify the development of the imperial *thermae* as one way of visualizing and achieving the needs of the imperial system. The elegance of the whole complex and the sophisticated plan type of the imperial *thermae* were the visible consolidation of the new Roman taste.

In this sense, it is not surprising that this eclectic renovation in stylistic attitudes was reflected as different establishments in the capital and the provinces. However, it is understood from the creation of the imperial *thermae* that the influences as the outcome of bilateral interactions needed an already established political perception which found an

appropriate place in the urban context. From this perspective, the uniqueness of the bath-gymnasium complex plan type emerges as an important tool in revealing insights to the special role of Asia Minor in the imperial system.

The structural and technical features emerged as a consequence of different needs. However, these were embedded in a common mentality underlying the bathing construction which was channeled towards creating an integrated whole consisting of the features of both the Hellenistic *gymnasium* and the Roman baths. The result was the bath-gymnasium complex plan type which was flexible and experimental indicating only minor differences from one complex to another. Thus, the common features between the imperial *thermae* plan type and the bath-gymnasium complex plan type provide clues in understanding the overall impact of the design. The findings of the thesis may be summarized as below:

As one of the earliest bath-gymnasia, the Harbor Bath-Gymnasium Complex at Ephesus presents the beginning of the architectural evolution of the plan type. Its projecting *caldarium* design as a unique feature among the other bath-gymnasia is first seen as one of the distinctive features in the imperial *thermae* of Rome. Hence, it is instructive to see that this design feature which appears to have originated in Rome influenced the experimental stage of the bath-gymnasium complex plan type. However, this influence was not settled and it did not immediately become an indispensable part of the plan type. The study reveals that the bath-gymnasium complex plan type developed on a longitudinal scheme which was entirely the opposite arrangement of the extension scheme of the imperial *thermae* design to the sides. Thus, there was no need to extend the length of the main axis which crossed both the *palaestra* and the bath block. However, the projecting *caldarium* became almost necessary to enhance the effect of internal axiality in the imperial *thermae*.

As such, this influence which was left as an experimental feature may be clearly regarded as a visual example of an influence from the capital.

On the other hand, no matter how important in revealing the originality of the bath-gymnasium establishment, it would be misleading to consider formal characteristics and the role of structure in the architectural development as the sole factors determining the formation of the bath-gymnasium complex plan type. This is because the social and functional intentions also contributed to the synthesis of divergent elements of the bath and the *gymnasium* through catalyzing their integration.

At an early stage, The West and East Baths at Pergamon which were added to the earlier Hellenistic *gymnasium* first reveal the juxtaposition of the bath-gymnasium complex plan type which was able to combine the open court for the physical activities and the hot bathing establishments as an integrated function. Although the bathing blocks lacked strict symmetrical and axial design, their overall effect as an addition to the court of the Upper *gymnasium* was strong enough to distinguish the structure from other bath buildings in Asia Minor. In addition, the Baths of Faustina at Miletus was another bath-gymnasium that was planned with unaxial and asymmetrical features which are not the formal characteristics of the plan type. However, the functional and logical planning both for the use of the bath block and the *palaestra* places this complex as one of the most distinctive examples of the bath-gymnasium group.

On the other hand, there is another bath-gymnasium complex at Aphrodisias which is still problematic in terms of the functional relation between the bath block and the *palaestra*. The room of the square *natatio* as an entrance to the complex highly resembles both the function and square configuration of the *natatio* in the imperial *thermae*, although the dispositions in the plan were different. However, the new position of the *frigidarium* on the plan to either side of the *tepidarium* and the lengthwise

position of the *caldarium* resembles the design of the rectangular bath block of the imperial *thermae* in Rome. From this perspective, the interaction in architectural developments of the capital and Asia Minor became visualized in the plan types. Realizing this similarity between the imperial *thermae* and the bath-gymnasium complex indicates the same intention that was shared in order to extend the length of the bath blocks through the main axis. This intention also became a necessity in the other *thermae* and the bath-gymnasium complexes to create an atmosphere of grandeur which supported the confident mentality under the imperial system of the Roman Empire. In this way, the idea of being at the center was emphasized with the visual power of the architecture. The cross-axial planning which was enriched by the symmetrical disposition of the bathing units both in the imperial *thermae* and the bath-gymnasium complexes pointed to the same mentality. In this regard, the axial locations of the bath-gymnasia at Magnesia on the Meander (Fig. 4.1) and the imperial *thermae* (Fig. 2.7) in Rome share similar visual consequences of the same effect. Thus, it seems that the Roman towns in Asia Minor also created a world in which every structure had their own center in relation to the others.

Although the motives behind the creation of unique plan types were different in Rome and Asia Minor, these plan types shared several common features in their design. Hence, by concentrating on the formal characteristics of the plan types, this comparative study has investigated the disposition of the individual units and the functionality of the design. It has shown that the axial arrangement of the main bathing units in the center, namely the *frigidarium* / *tepidarium* / *caldarium*, seems to be the strongest aspect that links the imperial and the bath-gymnasium plan types. Although the axuality of the structures was designed differently in both types, the overall configuration of the linear sequence of the main spatial components is emphatically conspicuous.

The study also shows that the longitudinal design of the bath-gymnasium complex carried the strict symmetrical disposition of the secondary bathing units. In contrast, in the imperial *thermae*, however, the design of the main building was extended to the sides. The second axis was thus strengthened with this symmetrical disposition. In this regard, it is clear that in the bath-gymnasium complex the importance was given to the *palaestra* design as an equal establishment to the bath block rather than as one of the subsidiary units of the whole structure. Instead of adding the *palaestra* on either side of the bath block on the secondary axis, the bath-gymnasium complex plan type was composed of bath block and the *palaestra* as an integrated whole. Although there is the possibility that these two main components sometimes had independence, this fact did not really detract from the overall unity. For example, in the Theater Bath-Gymnasium at Ephesus, the *palaestra* and the bath block had their own separate entrances. However, it is not logical to consider that a limited example counted as a proof of change in the mentality under the construction of the bath-gymnasium complex.

On the other hand, the study also reveals another difference between the imperial *thermae* and the bath-gymnasium complex: There was a trend in the shape of the ambulatory hall (*ambulacrum*) surrounding the bath block as an alternative space for physical training, exhibitions and educational purposes in the Vedius Bath-Gymnasium at Ephesus, the Theater Bath-Gymnasium at Ephesus, and the Bath-Gymnasium at Alexandria Troas. The presence of this space was planned as an indoor facility which was appropriate to the climatic conditions of Asia Minor. It is important to see this space as an alternative to the *palaestra* because there is no strong evidence to support the idea that the importance of the *palaestra* was diminished as a consequence of the popularity of this new design. Our investigation of the functional relationship between the *palaestra* and bath block in the bath-gymnasium complexes supports the continuing importance of the *palaestra* design and the popularity of the hall design as

alternative indoor unit. In the Theater Bath-Gymnasium at Ephesus, the U-shaped hall design is reminiscent of the symmetrically disposed rooms around the perimeter in the Classical and Hellenistic gymnasium. From this important detail, a logical connection might be established. A stronger Hellenistic culture which played an important role in the architectural development of Asia Minor was certainly an important motive in such a creation. The use of the *ambulacrum* as an alternative space might have affected the design of the imperial *thermae* which were created with complex inner units for various activities held in the grandeur of spacious bath buildings. In addition to this, the Bath-Gymnasium Complex at Sardis as presenting the most mature phase of the bath-gymnasium plan type transformed the hall design into two symmetrically disposed groups of rooms, although the plans of the Bath-Gymnasium Complex at Sardis and the Bath-Gymnasium of Vedius at Ephesus were almost identical. It can be logically suggested that this transformation might be the response to a deliberate need to build a larger structure.³⁶ However, the important point here is that the evolution of the bath-gymnasium complex plan type resembled that of the imperial *thermae*. In the Baths of Caracalla at Rome and the Bath-Gymnasium Complex at Sardis, the structures were planned larger simply by increasing and varying the numbers of the units rather than their size of the earlier schemes.

More generally, it appears that the creation of the bath-gymnasium complexes together with the transformation of civic space and level of urbanization represents political and social changes. As expected, the spatial organization and development of the urban fabric with social and political implications are revealed in relation to the role of the imperial *thermae*. The elegance of the axial and symmetrical design was utilized to highlight the implications of the imperial system in Rome. The reflection of this was also visible on the arrangement and disposition of the units in the bath-gymnasium complexes. However, it would be misleading to consider

³⁶ The size of the Bath-Gymnasium of Vedius at Ephesus was 6,400 sq. m., while that of the Bath-Gymnasium Complex at Sardis was 11, 000 sq. m.

the early influence of the bath-gymnasium complex plan type on the later imperial plan type in designing an integrated whole. On the other hand, the impact of Roman rule was also read on the bath-gymnasium complex plan type. The uniqueness of the plan type might be hidden in the success of the provinces where the Greek influences were synthesized with the impact of Roman rule by creating a functional solution to the needs of the region. The bath-gymnasium complex plan type provides an insight in perceiving the fine-tuned Romanization in Asia Minor. Therefore, it becomes logical to see the creation of a unique plan type in the provinces in such a critical period in which the urbanization process affected the architectural developments.

It is natural that the interaction between the capital and provinces resulted in common features on the architectural formation of the regions. The disposition of the *natatio* in the imperial *thermae* and the decoration program of the Marble Court into the Bath-Gymnasium Complex at Sardis seem to indicate similar visual purpose which strengthened the effect of entrance fulfilled with imperial messages. However, although the idea of framing the entrance scene as a theatrical extravaganza was one of the indications of the interaction on the architectural development of Roman baths in Rome and Asia Minor, what makes this similarity critical is the way of attribution of this idea on the architectural productions in two different parts of the empire in the center and the east. The manner of different plan dispositions indicates the flexible mentality of creating appropriate plan types which met the needs of the public and the political system respectively. Thus, different functional needs played important roles in shaping Roman bath architecture. From this perspective, Asia Minor revealed its own contribution to the architectural and traditional development of bathing, the capacity of influencing the developments in the capital and its effort of creating such a unique production in the provinces.

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APPENDICES

APPENDIX A

Table of the plan groups

The Bath-Gymnasium Complexes	Plan Groups, acc. to Fikret Yegül	Plan Group, acc. To Andrew Farrington
The Bath-Gymnasium Complex of Sardis	The bath block and the integrated <i>palaestra</i> on the same axis	
The Vedius Bath-Gymnasium Complex	The bath block and the integrated <i>palaestra</i> on the same axis. Relatively narrower and longer than the plan of Sardis Bath-Gymnasium Complex	
The Caracallan Bath-Gymnasium in Ancyra	The addition of two rows of major and minor spaces between the main outer and inner rows complicated the simple double row plan type	
The “Gymnasium” Complex at Magnesia on the Meander	Double row plan type	Bath blocks with a long narrow rectangular <i>frigidarium</i> and large covered gallery
The Bath-Gymnasium Complex at Alexandria Troas	U-shaped halls and reversed circulation	Bath blocks with a long narrow rectangular <i>frigidarium</i> and large covered gallery
The Theater Bath-Gymnasium at Ephesus	U-shaped halls and reversed circulation	
The Harbor Bath-Gymnasium at Ephesus	Double row of spaces	Rectangular bath blocks symmetrical about the short axis with double circulatory patterns
The Bath-Gymnasium Complex at Aizanoi	Bath and <i>palaestra</i> unified on the same axis	

The Bath-Gymnasium Complexes	Plan Groups, acc. to Fikret Yegül	Plan Group, acc. To Andrew Farrington
The Bath-Gymnasium Complex in Aphrodisias	Double row of spaces	
The West Baths and East Baths of the Upper Gymnasium at Pergamon	Asymmetrical plan type	
The Baths of Faustina	An unaxial and asymmetrical plan	

APPENDIX B

Table of the common features of the bath-gymnasium complexes

The bath-gymnasium complexes	<i>Palaestra</i>	<i>Caldarium</i>	<i>Tepidarium</i>
The Bath-Gymnasium Complex of Sardis	Square <i>palaestra</i> on the eastern half. Either side of it entrance rooms leading to the long and lavishly decorated units	Rectangular <i>caldarium</i> was divided into bays with large rectangular piers	<i>Tepidarium</i> on the main axis between the <i>caldarium</i> and the cold rooms
The Vedius Bath-Gymnasium Complex	Eastern part of the plan was occupied by a rectangular <i>palaestra</i> . Had a large <i>propylon</i> and various rooms opening into it on three sides	Rectangular <i>caldarium</i> design was identical with the bath-gymnasium at Sardis	<i>Tepidarium</i> on the main axis between the <i>caldarium</i> and the cold rooms
The Caracallan Bath-Gymnasium in Ancyra	A gigantic <i>palaestra</i> which was approximately 95 X 95 meters on the east side of the plan	The <i>caldarium</i> of the complex was in the shape of a long gallery which had two integrated parts with a huge vault at the center	<i>Tepidarium</i> divided into two chambers placed on either side of flanking service area
The “Gymnasium” Complex at Magnesia on the Meander	The <i>palaestra</i> , is thought to have been located to the east of the <i>apodyterion</i> on the same level as the first floor of the <i>apodyterion</i> .		

The bath-gymnasium complexes	<i>Palaestra</i>	<i>Caldarium</i>	<i>Tepidarium</i>
The Bath-Gymnasium Complex at Alexandria Troas	Long, west side of the bath block is suggested as the location of the <i>palaestra</i>	Rectangular <i>caldarium</i> with lateral recesses, placed across the principal axis	<i>Tepidarium</i> on the main axis between the <i>caldarium</i> and the cold rooms
The Theater Bath-Gymnasium at Ephesus		The <i>caldarium</i> projected from the north side of the heated unit was in the center of the heated range.	
The Harbor Bath-Gymnasium at Ephesus		A projecting <i>caldarium</i> in the center shaped the outer row.	<i>Tepidarium</i> divided into two chambers placed on either side of flanking service area
The Bath-Gymnasium Complex at Aizanoi		The <i>caldarium</i> in the center of the heated range dominated the organization.	
The Bath-Gymnasium Complex in Aphrodisias	Forecourt or the earlier porticoe used as <i>palaestra</i>	<i>Caldarium</i> lying lengthwise with its mid-line on the main axis	
The West Baths and East Baths of the Upper Gymnasium at Pergamon	The upper terrace was functioned as <i>palaestra</i>	An apsidal <i>caldarium</i> was located at the apex of the triangle in the west baths.	

The bath-gymnasium complexes	Axis-symmetry	<i>Kaisersaal</i>	Additional hall
The Bath-Gymnasium Complex of Sardis	East Gate of the <i>palaestra</i> , the Marble Court, narrow <i>frigidarium</i> , apsed hall, small <i>tepidarium</i> , large <i>caldarium</i>	Strengthened visually the unification of the bath block to the <i>palaestra</i>	This architectural element was transformed into two symmetrically disposed groups of rooms
The Vedius Bath-Gymnasium Complex	Entrance gate was not on the main axis	The large room which was embraced by the long sides of the H-shaped gallery and the long <i>frigidarium</i> is identified as ' <i>Kaisersaal</i> '	An H-shaped hall which lies at the front of the structure between the <i>palaestra</i> and the central hall group of the <i>frigidarium</i>
The Caracallan Bath-Gymnasium in Ancyra	Symmetrical about its shorter axis		
The "Gymnasium" Complex at Magnesia on the Meander	The long projecting side of the inner row as in the shape of a single hall disrupted the symmetry of the overall plan		The second floor of the <i>apodyterion</i> was an ambulatory which utilized for intellectual and educational activities combined with the physical training activities taking place in the <i>palaestra</i>
The Bath-Gymnasium Complex at Alexandria Troas	A small <i>tepidarium</i> and <i>frigidarium</i> and a long <i>frigidarium</i> which communicated with the piers gallery were presumably located after the <i>caldarium</i> range		A large U-shaped gallery lying around the nucleus of the rectangular bath block.

The bath-gymnasium complexes	Axis-symmetry	<i>Kaisersaal</i>	Additional hall
The Theater Bath-Gymnasium at Ephesus		An open walled room in the center of the rooms along the gallery resembled the so-called ' <i>Kaisersaal</i> '	The central nucleus of the bath block was again surrounded by a U-shaped gallery
The Harbor Bath-Gymnasium at Ephesus	The plan carried the longitudinal arrangement on the main axis.	Kaisersaal on the north side of the palaestra Two of the rooms around the <i>palaestra</i> which were symmetrically located are identified as " <i>Kaisersaal</i> " due to their elaborate design	
The Bath-Gymnasium Complex at Aizanoi	The symmetrical axis was elongated by the bath block.		
The Bath-Gymnasium Complex in Aphrodisias	The length of the bath block was extended by the <i>caldarium</i> design and the addition of the long porticoe on the main axis		
The West Baths and East Baths of the Upper Gymnasium at Pergamon	The axially of the plan was maintained by the triangular arrangement of five main rooms "in 3-2-1 fashion" in the West baths.		

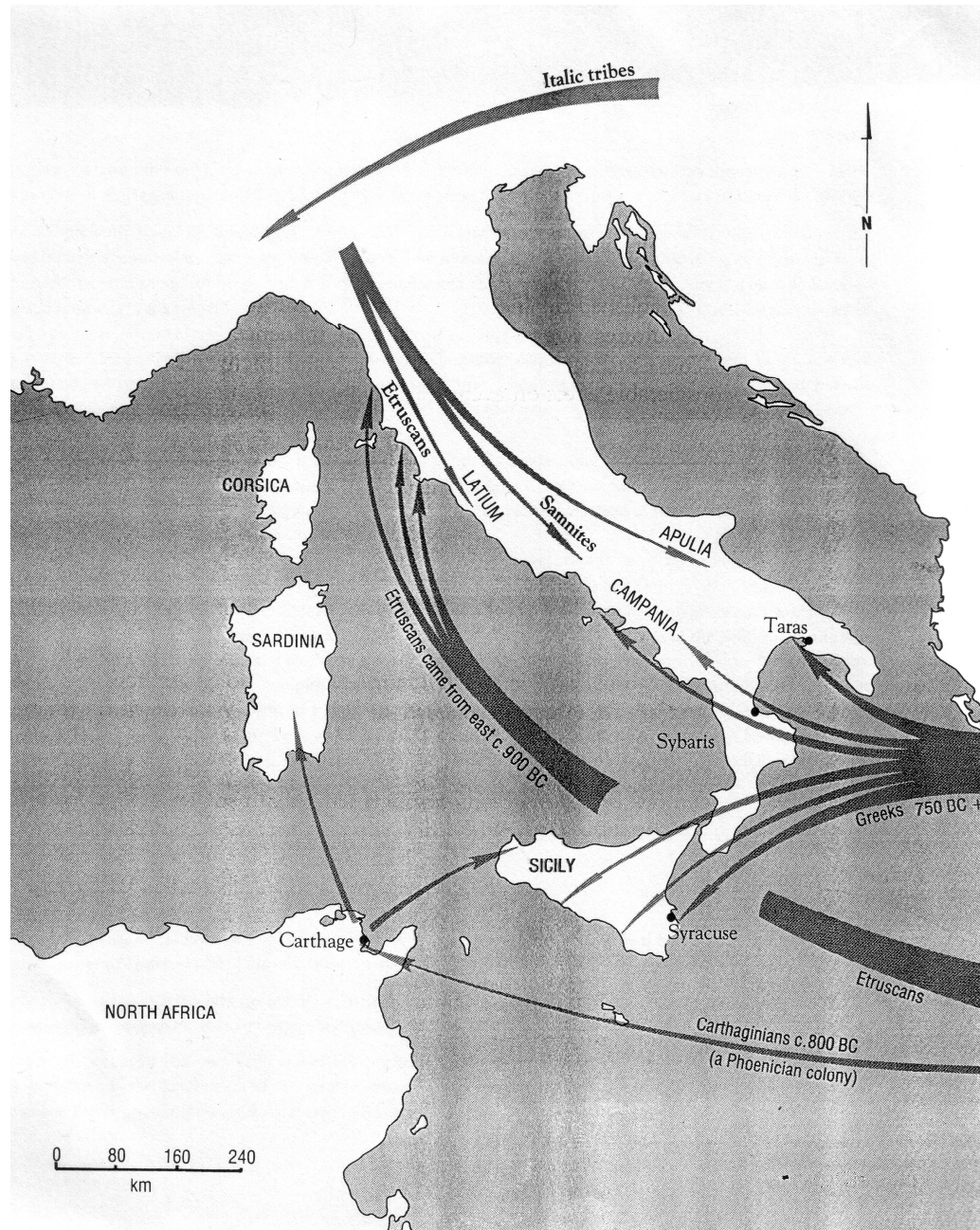
APPENDIX C

Table of the similarities and differences between the bath-gymnasia and the imperial *thermae*

The bath-gymnasium complexes	Similarities with the imperial <i>thermae</i>	Differences with the imperial <i>thermae</i>
The Bath-Gymnasium Complex of Sardis	The linear sequence of main bathing units, <i>frigidarium</i> , <i>tepidarium</i> , and <i>caldarium</i> . Same kind of evolution in the later examples, more units. The use of curves in the shape of domes, apses, and vaults heightened the effect of the spacious atmosphere which was strengthened by the axial disposition of the units (awareness of building technology developed in Rome)	Before the <i>frigidaria</i> , additional space (Kaisersaal) before the <i>natatio</i> but they had similar visual purpose as framing the entrance
The Vedius Bath-Gymnasium Complex	Strong cross-axis and strict symmetrical disposition of the baths. Central <i>caldarium</i> with parallel rectangular halls on either side (the Baths of Titus might illustrate the earlier instance). The only similarity in terms of position and design of the <i>natatio</i> and <i>frigidarium</i> was their alignment on the principal axis. Design of the <i>tepidarium</i> in relation to the <i>natatio</i> resembled the main <i>tepidarium</i> of the Baths of Trajan but after the Baths of Trajan more apsidal forms were adopted for the <i>tepidarium</i> and <i>caldarium</i> .	The <i>caldarium</i> began to be a projecting unit with semicircular apses on three sides of it in the imperial <i>thermae</i> of Trajan. The <i>palaestra</i> covered almost half of the plans, internalized and became part of the symmetrical disposition. The <i>natatio</i> was planned between the <i>tepidarium</i> and the <i>frigidarium</i> .

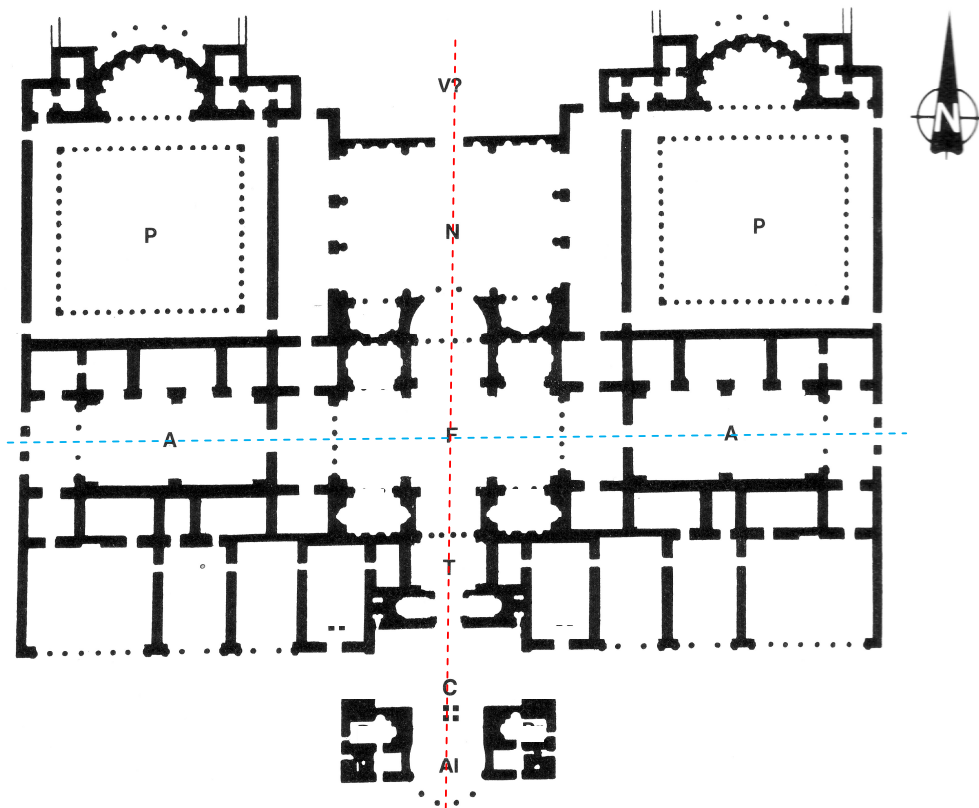
The bath-gymnasium complexes	Similarities with the imperial <i>thermae</i>	Differences with the imperial <i>thermae</i>
<p>The Caracallan Bath-Gymnasium in Ancyra</p>		<p>The bath block of the Caracallan complex in Ankara was integrated to the <i>palaestra</i> as an architectonic whole.</p> <p>The <i>natio</i> of the Bath-Gymnasium Complex in Ankara was an indoor facility placed in an oblong hall, like that of the other bath-gymnasium complexes in Asia Minor.</p>
<p>The Bath-Gymnasium Complex in Aphrodisias</p>	<p>The new position of the <i>frigidarium</i> on the plan to either side of the <i>tepidarium</i>. The lengthwise position of the <i>caldarium</i> to extend the length of the bath block through the main axis resembled the rectangular shape of the imperial <i>thermae</i>.</p>	
<p>The West Baths and East Baths of the Upper Gymnasium at Pergamon</p>		<p>The formation of the bath-gymnasium complex was different from that of the imperial <i>thermae</i> because like the complex at Pergamon, all the other bath-gymnasium complexes were constructed in combination of two different main aims of the <i>gymnasium</i> and the baths.</p>
<p>The Baths of Faustina at Miletus</p>		<p>The grandiosity of the imperial type was missing in this logical, functional, and economical scheme</p>

FIGURES



Source: Bradley, P. 1990 *Ancient Rome Using Evidence*, p. 19.

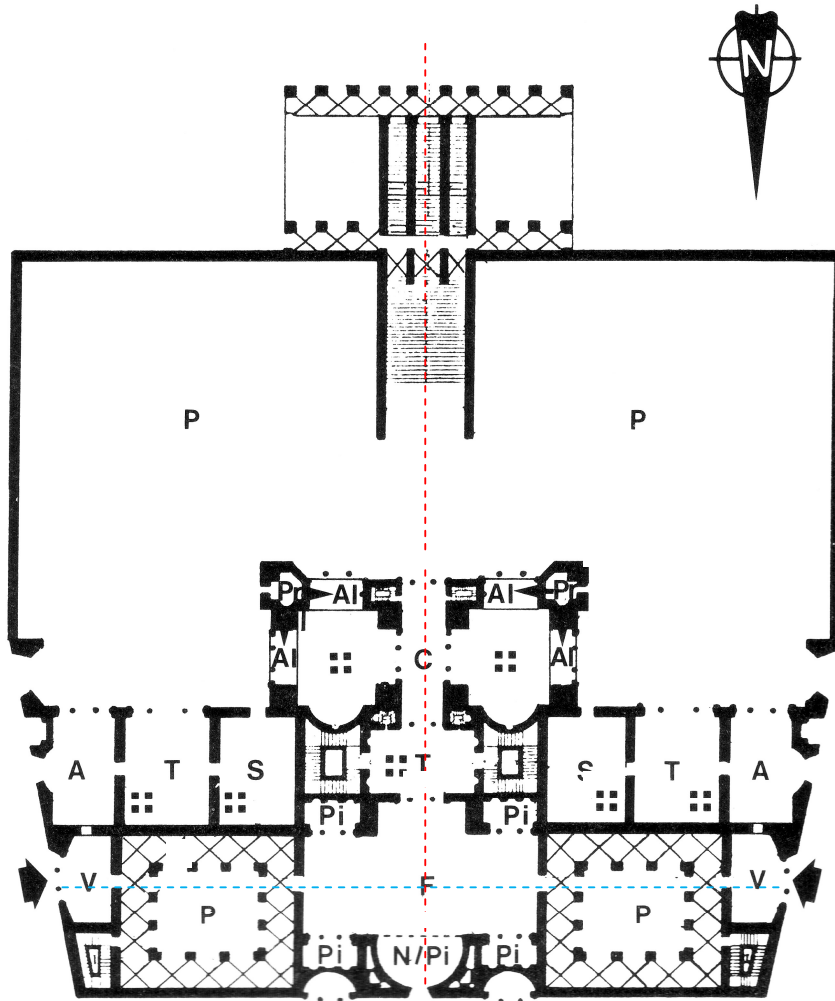
Figure 2. 1 Map showing early migrations to Italy, Sicily and North Africa



Source: Nielsen, I. 1993 *Thermae et Balnea: The Architecture and Cultural History of Roman Public Baths II*, Catalogue and Plates, Aarhus, p. 84.

Figure 2. 2 Baths of Nero. After Krencker, based on a drawing by Palladio.

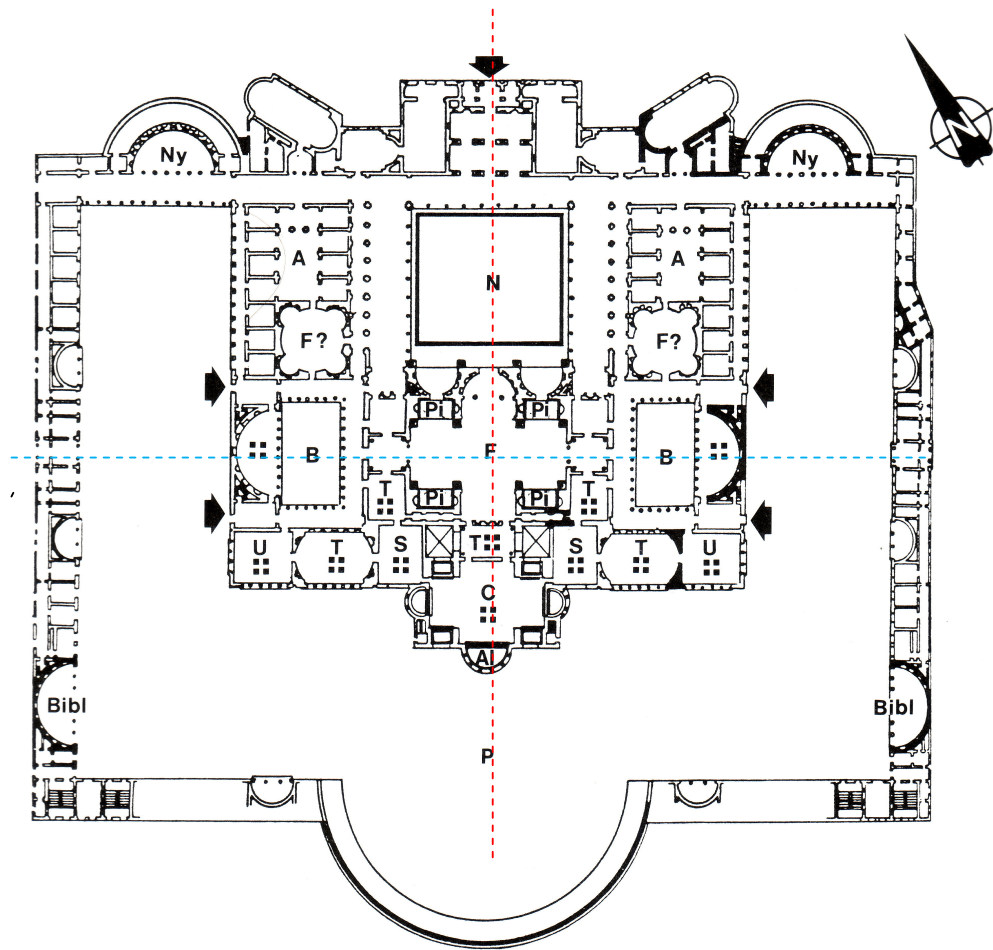
(P) Palaestra, (N) Natatio, (F) Frigidarium, (T) Tepidarium, (C) Caldarium, (A) Apodyteria



Source: Nielsen, I. 1993 *Thermae et Balnea: The Architecture and Cultural History of Roman Public Baths II*, Catalogue and Plates, Aarhus, p. 84.

Figure 2. 3 Baths of Titus. After Krencker, based on a drawing by Palladio.

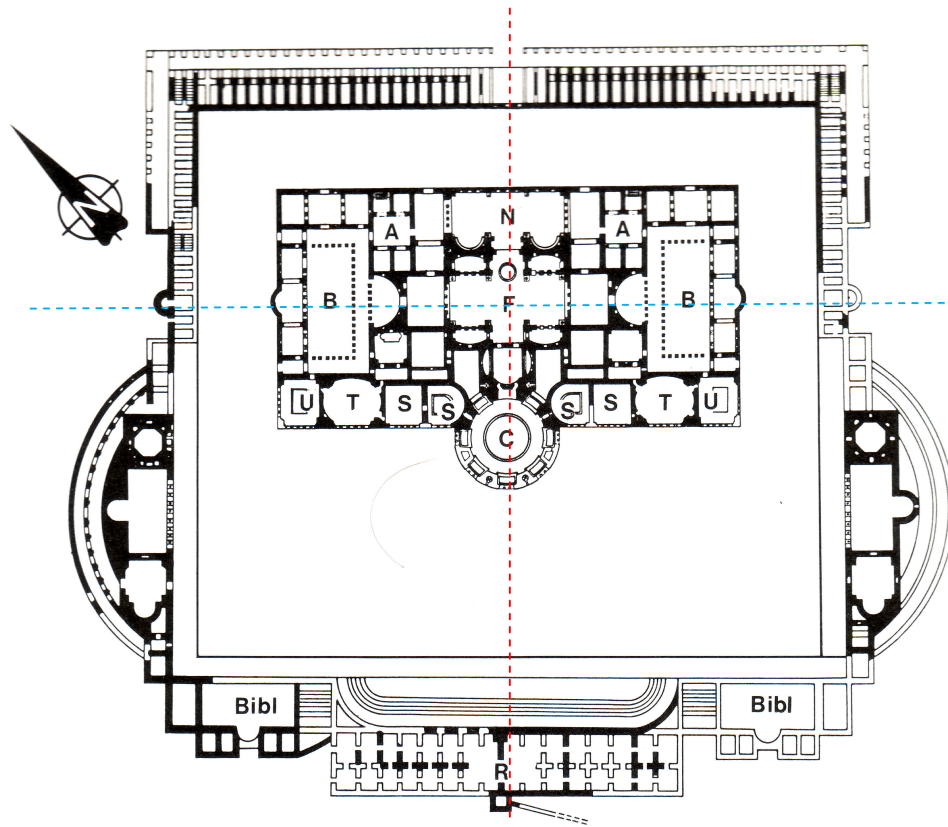
(P) Palaestra, (N) Natatio, (F) Frigidarium, (T) Tepidarium, (C) Caldarium, (A) Apodyteria



Source: Nielsen, I. 1993 *Thermae et Balnea: The Architecture and Cultural History of Roman Public Baths II*, Catalogue and Plates, Aarhus, p. 85.

Figure 2. 4 Baths of Trajan. After Anderson.

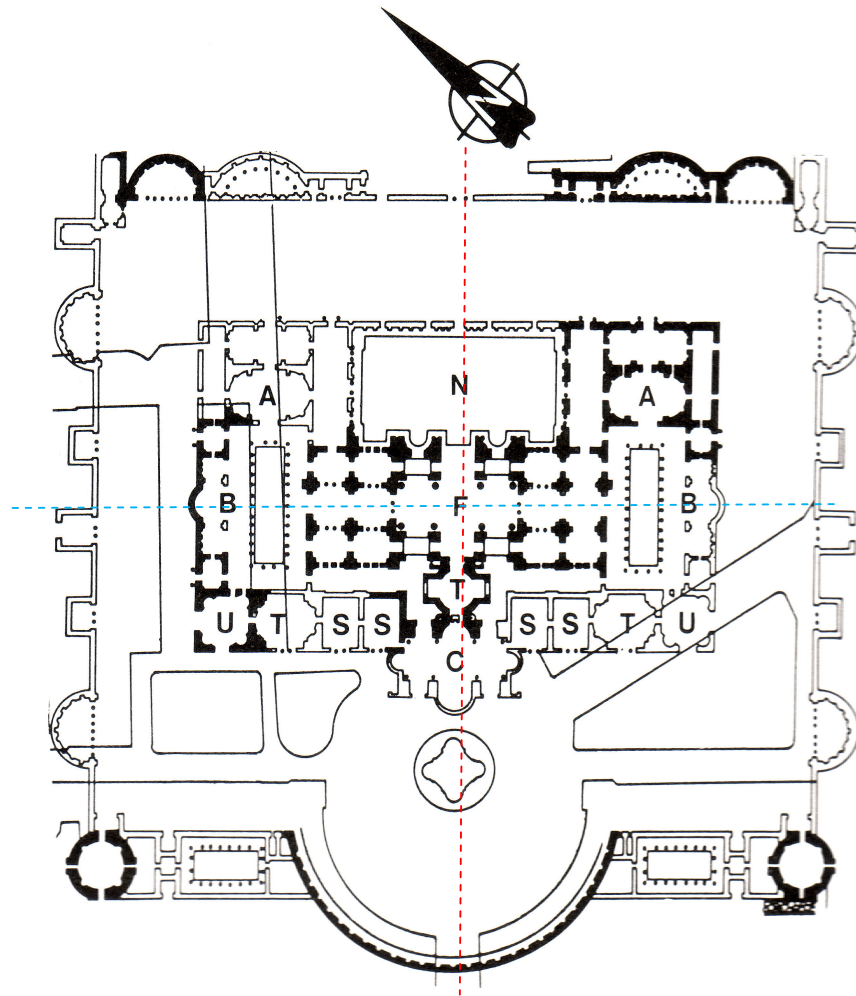
(B) Palaestra, (N) Natatio, (F) Frigidarium, (T) Tepidarium, (C) Caldarium, (A) Apodyteria



Source: Nielsen, I. 1993 *Thermae et Balnea: The Architecture and Cultural History of Roman Public Baths II*, Catalogue and Plates, Aarhus, p. 87.

Figure 2. 5 Baths of Caracalla. After Coarelli.

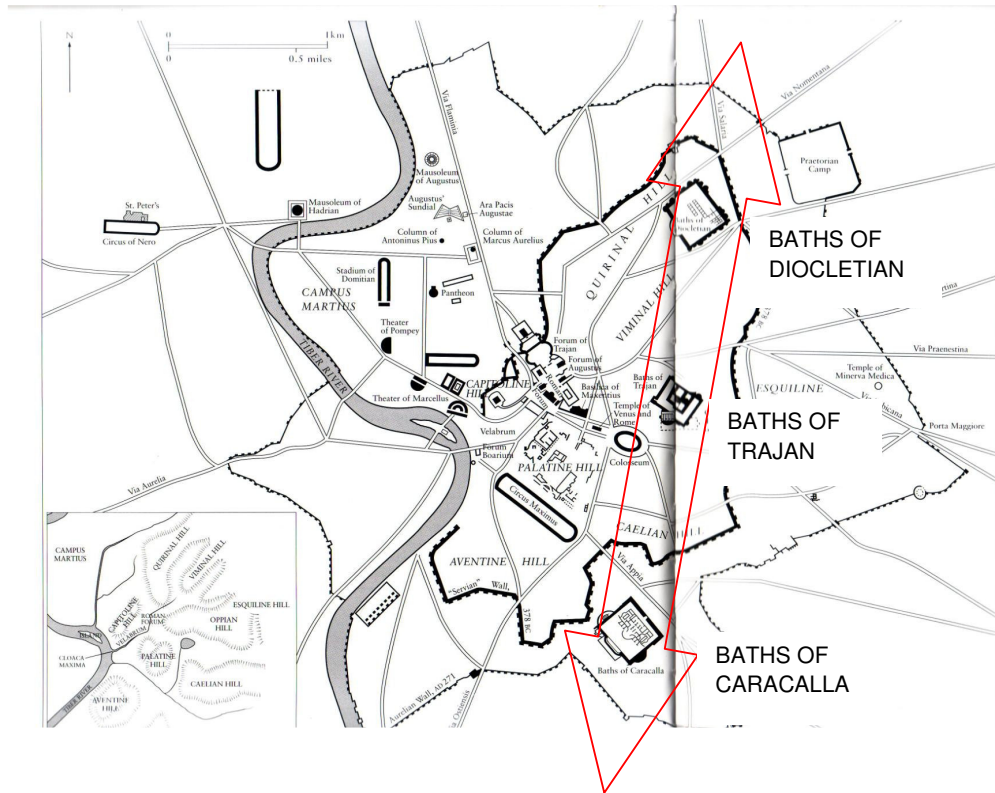
(B) Palaestra, (N) Natatio, (F) Frigidarium, (T) Tepidarium, (C) Caldarium,
(A) Apodyteria



Source: Nielsen, I. 1993 *Thermae et Balnea: The Architecture and Cultural History of Roman Public Baths II*, Catalogue and Plates, Aarhus, p. 87.

Figure 2. 6 Baths of Diocletian. After Coarelli.

(B) Palaestra, (N) Natatio, (F) Frigidarium, (T) Tepidarium, (C) Caldarium,
 (A) Apodyteria



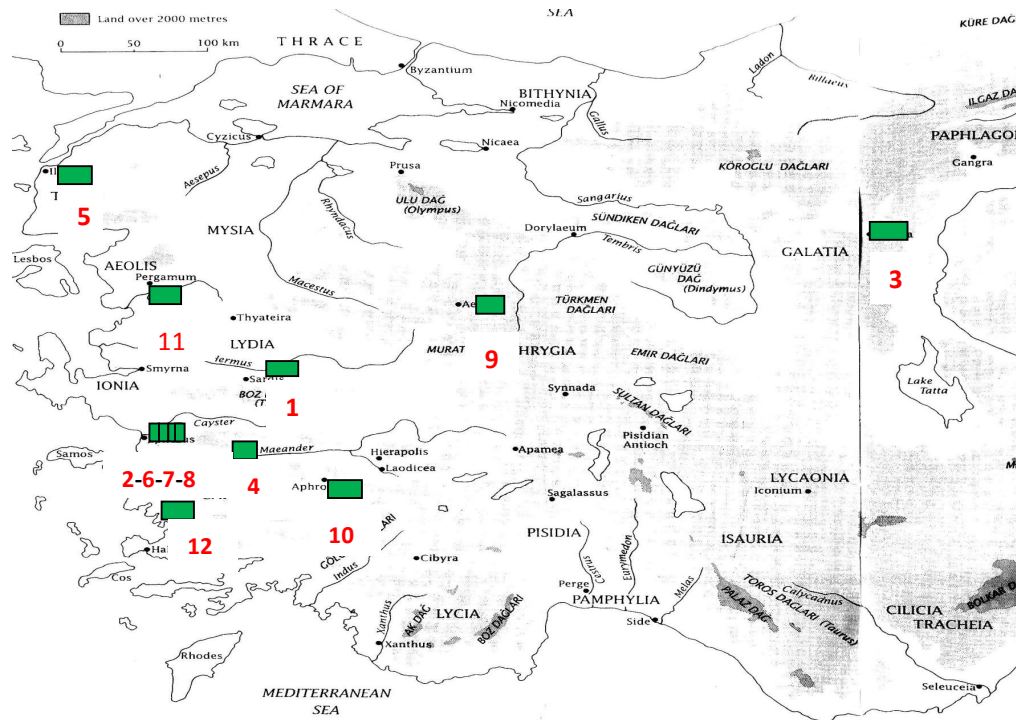
Source: Boatwright, M.T., Gargola, D.J. & Talbert R. 2004 *The Romans: From Village to Empire*, Oxford, p. 448-449.

Figure 2. 7 Map of Ancient Rome



Source: Yegül, F.K. 1992 *Baths and Bathing in Classical Antiquity*, The MIT Press, New York, p. 19.

Figure 3. 1 Red-figure vase (Berlin Staatliche Museen)

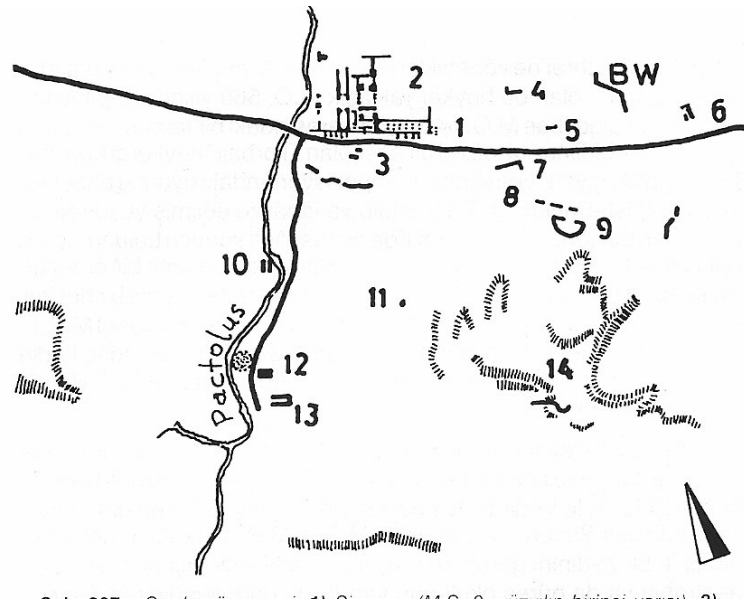


Source: Mitchell, S. 1995 *Anatolia Land, Men, and Gods in Asia Minor*, Clarendon Press, Oxford.

Figure 3. 2 Location of bath-gymnasium complexes in Asia Minor

The list of specific bath-gymnasium complexes:

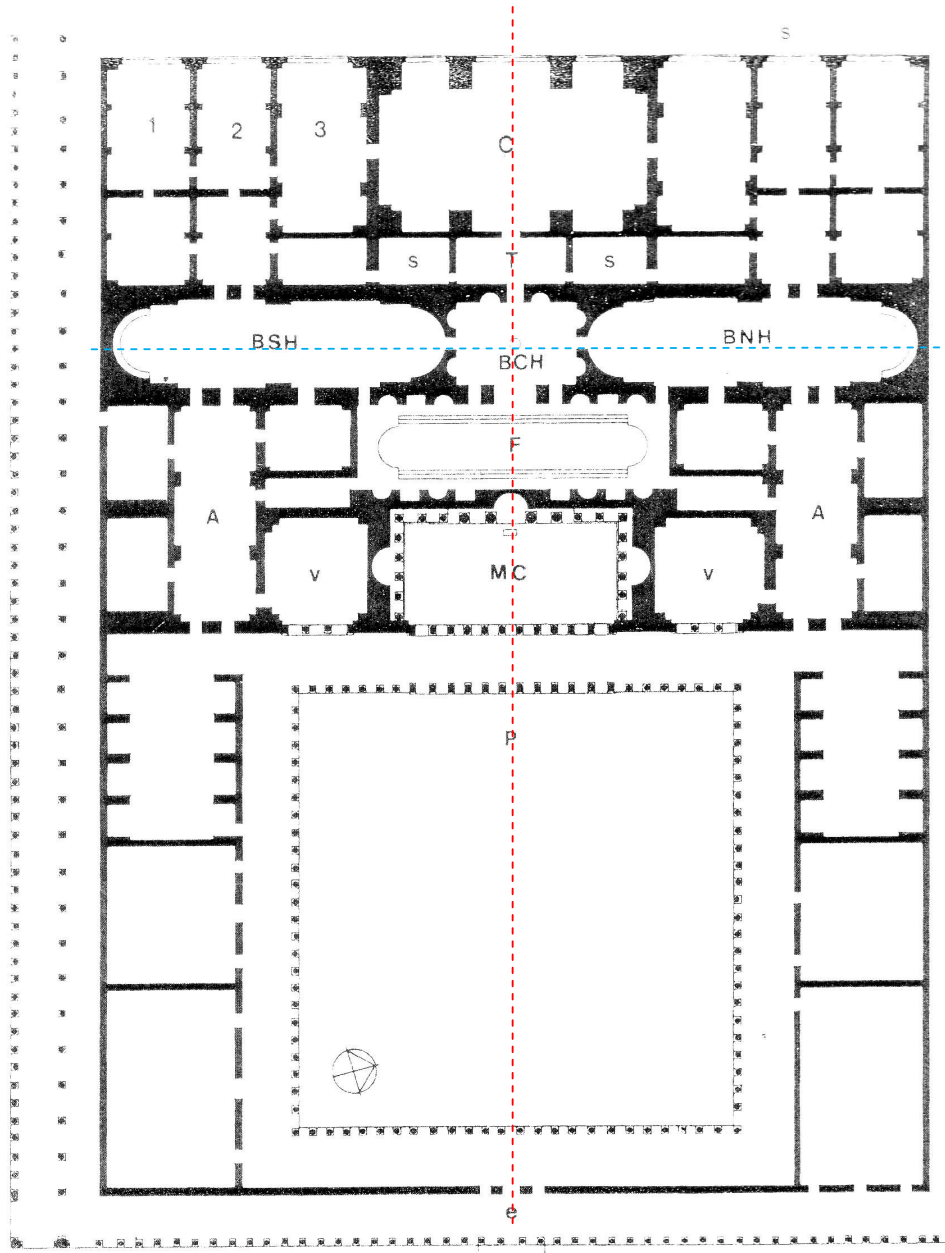
1. The Bath-Gymnasium Complex of Sardis
2. The Vedius Bath-Gymnasium at Ephesus
3. The Caracallan Bath-Gymnasium at Ankara
4. The "Gymnasium" at Magnesia on the Meander
5. The Bath-Gymnasium at Alexandria Troas
6. The East Bath-Gymnasium at Ephesus
7. The Theater Bath-Gymnasium at Ephesus
8. The Harbor Bath-Gymnasium at Ephesus
9. The Bath-Gymnasium in Aizanoi
10. The Bath-Gymnasium in Aphrodisias
11. The West Baths and East Baths of the Upper Gymnasium at Pergamon
12. The Baths of Faustina at Miletus



Source: Akurgal, E. 1985 *Ancient Civilizations and Ruins of Turkey: from prehistoric times until the end of the Roman Empire*, Haşet, Istanbul, p.304.

Figure 3. 3 The city plan of Sardis

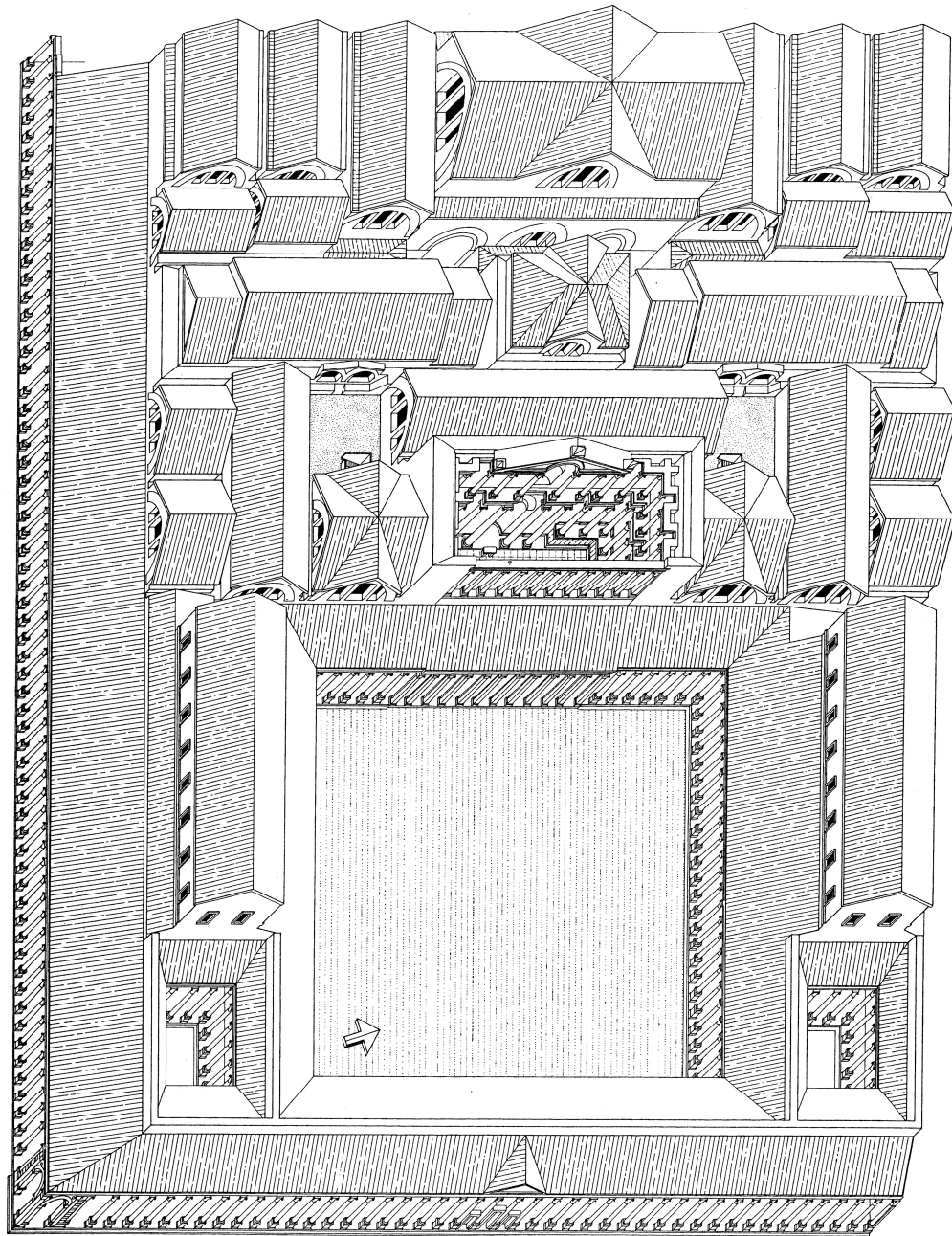
- 1 Synagogue
- 2 Bath-Gymnasium Complex
- 3 House
- 4 Roman structure
- 5 Byzantine church
- 6 Roman and Byzantine Baths
- 7 Roman structure
- 8 Stadium
- 9 Theatre
- 10 Roman houses
- 11 Persian tomb
- 13 Temple of Artemis
- 14 Acropolis



Source: Yegül, F.K. 1992 *Baths and Bathing in Classical Antiquity*, The MIT Press, New York, p. 285.

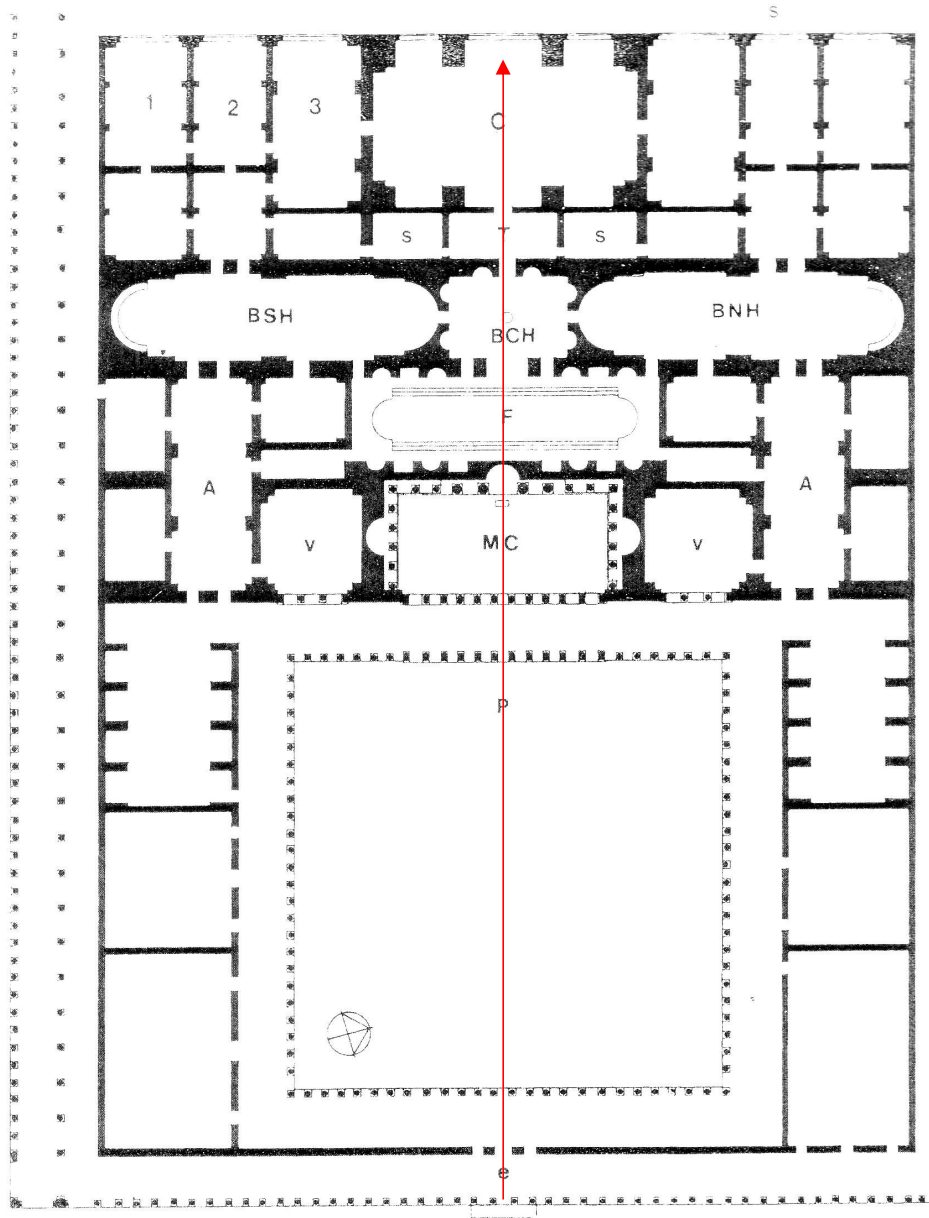
Figure 3. 4 The Bath-Gymnasium Complex at Sardis

(P) Palaestra, (MC) Marble Court, (F) Frigidarium, (T) Tepidarium,
(C) Caldarium, (A) Apodyteria



Source: Yegül, F.K. 1992 *Baths and Bathing in Classical Antiquity*, The MIT Press, New York, p. 252.

Figure 3. 5 The reconstruction drawing of the Bath-Gymnasium Complex at Sardis



Source: Yegül, F.K. 1992 *Baths and Bathing in Classical Antiquity*, The MIT Press, New York, p. 285.

Figure 3. 6 The main axis starting from the East Gate, The Bath-Gymnasium Complex at Sardis

(P) Palaestra, (MC) Marble Court, (F) Frigidarium, (T) Tepidarium, (C) Caldarium, (A) Apodyteria



Figure 3. 7 Looking from the bath block proper through the middle of the *palaestra* to the East Gate, Sardis
(Photo: Oya Dinler)



Figure 3. 8 Looking from the middle of the *palaestra* to the Marble Court, Sardis (Photo: Oya Dinler)



Figure 3. 9 The *natatio* in the *frigidarium*, Sardis: View from the south
(Photo: Oya Dinler)



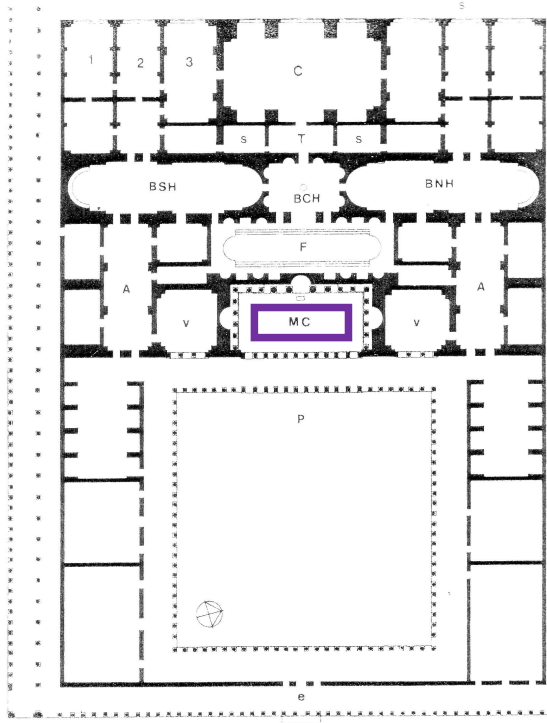
Figure 3. 10 The *natatio* in the *frigidarium*, Sardis: View from the north
(Photo: Oya Dinler)



Figure 3. 11 Closer view of the walls of the Marble Court, Sardis
(Photo: Oya Dinler)

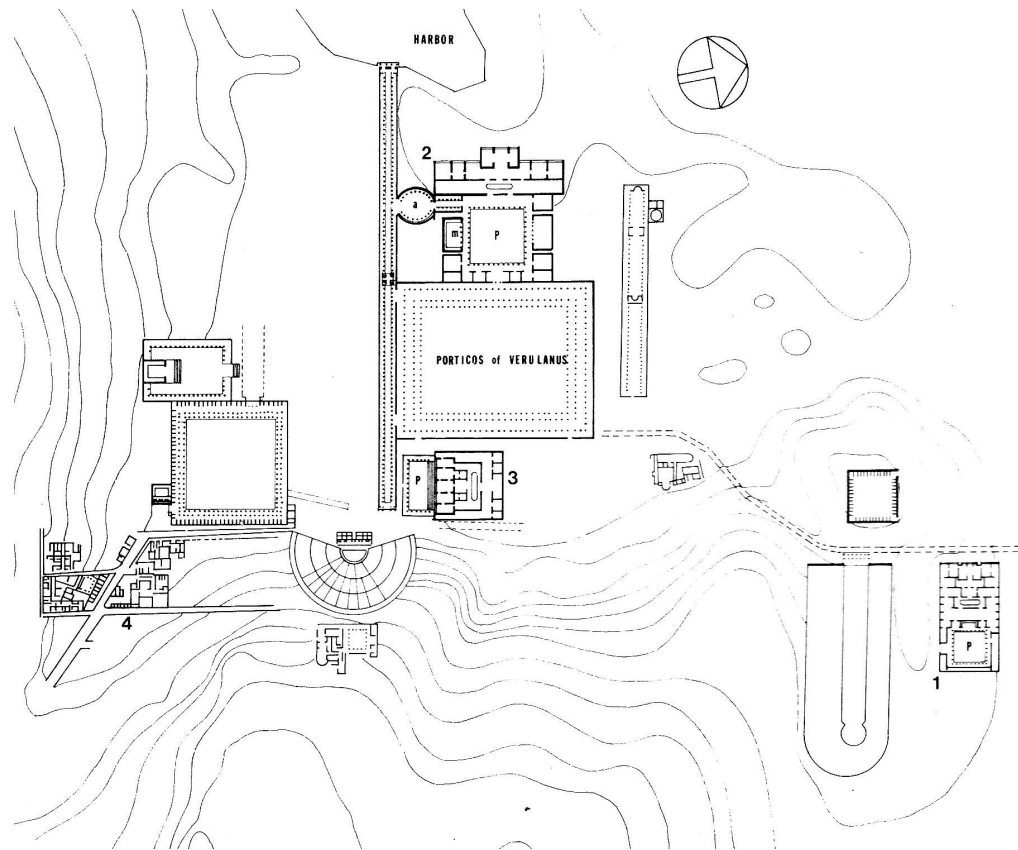


Figure 3. 12 Looking from the East Gate to the Marble Court on the main axis, Sardis
(Photo: Oya Dinler)



Source: Yegül, F.K. 1992 *Baths and Bathing in Classical Antiquity*, The MIT Press, New York, p. 285.

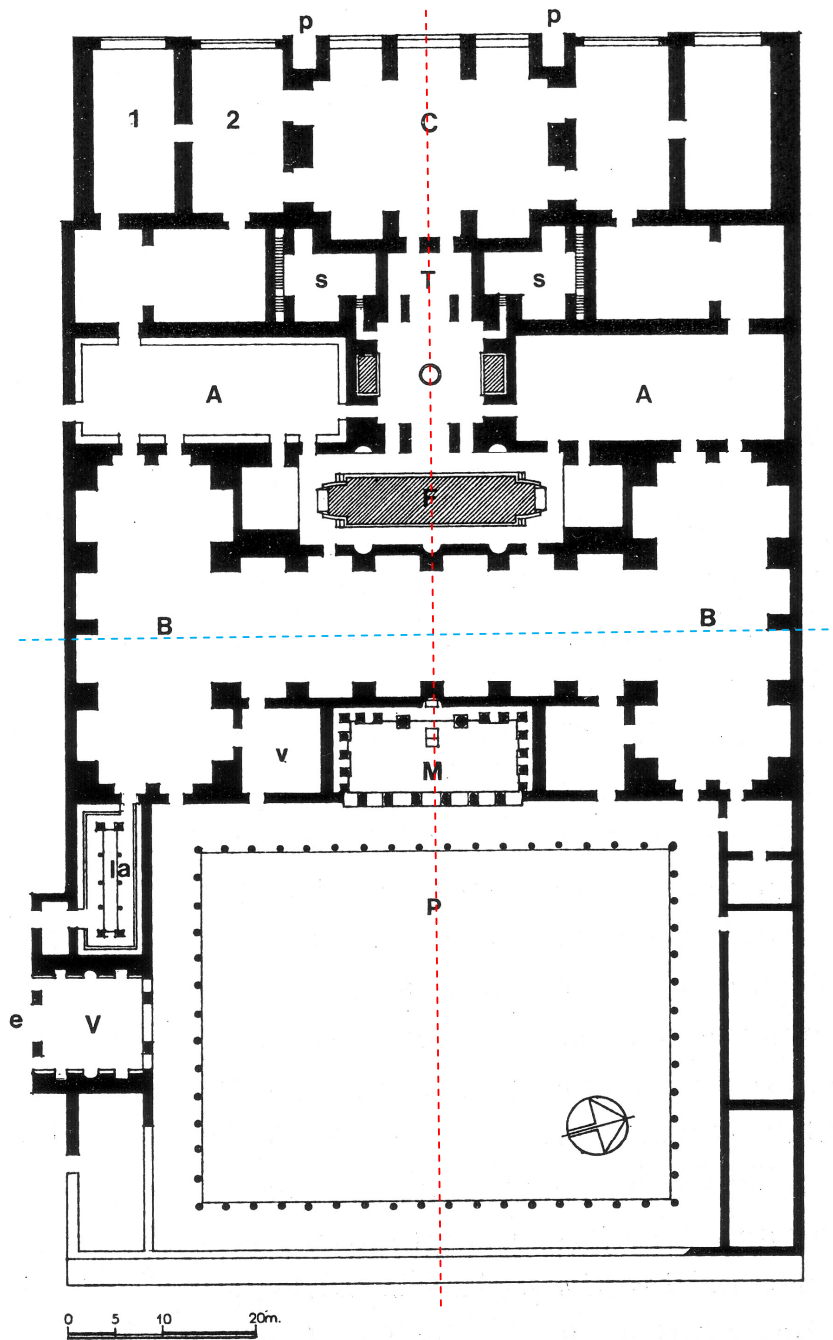
Figure 3. 13 The Marble Court (MC) on the plan, The Bath-Gymnasium Complex at Sardis



Source: Yegül, F.K. 1992 *Baths and Bathing in Classical Antiquity*, The MIT Press, New York, p. 284.

Figure 3. 14 The bath-gymnasium complexes at Ephesus

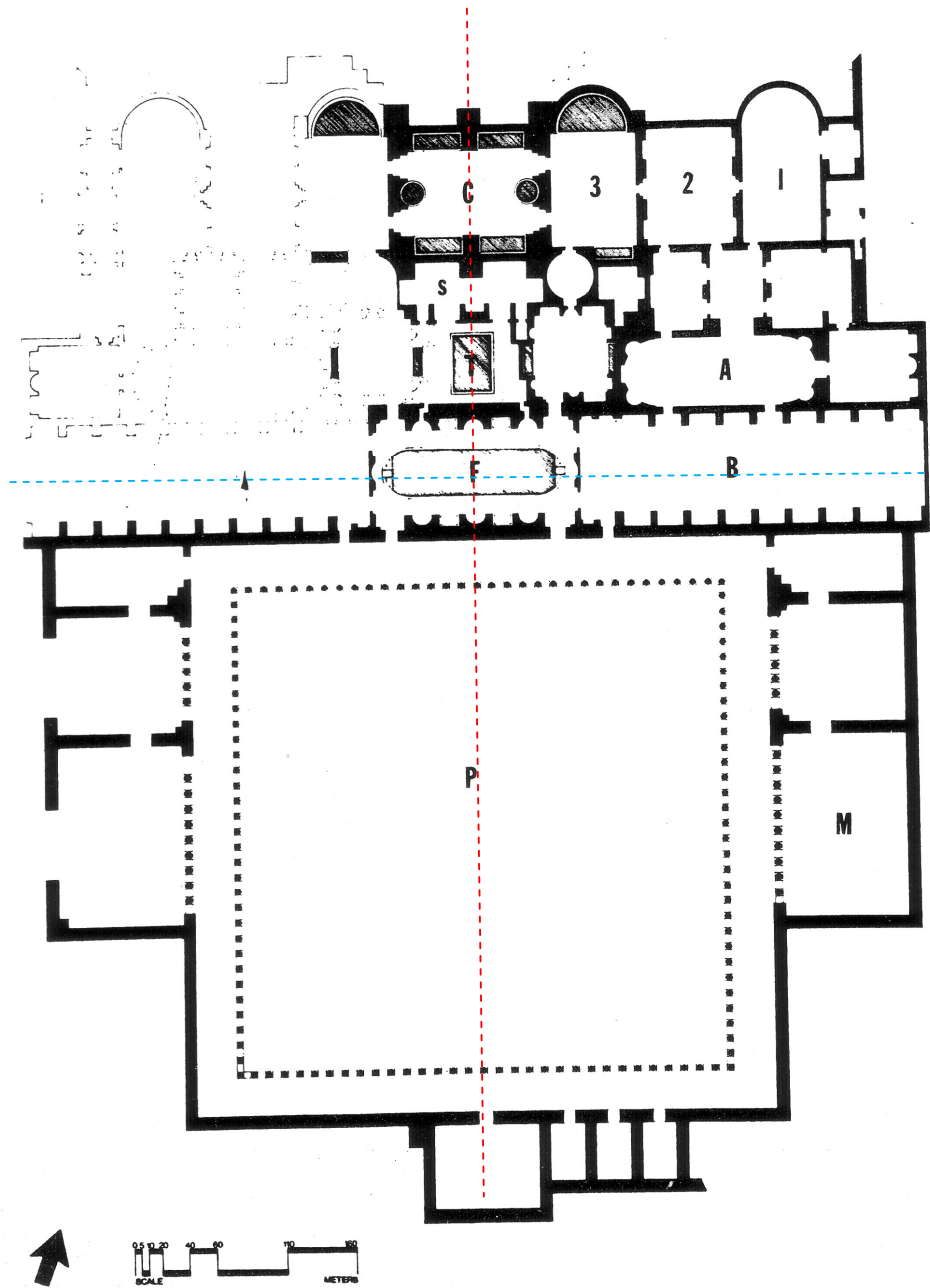
1. The Vedius Bath-Gymnasium Complex
2. The Harbor Bath-Gymnasium Complex
3. The Theater Bath-Gymnasium Complex
4. The East Bath-Gymnasium Complex



Source: Yegül, F.K. 1992 *Baths and Bathing in Classical Antiquity*, The MIT Press, New York, p. 284.

Figure 3. 15 The Vedius Bath-Gymnasium Complex at Ephesus

(P) Palaestra, (B) Ambulacrum, (F) Frigidarium, (T) Tepidarium,
 (C) Caldarium, (A) Apodyteria, (M) The so-called Kaisersaal



Source: Yegül, F.K. 1992 *Baths and Bathing in Classical Antiquity*, The MIT Press, New York, p. 280.

Figure 3. 16 The Caracallan Bath-Gymnasium Complex at Ankara

(P) *Palaestra*, (F) *Frigidarium*, (T) *Tepidarium*,
 (C) *Caldarium*, (A) *Apodyteria*, (M) The so-called *Kaisersaal*



Figure 3. 17 General view, the Caracallan Bath-Gymnasium Complex at Ankara
(Photo: Oya Dinler)



Figure 3. 18 The *palaestra*, The Caracallan Bath-Gymnasium Complex at Ankara
(Photo: Oya Dinler)



Figure 3. 19 The *palaestra*, view from north, The Caracallan Bath-Gymnasium Complex at Ankara
(Photo: Oya Dinler)



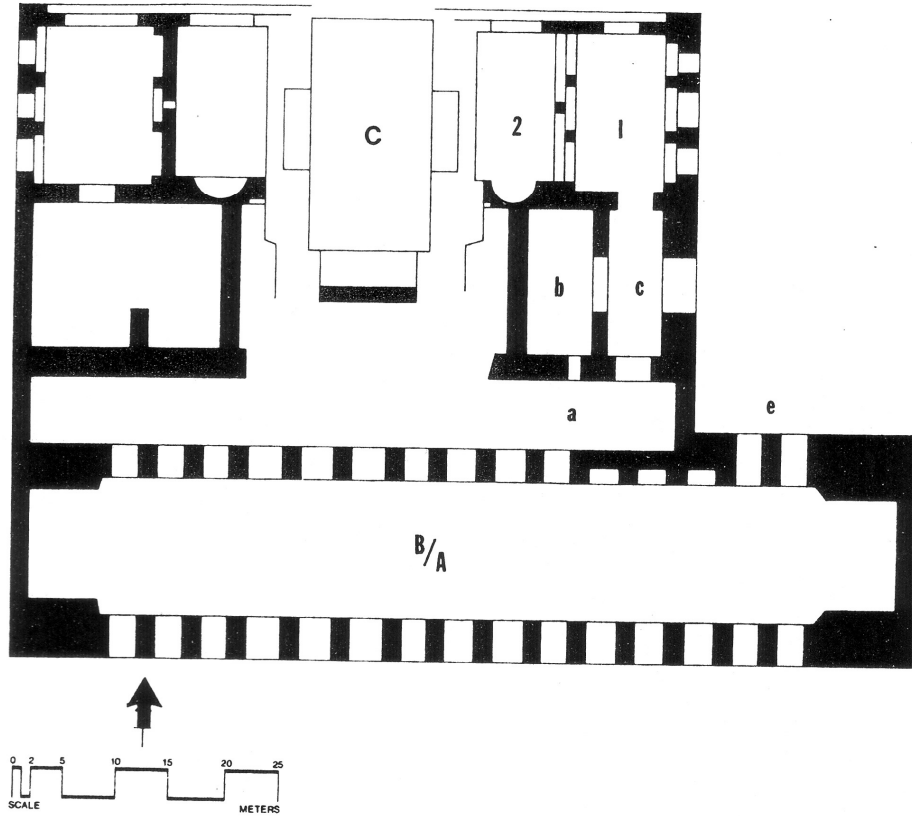
Figure 3. 20 The *piscina*, The Caracallan Bath-Gymnasium Complex at Ankara
(Photo: Oya Dinler)



Figure 3. 21 The *tepidarium*, The Caracallan Bath-Gymnasium Complex at Ankara
(Photo: Oya Dinler)



Figure 3. 22 The *caldarium*, The Caracallan Bath-Gymnasium Complex at Ankara
(Photo: Oya Dinler)



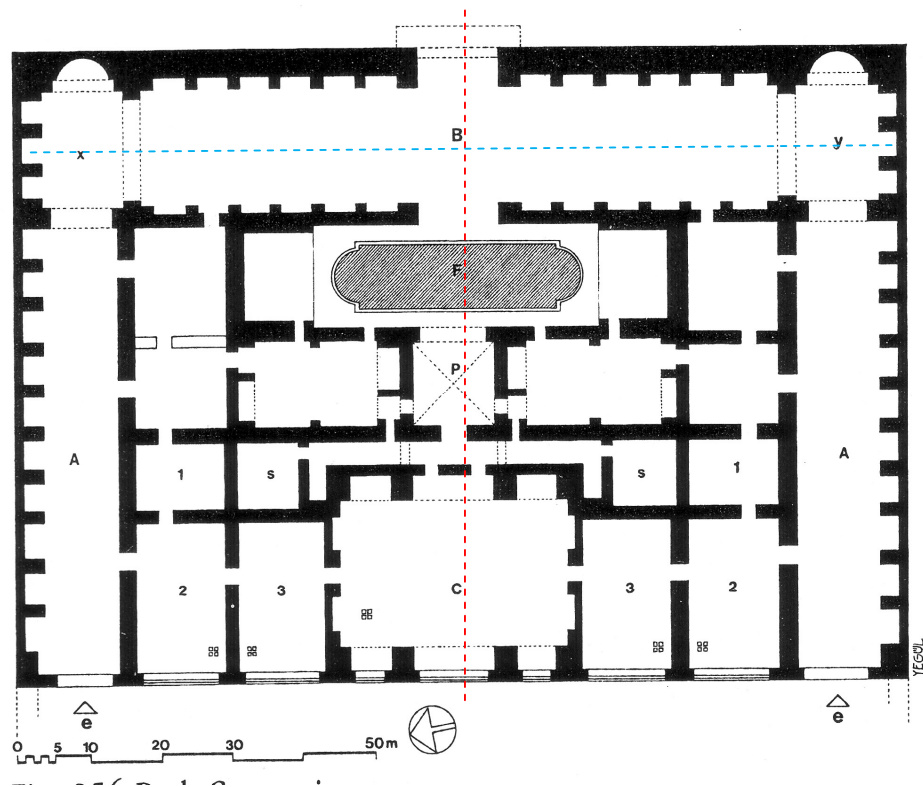
Source: Yegül, F.K. 1992 *Baths and Bathing in Classical Antiquity*, The MIT Press, New York, p. 278.

Figure 3. 23 The 'Gymnasium' Bath-Gymnasium at Magnesia on the Meander

(B/A) *Apodyteria*, (C) *Caldarium*



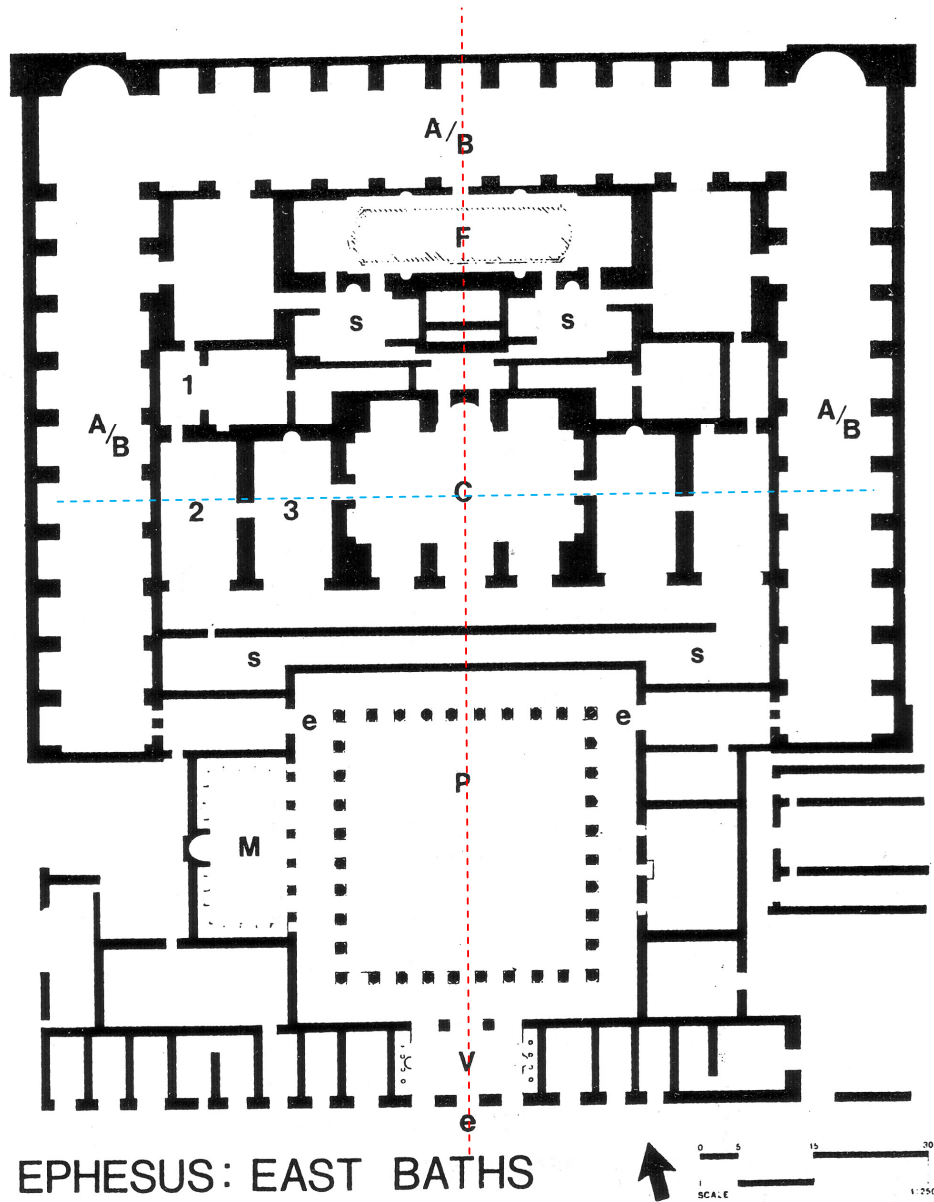
Figure 3. 24 The 'Gymnasium' at Magnesia on the Meander: the steps leading to the lowest floor
(Photo: Oya Dinler)



Source: Yegül, F.K. 1992 *Baths and Bathing in Classical Antiquity*, The MIT Press, New York, p. 283.

Figure 3. 25 The Bath-Gymnasium Complex at Alexandria at Troas

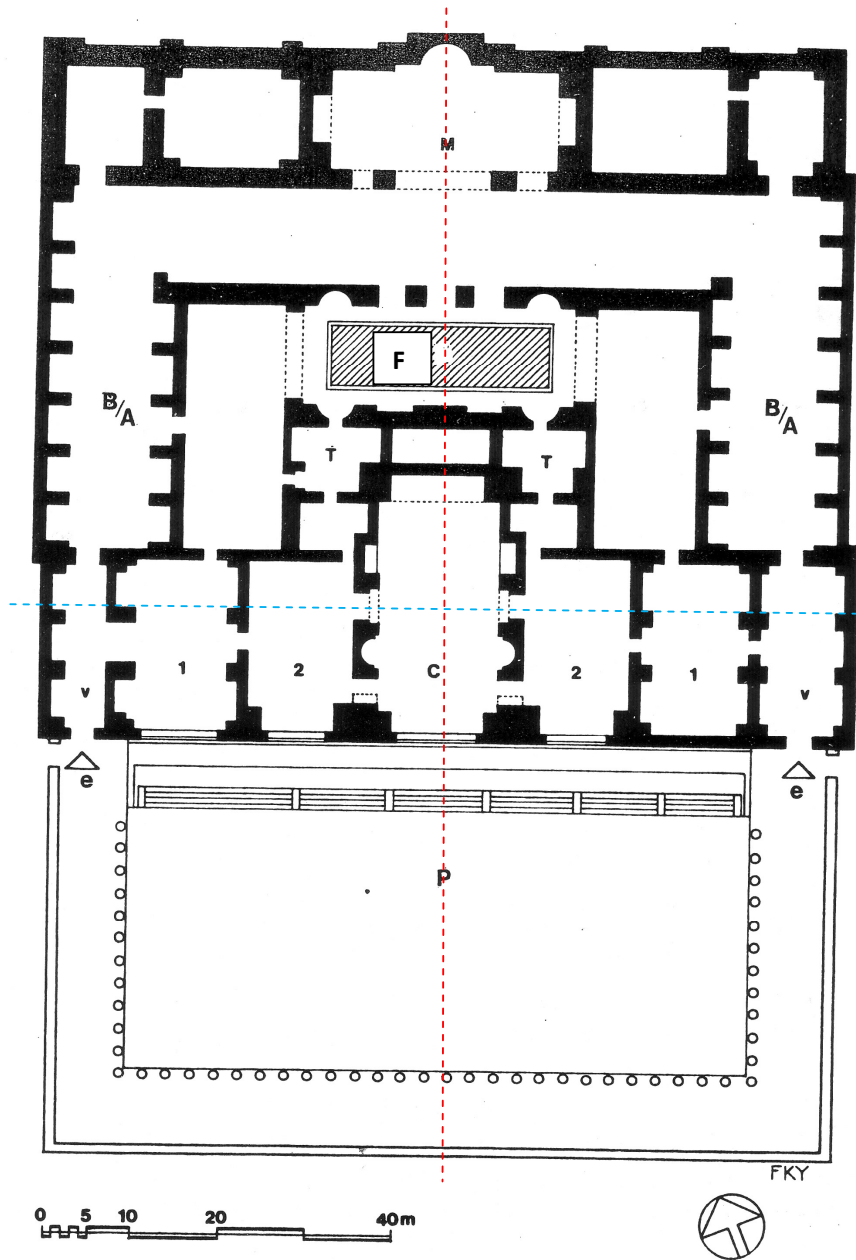
(B) *Ambulacrum*, (F) *Frigidarium*, (P) *Tepidarium*,
(C) *Caldarium*, (A) *Apodyteria*



Source: Yegül, F.K. 1992 *Baths and Bathing in Classical Antiquity*, The MIT Press, New York, p. 280.

Figure 3. 26 The East Bath-Gymnasium Complex at Ephesus

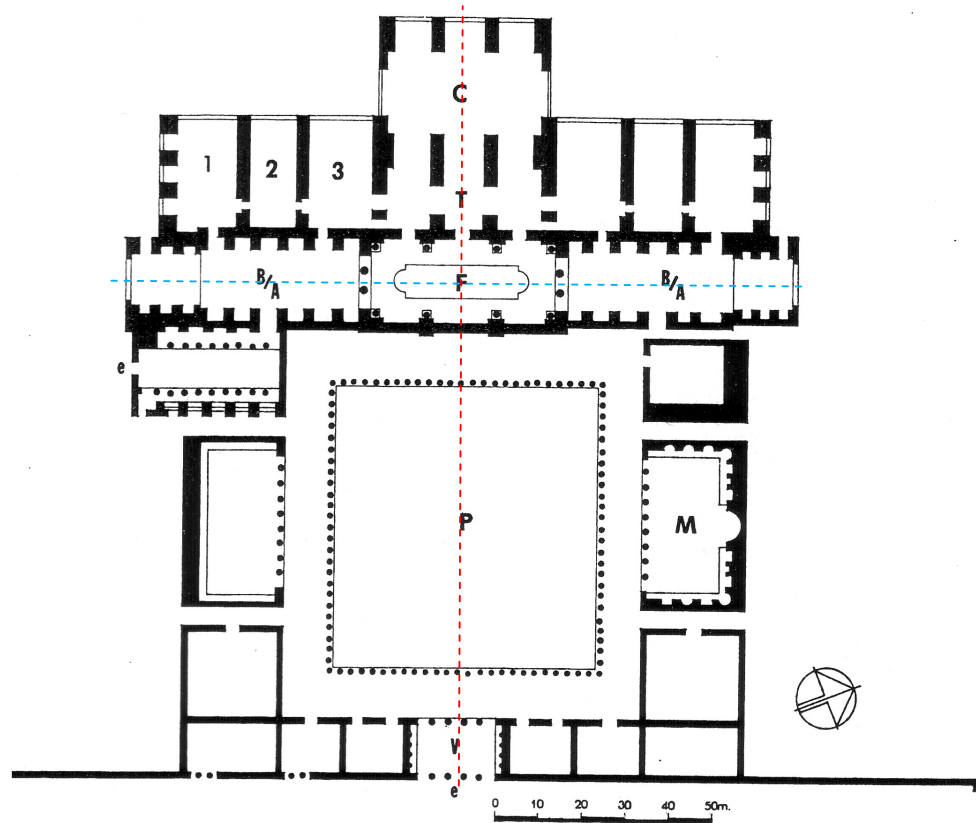
(P) *Palaestra*, (A/B) *Ambulacrum*, (F) *Frigidarium*, (C) *Caldarium*, (A) *Apodyteria*, (M) The so-called *Kaisersaal*



Source: Yegül, F.K. 1992 *Baths and Bathing in Classical Antiquity*, The MIT Press, New York, p. 281.

Figure 3. 27 The Theater Bath-Gymnasium Complex at Ephesus

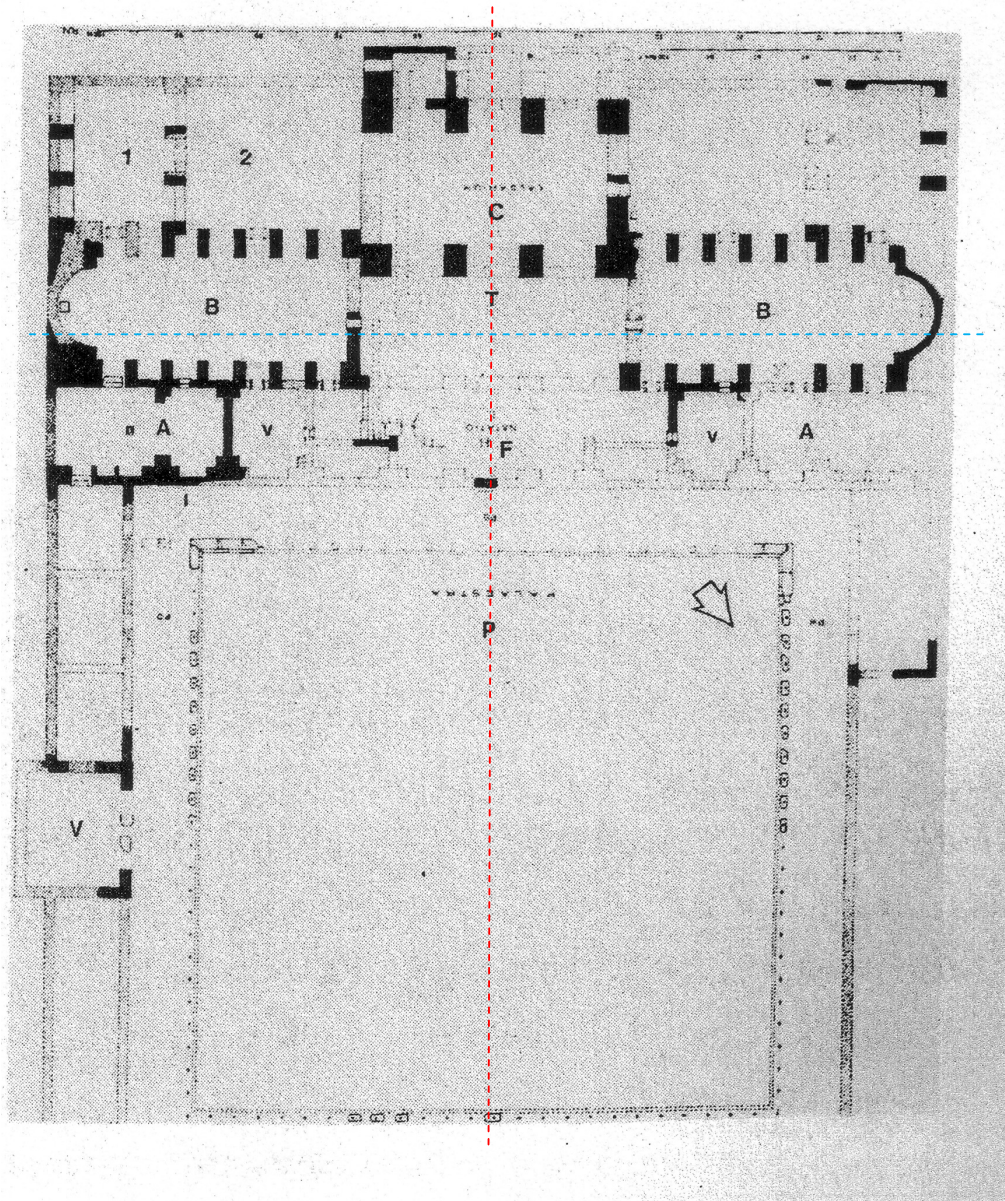
(P) Palaestra, (B/A) Ambulacrum, (F) Frigidarium, (T) Tepidarium, (C) Caldarium, (M) The so-called Kaisersaal



Source: Yegül, F.K. 1992 *Baths and Bathing in Classical Antiquity*, The MIT Press, New York, p. 273.

Figure 3. 28 The Harbor Bath-Gymnasium Complex at Ephesus

(P) *Palaestra*, (B/A) *Ambulacrum*, (F) *Frigidarium*, (T) *Tepidarium*, (C) *Caldarium*, (M) The so-called *Kaisersaal*



Source: Yegül, F.K. 1992 *Baths and Bathing in Classical Antiquity*, The MIT Press, New York, p. 285.

Figure 3. 29 The Bath-Gymnasium Complex at Aizanoi

(P) Palaestra, (B) Ambulacrum, (F) Frigidarium, (T) Tepidarium,
(C) Caldarium, (A) Apodyteria



Figure 3.30 Looking from the *caldarium* through the *tepidarium*, *frigidarium* and the *palaestra*, Aizanoi
(Photo: Oya Dinler)



Figure 3.31 The *natatio* in the *frigidarium*, Aizanoi
(Photo: Oya Dinler)



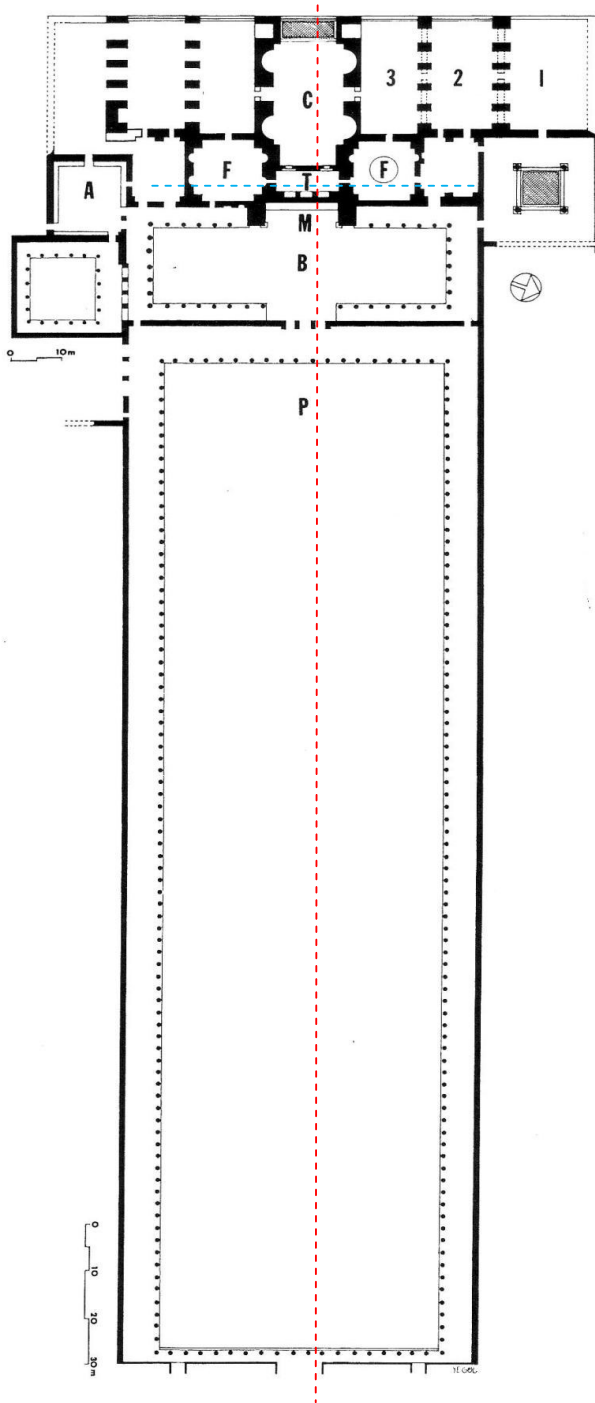
Figure 3. 32 The mosaic decorations on the floor of the room next to the *frigidarium*, Aizanoi
(Photo: Oya Dinler)



Figure 3. 33 The mosaic decorations on the floor of the room next to the *frigidarium*, Aizanoi
(Photo: Oya Dinler)



Figure 3. 34 General view, The Bath-Gymnasium Complex at Aphrodisias
(Photo: Oya Dinler)



Source: Yegül, F.K. 1992 *Baths and Bathing in Classical Antiquity*, The MIT Press, New York, p. 276.

Figure 3. 35 The Bath-Gymnasium Complex at Aphrodisias

(P) *Palaestra*, (B) *Forecourt*, (F) *Frigidarium*, (T) *Tepidarium*, (C) *Caldarium*, (A) *Apodyteria*, (M) The so-called *Kaisersaal*



Figure 3. 36 The forecourt of the bath-gymnasium, Aphrodisias
(Photo: Oya Dinler)



Figure 3. 37 The doors from the *palaestra* leading to the forecourt, Aphrodisias
(Photo: Oya Dinler)



Figure 3. 38 Looking to the Portico of Tiberius on the main axis, Aphrodisias
(Photo: Oya Dinler)



Figure 3. 39 The hall between the forecourt and the bath block, Aphrodisias
(Photo: Oya Dinler)



Figure 3. 40 The square *natatio*, Aphrodisias 5
(Photo: Oya Dinler)



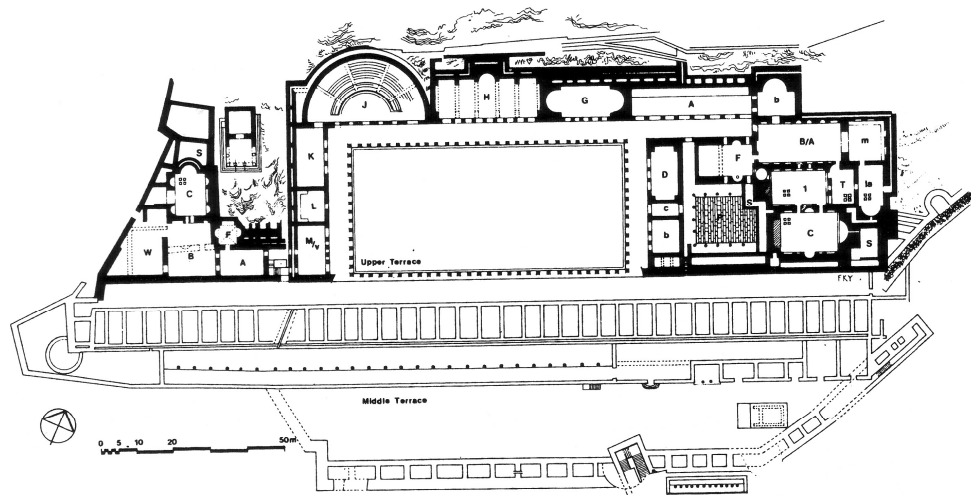
Figure 3. 41 The entrance of the bath-gymnasium complex, Aphrodisias
(Photo: Oya Dinler)



Figure 3. 42 The entrance from the *natatio* to the heated range, Aphrodisias
(Photo: Oya Dinler)



Figure 3. 43 The entrance from the *natatio* to the cold bathing units, Aphrodisias
(Photo: Oya Dinler)



Source: Yegül, F.K. 1992 *Baths and Bathing in Classical Antiquity*, The MIT Press, New York, p. 288.

Figure 3. 44 The West Baths and the East Baths of the Upper Gymnasium at Pergamon

(P) *Palaestra*, (F) *Frigidarium*, (T) *Tepidarium*,
 (C) *Caldarium*, (A) *Apodyteria*, (M) The so-called *Kaisersaal*



Figure 3. 45 The apsidal design in The West Baths of the Upper Gymnasium at Pergamon
(Photo: Oya Dinler)



Figure 3. 46 The upper terrace, Pergamon
(Photo: Oya Dinler)



Figure 3. 47 The upper terrace, Pergamon
(Photo: Oya Dinler)



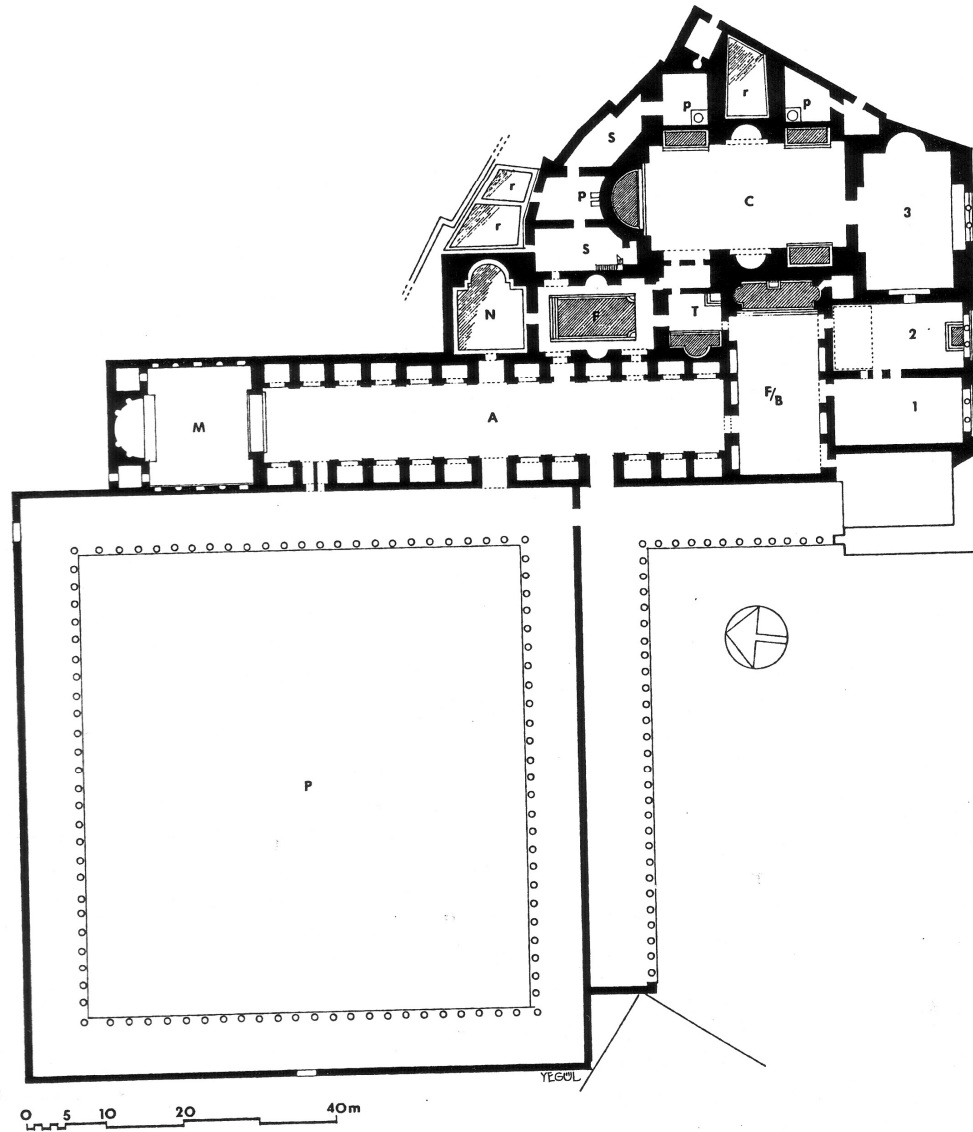
Figure 3. 48 The transitional room on the east side of the bath block of
the West Baths, Pergamon
(Photo: Oya Dinler)



Figure 3. 49 The East Baths, Pergamon
(Photo: Oya Dinler)



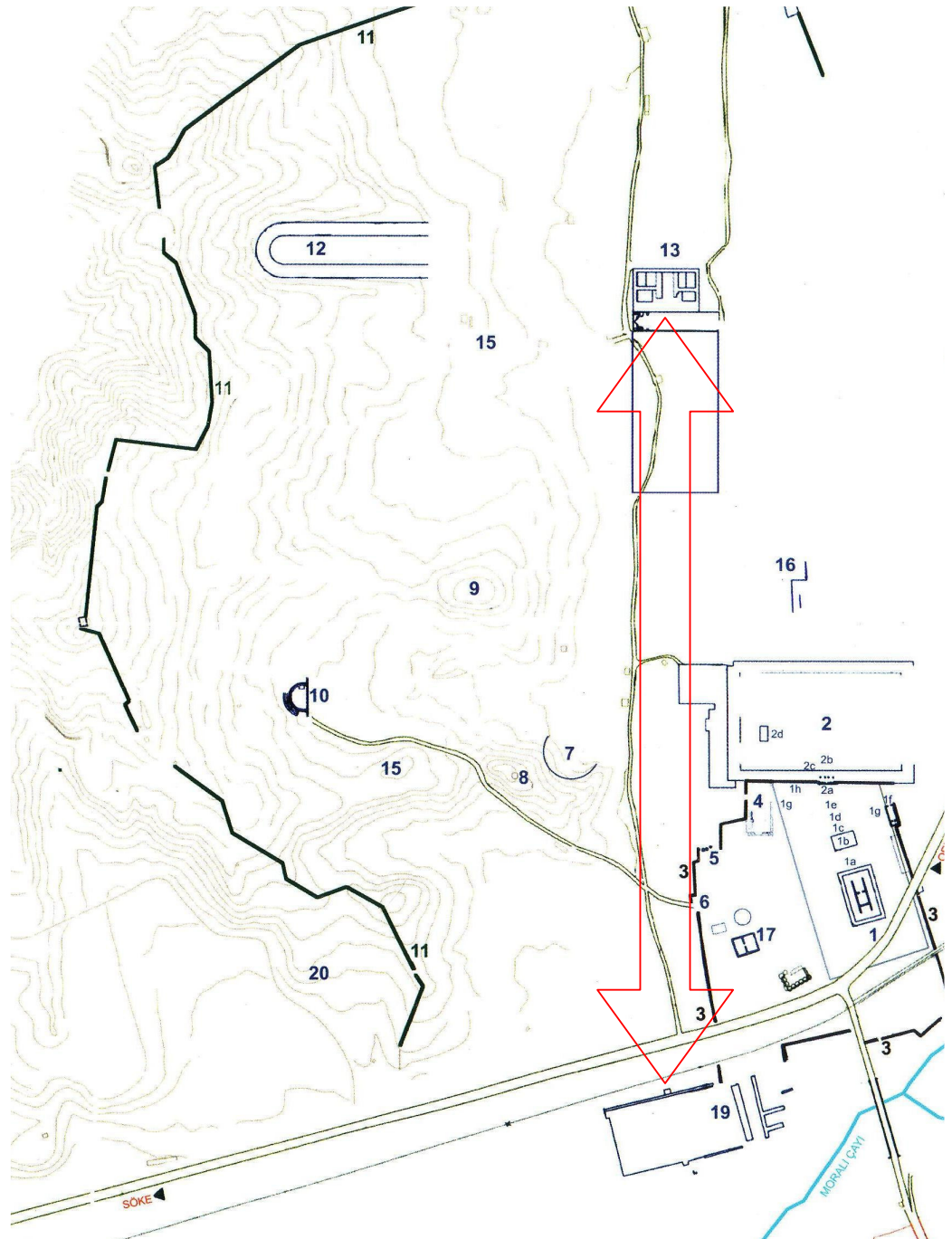
Figure 3. 50 The East Baths, Pergamon
(Photo: Oya Dinler)



Source: Yegül, F.K. 1992 *Baths and Bathing in Classical Antiquity*, The MIT Press, New York, p. 292.

Figure 3. 51 The Baths of Faustina at Miletus

(P) *Palaestra*, (F) *Frigidarium*, (T) *Tepidarium*,
(C) *Caldarium*, (A) *Apodyteria*



Source: Bingöl, O. 2007 *Magnesia on the Meander*, Homer Kitabevi, Istanbul. p.205.

Figure 4.1 The city plan of Magnesia on the Meander

- 13 The 'Gymnasium' Bath-Gymnasium Complex
- 19 The 'Caserma' Bath-Gymnasium Complex