

**LA SAPIENZA UNIVERSITÀ DI ROMA
DIPARTIMENTO DI SCIENZE DELL'ANTICHITÀ**

**Byzantine Baths
in the Prefecture of Illyricum**

Ph.D Thesis

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Note on Transliteration and Citations

This note on transliteration and citations was considered necessary, because of the different alphabets used in this study. The basic rule followed throughout the text is the usage of the original language in cited works, in order to avoid errors and misunderstandings.

In the two volumes, the Latin, the Greek, the Albanian and three of the Cyrillic alphabets (Bulgarian, Serbian, the alphabet of F.Y.R.O.M.) are used. The main body of the three Cyrillic alphabets is the same, but there are some extra letters in every alphabet. The Serbian language has two official alphabets, the Cyrillic and the Latin. In the case of Serbian citations, the format of the author or the journal is adopted. In the body text, the Greek and Slavic names are transcribed into Latin characters for the reader's convenience.

Regarding the Greek alphabet, a one-to-one correspondence of the letters, between the Greek and the Latin alphabet is followed for the transliteration of the author's names or the name places, except in those cases where a Latinate or Anglicized version is very familiar. The rest of the letters are transliterated according to the following system: the letter α is transliterated as **a**, the letter β is transliterated as **v**, the letter γ is transliterated as **g**, the letter δ is transliterated as **d**, the letter ϵ is transliterated as **e**, the letter ζ is transliterated as **z**, the letter η is transliterated as **ē**, the letter θ is transliterated as **th**, the letter ι is transliterated as **i**, the letter κ is transliterated as **k**, the letter λ is transliterated as **l**, the letter μ is transliterated as **m**, the letter ν is transliterated as **n**, the letter ξ is transliterated as **x**, the letter \omicron is transliterated as **o**, the letter π is transliterated as **p**, the letter ρ is transliterated as **r**, the letter σ and ς are transliterated as **s**, the letter τ is transliterated as **t**, the letter υ is transliterated as **y**, the letter ϕ is transliterated as **ph**, the letter χ is transliterated as **ch**, the letter ψ is transliterated as **ps** and the letter ω is transliterated as **ō**.

Additionally, diphthongs are transliterated according to the following system: the diphthong $\alpha\iota$ is transliterated as **ai**, the diphthong $\alpha\upsilon$ is

transliterated as **av** or **af**, the diphthong **ει** is transliterated as **ei**, the diphthong **ευ** is transliterated as **ev** or **ef**, the diphthong **ηυ** is transliterated as **ēv** or **ēf**, the diphthong **οι** is transliterated as **oi**, the diphthong **ου** is transliterated as **ou**, the diphthong **υι** is transliterated as **yi**.

The sound clusters are transliterated according to the following system: the sound **γγ** is transliterated as **ng**, the sound **γξ** is transliterated as **nx**, the sound **γκ** is transliterated as **gk**, the sound **γχ** is transliterated as **nch**, the sound **μπ** is transliterated as **mp**, the sound **ντ** is transliterated as **nt**.

Regarding the Cyrillic alphabets, a one-to-one correspondence of the letters between the Cyrillic and the Latin alphabet is followed for the transliteration of the names of place, except in cases where a Latinate or Anglicized version is very familiar. The rest of the letters are transliterated according to the following system: the letter **а** is transliterated as **a**, the letter **б** is transliterated as **b**, the letter **в** is transliterated as **v**, the letter **г** is transliterated as **g**, the letter **д** is transliterated as **d**, the letter **ђ** is transliterated as **đ**, the letter **ѓ** is transliterated as **ǧ**, the letter **е** is transliterated as **e**, the letter **ж** is transliterated as **ž**, the letter **з** is transliterated as **z**, the letter **с** is transliterated as **dz**, the letter **и** is transliterated as **i**, the letter **й** is transliterated as **j**, the letter **ј** is transliterated as **j**, the letter **к** is transliterated as **k**, the letter **л** is transliterated as **l**, the letter **љ** is transliterated as **lj**, the letter **м** is transliterated as **m**, the letter **н** is transliterated as **n**, the letter **њ** is transliterated as **nj**, the letter **о** is transliterated as **o**, the letter **п** is transliterated as **p**, the letter **р** is transliterated as **r**, the letter **с** is transliterated as **s**, the letter **т** is transliterated as **t**, the letter **ќ** is transliterated as **ќ**, the letter **ћ** is transliterated as **ć**, the letter **у** is transliterated as **u**, the letter **ф** is transliterated as **f**, the letter **х** is transliterated as **h**, the letter **ц** is transliterated as **c**, the letter **ч** is transliterated as **č**, the letter **џ** is transliterated as **dž**, the letter **ш** is transliterated as **š**, the letter **щ** is

transliterated as **št**, the letter **ѣ** is transliterated as **ǎ**, the letter **ѡ** is transliterated as **j**, the letter **ю** is transliterated as **ju** and the letter **я** is transliterated as **ja**¹.

In the bibliography, the order of each alphabet is followed and combined with the others. It's first the Latin alphabet, second the Greek and in the end the Cyrillic alphabets. The Slavic names that are written with the Latin alphabet are into the correct order by the corresponding alphabet. The order of the letters goes like this: **A - a, A - α, A - a, B - b, B - β, Б - б, В - в, С - с, Г - γ, Г - г, D - d, Δ - δ, Д - д, Ѓ - ѓ, Е - e, Е - ε, Е - e, F - f, Z - ζ, G - g, H - η, Ж - ж, H - h, Θ - θ, З - з, S - s, I - i, I - ι, И - и, Ў - џ, J - j, K - k, K - κ, L - l, Λ - λ, Л - л, Љ - љ, М - m, М - μ, М - м, N - n, N - ν, Н - н, Њ - њ, Ξ - ξ, O - o, P - p, П - п, Q - q, R - r, P - ρ, P - p, S - s, Σ - σ, С - с, T - t, Т - τ, Т - т, Ѐ - ѐ, U - u, Y - y, V - v, Φ - φ, Φ - φ, W - w, X - x, X - χ, X - x, Y - y, Ψ - ψ, Ц - ц, Ч - ч, Z - z, Ω - ω, Ш - ш, Ъ - ъ, Ы - ы, Ь - ь, Щ - щ, Ь - ь, Ь - ь, Ю - ю, Я - я.**

In the text, the book references used more than one time follow an abbreviated form, from the second time and thereafter, which consists of the surname of the author, the year of issue and the page number. The journal references² used more than one time follow an abbreviation form, from the second time and thereafter, consisting of the surname of the author, the abbreviated journal name, if the title is longer that one word, the year of issue and the page number. In the lemma catalogue, all the bibliography is given abbreviated from the first time.

The abbreviation for the papers which are signed by an institute, an organization etc. consist of the name of the institute, the organization etc. in quotation marks, the abbreviated journal name, the year of issue and the page number. The abbreviation for the papers without author consists of the

¹ The letters љ, щ, ѣ, ѡ, ю and я exist only in the Bulgarian alphabet. The letters ѣ and ѡ exist only in the Serbian alphabet. The letters ѓ, s and ѐ exist only in the alphabet of F.Y.R.O.M. The letters j, љ, њ and џ exist in the Serbian and in the F.Y.R.O.M.'s alphabets.

² The bibliographical reference of the *Archaiologikon Deltion* (ΑΔ) consists of the author's name, the abbreviate journal name, the year of issue, the volume and the page number. In recent years, in the references of the ΑΔ the absence of the title has been established, because of the particular organization of the volumes.

abbreviated journal name in quotation marks, the year of issue and the page number.

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Abbreviations and Bibliography

<i>AdR</i>	Amor di Roma
AJA	American Journal of Archaeology
AR	Archaeological Report
AC	Archeologia Classica
ΑΔ	Αρχαιολογικόν Δελτίον
ΑΕ	Αρχαιολογική Εφημερίς
ΑΕΘΣΤΕ	Αρχαιολογικό Έργο Θεσσαλίας και Στερεάς Ελλάδας
ΑΕΚ	Αρχαιολογικό Έργο Κρήτης
ΑΕΜΘ	Αρχαιολογικό Έργο στη Μακεδονία και τη Θράκη
Ανιστόρητον	Ανιστόρητον. Περιοδικό Ιστορίας, Αρχαιολογίας και Ιστορίας της Τέχνης. Ιστοριογραφικά.
Αρχαιολογία	Αρχαιολογία και Τέχνες
ΑΟΡ	Археологически Открития и Разкопки
ΑΡ	Arheološki Pregled
ΑΠ	Археолошки Преглед
BCH	Bulletin de Correspondance Hellénique
BCH Suppl.	Bulletin de Correspondance Hellénique. Supplément
BSA	Annual of the British School at Athens
CP	Climate of the Past
CQ	The Classical Quarterly
ГНАМ	Годишник на народния археологически музей
ГНМ	Годишник на народния музей.
DOP	Dumbarton Oaks Papers
ΔΧΑΕ	Το Δελτίον της Χριστιανικής Αρχαιολογικής Εταιρείας
ΕΕΒΣ	Επετηρίς της Εταιρείας Βυζαντινών Σπουδών
ΕΕΦΣΑΠΘ	Επιστημονική Επετηρίς Φιλοσοφικής Σχολής Αριστοτελείου Πανεπιστημίου Θεσσαλονίκης

Έργον	Το Έργον της Αρχαιολογικής Εταιρείας
GA	Graeco - Arabica
ЗМС	Зборник на Музејот во Струмица
ЗМСБ	Известия на Музейте в Северозападна България
ЗНМЧ	Зборник Народног Музеја Чачак
ИАИ	Известия на Археологическия Институт
ИБАД	Известия на Българското Археологическо Дружество
ИБАИ	Известия на Българския археологически институт
JRA	Journal of Roman Archaeology
ΜΑΑ	Macedoniae Acta Archaeologica
ΜΑΠ	Македонски археолошки преглед
НиБ	Ниш и Бизантија
OpAth	Opuscula Atheniensiа
ΠΑΕ	Πρακτικά εν Αθήναις Αρχαιολογικής Εταιρείας
RA	Revue Archéologique n.s.
РП	Разкопки и проучвания
Σύμμεικτα	Βυζαντινά Σύμμεικτα
Сердика	Сердика. Археологически материали и проучвания

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Chapter 1

Introduction

The aim of this research is the investigation of the bath complexes, which have been excavated in the southern region of the peninsula of Haemus, known under the collective term “The Balkans”, and more specifically in the byzantine Prefecture of Illyricum. The objective of this study is to investigate in which regions it was most common to build bath facilities, whether there were specific periods when higher numbers of baths were founded and whether it is possible to detect the lifetime of these facilities. In addition, we seek answers on the preferred architectural type and the kind of chambers that were in use after the prevalence of Christianity.

The motivation behind the selection of this subject is the absence of a comprehensive study in this scientific field. In Greece, although there are some remarkable individual studies¹, there is a gap towards a more synthetic approach. In the Balkans there is shortage of published material on excavated sites². Although in recent years there are relevant high-quality publications, the material from previous years remains mostly unstudied. Additionally, scholars focus almost exclusively on the big monuments of the Byzantine period, such as churches with renowned frescoes. It seems that civil architecture is not in the immediate interest of the scholars.

¹ Γ. Γούναρης, *Το βαλανείο και τα βόρεια προσκτίσματα του Οκταγώνου των Φιλίππων*, Αθήνα 1990; Α. Λαμπροπούλου – Α. Μουτζάλη, Πρωτοβυζαντινό λουτρό στην Πάτρα: Τεκμήρια για την επιβίωση της πόλης κατά τους σκοτεινούς χρόνους, *Σύμμεικτα* 16 (2003 - 2004), 315 – 356; G. D. R. Sanders, A late Roman Bath at Corinth: Excavations in the Panayia Field, 1995-1996, *Hesperia* 68.4 (1999), 441 – 480.

² For Serbia, see: Γ. Јерemiћ & Α. Γοјгић, *Римске Терме у Чачку*, Чачак 2012; Μ. Јанковић, *Римска Купатила Горње Мезије*, дипломски мастер рад, Београд 2009. For Bulgaria, see: Т. Иванов, Проучвания върху хипокауста от римската и ранновизантийската епоха в България, *Археология XIII.1* (1971), 23-44. For Albania, see: Α. Ваçe, Banjat e shekujve të parë të erës sonë në Shqipëri, *Monumentet* 19 (1980), 51-87.

1.1. Terminological approaches

According to the title of this research work, its focus lies in the Byzantine period of the Balkans. Naturally, a subsequent question raised is how to define the Byzantine period and the Prefecture of Illyricum. The Byzantine Empire was the continuation of the Roman Empire within a Christian context. It is known that the term “byzantine” is a neologism, first used by Hieronymus Wolf in 1562, and established in the next century by Ph. Labbé³. The Byzantines called themselves Romans, they lived in the Roman Empire and the name of their capital was the New Rome⁴. Furthermore, there are several views regarding the exact time span of the Byzantine Empire⁵. As time sections in history are conventional, an important event, which triggers significant changes, is usually selected as the cusp between historical periods. As far as the beginning of the Byzantine period is concerned, that event can be traced back in 324, when Constantine became the sole Emperor and decided to transfer the capital from Rome to Constantinople⁶. Then, according to the majority of the scholars, the end of the Byzantine period came with the fall of Constantinople, in 1453⁷.

As the Byzantine was the successor of the Roman Empire, it automatically inherited the roman geographical boundaries, with the river Danube being always the northern natural boundary of the empire in the peninsula. In the 2nd century, in the Peninsula of Haemus (Balkans) there were the *Provinciae Achaiae, Macedoniae, Thraciae, Moesiae Superior, Moesiae Inferior* and the *Provincia Daciae*⁸. According to *Laterculus Veronensis*⁹, in the 4th century, in the same

³ Hieronymus Wolf, in 1562, suggested the establishment of the *Corpus Byzantininae Historiae* and Ph. Labbé (1609 - 1697) in the preface of his work wrote “*De Byzantinae historiae scriptoribus...*”. In 1680, Charles Du Cange wrote the *Historia Byzantina*, a book about the history of Constantinople.

⁴ I. Καραγιαννόπουλος, *Το Βυζαντινό Κράτος*, Θεσσαλονίκη 2001, 51.

⁵ According to the scholars the byzantine period started a) in 324, when the Constantine became the sole Emperor, b) in 395, the year of Theodosian’s death and the partition of the Empire, c) in 610, when Heraclitus became Emperor, d) in 717, when the Isaurian dynasty began. See, D. Talbot Rice, *The Byzantines*, London 1962, 26.

⁶ Until then the city was known by the name Byzantium. Constantine named the city New Rome, but in a short time, the city was known as Constantinople, i.e., the city of Constantine.

⁷ G. Ostrogorsky, *Geschichte des byzantinischen Staates*, München 1963, 472 - 475.

⁸ Δ. Π. Δρακούλης, *Η περιφερειακή οργάνωση των οικισμών της Ανατολικής Ρωμαϊκής Αυτοκρατορίας κατά την πρώιμη Βυζαντινή Περίοδο (4^{ος} -6^{ος} αιώνας)*, τ. Α’, *Θρακική - Ιλλυρικών - Ασιανή*, Θεσσαλονίκη 2009, 51, 97.

region there were the *Dioecesis Moesiae* (consisting of the *Provinciae Creta, Epirus Vetus, Epirus Nova, Thessalia, Macedonia, Preavalitana, Dardania, Dacia Mediterranea, Dacia Ripensis, Moesia Superior*) and the *Dioecesis Thracia*. Probably before 327 A.D., according to *Notitia Dignitatum*¹⁰, *Dioecesis Moesiae* was divided to *Dioecesis Dacia* and *Dioecesis Macedonia*. In the 5th c. *Dioecesis Thraciae* was already part of the *Praefectura Oriens*. According to *Synekdēmos* of Hierocles¹¹, in the 6th c. in the region under study there were the Prefecture of *Illyricum* and the Prefecture of *Thraciae*¹².

Obviously, the administrative organization never remained static for long and in the late 7th c. AD the Early Byzantine provinces began to decline and the Byzantine Empire was divided into *themata*¹³. The aim of this work is the study of the bath complexes that served the byzantine society, and it was decided to follow the administrative arrangement of the 6th c. AD, according to *Synekdēmos* of Hierocles.

Therefore, the main goal of this dissertation is to collect and study the byzantine bath facilities, which were in use after the mid-4th c. AD., thus, in the study material included the bath buildings which were constructed after the mid-4th c. AD and the roman baths, which were in use after the 5th c. AD. The facilities without date and the ones which are not clear if they built before or after the mid-4th c. AD and their lifetime is not known are not included. Exceptions are the bath in the roman forum, in Amphipolē (MAC.A – GR. 37) and the Large Thermes in Dēmētriada (TH. – GR. 14), which have been constructed sometime during the 4th c. AD, but they are included in the catalogues because there were ecclesiastic baths.

This research focuses on the study of the bath facilities in the Prefecture of Illyricum, aiming to conclude safe results based on samples of an entire prefecture. In our days, the region of Prefecture of Illyricum spans over nine

⁹ O. Seeck (ed.), *“Laterculus Veronensis”, Notitia Dignitatum in Partibus Orientis et Occidentis*, Berlin 1962 [1876], LatVer: 248 - 49.

¹⁰ NotDig: 9-10, 57.

¹¹ E. Honigmann (ed.), *Le Synekdemos d' Hiérocles et l' Opuscule géographique de Georges de Chypre*, Bruxelles 1939.

¹² The term “prefecture” is conventionally used in an attempt to be ascribed the Hierocles’ original term “Διοίκηση”.

¹³ I. Καραγιαννόπουλος, Το βυζαντινό διοικητικό σύστημα στα Βαλκάνια (4^{ος} – 9^{ος} αι.), *Ελληνική Επιτροπή Σπουδών ΝΑ Ευρώπης – Κέντρο Σπουδών ΝΑ Ευρώπης* 32 (1994), 5 – 41.

different countries: Serbia, up to Belgrade, and some regions in Romania at the river Danube riverbanks northwards, Albania, a small part of Bosnia and a small part of Montenegro westwards, the western part of Bulgaria and the island Imvros of Turkey eastwards, Greece¹⁴ southwards, and F.Y.R.O.M. in the middle.

1.2. State-of-the-art

Despite the fact that the Greek and Roman baths have been well studied, the investigation of medieval baths has not thus far been treated in a collective manner. Baths, envisaged as both an organic part of the roman and the byzantine city and an individual part of social life, were paid little attention for many years by scholars. Nowadays, it is known how closely baths were related to everyday life.

In 1929, D. Krencker¹⁵ *et al.* were the first scholars who systematically dealt with roman *thermae* and categorized them according to their architectural type. In the following years, many researchers were inspired by this pioneering work and published numerous studies on bathing facilities, among which E. Brödner¹⁶, R. Ginouvés¹⁷, A. Lezine¹⁸, H. Eschebach¹⁹, F. Yegül²⁰, H. Manderscheid²¹, I. Nielsen²², M. Weber²³ and G. Fagan²⁴.

In Greece, for many years researchers did not address the bath facilities. Today, there are few well-rounded studies, such as the study about the bath in Philippi²⁵ and the comprehensive studies about the baths in Corinth²⁶. The

¹⁴ Only a part of the northern Greece and some Aegean islands are exempted.

¹⁵ D. Krencker *et al.*, *Die Trierer Kaiserthermen*, I, Augsburg 1929.

¹⁶ E. Brödner, *Untersuchungen an den Caracallathermen*, Berlin 1951.

¹⁷ R. Ginouvés, *L' établissement thermal de Gortys d'Arcadie*, Paris 1959.

¹⁸ A. Lezine, *Les Thermes d'Antonin a Carthage*, Paris 1969.

¹⁹ H. Eschebach, *Die Stabianer Thermen in Pompeji*, Berlin 1979.

²⁰ F. Yegül, *Baths and bathing in Classical Antiquity*, New York 1992.

²¹ H. Manderscheid, *Bibliographie zum romischen Badewesen: unter besonderer Berücksichtigung der öffentlichen Thermen*, München 1988.

²² I. Nielsen, *Thermae et Balnea. The Architecture and Cultural History of Roman Public Baths*, vol. I, Denmark 1990; I. Nielsen, *Thermae et Balnea. The Architecture and Cultural History of Roman Public Baths*, vol. II, Denmark 1990.

²³ M. Weber, *Antike Badekultur*, München 1996.

²⁴ G. Fagan, *Bathing in public in the Roman world*, Michigan 1999.

²⁵ Γούναρης, ΑΕ 1990.

article on the roman bath in Assini (1938)²⁷ is one of the oldest articles in Greece. In 1940, A. Xyngopoylos wrote an extensive article about the late byzantine bath in the old city of Thessaloniki²⁸. In 1971, J. Travlos in his work "A Pictorial Dictionary of Ancient Athens" included a list of all the known baths in Athens²⁹. In 1988, A. Frantz in his work about the Athenian Agora made an extensive reference to all baths in the forum³⁰. After 1990, research in Greece focused more in the field of baths and since then important articles have been written about individual bath complexes.

In Serbia, the research of the bath facilities is still in an early stage. Reference points on the subject are two unpublished master theses. The first one (1988) is on the late antiquity and the early byzantine baths in the territory of Yugoslavia³¹ and the second one (1999) discusses the bath complexes in Upper Moesia³². Two years ago a comprehensive study was made about an excavated bath in the city Čačak, in central Serbia³³ in which most of the bath complexes of the country are mentioned in the form of a list. Two of the oldest articles are about the baths in *Sirmium*. The first one discusses about the imperial baths and the second one presents the roman baths³⁴. In Serbia, systematic excavations are conducted mostly in the well-known roman or byzantine cities. Thus, most of the articles regard baths in those sites and there are no publications about excavations in less known sites.

In Albania, the most comprehensive study about the number and the location of the bath complexes was written by A. Baçe, in 1980³⁵. The earliest studies were made by Italians in *Buthrotum* and other archaeological sites in the

²⁶ Sanders, *Hesperia* 1999, 441-480; J. C. Biers, *Lavari est Vivere: Baths in Roman Corinth*, *Corinth* 20 (2003), 303-319.

²⁷ H. Arbman, "The Roman Baths", in: *Asine. Results of the Swedish Excavations 1922-1930*, Stockholm, 1938.

²⁸ Α. Ξυγγόπουλος, Βυζαντινός Λουτρών εν Θεσσαλονίκη, *ΕΕΦΣΑΠΘ Ε'* (1940), 83-97.

²⁹ I. Travlos, *A Pictorial Dictionary of Ancient Athens*, New York 1971, 181.

³⁰ A. Frantz, *The Athenian Agora XXIV, Late Antiquity: AD 267-700*, Princeton 1988.

³¹ I. Kuzmanović, *Arhitektura kasnoantičkih i ranovizantijskih termi na teritoriji Jugoslavije*, Univerzitet u Beogradu, Filozofski fakultet, magistarski rad, rukopis, Beograd 1988.

³² Јанковић 2009.

³³ Јеремић & Гојгић 2012.

³⁴ М. Паровић – Пешикан, *Sirmium, Lokalitet 29 – carske terme*, *AP 6* (1964), 83 – 91; М. Паровић – Пешикан, *Римске Терме у Сирмијуму, Старинар XV-XVI н.с.* (1964 - 1965), 31-45.

³⁵ Baçe, *Monumentet* 1980, 51 - 87.

country³⁶. It is notable that in the last twenty years more and more scholars are involved in the study of this aspect of the social life and deal with the bath facilities, but always as part of a bigger context³⁷.

In F.Y.R.O.M., even nowadays, there are few specialized studies about the bath facilities and most of the baths are studied in papers about archaeological sites in general. In 1946, E. Kitzinger wrote a survey about the Early Christian Town of Stobi and the baths of the city were included³⁸. More than fifteen years later, in 1962, Ž. Vinčik wrote about the big baths in Stobi³⁹. From 1989 and onwards, the most comprehensive study dealt with the big bath complex in Bansko⁴⁰. The excavation in Bansko is still going, just like in Scupi, where two baths have been discovered.

In Bulgaria, research on baths, especially the roman ones, began in the beginning of the 20th century. In 1935, D. Cončevă wrote an extensive article about the baths in Hisar⁴¹. In 1971, T. Ivanov conducted a very interesting study about the roman and early byzantine hypocaust systems in Bulgaria⁴² and his study was enriched in 1994 by K. Vačeva and her research about the heating system of the roman baths in Bulgaria⁴³. Two of the most recent articles are related with two baths in Sofia. The first one is about a new complex, which came to light in the northern appendix of the city⁴⁴. The second one is a

³⁶ D. Mustilli, Gli scavi di Butrinto, *Romana 18* (1940), 9.

³⁷ S. Mucaj, E. Hobdari, Manastiri I shën mërisë, Ballsh (Glavinicë) gërmime të vitit 2003, *Candavia 1* (2004), 189 – 210.

³⁸ E. Kitzinger, A survey of the Early Christian Town of Stobi, *DOP 3* (1946), 81-161.

³⁹ Ж. Винчик & С. Саржовски, *Елаборам за конзервација на Големите терми во Стоби*, 1962.

⁴⁰ J. Ананиев, Археолошко ископување на локалитетот "Турска бања - Панагур" с. Банско кај Струмица 1978-1981, *ЗМС 1989*, 57-64, 333-339; С. Тасева & В. Т. Секулов, Хипокаустот во Судаториумот од доцноримското термално лекувалиште во с. Банско, Струмица, *МАН 19* (2004-2006), 333-348; С. Тасева, "The hypocaust in the sudatorium of the Late Roman thermal spa in the village of Bansko by Strumica", in: *The lower Danube in antiquity (6th century BC - 6th century AD). International Archaeological Conference* (Bulgaria - Tutrakan 6 - 7 Oct. 2005), 235 - 246; И. Микулчик, "Балнеум кај банско", In: *Големи Археолошки Откритија*, Охрид 2011, 213-217.

⁴¹ Д. Цончевъ, Хисарските бани. Географски, исторически и археологически очерк, *ГПНБНМ* (1935-1936), 53-210.

⁴² Иванов, Археология 1971, 23-44.

⁴³ К. Вачева, Конструктивни и технички особености на отоплението на римските бани в България, *Археология XXXVI.1* (1994), 1-8.

⁴⁴ Н. Кирова, Късноантичната баня в северното разширение на Сердика, *Археология XLVI. 1-4* (2005), 41-54.

comprehensive study about the Late Roman bath beneath St. George's church in the city center⁴⁵.

The definition of the terms *thermae* and *balnea*⁴⁶ constituted the subject of extensive discussions. According to the prevailing view, *thermae* are huge, imperial baths, of symmetric design, with a lot of associated areas. On the other hand, smaller bath complexes are defined as *balnea*, be them private or public, which include only the basic bath Chambers, i.e., *frigidarium*, *tepidarium*, and *caldarium*, along with some basic auxiliary spaces. There is an ongoing discussion among scholars, if the existence, or not, of the *palaestra* is sufficient to define baths as either *thermae* or *balnea*. Moreover, it is not yet clear whether the *palaestra* was an open or interior area, as well as if it was roofed or not⁴⁷.

1.3. Methodology

The study of this subject is fascinating, because there is a lack of information about the bath facilities, especially the byzantine ones, in that part of the empire. As a consequence, the basic challenge was to find and record the bath facilities in seven different countries. Then, the individual characteristics of the bath have been studied, such as the predominant architectural type, the evolution of the various chambers and the heating system.

The bibliographical research began in the major international libraries in Rome, such as the libraries of the "British School at Rome", the "École Française de Rome", the department of the "Deutsches Archäologisches Institut" and the "Pontificio Istituto Orientale" in Rome. Nevertheless, the needs of the research required extended bibliographical research in the regions of interest. There were difficulties associated with two main factors. The first one is that the majority of articles before 1990 are published in local journals with scarce possibilities to detect them in online databases. The second one is that most of these articles are

⁴⁵ М. Иванов, Късноантичният балнеум под църквата "Св. Георги" в София – addenda et corrigenda, *Археология* LI.3-4 (2010), 123-128.

⁴⁶ R. A. Staccioli, Tracce di terme "pompeiane" a Roma, *AdR* (1955), 391-401.; R. A., Staccioli, Sugli edifici termali monori, *AC* 10 (1958), 273-288.

⁴⁷ Yegül 1992, 160-162.

published in native languages. As a result an important part of the research was conducted in the respective countries.

In Greece, research was conducted at the library of the *Department of History and Archaeology* of the Aristotle University of Thessaloniki and at the *Institute for Balkan Studies*. Research for the monuments in Serbia, Bosnia and Montenegro was conducted at the *Department of Archeology* of the University of Belgrade and at the *Serbian Academy of Science and Arts* in Belgrade. In Bulgaria, the research began at the *Department of Archaeology* of the “St. Kliment Ohridski” University of Sofia and later was extended to the *American Research Center*, the *Bulgarian Academy of Science* and the library of the *National Institute of Archaeology* in Sofia. In Albania, the research conducted at the *Institute of Archaeology* and at the *Academy of Science of Albania* in Tirana. In FYROM the research was conducted at the (*F.Y.R.O.*) *Macedonian Academy of Sciences and Art*, in Skopje.

In order to have a clear point of view on the conditions of that era, the data have been organized according to the interior boundaries of the empire. As already mentioned, the material was organized following the administrative division delivered by Hierocles in his work *Synekdēmos*. According to Hierocles’ manuscript, in the 6th century there were six Dioceses with sixty four provinces in the East Roman Empire. Two of them were in the Peninsula of Haemus. The Prefecture of *Thracia* consisted of six provinces: *Europa*, *Rhodope*, *Thracia*, *Haemimontus*, *Moesia B*, *Scythia*. The Prefecture of Illyricum was the westernmost administration of the East Roman Empire and consisted of thirteen provinces: *Macedonia A*, *Macedonia B*, *Thessalia*, *Hellas*, *Creta*, *Epirus Vetus*, *Epirus Nova*, *Dacia Mediterranea*, *Dacia Ripensis*, *Dardania*, *Praevalitana*, *Moesia A*, *Pannonia*.

The dating of the monuments is given with as much accuracy as possible. Although, in some cases the exact century of construction, usage etc. is not clear, and therefore the terms “Early Byzantine”, “Mid-Byzantine” and “Late Byzantine” are used. The period from the 330 AD up to the end of the 7th c. AD defined as Early Byzantine era. The period from the 8th c. AD up to 1204 defined as Middle Byzantine era and the period from 1204 up to 1453 defined as Late Byzantine era.

1.4. Structure and contribution of the thesis

The PhD thesis is structured in five chapters. In the first introductory chapter, the subject and the motivation of the PhD thesis have been explained. In the first subsection of this chapter approaches to the basic terminology of the subject have been made. In the second subsection a comprehensive state-of-the-art of the field has been presented. Additionally, a reference to the state-of-the-art for each country has been made. In the third subsection, the methodology has been analyzed, in order to clarify how the material is organized. In the last subsection of the introduction chapter the structure of the dissertation is presented and the contribution of the thesis is analyzed.

The second chapter is entitled “Byzantine baths in the Prefecture of Illyricum” and it is divided in thirteen subsections equal to the number of the provinces of the Diocese of Illyricum. The bath facilities of each province are analyzed in a synthetic aspect and the general situation in the province is discussed.

The third chapter is entitled “Bath Construction in the Prefecture of Illyricum” and it is divided in three subsections. In the first one, the general characteristics of the baths are described. In the second one, there is a discussion about the chambers of the bath facilities and their evolution through the centuries, namely which chambers are repealed and which of them change their usage. In the last subsection more technical issues are discussed, such as the heating and the water supply systems of the facilities.

In the fourth chapter scattered data and information about a group of bath complexes are systematized, not connected with each other until today. Essentially, the fourth chapter introduces a new bath type, the Byzantine Type, and the facilities that follow that type. The special characteristics of the type are described and some questions are discussed about the usage of the chambers that beset the research from the early 20th c. AD.

The PhD dissertation concludes with the fifth chapter, where an overview has been made about the presented data and in the end some ideas and suggestions for future development of research in this field are given. The volume ends with a summary of the PhD thesis in the Italian language.

An appendix is added at the end of the volume. The appendix consists of a catalogue with lemmas for every excavated bath facility in the Prefecture. At least, for those baths it has been possible to detect. Every lemma follows a specific format. Each entry begins with an identity code, consisting of an abbreviation of the province name to which it used to belong (MAC.A: *Provincia Macedonia A*, MAC.B: *Provincia Macedonia B*, TH.: *Provincia Thessalia*, HEL.: *Provincia Hellas*, CR.: *Provincia Creta*, EP.VET.: *Provincia Epirus Vetus*, EP.NOV.: *Provincia Epirus Vetus*, DAC.MED.: *Provincia Dacia Mediterranea*, DAC.RIP.: *Provincia Dacia Ripensis*, DAR.: *Provincia Dardania*, PRAEV.: *Provincia Praevalitana*, MOES.A: *Provincia Moesia A*, PAN.: *Provincia Pannonia*), an abbreviation of the modern country to which it belongs (GR: Greece, SRB: Serbia, BG: Bulgaria, AL: Albania, ME: Montenegro, FYRM: Former Yugoslav Republic Of Macedonia) and a serial number. Every province follows its own numbering.

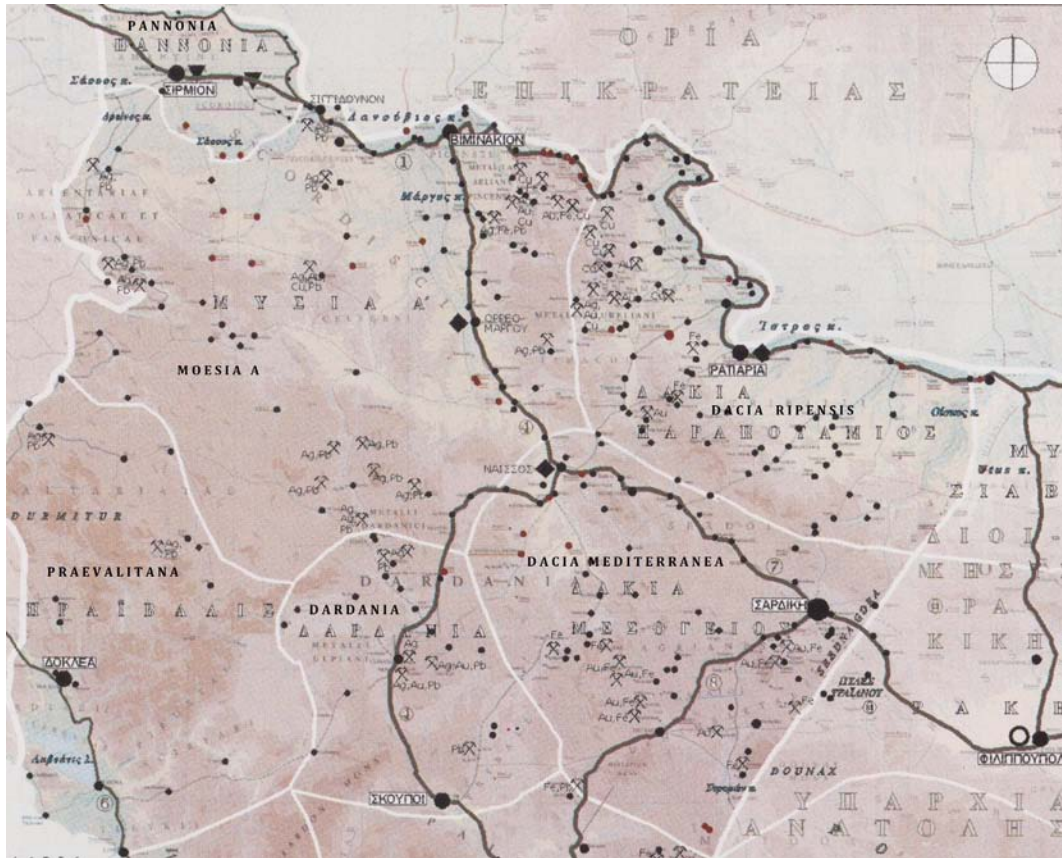
The identity of the instance is found in point A. General information is given in this point with the following order: name – urban or rural area – orientation – architectural type – surface. The public, domestic, ecclesiastic or monastic usage of the bath is found in point B. A small description of the complex is given under point C. The dating of the bath is found under the point D. The first date concerns the construction of the building and the date after the dash concerns the destruction of the building. The different construction or repair phases are indicated by slashes. Under point E, the relevant bibliography is given in abbreviated format and under point F the reference with available plans is mentioned. The bold letters under the point F indicate the source of the included plan.

This extensive study of the baths contributes to an advanced understanding of everyday life and its evolution in the geographical region and historical time-span. Answers are sought to important questions on the types of constructed baths and the usage of their facilities by local populations. Finally, this research sheds light on this thus far fragmentarily studied aspect of byzantine history and substantially contributes to the research field concerning the byzantine civil life. The conclusions on the use of baths, a typical aspect of roman life, shall also provide important input in the study of the transformation of the Eastern Roman

Empire, and how these changes reflect on and are reflected by the habits of its inhabitants in the course of the centuries after its foundation.



Map 1. Prefecture of Illyricum. South Part.



Map 1. Prefecture of Illyricum. North Part.

Chapter 2

Byzantine Baths in the Prefecture of Illyricum

The historian Procopius of Caesarea, in his third work, entitled *De Aedificiis*, remarks that the bath facilities in a city were a welfare indicator⁴⁸. Moreover, the emperors' reconstruction programs always included bath facilities, such as the one of emperor Anastasius I, who built bath complexes in every city of the Empire⁴⁹.

According to *Synecdemus* of Hierocles, in the 6th c. AD the Prefecture of Illyricum was divided into thirteen provinces, each one of which had its own capital and its own bath habits. The whole philosophy about baths, which started in ancient Greece and was spread worldwide through the Roman Empire, was likewise widespread in the Byzantine period and the baths retained their central position, also after Christianity had become the official religion.

2.1. PROVINCIA MACEDONIA A

The *Provincia Macedonia A* was part of the Roman Empire since 148 B.C. According to *Laterculus Veronensis*, in the 4th c. AD it was part of the big *Provincia Macedonia* of *Dioecesis Moesiae*. A little bit later, the province was divided in two parts, *Macedonia prima* and *Macedonia secunda*. In the 6th c., Thessaloniki was the capital of *Macedonia prima*, which was part of the Prefecture of Illyricum. Nowadays, the biggest part of *Provincia Macedonia A* belongs to Greece and smaller parts belong to F.Y.R.O.M. and to Bulgaria⁵⁰.

The province of *Macedonia A* occupied a strategic geographical location and that is the main reason of its importance during the time of the Roman and the

⁴⁸ Procopius, vol. 5.4.

⁴⁹ L. A. Dindorf (ed.), *Ioannis Malalae, Chronographia*, vol. 409. 15, Bonn 1831.

⁵⁰ Δρακούλης 2009, 108 - 111.

Byzantine Empire. In addition, the great *Via Egnatia*⁵¹, which linked Constantinople with Rome, crossed the province from the east to the west running close to major cities, such as Philippi and Thessaloniki.

The Bath Facilities

In *Provincia Macedonia A*, over a hundred roman and byzantine bath complexes have been excavated and almost all of them are located in the Greek part of the former-byzantine province. The geographical distribution in the area of the province shows a slight decrease of bath facilities, while passing from the Roman to the Byzantine era.

Almost seventy percent of the total number of baths was constructed in the Roman era and almost only thirty percent were constructed in the Byzantine period. In absolute numbers, seventy-three bath complexes were constructed and were in use during the Roman period and almost one third of them, which means eighteen facilities, were still in use in the Byzantine period, while in the same time twenty-two new baths were constructed. Thus, even though in the Byzantine period the bath facilities were reduced by approximately thirty percent compared to the Roman era, the province continued to preserve its bathing tradition, with forty-six active baths, mostly in the main cities.

This overall reduction of the bath facilities can be observed in the capital of the province, in Thessaloniki. Twenty-nine bath complexes were constructed and were in use during the Roman period and eleven of them continued to serve the people of the city also in the Byzantine era, when eight new facilities were constructed. In the byzantine period, only one active bath was part of a *villa rustica*, the bath in Palaiokastro (MAC.A – GR. 12), which is located in the western suburb of the city. The remaining fifteen baths were found within the urban web of the byzantine city, close to three major byzantine monuments: the basilica of Hagios Dēmētrios, the church of Hagia Sophia and the church of Hagios Geōrgios (Rotonda). However, the importance of the city and the number

⁵¹ F. O' Sullivan, *The Egnatian Way*, Harrisburg 1972.

of its inhabitants would demand at least one big public bathing facility, although nothing of this kind has been found thus far.

In the late 3rd c. AD, Gaius Galerius Valerius Maximianus appointed Thessaloniki as his administrative capital and in the early 4th c. AD he built there his imperial palace and included this program into a general effort to reform the city's eastern boundaries. A few years later, Emperor Constantine the Great transferred the capital of the Roman Empire from Rome to Constantinople and Thessaloniki became the co-capital of the newly established Byzantine Empire. These two important incidents and especially the second one gave a new impetus to the city of Thessaloniki, and therefore a vivid building activity is observed since the late 4th c. AD. The historical development is confirmed also by the archaeological data. Three ecclesiastic baths were excavated in Thessaloniki and dated in the late 4th c. and in the early 5th c. AD. The bath in Hagia Sophia str. (MAC.A – GR. 13) was connected with the Acheiropoiētōs church and it is located almost 10m. south of the church. The bath in the Intersection of Olympoy & Platōnos str. was connected with the Martyrdom of Hagios Dēmētrios (MAC.A. – GR. 14) and the bath in Makenzy King str. (MAC.A. – GR. 16), which was connected with the Hagia Sophia church and is located only 40m. northeast of the church.

The findings in the city of Veroia are very limited. Eight roman baths were unearthed and all of them are in the urban web of the modern city. Only one roman bath complex was still in use during the Early Byzantine period, in the region of Panorama (MAC.A – GR. 5). There is no evidence about active baths in the Byzantine period, except for a short report about a byzantine bath in Tsaldarē str. (MAC.A – GR. 6), which was demolished in 1976.

In the great roman city of Dion, more than ten bath⁵² complexes have been discovered, but it seems that none of those continue its life after the end of the

⁵² According to D. Pantermalēs, eleven bath complexes were excavated in Dion up to 1999, see Δ. Παντερμαλής, *Δίον. Η Ανακάλυψη*, Αθήνα 1999, 139. Unfortunately, only two of them are well studied: for the Big Thermes, see Δ. Παντερμαλής, *Οι μεγάλες θέρμες του Δίου*, *Αρχαιολογία* 33 (Δεκ. 1989), 29-34; for the Thermes of the Central Road, see Α. Ουλκέρογλου, *Το συγκρότημα των θερμών του κεντρικού δρόμου του Δίου*, *Εγνατία* 14 (2010), 103-128. Some of the rest of the baths (e.g. the bath in Agathē Tychē section; the private bath in the Villa of Dionysos; the private bath between basilica and shield monument; the extra muros bath, in Kelepoures' plot; the bath east of the Central Cistern; the bath in Gephyra section and the bath in the riverbed) are only

4th c. There are suggestions about the extended function of at least two baths – the bath of the Central Road and the Big Thermes - beyond the 4th c., but up to know they are not so well documented.

In Thasos, seven baths have been revealed in three different sites of the island. Five of them are roman constructions, but only two of them were active after the 4th c., while in the same time two more baths were constructed. Finally, four bath facilities were in use during the Early Byzantine era: the bath in the ancient *forum* (MAC.A – GR. 43), in Skala Rachōnē (MAC.A – GR. 44), in Limenas (MAC.A – GR. 45) and the bath in Tsoukalarario (MAC.A – GR. 46). However, the case of the islands is particular because of the limited resources.

The case of the bath complex in Bansko (MAC.A – FYR. 48) is peculiar. According to the excavators it was a sanatorium bath, which was supplied with water from a natural thermal spring (72°C). The building housed together two bath facilities, one for men and one for women. Both of them had *apodyterium* and *latrina* and also a big hall with a *piscina* in the center. The male bath had also a big chamber for social interaction, which can be compared to the transitional chamber we mentioned in the Late Roman baths in *Provincia Macedonia A*. The bath seems to have been destroyed by the strong earthquake, in 518. However, the facility was renovated and its second function phase dates back to the 6th c. AD.

According to the available collected data, during the Early Byzantine period the *Provincia Macedonia A* there were more ecclesiastics than public baths and in the same time the number of the domestic baths seems to grow gradually. Six baths were interpreted as public and four of them were in Thessaloniki. Three of them were functioning in the same period, during the 5th c. (MAC.A – GR. 18; MAC.A – GR. 24; MAC.A – GR. 26), while the fourth one is a Late Byzantine bath (MAC.A – GR. 19). The bath in Pydna (MAC.A – GR. 9) is a special case, since the bath was part of a mid-byzantine inn.

Fifteen bath facilities were identified as domestic and six of them were excavated in Thessaloniki and were in use up to the late Early Byzantine or early Mid-Byzantine period. Only two of them were interpreted as *villae rusticae*: the

mentioned in general articles about the city of Dion, see Γ. Καραδέδος, Το Υδραγωγείο του Δίου, *AEMΘ* 4 (1990), 217 – 229.

bath in Loyloydies (MAC.A – GR. 10) and the bath in Ōraiokastro (MAC.A – GR. 12). Only one mid-byzantine structure was discovered *extra muros* in Veria (MAC.A – GR. 34), dates to the 12th c. AD.

Apart from the three ecclesiastic baths of Thessaloniki, which were mentioned above, additionally four Early Byzantine baths related with religious buildings were excavated in Serres (MAC.A – GR. 27), in Nikētē (MAC.A – GR.32), in Thasos (MAC.A – GR. 46) and in Heraclea Lyncestis (MAC.A – FYR. 47). Unfortunately, not even one monastic bath has been discovered.

According to Nielsen, the area of the byzantine baths was less than 500 sq. m⁵³. This rule seems to apply also in the bath complexes in *Provincia Macedonia A*, where only three bath complexes are larger than 500 sq. m. The first one is the public Balneum in Philippi (MAC.A – GR. 42) with an area of ca. 800 sq. m. The second one is the domestic bath in Liotopi Rouchtselē (MAC.A – GR. 36) with an area of 685 sq. m. and the third bath is the bath in Bansko with an area ca. 1000 sq. m. (MAC.A – GR. 48), which is a huge facility for its time. The other eight public (MAC.A – GR. 4; MAC.A – GR. 9; MAC.A – GR. 19), domestic (MAC.A – GR. 3; MAC.A – GR. 23; MAC.A – GR.43) and ecclesiastic (MAC.A – GR. 16; MAC.A – GR. 37) bath facilities, for which there is information about their size, are smaller than 500 sq. m.⁵⁴ and almost all of them were constructed after the late 4th c. AD.

During the Byzantine period most of the bath complexes follow the simple axial row type⁵⁵, according to which the chambers are arranged along one axis, such as the baths in Nea Kallikrateia (MAC.A – GR. 31), the Early Byzantine bath in Tsoukalario, in the island of Thasos (MAC.A – GR. 46) and the bath in Theotokopoulou str., Thessaloniki (MAC.A – GR. 19). The second preferable architectural type in the province is the angular row type, which is arranged so that the heated and unheated rooms form an angle, like in the bath in Voskochōri (MAC.A – GR. 2).

A new trend of suppressing the unheated bath chamber is applied gradually in *Provincia Macedonia A*. Judging from the small sample of the fully excavated

⁵³ Nielsen I 1990, 114.

⁵⁴ There is information about the size for four more bath complexes, but their functional type is not clear. See MAC.A – GR. 2; MAC.A – GR. 7; MAC.A – GR. 25; MAC.A – GR. 31. Also these baths are smaller than 500 sq. m.

⁵⁵ For the architectural type of the baths, see Krencker *et al.* 1929.

bath complexes, it can be observed that the multiple unheated chamber of the Roman era do not exist anymore. In the Byzantine era, the facilities are smaller with direct consequence the decrease of chambers' area and specially the area of the unheated ones. Thus, the byzantine structures have usually, but not always, one unheated chamber and in some cases, such as in the bath in Pydna (MAC.A – GR. 9), there is no unheated chamber. The abovementioned trend seems to apply also in the domestic baths (MAC.A – GR. 40; MAC.A – GR. 41).

Meanwhile, in the period until the consolidation of the architectural type with one or without unheated chamber, a new multipurpose chamber functioning as *vestibulum* and/or *apodyterium* and/or *frigidarium* appeared. In the Late Roman bath in Nēsi Alexandreias⁵⁶ a large chamber was discovered with four mosaic compositions. Although the room is undivided, it seems that each mosaic provides a different space function: *vestibulum*, *frigidarium* and *apodyterium*. This type of transitional chamber appeared also in the roman bath of the Central Road in Dion⁵⁷, where a large (275 sq. m.), monumental chamber was found, which is a combination of *frigidarium*, with a *piscina frigida*, *apodyterium* and *vestibulum*.

Most of the bath complexes in *Provincia Macedonia A* follow Vitruvius' rule⁵⁸ and their warm chambers were located in the southwest or in the south part of the building, in order to take advantage the sun's heat. However, there are four bath facilities, in which the east – west orientation is followed. Three of them are domestic bath-houses and probably the axis of the house influenced their construction (MAC.A – GR. 12; MAC.A – GR. 22; MAC.A – GR. 34). The fourth one is a big complex, perhaps a public one, partially excavated (MAC.A – GR. 33).

⁵⁶ A. K. Ανδρειωμένου, Ανασκαφή ρωμαϊκού λουτρώνος παρά το Νησί Αλεξανδρείας, *ΠΑΕ* 121 (1966), 24 – 29; A. K. Ανδρειωμένου, Νησί (της Μακεδονικής Αλεξανδρείας), *Έργον* (1966), 17 – 22; A. K. Ανδρειωμένου, *ΑΔ* 122 (1967), 412 – 413; A. K. Ανδρειωμένου, Ανασκαφές ρωμαϊκού λουτρώνος παρά το Νησί Αλεξανδρείας, *ΠΑΕ* 123 (1968), 60 – 64; Nielsen 1990¹, C. 354.

⁵⁷ Ουλκέρογλου, *Εγνατία* 2010, 103 - 128.

⁵⁸ Vitruvius, V, 10, 1: *Primum eligendus locus est quam calidissimus, id est aversus ab septemtrione et aquiline. Ipsa autem caldaria tepidariaque lumen habeant ab occidente hiberno, si autem natura loci inpedierit, utique a meridie, quod maxime tempus lavandi a meridiano ad vesperum est constitutum*: In the first place, the warmest possible situation must be selected; that is, turned away from the north and northeast. The rooms for the hot and tepid baths should be lighted from the southwest, or, if the nature situation prevents this, at all events from the south, because the set time for bathing is principally from midday to evening.

In *Provincia Macedonia A*, the hypocaust system mainly consists of ring pillars, although in the Early Byzantine baths in Iasonidou str., in Thessaloniki (MAC.A – GR. 17), and in the bath in Nikētē (MAC.A – GR. 32), along with the Later Roman Hagios Demetrios' bath in Thessaloniki (MAC.A – GR. 26), rectangular pillars were used. In some cases, both pillar types were used, such as in the bath in Velvento (MAC.A – GR. 3), in the bath in Kassandrou str., in Thessaloniki (MAC.A – GR. 15) and in the bath in Limenas, in Thasos (MAC.A – GR. 45).

The economic crisis that the *Empire* experienced in the end of the Early Byzantine period and mostly in the middle and Late Byzantine period is clearly reflected also in the construction of bath facilities. In order to reduce the cost, materials in secondary use were added to the construction. Stone pillars in secondary use have been found in the hypocaust of the bath in the intersection of Olympoy and Platōn str., in Thessaloniki (MAC.A – GR. 14), and also spool-shaped clay pipes were used instead of pillars were used in the bath in Kamkoutē plot, in Velvento (MAC.A – GR. 4).

The walls of the bath buildings were heated by creating a cavity for the circulation of the hot air⁵⁹. In *Provincia Macedonia A* the most common wall heating method was the use of *tubuli*, while the spacer tubes method has been confirmed in the mid-Byzantine bath in Pydna (MAC.A – GR. 9). Additionally, in some cases, as in the Roman bath in Philippi (MAC.A – GR. 42), both wall heating methods were used.

⁵⁹ Biers, Corinth 2003, 310 - 311.

2.2. PROVINCIA MACEDONIA B

The *Provincia Macedonia B* was part of the Roman Empire since 148 B.C. In the 4th c., according to *Laterculus Veronensis*, the province of Macedonia was divided and *Macedonia secunda* was created. In the 6th c. AD, according to Synekdemosis of Hierocles, *Provincia Macedonia B* belonged to the Prefecture of Illyricum and Stobi was the capital of the province. Nowadays all the territories of the province belong to F.Y.R.O.M.⁶⁰.

The province of *Macedonia B* is one of the smallest provinces of the prefecture of Illyricum. In essence, it is the smallest part of the big roman *Provincia Macedonia* and that is why there were only eight cities in the province, while *Macedonia A* had thirty-two.

The Bath Facilities

In *Provincia Macedonia B*, ten bath facilities were excavated in the former byzantine province of *Macedonia secunda*. This small sample does not allow us to draw reliable conclusions on the province as a whole. However, we can make some observations about the capital.

In the capital of the province, Stobi, seven bath complexes were unearthed. Five of them were constructed in the Later Roman period and the two public baths of the city were in use also in the Early Byzantine period, up to the late 6th c. A. D. Thus, in the late 4th c. at least two public baths (MAC.B – FYR. 1; MAC.B – FYR. 2) served the needs of Stobi's citizens. Apart from the public baths, two Early Byzantine domestic baths were excavated in the city of Stobi: the House of Peristeria (MAC.B – F.Y.R. 3) and the bath in the "Casino" area (MAC.B – F.Y.R. 4), which was probably the residence of the Bishop. According to the archaeological data the House of Peristeria went out of use in the beginning of the 6th c., while the bath-house in "Casino" area was active up to the late 6th c. AD. In 518 an earthquake struck *Provincia Dardania*, damaging or destroying many cities in the

⁶⁰ Δρακούλης 2009, 116 - 117.

territory, such as Lychnidus and Scupi⁶¹. Probably, this earthquake also marked the end of urban life in Stobi⁶² and the two baths in Bargala, a public (MAC.B – F.Y.R. 6) and a domestic one (MAC.B – F.Y.R. 7), were destructed by the same token.

Unfortunately, there is no information about the size of the public baths in the province. The private baths were really small with one heated chamber, such as the bath in Casino, in Stobi (MAC.B – F.Y.R. 4), which is probably the Bishop's House, and the Small Bath in Bargala (MAC.B – F.Y.R. 7) or two rooms, one heated and one unheated, such as in the House of Peristeria (MAC.B – F.Y.R. 3).

Three out of four public baths – the Large and the Small bath in Stobi (MAC.B – F.Y.R. 1 & MAC.B – F.Y.R. 2) and the Large bath in Bargala - had more or less the required chambers, with some minor deviations. In the Large Bath in Stobi, there are two sections. The heated one is on the south and the unheated is on the north, with a multipurpose chamber that functions as *vestibulum*, *apodyterium* and *frigidarium* with a *piscina frigida* on its southwestern corner and the heated section on the south. The same multipurpose chamber was excavated in the Small Baths in Bargala, but in this case the *piscina frigida* is in a lower level than the floor of the chamber and it is accessed by stairs.

The hypocaust system of the two public baths in Stobi (MAC.B – FYR. 1; MAC.B – FYR. 2) consists of ring and rectangular pillars. Hypocaust pillars were also discovered in the monastic bath in Vodoča (MAC.B – FYR. 5). The hypocausts of the two baths in Bargala (MAC.B – FYR. 6; MAC.B – FYR. 7) consist of ceramic *tubuli* instead of pillars. There is no information about the wall heating system.

⁶¹ B. Wagner et al., Possible earthquake trigger for 6th century mass wasting deposit at Lake Ohrid (Macedonia/ Albania), *CP 8* (2012), 2069 - 2070.

⁶² C. S. Snively, "Macedonia in Late Antiquity", in: J. Roisman & J. Worthington (ed.), *A companion to Ancient Macedonia*, Malden, MA & Oxford 2010, 568.

2.3. PROVINCIA THESSALIA

The *Provincia Thessalia* was part of the Roman Empire since 27 B.C. and its territories belonged to the *Provincia Achaia*. In the 4th c., according to *Laterculus Veronensis*, *Provincia Achaia* belonged to *Dioecesis Moesiae*. According to Synekdemosis of Hierocles, in the 6th c. *Provincia Hellas* belonged to the Prefecture of Illyricum and Larisa was the capital of the province. Nowadays, the territories of the province belong to Greece⁶³.

The Bath Facilities

In *Provincia Thessalia* more than forty-five roman and byzantine bath complexes have been excavated. Their geographical distribution in the province shows an important decrease of bath facilities, from the Roman to the Byzantine era.

Almost seventy percent of the total were constructed in the Roman era and only thirty percent were constructed in the Byzantine period. In absolute numbers, thirty-two bath complexes were constructed and were in use during the Roman period and eight of them were still in use in the Byzantine period, while in the same time fifteen new baths were constructed. Thus, even though in the Byzantine period the bath facilities were reduced by one third, the province continued to maintain its bathing tradition, especially in the main cities.

This reduction was bigger Larisa, the capital of the province. In the historical center of the modern city, twelve baths were discovered and almost all of them were constructed and were in use during the Roman period. Only three of the city's roman bath continued to operate in the Byzantine period: the bath in the Main sq. (TH. – GR. 3), the complex in Neophytoy str. (TH. – GR. 4), which was connected with an early byzantine basilica excavated 100 m. to the north, and the bath facility in Laoy sq. (TH. – GR. 5). In the same time only two new baths were constructed. The first one is connected with the Saint Achilleios basilica (TH. – GR. 6) and the second one in the Nea Agora sq. (TH. – GR. 22). Thus, during

⁶³ Δρακούλης 2009, 122.

the Early Byzantine period five bath facilities served the different social groups of the city, since two of them were ecclesiastic baths.

A totally different situation is observed in Nea Anchialos⁶⁴, the byzantine Phthiotic Thebes, where ten bath complexes were excavated and only three of them were roman constructions. During the Early Byzantine period, the city reaches a great cultural prosperity and this is testified by numerous archaeological remains, such as important religious buildings (several basilicas), private and public buildings with rich decoration, paved roads, aqueducts and many others. The significance of the city is also confirmed by the existence of those ten bath facilities. Additionally, according to the historian Procopius of Caesarea, in his work *De Aedificiis*, the bath facilities in a city were a welfare indicator⁶⁵. The Early Byzantine city of Phthiotic Thebes had at its disposal eight baths and based on the available data three of them were public.

According to the collected data, the number of public baths in the province of Thessalia was almost equal to the number of ecclesiastic facilities. Five baths were identified as public facilities: one in Larisa (TH. – GR. 3), three in Phthiotic Thebes (TH. – GR. 7, TH. – GR. 8 & TH. – GR. 13) and one in Dēmētriada (TH. – GR. 14)⁶⁶. The same time two ecclesiastic bath complexes are documented in Larisa, in Neophytoy str. (TH. – GR. 4) and in Phroyrioy sq. (TH. – GR. 6), one in the Phthiotic Thebes connected with the Basilica C (TH. – GR. 9) and one in Ypatē (TH. – GR. 19). Only the bath in Sanidi (TH. – GR. 18) is identified as a domestic facility, but most of the excavated baths cannot be identified.

The majority of the complexes seem to follow the trend, according to which the byzantine baths are smaller than 500 sq. m., but there are two notable exceptions. The first is one of the public baths in Phthiotic Thebes, in Maltezooy str. (TH. – GR. 13), which is close to the city walls, and it's almost 550 sq. m. The second complex is the Large Thermes in Dēmētriada (TH. – GR. 14), which is a

⁶⁴ In the region of Nea Anchialos and Mikrothēves, two cities flourished during the prehistoric, the classical and the Roman period, while in the Early Byzantine era the great, new city of Phthiotic Thebes appeared. For the history of the region see K. Σ. Βίγκλας, *Η Πύρασος και οι δύο Φθιώτιδες Θήβων Θεσσαλίας έως τον Μεσαίωνα*, *Ανιστόρητον* 6 (2006), 1-31.

⁶⁵ Procopius, vol. 5.4.

⁶⁶ The Large Thermes in Dēmētriada is located north-west of the Damokratias basilica and related with the basilica. However, the size of the complex is too big and suits better to public facilities.

huge complex of more than 900 sq. m. Only a part of the complex is unearthed and according to the excavators there are more parts of the complex in the north, west and south side.

Unfortunately, the lack of data doesn't allow drawing safe conclusions about the architectural type of the baths in *Provincia Thessalia*. There is information only for four buildings, in which the simple axial (TH. – GR. 6; TH. – GR. 9) or angular (TH. – GR. 7; TH. – GR. 8) row type are applied, which means that the bather followed the same way to enter, to reach the last chamber and to return to the entrance.

Only few bath complexes in the *Provincia Thessalia* are fully excavated. The transitional room observed in previously mentioned provinces is also applied in this province. The Early Byzantine bath in Phthiotic Thebes, which was connected with the Basilica A (TH. – GR. 7), had an unheated room, in which the use of *apodyterium* and *frigidarium*, with a *piscina frigida*, was combined. This type of room was also found in the bath in Pherōn str., in Volos (TH. – GR. 15), where a bench ran along the walls of the *apodyterium/ frigidarium*.

Additionally, in the *Provincia Thessalia* the replacement of the *tepidarium* with a second *caldarium* is observed. It is notable that only one *tepidarium* was discovered in the province, in the bath in Pherōn str., in Volos, but this could be attributed to the limited number of completed excavations. However, in two cases, where the excavation was completed, two *caldaria* were unearthed in each bath complex and not even one *tepidarium*. Possibly, the fact that those two facilities were the public baths in Phthiotic Thebes (TH. – GR. 7; TH. – GR. 8), could lead to the conjecture that this was a local tradition.

Most of the baths in *Provincia Thessalia* follow a southeast – northwest (TH. – GR. 5; TH. – GR. 7; TH. – GR. 12; TH. – GR. 16; TH. – GR. 17) or east – west (TH. – GR. 6; TH. – GR. 14) orientation. Only in two cases the secondary instruction of Vitruvius was followed and a north – south orientation was applied (TH. – GR. 8; TH. – GR. 21). Presumably, the bath facilities were constructed considering the geomorphology and for this reason even nearby complexes follow a different orientation. In Phthiotic Thebes, the two public baths, which are located close to

Basilica A, had different orientation⁶⁷, such as the two baths in Larisa, in Laou sq. (TH. – GR. 5) and in the Phroyrio sq. (TH. – GR. 6).

In all cases the principal method of heating the bath complexes was the under-floor and the wall heating. Unfortunately, there is not much available information about the hypocaust and the wall heating system of the bath complexes in *Provincia Thessalia*. According to the collected data, both ring and rectangular hypocaust pillars were used and even in the same city, such as in Larisa and in Dēmētriada, both types were used in order to construct the under floor heating system. There is no information about the wall heating system.

⁶⁷ The connected with basilica A bath (TH. – GR. 7) follow a southeast – northwest orientation, while the bath complex close to basilica A (TH. – GR. 8) is south – north oriented.

2.4. PROVINCIA HELLAS

The *Provincia Hellas* was part of the Roman Empire since 27 B.C. and its territories belonged to the *Provincia Achaia*. In the 4th c. AD, according to *Laterculus Veronensis*, *Provincia Achaia* belonged to *Dioecesis Moesiae*. According to Synekdemosis of Hierocles, in the 6th c. AD, *Provincia Achaia* was renamed and the new *Provincia Hellas* belonged to the Prefecture of Illyricum, whereas Corinth was the capital of the province⁶⁸. Nowadays, the territories of the province belong to Greece except for the Imbros⁶⁹ Island, which belongs to Turkey.

The Bath Facilities

The *Provincia Hellas* was one of the biggest provinces of the Diocese of Illyricum and, apart from the rivers and the lakes that existed in all provinces, the *Provincia Hellas* was, literally, surrounded on three sides by the sea. This abundance of water was a determining factor for the construction of hundreds of bathing facilities. Until now, over three hundred roman and byzantine bath complexes have been excavated in *Provincia Hellas*.

Almost eighty percent of the total number of baths was constructed in the Roman era and only twenty percent were constructed in the Byzantine period. In absolute numbers, two hundred thirty six bath complexes were constructed and were in use during the Roman period and almost one fourth of them were still in use in the Byzantine period, while in the same time fifty-seven new baths were constructed. Hence, in the transitional 4th c. AD, in *Provincia Hellas* the number of the bath facilities was almost halved except for the capital of the province, Corinth.

⁶⁸ Δρακούλης 2009, 129 - 130.

⁶⁹ Imbros was officially renamed as Gökçeada on the 29th of July, 1970, see A. Alexandris, "Religion or Ethnicity: The Identity Issue of the Minorities in Greece and Turkey", in: R. Hirschon (ed.), *Crossing the Aegean. An appraisal of the 1923 compulsory population exchange between Greece and Turkey*, New York - Oxford 2003, 120.

The city of Corinth passed to the Byzantine era preserving and enhancing its bathing tradition, as the number of bath complexes increased and until now more than twenty bath buildings have been excavated. In the Early Byzantine period, along with the surviving three Roman baths, ten more facilities were added⁷⁰. All the buildings were constructed in the late 4th or early 5th c. AD, apart from the bath west of the Odeon (HEL. – GR. 55), which was built in the 6th c. AD.

In the mid-6th c. AD the city suffered from a bubonic plague, with high mortality levels, and also from a deep economic recession. The decline of the city was clearly reflected, as there is a gap in the bath construction after the 6th c. AD. The city recovered after the 9th c. AD, it began to expand and from that time new bath complexes appeared: North Bath in Lechaion Road⁷¹ (HEL. – GR. 52), North of the Central square (HEL. – GR. 53), South Bath (HEL. – GR. 57) and Baths South of the Basilica (HEL. – GR. 58). Moreover, the Roman and Early Byzantine Bath South of the Museum (HEL. – GR. 59) was renovated and reopened in the late 11th c. AD.

In Athens a big reduction in bath construction can be observed from the Roman to the Byzantine era. Almost forty-five bath complexes were constructed and were in use in the Roman period and almost one third of them were still in use in the Byzantine era, while in the same time only nine baths were constructed. This leads to the conclusion that in terms of the number of active baths, a decrease of around 50% can be observed from the Roman to the Byzantine era. However, this is a normal trend, if we take into account that after the Heruli invasion, in 267 AD, Athens suffered a demographic and urban disaster⁷².

Gradually, the city returned to its normal rhythm and from the 4th c. AD a new impetus to the city's social life was given, mainly resulting from the operation of the philosophical schools. The new beginning is reflected in the construction of new bath facilities. In the late 4th c. AD or in the early 5th c. AD, the Bath in Plaka (HEL. – GR. 41) and the Bath in Monē Arkadiou str. (HEL. – GR.

⁷⁰ Only the bath in Lekkas plot (HEL. – GR. 60) has been classified as a domestic bath.

⁷¹ A paved road called "Lechaion Street" led straight from the forum to Lechaion, the western seaport, two kilometers away.

⁷² I. Τραυλός, *Πολοδομική εξέλιξις των Αθηνών*, Αθήνα 2005, 125 – 134.

42) were built. In the 5th c. AD, the Bath T (HEL. – GR. 28), the Bath A (HEL. – GR. 36) and the Bath in Pompeio (HEL. – GR. 33) were constructed.

Most of the roman bath facilities were out of use after the 7th c. AD. Exceptions are the Central Bath in Makrygiannēs plot (HEL. – GR. 22), which was renovated in the 7th c. AD and maybe the Bath in Thoykydidēs str. (HEL. – GR. 34), which was built in the 6th c. AD. Unfortunately, there is no information about the lifetime of the Early Byzantine baths. In any case, after the abolition of the Athenian philosophical schools by Justinian (529 AD), Athens became an insignificant provincial city of the Byzantine Empire. Christianity strongly penetrated the formerly pagan Athenian society and a special attention was paid to the urban Christianization of the city. Thus in subsequent years, churches and monasteries were built and the most important bath complexes of that era are two monastic baths in the monasteries of Kaisarianē (HEL. – GR. 39) and Daphni (HEL. – GR. 40).

A big reduction in bath constructions is observed also in Patra, where at least twenty-three roman baths were excavated and four of them were in use also during the Early Byzantine period, while only three baths constructions can be dated in the Early Byzantine period. Considerable causes of this decline were probably the invasion of Alaric, in 396 AD, which caused significant damages in the city, and as well as some natural disasters that affected the region.

In the late 5th c. AD, the city overrides the difficulties of the past years and important reconstruction efforts were made. This attempt is evidenced by the construction of two new bath complexes in the heart of the medieval city. The Bath in Panachaida Athēna str. (HEL. – GR. 98) was built in the late 5th c. AD and few years later, in the early 6th c. AD, the large, public Bath in the Intersection of 1 Vyrōnos and Cheilōnos Patreōs str. was constructed (HEL. – GR. 94). All the baths were out of use after the 7th c. AD and there are no archaeological data for any subsequent bath complexes.

Fifteen roman baths have been excavated in the urban web of the modern city of Sparta. Only four of them extended their operation also in the Early Byzantine era. The domestic Bath in Dioskourōn str. (HEL. – GR. 78) was renovated in the late 4th or early 5th c. AD and was in use up to the 6th c. AD, just like the Bath in the Intersection of Alkmanos and Lysandroy str. (HEL. – GR. 80).

Also, the domestic Bath in Thermopylōn str. (HEL. – GR. 79) was in use up to the Early Byzantine period. One more roman bath was in use during the Early Byzantine period, which was not located in the urban core but close to Orthia Artemis' sanctuary (HEL. – GR. 77). Only the Bath in Vrasidou str. (HEL. – GR. 75) is dated in the late 4th c. AD and can be characterized as an Early Byzantine bath, along with the domestic Bath in Kokkinorachē (HEL. – GR. 81). Hence, the Early Spartan society satisfied their bathing needs mainly in the surviving roman baths of the city.

In the late 6th c. AD, the valley of Sparta was conquered by Slavic tribes and suffered many changes. In the late 8th c. AD, during the reign of Nikephoros I “the Logothete”, the Slavs were repelled and the valleys were liberated. Thus, gradually, the city was revitalized. Until now, there is no information about bathing facilities dating in those two centuries. However, in the Mid-Byzantine period, the old Roman/Late Roman bath in the Intersection of Alkmanos and Lysandroy str. was renovated and later the Late Roman Bath in Triakosiōn str. (HEL. – GR. 76) was also restored.

In the large *Provincia Hellas*, only forty-six of the one-hundred-nineteen bath complexes, which were running in the Byzantine period, have been fully excavated so that it is possible to confidently ascertain their functional type. Most of the public bath facilities (ten) were excavated in Athens, three public baths were found in Corinth, two in Patra and two in Mesolongi⁷³. In the late 7th c. AD, all the public baths went out of use, apart from the two Mid-Byzantine baths in Corinth: the North Bath in Lechaion Road (HEL. – GR. 52) and the South Bath (HEL. – GR. 57).

Only sixteen bath facilities have been classified as domestic and were excavated in various urban and rural areas of the province. Three of them were identified as *villae rusticae* (HEL. – GR. 62, HEL. – GR. 86, HEL. – GR. 101). Seven of them were roman structures and went out of use in the Early Byzantine period and the rest were Early Byzantine buildings.

Despite the fact that the urban Christianization in the Early Byzantine period led to the construction of dozens basilicas, only three ecclesiastic baths have

⁷³ This enumeration includes only the bath complexes, which have been classified as public buildings by the excavation team.

been identified: the bath in Arkitsa, in Phtiōtida, close to the ruins of Hagia Aikaterinē's Basilica (HEL. - GR. 13), the bath in Schina str., in Megara (HEL. - GR. 44), which was part of the Episcopal Palace, and the bath in Hagios Nikolaos, in Kirra (HEL. - GR. 9). Furthermore, only four monastic baths were discovered in the province: the bath in Dervenosalesi (HEL. - GR. 18), in Kaisarianē's monastery (HEL. - GR. 39), in Daphni's monastery (HEL. - GR. 40) and the monastic bath in Dēlos (HEL. - GR. 102).

There is available information on the bath size for forty-six public, domestic and monastic complexes. Unfortunately, there is no safe information about the ecclesiastic ones. The public baths fall into two broad categories. The first one includes the roman public baths, which continued running in the Byzantine era, mainly in the Early Byzantine period. These are large complexes, with many chambers, ranging from 540 sq. m. (HEL. - GR. 71) up to 5500 sq. m. (HEL. - GR. 37). In any case, it should be emphasized that the size of the baths are directly dependent on the population of the city, therefore the smaller cities needed smaller baths.

The second category includes the purely byzantine structures, which are more compact and much smaller. According to the collected data, the byzantine public baths of the province were either small, such as the Early Byzantine bath in Monē Arkadioy str., in Athens (HEL. - GR. 42), with an area ca. 75 sq. m., and the Mid-Byzantine bath in Nafpaktos, with an area of 45 sq. m. (HEL. - GR. 8), either medium size baths, such as the bath in Goynarēs str., in Patra (HEL. - GR. 92), with an area of ca. 416 sq. m. The only known exception, that exceeds the 500 sq. m., is the Early Byzantine Bath T, in Athens (HEL. - GR. 28), with an area of 540 sq. m.

The domestic baths, usually, included only the basic bath chambers. The bath houses were small units, smaller than 100 sq. m. Apparently, the baths in *villae rusticate* were bigger, such as the bath in Samē (HEL. - GR. 109), with an area bigger than 200 sq. m., although this was initially a roman structure.

Almost the same rules applied also in the monastic baths. There were small complexes with the absolutely basic bath chambers. There are not many surviving instances; however since they were serving a small number of people, there was no need to build large facilities. The monastic baths in Dēlos (HEL. -

GR. 102) and in Dervenosalesi (HEL. – GR. 18) has an area of ca. 20 sq. m., while the bath in Kaisarianē's monastery (HEL. – GR. 39) is bigger, with an area of 42 sq. m.

In *Provincia Hellas*, the two most preferred architectural types in bath complexes were the axial row type and the angular row type. The only exception is the Early Byzantine South Stoa Bath, in Corinth (HEL. – GR. 49), in which the parallel row type has applied. All the other deviations from the two main types were roman buildings, which continued to function for some time in the Byzantine era. This simplification was a natural effect, since the size of the bathing complexes was reduced and the construction options were confined. Progressively, after the mid-4th c. AD, the architecture of the baths was simplified. After all, the core of the cities' social life shifted towards the ecclesiastical buildings and the baths simply served the daily hygienic needs of the citizens.

The process of the gradual suppression of the unheated chambers does not seem to apply in *Provincia Hellas* or at least it is not apparent based on the collected data. All the roman constructions have *frigidarium* and in some cases more than one (HEL. – GR. 26, HEL. – GR. 67, HEL. – GR. 91)⁷⁴. Unheated chambers were discovered also in not fully excavated complexes, such as in the North Bath in Lechaion road (HEL. – GR. 52). There are only four fully excavated public byzantine baths in the province. 1Both of the baths in Plastēras str., in Nafpaktos (HEL. – GR. 8), and in the Intersection of the Vyrōnos and Cheilōnos Patreōs str., in Patra (HEL. – GR. 94) have *frigidaria*. The Early Byzantine bath in Goynarēs str., in Patra (HEL. – GR. 92), didn't have a *frigidarium*, but it had a big *apodyterium*, which could be compared to the multipurpose chamber detected in the previous provinces, while there was no unheated chamber in the Mid-Byzantine bath in Triakosiōn str., in Sparta (HEL. – GR. 76).

While, nine baths have been identified as domestic, unfortunately only three Early Byzantine facilities are fully preserved. Two of them (HEL. – GR. 63, HEL. – GR. 81) have *frigidarium*, while the third one is a single room bath in Mantinea

⁷⁴ The Bath C, in Athens (HEL. – GR. 26) and the Thermes B, in Argos (HEL. – GR. 67) are not classified as public baths, but their location and their size leading to their identification with public baths.

(HEL. – GR. 99). Of particular interest is the bath in Phiskardo (Kephalonia) (HEL. – GR. 110), which is a roman structure, but it was renovated in the 5th c. AD. Despite the fact that it is a big domestic bath, with an area of 94 sq. m., it lacks a *frigidarium* and has only one *piscina frigida*, along with a *tepidarium* and three *caldaria*.

In the monastic baths, there was no need to build many chambers for different uses, which was also prohibitive due to their size. Nevertheless, all three available instances of monastic baths have an unheated room, which served the preparation of the monks before the bath and the storage of the necessary clothing.

While in *Provincia Thessalia* the concept of *tepidarium* seems to be weakened, in *Provincia Hellas* some modifications were applied to the chamber. The modifications affect the design and perhaps the usage of the warm chamber. This new *tepidarium* or new heated chamber is always quadrangular without built-in basins. The earliest cases of this heated chamber were found in two roman baths in Athens – the East Bath (HEL. – GR. 21) and the Bath U, on the North side of the Areopagys (HEL. – GR. 29) – and in the Thermes B, in Argos (HEL. – GR. 67), which date back to the 3rd c. AD and were in use till the Early Byzantine period. In Bath U two of these rooms were excavated and were directly heated, by private *praefurnium*. Moreover, two similar heated rooms were discovered in the bath in Argos. The first one does not have built-in basins, while the second, the so-called second *tepidarium* has only one small niche on its western wall⁷⁵.

The construction of this heated chamber was detected, also, in five Early Byzantine baths, with variations in the heating, but always with no trace of built-in basins. In the South Stoa bath, in Corinth (HEL. – GR. 49), the Chief archeologist has avoided to equate the quadrangular heated chamber with the *tepidarium*. In fact, the chamber was directly heated, but based on the few

⁷⁵ If the hydraulic installation lacks from the first so-called *tepidarium*, it could be interpreted as *sudatorium* provided it was directly heated chamber and almost in the right position, although is not centrally planned. For the chambers position in the baths, see Nielsen I 1990, 153 - 166.

combustion traces, which were discovered in the opening of the *praefurnium*, the space was rarely heated⁷⁶.

There is no information about the direct or the indirect heating of the heated chamber, in the small Early Byzantine bath in Epidavros (HEL. – GR. 72). On the other hand, the quadrangular chamber in Asinē's bath (HEL. – GR. 74) has all the above mentioned characteristics, but it was an unheated chamber. Thereby, it cannot be identified as a *tepidarium*. Also, Mpouras avoided identifying the *quadrangular chamber* in the bath in Triakosiōn str. (HEL. – GR. 76), in Sparta, with a *tepidarium* and merely describes it as a heated chamber. The *quadrangular chamber* in Sparta and the one that found in Panagia (HEL. – GR. 63) were both indirectly heated chambers.

According to their characteristics, all the aforesaid bath complexes can be classified as public buildings, even if the excavators avoid identifying them. The bath-house in Panagia (HEL. – GR. 63) is an exception as it seems to belong to a *villa rustica*. All of them have a quadrangular heated chamber without built-in basins. The major question that arises is whether they have hydraulic installation or not. Concerning their heating, in the 3rd c. AD, the chambers were heated directly, while in the Early Byzantine era they were heated indirectly or not at all.

In addition, in *Provincia Hellas*, most of the complexes follow Vitruvius' rule about the orientation of the baths. Thus, out of the thirty baths, for which there is information regarding their orientation, half of them are north – south oriented and about one third of them are oriented north – south or northeast – southwest. There are also some exceptions, such as five baths, which follow an east – west orientation, and six baths, which follow a northwest – southeast orientation.

In *Provincia Hellas*, there is little information about the technical characteristics of the byzantine baths' heating system. The ring hypocaust pillars were preferred over the quadrilateral, although in some cases the two pillar types were combined. Regarding the wall heating system, both *tegulae mammatae* and *tubuli* were used.

⁷⁶ O. Broneer, The South Stoa and its Roman Successors, *Corinth I.IV* (1954), 146.

2.5. PROVINCIA CRETA

The *Provincia Creta* was part of the Roman Empire since 66 B.C. and its territories belonged to the *Provincia Creta et Cyrene*. In the 4th c. AD, according to *Laterculus Veronensis*, the newly established *Provincia Creta* belonged to *Dioecesis Moesiae*. In the 6th c., according to Synekdemos of Hierocles, *Provincia Creta* belonged to the Prefecture of Illyricum and Gortyna was the capital of the province. Nowadays, the territories of the province belong to Greece⁷⁷.

The case of Crete is special. On one hand, it was quite distant from the core of the Byzantine Empire and probably was neglected by the central government, which also led to the Arab conquest. On the other hand, Crete was a major naval base of the Byzantine Empire, due to its location.

There are two Byzantine periods in the medieval history of Crete. The first one began on the 330 AD, when the roman capital was transferred in Constantinople. The first Byzantine period in Crete ended on 824 AD, when the island was occupied by the Arabs for 137 years (824 – 961)⁷⁸ and the capital was transferred from Gortyna to Chandacas (today Iraklion). In 961, Crete was liberated by Nikiforos Fokas and the second Byzantine period began⁷⁹, which ended in 1204. After the fall of Constantinople, by the Crusaders, Crete was given to Venice. The pirate and Earl of Malta, the Genoese, Enrico Pescatore, occupied the island, however the Venetians attack and finally in 1211 Crete came under the control of Venice.

The Bath Facilities

In *Provincia Creta*, more than forty-five roman and byzantine bath facilities were excavated. Almost eighty-five percent was constructed in the Roman era and the rest was constructed in the Byzantine period. In absolute numbers,

⁷⁷ Δρακούλης 2009, 140 - 141.

⁷⁸ V. Christides, *The Conquest of Crete by the Arabs (ca 824). A Turning Point in the Struggle between Byzantium and Islam*, Athens 1984; C. G. Makrypoulas, *Byzantine Expeditions Against the Emirate of Crete c. 825 – 949, Graeco – Arabica VII – VIII (1999 – 2000)*, 347 – 362.

⁷⁹ W. T. Treadgold, *A History of the Byzantine State and Society*, Stanford 1997, 495.

thirty-six bath complexes were constructed and were in use during the Roman period and only five of them were also in use during the Early Byzantine period. The only exception is the bath in Kephhalades (CR. – GR. 9), which was still in use in the 10th c. AD. Only seven byzantine baths were excavated in the island of Crete and all of them are dated to the Mid-Byzantine era, except for the complex in Moires (CR. – GR. 10), which is an early byzantine bath.

The Early Byzantine capital of the province, Gortyna, was almost totally destroyed by the Arab attacks, which led to the occupation of the island. This is probably a strong cause about the absence of roman and Early Byzantine baths in the city. The only known bath facility of the city is the one in Praetorium (CR. – GR. 8), which was built in the late 1st c. AD and went out of use in the early 7th c. AD. During the Arab occupation and the second Byzantine period, the city declined, since the capital was moved to Chandaka (Heraklion).

On the other hand, during the early Byzantine period Heraklion was a small village, which was upgraded when the Arabs transferred there the capital of the Emirate of Crete. Chandakas kept the primacy also after the liberation of the island from the Byzantines. Thus, not even one early byzantine bath complex has been excavated in the modern city of Heraklion, however three mid-byzantine baths were discovered: the bath in Erōtokritos str. (CR. – GR. 5), the bath in Korōnaios str. (CR. – GR. 6) and the one in Chortatsōn str. (CR. – GR. 7).

Four roman baths were excavated in Chania, but none of these were in use during the Byzantine era and there are no proofs about any other byzantine bath complex functioning in the city. Six baths were discovered in Eleftherna and only one of them was in use during the Early Byzantine period. In fact, the small bath in Katsivelos (CR. – GR. 4) was a Hellenistic bath, with a roman and also an early byzantine phase. Likewise, six roman baths were uncovered in Kisamos and only one continued to operate in the Early Byzantine era (CR. – GR. 2).

Six bath complexes were identified as public buildings. The baths in Eleftherna and in Gortyna are roman structures, which were still in use in the Early Byzantine period, and both of them were out of use on the early 7th c. AD. The two baths in Heraklion, in Korōnaios str. and in Chortatsōn str., were functioning almost in the same period. The third bath in Erōtokritos str. can also be considered as a public bath, even though the chief archaeologist didn't classify

it as such. Thus, those public baths were probably three of the public baths of the medieval city, since they are in the heart of the mid-byzantine urban web.

The bath in Katō Episkopē (CR. – GR. 12) can be classified as an ecclesiastic bath, since there are clay crosses in the decoration of the masonry and also the closest settlement was an Episcopal one⁸⁰.

Only three fully excavated bath complexes were discovered. The roman bath in Kisamos (CR. – GR. 2), which was in use up to the 5th c. AD, and the two mid-byzantine ones, in Mylopotamos (CR. – GR. 3) and in Katō Episkopē, were smaller than 100 sq. m. The rest of the complexes are partially preserved. The small dimensions of the baths also lead to the simplicity of the structure and for this the preferred architectural type was the axial row type.

As in the previous provinces, the byzantine baths are compact and include only the required chambers: a cold room and one or two heated chambers. The same pattern is also observed in Crete; however the mid-byzantine bath in Heraklion, in Korōnaios str. (CR. – GR. 6) is an exception, since it has all roman bath chambers: *vestibulum*, *apodyterium*, *frigidarium*, *tepidarium*, *caldarium* and some more auxiliary chambers.

Regarding the orientation of the facilities, two of them follow the north - east orientation, while the bath in Katō Episkopē follows an east – west orientation. Unfortunately, there is no information about the rest of the buildings.

Also, there is little information about the floor and wall heating system in the baths. Rectangular hypocaust pillars were unearthed in three bath facilities, one Early Byzantine (CR. – GR. 10) and two Mid-Byzantine ones (CR. – GR. 5; CR. – GR. 12). In two cases remains of the wall heating system were found. In the system of the *caldarium* of the Early Byzantine bath complex in Moires (CR. – GR. 10) a combination of *tubuli* and *tegulae mammate* is used. On the contrary, in the bath in Gortyna, the wall heating system consists of spacer pins (CR. – GR. 8).

⁸⁰ Μ. Κατηφόρη, Ανασκαφή στο ναό των Αγίων Αποστόλων στην Κάτω Επισκοπή Σητείας: Επίσκεψη σε ένα βυζαντινό λουτρό, *ΑΕΚ 1* (2008), 217.

2.6. PROVINCIA EPIRUS VETUS

The regions of *Provincia Epirus Vetus* were part of the Roman Empire since 148 B.C. Some of its territories belonged to the *Provincia Macedonia* and some others to *Provincia Achaia*. In the 4th c. AD, according to *Laterculus Veronensis*, *Provincia Epirus Vetus* belonged to *Dioecesis Moesiae*. In the 6th c. AD, according to Synekdemosis of Hierocles, *Provincia Epirus Vetus* belonged to the Prefecture of Illyricum and Nikopolē was the capital of the province. Nowadays, the territories of the province belong to Greece and to Albania⁸¹.

The Bath Facilities

In *Provincia Epirus Vetus*, more than thirty-five roman and byzantine bath complexes were discovered and almost eighty percent was roman constructions. In absolute numbers, twenty-nine baths were constructed and were in use during the Roman period and six of them were also in use during the Early Byzantine period, while in the same time only seven new bath complexes were constructed.

Only three roman baths were excavated in the capital of the province, Nikopolē, and there is no trace of a bath facility functioning during the Byzantine era. Also in Palaiopolē, in Corfu, two roman baths were unearthed and both of them were in use up to the 6th c. AD, when a big earthquake struck the city. The first one is a big bath complex in Elaias Institute plot (EPIR.VET. – GR. 3) and the second one is a smaller facility, very close to the first one, in the Kasphikē plot (EPIR.VET. – GR. 4).

Five bath-houses were discovered in the city of Buthrotum and all of them seem to be roman structures⁸², although two of them function also in the early

⁸¹ Δρακούλης 2009, 146.

⁸² The Bath close to the Baptistery is dated to the 2nd c. AD, but there is no date information about the Bath close to the Gate and the Bath of the Gymnasium, for which it is assumed that are roman buildings as well, see A. I. Wilson, "The Aqueduct of Buthrint", in: I. L. Hansen, R. Hodges and S. Leppard (eds.), *Butrint 4: The Archaeology and Histories of an Ionian Town*, Oxford 2013, 77 – 96.

Byzantine period. The Southwest Bath⁸³ (EPIR.VET. – GR. 8) was a roman facility, which was renovated and was in use up to the 5th c. AD, such as the public Theater Bath (EPIR.VET. – GR. 9). Six bath complexes were revealed in the suburb of Buthrotum, in Vrina Plain, on the other side of the Vivari Channel. A big roman Peristyle House, with two bath-houses, which were transformed into an ecclesiastic complex in the 5th c. AD⁸⁴ was unearthed and an old trilateral cistern was converted into a bilateral bath facility (EPIR.VET. – GR. 10) in order to serve the religious complex. Furthermore, one *villa rustica*, dated in the 6th c. AD (EPIR.VET. – GR. 12), with its own bath-house was revealed. In addition, another substantial bath complex with a large cistern that supplied it with water was discovered (EPIR.VET. – GR. 11).

Another noteworthy extra mural ecclesiastic complex was constructed in nearby Diaporit, where a large three-aisled basilica was built over the ruins of the former luxury residence. The building appears to be contemporary with the Vrina Plain basilica and was accompanied by residential buildings, a small chapel, a small private bath (EPIR.VET. – GR. 13) and a tower.

One Mid-Byzantine and one Late Byzantine bath complexes were discovered in the province. The small mid-byzantine bath in Paramythia (EPIR.VET. – GR. 5) is unfortunately still not well studied, although it has all the basic bath chambers. The tripartite bath in the Castle of Iōannina (EPIR.VET. – GR. 7), was still in use in the early 15th c. AD and was probably abandoned when an ottoman bath complex was constructed few meters on the south.

Five bath complexes were identified as public buildings. The two baths in Palaiopolē (EPIR.VET. – GR. 3; EPIR.VET. – GR. 4), in Corfu, are roman structures, which were still in use in the Early Byzantine period, such as the Theater Bath and the Southwest Bath in Buthrotum. The public bath in the Castle of Iōannina is a typical Late Byzantine bath. The only domestic bath is the abovementioned *villa rustica* in Vrina Plain. The *domus* on the Vrina Plain site (EPIR.VET. – GR. 10)

⁸³ In the literature is referred also as the “Bath close to the Channel”. Regarding the dating of the building, according to Ceka, the building is dated on the 5th c. AD, see N. Ceka, *Butrint: A guide to the city and its monuments*, London 1999.

⁸⁴ I. L. Hansen, “Roman sculptures from Butrint: a review of recent finds”, in: I. L. Hansen, R. Hodges and S. Leppard (eds.), *Butrint 4: The Archaeology and Histories of an Ionian Town*, Oxford 2013, 107.

and the villa site at Diaporit (EPIR.VET. – GR. 13) were both transformed into ecclesiastic complexes in the 5th c. and the bath-houses served the needs of the clergy and the believers. Only the bath in Paramythia (EPIR.VET. – GR. 5) could be connected with the adjacent monastery of Panagia Paramythia, but such an allegation cannot be safely done.

The size of the public baths of the *Provincia Epirus Vetus* ranges from 200 sq. m. up to 300 sq. m., judging from the three instances for which there is available information. Two of these baths are roman buildings (EPIR.VET. – GR. 8 & EPIR.VET. – GR. 4) and the third one is the late byzantine bath in the Castle of Iōannina (EPIR.VET. – GR. 7). The only exception is the roman Bath in the Elaias Institute plot in Palaiopolē (EPIR.VET. – GR. 3), which has an area of 800 sq. m. Regarding the architectural type, once more the simple axial row and the angular row type are the most preferred. Only the Southwest Bath in Buthrotum (EPIR.VET. – AL. 8) follows the ring type.

Few observations can be made regarding the bath chambers, because on one hand a lot of the bath complexes of the province are very small (with one or the rooms) and on the other they are not well studied and the chambers cannot be safely identified. Exceptions are the Southwest Bath in Buthrotum and the Bath in the Kasphikē plot in Palaiopolē (EPIR.VET. – GR. 4). Those two baths have some special characteristics, which have already been observed in the previous chapters.

In the bath in Buthrotum, the large central octagonal chamber has four basins in its four niches. The eastern basins used to have cold water, although the western basins used to have warm water. This is a special characteristic that does not appear in early dated bath facilities. However, this peculiarity seems to apply to some mid-byzantine baths, such as the Bath in Katō Episkopē, in Crete (CR. – GR. 12), although the basin there was directly heated.

In the bath in Palaiopolē, the heated chambers lack specially designed spaces for the basins. They are simple four-sided rooms and there is no information on the existence or not of additional basins. The only indication for the existence of hydraulic installation is the reference about two conduits in the southeastern unheated chamber, which lead to the small heated chamber.

Regarding the orientation of the facilities, two of the bath-houses follow the east – west orientation (EPIR.VET. – GR. 7; EPIR.VET. – GR. 10), however the Bath in Paramythia (EPIR.VET. – GR. 5) follows a north – south orientation, the Bath in Elaias Institute plot (EPIR.VET. – GR. 3) follows a northeast – southwest orientation and the Southwest Bath in Buthrotum (EPIR.VET. – GR. 8) follows a northwest – southeast orientation. Unfortunately, there is no information about the rest of the buildings.

Furthermore, there is little information about the floor and wall heating system in the baths. Ring hypocaust pillars along with a combination of ring and rectangular hypocaust pillars are preferred in the constructions. Ring hypocaust pillars were unearthed in the Bath in Iōannina (EPIR.VET. – GR. 7) and in the Theater Bath in Buthrotum (EPIR.VET. – GR. 9). Both types of the hypocaust pillars were discovered in the Bath in the Palace of Justice plot (EPIR.VET. – GR. 2) in Ladochōri, as well as in the Bath in Kasphikē's plot in Palaiopolē (EPIR.VET. – GR. 4). In only two cases there are remains of the wall heating system, consisting of *tegulae mammatae*: in the Bath in Iōannina and in the Bath in Kasphikē's plot in Palaiopolē.

2.7. PROVINCIA EPIRUS NOVA

The regions of *Provincia Epirus Nova* were part of the Roman Empire since 148 B.C. In the 2nd c. AD, the territories belonged to the *Provincia Macedonia*.

In the 4th c. AD, according to *Laterculus Veronensis*, *Provincia Epirus Vetus* belonged to *Dioecesis Moesiae*. In the 6th c. AD, according to Synekdemosis of Hierocles, *Provincia Epirus Vetus* belonged to the Prefecture of Illyricum and Durrës was the capital of the province. Nowadays, the territories of the province belong to Albania and to F.Y.R.O.M⁸⁵.

The Bath Facilities

Eight baths were discovered in *Provincia Epirus Nova* and almost all them are roman buildings and not well studied. Two bath complexes were excavated in Durrës⁸⁶ and another one in Ohrid⁸⁷. Also, four more baths were found on the axis of Via Egnatia and were parts of road stations on this great road. The best studied is the roman bath in *Ad Quintum*⁸⁸, but there are also bath complexes in the road stations of Paper⁸⁹, Darzeze⁹⁰ and Burizane⁹¹.

The only byzantine bath complex found in the *Provincia Epirus Nova* is the monastic bath in Ballsh Monastery (EPIR.NOV. – AL. 1), with an area of ca. 47 sq. m. It is a quite small facility, following the axial row type, with three chambers under of which there are hypocausts. The building follows a north - south orientation. The southern chamber, with a rectangular basin on its western side, is identified as a *tepidarium*, which also functioned as *apodyterium*. The middle

⁸⁵ Δρακούλης 2009, 152.

⁸⁶ For the Public Baths in Durrës, see Baçe 1980, 51 – 87; J. L. Davis *et al.*, The Durrës Regional Archaeological Projects: Archaeological Survey in the Territory of Epidamnus/ Dyrrachium in Albania, *Hesperia* 73 (2003), 41 – 119; L. Miraj, Durrës (Amfiteater e Terma), *Iliria* 2 (1990), 258 – 259. For the Bath in Goga str., see O. Lafe, Archaeology in Albania, 2000 – 2004, AR 51 (2000 – 2004), 125.

⁸⁷ The bath was found in 2014 and it is still unpublished.

⁸⁸ N. Ceka, L. Papajani, Nymfeu dhe termet e stacionit Ad Quintum, *Monumentet* 4 (1973), 29 – 51; N. Ceka, Ad Quintum, *Iliria* 7 (1995), 287 - 298; Baçe 1980, 51 – 87.

⁸⁹ Baçe 1980, 51 – 87.

⁹⁰ Baçe 1980, 51 – 87.

⁹¹ Baçe 1980, 51 – 87.

room is interpreted as *sudatorium* and the northern one is the *caldarium* of the complex, since it is directly heated. Unfortunately, there are not enough information about the under floor and the wall heating system, the hydraulic installation etc., but it should be noted that if the identifications apply, this is a unique bath-house.

2.8. PROVINCIA DACIA MEDITERRANEA

The *Provincia Dacia* was part of the Roman Empire since 106 AD. According to *Laterculus Veronensis*, in the 4th c. AD, after divisions and reunifications, Provincia Dacia was divided in two provinces: *Dacia Mediterranea* and *Dacia Ripensis*, which belonged to *Dioecesis Moesiae*. In the 6th c., according to Synekdemos of Hierocles, *Dacia Mediterranea* belonged to the Prefecture of Illyricum and Serdica was the capital of the province. Nowadays, the territories of the province belong to Bulgaria and Serbia⁹².

The Bath Facilities

In *Provincia Dacia Mediterranea*, more than twenty roman and byzantine bath complexes were excavated. All the facilities were roman structures except for three Early Byzantine bath-houses: the two baths in *Justiniana Prima*, the Wall Bath (DAC.MED – SRB. 5) and one in the Lower City (DAC.MED – SRB. 6), along with the bath in the Turkish fortress in Naissus (DAC.MED – SRB. 8). Thus, along with the three byzantine buildings, six roman facilities were running also in the Early Byzantine era raising the total number of the active bath facilities in this period to ten.

Not even one byzantine bath structure was discovered in the capital of the province, Serdica. However, nine roman bath complexes were excavated in the city and four of them were functioning also in the Early Byzantine era. The first one is the bath under St. George church (DAC.MED – BG. 1) and the second one is on the Northern Appendix of the city (DAC.MED – BG. 2). The other two baths are located on the north (DAC.MED – BG. 4) and northwest (DAC.MED – BG. 3) zone of the modern city. The two facilities are very close one to another and were contemporary functioning. For this reason M. Stančeva expressed the opinion that it was a single unit⁹³. However, V. Dinčev has rightly observed that those

⁹² Δρακούλης 2009, 158 - 160.

⁹³ M. Stančeva. "Serdica au Ier – IVe s. de n.ère à la lumière des dernières recherches archéologiques", in: T. Ivanov et al. (ed.) *Recherches sur la culture en Mesie et en Thrace (Bulgarie), Ie – IVe siècle* (Bulletin de l'Institut d'archéologie, XXXVII), Sofia 1987, 71; M.

two baths could not be considered as one because they are on the two opposite sides of the *cardo maximus*⁹⁴.

Justiniana Prima (Caričin Grad), which is now identified with the site in Caračin Grad, was built shortly before 535 AD⁹⁵. Two Early Byzantine baths were excavated outside of the city's wall, namely the Wall Bath (DAC.MED – SRB. 5) and the bath in the Lower City (DAC.MED – SRB. 6).

In the city of Naissus, five bath complexes were unearthed: four roman baths, constructed in the early 4th c. AD, and an Early Byzantine facility. Only two of the roman baths were in use also in the Early Byzantine period and none of them were *intra muros*. The first one is an unexcavated building, close to a necropolis (DAC.MED. – SRB. 9) and the second one is a domestic bath in Mediana (DAC.MED. – SRB. 10), which was a suburb of villas, located ca. 5km from the city, mostly cited as the place in which the emperors of the 4th c. AD resided during visiting Naissus⁹⁶. The only *intra muros* bath building is the Early Byzantine one located in the subsequent Turkish fortress (DAC.MED. – SRB. 8).

All the excavated bath complexes of the province were public buildings, except for the abovementioned domestic baths in Mediana. Thus, in the Early Byzantine period four public baths were served the residents of Serdica (DAC.MED. – BG. 1; DAC.MED. – BG. 2; DAC.MED. – BG. 3; DAC.MED. – BG. 4) and at least one the city of Naissus. Two public baths were found in Justiniana Prima, but there is no trace, yet, of a large bath complex *intra muros* of *Justiniana Prima*, in which, however, there should certainly be one, given the significance of the city.

There is little information about the size of the bath facilities in the province, because most of them are partially excavated. There are only four fully excavated complexes and three of them are bigger than 500 sq. m. The bath under St. George church in Sofia (DAC.MED. – BG. 1) has an area of 1650 sq. m., but it is an

Станчева, Археологическото наследство на София, Формиране, състояние, проблеми, Сердика II (1989), 21.

⁹⁴ В. Динчев, "Обществените бани на *Serdica*", in: С. Станев, В. Григоров, В. Димитров, *Изследвания в чест на Стефан Бояджиев*, София 2011, 116.

⁹⁵ F. Curta, *The Making of the Slavs. History and Archaeology of the Lower Danube Region c. 500 – 700*, Cambridge 2001, 130.

⁹⁶ A second bath-house was also discovered in Mediana, but it is not known the lifetime of the building, therefore is not included in the lemma's catalogue. For Mediana site, see П. Петровић, *Медијана - резиденција римских царева*, Београд 1994, 77 – 78.

original roman facility built according to the imperial bath type. The domestic bath in Mediana (DAC.MED. – SRB. 10) belongs to a villa located to this region, which is known as the suburb of the Emperors. Therefore, the size and probably its luxury is fully justified. The last bath is the public Wall Bath in Justiniana Prima (DAC.MED. – SRB. 5), which is located *extra muros*. The facility in the Northern Appentix of Serdica (DAC.MED. – BG. 2) is the only known bath with an area of ca. 100 sq. m.

Regarding the architectural type of the facilities, as mentioned above, the bath under St. George church in Sofia (DAC.MED. – BG. 1) follows the Imperial Type and the domestic bath in Mediana follows the Ring Type. Nevertheless, the two purely byzantine baths of the province in Justiniana Prima (DAC.MED. – SRB. 5; DAC.MED. – SRB. 6) follow the simple Axial Row Type.

Unfortunately, due to lack of data reliable conclusions cannot be drawn about the chambers of the byzantine baths in the province. Only three Early Byzantine bath structures were discovered in the *Provincia Dacia Mediterranea* and only the two baths in *Justiniana Prima* are fully excavated. The big multipurpose unheated chamber is observed also in some facilities in *Provincia Dacia Mediterannea*, such as in the Wall Bath in Justiniana Prima. It is a peristyle room with an atrium ca. 40 sq. m. in the middle and basins for cold bath were discovered in the north and the south porticoes. This unheated space occupies about two thirds of the bath complex and functioned as a *vestibulum*, *apodyterium*, and *frigidarium*. Also, in the bath in the Lower city of *Justiniana Prima* (DAC.MED. – SRB. 6), the triconch *vestibulum/ apodyterium* is the biggest chamber of the complex and a bench runs along the entire length of its walls. The *frigidarium* is an independent oblong chamber with two rectangular basins on its narrow sides.

Regarding the orientation of the facilities, there is information only about six complexes. Only the bath in the Lower city of *Justiniana Prima* and the domestic bath in Mediana follow a north - south or northeast – southwest orientation. The rest of the facilities are east – west or northwest - southeast oriented (DAC.MED. – BG. 1; DAC.MED. – BG. 2; DAC.MED. – BG. 4; DAC.MED. – SRB. 5).

Furthermore, there is little information about the floor and wall heating system in the baths. Rectangular hypocaust pillars were unearthed in the bath in

the Northern Appendix in Serdica (DAC.MED. – BG. 2) and ring and rectangular pillars were discovered under St. George in Serdica church (DAC.MED. – BG. 1) and in the Wall Bath in Justiniana Prima (DAC.MED. – SRB. 5). Only in the bath under St. George and in the bath in the Northern Appendix in Serdica *tubuli* from the wall heating system were found.

2.9. PROVINCIA DACIA RIPENSIS

The *Provincia Ripensis* was part of the Roman Empire since 106 AD. According to *Laterculus Veronensis*, in the 4th c. AD, after divisions and reunifications, *Provincia Dacia* was divided in two provinces: *Dacia Mediterranea* and *Dacia Ripensis*, which belonged to *Dioecesis Moesiae*. In the 6th c., according to Synekdemos of Hierocles, *Dacia Ripensis* belonged to the Prefecture of Illyricum and Ratiaria was the capital of the province. Nowadays, the territories of the province belong to Bulgaria and Serbia and some riparian regions belong to Romania⁹⁷.

The Bath Facilities

Eighteen baths were discovered in *Provincia Dacia Ripensis* and almost all of them are roman buildings and not well studied. Six of them were excavated in the roman city Montana⁹⁸, five in Oescus⁹⁹ and two in Timacum Minus¹⁰⁰. The capital of the province, Ratiaria, has been excavated since 1978, but the city was severely damaged by the Hunnic raids of the early 5th c. AD¹⁰¹.

The only byzantine bath facility was found in the Galerius' Palace in Felix Romuliana (DAC.RIP. – SRB. 1) with an area of ca. 400 sq. m. The big imperial complex follows the axial row type with four chambers in the north – south axis. The northern multipurpose chamber, which is the already known from the other provinces, operated as *vestibulum*, *apodyterium* and *frigidarium*. The rest of the

⁹⁷ Дракоúλης 2009, 166 - 168.

⁹⁸ Г. Александров, Антична вила No 2 край Монтана, *ИМСБ 4* (1979), 11 – 64; G. Alexandrow, *Montana*, Sofia 1981.

⁹⁹ А. Фрова, Разкопки на италианската археологическа мисия в Ескус, *ИАИ 17* (1950), 34-58; Т. Иванов, Проучвания на града през римската и ранновизантийската епоха в България (1944 - 1964), *Археология VI.3* (1964), 35 – 45.

¹⁰⁰ Р. Petrović, *Timacum Minus et la vallée du Timok*, *Inscriptions de la Mésie Supérieure III-2*, Beograd 1995, 42; П. Петровић, С. Јовановић, *Културно благо књажевачког краја. Археологија*. Београд 1997; S. Петковић, Ružić M., Јовановић S., Vuksan M., Zoffmann Zs. K., *Roman and Medieval Necropolis in Ravna near Knjaževac*, Monographs 42, Belgrade 2005, 16 – 17.

¹⁰¹ Curta 2001, 133 – 134.

chambers were heated. The hypocaust consists of rectangular pillars and the wall heating system consists of *tubuli*.

2.10. PROVINCIA DARDANIA

The *Provincia Dardania* was part of the Roman Empire since 6 AD. According to *Laterculus Veronensis*, in the 4th c. AD, *Provincia Dardania* belonged to *Dioecesis Moesiae*. In the 6th c. AD, according to Synekdemos of Hierocles, *Dacia Dardania* belonged to the Prefecture of Illyricum and Scupi was the capital of the province. Nowadays, the territories of the province belong to Serbia and F.Y.R.O.M.¹⁰².

The Bath Facilities

In *Provincia Dardania*, twelve roman and byzantine bath complexes were excavated. Almost all the facilities were roman structures apart from a bath-house in Kaljaja (DAR. – SRB. 3) and the two public baths in Scupi.

Three bath complexes were excavated in the capital of the province, Scupi, and two of them were Early Byzantine structures. The Large (DAR. – FYRM. 4) and the Small Bath (DAR. – FYRM. 4) in Scupi are dated to the late or early 5th c. AD and the third Early Byzantine bath was discovered in a rural area in Kaljaja (DAR. – SRB. 3). It is an independent complex, but still partially excavated. The other two bath facilities, which were built in the Roman period but were still in use in the Byzantine era, are the bath in the fortified settlement in Ulpiana (DAR. – SRB. 1) and the domestic bath in a *villa rustica* in Donje Nerodimlje (DAR. – SRB. 2). All the above mentioned bath complexes probably went out of use in 518 AD, when an earthquake struck *Provincia Dardania*, damaging or destroying many cities in the territory, such as Scupi¹⁰³.

Unfortunately, apart from the domestic bath in Donje Nerodimlje, all the other bath complexes of the province are partially excavated or unpublished. Thus, there is no information about the size, the architectural type, the orientation or the chambers and the heating system of the facilities. As far as the bath in Donje Nerodimlje is concerned, it has an area of ca. 320 sq. m., north –

¹⁰² Δρακούλης 2009, 173 - 174.

¹⁰³ Wagner *et al.*, CP 2012, 2069 - 2070.

south orientation and all the traditional chambers of the roman baths, but no safe conclusions can be derived about the general characteristics of the domestic baths in the province.

2.11. PROVINCIA MOESIA A

The *Provincia Moesia A* was part of the Roman Empire since 6 AD. According to *Laterculus Veronensis*, in the 4th c. AD, after divisions and reunifications, the united *Provincia Moesia superior* belonged to *Dioecesis Moesiae*. In the 6th c., according to Synekdemosis of Hierocles, *Provincia Moesia A* belonged to the Prefecture of Illyricum and Viminacium was the capital of the province. Nowadays, the territories of the province belong to Serbia and a small part to Bosnia¹⁰⁴.

The Bath Facilities

In *Provincia Moesia A*, twenty roman and byzantine bath complexes were excavated. All the facilities were roman structures apart from two Early Byzantine bath facilities. The first one is a domestic bath in Čačak (MOES.A – SRB. 2), which belonged to a *villa rustica* and the second one is the bath in Prnjavor – Štitar (MOES.A – SRB. 3), which is an independent building partially excavated. Along with the two byzantine buildings, the roman bath in Margum (MOES.A – SRB. 1) with an area of 405 sq. m. was also in use during the Early Byzantine period.

Only one roman bath was excavated in the capital of the province, Viminacium, but was out of use before the turn off the 5th c. AD, perhaps owing to the Huns' invasion. Probably the same applies also to Singidunum, where three roman bath complexes were excavated and there are no data to certify their operation after the 4th c. AD.

The sample is too small in order to derive reliable conclusions on the size, the architectural type and the heating system of the province's bath complexes. Judging from the fully excavated baths of the province the angular (MOES.A – SRB. 1) and the parallel (MOES.A – SRB. 3) row type was preferred and the north – south (MOES.A – SRB. 1) and northwest – southeast (MOES.A – SRB. 3) orientation was used.

¹⁰⁴ Δρακούλης 2009, 183 - 184.

However, even in these two bath facilities the prevalence of the multipurpose chamber is noticeable. In the bath in Margum (MOES.A – SRB. 1), the *apodyterium* is the biggest chamber of the complex and on its western rectangular niche, the *piscina frigida* was unearthed. In the second phase of the domestic bath in Čačak (MOES.A – SRB. 2), the *apodyterium* was enhanced with a *palaestra* and on the northern side of this chamber two *piscinae frigidae* were discovered.

2.12. PROVINCIA PANNONIA

The roman conquest of *Provincia Pannonia* began in 35 B.C. and was completed in 14 AD with the fall of *Sirmium*. In the early 2nd c. AD the province was divided into *Pannonia Superior* and *Pannonia Inferior*. In the late 3rd c. AD *Pannonia Superior* was divided into *Pannonia Prima* and *Pannonia Ripariensis* and *Pannonia Inferior* was divided to *Valeria* and *Pannonia Secunda*. According to *Laterculus Veronensis*, in the 4th c. AD, after divisions and reunifications, *Provincia Pannonia Inferior* belonged to *Dioecesis Pannoniae*. In the 6th c., according to Synekdemos of Hierocles, *Provincia Pannonia* belonged to the Prefecture of Illyricum and *Sirmium* was the capital of the province. Nowadays, the territories of the province belong to Serbia¹⁰⁵.

The Bath Facilities

In *Provincia Pannonia*, four roman bath complexes were excavated and only one of them was in use also in the Early Byzantine period. Three out of the four facilities were excavated in the capital of the province, *Sirmium*, and the fourth one was discovered in an urban area in Zasavica¹⁰⁶.

The Baths of Licinius (lok. 29)¹⁰⁷ and the Baths in lok. 31¹⁰⁸ in the city of *Sirmium* were constructed in the 4th c. AD, but there is no information about their lifetime. The third bath belongs to a *villa rustica* (PAN. – SRB. 1). The bath facility with an area of 210 sq. m. suffered many changes and its last phase dates back to the mid-4th c. The building follows the axial row type and has southwest – northeast orientation.

The *frigidarium* has an apsidal basin on its west wall and the *tepidarium* has an apsidal basin on the north. There are two directly heated chambers. The first one is a rectangular room without built-in basins and it could be interpreted as *sudatorium*, even if it is not centrally planned, and the second one, which is the

¹⁰⁵ Δρακούλης 2009, 193 - 194.

¹⁰⁶ Д. Поповић, *Rekognosciranje u Sremu, AP 10* (1968), 215-224.

¹⁰⁷ Раговић – Пешић, *AP 1964*, 83 - 91.

¹⁰⁸ N. Düval – V. Popović, *Horrea et thermes, Sirmium VII*, Rome - Belgrade 1977, 75 - 78.

easternmost chamber, has two apsidal basins on the southern and northern walls and a rectangular one on its eastern wall.

2.13. PROVINCIA PRAEVALITANA

The *Provincia Praevalitana* was part of the Roman Empire since 168 B.C., and in the 2nd c. AD part of the united *Provincia Dalmatia*. In the 4th c. AD the southeastern part of *Provincia Dalmatia* was detached and *Provincia Praevalitana* was created belonging to *Dioecesis Moesiae*, according to *Laterculus Veronensis*. In the 6th c., according to Synekdemos of Hierocles *Provincia Praevalitana* belonged to the Prefecture of Illyricum and Doclea was the capital of the province. Nowadays, the territories of the province belong to Serbia, Albania and Montenegro¹⁰⁹.

The Bath Facilities

Only one bath-house has been detected in *Provincia Praevalitana* in Ndershkall¹¹⁰, close to the village Nangë, in Albania. It is a roman Station Road Bath on the way of Drinit, from which only a small part of the facility has been discovered.

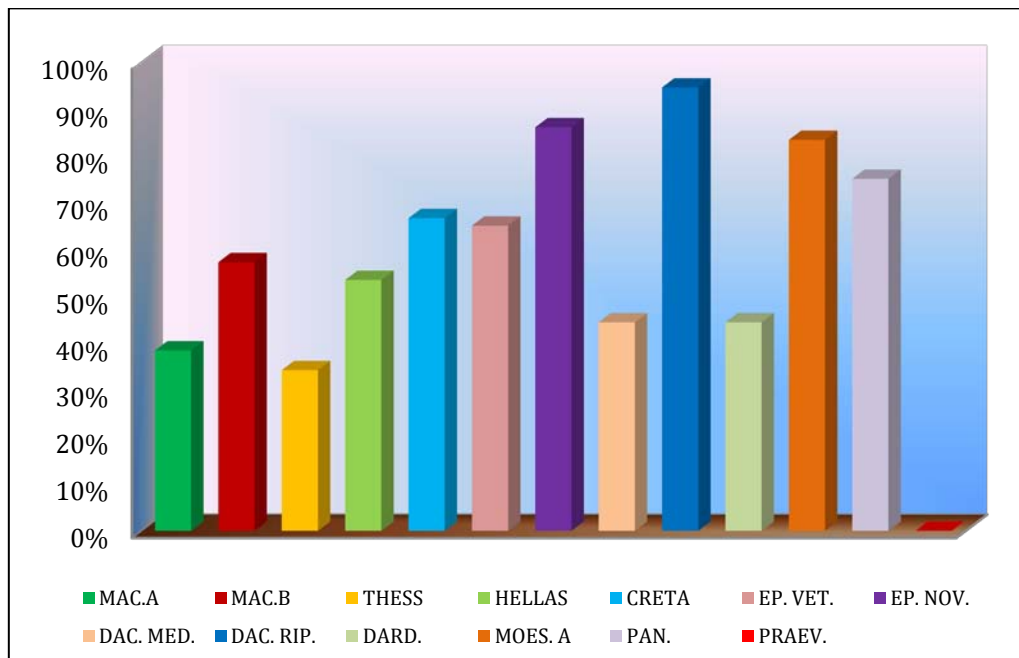
¹⁰⁹ Δρακούλης 2009, 178 - 180.

¹¹⁰ Baçe 1980, 51 - 87.

Chapter 3

Bath Construction in the Prefecture of Illyricum

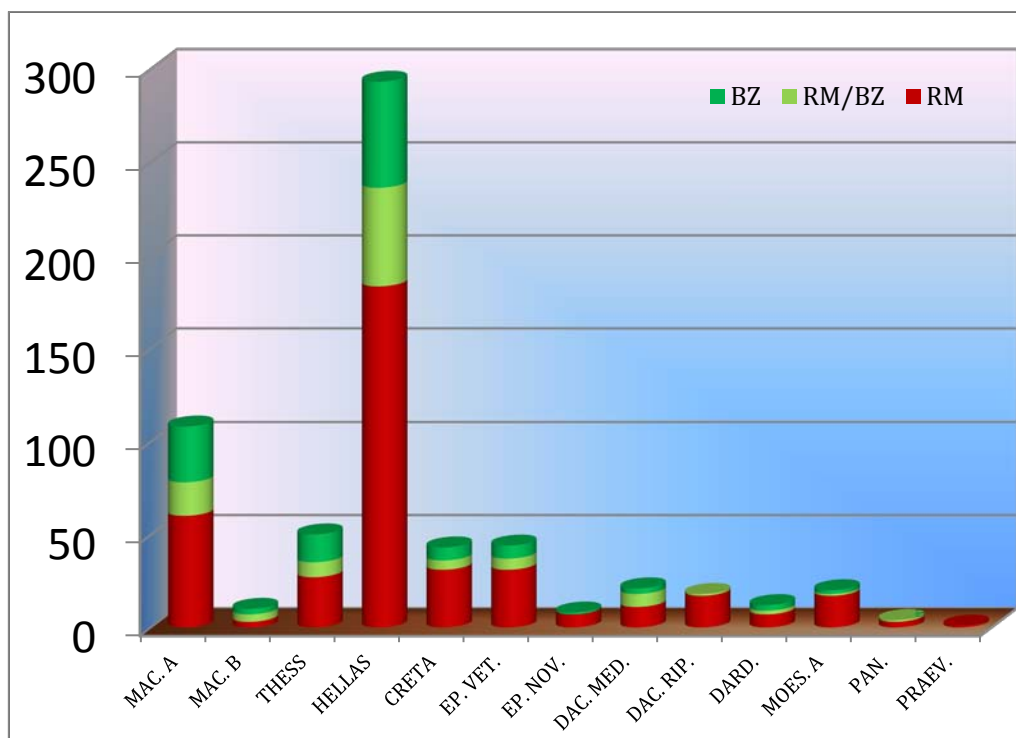
In this research, almost six-hundred and thirty bath complexes were studied 80% of which are roman buildings. In general, throughout the region of the Prefecture of Illyricum, a reduction of the bath complexes construction is observed during the Byzantine period, with an average of 74,6% (tab. 1). The largest decrease is marked in *Provincia Dacia Ripensis* (94,5%), where eighteen roman baths were discovered and not even one byzantine¹¹¹. The smaller



Tab. 1. Percentage reduction in construction by province

percentage is observed in *Provincia Thessalia* (34,3%), where thirty-five roman facilities and fifteen byzantine ones were unearthed. The reduction in bath construction resulted in the decrease of the active baths in the Byzantine period. However, the rate of the decline from the Roman to the Byzantine era is less than the reduction in construction and reaches on average 56,6%. This difference

¹¹¹ *Provincia Praevalitana* is excluded, because the reduction is 100%, but only one Roman bath is found and not a single one Byzantine.



Tab. 2. Active baths by province

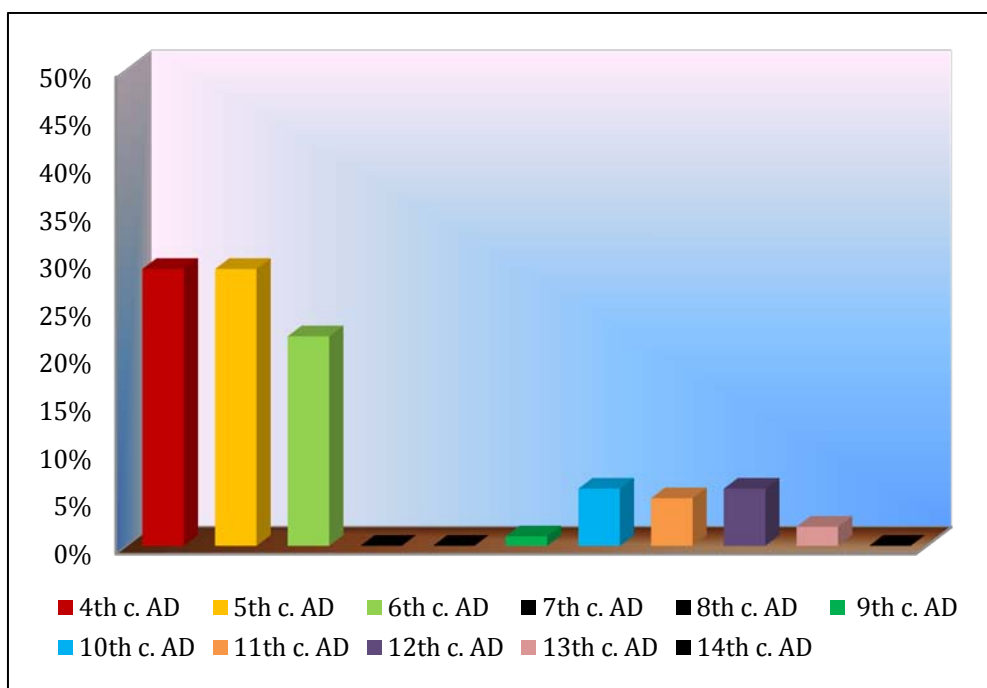
arises from the roman constructions that continued to operate in the Byzantine era (tab. 2).

Broadly, it could be said that an equal number of roman and byzantine baths operated in the Byzantine era. Therefore, the bathing tradition continued throughout the millennial period of the Byzantine Empire, although the number of the active bathing facilities dropped by half.

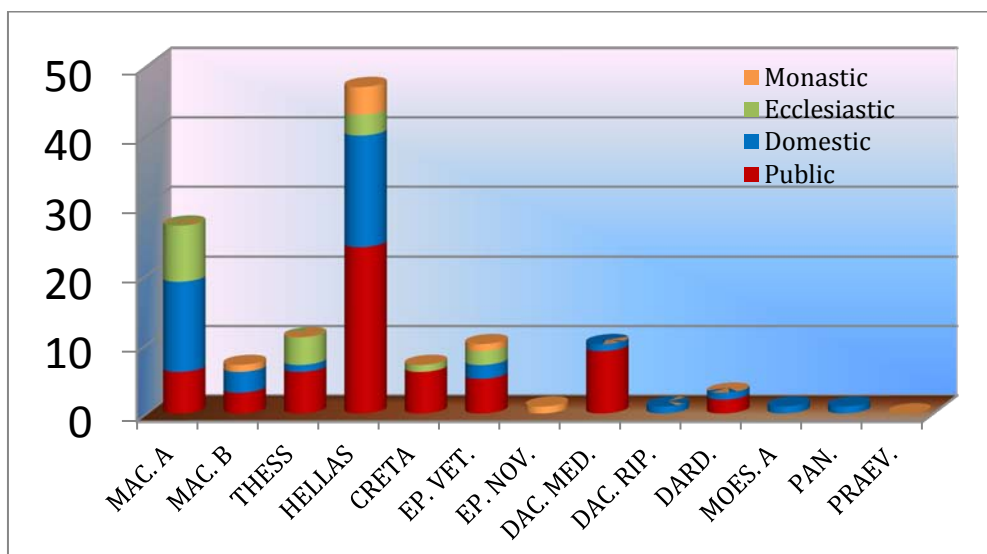
The falling trend of the bath constructions reflects the economical decline of the byzantine society (tab. 3). Most of the byzantine bath facilities were built during the Early Byzantine period, namely between the 4th and the 6th century. After that there is a construction gap spanning three centuries (7th – 9th c. AD) raising a question on what happened during those centuries.

Regarding the function type, there is information only for half of the bath facilities. Most of them are public and domestic buildings. Given the prevalence of Christianity in the Early Byzantine era and the construction of hundreds of churches in the prefecture's territories, it is almost certain that the number of the ecclesiastic baths would be much greater than the eighteen facilities associated

with churches. The same applies to the monasteries and by extension to the monastic baths of the prefecture (tab. 4).



Tab. 3. Bath construction per century



Tab. 4. Function type per province

According to Nielsen, from the mid-4th c. the construction of big bath complexes stops and the size of the bath buildings is usually small, up to 500 sq. m.¹¹². In general, the data in the present thesis are consistent with Nielsen but there are some exceptions concerning bigger complexes, which recent excavations brought to light. In total, twenty-two bath facilities have an area over 500 sq. m., but most of them are roman structures that continued to function also in the Byzantine era. Only four facilities are byzantine buildings and specifically Early Byzantine structures. The public bath in Phtiotic Thebes (TH. – GR. 13) has an area of 550 sq. m. and the public bath in Justiniana Prima (DAC. MED. – SRB. 5) has an area of 720 sq. m. The large area of the bath-house in Liotopi Rouchtselē is probably due to the adequacy of space since the house is in a rural area. The last one is the Bath T in Athens (HEL. – GR. 28) with an area of 540 sq. m.

This reduction in size shows a tendency for privacy, because of the prevalence of Christianity and the new ethical rules. Moreover, a lot of baths began to work different during hours for men and women¹¹³. Also, in some cases, if the building was big, it was divided in two parts. The new ideas introduced by Christianity were clearly reflected in the transformation of the bath in Philippi. The bath, almost 800 sq. m., was built in the 1st c. B.C. and transformed in the mid-6th c. into a double bath to serve the needs of both genders separately. The women's bath was in use up to the mid-7th c. AD, while the men's bath continued its use and a cold, round, individual bathtub was added¹¹⁴.

Most of the byzantine bath complexes of the Prefecture of Illyricum follow the axial, the angular and the parallel row type¹¹⁵. However, seven of these complexes seem to create a special group, with common characteristics and a special architectural type, the Byzantine Type¹¹⁶. There are also four bath complexes, which could be considered as the early examples of the Byzantine Type before it takes its final form.

¹¹² Nielsen I 1990, 114.

¹¹³ Φ. Κουκουλές, Βυζαντινών βίος και πολιτισμός, Αθήνα 1951, 442 - 443; Yegül 1992, 32 - 33.

¹¹⁴ Γούναρης, ΑΕ 1990.

¹¹⁵ Only the Early Byzantine Bath T in Athens follows the axial half – symmetric tow type.

¹¹⁶ For the *Byzantine Type*, see the next section: Chapter 4. The “Byzantine Type”.

3.1. Bath - Chambers

The very absence of the *palaestra*¹¹⁷, as a result of the prevalence of Christianity, which gave a new significance to the naked body, is one of the characteristics of the Byzantine era. A characteristic exception is the bath in Philippi, which follows the Pompeian type, which primarily appeared in Lazio and Campania¹¹⁸. The characteristic of this type is the division between the basic bath chambers for both genders in one part and the *palaestra* in the other. The main chambers were arranged in the axis of one side and the auxiliary chambers were located next to the warm chambers¹¹⁹.

The baths of the eastern provinces are compact and contain only the necessary chambers. Most of the byzantine bath complexes, small or bigger, used to have at least one unheated chamber and the two main heated chambers, the *tepidarium*¹²⁰ and the *caldarium*¹²¹. In the west provinces, the *frigidarium*¹²² fell gradually into disuse after the 4th c. AD, and this tendency must have been followed also in the eastern provinces. Since there are only few fully excavated complexes, our knowledge is still limited, however, in the Middle and Late Byzantine era, the unheated chambers were suppressed or non-existent. This rule applies to almost all later facilities, such as the bath in Goynarēs str. in Patra (HEL. – GR. 92), which run up to the 9th c. AD and the bath in Ballsh monastery (EPIR.NOV. – AL. 1).

3.1.1. Multipurpose Chamber

The new trend of limiting the cold chambers is applied gradually in the northern territories of the Prefecture of Illyricum. A multipurpose chamber was developed, which combines the use of *frigidarium*, *apodyterium* and/or *vestibulum*. This multipurpose chamber is a quite large one, luxurious and is usually covered by mosaics.

¹¹⁷ Nielsen I 1990, 163.

¹¹⁸ Gounaris, AE 1990, 9.

¹¹⁹ Staccioli, AC 1958, 274.

¹²⁰ Nielsen I 1990, 155 - 156.

¹²¹ Nielsen I 1990, 156 - 157.

¹²² Nielsen I 1990, 153 - 155.

The multipurpose chamber could be compared with the *basilica thermarum*, which according to the written sources was divided into aisles, had niches, arcades and platforms and was always part of the cold section of the bath. These rooms functioned as a meeting and socializing point and sometimes as an *apodyterium*¹²³. However, it could not be identified as *basilica thermarum*, which on one hand was usually located in the imperial complexes and on the other it co-existed with the unheated chambers, mainly with the *frigidarium*, and did not replace them. Areas with similar characteristics were found in the baths of North Africa, the majority of which was covered by wooden roof and separated by interior colonnades¹²⁴. Indeed, this combination of the *basilica thermarum* with *piscina frigida* was widespread¹²⁵ and in the East Roman Empire, the bath in the Temple of Apollo Hylates, in Kourion of Cyprus, is a typical example¹²⁶.

This multipurpose chamber first appeared in two early Late Roman¹²⁷ complexes in *Provincia Macedonia A*. The western unheated section of the Bath of the Central Road, in Dion (pl. 1), consists of a small room, probably the *apodyterium*, and immediately on the South, there is an elongated, luxurious multipurpose chamber, which functioned as *apodyterium* (probably the southern isolated section) and *frigidarium*, with a *piscina frigida* on its northeast corner.

The bath in Nēsi, in Alexandria (pl. 2), has a small reception room and a big multipurpose chamber with three mosaic compositions, which might correspond to three different areas of use. Also here, as in Dion, the most isolated chamber is the *apodyterium*. The middle space could be the social interaction space and the western part along with two cold basins is the *frigidarium*¹²⁸.

This type of chamber was used in the two public baths in Stobi. The multipurpose chambers function as *vestibula*, *apodyteria* and obviously as *frigidaria* since *piscinae frigidae* are included (pl. 3). Two Late Roman baths use this multipurpose chamber in order to save space. The bath in *Margum* has a

¹²³ Nielsen I 1990, 162.

¹²⁴ Yegül 1992, 234 - 235, fig. 274.

¹²⁵ Yegül 1992, fig. 277 - 283.

¹²⁶ Nielsen II 1990, fig. 236.

¹²⁷ Both of them are dated in the late 3rd or early 4th c. AD. Although, the bath complex in Dion has an earlier phase.

¹²⁸ For the bibliography about the bath in Nēsi, see footnote 56. For the bibliography about the bath in Dion, see footnote 52.

multipurpose chamber with a *piscina frigida* in its western rectangular niche (pl. 4). The bath in the Galerius' Palace in *Felix Romuliana* has a big *apodyterium/frigidarium* with two apsidal basins on the eastern and western walls (pl. 5). In the domestic bath in Čačak, the unheated section consists of the multipurpose chamber with a *piscina frigida* and a *palaestra* (pl. 6). This type of chamber is similar to the so-called "*ambulatio*", which are internal covered areas for social and gymnastic activities in North Africa, since the outdoor *palaestra* is not a common characteristic of the region. However, the chamber in Čačak replaces the *frigidarium*, instead of assisting it¹²⁹. The early byzantine bath in Phthiotic Thebes, which was connected with the Basilica A, has an unheated room, in which the use of *apodyterium* and *frigidarium*, with a *piscina frigida*, was combined (pl. 7). This type of room was also found in the bath in Pherōn str., in Volos (TH. – GR. 15), where a bench ran along the walls of the *apodyterium/frigidarium*.

The big multipurpose unheated chamber is observed also in two facilities in *Provincia Dacia Mediteranea*. The Wall Bath in Justiniana Prima has a big peristyle space with porticoes and according to the archaeologists who made the excavation; the central area was an atrium (pl. 9). If this theory is true, then this is the only uncovered multipurpose chamber that has been found so far. However, more likely the central area was covered by a wooden roof. This unheated space occupied about two thirds of the bath complex and functioned as a *vestibulum*, *apodyterium* and *frigidarium*. Basins with cold water were discovered in the north and the south porticoes.

In addition, in the Bath in the Lower city of *Justiniana Prima*, the triconch *vestibulum/apodyterium* is the biggest chamber of the complex and a bench runs along the entire length of its walls. The *frigidarium* is an independent oblong chamber with two rectangular basins on its narrow sides (pl. 8). Additionally, the bath in Patra does not have a *frigidarium* nor *piscina frigida*. The big square chamber functions as *vestibulum* and *apodyterium* (pl. 10).

Unique is the case of the bath-house in the northern appendix in Sofia. The central area of the cruciform facility, along with the southern and western cross-arms, was heated, while the eastern and the northern cross-arms were unheated.

¹²⁹ Yegül 1992, 400.

The central chamber is a multipurpose room, which functions as *apodyterium* and room for social interaction between the bathers who use the three basins in the cross-arms: *piscina frigida* in the east cross-arm, *alveus tepida* in the south cross-arm and *alveus calda* in the west cross-arm (pl. 11).

3.1.2. Modified *Tepidarium* or a New Heated Chamber?

Mostly in the southern part of the prefecture, a modified *tepidarium* or a new heated chamber appeared. The modifications affect the design and perhaps the usage of the warm chamber. The modified chamber is quadrangular and usually smaller than the *frigidarium* and the *caldarium*¹³⁰. There are no built-in basins in this chamber and this can easily be ascertained from the plans of the complexes in which they belong. However, the major question that arises is whether these chambers have hydraulic installations and consequently if they have basins or not. The archaeologists, who made the excavations of these bath facilities, do not make explicit references about the existence or not of hydraulic installations and basins in these rooms. An important component is the preservation status of the complexes. It is evident that if a building is preserved in the foundation level, it is impossible to detect the possible existence of additional basins, unless parts or traces of them are found, such as in the South Stoa bath, in Corinth¹³¹. Thus, in the case of absence hydraulic installation, it is a completely new heated chamber, which can be considered as a combination of the roman *tepidarium* and *sudatorium*. If there is a hydraulic installation with additional basins, the change is stated on the construction and the function of the chamber.

The usage of this heated chamber can be answered on the basis of its position in the complexes¹³² and its heating. The abovementioned chamber is always located between the *frigidarium* and the *caldarium*, occupying the position of the roman *tepidarium*. Most of these rooms were indirectly heated apart from the Bath U in Athens (pl. 14) and the bath of South Stoa, in Corinth, in

¹³⁰ An exception is the bath in the South Stoa, in Corinth (HEL. – GR. 49), where the aforementioned room is bigger than the first and the second *caldarium*, although the chamber is smaller than the area of the two *caldaria* together.

¹³¹ "... At the south end of the room are traces of a rectangular basin, ca. 1.25m. wide and probably about 1.75m. long ...", see Broneer, Corinth 1954, 146.

¹³² For the chambers position in the baths, see Nielsen I 1990, 153 – 166.

which the chamber has a private *praefurnium*, although according to the excavators was never in use (pl. 17).

The earliest examples of this heated chamber were found in five roman baths, which were in use also in the Early Byzantine period. The Bath W, in Athens (pl. 12) is considered as a double bath, for men and women, along with the Bath X (pl. 13). Both of these baths have rectangular heated chambers without built-in basins. The Bath U in Athens has two modified chambers, which are also directly heated (pl. 14). According to the scholars, there are two *tepidaria* in the Thermes B, in Argos (pl. 16). There is no trace of built-in basin in the first one and on the second one there is only a very small basin on its western wall. Just like in Argos, the indirectly heated chamber, in Kasphikē plot, in Palaiopolē (pl. 15) is remarkable big with all the above mentioned characteristics.

This new heated room was also discovered in six Early Byzantine bath facilities in the *Provincia of Hellas*, as mentioned in the relevant chapter. However, variations in the heating of the rooms are observed, which will require further research. The quadrangular chamber in South Stoa, in Corinth (pl. 17) was directly heated, the one in the Early Byzantine bath in Epidavros (pl. 18a) was indirectly heated, such as the chamber in Panagia (pl. 19), and the one in the bath in Asinē was not heated (pl. 20). An interesting observation is the avoidance of O. Broneer and Ch. Mpouras match these chambers in Corinth (pl. 17) and in Sparta (pl. 30) with the *tepidaria* of the facilities.

Additionally, in four bath complexes the *tepidarium* is totally absent. These are two roman baths in Zevgolatio (pl. 21) and in Epidavros (pl. 18) and two Early Byzantine baths in Phtiotic Thebes (pl. 7, 22). In the last two bath-houses, the construction of a second *caldarium* was preferred instead of a *tepidarium*.

According to the aforementioned data, it is evident that there was an attempt to retract the heated chambers in order to save space and to reduce the operating costs of the facilities. Thus, while the *tepidarium* was one of the basic rooms of the roman baths, this chamber was gradually modified and merged with the *sudatorium*. However to achieve this, a design modification and the finding of new solutions were required. Therefore, a simple quadrangular

chamber, with or without hydraulic installation, was designed, which most often was indirectly heated.

This space, in its simplest form, without hydraulic installation, was a tepid chamber, where the bathers could socialize with each other in a warmer environment than the *frigidarium* and prepare themselves for the upcoming hot bath. Additionally, given the small size of the baths in that era, it is likely that the bathers had to wait some time until a basin became available. This room could also serve this purpose. At the same time, the use of the chamber as *sudatorium*, by infusing water in the floor and creating water vapor, is almost certain.

In the more complex version, in which there is a hydraulic installation in the area, the chamber could have a second use, other than the one described above. It could also have the use of the roman *tepidarium* provided that the area would be equipped with portable basins, which probably were for one person, mainly in the Early Byzantine era.

The field study of these chambers will reveal the existence or not of a hydraulic installation, in order to clearly determine whether this is a modification of the function of the roman *tepidarium* or if this is a new bath-chamber, the construction and the use of which should be further investigated.

3.1.3. *Caldarium*

The directly heated *caldarium* is the basic chamber of the roman baths and continues to be also in the byzantine era. The earlier complexes had bigger or more than one *caldaria*, although the heated chambers were suppressed in the later buildings. However, no matter how small the bath was, it had necessarily a *caldarium*. Indeed, when the facility had a single room, this room was the *caldarium*.

Usually the basins of the hot chambers were placed in niches, particularly apsidal ones, which were strongly projected from the walls of the room. This practice continued also in the Byzantine era. In fact, because of the existence of these niches, some bath buildings have been converted into churches, such as the two baths in Crete, in Viran Episkopē (CR. – GR. 3) and in Episkopē (CR. – GR. 11), using the apsidal niches for bema, such as the bath in Episkopē.

In the Early Byzantine era, the late roman tradition of multiple basins in the *caldaria* continued. In several cases, the basins were constructed on the *praefurnia* of the complexes, in order to ensure maximum water temperature. When this was not possible, the water reached the basins after being heated in a cistern located on the *praefurnium* or the fire.

3.2. Heating Systems

The orientation was a very important element for the construction of a bath building. The patrons, in order to ensure the best heated environment, tried to build the complexes with a specific orientation to exploit as much as possible the heat of the sun. In fact, they tried to follow the rule of Vitruvius, according to which the tepid and hot bath chambers should be lighted from the southwest. If the topographic constraints of the site did not allow the southeast orientation, in any case it should be avoided to build the tepid and the hot chambers to the north and northeast¹³³. The right orientation ensures the better operation of the tepid and hot rooms and of course the reduction of the operational costs.

Most of the bath complexes partially follow the rule of Vitruvius. In all the buildings it has been avoided to construct the tepid and the hot chambers in the north. At the same time, most of the facilities follow the southwest or the south orientation for their heated chambers, with few diverging exceptions¹³⁴.

The heating system of the baths should be as efficient as possible, durable and financially affordable. Unfortunately, the large numerical difference from province to province does not allow concluding a final result for the whole province. Most of the findings were discovered in *Provincia Macedonia A* and in *Provincia Hellas*, while there are no findings in *Provincia Moesia A*, in *Provincia Pannonia* and in *Provincia Praevalitana*.

¹³³ Vitruvius, *De Architectura* V, 10, 1.

¹³⁴ The heated chambers in the baths MAC.B – F.Y.R. 1; TH. – GR. 17; HEL. – GR. 20; HEL. – GR. 75; HEL. – GR. 79; HEL. – GR. 106; HEL. – GR. 107; HEL. – GR. 110; DAC.MED. – BG. 4 are in the northwest. The heated chambers in the baths TH. – GR. 6; HEL. – GR. 25; are in the west. The heated chambers in the baths HEL. – GR. 66 and HEL. – GR. 78 are in the east.

According to the available data, the construction techniques differ from time to time, but the *praefurnia* were always well isolated from the main bath area, in order to ensure the avoidance of a fire from the fireplace. In the Early Byzantine structures the hypocaust was usually built with ring pillars or a combination of ring and rectangular pillars, while in only few instances rectangular pillars were discovered. The opposite seemed to happen in the middle and Late Byzantine period, when rectangular pillars were used in the most instances. The wall heating system also helped to maintain the correct temperature in each chamber. The walls of the bath buildings were heated by creating a cavity for the circulation of the hot air¹³⁵. In the most Early Byzantine bath buildings *tubuli* were used, while few facilities with *tegulae mammatae* and spacer tubes were discovered. Unfortunately, there is no information about the middle and the late Byzantine era.

The economical crisis that the Byzantine Empire experienced in the end of the Early Byzantine period and mostly in the middle and late Byzantine period is clearly reflected and in the construction of the bath facilities. In order to reduce the cost, materials in secondary use were added to the construction. Stone pillars in secondary use have been found in the hypocaust of two baths in Thessaloniki, in the intersection of Olympoy and Platōnos str. (MAC.A – GR. 14) and in the bath in Nea Kallikrateia in Chalkidikē (MAC.A – GR. 31). Also in the two public baths in Bargala (MAC.B – F.Y.R. 6 & MAC.B – F.Y.R. 7) *tubuli* in second use instead of pillars were used. Additionally, some pillars in the Mid-Byzantine bath in Hagia Varvara str., Drama (MAC.A – GR. 1), were made by schist slabs.

3.3. Water Supply System and Sewer System

A necessary prerequisite for the construction of a bath complex is the existence of water nearby. The urban baths were fed by the aqueduct of each city

¹³⁵ Biers, Corinth 2003, 310 - 311.

or were aided by tanks¹³⁶. Many rural baths were built close to natural springs (MAC.B – F.Y.R. 48) or rivers, but the majority of them were fed by cisterns¹³⁷.

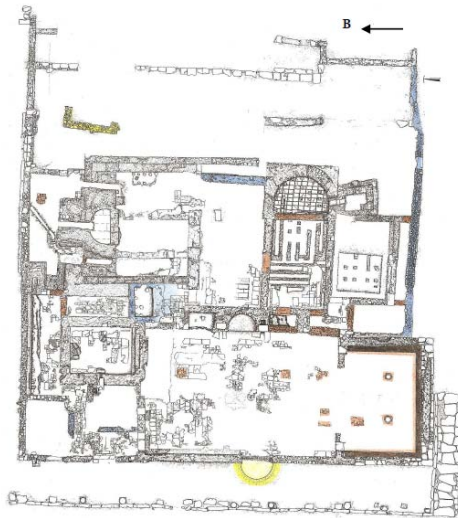
One of the most important infrastructural elements of the bath facilities are the water supply system and sewer system. Both were based on advanced conduits system, which ran beneath the floors of the chambers and outside of the building.

The water supply system fed the basins and the *latrina* with water. In some cases there were basins with different water temperature in the same chamber. This concept demanded for two different water systems within the same room. In the bath in Buthrotum (pl. 23), the large central octagonal chamber has four basins in its four niches. The eastern basins used to have cold water, while the western basins were located on hypocausts and their water was tepid. Also, in the bath in the Northern Appendix in Serdica (pl. 11) the eastern basin had cold water, the southern basin had tepid water and the western basin was directly heated. However, this peculiarity seems to apply to some mid-byzantine baths, such as the Bath in Katō Episkopē, in Crete (pl. 33). The southern basin had cold water, while the northern basin was a heated one.

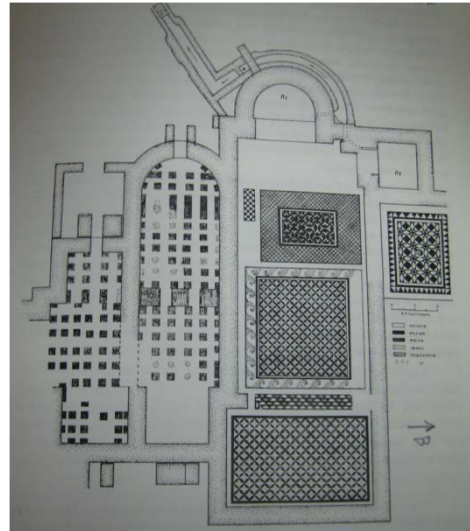
The conduits of the sewer system removed the unclean water from the basins and the *latrina* and ended in a large pipeline, which removed the water from the facility. In some cases the used water of the basins served the *latrina* and removed the waste water before ending up in the large drain.

¹³⁶ Καραδέδος, ΑΕΜΘ 1990, 217 – 229.

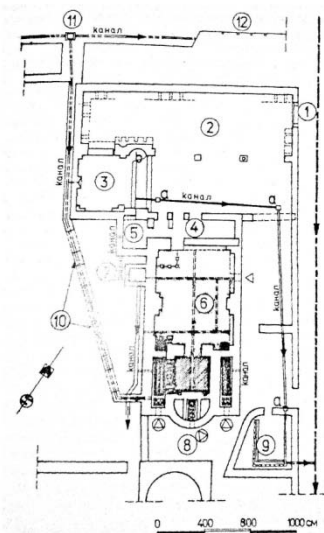
¹³⁷ Δ. Αθανασούλης, “Λουτρική εγκατάσταση στην Κοκκινόραχη Σπάρτης”, in: *Πρακτικά του Ε’ Διεθνούς Συνεδρίου Πελοποννησιακών Σπουδών* (Άργος – Ναύπλιον, 6 – 10 Σεπτεμβρίου 1995), τ. Β’, Αθήνα, 233.



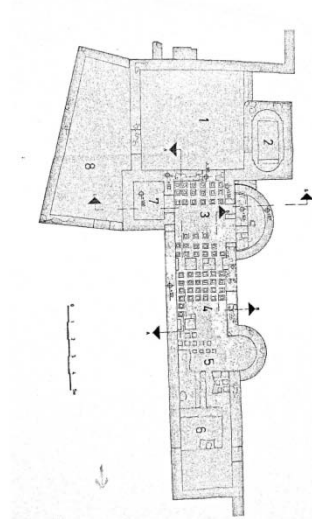
Pl. 1. Dion. Baths of the Central Road



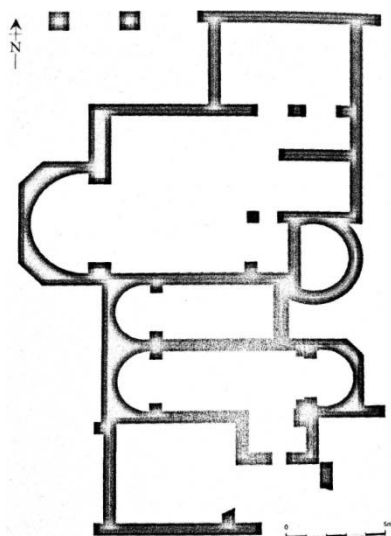
Pl. 2. Alexandria. Nēsi



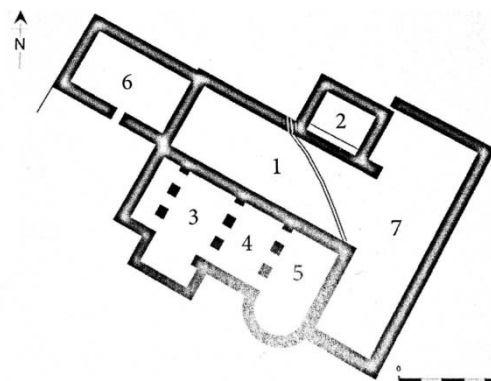
Pl. 3. Stobi. Large Bath (MAC.B – F.Y.R. 1)



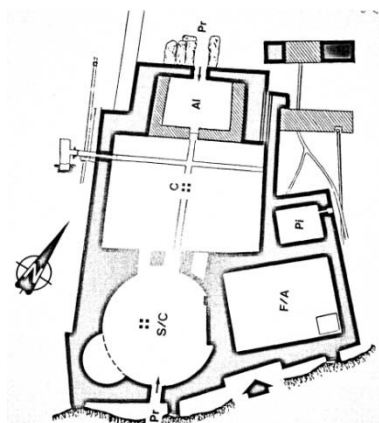
Pl. 4. Margum (MOES.A – SRB. 1)



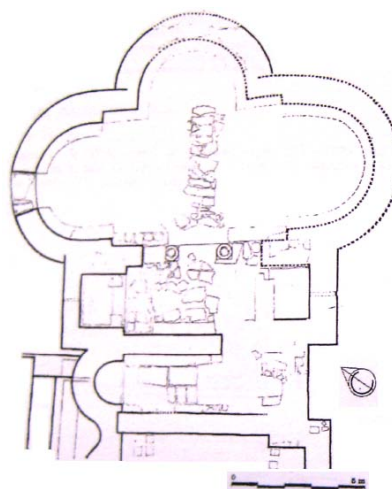
Pl. 5. Felix Romuliana (DAC.RIP. – SRB. 1)



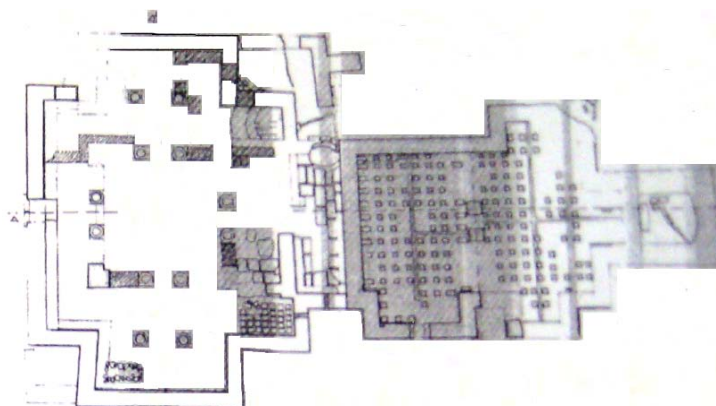
Pl. 6. Čačak (MOES.A – SRB. 2)



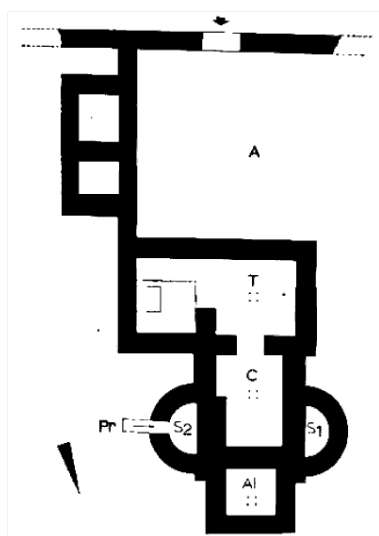
Pl. 7. Phtiotic Thebes. Connected with Basilica A (TH. – GR. 7)



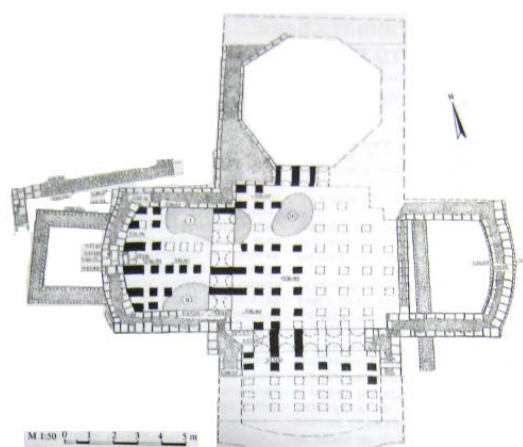
Pl. 8. Justiniana Prima. Lower City (DAC.MED. – SRB. 6)



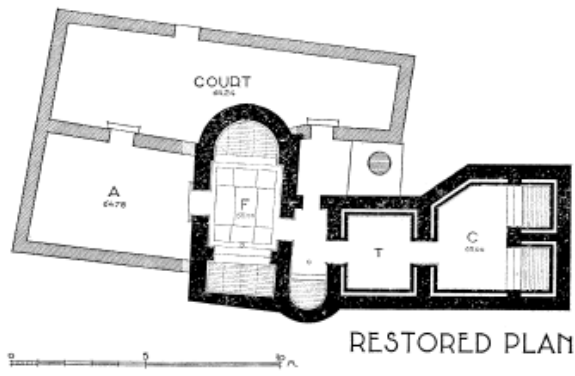
Pl. 9. Justiniana Prima. Wall Bath (DAC.MED. SRB. 5)



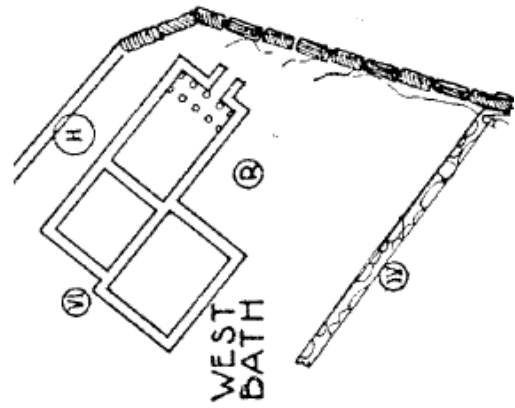
Pl. 10. Patra. Goynarē str. (HEL. – GR. 92)



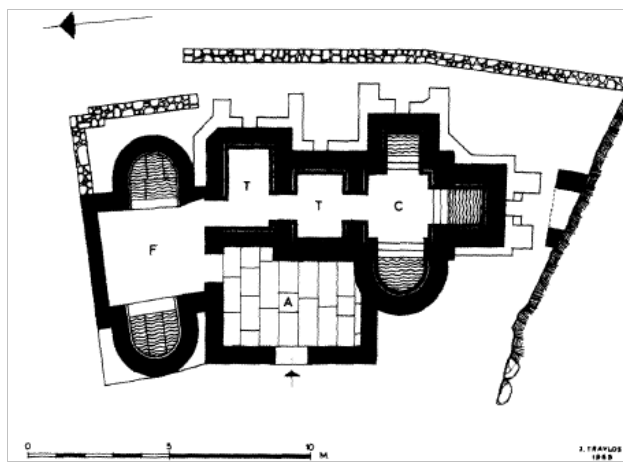
Pl. 11. Serdica. Northern Appendix (DAC.MED. – BG. 2)



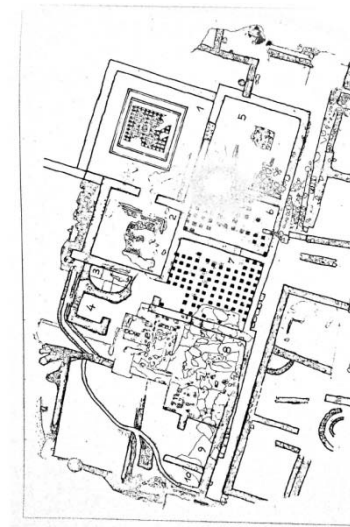
Pl. 12. Athens. Bath W (HEL. – GR. 21)



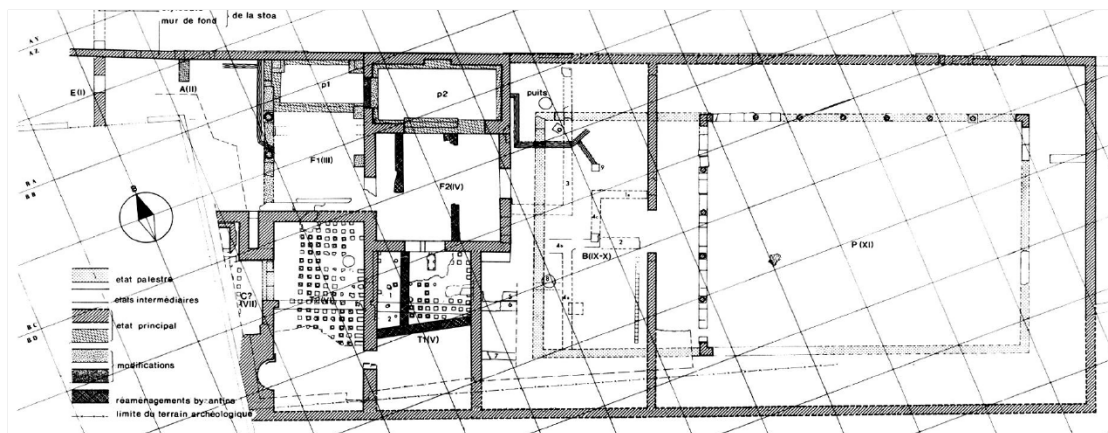
Pl. 13. Athens. Bath X (HEL. – GR. 31)



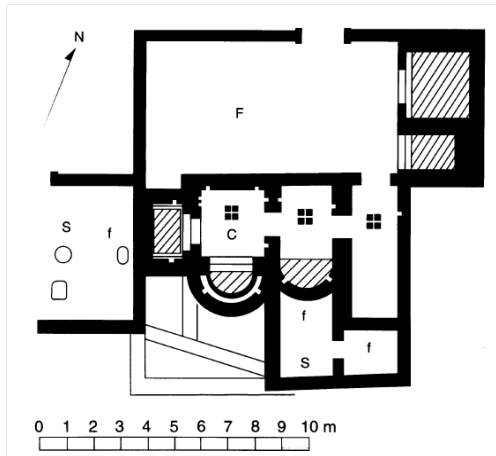
Pl. 14. Athens. Bath U (HEL. – GR. 29)



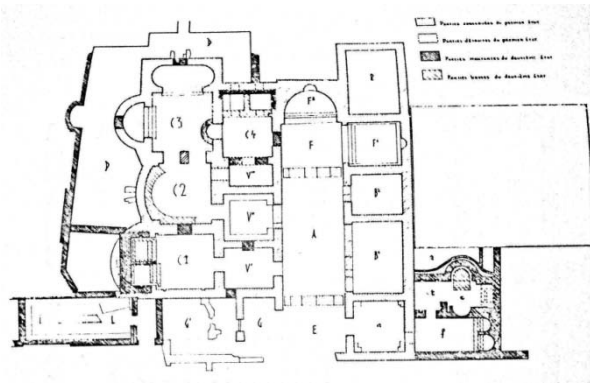
Pl. 15. Palaiopolē. Kasphikē plot (EPIR.VET. - GR. 4)



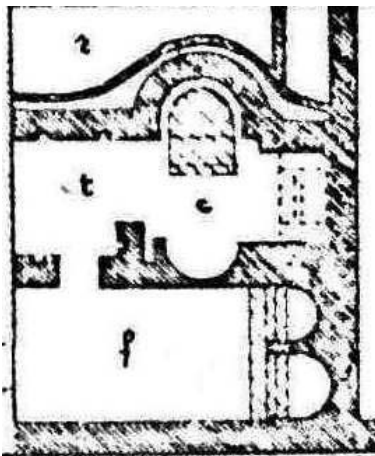
Pl. 16. Argos. Thermes B (HEL. – GR. 67)



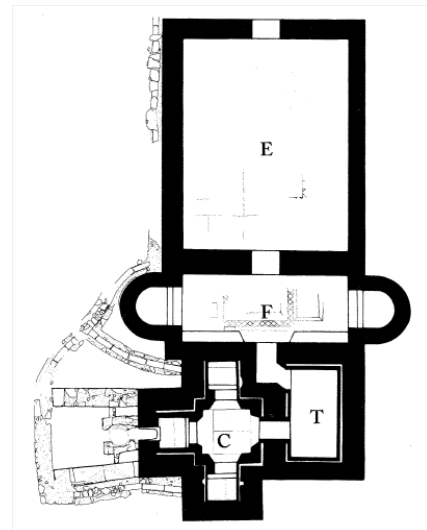
Pl. 17. Corinth. South Stoa (HEL. – GR. 49)



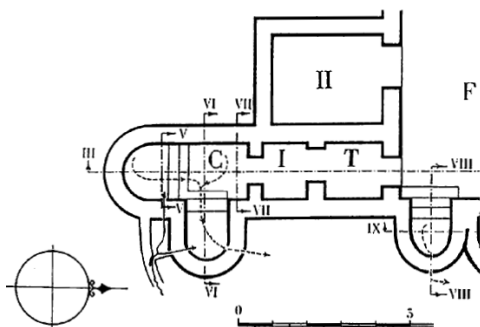
Pl. 18. Epidavros. NE Bath. Roman (HEL. – GR. 72)



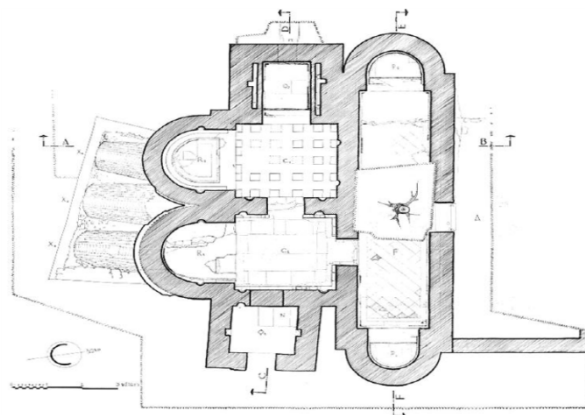
Pl. 18a. Epidavros. NE Bath. Early Byzantine (HEL. – GR. 72)



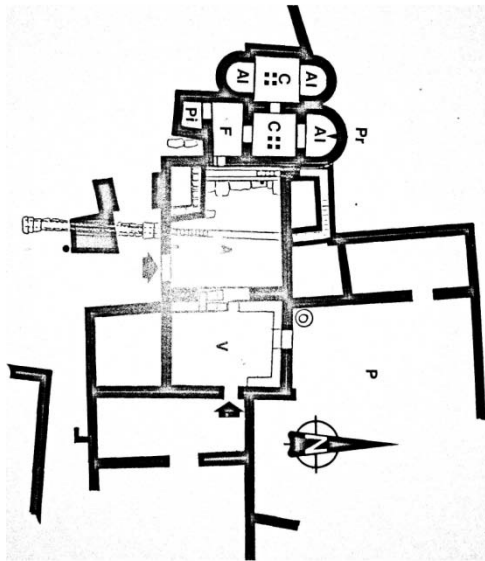
Pl. 19. Panagia (HEL. – GR. 63)



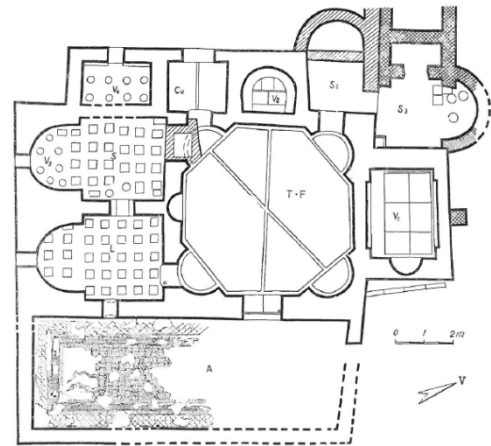
Pl. 20. Asinē (HEL. – GR. 74)



Pl. 21. Zevgolatio (HEL. – GR. 61)



Pl. 22. Phtiotic Thebes. Close to
basilica A (TH. - GR. 8)



Pl. 23. Buthrotum. SW Bath
(EP.VET. - AL. 8)

Chapter 4

The Byzantine Type

The prevalence of Christianity brought changes in all sectors of the Empire. The Christians gradually adapted all their private and social aspects of their lives so as to comply with the ethic code that the new religion introduced. As expected, the different needs of the citizens brought changes, which have been adopted by the state gradually. Inevitably, the bath habits could not be an exception.

The new religion imposed a shift towards a sort of conservatism, particularly on issues concerning the human body. Thus, the Christian citizens of the Empire began to reject the idea of publically exposed bodies. As a consequence, they abolished the double baths. The existing bath houses were either separated into two baths, one for the men and one for the women, or they divided the operation hours accordingly. The new bath complexes were smaller and consisted of the absolutely necessary chambers. Indeed, it seems that a specific architectural type was gradually developed, which reaches its final form in the Mid-Byzantine era.

Already since 4th c. AD, the form of the cross became popular, because of the gradual establishment of Christianity, and was used extensively in various aspects of the byzantine daily life and, by extension, to the baths. The earliest cross-shaped bath facility is the single room, monastic bath in Dēlos (pl.24), with a small unheated reception room and a directly heated cross-shaped *caldarium*. In the same century the public bath in the northern Appendix in Serdica (pl. 11) is dated. The first room is an indirectly heated chamber without built-in basins. The central chamber is directly heated, with two lateral conches with basins. The particularity of the facility is that the eastern basin was unheated and served as the *piscina frigida* of the complex. The third chamber is an octagonal unheated one. The next two instances are dated in the 5th c. AD. The first one is the Northeast Bath in Epidavros (pl. 18a), which is arranged in two parallel axis. The axis of the heated chamber has a heated first chamber and a cross-shaped second chamber, with two basins on its western and northern side. The second one is a private bath-house in the Hippodrome *insula* in Philippi (pl. 25), with a heated

first chamber and a cross-shaped *caldarium*, which is a square chamber with lateral conchs. Only the single-room bath, with the cross-shaped *caldarium* in Mantinea (pl. 26) is dated in the 6th c. AD. All the aforementioned can be considered as transitional examples in the process of the finalization of the plan of the Byzantine Type.

The finalized Byzantine Type has only three chambers, two of which are covered by barrel vaults and the middle one by a dome. The first, unheated or heated, chamber is a rectangular dry room, which serve multiple needs of the bathers. Mostly, it is a combination of the reception room of the complex and the *apodyterium*. In any case, whether hot or cold, it is a space for social interaction, in which the bathers are prepared for the passage to the *caldarium*. In some cases, such as in the bath in Dervenosalesi (HEL. – GR. 18), a bench runs along the walls of the chamber.

The main bath chamber of the byzantine bath is the second room, the *caldarium*. It is an almost square chamber, except from the bath in Dervenosalesi which is a triconch, with lateral conchs with basins, portable or not. All the buildings have internally apsidal niches and only the bath in Theotokopoylou str. (pl. 32) has rectangular conchs. Externally, most of the conchs are three-sided, except from the bath in Episkopē (pl. 29), which are apsidal, and the bath in Katō Episkopē (pl. 33), which has five-sided conchs.

The third chamber has caused disputes among the leading byzantine researchers, prof. of Architecture and archaeologist Anastasios Orlandos (1887 – 1979) and prof. of Christian Archaeology Georgios Sotiriou (1880 - 1965), who had noticed the repetition of the type, on the occasion of the bath in Kaisarianē Monastery (pl. 27). According to A. Orlandos the third chamber of the bath in Kaisarianē Monastery is separated from the central area with a bilobed opening and it is the swimming pool of the complex, in which also a steam bath is possibly found¹³⁸. G. Sotiriou rejected the steam bath theory and argued that the third room is the cistern of the facility, which fed with water the basins¹³⁹ of the central room¹⁴⁰ and the two chambers were separated by a wall.

¹³⁸ A. K. Ορλάνδος, *Μοναστηριακή Αρχιτεκτονική*, Αθήνα 1958, 104 – 106.

¹³⁹ Two marble basins were found. Maybe they were bath basins for the two niches.

¹⁴⁰ Γ. Σωτηρίου, *Λουτρώνες και αγιάσματα εν τη Αττική*, *ΔΧΑΕ* 4.3 (1934 – 1936), 85 – 92.

The data from the third chamber, and the comparative study which can be done now given the new findings, shed light into what its use was. In a quite high point on the wall of the chamber, the conduit that brings water from the nearby spring, within the monastery, was discovered. Thus, the cold water was entering inside the cistern and was heated through the hypocaust found under the floor. Then, the hot water from the cistern fed the basins of the central area through the conduits that G. Sotiriou found in the southern conch and it can be assumed that there are also in the northern conch. The direct supply of the basins with hot water could justify the lack of hypocaust below the central room. However, there could be a hypocaust and it could have been destroyed by the oil mill, which was constructed above the bath facility after its abandonment. Unfortunately, there is no information about the location of the *praefurnium* or the fireplace; nevertheless their position could be placed next to a wall of the cistern. In any case, the sweating theory has to be totally excluded, because the characteristics of the sweating room are different, judging by the roman *sudatoria*.

Similar characteristics can be observed in the monastic bath in Dervenosalesi (pl. 28). Next to the first unheated chamber, there is the central one with the lateral conchs and the cistern at the end, which was filled with cold water by a conduit in its wall. The cistern built above the fireplace, so the water was directly heated in order to feed the basins of the central chamber with really hot water.

Also, the bath in Episkopē (pl. 29) follows the Byzantine Type, but only few original parts have survived, due to the transformation of the bath into a Christian church in the 15th c. AD. There is no information whether the first rectangular chamber was heated or not. The central square area has lateral conches for basins and the third room is the cistern of the facility.

The same concept was used in the public bath of Sparta (pl. 30). The first heated chamber leads to the square central area with the two non-symmetrical lateral conchs. The last room is the cistern of the complex, which is separated from the main bath chamber by a wall, at the high of a guardrail.

The bath in Iōannina is partially excavated (pl. 31), because the first unheated chamber is under a modern building. The second room is a directly heated one, the *caldarium* of the facility, with a conch on its northern wall, while

in the southern side a rectangular room was discovered without hypocaust, but with wall heating. The westernmost room is the cistern of the complex.

The latest bath complex is the one in Theotokopoyloy str. (pl. 32), in Thessaloniki. The building follows the Byzantine Type, but with some deviations. First of all this particular bath is a double bath, which means that in its original phase there were probably two symmetrical baths, one for men and one for women, and at some point the partition wall was demolished and the bilobed and trilobed openings created. Moreover, there are four chambers instead of three, because apart from the known chambers of the Byzantine Type mentioned above, here there is also a *vestibulum*.

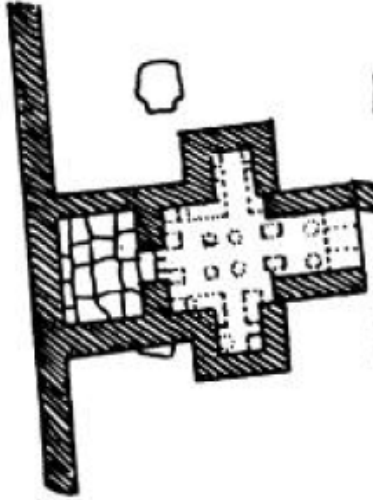
So, the unheated *vestibulum* is the first chamber, the heated *tepidarium* is the second room, the directly heated *caldarium* is the third chamber with two rectangular lateral conchs. The bath in Theotokopoyloy str., despite the fact that it is a double bath, it could be described as the simplest type of the Byzantine Type, since every *caldarium* has only one basin, which was fed with hot water by the fourth chamber of the complex, the cistern based on the fireplace.

The monument which gives clear answers about the organization and the use of the chambers in the Byzantine Type is the modern church of Hagioi Apostoloi in Katō Episkopē (pl. 33), in Crete, which in its original phase was a mid-byzantine bath. The water supply and sewer system of the monument was thoroughly studied and answers were given to critical questions. The first multipurpose chamber of the building is unheated and leads to the second directly heated chamber. There are two lateral apsidal niches with basins. The northern basin was fed by cold water, while the southern one was fed by hot water from the last room of the facility, which was a cistern. The very interesting aspect of this research is that it presents the flow of the water up to the basins. There are two water inlets on the northern wall of the cistern. The water from the first inlet is directed straight to the south basin. The water from the second inlet is poured into the cistern, which is located directly above the fireplace. Thus, the water is heated and through an outlet goes to the northern basin.

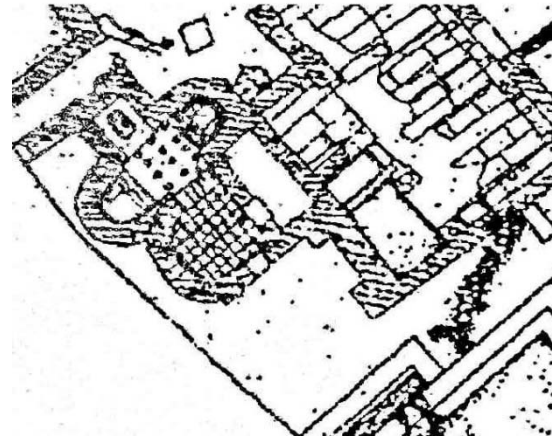
According to the above, the usage of the three chambers of the Byzantine bath Type is clear. The first room is a multipurpose chamber, which functioned as a reception hall and *apodyterium*. The second chamber, with the lateral

conchs, is the main area of the hot bath, while sometimes there is also a basin with cold water inside. Moreover, vertical tubes, usually square sectioned, were embedded in the walls leading the hot air from the hypocaust to the bath chamber¹⁴¹, which means that the central chamber was used also for a steam bath. The third chamber is the cistern, which was fed by the urban aqueduct or from some spring or from external cisterns located close to the bath building and fed the basins or the basin with water. The question about the usage of the benches found along the walls of some cisterns, such as in Episkopē (CR. – GR. 11) and in Katō Episkopē (CR. GR. 12) still remains unanswered. Perhaps, those benches served the descent to the cistern or/and its cleaning.

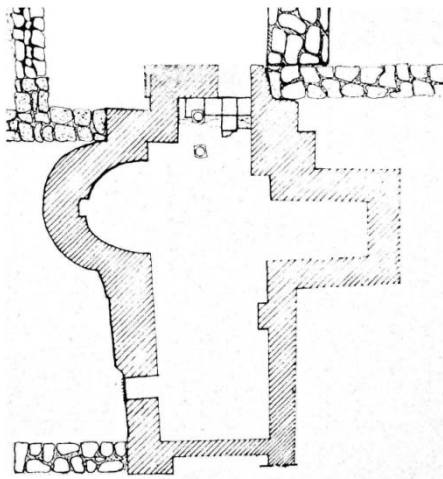
¹⁴¹ For the bath in Katō Episkopē, see Κατηφόρη, *AEK* 2008, 213 – 214; For the bath in Dervenosalesi, see Ορλάνδος 1958, 103; For the bath in Kaisarianē's Monastery, see Σωτηρίου, *ΔΧΑΕ* 1934 – 1936, 91; For the bath in Sparta, see Χ. Μπούρας, Ένα βυζαντινό λουτρό στη Λακεδαίμονα, *ΑΕ* 121 (1982), 104; For the bath in Iōannina, see Ο. Γκράτζιου, *ΑΔ* 38 (1983), Β2, 248.



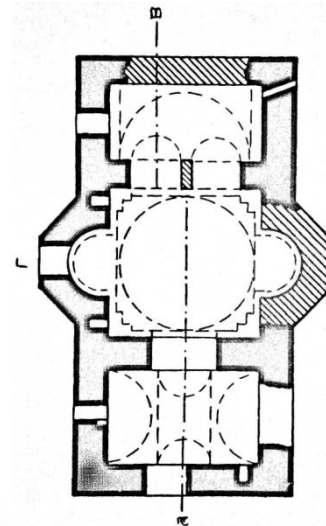
Pl. 24. Dēlos. Monastic Bath
(HEL. – GR. 102)



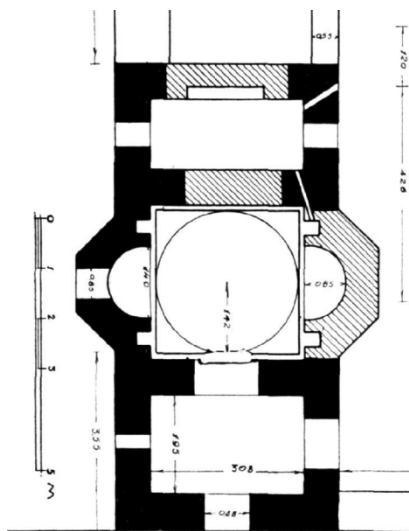
Pl. 25. Philippi. Hippodrome *insula*
(MAC.A – GR. 40)



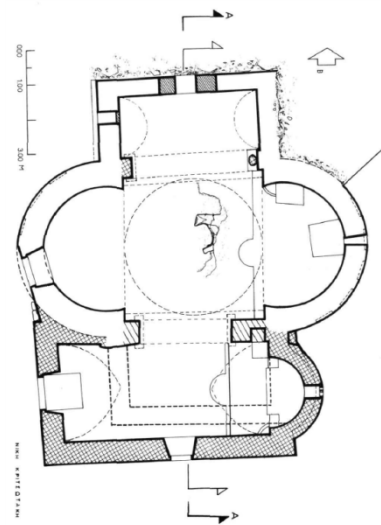
Pl. 26. Mantinea
(HEL. – GR. 99)



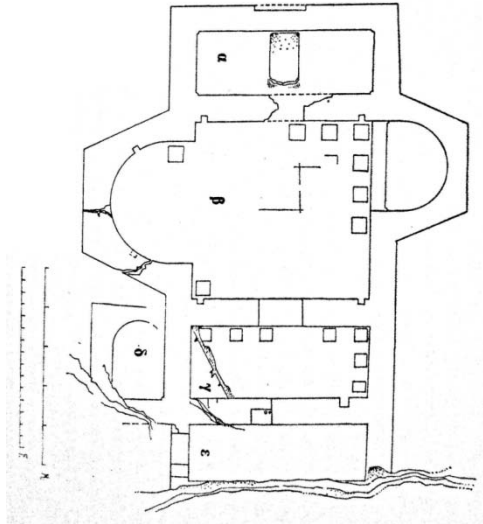
Pl. 27. Kaisarianē Monastery
(HEL. – GR. 39)



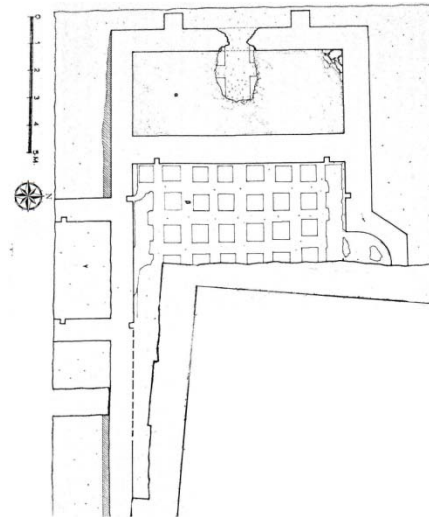
Pl. 28. Dervenosalesi (HEL. – GR. 18)



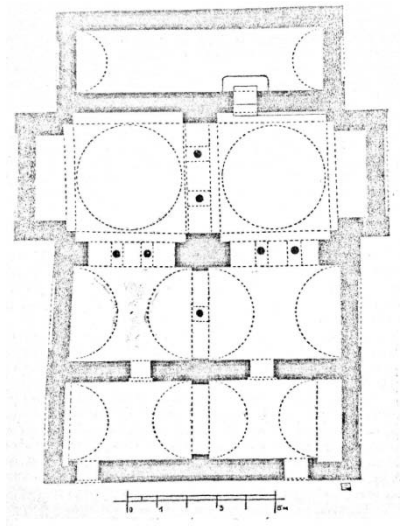
Pl. 29. Crete. Episkopē (CR. – GR. 11)



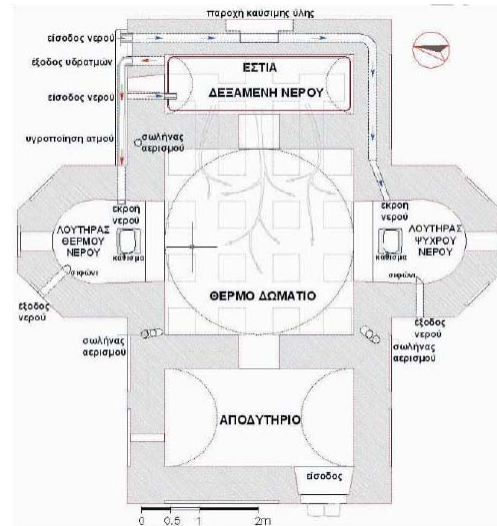
Pl. 30. Sparta (HEL. - GR. 76)



Pl. 31. Ιοάννινα (EP.VET. - GR. 7)



Pl. 32. Thessaloniki. Theotokopoyloy
str. (MAC.A. - GR. 19)



Pl. 33. Crete. Episkopē
(CR. - GR. 12)

Chapter 5

Conclusions

The bath culture started in ancient Greece and was spread worldwide through the Roman Empire. The bath facilities used to be an integral part of people's everyday life, a fact that provides us with important information about the evolvment and the variations of common people's lives. In fact, during the Roman Empire people often bathed almost on a daily basis, at least in the cities, and spent a large part of their time there. Additionally, apart from the important hygienic purpose that they served, many baths were real centers of culture¹⁴². In the Byzantine period the bathing habit was likewise widespread and the baths retained their central position, also after Christianity had become the official religion. There are many written sources about the byzantine baths¹⁴³. Every city had a number of bath buildings in the city center.

The prevalence of Christianity rendered even more necessary the change of the bath habits in the Byzantine Empire. A new way of thinking about the care of the body was introduced and this was reflected in the architecture of the bath buildings. The believers' thinking was influenced by the ethical principles of the new religion and resulted in the modification of the usage of public baths¹⁴⁴. After the 4th c. AD, the general trend was the privatization and the gradual increase in the use of individual bathtubs¹⁴⁵. In small bath complexes, the problem of the simultaneous bathing was solved by changing the opening hours for each gender, while in bigger complexes the partition of the building was the solution.

In the Early Byzantine era, both genders could use the baths facilities simultaneous, continuing the ancient Greek and Roman tradition, although they were criticized harshly by the Church Fathers. However, in the 7th c. AD, the shared baths were abolished permanently and the single or double baths, for

¹⁴² Nielsen I 1990, 1 - 2.

¹⁴³ Κουκουλές, 1951; A. Berger, *Das Bad in der byzantinischen Zeit*, Μόναχο1982.

¹⁴⁴ Since the Roman times, the women of the high society never visited the *mixta balnea* because of ethical reasons, see J. P. V. D. Balsdon, *Roman Women: Their History and Habits*, N. Petrocheilou (trans.), Athens 1982, 352

¹⁴⁵ Ginouvès, BCH 1955, 145 - 152.

sharing costs, appeared. The new ideas introduced by Christianity were clearly reflected in the transformation of the bath in Philippi. The bath, almost 800 sq. m, was built in the 1st c. B.C. and transformed in the mid-6th c. into a double bath to serve the needs of both genders separately. The women's bath was in use up to the mid-7th c., while the men's bath continued its use and in chamber six a cold, round, individual bathtub was added¹⁴⁶.

The economy of the Byzantine Empire was an important factor, which affected all the sectors of the byzantine society. Thus, the economic decline of the Empire is reflected also in the falling trend of the bath constructions. The numerical difference in the active bath complexes, between the Early Byzantine and the byzantine constructions, and moreover, the construction gap from the 7th to the 9th c. AD are very interesting aspects of this research. In contrast, but with of equal importance, the attempt to restart the byzantine economy in the late 9th c. AD and the improved situation of the coming years is reflected in the findings of this study.

It is known that in the 7th and in the 8th c. AD the Empire underwent a deep economical crisis related with the reduction of the territories under the byzantine rule and the Slav invasions. Also, in the 8th and 9th c. the Empire experienced interior problems associated with the iconoclastic controversy. Therefore, all these problems did not allow the construction of new public buildings and certainly this crisis also affected the people, who did not have spare money for luxury.

Additionally, Christianity brought changes in terms of the society's priorities and this becomes clear also from the point of view of the bathing habits. Since the prevalence of Christianity, donations were aimed at constructing new worship places, such that the sponsorship of secular public projects fell sharply. Most of the public baths in the middle and late Byzantine era were constructed by bishops or monasteries. On the other hand, wealthy citizens had the power to build private baths in their houses. In the same time, Christianity gradually led to the extinction of slavery¹⁴⁷, which was an important factor in the operation of the baths.

¹⁴⁶ Γούναρης, ΑΕ 1990.

¹⁴⁷ Καραγιαννόπουλος 2001, 446 - 447.

Apart from the religious and economic conditions that led to a reduction in the number of baths, the gradual disappearance occurred also because of practical difficulties in their running, since these required large quantities of water and fuel¹⁴⁸. In the western part of the *Empire*, the economic decline started in the middle of the 3rd c. AD. On the other hand, in the eastern part, there were still resources enough to build large baths in the 5th and 6th century AD¹⁴⁹, but after that the decline was unavoidable.

Thus, the lack of money and space, the shortage of fuel and/ or economic recourses and the decreasing need for public baths led to the final form of the byzantine baths, which were small buildings that included only the basic chambers. After the 4th c., several changes occurred in the bath complexes of the Prefecture of Illyricum. However, the big size of the Prefecture and the instability of the administrative structure, which has been described in the Introduction chapter of this study, did not favor the diffusion of the changes.

The transformation of the cold section of the bath facilities can be observed in the northern provinces of the Prefecture of Illyricum. The *frigidarium* fell gradually into disuse and was replaced by a multipurpose chamber, in which the use of *vestibulum*, *apodyterium* and *frigidarium* are combined. This specific chamber can be identified neither as *basilica thermanum* nor as the advanced *basilicae thermanum* of North Africa. This particular chamber aims to serve the basic needs of the bathers before entering the main bath-rooms.

In the same time, the hot and the warm chambers became smaller in order to reduce the fixed costs of the facilities and for the same reason materials in secondary use were added to the construction, such as in the Early Byzantine bath in Velvedo, Kozanē, and in the Mid-Byzantine bath in Pudna, where instead of pillars, clay water pipes were used in the hypocaust.

For the same reasons, in the southern and western part of the Empire, the Byzantine bath Type evolved. The new architectural type used the primary symbol of the new religion, the cross, for reason of faith, but also in order to become more easily accepted by the believers. The Byzantine Type has only three chambers. The first one, unheated or heated, is a reception room, which

¹⁴⁸ Nielsen II 1990, 1 - 2.

¹⁴⁹ Nielsen II 1990, 152.

serve multiple needs of the bathers. The second one is the bath-chamber with lateral conches and always has two basins in its conches, without excluding the existence of a third portable one. There is always a basin with hot water and the second one may be either tepid or cold. The last chamber is the cistern of the facility, which fed the basins with water.

The main problem concerning this research is that the most numerous excavations are rescue excavations in the urban centers and the data from these researches are fragmentary. Furthermore, in the countries in which this research was conducted, excluding Greece, the knowledge about the roman and mostly the byzantine landscape outside the towns is minimal. In the same time, although it is easy to link a building with a bath facility, it is extremely difficult to fully excavate the monument, for the reason outlined above. In addition, the gradual use of various structures, such as small pools in the masonry, and materials, such as wooden vessels, that are not preserved causes a further difficulty in identifying bath archaeological sites. Thus, most of the complexes are partially preserved and it is very difficult to deduce clear and comprehensive conclusions.

Another big problem is the occasional study of the bath facilities resulting in erroneous identification of the bath-chambers and hence the outcome of dubious results. However, the study of the bath complexes can lead to conclusions about the general history and habitation of a city. Indeed, the study of the bath complexes per city could lead to conclusions about many aspects of the infrastructure, such as the road system and the water supply system.

Riassunto

Lo scopo di questa ricerca è la localizzazione dei complessi termali, che sono state scavate nella regione sud-ovest della penisola di Emo, nella prefettura romana e bizantina dell'Ilirico. In particolare, l'obiettivo di questo studio è di investigare in quali regioni venivano costruiti i bagni, se ci sono periodi particolari di costruzione e qual'era la loro durata di utilizzo. Inoltre, di indagare quali tipi di architettura erano preferibili e che tipo di camere erano in uso dopo la diffusione del cristianesimo.

In questa ricerca sono state studiate le strutture balneari delle tredici province della prefettura dell'Ilirico e si è osservata una graduale diminuzione della costruzione di complessi termali nel corso dei secoli. Nel passaggio dall'epoca romana al periodo bizantino, si nota una sostanziale riduzione nella costruzione, che ha continuato nell'epoca medio e tardo bizantina, mentre durante il settimo e ottavo secolo d.C. si osserva una mancanza di costruzione.

La tendenza verso la riduzione delle costruzioni balneari riflette il declino economico della società bizantina, che si manifesta in modo diverso da regione a regione. Nelle province settentrionali si osserva il crollo delle camere non riscaldate e la creazione di una sala grande, che serviva contemporaneamente le diverse esigenze dei bagnanti. La crisi economica nelle province del sud si riflette nella riduzione, sia del numero che delle dimensioni della camera calda. La camera calda di base, il *caldarium*, è rimasta in tutti i complessi termali, ma non avviene lo stesso per quanto riguarda il *tepidarium*, la progettazione e l'impiego del quale richiedono ulteriori indagini.

Allo stesso tempo, vi è stato un cambiamento nella privatizzazione del bagno a causa della prevalenza del cristianesimo e delle nuove norme etiche. Questa tendenza si riflette nella graduale soppressione della balneazione simultanea fra uomini e donne e la costruzione di un nuovo tipo di camera riscaldata, probabilmente dotata di vasche portatili e privati.

Tutte le modifiche di cui sopra hanno portato alla creazione di un nuovo tipo di bagno, quello bizantino, che era un piccolo edificio con delle camere assolutamente necessarie. Questo nuovo tipo di architettura, che ha iniziato ad

essere applicato nella costruzione dei bagni dal undicesimo secolo d.C. è a forma di croce e si compone di tre camere. La prima camera, che poteva essere o no riscaldata, è priva di impianto idraulico e serviva le esigenze dei bagnanti prima della loro entrata nella camera principale. La seconda camera è la camera da bagno principale, la quale aveva due nicchie laterali con delle vasche. Una delle vasche portava acqua calda, mentre la temperatura dell'acqua della seconda non si può definitivamente precisare, poiché ci sono esempi con acqua sia fredda che tiepida. La terza camera è la cisterna della struttura, che forniva l'acqua verso le vasche della seconda camera.

APPENDIX

MACEDONIA A

MAC.A - GR. 1

A. Drama. Hagias Varvaras str. / urban area.

B. ?

C. Only the *tepidarium* of the bath is extant. The hypocaust consists of ring pillars and big schist slabs. The walls were heated by *tubuli*.

D. 12th c. AD.

E. Μπακιρτζής, ΑΔ 1979, 342-343; Καραγιάννη 2010, 107-108.

F. -.

MAC.A - GR. 2

A. Kozani, Voskochōri. Ampelia site / NE - SW / 149 sq. m.

B. ?

C. The *frigidarium*, with four basins, forms a right-angle and surrounds the *caldarium*. The *apodyterium* is discovered alongside and on the west of the *frigidarium*. The *praefurnium* is uncovered on the north part of the facility. The walls were heated by *tubuli*. Three clay pipelines were excavated on the west part of the building.

D. Late Roman – 6th c. AD.

E. Καραμήτρου, ΑΔ 1995, 568; Παϊσίδου, ΑΔ 1997, 820 - 823.

F. -.

MAC.A - GR. 3

A. Velvento / rural area / > 56 sq. m.

B. Domestic or Ecclesiastic.

C. Only two chambers were excavated. The *apodyterium*, with a bench on its northern wall, and a little bit southern the *caldarium* with its *praefurnium* on its SW corner. The hypocaust consists of ring and rectangular pillars and the walls were heated by *tubuli*.

D. 6th c. - 12th c. AD.

E. Τσιάπαλη, ΑΕΜΘ 2007, 47-54; Dunn, AR 2010 - 2011, 27.

F. -.

MAC.A - GR. 4.

- A. Velvento. Kamkoytē plot / urban area / > 135 sq. m.
- B. Public.
- C. Three chambers were discovered. The *caldarium* and two unidentified rooms. The hypocaust instead of pillars consists of spool-shaped clay pipes. The facility was fed with water from the city's aqueduct.
- D. Early Byzantine – 7th c.
- E. Τσιάπαλη, ΑΕΜΘ 2007, 47-54; Dunn, AR 2010 - 2011, 27.
- F. -.

MAC.A - GR. 5

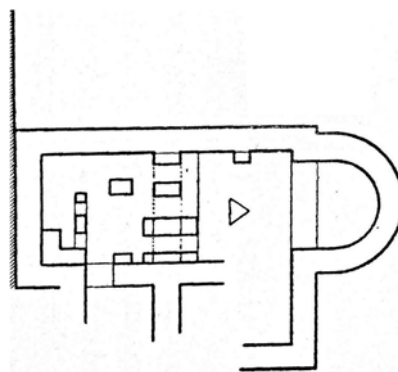
- A. Veroia, Panorama/ urban area.
- B. Domestic.
- C. The bath belongs to the second phase of an Early Byzantine house.
- D. 3rd c. / 5th c. AD.
- E. Καραγιάννη 2010, 113 – 114.
- F. -.

MAC.A - GR. 6

- A. Veroia. 53 Tsaldarē str.
- B. ?
- C. The bath was demolished in 1976.
- D. Byzantine.
- E. Καραμανώλη – Σιγανίδου, ΑΔ 1976, 257.
- F. -.

MAC.A - GR. 7.

- A. Naoyssa. Lefkadia / rural area / N - S / > 27 sq. m.
- B. ?
- C. The bath is located close to an unidentified Christian building. A part of the hypocaust is extant. The hypocaust pillars are made of rectangular bricks. The rectangular notches for the circulation of the hot air are visible on



the walls, which are preserved at a high level. A water pipe was uncovered close to the hypocaust.

D. 5th c. AD.

E. Στίκας, ΠΑΕ 1959, 85-89; Στίκας, Έργον 1959, 60 - 66.

F. Στίκας, ΠΑΕ 1959, fig. 1.

MAC.A - GR. 8

A. Lagadas.

B. ?

C. A modern bath facility still works at the same position. Two Early Ottoman vaulted chambers were embedded to the modern building, but presumably there was also a Byzantine phase.

D. Byzantine.

E. Τσιούμη & Κουρκουτίδου - Νικολαΐδου, ΑΔ 1983, 297; Βελένης *et al.* 1990, 484 - 500.

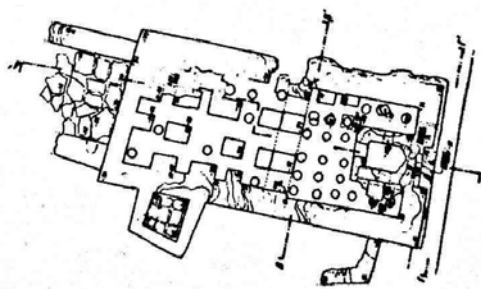
F. Βελένης *et al.* 1990, tab. 2, fig. 2.

MAC.A - GR. 9.

A. Kitros (Pydna)/ 22 sq. m.

C. Public.

D. In the first phase, the bath had a small heated chamber with a basin on its west wall. Furthermore, the *praefurnium* of the room is discovered. In the second phase, the bath was restored and expanded in a regular bath with two heated rooms, a *tepidarium* and a *caldarium* and two basins. An extra *praefurnium* was built. The hypocaust consists of clay pipelines instead of pillars. During the restoration, some of the pipelines were replaced by thinner ones or by hollow tiles. The walls were heated by spacer tubes.



D. Early 12th c. AD. / late 12th c. AD.

E. Μαρκή, ΑΕΜΘ 1988, 195-206; Μαρκή, ΑΕΜΘ 1990, 247-251; Μαρκή, ΑΕΜΘ 1991, 180-190; Μαρκή, ΑΔ 1992, 442 - 443.

F. Μαρκή, AEMΘ 1990, pl. 1.

MAC.A - GR. 10

A. Loyloydies / villa rustica.

B. Domestic.

C. Three mosaic-paved chambers were discovered. Also, a part of the hypocaust system and some pipelines were unearthed.

D. Early 4th – late 5th c. AD.

E. Μαρκή, AEMΘ 1997, 289 - 296; Μαρκή, AEMΘ 1999, 425 – 433.

F. Μαρκή, AEMΘ 1999, pl. 1.

MAC.A - GR. 11

A. Thessaloniki. Sophokleoyoys / urban area.

B. Domestic.

C. Only a part of the hypocaust, a part of the *praefurnium* in the west site and a small cistern are preserved.

D. 4th c. AD / in use up to the mid-Byzantine era.

E. Καρύδας, ΑΔ 1998, Β2, 615 - 618; Καρύδας, AEMΘ 2000, 259 - 272.

F. -.

MAC.A - GR. 12

A. Thessaloniki. Ōraiokastro / villa rustica / E – W.

B. Domestic.

C. Only two heated chambers and their *praefurnia* were discovered.

D. 5th – 8th c. AD.

E. Μαρκή, AEMΘ 2003, 283 - 298.

F. Μαρκή, AEMΘ 2003, fig. 1.

MAC.A - GR. 13

A. Thessaloniki. 52 Hagias Sophias str. / urban area.

B. Ecclesiastic / related with the church of Acheiropoiētos.

C. The bath is located almost 10m. south of the Acheiropoiētos church. The main entrance of the bath is on the west side of the facility. A cistern, an *atrium* and a headed apsidal niche with basin were discovered. In addition, a *praefurnium* was excavated.

D. End of 5th – 8th c. AD.

E. Μαρκή, ΑΔ 1994, Β2, 511 - 514.

F. -.

MAC.A - GR. 14

A. Thessaloniki. Intersection of Olympoy & Platōnos str. / urban area.

B. Ecclesiastic / related with the Martyrdom of Hagios Dēmētrios.

Only a part of the hypocaust system is extant, which consists of brick and three monolithic ring and rectangular pillars.

C. End of 5th – 7th c. AD.

D. Πέτσας, ΑΔ 1969, 298 - 300; Μαρκή, ΑΔ 2000, 747.

E. -.

MAC.A - GR. 15

A. Thessaloniki. 90 Kassandroy str. / villa urbana

B. Domestic.

C. Three chambers were revealed. The *frigidarium* is on the SW corner of the complex and it was covered by mosaic floor. The *tepidarium* has a semi-circular *basin* in the middle of the east wall. The hypocaust consists of ring and rectangular pillars.

D. mid- 4th c. – 7th c. AD.

E. Μακροπούλου & Τζιτζιμπάση, ΑΕΜΘ 1993, 35 5 - 372; Μακροπούλου, ΑΔ 1992, 428; Μαρκή, ΑΔ 1994, 503; Ασημακοπούλου – Ατζακά 1998, 302.

F. -.

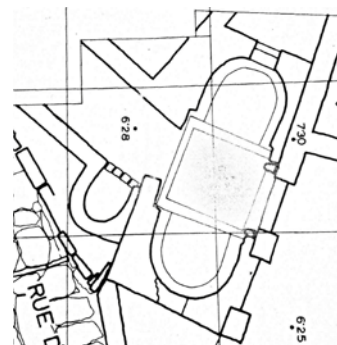
MAC.A - GR. 16

A. Thessaloniki. Makenzy King str. / urban area. / NE

- SW / 287 sq. m.

B. Ecclesiastic / related with the church of Hagia Sophia.

C. The bath is located only 40m. northeast of Hagia Sophia's church. There are two fully excavated and two partially uncovered chambers. There were two *caldaria*. The first one had two rectangular basins and the second one only one basin. The *tepidarium* is rectangular with two apsidal niches with basins



in the narrow sides. The *frigidarium* is partially excavated. *Hypocausts* were discovered in two of the warm chambers. The walls were heated by *tubuli* and were jacked by marble revetment.

D. 4th c. AD - Byzantine.

E. Ρωμιοπούλου, ΑΔ 1979, 275; Βοκοτοπούλου, ΑΔ 1980, 360 - 362; Βοκοτοπούλου, ΑΔ 1983, 265 - 267; Vitti 1996, 202.

F. Βοκοτοπούλου, ΑΔ 1980, 361, pl. 1; Vitti 1996, fig. XXII.

MAC.A - GR. 17

A. Thessaloniki. 6 Iasonidou str. / N - S

B. Domestic.

C. The bath was part of a house, which is preserved in very bad condition. The walls were uncovered at the foundation level. Only a heated chamber is safely identified. The hypocaust consists of rectangular pillars. An integrated water system was uncovered.

D. Mid-4th c. AD - Early Byzantine era.

E. Μαρκή & Κομματάς, ΑΕΜΘ 2002, 327 - 337.

F. -

MAC.A - GR. 18

A. Thessaloniki. Proxenoṓn str. / urban area.

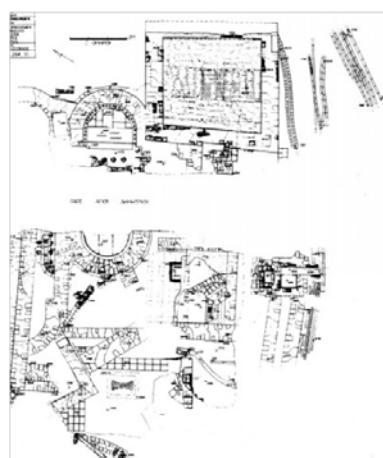
B. Public.

C. Only a part of the *caldarium* and an auxiliary chamber are extant from the first phase. The hypocaust consists of rectangular pillars. In the second phase, after a total destruction, the bath was rebuilt. The *caldarium* had four semicircular niches with basins. The hypocaust consists of pillars. The walls were heated by *tubuli* in both phases.

D. 5th - 7th c. AD

E. Αδάμ - Βελένη, ΑΔ 1986, 134; Κανονίδης, ΑΕΜΘ 1990, 259 - 266; Κανονίδης, ΑΕΜΘ 1993, 343 - 354; Κανονίδης, ΑΔ 1994, 491 - 497; Κανονίδης, ΑΕΜΘ 1996, 559 - 570.

F. Κανονίδης, ΑΕΜΘ 1993, pl. 3; Κανονίδης, ΑΔ 1994, pl. 15.

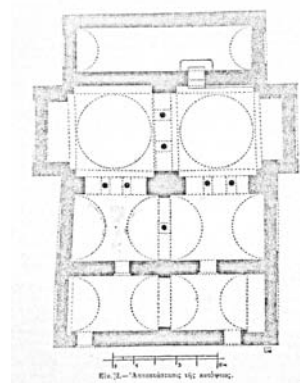


MAC.A - GR. 19

A. Thessaloniki. Theotokopoyloy str. / NE - SW / axial row type / 218,75 sq. m.

B. Public.

C. Initially probably there were two symmetrical baths and at some point the partition wall was demolished. There is a *vestibulum*, two *tepidaria* and two *caldaria*. The heated chambers communicate with each other with bilobed and trilobed openings. The cistern of the complex is the last chamber and below it there is the fireplace. The hypocaust system was renovated in the beginning of the 20th c. AD. Only few rectangular pillars from the original phase were discovered. The *vestibulum* and the *tepidaria* are covered by barrel-vaults. The southern *caldarium* is covered by a dome and the northern *caldarium* is covered



by a dome on pendentives. The southern *caldarium* is covered by a dome and the northern *caldarium* is covered by a dome on pendentives.

D. Late 13th or early 14th c. AD – 1940.

E. Ευγγόπουλος, ΕΕΦΣΑΠΘ 1940, 83 - 97; Τρυψιάνη - Ομήρου, ΑΕΜΘ 1996, 587 - 598; Τσιγαρίδας, ΑΔ 1973, 482 - 485; Τρυψιάνη - Ομήρου 1997, 314-317.

F. Ευγγόπουλος, ΕΕΦΣΑΠΘ 1940, fig. 1, 2.

MAC.A - GR. 20

A. Thessaloniki. 15 Mavilē str.

B. ?

C. It was a small bath complex. Only three cisterns, a *prae-furnium*, a *caldarium* and some other unidentified chambers on the east were excavated. A water supply and a sewerage system were unearthed throughout the area.

D. Late Roman or Early Byzantine.

E. Λαζαρίδης, ΑΔ 1973 - 4, 737.

F. -.

MAC.A - GR. 21

A. Thessaloniki. 18 Kōn. Palaiologou str.

B. ?

C. Eight unidentified chambers and a big conduit were discovered.

D. 4th c. AD - Early Byzantine.

E. Τσιούμη & Κουρκουτίδου – Νικολαΐδου, ΑΔ 1983, 285.

F. -.

MAC.A - GR. 22

A. Thessaloniki. 138 Olympoy str. / E - W

B. Domestic.

C. The rest area is on the west side and the bath chambers on the east, with a peristyle in the middle. On the east side, a chamber with a basin, an apsidal basin and a part of a heated chamber were revealed.

D. Late 4th or early 5th c. AD.

E. Μακαρόνας, ΑΔ 1971, 387; Κανονίδης, ΑΔ 1989, 340; Ασημακοπούλου – Ατζακά 1998, 241 - 242.

F. -.

MAC.A - GR. 23

A. Thessaloniki. 11 Profētē Ēlia str. / > 50 sq. m.

B. Domestic.

C. Part of a luxurious house. Two heated, *tepidarium* and *caldarium*, and three unheated chambers were discovered. Only a small part of the hypocaust was excavated. *Tubuli* are extant in the walls of the facility.

D. Late roman / in use in the Early Byzantine period.

E. Vitti 1996, 243 - 244; Αλεξανδρή, ΑΔ 1973 - 1974, 673; Ελευθεριάδου, ΑΔ 1988, 389 - 390.

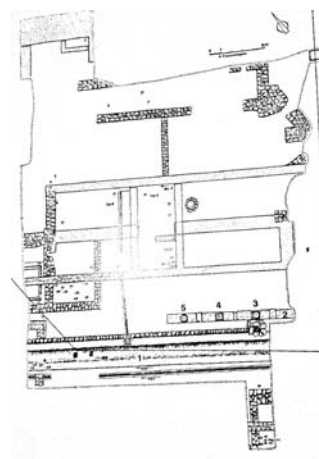
F. -.

MAC.A - GR. 24

A. Thessaloniki. Under Acheiropoiētos church/
Urban area.

B. Public.

C. A part of a basin was revealed under the north aisle of the church. A big niche with basin was excavated on the NE corner of the basilica. Its floor is based on hypocaust ring pillars and there are



tubuli in its walls. A big water conduit is located on the SE side of the church.

D. Mid 2nd c. Still in use in the 5th c. AD.

E. Πέτσας, ΑΔ 1967, 393 – 396; Μπακιρτζής 1983, 310 – 329; Ατζακά 1998, 227; Vitti 1996, 194.

F. Πέτσας, ΑΔ 1967, pl. 13; **Vitti 1996, fig. XX.**

MAC.A - GR. 25

A. Thessaloniki. Intersection of 83 Olympiados str. & Nafpaktoy str. / Urban area / >20 sq. m.

B. ?

C. Four chambers were uncovered and three of them were connected by a corridor. Two rectangular basins were unearthed on the northern and southern walls of the square room. A big drain conduit was uncovered under the corridor. A semicircular well was excavated on the northern part of the complex with a cistern above it.

D. Late roman / Early Byzantine.

E. Ατζακά 1998, 267, 281 - 282; Κουρκουτίδου – Νικολαΐδου *et.al.*, ΑΔ 1976, 269.

F. –.

MAC.A - GR. 26

A. Thessaloniki. Hagios Demetrios' bath.

B. Public.

C. Four heated chambers and a big circular *natatio* are excavated. The hypocaust system is partially extant and consists of rectangular pillars and the walls were heated with *tubuli* and jacked by marble revetment.

D. 3rd c. AD. Still in use in the 5th c. AD.

E. Πελεκανίδης 1972, 124 – 127; Vitti 1996, 241 - 243.

F. Πελεκανίδης 1972, pl. 1; **Vitti 1996, fig. XLIV.**



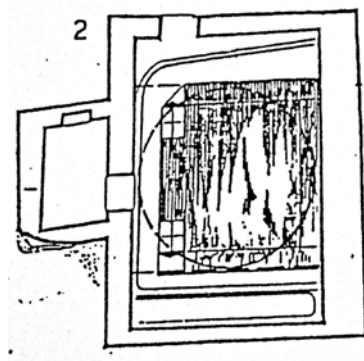
MAC.A - GR. 27

A. Serres. Old Cathedral.

- B. Ecclesiastic.
- C. Only a heated chamber was discovered.
- D. Roman. Still in use the Early Byzantine era.
- E. Μπακιρτζής, ΑΔ 1976, 320.
- F. -.

MAC.A - GR. 28

- A. Serres. Agkistro/ rural area.
- B. ?.
- C. -.
- D. 10th c. AD.
- E. Unpublished.
- F. Βελένης *et al.* 1990, tab. 2, fig. 2.



MAC.A - GR. 29

- A. Serres. 16 Vosporoy str.
- B. ?
- C. Only two small rectangular rooms are partially unearthed, which are connected with an arched opening. Clay pipes are embedded in the masonry.
- D. Late Byzantine.
- E. Δαδάκη, ΑΔ 1989, 391 - 392.
- F. -.

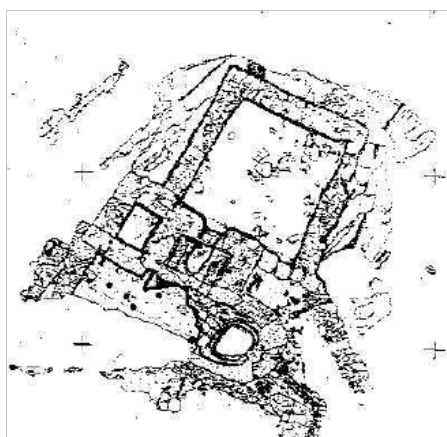
MAC.A - GR. 30

- A. Sanē. Xenophon's bay.
- B. ?.
- C. Two chambers with badly preserved mosaic floors.
- D. Early Byzantine.
- E. Catling, AR 1981 - 1982, 37.
- F. -.

MAC.A - GR. 31

- A. Chalkidikē. Nea Kallikrateia / rural area / axial row type / > 100 sq. m.
- B. ?

C. Only three chambers were excavated. The *caldarium* with an apsidal niche with basin on its side, the *tepidarium* and one of the *praefurnia*. Under *caldarium*'s basin a part of the hypocaust system, consisting of pillars, was uncovered. Only three water pipelines made of lead are extant.



D. 4th – 6th c. AD.

E. Τόσκα & Χατζάκης, AEMΘ 2000, 311 - 319.

F. Τόσκα & Χατζάκης, AEMΘ 2000, pl. 4.

MAC.A - GR. 32

A. Chalkidikē. Nikētē. Hagios Georgios / rural area.

B. Ecclesiastic / 200 m. SW of an Early Christian basilica.

C. Only a part of a semi-circular niche with a basin is excavated. Six hypocaust rectangular hypocaust pillars were discovered below the basin's floor and also fragments of the wall's heating system (*tubuli*?).

D. Early Byzantine.

E. Νικονάνος, ΑΔ 1979, 298 - 299.

F. -.

MAC.A - GR. 33

A. Nea Syllata. Veria / Castrum / E - W

B. ?

C. Only a small part of the big bath complex is extant: a heated chamber and an open space. A small part of the hypocaust system was revealed and also some *tubuli* were discovered.

D. 2nd c. - late 4th or early 5th c. AD.

E. Ταβλάκης 1987, 152, 156; Παζαράς & Τσανανά, AEMΘ 1992, 511 - 528; Παζαράς 1996, 313 - 332.

F. -.

MAC.A - GR. 34.

A. Nea Sullata. Veria / *extra muros* / E - W

B. Domestic.

C. Only three unidentified chambers of the complex are extant.

E. 12th c. AD.

F. Παζαράς & Τσανανά, ΑΕΜΘ 1990, 353-370; Παζαράς & Τσανανά, ΑΕΜΘ 1991, 289 - 301; Παζαράς & Τσανανά, ΑΕΜΘ 1992, 511 - 528; Παζαράς, ΑΕΜΘ 1996, 313 - 332.

F. -.

MAC.A - GR. 35

A. Galatista

B. ?

C. Only a part of the hypocaust was excavated in the court yard of St. Anargyroi church.

D. Early Byzantine.

E. Νικονάνος, ΑΔ 1973 - 4, 770; Καραγιάννη 2010, 216.

F. -.

MAC.A - GR. 36

A. Asprovalta. Liotopi Rouchtselē / rural area / 685 sq. m.

B. Domestic.

C. The bath facility is an independent building directly in contact with a semi-circular yard. An advanced water supply system was discovered.

D. Mid- 5th c. – mid-6th c. AD.

E. Αδάμ – Βελένη, ΑΔ 2000, 697 - 701; Αδάμ – Βελένη, ΑΕΜΘ 2001, 167 - 180.

F. -.

MAC.A - GR. 37¹

A. Amphipolē. Roman Forum / >185 sq. m.

B. Ecclesiastic / part of the octagonal church annex.

C. The *apodyterium* surrounds the remaining three chambers. The *frigidarium* has an apsidal *piscina* on its SE corner and another bigger circular one. The *tepidarium* and the *caldarium*, with a basin on its south side and an apsidal one

¹ Although the dating of the complex is unknown, it is an ecclesiastic bath and therefore is included to the catalogue.

on its west side, were heated by two *praefurnia*. The walls were heated by *tubuli*. Only a small part of the water supply system is extant.

D. Unknown date.

E. Λαζαρίδης – Ρωμοπούλου, Έργον 1961, 66 - 82.

F. -.

MAC.A - GR. 38

A. Amphipolē. Basilica A.

B. ?

C. A part of a bath facility was excavated beneath the exonarthex and the southern aisle of the Basilica A.

D. Before 6th c. AD.

E. Κουρκουτίδου - Νικολαΐδου, ΑΔ 1986, 186; Μπακιρτζής, ΑΔ 1978, 319 - 320.

F. -.

MAC.A - GR. 39

A. Philippi. House of Deer or South Bath.

B. ?

C. Partially studied. The best preserved chamber is the *frigidarium* with a big *piscina frigida*.

D. Mid-3rd c. / early 5th c. / mid-5th c. AD.

E. Aupert *et al.*, BCH 1979, 619 - 631; Aupert & Michel, BCH 1980, 699 - 716; Blackman, AR 2001 - 2002, 84; Provost & Foschia, AEMΘ 2002, 107 - 118

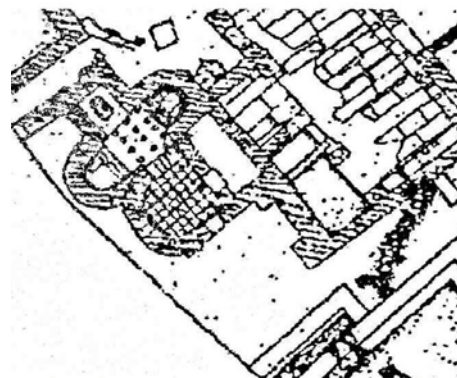
F. Aupert & Michel, BCH 1980, fig. 1.

MAC.A - GR. 40

A. Philippi. Hippodrome *Insula*.

B. Domestic.

C. It's a small bath complex, with three chambers. There was a small unheated multipurpose chamber. The first heated chamber was an apsidal one and the second one, *the caldarium*, was a rectangular room, with apsidal basins on its NW and SE ends and a *praefurnium* on



its SW side. Also a paved outdoor space on the north and a big cistern on the east, which probably fed the complex with water were excavated. The hypocaust consists of ring clay conduits instead of pillars.

D. 5th c. AD.

E. Γούναρης, Εγνατία 2006, 271 - 290.

F. Γούναρης, Εγνατία 2006, fig. 1.

MAC.A - GR. 41

A. Philippi. *Insula* 4/5 / Villa urbana

B. Domestic.

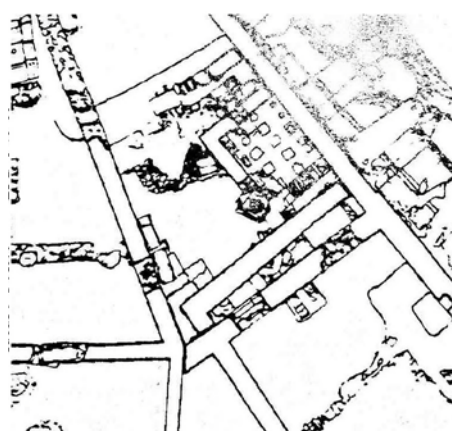
C. It's a small bath with only two heated chambers, a *tepidarium* and a *caldarium*. The hypocaust consists of one-piece pillars. An old well was embedded in the wall in order to serve the facility.

D. After mid-5th c. AD.

E. Γούναρης & Βελένης, Εγνατία 1991 - 1992, 257 - 279; Γούναρης & Βελένης, AEMΘ 1992, 529 - 531; Γούναρης &

Βελένης, AEMΘ 1996, 719 - 733; Gounaris & Velenis 1998, 355 - 365; Provost, AD 2000, 874 - 875.

F. Γούναρης & Βελένης, AEMΘ 1996, 726, pl. 2.

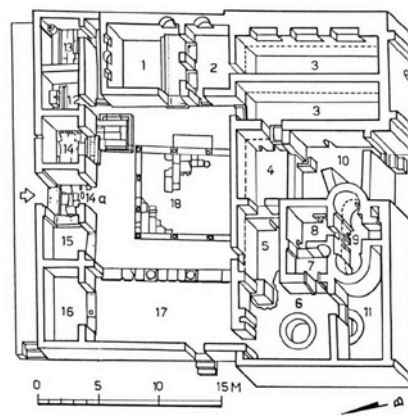


MAC.A - GR. 42

A. Philippi. Balneum / NE - SW / Pompeian type / 798 sq. m.

B. Public.

C. In the first phase, the complex was divided in two parts. The northern part consists of the unheated and auxiliary chambers. The *palaestra* was accessible from both entrances (north and west). The *apodyterium* was on the north-west corner of the building and the *latrina* was on the



north-east corner. The *frigidarium* consists of two rooms, the *vestibulum* and the *piscina frigida*. The southern part consists of the heated chambers. There were three *tepidaria* and two *caldaria* with their basins. A small chamber in-between, without basins, is identified as *laconicum*. In the second phase, the facility was divided in two parts and became a double bath for both genders. The women's bath was formed in the eastern part of the facility and it had only a *vestibulum*, a *frigidarium* and a *tepidarium*. The rest of the chambers continued to serve the men of the city. In the third phase, the women's bath was out of use. The men's bath was renovated. The *praefurnia* of the bath are located on the southern part of the complex right next to the heated rooms. The walls were heated by spacer tubes. An elaborate water and sewage system supports the facility.

D. Late 1st c. B.C. / mid-6th c.: the complex was divided in two baths / the women's bath was abandoned in the mid-7th c. AD.

E. Lemerle, BCH 1935, 285 - 291; Collart 1937, 366; Ορλάνδος, Έργον 1962, 67 - 76; Daux, BCH 1962, 829 - 830; Γιούρη & Κουκουλή, ΑΔ 1969, 347; Κουρκουλή - Χρυσανθάκη, ΑΔ 1970, 398; "École française", ΑΔ 1978, 299 - 300; Γραμμένος, ΑΔ 1979, 331; Aupert, BCH 1980, 699 - 716; "12^η ΕΒΑ", ΑΔ 1982, 335 - 336; Γούναρης, ΑΕ 1990; Nielsen II 1990, C. 355 - 356.

F. Γούναρης, ΑΕ 1990, fig. 45.

MAC.A - GR. 43

A. Thasos. Forum. Diodos tōn Theōrōn / urban area / N - S / > 60 sq. m.

B. Domestic.

C. Six chambers were excavated. The *frigidarium* has two niches with small basins. A rectangular chamber with three basins on its south wall and a subsequent one on the west wall is an intermediate room between *frigidarium* and warm chambers. The two heated rooms are on the north of the complex. The hypocaust consists of ring pillars.



D. 6th c. / 7th c. – 619 AD.

E. Garlan *et.al.*, BCH 1980, 724 - 726; Garlan *et.al.*, BCH 1981, 951 - 955; Des Courtils *et.al.* 1982, 654 - 660; Muller & Mulliez,

BCH 1982, 656; Empereur *et.al.*, BCH 1993, 664 - 668; Σγουρού *et.al.*, AEMΘ 2004, 43 - 55.

F. Des Courtils *et.al.* 1982, 655.

MAC.A - GR. 44

A. Thasos. Skala Rachōni.

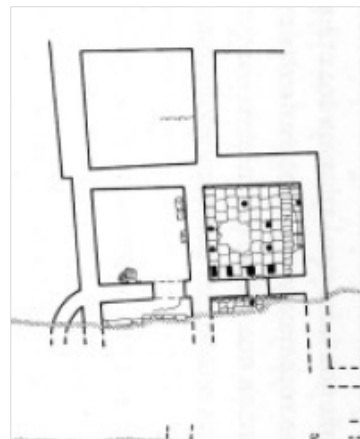
B. ?

C. Six chambers are excavated and two of them are heated, but there is no evidence for further research.

D. 4th - Early Byzantine.

E. Δαδάκη, AEMΘ 1994, 335 - 336; Δαδάκη, ΑΔ 1994, 630 - 632.

F. Δαδάκη, AEMΘ 1994, pl. 1.



MAC.A - GR. 45

A. Thasos. Limenas / urban area/ NE - SW

B. Domestic.

C. Nine chambers are revealed. Two of them are directly heated by *preafurnia*. No firm identity can be given for the rest of the chambers. The hypocaust consists of ring and rectangular pillars. Only one stone-built water pipeline was discovered running the floors of the chambers.

D. 3rd - 6th c. AD.

E. Δαδάκη, AEMΘ 1994, 335 - 342; Παπαθεοφάνους - Τσουρή, ΑΔ 1994, 628 - 629; Σγουρού, ΑΔ 1999, 685 - 689.

F. -.

MAC.A - GR. 46

A. Thasos. Tsoykalario / rural area / axial row type.

B. Ecclesiastic.

C. Six chambers were revealed in a row: *vestibulum*, *apodyterium*, *frigidarium*, *tepidarium*, *caldarium*, a small open space and water basins.

D. Early Byzantine.

E. Μπακιρτζής, ΑΔ 1979, 345 - 347.

F. -.

MAC.A – F.Y.R. 47

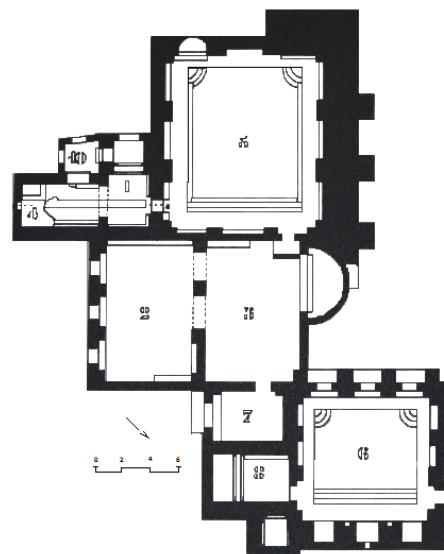
- A. Heraclea Lyncestis (Bitola).
- B. Ecclesiastical / connected to the first basilica of the city.
- C. There was no *apodyterium* in the first phase of the building.
- D. 4th c. / 5th or 6th c. AD.
- E. Unpublished².
- F. -.

MAC.A – F.Y.R. 48

- A. Doviros (Bansko) / urban area / ca. 1000 sq. m.

B. Public.

C. It's a double, sanatorium bath, which was supplied with water from a natural thermal spring (72°C). The women's bath consists of a big chamber, with a *piscina* in the center, *apodyterium*, *latrina* and a small *dstrictarium* for massage and mud bath. The men's bath consists of a large hall for social interaction. In the south-east corner of the room and a little bit lower than the floor level there is a semicircular discussion place. The *apodyterium* is on the west and on the east there is a big chamber with *piscina*. The room is similar to the one in the women's bath, but the *piscina* is deeper. A bench runs chamber's and the *piscina*'s walls. A chamber for the ailing people was found on the north-west corner of the complex. The hypocaust system is completely preserved and it's not the usual one, but it is designed with an arched construction and a central canal. The walls of the facility were heated by *tubuli*. Also, an advanced water supply and drainage system was discovered.



- D. Late 3rd c. / 6th c. AD.

² I would like to thank Dr. Ljubinka Dzidrova from the NI Archaeological Museum of (Former Yugoslav Republic of) Macedonia for the information of the existence of the bath.

Е. Ананиев, ЗМС 1989, 333 - 339; Микулчик 2011, 213 - 217; Тасева & Секулов, МАА 2004 - 2006, 333 - 348; Тасева & Секулов, 2007, 235 - 246; Секулов, МАП 2008, 201 - 212.

Ф. Тасева & Секулов, МАА 2004 - 2006, 335, fig. 2.

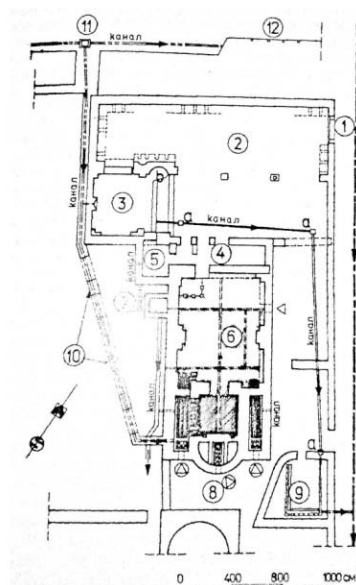
MACEDONIA B

MAC.B. - F.Y.R. 1

A. Stobi. Large Bath / urban area / axial row type

B. Public.

C. Six chambers have been well excavated, but there are more that are partially exposed. The *apodyterium* is the biggest room of the complex. Its three walls (north, south and west) are lined with low benches made of stone. There are two *frigidaria* in the complex, one next to the *apodyterium* and another one with small apsidal basins. The *caldarium* is a big heated chamber, with an apsidal basin on its east end. Six basins made of marble were uncovered in the room. The *atrium* and the *latrina* of the complex were discovered on the northern part of the building.



There are, also, some partially excavated auxiliary chambers. Five *praefurnia* have been unearthed close to the *caldarium*. The hypocaust consists of ring and rectangular pillars. The water supply and drainage system partially exposed.

D. Late 3rd c. or early 4th c. - late 6th c. AD.

Е. Винчик, МАА 2002 - 2004, 439 - 446; Petrova 2003, 48; Цидрова, МАА 2004 - 2006, 353 - 374; Stobi, "The Large Bath", accessed 17/3/2016, <http://www.stobi.mk/Templates/Pages/Excavations.aspx?page=173>

Ф. Винчик, МАА 2002 - 2004, pl. 1.

MAC.B. - F.Y.R. 2

A. Stobi. Small Bath / urban area.

B. Public.

C. Probably a women's bath. Seven chambers revealed. The *apodyterium* is the northern chamber and on its west end there is an unheated apsidal basin. The heated rooms were excavated on the southern part of the complex. One *tepidarium* and two *caldaria* have unearthed with directly heated basins. The *latrina* revealed at the north-west part and also some auxiliary chambers. The hypocaust consists of ring and rectangular pillars. The water supply and drainage system partially exposed.

D. 4th - 6th c. AD.

E. Petrova 2003, 55; Stobi, "The Small Bath", accessed 17/3/2016, <http://www.stobi.mk/Templates/Pages/Excavations.aspx?page=177>

F. -.

MAC.B. F.Y.R. 3

A. Stobi. The House of Peristerias / > 25 sq. m.

B. Domestic.

C. It's a small bath, with *frigidarium* with a *piscina frigida* and a heated chamber with its own *praefurnium*. A big conduit runs through the facility.

D. Early 5th c. AD.

E. Solovska, SAS 1975, 123 – 142; Petrova 2003, 46; Stobi. "The House of Peristeria", accessed 17/3/2016, <http://www.stobi.mk/Templates/Pages/Excavations.aspx?page=170>

F. -.

MAC.B. - F.Y.R. 4

A. Stobi. "Casino"

B. Domestic.

C. Might be the Bishop's Residence. Two small basins were discovered in the one-room bath, along with the hypocaust system beneath them.

D. Late 4th - late 6th c. AD.

E. Mano - Zisi 1973, 210 - 212; Petrova 2003, 31; Stobi, "The Casino", accessed 17/3/2016, <http://www.stobi.mk/Templates/Pages/Excavations.aspx?page=182>

F. -.

MAC.B. - F.Y.R. 5

A. Vodoča. Monastery of St. Leontij / rural area.

B. Monastic.

C. Partially extant at the level of the hypocaust. A big heated chamber was uncovered, with three basins. The hypocaust consists of clay pillars. A big conduit was unearthed.

D. Late Roman – 6th c. AD.

E. Unpublished.

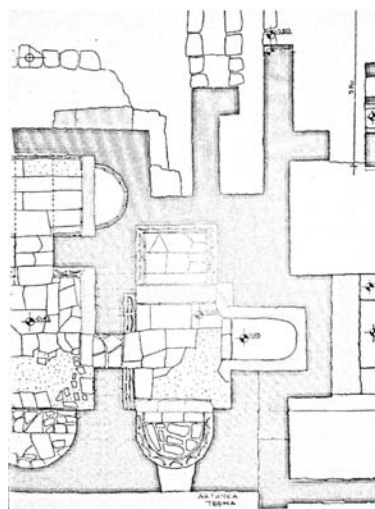
F. -.

MAC.B. - F.Y.R. 6

A. Bargala (Kozjak). Large Bath / urban area.

B. Public.

C. Five chambers were discovered: *apodyterium*, *frigidarium*, *tepidarium*, *laconicum* - *sudatorium*, *caldarium*. The hypocaust consists of ceramic *tubuli* instead of pillars. The hypocaust and the *praefurnia* of the complex are extant in a very good condition. The water supply was made by the big cistern of the city.



D. 4th - 6th c. AD.

E. Белдедовски, МАА 1999 - 2001, 289 - 302;

Белдедовски, МАА 2002 - 2004, 367 - 380;

Белдедовски 2009, 129 - 139.

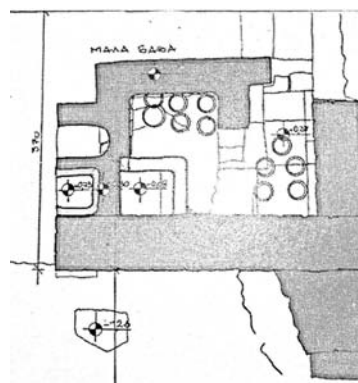
F. Белдедовски, МАА 2002 - 2004, fig. 1.

MAC.B. - F.Y.R. 7

A. Bargala (Kozjak). Small Bath / urban area / > 13 sq. m.

B. Domestic.

C. It's a small one-room bath for one person. The basin is located above the *praefurnium*. The hypocaust consists of ceramic *tubuli* instead of



pillars. The water supply was made by the big cistern of the city.

D. 4th - 6th c. AD.

E. Белдедовски, МАА 1999 – 2001, 289 – 302; Белдедовски, МАА 2002 - 2004, 367 - 380; Белдедовски 2003, 129 - 139.

F. Белдедовски, МАА 2002 - 2004, fig. 1.

THESSALIA

TH. - GR. 1

A. Nestorio. Castle / rural area.

B. ?

C. Only a mosaic floor, some hypocaust pillars and a lot of parts of water pipes revealed.

D. Early Byzantine.

E. Κακαβάς, ΔΧΑΕ 1998, 47 - 54.

F. -.

TH. - GR. 2

A. Pyrgetos / rural area/ > 20 sq. m.

B. ?

C. Only three chambers were excavated. The middle chamber has two horse-shaped niches on its north and south wall. Clay pipes were found within the thickness of the walls.

D. Early Byzantine.

E. Νικονάνος, ΑΔ 1972, 429 - 430.

F. -.

TH. - GR. 3

A. Larisa. Main sq. / urban area / > 100 sq. m.

B. Public.

C. Only four chambers of the complex were discovered. A big room with a semicircular niche on the west and an almost square chamber were wholly revealed \. However, a mosaic-paved hall and a huge chamber on the north were partially excavated. The hypocaust consists of ring pillars.

D. Late roman – Early Byzantine.

E. Φούντα, ΑΔ 1977, 539.

F. -.

TH. - GR. 4

A. Larisa. 5 Neofytoy str. / urban area / > 263 sq. m.

B. Ecclesiastic.

C. The bath is located close to the basilica. The walls are extant at a height of 2,40m.. Only two chambers were discovered. The big one (> 200 sq. m.), which is partially unearthed, is covered by a mosaic floor and there is a semicircular niche with basin on its northern wall. The second one is a wide oblong hall.

D. Roman - Early Byzantine.

E. Τζιαφάλιας, ΑΔ 1977, 135 - 136; Συθιακάκη, ΑΔ 1995, 400 - 401.

F. Συθιακάκη, ΑΔ 1995, 401, pl. 3.

TH. - GR. 5

A. Larisa. Laoy sq. / urban area / > 130 sq. m.

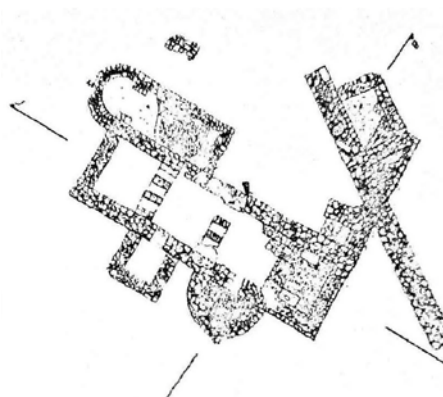
B. ?

C. Only three chambers were excavated. Two of them are heated with niches and basins and a hypocaust system lies beneath them.

D. Destroyed at the 4th c. / 5th c. AD.

E. Σδρόλια, ΑΔ 2001 - 2004, 600 - 601.

F. Σδρόλια, ΑΔ 2001 - 2004, 601, fig. 2.



TH. - GR. 6

A. Larisa. Phroyrioy sq. / E - W / axial row type / > 45 sq. m.

B. Ecclesiastic / close to the Saint Achilleios basilica

C. Three chambers were discovered, two out of which were heated. The bigger one has four niches on its west and north side, but only in two of them basins were found. Only one



praefurnium and a big drain, with NW - SE orientation were excavated.

D. 5th or 6th c. AD.

E. Δεριζιώτης, ΑΔ 2000, 523 - 525; Archibald, AR 2010 - 2011, 27.

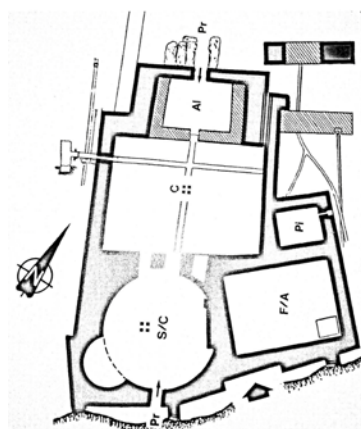
F. Δεριζιώτης, ΑΔ 2000, fig. 19.

TH. - GR. 7

A. Phthiotic Thebes (Nea Anchialos), connected with basilica A / Urban area / SE - NW / angular row type / 130 sq. m.

B. Public.

C. The bath consists of three chambers and two of them were heated. The unheated room is a combination of the *apodyterium* and the *frigidarium* and the *piscina frigida* is included. The *caldarium* is a rectangular room, with a big basin on its northern end. The second *caldarium* or *sudatorium* is a circular room with an apsidal basin on the west. Both of the heated chambers have *hypocaust* and individual *praefurnia*.



D. 5th or 6th c. AD.

E. Σωτηρίου, ΑΕ 1929, 1 - 158; Σωτηρίου, ΠΑΕ 1935, 52 - 69; Ντίνα, ΑΔ 1990, 231; Nielsen II 1990, C. 357.

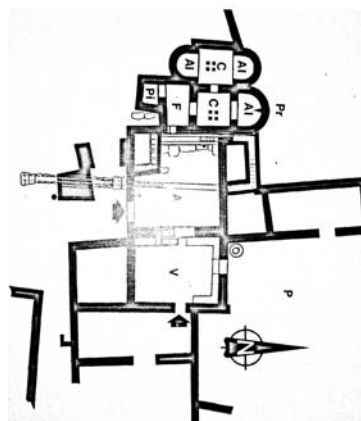
F. Nielsen II 1990, fig. 240

TH. - GR. 8

A. Phthiotic Thebes (Nea Anchialos), 60m. SE of basilica A / urban area / S - N / angular row type / 200 sq. m.

B. Public.

C. Five chambers were uncovered and two of them were heated. These are *vestibulum*, *apodyterium*, *frigidarium* with *piscina frigida* and two *caldaria* with apsidal basins and individual *praefurnia*. There is also a *palaestra*



on the north part of the complex.

D. 5th or 6th c. AD.

E. Σωτηρίου, ΑΕ 1929, 1 - 158; Σωτηρίου, ΠΑΕ 1955, 132 - 139; Nielsen II 1990, C. 358.

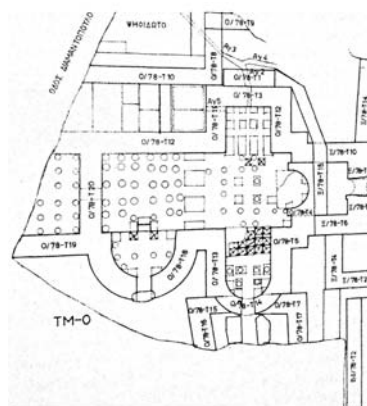
F. Nielsen II 1990, fig. 246.

TH. - GR. 9

A. Phthiotic Thebes (Nea Anchialos), connected with basilica C / urban area / row type / over 270 sq. m.

B. Ecclesiastic.

C. The original complex was a free cross-shaped building, but later it suffered many changes. Two heated chambers, with rectangular and apsidal basins, and one unheated, paved by mosaic floor, were excavated. The hypocaust consists of ring and rectangular pillars.



D. 6th c. AD.

E. Σωτηρίου, ΑΕ 1929, 1 - 158; Λαζαρίδης, ΑΔ 1970, 286; Λαζαρίδης, ΠΑΕ 1978, 45 - 49.

F. Λαζαρίδης, ΠΑΕ 1978, fig. 7.

TH. - GR. 10

A. Phthiotic Thebes (Nea Anchialos), close to basilica F / *extra muros*

B. ?

C. Only a part of the facility was excavated.

D. Early Byzantine.

E. Σωτηρίου, ΑΕ 1929, 1 - 158; Ντίνα, ΑΔ 1978, 176; Λαζαρίδης, ΑΕ 1987, 330.

F. -.

TH. - GR. 11

A. Phthiotic Thebes (Nea Anchialos), close to the new winery.

B. ?

C. Only a part of the facility was excavated.

D. Late roman or Early Byzantine.

E. Σωτηρίου, ΑΕ 1929, 1 - 158; Θεοχάρης, ΑΔ 1961 - 1962, 179.

F. -.

TH. - GR. 12

A. Phthiotic Thebes (Nea Anchialos). Hagios Geōrgios Kunēgōn

B. ?.

C. Only a part of the *caldarium* was revealed, with a basin on its southern wall. The hole through which the heated air channeled from the *praefurnium* into the hypocaust, which has partly unearthed, is extant in the center of the niche. The hypocaust consists of ring pillars.

D. Early Byzantine.

E. Σωτηρίου, ΑΕ 1929, 1 – 158; Ντίνα & Συθιακάκη, ΑΔ 1997, 547.

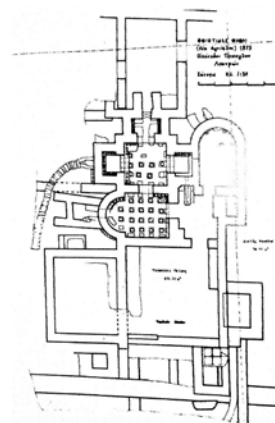
F. -.

TH. - GR. 13

A. Phthiotic Thebes (Nea Anchialos). Maltezoγ str. / urban area / 550, 50 sq. m.

B. Public.

C. Eight chambers were excavated in three parallel axes. There are five chambers on the southern axis and three rooms on the northern axis, whereas there is also a portico. No room has been interpreted, but based on the fact that a big conduit was uncovered on the southern end of the complex, it can be assumed that the heated rooms with their basins lie on that side.



D. Early Byzantine.

E. Σωτηρίου, ΑΕ 1929, 1 – 158; Ντίνα, ΑΔ 1991, 237; Ντίνα, ΑΔ 1994, 357 - 359; Ντίνα, ΑΕΘΣΤΕ 2006, 423 - 428.

F. Ντίνα, ΑΕΘΣΤΕ 2006, fig. 10.

TH. - GR. 14³

A. Dēmētriada. Large Thermes / > 900 sq. m.

B. Ecclesiastic?

C. Close to Damokratias Basilica. Still being excavated.

³ Although the bath is probably dated on the 4th c. and there is no information about its lifetime, it is an ecclesiastic bath and therefore is included to the catalogue.

D. 4th?

E. Μπάτζιου-Ευσταθίου, ΑΔ 2000, 465; Ντίνα 1996, 112 - 154; Archibald *et al.*, AR 2010 - 2011, 83.

F. -.

TH. - GR. 15

A. Palea Voloy. Pherōn str.

B. Public.

C. Three chambers were discovered. A bench runs along the walls of the *frigidarium/apodyterium*. The *tepidarium* is a rectangular room, with an apsidal basin on its northeast wall. The *caldarium* lies on the southeast section of the complex and is extant at the hypocaust level. The hypocaust consists of ring pillars.

D. Early Byzantine.

E. Ντίνα, ΑΔ 1990, 232; Ντίνα, ΑΔ 1991, 237.

F. -.

TH. - GR. 16

A. Volos. Museum / urban area / > 50 sq. m.

B. ?.

C. Three chambers were discovered. The *vestibulum* (?) is the northern room and was paved by large clay slabs. A basin was discovered in a rectangular room. The biggest room is the *caldarium*, with a basin on its west wall. Only four rows of rectangular hypocaust pillars are extant.

D. Early Byzantine.

E. Ντίνα, ΑΔ 2000, 532 - 534.

F. -.

TH. - GR. 17

A. Volos, Kyliandromyloy plot / SE - NW / > 46 sq. m.

B. ?.

C. Three chambers were revealed at the hypocaust level. Only two basins covered by revetment were unearthed. The hypocaust consists of rectangular pillars.

D. 2nd - 6th c. AD.

E. Σκαφίδα *et al.*, ΑΔ 2001 - 2004, 513 - 514.

F. Σκαφίδα *et al.*, ΑΔ 2001 - 2004, 511, fig. 43.

TH. - GR. 18

A. Lamia. Sanidi / *villa rustica*

B. Domestic.

C. Three chambers were discovered. Only one of them was heated and paved by mosaic floor. The second and the third chamber had basins, but there is no information about the existence of a hypocaust system.

D. Late 4th c. or early 5th c. AD.

E. Πάντος, ΑΔ 1989, 164; Πάντος, ΑΔ 1990, 168 - 170; Σταμούδη, ΑΔ 1998, 385 - 388.

F. -.

TH. - GR. 19

A. Υπατῆ. Loutra / > 76 sq. m.

B. Ecclesiastic (?).

C. The bath is located close to the early Byzantine basilica in Varka. Only one chamber, paved by mosaic floor, was excavated.

D. Mid-4th c. AD.

E. Λαζαρίδης, ΑΔ 1972, 390 - 391; Λαζαρίδης, ΑΔ 1973, 321.

F. -.

TH. - GR. 20

A. Atalantῆ. Palēomagazia / 195 sq. m.

B. ?

C. The bath is partially excavated, since now the building lies in the sea. Only a part of a mosaic floor was revealed.

D. Late roman or early Byzantine.

E. Δακορωνία, ΑΔ 1985, 167.

F. -.

TH. - GR. 21

A. Alonnēsos. Hagios Dēmētrios.

B. ?

C. Only one chamber was revealed with three niches on its south, east and west sides. Clay, rectangular hypocaust pillars were found scattered in the site.

D. Early Byzantine.

E. Δεριζιώτης, ΑΔ 2000, 527 - 528.

F. -.

TH. - GR. 22

A. Larisa. Nea Agora sq. / NE – SW / 130 sq. m.

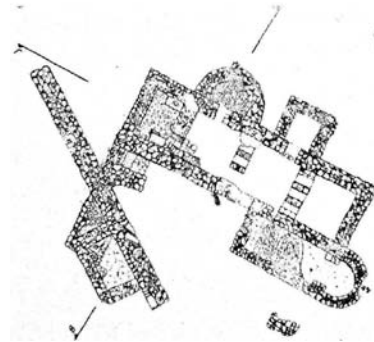
B. Public or ecclesiastic.

C. It's a small bath complex. The *frigidarium* is the biggest chamber on the north part of the building. There were also a small *tepidarium*, with an apsidal basin (?) on the west, and a rectangular *caldarium*.

D. 5th c. AD.

E. Σδρόλια, ΑΕΘΣΤΕ 2006, 441 - 445; Mulliez, AR 2009 - 2010, 109.

F. Σδρόλια, ΑΕΘΣΤΕ 2006, fig. 9.



TH. - GR. 23

A. Phthiotic Thebes (Nea Anchialos).

B. ?

C. -.

D. Early Byzantine

E. Blackman, AR 1998 - 1999, 71.

F. -.

HELLAS

HEL. - GR. 1

- A. Mesolongi. Hagios Thōmas I / urban area / 554 sq. m.
- B. Public.
- C. A big T-shaped complex with five chambers was. The rectangular *frigidarium* has a *piscina* on the east and its floor is covered by marble slabs. The *tepidarium*, with four cylindrical basins, lies in the center of the complex. The *caldarium* consists of smaller rooms with heated basins on the west part of the building. The *apodyterium* and the *sudatorium* were excavated on the south. The hypocaust system was unearthed under the warm chambers. The four *praefurnia* are located on the western and southern parts of the building. Also, two big cisterns were uncovered.
- D. 2nd – 551 AD.
- E. Πετρόπουλος, ΑΔ 2001 - 2004, 69, 78; Πετρόπουλος 2002, 413 - 432; Tsantila 2014, 1234.
- F. -.

HEL. - GR. 2

- A. Mesolongi. Hagios Thōmas II.
- B. Domestic.
- C. The bath is located 100m. southern of the large public bath in Hagios Thōmas.
- D. 1st – 6th c. AD.
- E. Tsantila 2014, 1235.
- F. -.

HEL. - GR. 3

- A. Mesolongi. Hagios Panteleēmōn. Astakos / axial row type.
- B. Public.
- C. Only a small part of the complex was revealed: six heated chambers, a water reservoir and a *praefurnium*. The hypocaust consists of brick pillars.
- D. 3rd – 5th c. AD.
- E. Tsantila 2014, 1235.
- F. -.

HEL. - GR. 4

- A. Makyneia / villa urbana / > 70 sq. m.
- B. Domestic.
- C. Six Chambers were excavated. The chambers I, II and IV were heated rooms. In the first chamber, a private rectangular basin was unearthed and two more were found in the second chamber. The Chamber III was the *praefurnium*. The Chamber V was a circular room inscribed in a square (diam. 3.90m.). Additionally, four cisterns were excavated on the west part of the building. A part of the hypocaust system was uncovered under the floors of the heated chambers. The walls were heated by *tegulae mammatae*.
- D. Late 4th or early 5th c. AD.
- E. Σαράντη, ΑΔ 2001 - 2004, 90 - 92.
- F. -.

HEL. - GR. 5

- A. Nafpaktos. Intersection of Pharroy & Manassē str.
- B. ?
- C. Eight chambers were partially revealed. Three niches, a rectangular room and a mosaic-paved chamber were excavated.
- D. Late roman. Still in use in the Byzantine Era.
- E. Μαστροκώστας, ΑΔ 1968, 277 - 279; Πέτσας, ΑΔ 1971, 315 - 319; Woodhouse 1973, 313 - 316; Ζαφειροπούλου, ΑΔ 1976, 165 - 169; Σταυροπούλου - Γάτση, ΑΔ 1984, 104; Σαράντη, ΑΔ 1999, 274; Σαράντη, ΑΔ 2000, 335; Tsantila 2014, 1236.
- F. Ζαφειροπούλου, ΑΔ 1976, pl. 5 & 6; Σαράντη, ΑΔ 1999, fig. 22.

HEL. - GR. 6

- A. Nafpaktos. Xenitemenōn Nafpaktiōn str.
- B. ?
- C. A heated chamber was revealed with an apsidal basin on its northern wall. The hypocaust consists of rectangular pillars and the walls were heated by *tubuli*.
- D. Late Roman - Early Byzantine.
- E. Σαράντη, ΑΔ 1997, 304; Tsantila 2014, 1236.

F. -.

HEL. - GR. 7

A. Nafpaktos. Kryoneri.

B. ?

C. A small part of the bath facility is preserved.

D. Late roman. Still in use the early Byzantine era.

E. Tsantila 2014, 1236.

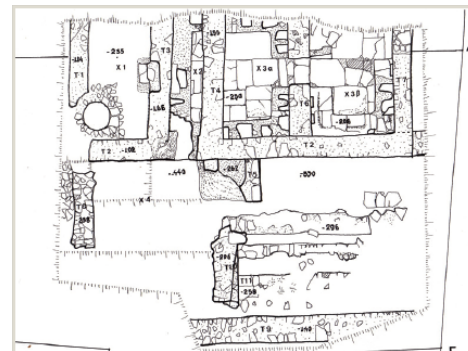
F. -.

HEL. - GR. 8

A. Nafpaktos. 5 Plastēra str. / urban area /45, 65 sq. m.

B. Public.

C. A bilateral *caldarium*, a *tepidarium* and a cistern were excavated. The walls of the *caldarium* are lined with benches made of stone. The *frigidarium* is still located under an old house. The hypocaust consists of rectangular pillars.



D. Late 9th - 14th c. AD.

E. Κεφαλλονίτου & Κουμούση, 2012, 69 - 70; Κωστή 2014, 90 - 100.

F. Κωστή 2014, fig. 1.

HEL. - GR. 9

A. Kirra. Hagios Nikolaos

B. Ecclesiastic?

C. Only a part of a bath complex and its hypocaust system was excavated.

D. Early Byzantine

E. French, AR 1990 - 1991, 37.

F. -.

HEL. - GR. 10

A. Delphi. South Bath.

B. ?

C. Only a small part of the complex is extant. Three heated chambers, with basins, were uncovered on the south. The unheated chambers were excavated on the north part of the facility.

D. Destroyed in the mid-6th c. AD.

E. Daux, BCH 1962, 911 - 912; Deroche, AA 1990, 191 - 193; Deroche, AA 1991, 202 - 203; Deroche, BCH 1991, 700 - 702; Deroche & Petridis, BCH 1992, 709 - 711; Deroche & Petridis, AA 1992, 218 - 220; Deroche & Petridis, AA 1993, 223 - 225.

F. -.

HEL. - GR. 11

A. Lokrida. Hagios Kōnstantinos / N - S.

B. ?

C. Three chambers were discovered. There are two heated rooms. The bigger one had a semicircular basin on its west end (ca. 9, 5 sq. m.). The *frigidarium* was found in the southern part of the complex. The hypocaust consists of ring pillars and was unearthed under the floor of the two warm chambers.

D. Early Byzantine - mid-Byzantine era.

E. Λαζαρίδης, AA 1969, 219; Λαζαρίδης, AA 1970, 265; Λαζαρίδης, AA 1972, 391; Συμπυράκη - Καλαντζή *et al.* 2012, 83.

F. -.

HEL. - GR. 12

A. Antikyra.

B. Domestic.

C. The three semi-circular basins of the *caldarium* were unearthed. Only a part of the hypocaust system is extant and also the marks of the *tubuli* in the walls.

D. Early Byzantine.

E. Κουρέντα - Ραπτάκη, AA 1994, 109 - 111.

F. -.

HEL. - GR. 13

A. Phtiōtida. Arkitsa.

B. Ecclesiastic. Close to Hagia Aikaterinē's basilica

C. Only a part of the *praefurnium* and the niche with a heated basin were discovered.

D. Early Byzantine.

E. Συθιακάκη, ΑΔ 1995, 406.

F. -.

HEL. - GR. 14

A. Thēva. 10 Giannakoy str. / rural area

B. ?

C. Only the southeast part of the complex, a basin and an auxiliary chamber were excavated. The *praefurnium* was unearthed under the basin. Only a small part of the hypocaust system was discovered. A carved drainage conduit was excavated close to the south and east wall of the auxiliary chamber.

D. 10th - 13th c. AD.

E. Κοιλάκου, ΑΔ 1997, 115 - 116.

F. -.

HEL. - GR. 15

A. Thēva. Epameinōnda str.

B. ?

C. The building is totally destroyed. It was identified as a bath complex, due to some hypocaust pillars, which were found during the excavation. Additionally, a mosaic floor and a part of a clay conduit were unearthed.

D. 5th c. AD.

E. Γεωργοπούλου & Βέρα, ΑΔ 1975, 134; Ανδρίκου, ΑΔ 1994, 276 - 278.

F. -.

HEL. - GR. 16

A. Thēva. Intersection Zenginē & Iokastē str.

B. ?

C. A very small bath complex was discovered.

D. Late 4th or beginning of the 5th c. AD.

E. Κοιλάκου, ΑΔ 2001 - 2004, 39 - 41; Αραβαντινός, ΑΔ 2001 - 2004, 127 - 128.

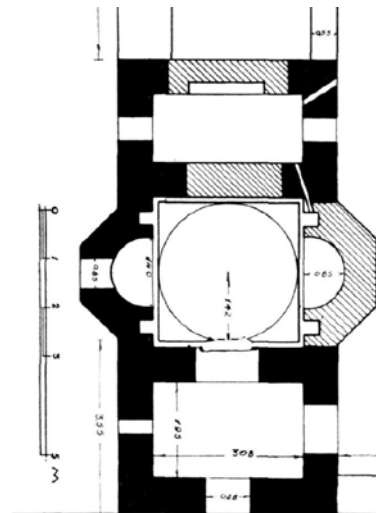
F. Αραβαντινός, ΑΔ 2001 - 2004, 128.

HEL. - GR. 17

- A. Thēva. Intersection Drakoy and 4 Kyrelloy str.
- B. ?
- C. Partially excavated.
- D. Early Byzantine.
- E. Κοιλάκου, ΑΔ 1992, 77 - 79.
- F. -.

HEL. - GR. 18

- A. Panagia. Dervenosalesi or Pylē / axial row type / 21 sq. m.
- B. Monastic.
- C. It's a very small bath with two chambers. The northern is the *apodyterium*, with a bench along the north and east wall. The *caldarium* has two apsidal basin on its east and west wall. The rectangular underground cistern (65.8 sq. m.) was build right above the *praefurnium*.
- D. 12th c. AD.
- E. Σωτηρίου, ΔΧΑΕ 1934 - 1936, 85 - 92; Ορλάνδος 1958, 100 - 108.
- F. Σωτηρίου, ΔΧΑΕ 1934 - 1936, fig. 1; Ορλάνδος 1958, fig. 112.



HEL. - GR. 19

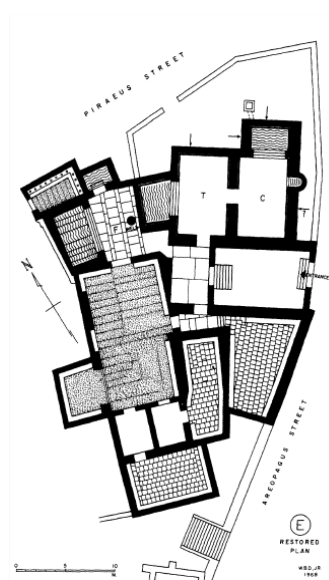
- A. Stamata / 110 sq. m.
- B. ?
- C. Only two chambers are extant. The first one has a cistern on its southern wall and its floor is covered with clay slabs. A part of a Π-shaped clay conduit was found close to the cistern.
- D. Roman - 6th c. AD.
- E. Τσοφοπούλου & Γκίνη, ΑΔ 1979, 119 - 122.
- F. -.

HEL. - GR. 20

- A. Athens. Bath V. Forum / urban area / SW - NE / angular row type / 825 sq. m.

B. Public.

C. The bath complex suffered many changes. In the Late Roman or the Early Byzantine all the hydraulic installations were confined to the northern part of the building. The chambers without hydraulic installations prevailed and the heated chambers were limited. There is a *vestibulum*, an *apodyterium* and many other chambers for social interaction. The *frigidarium* has a natatio on its western wall and a small basin on its northern wall. The *tepidarium* and the *caldarium* were in the northeast corner of the facility and they have only one basin each.



D. 50 AD / 2nd c. – 267 AD / mid-4th c. – totally destroyed in 582 AD.

E. Shear, *Hesperia* 1969, 382 - 417; Frantz 1988, 32 - 33, 120; Manderscheid 1988, 67; Nielsen II 1990, C. 254.

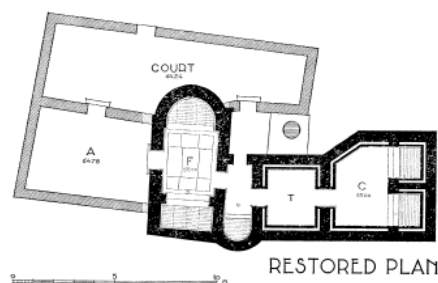
F. Nielsen II 1990, fig. 206; Frantz 1988, pl. 19c, 19d & 20c, 75; Manderscheid 1988, 53 a - c.

HEL. - GR. 21

A. Athens. Bath W. East Bath / urban area / N - S / axial row type / 160 sq. m.

B. Public.

C. It's a small bath complex, with four chambers. The *apodyterium* probably belonged to an earlier phase. The *frigidarium* has an apsidal basin on its west side and a rectangular one on its east side. An individual *piscina* was found between the *frigidarium* and the rectangular *tepidarium* without built-in basins. The *caldarium* has two rectangular basins on its northern wall. Part of the hypocaust system was found under the heated chambers and consists of hypocaust pillars. Furthermore the walls were heated by *tegulae mammatae*. The well on the west of the *tepidarium* supplied the facility with water.



D. Late 2nd or early 3rd c. - 267 AD / 4th c. AD.

E. Thompson, *Hesperia* 1948, 169; Young, *Hesperia* 1951, 279 - 282; Travlos 1971, 181; Frantz 1988, 30 - 31; Nielsen II 1990, C. 257.

F. Young, *Hesperia* 1951, fig. 25.

HEL. - GR. 22

A. Athens. Central Baths. Makrygiannē's plot / urban area / N - S / angular row type

B. ?

C. Six chambers were discovered. The *frigidarium* in its original construction phase had only one rectangular basin. During the renovation of the 7th c., three private basins were added on its eastern wall and the room was unified with the neighboring room 3, which was identified as *unctorium*. The heated chambers were unearthed on the western part of the complex. There was only one *tepidarium*, with a rectangular basin on its western wall. In the original phase of the facility there was only one *caldarium*, with semi-circular basins on the east and west walls and a rectangular one on its south wall. Another cross-shaped *caldarium* was added on the 7th c., with three basins on its three cross arms. During the same renovation, a *sudatorium* was also added. The *praefurnia* were discovered along the west wall of the complex. The hypocaust is totally destroyed. Some parts of *tegulae mammatae* were unearthed during the excavation.



D. In use up to the end of the 5th c. / 7th c. AD.

E. Ελευθεράτου & Σαράγα, *ΑΔ* 1999, 45 - 56; Ελευθεράτου & Σαράγα, *ΑΔ* 2000, 52 - 53; Ελευθεράτου, *ΑΔ* 2001- 2004, 148 - 151.

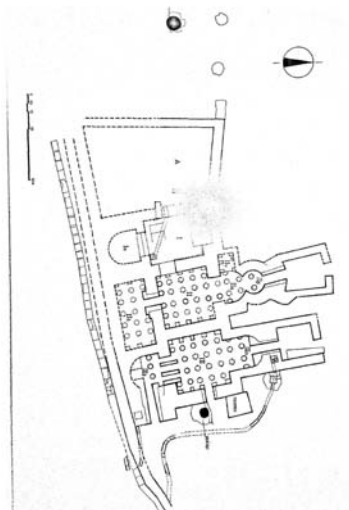
F. Ελευθεράτου - Σαράγα, *ΑΔ* 2000, fig. 8

HEL. - GR. 23

A. Athens. East Baths. Makrygiannē's plot / urban area / E – W / axial row type / > 230 sq. m.

B. Public or domestic.

C. Three chambers were excavated. The *apodyterium* is the biggest room of the complex and on its west side a yard was unearthed. The *frigidarium* is in a bad state of preservation, although it is assumed that there was a cold water basin on its southern end. Due to its size, more basins could be in it. The square *tepidarium* has two unequal semicircular niches. Only the northern niche (IIa) belongs to the original phase of the building, however private



basins replaced it. The square *calcarium* ends in two equal niches, symmetrically arranged, with built basins. Four *praefurnia* were excavated: three below the basins and the fourth in the middle of the eastern wall of the *caldarium*. The hypocaust consists of ring and rectangular pillars and the walls were heated by *tegulae mammatae*. A well-organized water supply and drainage system was unearthed below the facility.

D. 4th - late 5th c. AD

E. Ελευθεράτου, ΑΔ 2000, 312.

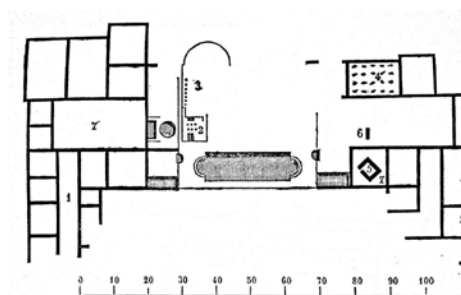
F. Ελευθεράτου, ΑΔ 2000, fig. 2 & 3.

HEL. - GR. 24

A. Athens. Bath K. Zappeion / urban area / ca. 1040 sq. m.

B. Public.

C. The bath complex was completely destroyed during the construction of Zappeion. Probably it was part of a gymnasium. Several heated and unheated chambers had been discovered.



D. Roman - mid-6th c. AD.

E. "A. D.", RA 1873, 50 - 54; Ιωάννου, ΠΑΕ 1873/4, 33 - 34; Καββαδίας, ΠΑΕ 1888, 16; Travlos 1971, 181; Frantz 1988, 68; Manderscheid 1988, 68.

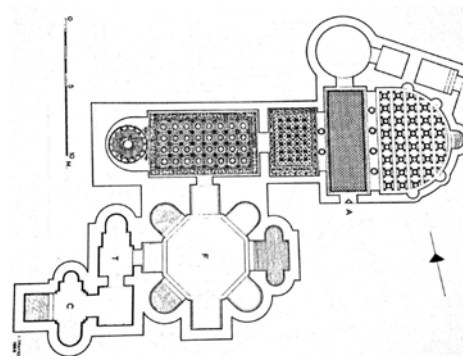
F. ; Manderscheid 1988, fig. 56.

HEL. - GR. 25

A. Athens. Bath I. Olympeio / urban area / E - W / angular row type / 480 sq. m.

B. Public baths.

C. The *nymphaeum*, the *vestibulum* and the *apodyterium* were paved by mosaic floor. The octagonal *frigidarium* had three apsidal *piscinae* and two niches for statues (?). The *tepidarium* shows no trace of basin. The *caldarium* had two directly heated basins, an apsidal and a rectangular one. The hypocaust was unearthed under the floor of the heated chambers.



D. 124 - 131 AD. In use until the 7th c. AD.

E. Καββαδίας, ΠΑΕ 1888, 16 - 20; Τραυλός, ΠΑΕ 1949, 25 - 43; Daux, BCH 1960, 637; Travlos 1971, 181; Frantz 1988, 73; Manderscheid 1988, 68; Nielsen II 1990, C. 255; Τραυλός 2005, 112 - 115.

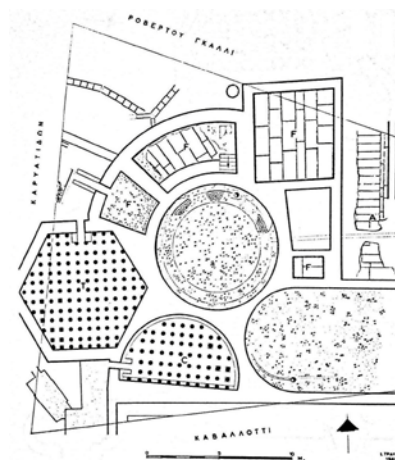
F. Τραυλός 2005, fig. 70; Travlos 1971, fig. 238; Manderscheid 1988, fig. 55.

HEL. - GR. 26

A. Athens. Bath C. 11 Karyatidōn str., Rovertoy Galli str. & Kavalloti str. / urban area / N - S / angular row type / > 620 sq. m.

B. ?

C. The bath chambers are arranged around a round room or an *atrium*. There are four chambers which are identified as *frigidaria*. The *tepidarium* is a hexagonal chamber and the *caldarium* a semicircular one. Part of the hypocaust system was uncovered under the floor of *tepidarium* and *caldarium*.



D. 2nd - 6th c. AD.

E. "Γ' Αρχ. Περ.", ΑΔ 1964, 47 - 49; Travlos 1971, 180; Αλεξανδρή, ΑΔ 1976, 41 - 43; Manderscheid 1988, 67; Nielsen II 1990, C. 256.

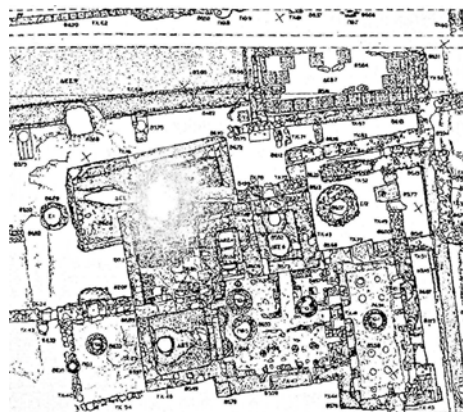
F. Travlos 1971, fig. 247; Manderscheid 1988, fig. 54.

HEL. - GR. 27

A. Athens. Bath J / urban area

B. Public.

C. Only two heated chambers (*tepidarium* & *caldarium*), two *praefurnia* and four basins were discovered from the original phase of the building. The rest thirteen chambers belong to the Early Byzantine phase of the facility. The hypocaust consists of ring and rectangular pillars. A well-organized water supply and sewerage system was unearthed.



D. Late 3rd c. / 6th c. AD.

E. "Chronique des fouilles", BCH 1925, 440; Travlos 1971, 181; Χατζηπουλίου, ΑΔ 1993, 31 - 35; Ζαχαριάδου, ΑΔ 1994, 31 - 34; Ζαχαριάδου, ΑΔ 1997, 45 - 47; Λυγκούρη - Τόλια, ΑΔ 1998, 58 - 61; Ζαχαριάδου 2000, 133 - 137, 149 - 161, 191 - 194.

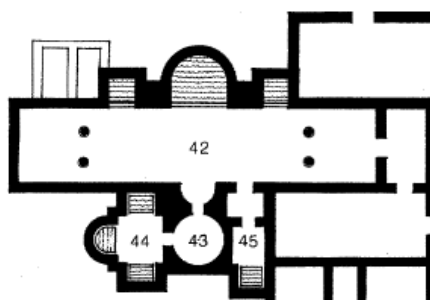
F. Λυγκούρη - Τόλια, ΑΔ 1998, plan 3.

HEL. - GR. 28

A. Athens. Bath T. Giants' Palace / urban area / N - S / axial half - symmetric row type / 540 sq. m.

B. ?

C. The bath complex is extant at the foundation level. The rectangular *frigidarium* is the bigger chamber, with two basins and a *piscina frigida* along its northern wall. The three directly heated chambers were in the southern



part of the facility. There are two chambers with basins and a round chamber in between them without water installation, probably a *sudatorium*. The *praefurnia* were discovered along the southern side of the facility. The hypocaust consists of ring and rectangular pillars. The bath was fed with water from a rectangular cistern.

D. 5th c. AD.

E. Shear, *Hesperia* 1935, 340 - 370; Travlos 1971, 181; Frantz 1988, 30, 95, 107 - 108; Nielsen II 1990, C. 260.

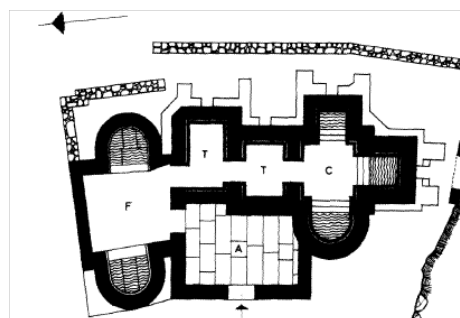
F. Frantz 1988, pl. 54.

HEL. - GR. 29

A. Athens. Bath U. North side of the Areopagys / urban area / N - S / axial row type / 160 sq. m.

B. ?

C. Five chambers were discovered. There was a rectangular *apodyterium* and a big *frigidarium*, with two apsidal basins on its east and west side. There are two directly heated chambers, with no trace of basins and a *caldarium*, with three directly



heated basins, two rectangular and one apsidal. Four *praefurnia* were unearthed. Three of them along the east side of the building and the fourth one on the southern side. Two transverse conduits found on the east and on the west part of the complex.

D. Later 3rd or early 4th c. - 6th c. AD (Frantz) & 2nd c. In use until the 5th c. AD. (Nielsen)

E. Travlos 1971, 181; Frantz 1988, 31; Nielsen II 1990, C. 258.

F. Travlos 1971, fig. 251; Frantz 1988, pl. 19a.

HEL. - GR. 30

A. Athens. Bath E. Intersection 17 Makrygiannē & Diakoy str. / urban area

B. ?

C. Only the *frigidarium* and a circular basin were identified. Semicircular and rectangular chambers were excavated around the circular basin. A clay pipe runs all the chambers.

- D. Late 4th c. AD.
- E. Αλεξανδρή, ΑΔ 1968, 73.
- F. -.

HEL. - GR. 31

A. Athens. Bath X. West Bath / urban area / angular row type / 60 sq. m.

B. Public.

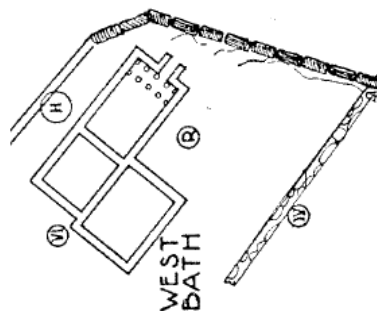
C. The building is extant at the foundation level.

The L-shaped building had three chambers: a *frigidarium*, a *tepidarium* and a *caldarium*.

The hypocaust consists of hypocaust pillars.

The wall heating was made by *tegulae mammatae*. A well between the wings fed the

facility with water.



D. Late 3rd c. - 5th c. AD.

E. Young, *Hesperia* 1951, 272 - 283; Travlos 1971, 181; Nielsen II 1990, C. 259.

F. Young, *Hesperia* 1951, fig. 1.

HEL. - GR. 32

A. Athens. Makrygiannē plot / urban area

B. ?

C. Only the round *frigidarium* and a small part of a marble basin were discovered.

D. Late roman or early Byzantine.

E. Σταυροπούλου, ΑΔ 1980, 25.

F. -.

HEL. - GR. 33

A. Athens. Pompēio / urban area

B. ?

C. The bath complex is located between the Dipylon and Agora.

D. 5th c. AD.

E. Frantz 1988, 28.

F. -.

HEL. - GR. 34

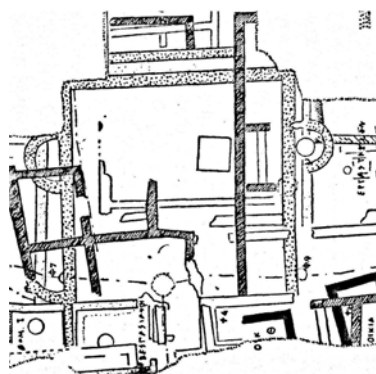
- A. Athens. 6 Thoykydidēs str. / urban area / > 48 sq. m.
- B. ?
- C. Only a part of the *tepidarium* and the hypocaust is extant in a good preservation status. Additionally, two small basins were unearthed.
- D. 6th c. AD.
- E. Βασιλοπούλου, ΑΔ 1983, 16 - 18.
- F. -.

HEL. - GR. 35

- A. Athens. Bath S. 29 - 31 Sarrē str. / urban area
- B. ?
- C. The complex is extant at the hypocaust level. Three longwise rooms and a cistern were discovered.
- D. 4th c. AD.
- E. Σταυρόπουλος, ΑΔ 1965, 49 - 52; Frantz 1988, 68
- F. -.

HEL. - GR. 36

- A. Athens. Bath A. Areopagitoy str. / urban area / > 156 sq. m.
- B. Public.
- C. Only one chamber is extant, with two basins on its northern and southern wall.
- D. 5th c. AD.
- E. Δοντάς, ΑΔ 1961 - 2, 89, 101 - 103; Καραμεσίνη - Οικονομίδου, ΑΔ 1961 - 2, 96 - 100; Daux, BCH 1962, 651; Travlos 1971, 180 - 181; Frantz 1988, 44; Ορφανού, ΑΔ 1993, 35 - 37.
- F. Δοντάς, ΑΔ 1961 - 2, 84.



HEL. - GR. 37

- A. Athens. Bath O. Amalia str. / urban area / > 5500 sq. m.
- B. Public.

C. Two heated chambers, two *praefurnia* and nine basins were excavated. Additionally, two marble basins were discovered, which were fed with water from a rectangular cistern. The hypocaust of the directly heated *caldarium* consists of fifteen ring and rectangular pillars. The hypocaust of the *tepidarium* consists of seventeen marble funerary ring pillars in second use. An organized water supply and a sewerage system served the facility.

D. End of 3rd - 4th c. / 5th - 6th c. AD.

E. Μυλωνάς, ΑΔ 1931 - 32, 46 - 48; Χατζηπουλίου, ΑΔ 1993, 31 - 35; Ζαχαριάδου, ΑΔ 1994, 27 - 32; Ζαχαριάδου 2000, 133 - 137, 149 - 161, 191 - 194; Ζαχαριάδου, ΑΔ 2001 - 2004, 286 - 288, 288 - 289.

F. -.

HEL. - GR. 38

A. Athens. House C / *villa urbana*

B. Domestic.

C. Two chambers were discovered. An apsidal chamber, with a semicircular basin and a smaller vaulted one, with a bench along its northern and southern wall.

D. 6th c. AD.

E. Leslie & Shear, *Hesperia* 1971, 266 - 270; Frantz 1988, 87 - 90.

F. Frantz 1988, pl. 21a.

HEL. - GR. 39

A. Athens. Kaisarianē's monastery / rural area / axial row type / ca. 42 sq. m.

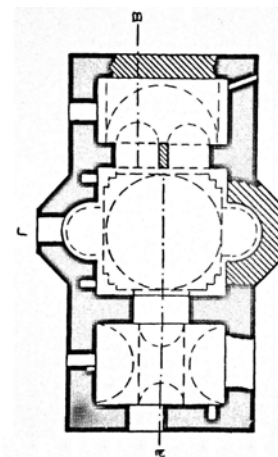
B. Monastic.

C. It's a trilateral building. There is a dry chamber and a square room, with two lateral niches with basins. The last room is the cistern of the bath.

D. 11th - 15th c. AD.

E. Σωτηρίου, ΔΧΑΕ 1934 - 1936, 85 - 92; Ορλάνδος 1958, 104 - 106; Δεληνικόλας, ΑΔ 1982, 69; Χαρκιολάκης 1997, 310 - 313.

F. Ορλάνδος 1958, fig. 114; Χαρκιολάκης 1997, fig. 5.



HEL. - GR. 40

- A. Athens. Daphni's monastery / rural area
- B. Monastic.
- C. The bath is located southwest of the katholikon and is extant at the hypocaust level. The hypocaust consists of ring and rectangular pillars, which were made by clay conduits.
- D. 11th AD.
- E. Λαζαρίδης, ΑΔ 1960, 68 - 69.
- F. -.

HEL. - GR. 41

- A. Athens. Plaka. 15 Kyrrestos str. / urban area
- B. ?
- C. Only some walls and a floor were excavated.
- D. Late 4th or early 5th c. AD.
- E. Whitley, AR 2004 - 5, 3.
- F. -.

HEL. - GR. 42

- A. Athens. Monē Arkadiou str. / > 75, 5 sq. m.
- B. Public.
- C. Twenty four rectangular, longwise and polygonal chambers revealed.
- D. Late 4th or early of 5th c. AD.
- E. Πλάτωνος, ΑΔ 2000, 118 - 121.
- F. Πλάτωνος, ΑΔ 2000, fig. 41.

HEL. - GR. 43

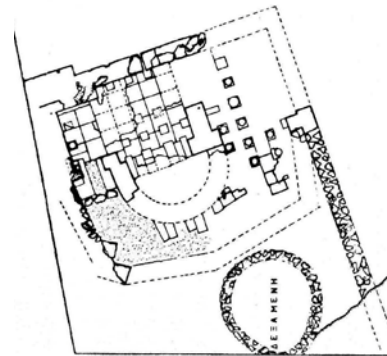
- A. Athens. Areopagitoy & Makrē str. / urban area
- B. ?
- C. Only a part of the hypocaust system was discovered.
- D. Late Roman - 7th c. AD.
- E. Ζαφειροπούλου, ΑΔ 1983, 19 - 23.
- F. -.

HEL. - GR. 44

A. Megara. 14 Schina str.

B. Ecclesiastic.

C. Part of the Episcopal palace. The building is extant at the foundation level. A part of a heated chamber was excavated, with a semi-circular basin on the west side. The cistern of the complex was discovered on the west. The hypocaust consists of pillars.



D. Early Byzantine.

E. Ζορίδης, ΑΔ 1992, 47 - 48.

F. Ζορίδης, ΑΔ 1992, plan 11.

HEL. - GR. 45

A. Piraeus. 118 Kolokotrōnē str. / > 96 sq. m.

B. ?

C. The walls are preserved at a height 2,50m. The rectangular heated chamber has three basins, which were directly heated by three *praefurnia*. The hypocaust consists of ring and rectangular pillars. There was no wall heating system, but the walls were very thick (1,50m.) in order to contain the heat.

D. 4th / 5th – 6th c. AD.

E. Στάινχάουερ, ΑΔ 1980, 64 - 67.

F. -.

HEL. - GR. 46

A. Salamina. Gymnasium.

B. ?

C. Three chambers were partially revealed; a part of the *sudatorium*, a part of the *caldarium*, with niches on the northern wall, and a third room, with an apsidal niche. A part of the hypocaust system was unearthed under the *sudatorium*.

D. 3rd c. Destroyed on the 7th c. AD.

E. Καραγιώργης, ΑΔ 1967, 548 - 549.

F. -.

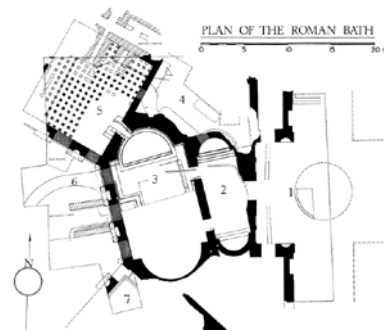
HEL. - GR. 47

- A. Lechaion. Inner Harbour.
- B. ?
- C. -.
- D. Late 4th or early 5th c. AD.
- E. Megaw, AR 1965 - 1966, 7.
- F. -.

HEL. - GR. 48

- A. Corinth. Lechaion / E - W / Imperial type / 2270 sq. m.
- B. Public.

- C. There is a cross-shaped *frigidarium*, with two rectangular basins on the northern and southern cross-arms and a round *piscina* in the center of the room. The *tepidarium* has two apsidal basins one on the north and one on the south wall. The *caldarium* has a rectangular *piscina* in the center of the room,



an apsidal one on the northern end of the room and a small rectangular basin on the west wall. A part of the *sudatorium* was unearthed south of the *caldarium*. Another big heated chamber was discovered north-west of the *caldarium*. There were also the west and the north service areas of the complex. A part of the hypocaust system was unearthed under the floors of the heated chambers. The walls were heated by *tegulae mammatae*.

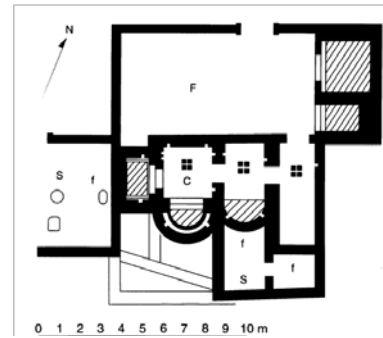
- D. 3rd - late 6th c. AD.
- E. Williams, AΔ 1968, 135 - 136; Williams, AΔ 1969, 112 - 116; Biers, Corinth 1985; Manderscheid 1988, 130 - 131; Nielsen II 1990, C. 261; Ασλαματζίδου - Κωστούρου, AΔ 1994, 161 - 162; Biers, Corinth 2003, 303 - 317.
- F. Biers, Corinth 1985, pl. 38; Manderscheid 1988, fig. 200.

HEL. - GR. 49

A. Corinth. South Stoa Bath / N - S/ Parallel row type / 250 sq. m.

B. ?

C. The *apodyterium* / *frigidarium* was the biggest chamber of the complex, with two rectangular basins on its eastern wall. The three heated chambers were on the southern section. A part of a basin made of marble was found in the first heated chamber. The middle chamber (*caldarium*) had an apsidal basin on its southern side, which was directly heated by a *praefurnium*. The westernmost chamber (*caldarium*) also had an apsidal basin on its southern side, which was fed with water from a directly heated tank found on the west of the room. The hypocaust consists of ring and rectangular pillars. There was also wall heating.



D. 400 or 450 – 6th c. AD.

E. Broneer, Corinth 1954, 145 - 151; Scranton, Corinth 1957, 23 - 24; Nielsen II 1990, C. 262; Tomlinson, AR 1995, 10; Biers, Corinth 2003, 309.

F. Nielsen II 1990, fig. 207; Biers, Corinth 2003, fig. 18.7.

HEL. - GR. 50

A. Ancient Corinth. Mparoyxitika.

B. ?

C. A part of the hypocaust system and two basins, a circular and a rectangular one were discovered. Also a part of a mosaic floor from the original phase and another part from the second phase are extant.

D. 2nd c. / 4th c. AD or later.

E. Daux, BCH 1959, 604 - 606; Biers, Corinth 2003, 308.

F. -.

HEL. - GR. 51

A. Ancient Corinth. Kachreika.

B. ?.

C. Only a part of the hypocaust was unearthed consisting of ring and rectangular pillars.

D. Late roman or early Byzantine.

E. Μπανάκα - Δημάκη, ΑΔ 1995, 87.

F. -.

HEL. - GR. 52

A. Corinth. North Bath in Lechaion road.

B. Public.

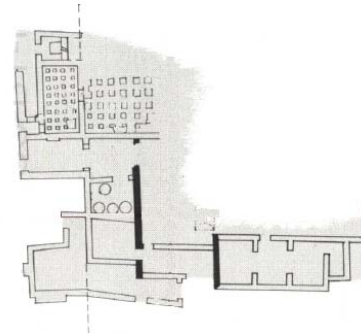
C. Only a *vestibulum*, two heated chambers and some auxiliary rooms were discovered.

D. Mid-Byzantine/ 11th - 12th c. AD.

E. Scranton, Corinth 1957, 78 - 79, 100;

Sanders, Hesperia 1999, 473; Biers, Corinth 2003, 305.

F. -.



HEL. - GR. 53

A. Corinth. North of the central square.

B. ?

C. Two *caldaria* were excavated, with a hypocaust system below their floors.

D. Byzantine.

E. Williams, ΑΔ 1968, 135 - 136; Williams, ΑΔ 1969, 112 - 116; Biers, Corinth 2003, 305.

F. -.

HEL. - GR. 54

A. Corinth. Kraneio. Small bath.

B. ?

C. A big chamber with eight niches with private basins and some smaller rectangular chambers were excavated. An integrated water system was unearthed.

D. Early Byzantine.

E. Σκαρμούτσου - Δημητροπούλου, ΑΔ 1995, 270 - 271; Σκαρμούτσου - Δημητροπούλου, ΑΔ 1998, 311 - 313; Σκαρμούτσου - Δημητροπούλου, ΑΔ 2000, 371 - 372; Σκαρμούτσου - Δημητροπούλου & Αθανασούλης 2012, 140.

F. -

HEL. - GR. 55

- A. Corinth. West of the Odeon.
- B. ?
- C. Partially excavated. Not published.
- D. 6th c. AD.
- E. Ορλάνδος 1954, 244; Biers, Corinth 2003, 310.

HEL. - GR. 56

- A. Corinth. Kraneio. Big bath.
- B. ?
- C. Inside of the early Byzantine wall of the city, a big bath complex was discovered, with apsidal chambers.
- D. Early Byzantine.
- E. Σκαρμούτσου - Δημητροπούλου & Αθανασούλης 2012, 139.
- F. -.

HEL. - GR. 57

- A. Corinth. South Bath.
- B. Public.
- C. There is a courtyard on the north and the bathing rooms are on the south. Only five chambers were excavated in a very bad stage of preservation. Only two of them were heated chambers. One of them has three basins and the second one has a bench along its east wall. The rest rooms are less easily identifiable. The hypocaust consists of rectangular pillars.
- D. 10th or 11th c. AD.
- E. Scranton, Corinth 1957, 68, 70 - 71; Biers, Corinth 2003, 305.
- F. -.

HEL. - GR. 58

- A. Corinth. South of the Basilica.
- B. ?
- C. Close to the southwest corner of the basilica. The complex resembles the bath in south Stoa. The hypocaust consists of rectangular pillars.
- D. 10th c. AD.
- E. Sanders, Hesperia 1999, 473.

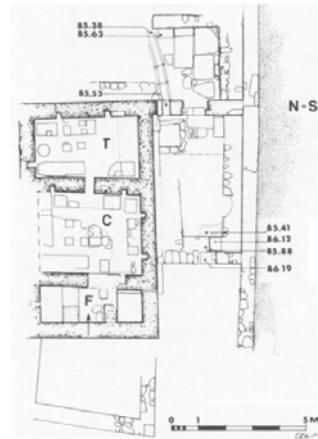
F. -.

HEL. - GR. 59

A. Corinth. South of the Museum / N – S / > 40 sq. m.

B. ?

C. There were at least five chambers. Two heated rooms, the *caldarium* and the *tepidarium*, with hypocausts consisting of pillars, beneath their floors and vertical channels within the walls in order to vent the hot air. The *prae-furnium* was directly connected with the *caldarium*. The other two chambers are less easily identifiable.



D. Early imperial period - 6th c. / Late 11th or early 12th c. - mid or late 12th c. AD.

E. Williams, *Hesperia* 1997, 37 - 41; Sanders, *Hesperia* 1999, 473; Biers, *Corinth* 2003, 305.

F. Williams, *Hesperia* 1997, fig. 10

HEL. - GR. 60

A. Ancient Corinth. Lekka's plot.

B. Domestic.

C. Only a part of the hypocaust system and the *prae-furnium* were unearthed. Also, a paved floor yard and three cisterns were discovered.

D. Late 4th or early 5th c. AD.

E. Κουνουπιώτου - Μανωλέσσου, *ΑΔ* 1972, 292 - 293; Biers, *Corinth* 2003, 303 - 319.

F. -.

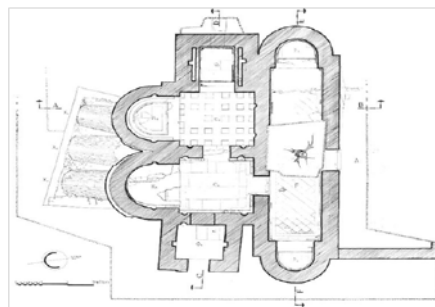
HEL. - GR. 61

A. Zevgolateio / N – S / Parallel row type / 120 sq. m.

B. ?

C. It's a small complex consisting of three chambers. The domed *frigidarium* is the biggest room, with two apsidal basins on its east and west side. The two *caldaria* were discovered in the northern section. Both of them had apsidal

basins on the northern side and the second *caldarium* had also a rectangular one on its eastern wall. On the northern side of the complex three *praefurnia* directly connected with the basins were excavated. The hypocaust



of *caldarium* I consists of pillars, however the hypocaust pier were unearthed under *caldarium* II. The walls were heated by *tubuli*. In the second phase, an *apodyterium* and three auxiliary rooms were added.

D. 2nd – 3rd AD / 4th – 6th AD.

E. Ginouves & Charitonidis, BCH 1955, 102 - 120; Wiseman 1978, 100 - 102; Nielsen II 1990, C. 278; Sanders, Hesperia 1999, 473 - 474.

F. Ginouves - Charitonidis, BCH 1955, fig. 1 & 6.

HEL. - GR. 62

A. Hagios Vasileios. Varelas site / villa rustica.

B. Domestic.

E. Only two chambers were uncovered: an oblong room and the *caldarium*. The hypocaust consists of clay pillars. A big conduit was unearthed on the southern part of the complex.

F. Late 4th c. - 551 / 6th c. - late Byzantine era.

G. Μούτζαλη, ΑΔ 1984, 109 - 110; Μούτζαλη, ΑΔ 1977, 340.

F. -.

HEL. - GR. 63

A. Panagia / rural area / N - S / axial row type / > 72 sq. m.

B. Domestic.

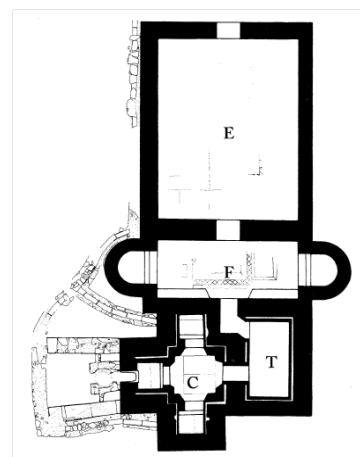
C. Five chambers were excavated. The entrance hall was the bigger room. The *frigidarium* was the biggest bath-chamber with two apsidal basins on its west and east wall. The next heated chamber is interpreted as *tepidarium*, although there is no trace of built-in basin in it. The *caldarium* was a cruciform chamber, with a square core and three rectangular basins on its north, west and south wall. The *praefurnium* of the complex was discovered on the west side of the building and was connected to the basin of the *caldarium*. The

hypocaust consists of ring and rectangular pillars. The wall system was made by spacer tubes. A big conduit was unearthed on the west side of the facility.

D. Mid-6th – 9th c. AD.

E. Tomlinson, AR 1996, 9; Sanders, AA 1998, 317 - 320; Sanders AA 1999, 151; Sanders, Hesperia 1999, 441 - 480; Sanders, AA 2000, 200 - 202; Biers, Corinth 2003, 310.

F. Sanders, Hesperia 1999, fig. 4.



HEL. - GR. 64

A. Kechries.

B. ?

C. Partially excavated.

D. 2nd – 6th c. AD.

E. Megaw, AR 1963 – 1964, 7.

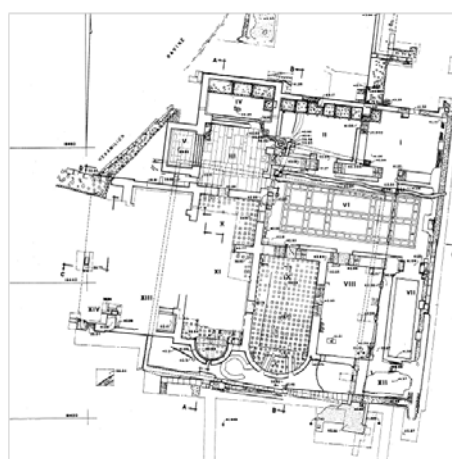
F. -.

HEL. - GR. 65

A. Isthmia. Sanctuary of Poseidon / NE – SW / Ring type / 2370 sq. m.

B. Public.

C. A series of heated and unheated chambers were discovered. The *frigidarium* (Room III, IV & V) had a *piscina frigida* on its west side. The luxury chamber VI is probably a *basilica thermarum*. Benches run along the east walls of *basilica thermarum* and Room VII & XII. In Room VIII a series of basins were revealed. The two heated chambers (Room IX & XI) had apsidal basins on their south sides and there was also a rectangular basin (Room X) on the northern part of Room XI. The chambers I, II & VIII are less easily identifiable and on the north - east section

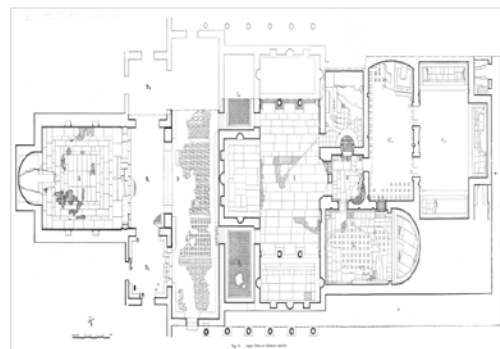


of the complex two subsidiary rooms were defined. Four *praeefurnia* were uncovered: two on the south and two on the west side of the facility. The hypocaust consists of ring and rectangular pillars. An impressive drain system is very well preserved.

- D. Greek bath / 2nd – 4th c. / 4th c. Still in use in the mid-5th c.
- E. Broneer, *Hesperia* 1954, 123 - 124; Clement, *AA* 1971, 109 - 111; Clement, *AA* 1973, 143 - 147; Packard, *Hesperia* 1980, 326 - 346; Manderscheid 1988, 125; Gregory, *AA* 1989, 90 - 91; Gregory, *AA* 1990, 101; Gregory, *AA* 1991, 109; Gregory, *AA* 1992, 99 - 100; Gregory, *AA* 1993, 94 - 95; Gregory, *AA* 1994, 166 - 167; Gregory, *AA* 1995, 115 - 116; Gregory, *Hesperia* 1995, 279 - 313; Gregory, *AA* 1996, 97 - 98; Gregory, *AA* 1997, 156 - 157; Gregory, *AA* 1998, 145; Gregory, *AA* 1999, 153 - 154; Gregory, *AA* 2000, 203; Archibald *et al.*, *AR* 2010 - 2011, 57.
- F. Gregory, *Hesperia* 1995, fig. 2 & 3; Manderscheid 1988, fig. 189.

HEL. - GR. 66

- A. Argos. Thermes A / urban area / E - W / axial row type / 1210 sq. m.
- B. Public.
- C. Eleven chambers were excavated. The *basilica thermarum* was a big rectangular room with a big apsidal niche on its western wall. The long *apodyterium* was paved by a mosaic floor. The *frigidarium* was the biggest chamber of the complex and had a rectangular platform on its west wall and rectangular *piscinae* on its north and south ends. There were three *caldaria* in the complex. The first one was an almost square room, with an apsidal basin on its eastern wall. The second one was a rectangular room, with an apsidal basin on its northern wall. The third one had rectangular basins on its north, south and east walls. There were also many auxiliary rooms. The hypocaust, consisting of pillars, is extant very well under *caldarium* 1 and it's partially preserved under *caldarium* 2. The walls were heated by *tegulae mammatae*. The bath facility was supported by a



comprehensive water supply and sewage system, parts of which were discovered in different places. In the second phase of the building, the individual or semi-individual basins were doubled.

D. 2nd c. / mid-4th c – 6th c. AD.

E. Ginouvés, BCH 1955¹, 323 - 328; Ginouvés, BCH 1955, 138 - 141; "Ecole Francais", AΔ 1973, 153 - 155; Aupert, BCH 1974, 764 - 774; Aupert, AΔ 1975, 63; Aupert, BCH 1976, 747 - 750; "Ecole Francais", AΔ 1980, 125 - 128; "Ecole Francais", AΔ 1981, 119 - 120; Aupert, BCH 1981, 899 - 902; Aupert, AΔ 1983, 86 - 87; Aupert, AΔ 1985, 96 - 97; Aupert, AΔ 1986, 37; Aupert, AΔ 1987, 127; Aupert, AΔ 1988, 109 - 110; Manderscheid 1988, 64; Aupert, AΔ 1989, 97 - 98; Nielsen II 1990, C. 252.

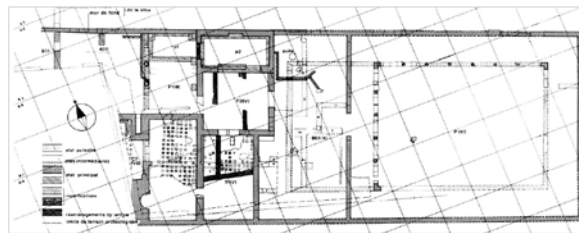
F. Ginouves, BCH 1955¹, fig. 36; Aupert, BCH 1974, fig. 6; Manderscheid 1988, 44.

HEL. - GR. 67

A. Argos. Thermes B / urban area / NW - SE / ring type

B. ?

C. Eight chambers were excavated. There are two *frigidaria*, with two rectangular *piscinae frigidae* on their northern walls. In the first phase of the building, these two rooms were probably a single space. Four heated chambers were discovered. A huge chamber, which can be identified as *basilica thermarum*, a second one with no trace of basin in it, the *tepidarium*, with an apsidal basin on its western wall, and a partially excavated chamber in the southwest corner of the facility. Also, a *palaistra* was discovered on the eastern end of the complex. The hypocaust consists of ring and rectangular pillars and the walls were heated by *tegulae mammatae*.



D. 3rd – mid-6th c. AD.

E. "Chronique des fouilles", BCH 1953, 252 - 253; Daux, BCH 1969, 977 - 986; Touchais *et al.*, BCH 1978, 783 - 784; Aupert, AΔ 1982, 107 - 110; Aupert, AΔ

1983, 86 - 87; Abadie *et al.*, BCH 1983, 839 - 853; Marcel *et al.*, BCH 1984, 845 - 852; Manderscheid 1988, 65; Βαράλης, ΑΔ 1999, 154 - 155.

F. Abadie *et al.*, BCH 1983, fig. 13; Manderscheid 1988, 45.

HEL. - GR. 68

A. Argos. Goynarē str. Avgoustēs plot / 158 sq. m.

B. ?

C. Three chambers revealed. Two of them were heated and the third one was the *praefurnium*. The fireplace was discovered on the south of the heated rooms. The hypocaust consists of pillars.

D. 4th c. AD. - Byzantine

E. Παπαχριστοδούλου, ΑΔ 1967, 174 - 176; Παπαχριστοδούλου, ΑΔ 1969, 108 - 110; Ψυχογιού, ΑΔ 1995, 96 - 99.

F. Παπαχριστοδούλου, ΑΔ 1967, pl. 11.

HEL. - GR. 69

A. Argos. Papanikolē str.

B. ?

C. Only a *praefurnium* and a part of a semi-circular wall were revealed.

D. 5th or 6th c. AD.

E. Μπακούρου & Τσέκες, ΑΔ 2000, 261.

F. -.

HEL. - GR. 70

A. Argos. Goynarēs byway. Passa's plot / ~200 sq. m.

B. Public.

C. Seven chambers were partially excavated. The *frigidarium* has an apsidal basin on its northern wall. There are three heated chambers. Two of them were certainly directly heated with one and with two *praefurnia*. Also a part of an auxiliary corridor was discovered, which served the *praefurnia* and the sewer system. The hypocaust consists of pillars and *tegulae mammate* were used in the wall heating system.

D. 5th - 7th c. AD

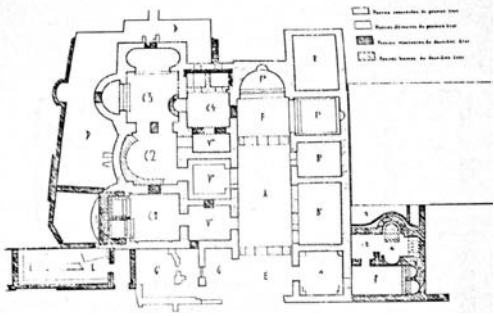
E. Κριτζάς, ΑΔ 1973, 129 - 132; Παναγιωτοπούλου 1998, 373 - 384.

F. -.

HEL. - GR. 71

- A. Dalamanara. Ancient Tēmenio / > 540 sq. m.
- B. ?.
- C. Eight chambers were excavated. A part of the *caldarium* is preserved at the level of the hypocaust, with two small basins on the south. The rectangular *tepidarium* is divided in two parts. Several auxiliary chambers were discovered in the eastern part of the complex. The hypocaust consists of pillars and the walls were heated by *tubuli*. A clay drainage conduit was unearthed along the warm chambers and another one underground was discovered on the east side of the building.
- D. 3rd – 6th c. AD.
- E. Πιτερός, ΑΔ 2000, 189 - 191.
- F. -.

HEL. - GR. 72

- A. Epidavros. NE Bath / double ring type / 630 sq. m.
- B. ?
- C. The roman structure was a big bath complex, with all the necessary chambers: *apodyterium*, two *frigidaria*, *unctorium*, two *caldaria*, *sudatorium*. The hypocaust was unearthed under the four heated chambers and consists of ring and rectangular pillars. The walls were heated by *tegulae mammatae*. In the late 4th or early 5th c. the roman baths were restored and a small independent bath was added to the southwestern corner of the building. The small bath had only the three basic chambers, a *frigidarium*, with two apsidal *piscinae frigidae* on its eastern wall, a *tepidarium* with no trace of basin and a *caldarium*, with three basins, two apsidal on its northern and southern wall and a rectangular one in the east wall.
- 
- D. 2nd c. / late 4th or early 5th c. AD (small bath added).
- E. Καββαδίας, ΠΑΕ 1925/6, 47 - 51; Ginouves, BCH 1955, 141 - 146; Tomlinson 1983, 53; Manderscheid 1988, 110; Nielsen II 1990, C. 267.

F. Nielsen II 1990, fig. 212; Manderscheid 1988, fig. 152.

HEL. - GR. 73

A. Epidavros. Glystra / > 273 sq. m.

B. ?

C. The bath was part of a bigger building. Partially excavated.

D. 4th – 6th c. AD.

E. Ασλαματζίδου, ΑΔ 1995, 106 - 107; Πιτερός, ΑΔ 1998, 132 - 133.

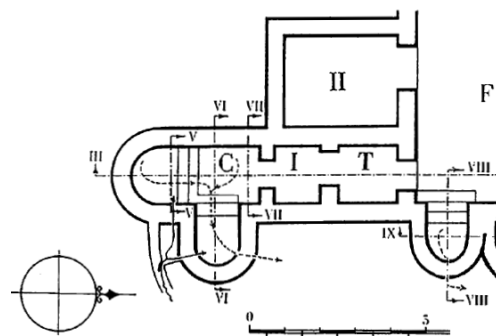
F. -.

HEL. - GR. 74

A. Asinē / N – S / axial row type / 150 sq. m.

B. ?

C. It's a small bath, with four main chambers: *apodyterium*, *frigidarium*, *tepidarium* and bilateral *caldarium*. The *apodyterium* is the biggest room. The *frigidarium* has two apsidal niches with basins on its eastern wall, but there is no trace of built-in basins in the unheated so-called *tepidarium*. Also, in the *caldarium* two apsidal basins were excavated. Room I, which in its original phase was considered as part of the *caldarium*, could be interpreted as *sudatorium*, since it is a heated chamber, with no hydraulic installation. The hypocaust consists of ring and rectangular pillars. Papillary bricks were used in the walls and their projections or pins were facing the wall, thus creating a hollow area intended as a conduit for the hot air.



D. 5th c. AD.

E. Arbaman 1938, 105 - 112; Hōghammar, OpAth 1984, 79 - 106; Nielsen II 1990, C. 353.

F. Arbman 1938, fig. 78.

HEL. - GR. 75

A. Sparta. 140 - 144 Vrasidoy str. / NW - SE

B. ?

C. The building is totally destroyed. Only a part of the hypocaust system, which consists of pillars, was unearthed. The walls were heated by *tegulae mammatae*, some parts of which were found in an extensive destruction layer.

D. Late 4th c. AD.

E. Ζαββού, ΑΔ 2000, 218 - 222.

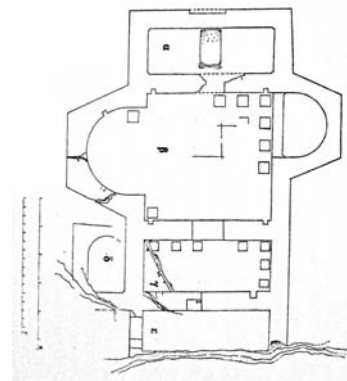
F. -.

HEL. - GR. 76

A. Sparta. Triakosiōn str. / N - S / 61 sq. m.

B. Public.

C. It's a small complex, with three chambers. There is no trace of built-in basins in the first, small heated chamber. The second heated chamber is a square space, with two apsidal basins on its west and east walls. The third is the cistern of the facility and it's located above the *praefurnium*. The hypocaust consists of rectangular pillars and the walls were heated by *tubuli*.



D. Early 12th c. - mid- 13th c. AD.

E. Wace, BSA 1905 - 6, 407 - 414; Δημακοπούλου, ΑΔ 1965, 173 - 174; Δημακοπούλου, ΑΔ 1966, 155 - 156; Μπούρας, ΑΕ 1982, 99 - 112.

F. Μπούρας, ΑΕ 1982, fig. 1.

HEL. - GR. 77

A. Sparta. Orthia Artemis str.

B. ?

C. Four heated chambers, an atrium and some auxiliary rooms were excavated. The hypocaust consists of pillars.

D. 2nd - 5th c. AD.

E. Δεληβορριάς, ΑΔ 1969, 137; Σπυροπούλου, ΑΔ 1981, 121 - 123; Ραυτοπούλου, ΑΔ 1992, 107 - 109; Ζαββού - Θέμος, ΑΔ 1999, 166 - 167.

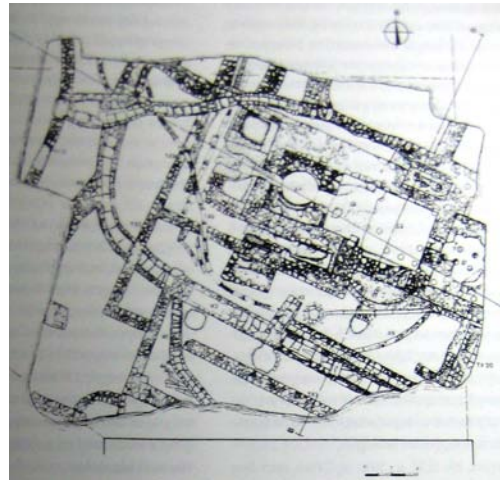
F. -.

HEL. - GR. 78

A. Sparta. Dioskoyrōn str. / E - W

B. Domestic.

C. Ten chambers were discovered, but only four heated rooms are fully excavated. Chambers 1 and 3 were small heated rooms with no trace of hydraulic installation. The heated chamber 2 was directly connected to a small private *piscina*, with an individual *praefurnium*. There are traces of a semi-circular basin on its southern end, which had already been out of use in the second phase. The chamber 4 was a directly heated space, with a circular furnace in the center of the room and it could be interpreted as *laconicum*. The hypocaust consists of ring and rectangular pillars. Chambers 1 and 2 had also wall heading consisting of *tegulae mammatae*. The complex had an advanced water supply and sewerage system.



D. Late 1st c. / late 4th or early 5th c. - early 6th c. AD.

E. Καραπαναγιώτου, ΑΔ 1994, 180; Καραπαναγιώτου, ΑΔ 1995, 133 - 138; Θέμος, ΑΔ 1998, 161 - 163; Θέμος, ΑΔ 2000, 224 - 225.

F. Καραπαναγιώτου, ΑΔ 1995, fig. 9.

HEL. - GR. 79

A. Sparta. Thermopyles str. / NW - SE / 50 sq. m.

B. Domestic.

C. Six chambers were discovered. The *frigidarium* was paved by mosaic floor and had a *piscina frigida* on its northern part. Another chamber found close to the *frigidarium*, maybe a second *piscina frigida* (?). The basic heated chamber of the facility was directly connected with another heated room. A big chamber was excavated close to the *frigidarium*, but is difficult to be identified. The last chamber is a cistern. The hypocaust consists of ring and rectangular pillars. The rectangular pillars belong to the original phase and the ring pillars to the

renovation phase. The walls were heated by *tegulae mammatae*. Two conduits were unearthed on the northern part of the complex.

D. Late 3rd c. AD. – Early Byzantine.

E. Ράμμου, ΑΔ 1996, 116 - 118; Ράμμου, ΑΔ 1997, 187 - 189; Ζαββού, ΑΔ 1998, 152 - 153; Ζαββού, ΑΔ 2000, 214 - 216.

F. -.

HEL. - GR. 80

A. Sparta. Intersection of Alkmanos and Lusandros str.

B. ?

C. Three chambers were discovered. A part of the basin is preserved in the heated chamber. The other two chambers are unidentified. The hypocaust consists of rectangular pillars. Only few parts of conduits were unearthed.

D. 2nd c. / 3rd or 4th c. AD. / mid – Byzantine.

E. Θέμος, ΑΔ 1998, 159 - 161; Μπακούρου & Κατσάρα, ΑΔ 1998, 217 - 222; Μπακούρου & Πάντου, ΑΔ 2000, 265 - 266, 268.

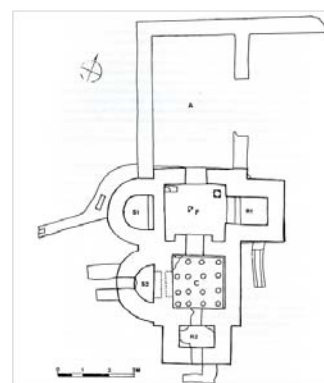
F. -.

HEL. - GR. 81

A. Sparta. Kokkinorachē / N – S / axial row type / 25 – 30 sq. m.

B. Domestic.

C. Three chambers were excavated. The *apodyterium* is the biggest room. The *frigidarium* has an apsidal basin on its western wall and a rectangular one on its eastern wall. Also, the *caldarium* has two basins with individual *praefurnia*, an apsidal on its western wall and a rectangular one on its southern wall. The



hypocaust consists of pillars and the walls were heated by *tegulae mammatae*. A big conduit was found in the northwest corner of the unheated chamber.

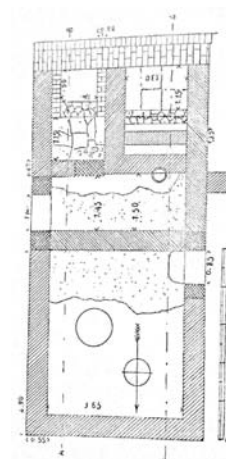
D. Early Byzantine.

E. Αθανασούλης 1998, 209 - 244.

F. Αθανασούλης 1998, pl. 1.

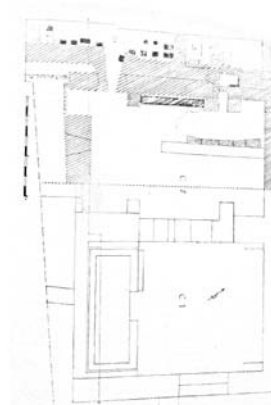
HEL. - GR. 82

- A. Poynta. Glyphada.
- B. Domestic.
- C. There is a small bath chamber with two basins.
- D. Early Byzantine.
- E. Κεραμόπουλος, ΠΑΕ 1919, 32 - 46.
- F. Κεραμόπουλος, ΠΑΕ 1919, fig. 2.



HEL. - GR. 83

- A. Neapolē Voiōn /NE - SW / > 196 sq. m.
- B. ?
- C. Four heated chambers were discovered. The first one, with a *piscina* and benches, went out of use on the 4th c. The second chamber was renovated and its function was extended to the second phase of the building. The last two chambers belong in the second phase of the facility. The hypocaust system is extant in a very good condition and also the first chamber's wall heating system (*tubuli*?)
- D. *Terminus post quem* 310 AD - late 4th c. / 5th c. AD.
- E. Δαβάρας, ΑΔ 1970, 172; Σταϊνχάουερ, ΑΔ 1971, 120 - 122; Σταϊνχάουερ, ΑΔ 1973, 173 - 175; Ζαββού, ΑΔ 1999, 180 - 181; Θέμος, ΑΔ 2000, 230.
- F. Σταϊνχάουερ, ΑΔ 1973, pl. 7.



HEL. - GR. 84

- A. Petalidi. Loytro / > 88 sq. m.
- B. ?
- C. Three unheated and three heated chambers were excavated. The *frigidarium* was a square room, with three basins on its three walls and it was directly connected with a second unheated room. The third unheated chamber could be interpreted as a *vestibulum*, since it is a very big room and on its southern wall the entrance of the facility was discovered. The three small heated chambers are preserved at the hypocaust level. The hypocaust consists of

rectangular pillars. Only one conduit was unearthed in the south - east corner of the complex.

D. 2nd – 6th c. AD.

E. Παπακωνσταντίνου, ΑΔ 1981, 156; Παπακωνσταντίνου, ΑΔ 1989, 108; Βικάτου, ΑΔ 1996, 191; Βικάτου, ΑΔ 1997, 259 - 260; Βικάτου, ΑΔ 1998, 236.

F. -.

HEL. - GR. 85

A. Filiatra.

B. ?

C. The bath is located 100m. south of the basilica. Only a cistern and an apsidal chamber were discovered.

D. Late 4th or early 5th c. AD.

E. Πάλλας, ΑΔ 1960, 122 - 125; Ορλάνδος, Έργον 1960, 141 - 145; Πάλλας, ΠΑΕ 1960, 191 - 194.

F. -.

HEL. - GR. 86

A. Kyparissia / villa rustica

B. Domestic.

C. Partially excavated.

D. Late 4th c. or early 5th c. AD.

E. Αραπογιάννη 2012, 117.

F. -

HEL. - GR. 87

A. Phaskomēlia. Petra site.

B. ?

C. Only a rectangular chamber (8 sq. m.) was discovered, with apsidal apses on its southern and western wall.

D. Byzantine.

E. Αθανασούλης, ΑΔ 1999, 307 - 308.

F. -.

HEL. - GR. 88

A. Katō Samiko. Phragkokklēsia.

B. ?

C. Only a part of the hypocaust system is extant.

D. Byzantine.

E. Αθανασούλης, ΑΔ 1998, 310; Αθανασούλης, ΑΔ 2000, 374.

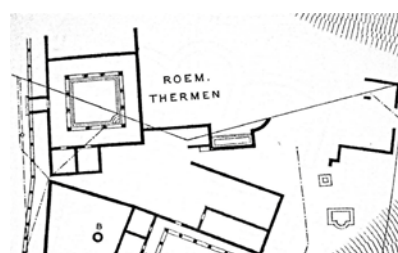
F. -.

HEL. - GR. 89

A. Olympia. North Bath.

B. ?

C. Several chambers and multifunctional halls were excavated, which were developed around a central peristyle.



D. 3rd - 5th c. AD.

E. Manderscheid 1988, 158; Tomlinson, AR 1995 - 1996, 17.

F. Manderscheid 1988, fig. 270.

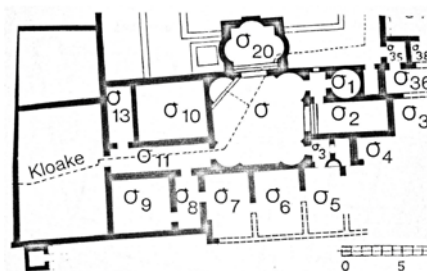
HEL. - GR. 90

A. Olympia. East Bath / N: angular row type & E: Ring type / 970 sq. m.

B. Public.

C. Double bath (N: 620sq.m. & E: 350sq.m.).

It's a huge complex at the southeast corner of the Sanctuary of Zeus. The facility is preserved at the level of the foundations.



D. Late 2nd or early 3rd c. – 6th c. AD.

E. Mallwitz 1972, 208 - 210; Manderscheid 1988, 158, Nielsen II 1990, C. 273.

F. Manderscheid 1988, fig. 271.

HEL. - GR. 91

A. Olympia. Phloka / NE – SW / 1000 sq. m.

B. ?

C. Eleven chambers were discovered. There were an *apodyterium*, two *frigidaria*, with



an apsidal basin and a bench along the walls, and eight heated chambers, which are less easily identifiable. The hypocaust consists of rectangular pillars and the walls were heated by *tegulae mammatae*.

D. 3rd c. / late 4th c. AD.

E. Καραγιώργα - Σταθακοπούλου, ΑΔ 1973, 199 - 201.

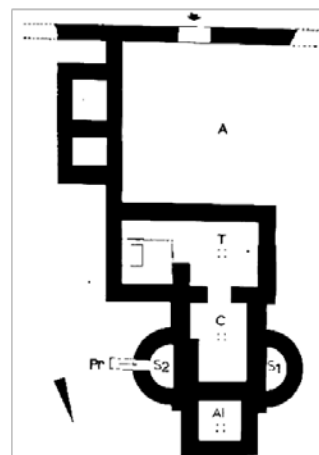
F. Καραγιώργα - Σταθακοπούλου, ΑΔ 1973, fig. 1.

HEL. - GR. 92

A. Patra. Psēlalōnia. 77 - 79 Goynarē str. / axial row type / 416 sq. m.

B. Public.

C. Three chambers were discovered. The *apodyterium* was the biggest room of the facility and there is a bench on its northeast corner. The square *tepidarium*, with two rectangular private basins. The *caldarium* had two apsidal basins on its eastern and western wall. Also an auxiliary chamber was excavated on the east side of the complex. The hypocaust consists of rectangular pillars. An advanced water and sewerage system was unearthed.



D. Early 6th – late 8th or early 9th c. AD.

E. Λαμπροπούλου & Μουτζάλη, Σύμμεικτα 2003, 315 - 356.

F. Λαμπροπούλου & Μουτζάλη, Σύμμεικτα 2003, pl. 4.

HEL. - GR. 93

A. Patra. 19 - 23 Mesolongi str.

B. ?

C. The bath is partially excavated. Only two chambers are extant at the foundation level.

D. Roman – early 7th c. AD.

E. Πλάτωνος, ΑΔ 1979, 144 - 147; Αλεξοπούλου, ΑΔ 1996, 213 - 214; Λαμπροπούλου & Μούτζαλη, Σύμμεικτα 2003, 318.

F. -.

HEL. - GR. 94

A. Patra. Psēlalōnia. Intersection of 1 Vurōnos and Cheilōnos Patreōs str. / angular row type / > 75 sq. m.

B. Public.

C. Seven chambers were excavated. The colonnaded courtyard, the *vestibulum*, the *apodyterium* were lined up in the vertical part of the building. The big, octagonal, corner chamber, which connects the two arms, is the *frigidarium*, with basins or platforms on its walls. The heated chamber lined up in the horizontal part of the complex. There were two directly heated *caldaria* and the east one had basins on its north, south and east side. The *tepidarium* was indirectly heated. The walls were heated by *tubuli*. Beneath the floor of the *frigidarium* an advanced drainage system was discovered.

D. 6th – 7th c. AD.

E. Παπαποστόλου, ΑΔ 1973, 225 - 227; Δεκουλάκου, ΑΔ 1975, 99 - 100; Παπαποστόλου, ΑΔ 1978, 84; Σταυροπούλου - Γάτση, ΑΔ 1994, 214 - 215; Λαμπροπούλου & Μούτζαλη, Σύμμεικτα 2003, 317, σημ. 12.

F. -.

HEL. - GR. 95

A. Patra. 75 - 77 Charalampē str.

B. ?

C. Only a part of the complex was excavated. All the chambers were arranged around a central room. All the small rooms were communicating with each other. Also a huge cistern was discovered in the east side of the facility. The hypocaust consisted of pillars. A lot of conduits were unearthed on the east and west side of the building.



D. Roman - 7th c. AD.

E. Παπαποστόλου, ΑΔ 1973 - 4, 358; Παπαποστόλου, ΑΔ 1979, 130; Αλεξοπούλου, ΑΔ 1994, 210 - 213; Λαμπροπούλου, Σύμμεικτα 2003, 318.

F. Παπαποστόλου, ΑΔ 1973 - 4, pl. 10.

HEL. - GR. 96

A. Patra. South of Hagios Andreas church.

B. ?

C. Only an underground domed corridor (1.90m. width; 2.20m. high) was excavated.

D. Roman –7th c. AD.

E. Μαστροκώστας, ΑΔ 1964, 183 - 184; Λαμπροπούλου & Μούτζαλη, Σύμμεικτα 2003, 318, σημ. 15.

F. -.

HEL. - GR. 97

A. Patra. 49 - 77 Papdiamantopoyloy str.

B. ?

C. Only a semicircular basin, parts of roman and late roman walls and a part of the hypocaust system were excavated, consisting of pillars and one pier. Also, parts of conduits were unearthed.

D. Late Roman – 7th c. AD.

E. Αλεξοπούλου, ΑΔ 1991, 143; Σωτηρίου & Πετρόπουλος, ΑΔ 1993, 115; Λαμπροπούλου, Σύμμεικτα 2003, 318, σημ. 17.

F. -.

HEL. - GR. 98

A. Patra. Panachaida Athēna str.

B. ?

C. Only a part of the *hypocaust* was discovered.

D. Late 6th – early 7th c. AD.

E. Αλεξοπούλου, ΑΔ 1991, 143; Λαμπροπούλου, Σύμμεικτα 2003, 318, σημ. 18

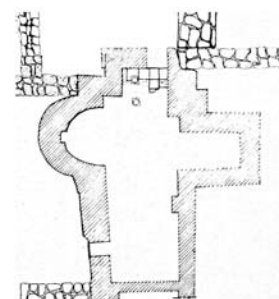
F. -.

HEL. - GR. 99

A. Mantinea

B. Domestic.

C. The bath was incorporated into a roman building. It's a single room bath: the *caldarium*, with two strongly



projecting niches, an apsidal one on the west and a rectangular one on the east.

D. 6th c. AD.

E. Σταϊνχάουερ, ΑΔ 1973 - 1974, 296 - 301; Catling, AR 1979 - 1980, 33; Sodini 1984, 364 - 365.

F. Σταϊνχάουερ, ΑΔ 1973 - 1974, fig. 8; Sodini, 1984, fig. 19.

HEL. - GR. 100

A. Aigio. Intersection of 2 Andronopoyloy str. and Mētropoleōs sq.

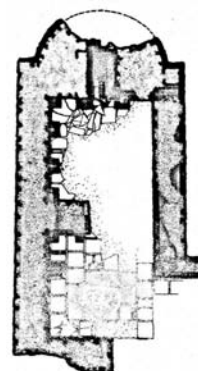
B. ?

C. Only a part of an apsidal building and a part of the water system revealed.

D. Early Byzantine.

E. Κωνστάντιος, ΑΔ 1990, 150 - 151.

F. Κωνστάντιος, ΑΔ 1990, pl. 1.



HEL. - GR. 101

A. Aigialeia. Zevgolateio / *villa rustica*

B. Domestic.

C. Only a part of the hypocaust system was discovered.

D. 4th – 6th c. AD.

E. Πετρόπουλος, ΑΔ 1995, 228 - 231

F. -.

HEL. - GR. 102

A. Dēlos / N - S/ axial row type / ca. 17 sq. m.

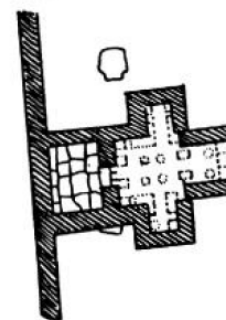
B. Monastic.

C. It's a small bath-house. The heated chamber is cross-shaped. The hypocaust consists of pillars. The *praefurnium* is located in the south.

D. 4th c. Still in use in the 6th c. AD.

E. Orlandos, BCH 1936, 93 - 95; Nielsen II 1990, C. 264.

F. Orlandos, BCH 1936, fig. 29.



HEL. - GR. 103

A. Plataies.

B. ?

C. A bath complex on the eastern part of the castle. Partially excavated.

D. Roman/ Late Roman or Early Byzantine

E. Βλαχογιάννη, ΑΔ 1998, 349 - 352; Whitley, AR 2004 - 5, 45.

F. -.

HEL. - GR. 104

A. Argos. Stadioy str.

B. ?

C. Only a part of the *caldarium*, with its basins, and a part of the hypocaust system were excavated.

D. Late roman or early Byzantine.

E. Σπαθάρη *et al.* 2012, 90.

F. -

HEL. - GR. 105

A. Chalkida. Ōriōna str. / rural area

B. ?

C. A part of an underground bath chamber was discovered.

D. Byzantine.

E. Γερούση - Μεντερμάχερ & Βαξεβάνης 2012, 73.

F. -.

HEL. - GR. 106

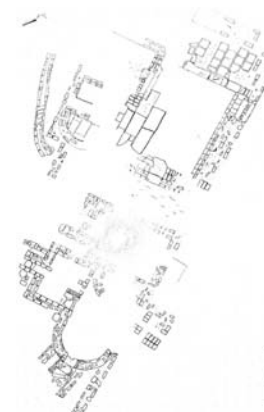
A. Aliveri. Karavos / NW - SE / angular row type / > 100 sq. m.

B. ?

C. Eight heated and unheated chambers were excavated.

A bench runs along the northern wall of the *apodyterium*.

There were two basins in the *frigidarium*, a rectangular and an apsidal one. The *piscina frigida* was located on the eastern part of the chamber. The *tepidarium* and the first *caldarium* had apsidal basins on their northern sides, but the *caldarium* was directly heated by a *praefurnium*. The



second *caldarium* had three directly heated basins: two rectangular on the northern and on the southern wall and an apsidal one on its western side. Also, three auxiliary chambers were discovered in the northeast part of the facility. The hypocaust consists of pillars. Few conduit parts were unearthed.

D. 4th – 7th c. AD.

E. Σαπούνα - Σακελλαράκη, ΑΔ 1995, 316 - 318; Σαπούνα - Σακελλαράκη, ΑΔ 1996, 304; Χατζηδημητρίου, ΑΔ 1997, 405 - 407; Χατζηδημητρίου, ΑΔ 1999, 340 - 341; Χατζηδημητρίου 2000, 15 - 29.

F. Σαπούνα - Σακελλαράκη, ΑΔ 1995, pl. 3.

HEL. - GR. 107

A. Avlida. Avlideia Artemis' temple / NW - SE

B. ?

C. The bath was discovered in the cella of the Artemis' temple, which was destroyed in 396 AD. Parts of the temple's stones and the marbles were used for the construction of the bath. Seven chambers were excavated: a big rectangular room and six small ones on its western and eastern side.



D. Late 4th c. AD.

E. Ορλάνδος, Έργον 1958, 53 - 60; Daux, BCH 1959, 683 - 684; Ριτσώνης, ΑΔ 2000, 427.

F. Ορλάνδος, Έργον 1958, fig. 57.

HEL. - GR. 108

A. Spetses.

B. ?

C. Only a part of the hypocaust system was excavated, consisting of monolithic hypocaust pillars. The walls were heated by *tubuli*.

D. Early Byzantine.

E. Κοιλάκου, ΑΔ 1993, 75 - 76.

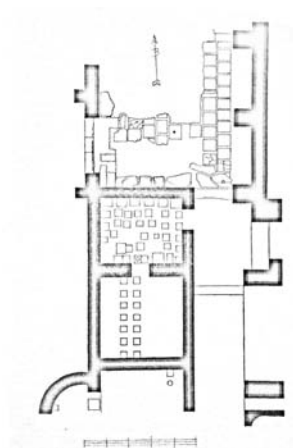
F. -.

HEL. - GR. 109

A. Kephallonia. Samē / *villa rustica* / N - S / axial row type / > 200 sq. m.

B. Domestic.

C. Eight chambers were excavated. There was a courtyard, which was paved by a mosaic floor and a second one with a bench along its eastern wall. The *frigidarium*, with an apsidal basin, and five heated chambers were discovered. The hypocaust consists of pillars and there was also wall heating.



D. 3rd c. AD - early 6th c. AD.

E. Καλλιγιάς, ΑΔ 1973, 425; Καλλιπολίτης, ΠΑΕ 1959, 120; Καλλιπολίτης, ΠΑΕ 1960, 128 - 131; Σωτηρίου, ΑΔ 1990, 145; Nielsen II 1990, C. 277.

F. Καλλιπολίτης, ΠΑΕ 1959, fig. 1; Καλλιπολίτης, ΠΑΕ 1960, fig. 1.

HEL. - GR. 110

A. Kephalaria. Phiskardo / NW – SE / 94 sq. m.

B. Domestic.

C. Five chambers were excavated. The *natatio frigida* was at the southeastern corner of the building and the *tepidarium* was at the southwestern corner of the facility. There were also three *caldaria* in the bath. The *praefurnia* were unearthed on the northeast and southeast side of the building. The hypocaust consists of ring and rectangular pillars. The walls were heated by *tubuli*.

D. 2nd - 3rd / 5th c. AD.

E. http://www.leepka.gr/?page_id=1070

F. -.

HEL. - GR. 111

A. Argos⁴. Philē's plot.

B. ?

C. -.

D. 4th – byzantine era.

E. Δεϊλάκη, ΑΔ 1973, 105 - 106.

F. -.

⁴ Five more bath complexes were discovered in the city of Argos, but they are still unpublished. See Παναγιωτοπούλου 1998, 373 – 384.

CRETA

CR. - GR. 1

A. Koyphonēsi.

B. ?

C. -.

D. 1st - 5th c. AD.

E. Catling, AR 1985 – 1986, 95.

F. -.

CR. - GR. 2

A. Kisamos (Kastelli). Apostolakē's plot / N – S / > 13 sq. m.

B. ?

C. Six chambers were excavated, but all of them are extant at the foundation level and there are no strong proofs about the function of the complex, except for a cistern in the first room and an atrium.

D. 2nd - 5th c. AD

E. Τζεδάκις, ΑΔ 1979, 394 - 396.

F. Τζεδάκις, ΑΔ 1979, pl. 2.

CR. - GR. 3

A. Mylopotamos. Viran Episkopē. Hagios Dēmētrios / ca. 50 sq. m.

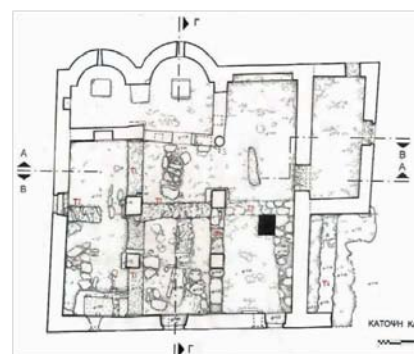
B. ?

C. It was a small bath complex and in the 15th c. AD it was transformed to a Christian church. Only two cisterns, a private basin and a part of the hypocaust system are extant.

D. Mid-Byzantine – 15th c. AD.

E. Πύρρου, ΑΕΚ 2008, 543 - 555.

F. Πύρρου, ΑΕΚ 2008, pl. 1.



CR. - GR. 4

A. Eleftherna. Katsivelos.

B. Public.

C. Several chambers were excavated, both basic and auxiliary.

D. Hellenistic / 2nd - 4th c. / late 4th - 7th c. AD.

E. Blackman *et al.*, AR 1997 - 1998, 124.

F. -.

CR. - GR. 5

A. Heraklion. Erōtokritos str.

B. ?

C. The bath is in a very good state of preservation and its walls are 6m. high. The *apodyterium*, a *tepidarium* and a part of the *caldarium* were excavated. Also the cistern, the *praefurnium* and the boiler were discovered. The hypocaust consists of rectangular pillars. An advanced water supply and drainage system was unearthed.

D. 12th c. AD.

E. Σταρίδα & Κανάκη, AEK 2008, 56, 402 - 413; Αλετράς, AEK 2010.

F. -.

CR. - GR. 6

A. Heraklion. Korōnaios str.

B. Public.

C. The three basic chamber of the bath complex - *frigidarium*, *tepidarium*, *caldarium* - were fully excavated. Only a part of the *vestibulum*, the *apodyterium* and the hypocaust system were discovered. Also, several auxiliary rooms were revealed around the central bath core. An advanced water supply and drainage system was unearthed.

D. 10th - 13th c. AD.

E. Σταρίδα 2008, 402 - 413.

F. -.

CR. - GR. 7

A. Heraklion. Chortatsōn str.

B. Public.

C. Only a part of the hypocaust system, some conduits and the paved courtyard's floor are extant.

D. Mid-Byzantine.

E. Σταρίδα 2008, 402 - 413.

F. -.

CR. - GR. 8

A. Gortyna. Praetorium.

B. Public.

C. Only two big *caldaria*, with its *praefurnia*, and a *latrina* were excavated. The wall heating system consists of spacer pins.

D. Late 1st – late 6th or early 7th c. AD.

E. Di Vita, AΔ 1989, 447; Di Vita, AΔ 1990, 431; Di Vita, AΔ 1991, 407 - 408; Di Vita, AΔ 1992, 563 - 564; Di Vita, AΔ 1993, 469 - 470; Di Vita, AΔ 1999, 856 - 857.

F. -.

CR - GR. 9

A. Kephhalades.

B. Public.

C. It's an impressive roman building and is known as the "The Baths of Nikēphoros Phōkas".

D. Roman. Still in use on the 10th c. AD.

E. Μυλοποταμιτάκη *et al.*, AEK 2008, 378 - 379.

F. -.

CR. - GR. 10

A. Moires. 25 March str. / axial row type

B. ?

C. The three basic chambers and the *praefurnium* were discovered. The *frigidarium* is the northern room and it has an apsidal niche on its east end. The *caldarium* is extant at the hypocaust level, to which it has collapsed. There is a basin and a *piscina* exactly above the *praefurnium* and another *praefurnium*, which used to heat the *tepidarium* directly. The hypocaust consists of rectangular pillars. The wall heating system existed only in the *caldarium* and consists of *tubuli* and *tegulae mammatae*.

D. 5th - 7th c. AD.

E. Συθιακάκη 2012, 332.

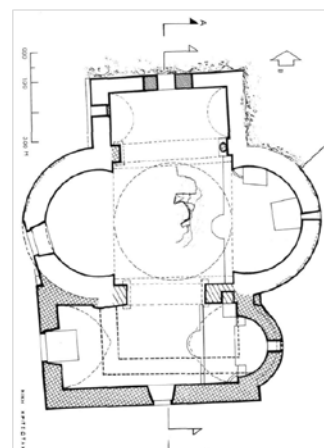
F. -.

CR. - GR. 11

A. Episkopē. Hagios Georgios and Hagios Charalampos / N – S / axial row type

B. Public.

C. It was a trilateral bath. The southern chamber is totally destroyed. The middle room has two niches on its west and east side. The northern chamber has a bench on its east wall and an arched opening on its north wall. There are no traces of a hypocaust system. A clay air duct was discovered on the roof. The bath was transformed to a Christian church during the Venetian domination.



D. 11th c. AD.

E. Μυλοποταμιτάκη, ΔΧΑΕ 1984, 441 - 452; Μυλοποταμιτάκη, ΑΔ 2000, 1089; Χρονάκη, ΑΕΚ 2008, 66, 238 - 250.

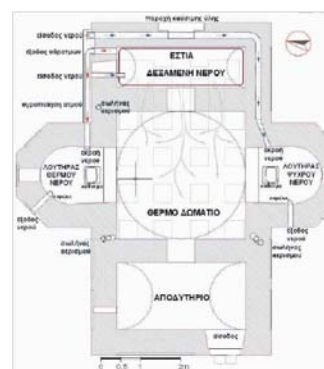
F. Μυλοποταμιτάκη, ΔΧΑΕ 1984, fig. 2.

CR. - GR. 12

A. Katō Episkopē. Hagioi Apostoloi / urban area/ E – W / axial row type / ca. 40 sq. m.

B. Ecclesiastic?

C. It was a small bath with three chambers. The *apodyterium*, a heated room and the cistern. The heated room had two apsidal basins. The southern one was for the cold bath and the northern one was for the hot bath, as evidenced by the preserved water supply system. A bench runs along the eastern wall of the eastern chamber and it is interrupted by an opening. The *praefurnium* was uncovered beneath the cistern. The hypocaust consists of rectangular pillars made of stone.



D. 11th c. AD.

E. Κατηφόρη, ΑΕΚ 2008, 211 - 222.

F. Κατηφόρη, ΑΕΚ 2008, pl. 1.

EPIRUS VETUS

EPIR.VET. - GR. 1

A. Ladochōri. Zōē & Ntritsoy plots

B. ?

C. Several chambers were revealed, but it is not clear if there was a bath complex among them. The only thing that could indicate the existence of a bath is the revelation of a structure, which was identified as a *praefurnium*.

D. 3rd - 6th c. AD.

E. Πρέκα, ΑΔ 1993, 318 - 319; Πρέκα - Αλεξανδρή, ΑΔ 1995, 445 - 446; Πρέκα, ΑΔ 1997, 620 - 623; Blackman, AR 2000 - 2001, 54.

F. -.

EPIR.VET. - GR. 2

A. Ladochōri. Palace of Justice plot / > 45 sq. m.

B. ?

C. Only the *caldarium* of the facility was revealed. It is a rectangular room with two apsidal basins on its southern wall. The hypocaust consists of ring and rectangular pillars. A conduit was found close to the western wall.

D. 4th – 6th c. AD.

E. Ρηγίνοϋ, ΑΔ 1999, 494 - 497.

F. -.

EPIR.VET. - GR. 3

A. Corfu. Palaiopolē. Elaias Institute plot / urban area / NE - SW / axial row type / 800 sq. m.

B. Public.

C. Four basic chambers were excavated: *apodyterium*, *frigidarium*, *Tepidarium* and *caldarium*. The *frigidarium* has two apsidal *piscinae frigidae* on its west and east side. The rectangular *tepidarium* has a structure on its eastern wall. The *caldarium* has a niche on its northern wall and a directly heated rectangular basin along its western wall.



D. Late 1st or early 2nd c. – 6th c. AD.

E. Καλλιπολίτης, ΑΔ 1960, 210; Καλλιπολίτης, ΑΔ 1961/2, 204; Daux, BCH 1962, 749 - 751; Χωρέμης, ΑΔ 1973 - 1974, 627 - 637; Manderscheid 1988, 130; Nielsen II 1990, C. 276; Ρηγίνος, ΑΔ 1999, 493 - 494.

F. Nielsen II 1990, fig. 209.

EPIR.VET. - GR. 4

A. Corfu. Palaiopolē. Kasphikē plot / urban area / NW - SE / > 246 sq. m.

B. Public.

C. More than ten chambers were excavated. There are three unheated chamber on the east side and all of them were paved by mosaic floors. The third chamber has an apsidal basin on its western site. This could be interpreted as a *frigidarium*. The eastern heated chamber could be interpreted as a *tepidarium*, since it is an indirectly heated room. The middle heated room is probably the *caldarium*, given that it is directly heated chamber. In the third heated chamber a private basin was discovered and a bench runs along its east and west wall. The last two heated chambers had individual *praefurnia*. Part of the hypocaust system, consisting of ring and rectangular pillars, was unearthed under the eastern and the middle heated chamber. Parts of *tegulae mammatae* were found scattered. The facility has an integrated water supply and drainage system.



D. 1st c. - 551 AD.

E. Πρέκα - Αλεξανδρή, ΑΔ 1988, 342; Πρέκα - Αλεξανδρή, ΑΔ 1989, 298 - 299; Πρέκα - Αλεξανδρή, ΑΔ 1990, 285; Πρέκα - Αλεξανδρή, ΑΔ 1991, 254 - 255; Πρέκα - Αλεξανδρή, ΑΔ 1994, 413 - 419.

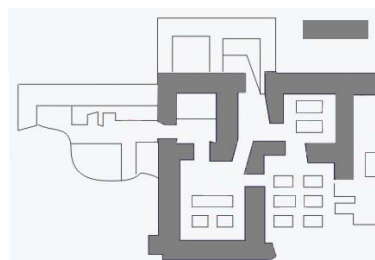
F. Πρέκα - Αλεξανδρή, ΑΔ 1994, pl. 2.

EPIR.VET. - GR. 5

A. Paramythia / N - S

B. Monastic?

C. Close to the church of Assumption which used to be the Katholikon of the monastery of



Panagia Paramythia. It is a small building with *apodyterium*, *tepidarium* and *caldarium*. The complex has also two cisterns. The fireplace and the *praefurnium* are located on the south.

D. Mid-Byzantine. In use in the early 15th c. AD.

E. Τριανταφυλλόπουλος, ΑΔ 1973 - 1974, 624.

F. <http://www.paramythia-online.gr/paramythia/views/vizantina.html>

EPIR.VET. - GR. 6

A. Drymos site. Ambracian Gulf / NE – SW / angular row type

B. ?

C. Four chambers were excavated. The basic chambers are arranged on the main axis and the *apodyterium* creates an angle with them. The *apodyterium* has an apsidal niche on its southern part and the rest of the rooms have apsidal niches on the west. Three conduits were partially unearthed.



D. 6th c. AD

E. Χουλιαράς *et al.* 2014, 190 – 194.

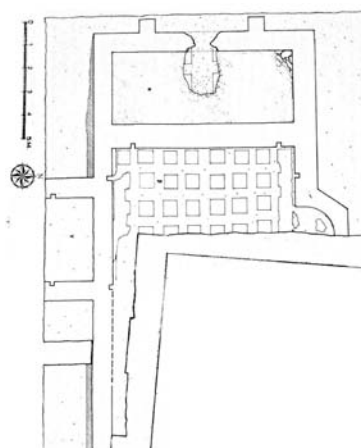
F. Χουλιαράς *et al.* 2014, pl. 3.

EPIR.VET. - GR. 7

A. Iōannina. Castle / urban area / E – W / angular row type / ca. 230 sq. m.

B. Public.

C. Three chambers were excavated and a fourth one, the *apodyterium*, was detected under the modern school building. The *caldarium* is the central chamber and has a semicircular basin on its northern site. In the second chamber there is no trace of under floor heating, although the hot-air ducts are found in the walls of the room. The third chamber is the cistern of the complex. The hypocaust consists of ring pillars. Three conduits were unearthed under the cistern's floor.



D. Early 13th c. AD.

E. Γκράτζιου, ΑΔ 1983, Β2, 245 - 249; French, AR 1990 - 1991, 40.

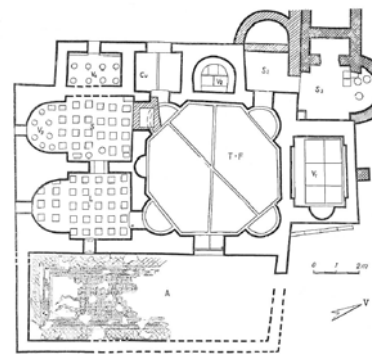
F. Γκράτζιου, ΑΔ 1983, pl. 1 & 2.

EPIR.VET. - AL. 8

A. Buthrotum (Butrint). SW Bath or Close to the channel / NW - SE / ring type / > 270 sq. m.

B. Public.

C. The bath complex is arranged around a central unheated octagonal chamber, with four cold and warm apsidal basins and a *piscina frigida* on the north. The heated chambers were arranged on the western part of the facility. There are two directly heated *caldaria* (or a *caldarium* and a *sudatorium*), an *unctorium* (?) and two more heated chambers. The last two chambers have individual basins, but it is not clear if they are directly heated or not. A small entrance portico was unearthed on the east side of the complex. Part of the hypocaust system was discovered under the floor of the four heated chambers.



D. Early 2nd c. / 3rd - 5th c. AD.

E. Baçe, Monumentet 1980, 51 - 87; Nielsen II 1990, C. 353; Hansen & Hodges 2007; Wilson 2013, 77 - 96;

<http://www.butrintconditionsurvey.com/Survey/1.small%20bath%20house.htm>

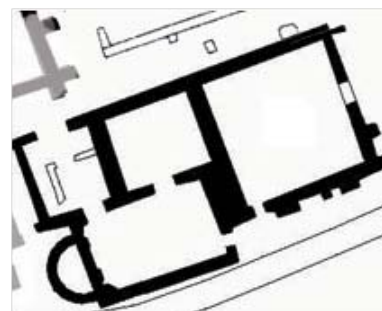
F. Nielsen II 1990, fig. 245.

EPIR.VET. - AL. 9

A. Buthrotum (Butrint). Theater Bath / urban area.

B. Public.

C. Partially excavated. The *apodyterium* (?) is the biggest chamber of the complex, with marble benches along each wall. The



tepidarium is a rectangular chamber and the *caldarium* is the southernmost room with an apsidal directly heated basin to the west. The hypocaust consists of ring pillars.

D. 2nd – 5th c. AD.

E. Hansen & Hodges 2007.

F. <http://www.butrintconditionsurvey.com/Survey/24.6.Bath-house.htm>

EPIR.VET. - AL. 10

A. Vrina Plain. Triconch Palace. East Bath / E – W.

B. Ecclesiastic.

C. The east trilateral cistern of the earlier roman bath has been converted into a single room and later to a small bilateral bath complex. The *frigidarium* has with a small, square basin on its north wall and the *caldarium* has an apsidal basin on its eastern wall.

D. 4th c. / early 5th - 5th c. / late 5th - mid-6th c. AD.

E. Greenslade 2013, 138 - 145; Lafe, AR 2004 - 2005, 136.

F. Greenslade 2013, fig. 8.24.

EPIR.VET. - AL. 11

A. Vrina Plain. Bath 1.

B. ?

C. Substantial bath complex with a large cistern that supplied it with water.

D. 6th c. AD.

E. Lafe, AR 2000 - 2004, 136.

F. -.

EPIR.VET. - AL. 12

A. Vrina Plain. Bath 4 / *villa rustica*.

B. Domestic.

C. A cistern was converted to a small bath complex.

D. 6th c. AD.

E. Lafe, AR 2000 - 2004, 136.

F. -.

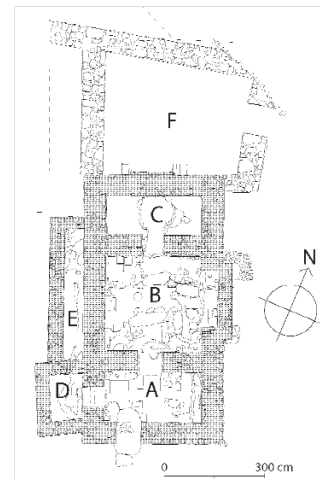
EPIR.VET. - AL. 13

- A. Diaporit / rural area.
- B. Ecclesiastic.
- C. It is a small bath consisting of one heated chamber.
- D. 5th – mid-6th c. AD.
- E. Bowden *et al.*, JRA 2004, 413 - 433; Greenslade 2013, 145.
- F. Greenslade 2013, fig. 8.30.

EPIRUS NOVA

EPIR.NOV. - AL. 1

- A. Ballsh Monastery / N – S / axial row type / > 47 sq. m.
- B. Monastic.
- C. Three chambers were excavated and all of them were heated. The southern rectangular room has a basin on its western wall and was interpreted as *apodyterium* / *tepidarium*, while the middle room was identified as *sudatorium*. The northern chamber is the *caldarium* and it is directly heated by the *praefurnium* on the north. An extra chamber was discovered on the west, in which the cistern and the *latrina* of the complex were discovered. The hypocaust consists of ring and rectangular pillars.
- D. 12th or 13th c. AD
- E. Mucaj & Hobdari 2004, 189 - 210.
- F. Mucaj & Hobdari 2004, fig. 4.



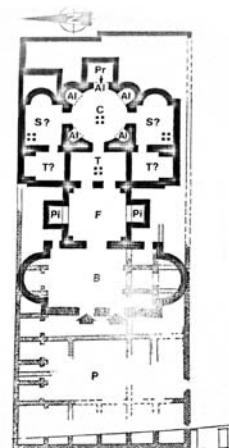
DACIA MEDITERRANEA

DAC.MED. - BG. 1

A. Serdica (Sofia). St. George church / urban area / E - W / imperial type / 1650 sq. m.

B. Public.

C. The facility has all the main and secondary bath chambers. There is a *basilica thermarum* with apsidal niches on its south and north sides and the *frigidarium* has two small rectangular *piscinae* in the same positions. The *tepidarium* is in the middle of two unheated chambers, maybe its auxiliary rooms. The *caldarium* and the two *sudatoria* (?) occupy the entire width of the eastern side of the complex. The *caldarium* is a centrally-planned room with five apsidal basins and was directly heated by a *praefurnium* on its eastern wall. The hypocaust consists of ring and rectangular pillars and *tubuli* were used for the wall heating system. The *palaestra* in the west end of the facility belongs to the first phase of the complex.



D. 300 AD / 4th c. AD. (transformed to a church in the 6th c.).

E. Филов, ИБАД 1915, 208 - 210; Филов, ГНМ 1921, 183 - 197; Филов, 1933, 307 - 321; Карасимеоновъ, ГНАМ 1942, 187 - 231; Иванов & Бобчев, Сердика 1964, 9 - 58; Венедиков & Петров, Сердика 1964, 77 - 108 Nielsen II 1990, С. 206; Бояджиев 2003, 152 - 161; Иванов, Археология 2010, 123 - 128; Динчев 2011, 101 - 124.

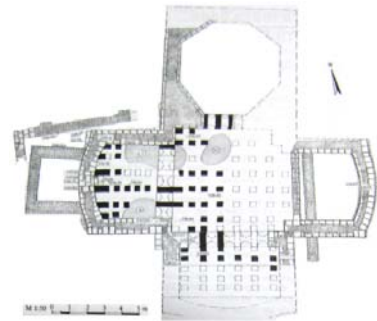
F. Филов, ГНМ 1921, fig. 196; Карасимеоновъ, ГНАМ 1942, fig. 127; Венедиков, Сердика 1964, fig. 9; Бояджиев 2003, fig. 22; Nielsen II 1990, fig. 173.

DAC.MED. - BG. 2

A. Serdica. Northern appendix / urban area / E - W / 100 sq. m.

B. Public.

C. It's a cruciform building arranged around a heated central core. The *piscina frigida* was located in the eastern cross-arm. The *alveus tepida* should have been in the southern cross-arm and the *alveus calda* was in the directly heated western cross-arm. In the north cross-arm there is an octagonal



chamber inscribed in a square, which is interpreted as *sudatorium*. The hypocaust system, parts of which were unearthed under all the excavated chambers, apart from the *piscina frigida*, consists of rectangular hypocaust pillars. Furthermore, *tubuli* were discovered in the walls of all heated rooms. A sand layer, on which the building's foundations laid, served as a drainage facility.

D. Late 3rd or early 4th c. – late 4th or early 5th c. AD.

E. Кирова, Археология 2005, 41 – 54; Динчев 2011, 101 – 124.

F. Кирова, Археология 2005, fig. 2.

DAC.MED. - BG. 3

A. Serdica. NW zone.

B. Public.

C. Partially excavated. A part of heated and a part of an unheated oblong chamber were excavated. Both of them have a semicircular basin.

D. 4th – 6th c. AD.

E. Григорова 1984, 35; Stančeva 1987, 61 - 74; Станчева, Сердика 1989, 6 - 36; Шалганов & Кирова 2010, 20 - 45; Динчев 2011, 101 - 124.

F. -.

DAC.MED. - BG. 4

A. Serdica. Northern zone / NW – SE.

B. Public.

C. Partially excavated. Only three chambers were partially excavated.

D. 3rd c. AD.

E. Бобчев, Сердика 1964, 122; Станчева 1989, 16; Шалганов & Бояджиев, АОР 2009, 351; Динчев 2011, 101 - 124.

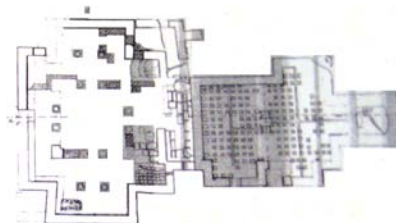
F. -.

DAC.MED. - SRB. 5

A. Justiniana Prima (Caračin Grad). Wall Bath. *Extra muros* / E – W / axial row type / 720 sq. m.

B. Public.

C. The cross-shaped *apodyterium* is the biggest chamber of the complex. It has a peristyle and in the middle there is an *atrium* ca. 40 sq. m. Basins for cold water were discovered in the north and the south porticoes. Also a small basin for foot bath



was unearthed. Two heated chambers were discovered, the *sudatorium* on the west and the *caldarium* on the east. The hypocaust consists of ring and rectangular pillars.

D. 6th c. AD.

E. Кондић & Поповић 1977, 349 - 352; Bavant & Ivanišević 2006, 60.

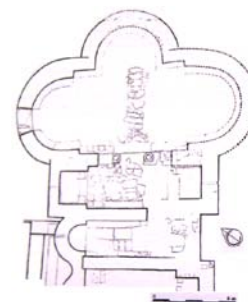
F. Кондић & Поповић 1977, fig. 94.

DAC.MED. - SRB. 6

A. Justiniana Prima (Caračin Grad). Lower city / *villa rustica* / NE – SW / axial row type.

B. Public?

C. Three chambers were fully excavated and a fourth one partially. The triconch *apodyterium* is the biggest room and a bench runs along the entire length of its walls. The *frigidarium* is an oblong chamber with two rectangular basins on its narrow sides. Two heated rooms were discovered west of the *frigidarium*. The first one has a niche on its northern wall and the next one has a rectangular one on its southern wall.



D. 550 – 625 AD.

E. Raleigh Radford, *Antiquity* 1954, 15 - 18; Мано - Зиси, *Старинар* 1969, 205 - 212; Кондић & Поповић 1977, 101 - 104; Bavant & Ivanišević 2006, 59.

F. Мано - Зиси, *Старинар* 1969, 211; Кондић & Поповић 1977, fig. 76.

DAC.MED. - BG. 7

A. Hisarlăka. Citadel.

B. Public.

C. Three chambers were excavated. The northern chamber is the *apodyterium* and the southern and the eastern chambers were heated. Only a part of the hypocaust was unearthed and some parts of the wall heating system were discovered.

D. 4th / 6th c. AD.

E. Иванов, ИБАД 1919 - 1920, 103 - 104.

F. -.

DAC.MED. - SRB. 8

A. Naissus. In the Turkish fortress.

B. Public.

C. Not excavated. Close to the necropolis.

D. 5th or 6th c. AD.

E. Петровић 1979, 47; Петровић 1999, 56; Јанковић 2009, 50.

F. -.

DAC.MED. - SRB. 9

A. Naissus. *Extra muros*

B. Public.

C. Not excavated. Close to the necropolis.

D. 4th – 6th c. AD.

E. Петровић 1979, 45; Петровић 1999, 56; Јанковић 2009, 50.

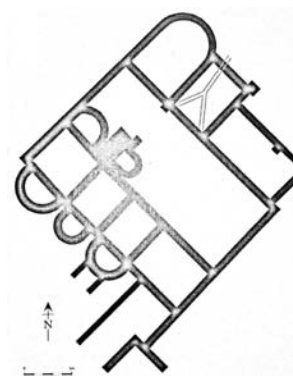
F. -.

DAC.MED. - SRB. 10

A. Naissus. Mediana I / villa in the suburb / N - S / ring type? / 891, 45 sq. m.

B. Domestic.

C. The bath was accessible from the villa. The bath chambers were arranged north, east and south of a rectangular *palaestra*. The *piscina frigida* and the *latrina* are in the northern section, the *apodyterium* and the *vestibulum* are in the east section and the heated chambers were arranged in the southern section. The three heated chambers have apsidal niches on their southern sites and the easternmost heated chamber is directly heated by a *praefurnium* on the south.



D. Early 4th - mid-5th c. AD.

E. Оршић - Славетић, Старинар 1933 - 4, 303 - 310; Zotović *et al.*, AP 1967, 100; Јовановић, Старинар 1973 - 4, 61; Петровић 1994, 34 - 41, 85 - 91; Јеремић, НиБ 2005, 145 - 158; Јанковић 2009, 51 - 53; Јеремић & Гојгић 2012, 27.

F. Петровић 1994, fig. 16; Јеремић, НиБ 2005, fig. 10; Јанковић 2009, fig. 15; Јеремић & Гојгић 2012, fig. 29.

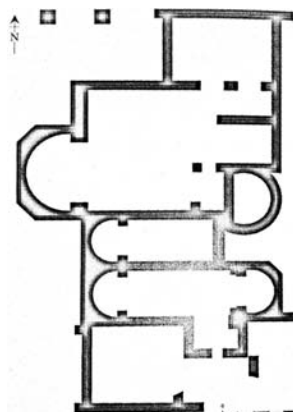
DACIA RIPENSIS

DAC.RIP. - SRB. 1

A. Felix Romuliana (Ramzigrad). Galerius' Palace / fortified imperial complex / N - S / axial row type / ca. 403 sq. m.

B. Domestic.

C. The *apodyterium/ frigidarium* has two apsidal basins on the eastern and western walls. The *tepidarium* is a small chamber with an apsidal basin on its western wall. The *caldarium* has three basins, two apsidal and a directly heated rectangular one on its southern wall. There is another heated chamber in the southwest corner of complex, which can be interpreted as *sudatorium*, even though it is a not directly heated. The



hypocaust consists of rectangular pillars and the wall heating system consists of *tubuli*.

D. Late 3rd or early 4th c. - mid-5th c. AD.

E. Лаловић *et al.*, Старинар 1977, 199 - 208; Срејовић, Старинар 1992 - 3, 41; Лаловић *et al.*, Старинар 2000, 283 - 285; Јанковић 2009, 46 - 47; Чанак - Медић & Стојковић - Павелка 2010, 100 - 102; Јеремић & Гојгић 2012, 27.

F. Чанак - Медић & Стојковић - Павелка 2010, pl. XLIII; Јеремић & Гојгић 2012, fig. 28.

DARDANIA

DAR. - SRB. 1

A. Ulpiana (Gračanica) / fortified settlement

B. ?

C. Independent building. Only one heated chamber was fully excavated with two apsidal basins on its southern end. The second heated chamber and the *natatio* were discovered partially.

D. 4th - 6th c. AD.

E. Паровић - Пешикан, Старинар 1981, 65; Јанковић 2009, 56 - 57; Јеремић 2012, 27.

F. -.

DAR. SRB. 2

A. Donje Nerodimlje / *villa rustica* / N - S / ca. 320 sq. m.

B. Domestic.

C. The *apodyterium* is a rectangular chamber, which leads to the biggest room of the complex, the *palaestra*. The *frigidarium* has two rectangular basins in the east and west side. The *caldarium* is a big chamber with an apsidal basin on its southern wall. The *latrina* of the facility was discovered close to the entrance on the western wall, along with two more auxiliary rooms. Additionally, two less easily identifiable chambers were unearthed on the southeastern corner of the building.

D. 4th - 6th c. AD.

E. Лазих 2001, 247 - 279; Јеремић 2012, 27.

F. -.

DAR. - SRB. 3

A. Kaljaja / rural area.

B. ?

C. Independent complex. Partially excavated.

D. 6th c. AD.

E. Јеремић 2012, 27.

F. -.

DAR. - F.Y.R. 4

A. Scupi (Skopje). Large bath / urban area

B. Public.

C. Two chambers were excavated. The big oblong room ends in an apsidal niche with a basin on the south. The heated chamber is a little bit smaller and its *praefurnium* was revealed on its northern end. Some of the rectangular hypocaust pillars are still extant.

D. 4th – 5th c. AD.

E. Unpublished.

F. -.

DAR. - F.Y.R. 5

A. Scupi (Skopje). Small bath / urban area.

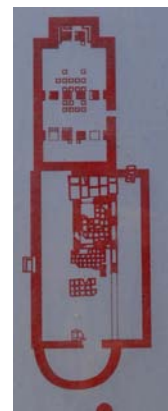
B. Public.

C. Only a part of the heated chamber is revealed and also a part of the hypocaust system is extant.

D. 4th – 5th c. AD.

E. Unpublished.

F. -.



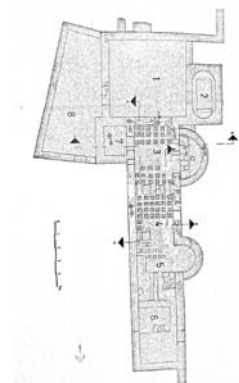
MOESIA A

MOES.A - SRB. 1

A. Margum I (Orašje) / urban area / N – S / angular row type / 405 sq. m.

B. ?

C. Eight chambers were discovered. The *apodyterium* is the biggest chamber of the complex and on its western rectangular niche, the *piscina frigida* was unearthed. There are three heated rooms in a row. Two of them have one apsidal niche on their western side, while the middle one could be interpreted as a *sudatorium* (?). There are also two auxiliary chambers and the eastern room belongs to the second phase of the complex.



D. 2nd – 3rd c. / 4th - 5th c. AD

E. Мано-Зиси & Марић, Старинар 1950, 143 - 167; Цуњак, *Viminacium* 1996, 105 - 119; Јанковић 2009, 34 - 36; Јеремић 2012, 27.

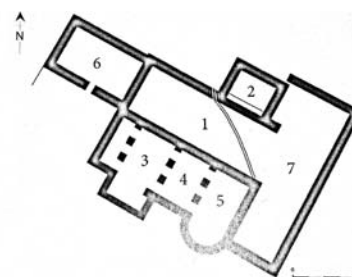
F. Јанковић 2009, fig. 3.

MOES.A - SRB. 2

A. Čačak/ *villa rustica* / NW – SE / parallel type / 99 sq. m.

B. Domestic.

C. The unheated chambers (*apodyterium*, *piscina frigida*) were arranged on the northern axis, while the heated rooms (*tepidarium*, *sudatorium*, *caldarium*) on the south and west axis. In the south, the *tepidarium* and the *caldarium* have niches for basins on their southern side. The *palaestra* and the second *caldarium* on the west belonged to the second phase of the building.



D. Mid-4th - late 4th / late 4th – mid-5th c. AD.

E. Васић, ЗНМЧ 1983, 5 - 18; Васић 1983, 10 - 17; Јанковић 2009, 66; Јеремић & Гојгић 2012, 27.

F. Јеремић & Гојгић 2012, fig. 25.

MOES.A - SRB. 3

- A. Prnjavor – Štitar / urban area
- B. ?
- C. It's an independent building partially excavated.
- D. Late 4th c. AD.
- E. Јеремић 2012, 27.
- F. -.

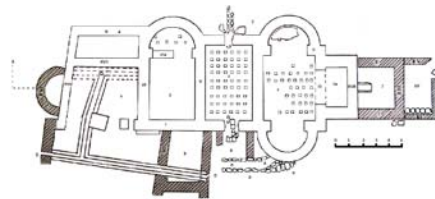
PANNONIA

PAN. - SRB. 1

- A. Sirmium (Sremska Mitrovica). Boško Palkovljenić - Pinki (lok. 4) / *villa urbana* / SW - NE / axial row type / 210 sq. m.

- B. Domestic.

- C. The villa suffered many changes. The early Byzantine bath facility had four basic chambers. The *frigidarium* has an apsidal basin on its west wall and the *tepidarium* has an apsidal basin on the north. There are two directly heated chambers. The first one is a rectangular room without built-in basins and the second one, which is the easternmost chamber, has two apsidal basins on the southern and northern walls and a rectangular one on its eastern wall. The hypocaust was renovated during the last restoration of the building.



- D. Mid-3rd - mid-4th / mid- 4th c. AD.
- E. Раровић – Решикан, AP 1962, 123 - 131; Паровић – Пешикан 1964 - 5, 31 - 45; Раровић – Решикан, Sirmium 1971, 28 - 30; Јеремић 2012, 27.
- F. Паровић – Пешикан 1964 - 5, fig. 2.