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ABSTRACT

A Chronological and Functional Assessment of the Roman Imperial Bath-Gymnasium of Sagalassos (SW Asia Minor)

Bas Beaujean – Johan Claeys – Frans Doperé – Jeroen Poblome

Between 1995 and 2014, the Sagalassos Archaeological Research Project excavated large parts of a grand bathing complex situated within its lower city, immediately east of the Lower Agora. Because of its long-term use as a bathing facility – ranging from the 1st – 6th/7th c. A.D. – and the upkeep-intensive nature of such buildings, understanding its different phases is a complicated endeavour, often allowing for different hypotheses. Having concluded major excavations, this paper chronologically enunciates the archaeological datasets, describing the relative sequences of contexts and associated dating criteria, and their interpretation. Through a series of structural analyses (maps) and comparative efforts, the narratives which have formed through a variety of reports and publications can be re-evaluated. Next, we present the archaeological certainties and uncertainties of the Roman Imperial Bath-Gymnasium. Additionally, the building will be contextualized within the dynamic urban fabric of Roman Imperial, Late Roman and Early Byzantine Sagalassos. In that respect, we will present a recently discovered bathing facility east of the Upper Agora, and discuss its relations with the other baths. Last, we will use the results to highlight the potential of the Roman Imperial Bath-Gymnasium to contribute to wider debates.

KEYWORDS

Sagalassos, Classical archaeology, baths, gymnasia, palaistra

BAS BEAUJEAN – JOHAN CLAEYS – FRANS DOPERÉ – JEROEN POBLOME

A Chronological and Functional Assessment of the Roman Imperial Bath-Gymnasium of Sagalassos (SW Asia Minor)

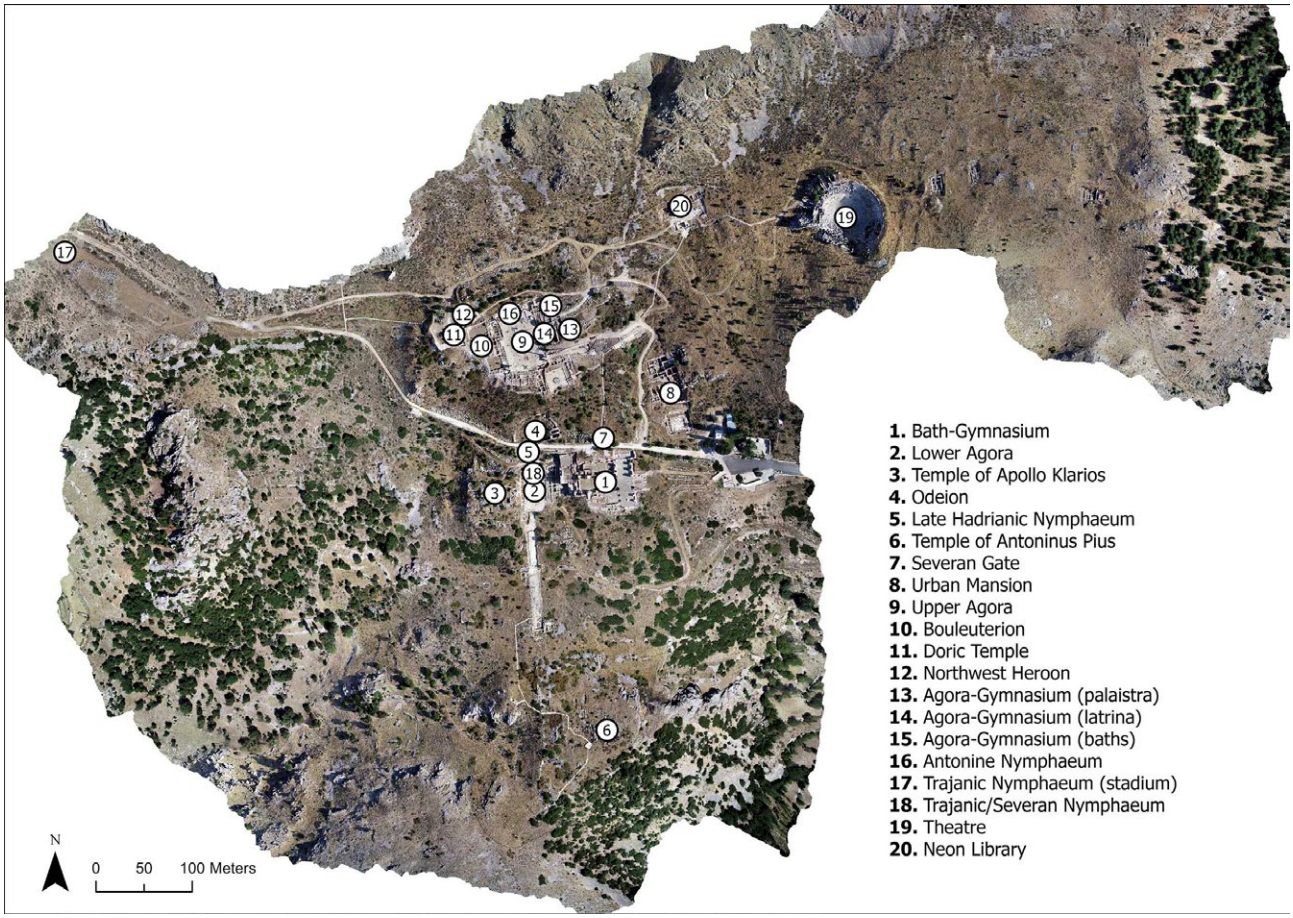
Introduction

1 The archaeological site of Sagalassos is located in southwestern Turkey, approximately 100 km north of Antalya, in the cradle of the rugged Taurus mountain range[1]. Since 1990, the Sagalassos Archaeological Research Project (KU Leuven) has excavated this mountain site and gradually exposed the remains of a settlement which was inhabited between the late 5th c. B.C. and the 13th c. A.D. Many of the visually imposing buildings were erected during the Roman Imperial period (25 B.C. – *c.* 300 A.D.). This includes a grand bathing complex situated east of the Lower Agora (fig. 1). This Bath-Gymnasium can be subdivided into a western part consisting of a vaulted ground floor, on top of which a first floor was constructed (fig. 2). This ground floor consisted of a series of vaulted rooms and corridors for service and storage purposes, as well as a public latrine which could be accessed from the Lower Agora (fig. 2). The first floor included a likely *tepidarium* (T1), and a western (C1) and central (C3) *caldarium*. Direct connections between the ground and first floor – and thus the transition from the western to the eastern part – were facilitated by stairways between Room 6 (ground floor) and a likely service room (CS), and Room 3 and another service area (Service Area) (fig. 2). The eastern part mostly consisted of one floor. In addition to the service area, it was composed of three rectangular rooms and a large cross-shaped hall (fig. 2). The northernmost rectangular room – east of T1 and north of F2/A1 – cannot be excavated. Both F2/A1, and the southern *caldarium* (C2) facilitated access to the cross-shaped hall (NA, F1, EE, SA). This hall was the main entrance area and included a c. 11 m-tall dome which towered over the complex. From the north it was entered through the *palaistra*.

2 While this complex has been referred to as the Roman Baths in earlier publications, a recent effort to establish a controlled vocabulary for the site of Sagalassos

Title page: Northwestern view of the cross-shaped hall of the Bath-Gymnasium in winter. The mountains of the Taurus loom in the background.

1 This research was supported by the Research Foundation Flanders (FWO), and the Internal Funds of the KU Leuven. We thank the Ministry of Culture and Tourism of the Republic of Turkey, its General Directorate of Culture and Museums, and its annual representatives for permission to excavate, for support, and help during the campaigns.



1

Fig. 1: An orthophotographic image of the site of Sagalassos in 2019, indicating the Bath-Gymnasium and other sites which are featured in this paper.

2

Fig. 2: An orthophotographic image of the Bath-Gymnasium in 2018, indicating the room designations of the first and ground floor. The red outline indicates the excavated parts of the ground floor below.

and its features, structures and monuments has resulted in changing its name to the ›Bath-Gymnasium‹ of Sagalassos. In doing so, the Sagalassos Project is conforming to the standard archaeological nomenclature for such buildings in Asia Minor, as originally proposed by F. Yegül[2]. Indeed, the Bath-Gymnasium of Sagalassos is another example of the typical combination of lofty, vaulted halls of Roman *thermae* with a colonnaded peristyle of Greek gymnasia featured prominently in the Roman Imperial cityscapes of Anatolia. In 1995, excavations began at the western extent of the complex and gradually moved eastwards (fig. 2). The last major excavations took place in 2014, after which the focus turned to study, long-term conservation and public display. A consequence of such a long excavation process is that information is published in parts, by various authors and in service of different types of studies. Following the nature of archaeology, ongoing excavations can alter or refute previously reasonable published interpretations. As a result, it can be difficult to determine the *status quaestionis*, or to discern the actual data behind the narratives. As the complex has been exposed to the maximum extent possible and the remaining parts cannot be reached by excavations – in part due to a Late Ottoman road being located on top – the time has come for the Sagalassos Archaeological Research Project to present the archaeological evidence in an accessible and accurate way. We hope to service the scholarly community with this overview study on how we understand the functional and chronological set-up of, and changes to, the building as it occurred.

3 This paper will first discuss the chronology-related issues of the Bath-Gymnasium, before presenting the archaeological datasets of the mid-1st c. A.D. Old Baths, the late 1st – 2nd c. A.D. construction of the Bath-Gymnasium, and the major modifications to its various rooms. To help illustrate the complex history of these baths, we refer to the architectural plan of the site (fig. 3), as well as five maps establishing the major phases (fig. 4. 5). Because of the long excavation and research history, the functions initially ascribed to rooms have not always held up. Furthermore, the dynamic nature of buildings – in particular one used for five centuries – includes functional modifications to rooms. Therefore, we have chosen to keep the original designations of these rooms in an abbreviated form. For instance, Caldarium I is C1, Frigidarium II becomes F2, and the Eastern Extension is designated EE (fig. 3. 4. 5). Thus we retain continuity with past publications. These room designations should be read as labels which do not necessarily represent a function. After the archaeology has been presented, we discuss the functionalities of the rooms and contextualise the developments of this bathing complex within the dynamic cityscape. In addition to publications, unpublished information from internal excavation reports and field books was used in the preparation of this manuscript[3].

Chronology

4 Chronologies are dynamic constructions, carefully stitched together from a wide variety of archaeological datasets and comparative argumentation. Usually, they are composed of relative dating criteria which have been translated into calendrical

2 Yegül 1992, 250 f.

3 The authors of these reports (partially published as KST contributions) and field books: Christine Beckers, Philip Bes, Nejat Çakmak, Frank Carpentier, Johan Claeys, Markku Corremans, Tom Debruyne, David Depraetere, Ertuğ Ergurer, Aude Goovaerts, Willem Hantson, Mustafa Kiremitçi, Marie Lefère, Pieter Lemahieu, Ozan Özer, Gencay Öztürk, Toon Putzeys, Rob Rens, Karin Schuitema, Erdal Ünal, Hasan Uzunoğlu, Roel Van Beeumen, Tijl Vereenooghe, Rinse Willet. In addition, we want to kindly acknowledge the efforts of our conservation team in maintaining the complex's structural integrity, for material consolidation, and for preparing the Bath-Gymnasium for public display. Lastly, we thank the Lamberts-Van Assche family for their patronage.

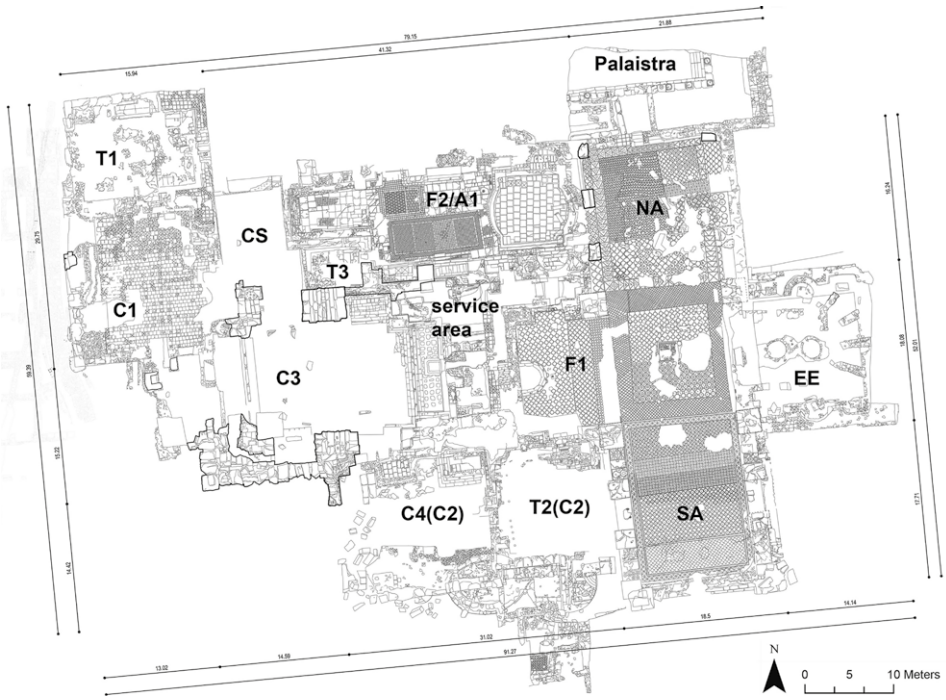


Fig. 3: The architectural plan of the archaeological site of the Bath-Gymnasium (first floor).

3

Fig. 4: Map depicting the known parts of the Old Baths (green) against the backdrop of the late 1st–2nd c. A.D. complex. The find locations of early-to-mid 1st c. A.D. datasets are indicated (red), respectively being (1) the 1st century *praefurnium*, (2) in between the central and eastern apse, (3) below the foundations of the cross-shaped hall in EE, and (4) and (5) near and within the later *palaistra*.

4

time, or a periodisation that is based on a few absolute dating criteria or by association. For Sagalassos, site-specific chronologies are usually based on stylistic architectural arguments and stratigraphic dating usually depends on the sequencing of Sagalassos Red Slip Ware (SRSW), the locally produced tableware[4]. While the detail of this evidence will be presented in a future publication, interested parties can contact us for more information. To present our interpretations in relation to those published in the past, it

4 See: Poblome 1999; Poblome – Bes 2018.

5

Fig. 5: Maps depicting the late 1st–2nd c. A.D. arrangement of the Bath-Gymnasium, and subsequent phases of modifications. Dashed lines indicate unexcavated and/or chronologically uncertain walls or features. Indicated are pools (blue), floor modifications (green), benches (yellow), acrolithic statues (purple) and *praefurnia* (flame symbol, faded indicates uncertainty).

is important to get into the nitty-gritty of the underlying chronologies, and emphasize what can and cannot be determined on the basis of the excavated contexts.

5 The structural use of fire in combination with the presence of large quantities of water and frequent usage by groups of people turn ancient baths into upkeep-intensive buildings. For Sagalassos, we can add the stress of the thaw-and-freeze-cycles of the Taurus mountains, which impacted the building's exterior. As parts of the complex housed bathing areas for over five centuries, maintenance- and repair-related activities occurred frequently. For that reason, we need to be careful when interpreting modifications observed in different rooms as part of a singular renovation. In past publications, modifications visible in walls or other structural features were usually assigned to three or four phases: 2nd c. A.D. (i.e. construction), late 4th c. A.D. (i.e. first modifications), 6th c. A.D. (i.e. second modifications), and late 6th – early 7th c. A.D. (i.e. gradual abandonment, collapse)[5]. However, the dating interpretations which ascribe events to these phases were sometimes projected beyond their original context to other parts of the building without demonstrable, empirically grounded associations. For example, the interpretation of modifications to the early 6th c. A.D. was associated with a hypothetical earthquake (*c.* 518 A.D.)[6] for which there is no substantial historical or

5 For instance: Waelkens et al. 2005, 274; Waelkens et al. 2010, 267–270.

6 For example: Waelkens et al. 2000a, 362; Waelkens et al. 2000b, 170; Waelkens et al. 2001, 17.

archaeological evidence. The Sagalassos Project no longer believes this earthquake happened, yet acknowledges the difficulties its lingering presence in our own publication record presents. Furthermore, the reuse of materials is often used to assign a specific date to a modification. While this can be correct when stylistically dating pilaster capitals, for example, datable elements of veneering, by definition, do not provide information regarding the date of its (re-)use as part of interior decoration programmes[7]. Reuse is often considered indicative of a later addition, even when the materials in the structure are not necessarily fundamental to the associated (modified) feature. For example, the reuse of inscribed *crustae* to furbish the inside of pools was considered proof that these were later additions. While a possibility, veneering is never proof that these pools did not exist prior to the refurbishment, as we presume pool cladding had undergone renewal a few times during five centuries of use. Finally, as discussed, the western half of the first floor of the complex was constructed upon brick vaults, while the eastern part was constructed on solid ground (fig. 2). While the dating of these vaults provides a *terminus post quem* for the rooms above, the vaults limit the availability of stratigraphic information regarding subsequent modifications. As a consequence, the availability of stratigraphic dating information is limited for almost half of the building. Also, in past interpretations the complex relationship between chronology and technology was often reduced to chronology. For example, the presence of cylindrical and/or rectangular *pilae* in the various hypocausts was considered representative of different phases. In another example, differently-sized bricks can indeed be used to identify modifications, but this should not be confused with the ability to establish a progressive chronology based on different brick sizes.

6 Together, these issues occasionally resulted in incomplete reconstructions of the building history of the Roman Imperial Bath-Gymnasium[8]. The long-term, intensive usage of bathing complexes cautions against synthesizing archaeological datasets into linear narratives. Instead of maintaining a focus on reconstructing major building phases, we will specify within each time range – generally based on SRSW-phases – the contexts and modifications per room, and detail the actual dating arguments and the relative sequence of events.

The (Early-to-)Mid 1st c. A.D. Datasets

7 The (early-to-)mid 1st c. A.D. datasets revolve around the construction of an original bathing facility referred to as the Old Baths. As indicated on the map, only the southern wall and a small section of the (likely) northern wall have survived (fig. 4). In this heading and elsewhere, the given heights denote the preserved, not actual height of a wall.

Below the (Later) Vaults

8 The earliest datable archaeological evidence was encountered below vaulted Room 2 (fig. 2). In a control excavation (Profile Trench B) in the southern part of the room a beaten earth walking level was exposed below the floor associated with the vaulted chamber. Unfortunately, the wet conditions complicated stratigraphic documentation, but the lowest excavated stratum (Packet D) – a light brown clay with lots of limestone inclusions – only contained 1st c. A.D. material. During subsequent excavations, the foundations of the western wall were exposed. The associated mortar floor (visible in the profile) had been removed. Because of wet conditions, it was decided to excavate the

7 For example: Waelkens et al. 2000b, 170.

8 For instance, see: Waelkens 2011, 70.

documented stratigraphy in four predetermined units. The lowest was comparable to the aforementioned 1st c. A.D. deposit (Packet D), and was present below 2nd – 3rd c. A.D. strata associated with the Baths. A recent re-evaluation of this material refined the dating to 25 B.C. – 50 A.D. Furthermore, the remains of two rubble walls – either constructed in dry masonry or once bonded by a perishable mud-based mortar – were found below the 25 B.C. – 50 A.D. deposit[9]. At Sagalassos, these type of rubble walls date as far back as 300–250 B.C., but could have also been built during the 1st c. B.C.[10]. Currently, there is no information concerning the function of this mostly unexcavated structure, nor the floor levels, let alone their association with any bathing facility (the preserved parts of the Old Baths are located further east).

The Mid-1st c. A.D. Baths

9 In the southern area of Caldarium 2 (C2) (fig. 2. 4), a wall with three apses was exposed below the current southern wall of the ruined complex. This later wall was placed after the apsidal walls had been dismantled (fig. 6). The westernmost apse (3.80 × 1.30 m) was poorly preserved and not investigated through excavations, but provided the minimal western extent of the apsidal building. The central apse was larger, extended more southwards, and was supported by an eastern (1.58 × 0.70 × 0.64 m) and western (0.75 × 0.68 × 0.40 m) buttress. Based on the bonding of the lower parts of these buttresses and the apsidal substructure, they were constructed simultaneously. In turn, the easternmost apse protruded even more towards the south, and the buttresses which supported it were partially reused in later non-bathing structures built to the south. Together, this arrangement resulted in a phased placement of apses extending further southwards from east-to-west. This architectural technique takes advantage of the sun's trajectory. In between the central and eastern apse (fig. 4), a control excavation exposed a 7.30 m deep stratigraphy, revealing the ashlar foundations. On top of the foundations and abutting the lower courses of the eastern apse up to 3.20 m below the preserved upper courses, a dark grey to dark brown loam was present. Despite the actual ranges of the associated pottery being dated to 10–30 A.D. and 25–50 A.D., they were published representing an Augustan date. A recent re-evaluation has confirmed the initial ceramological analyses. Keeping in mind the use-life and a possible reworking of this material as waste, the specificities of the pottery assemblage suggest a 30–50 A.D. construction date for the apsidal walls[11].

10 Further support for a mid-1st c. A.D. date was found immediately south of the apsidal wall. The two buttresses bonding with the eastern apse also functioned as division walls for other structures to the south. To the east of the northeast-southwest buttress/wall, a floor substrate of grey mortar was exposed. Based on the pottery in the dark and red brown clayey strata below, this substrate was assigned a *terminus post quem* in the first quarter of the 1st c. A.D. The floor itself was mostly composed of irregularly arranged slates and was organized according to the buttress/wall. To the west of the buttress/wall, a comparable situation was encountered, and the ceramics here could be dated to the first half of the 1st c. A.D. To summarise, these floor levels postdate the buttresses, and the buttresses were built simultaneously with the eastern apse.

11 At some point, the western and central apse, and the western part of the eastern apse were filled-in with mortared rubble (fig. 4). However, the eastern half of the eastern apse still displays a pool, later reused as a *praefurnium* (fig. 7). There are two possibilities: (1) these apsidal structures always served a supporting function, or (2) they were dismantled and filled-in to support a later southern wall and originally defined

9 Waelkens et al. 1998b, 290 f.; Waelkens et al. 2000b, 171–173.

10 Poblome et al. 2022a.

11 Waelkens et al. 2011, 241; Waelkens et al. 2012, 143.

Fig. 6: Southern view of the southern walls of the Old Baths and southern *caldarium* (C2). Indicated are (1) the western apse, (2) central apse, and (3) the later wall constructed on top of the dismantled apsidal walls.

6

Fig. 7: Northern (left) and eastern (right) view of the eastern half of the eastern apse. Originally it included (1 and 3) an apsidal pool, which was incorporated into the Bath-Gymnasium. Eventually, it was turned into a *praefurnium*, with (2) air flues and a (4) furnace opening towards T2.

7

multiple pools. Based on the eastern apse, we believe the second option. First, the inner face of the apse did not display evidence of a mortared fill and/or the act of removing it (fig. 7). Secondly, the presence of air flues in the western wall of the *praefurnium* demonstrate that it could not retain water, and that this wall was a later addition (fig. 7). The original pool was thus defined by a full apse. Third, the fills and foundations associated with a modification of the pool presented a 1st – 2nd c. A.D. ceramic assemblage. Fourth, the identification of ashlars with a partially re-cut curvilinear facing indicates that blocks of the apses were reused in the wall set on top of these (fig. 6). As the pool remained in use during the 2nd c. A.D. the dismantling of the apses and their reuse in a subsequent wall is a later modification. Taken together, we are dealing with a pool which was at least modified during the 2nd c. A.D., and was originally constructed in the mid-1st c. A.D.

12 In addition to apsidal walls and a pool, a mid-to-late 1st c. A.D. *praefurnium* was documented in the so-called Service Area (fig. 4). The surviving remains consist of a brick feature constructed in front of a now filled-in vaulted passage (fig. 8). Immediately to its east, the three lowest courses of the northernmost remaining wall section of the Old Baths still stand in worked limestone blocks. In front of the channel, the brick-type of the lower courses – which form the lower vaulted passage – clearly differed in size (26 × 26 × 3 cm) from later brick sections on top (40 × 40 × 5 cm). Firmly stuck to the top and in between the brick feature were several deposits containing 50–100 A.D. SRSW. In addition, some remnants of strata associated with the corresponding floor level pro-

8

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Fig. 8: Northern view of the southern wall of the Service Area. Visible are (1) the remains of the remaining wall segment of the Old Baths (bottom left), (2) the 1st c. A.D. *praefurnium*, (3) its filled-in vaulted passage, (4) the partially carved-out later brick fill-in of the northern apse of C4, and (5) the larger vaulted passageway cut through the latter during the 6th c. A.D.

Fig. 9: Eastern view of (1) the south-eastern corner of the *palaistra* (angle with column pedestals). Visible are (3 and 4) the two control excavations which exposed the parent material and early-to-mid 1st c. A.D. deposits. (2) The northern wall of the cross-shaped hall. Upper right, a windblown capital found amongst the collapse.

vided a *terminus ante quem* in the second half of the 1st c. A.D.[12]. Together, these finds indicate that the brick feature can be placed within 50–100 A.D. Furthermore, coring near this *praefurnium* demonstrated that the ophiolitic bedrock was present in close proximity. This means that the brick feature was not constructed on top of a vault, and can pre-date the Bath-Gymnasium[13].

13 In addition to the presence of pools and a *praefurnium*, structural similarities have been proposed between Late Republican baths in Campania (Italy), the South Baths of Perge (69–79 A.D.), and the mid-1st c. A.D. apsidal features at Sagalassos[14]. The comparison with Late Republican baths in Campania remains unclear[15]. Moreover, this argument considers the Old Baths a result of the settlement of Italic veterans in Pisidian *coloniae*[16], applying the traditional Augustan dating. The actual datasets indicate that the baths were built one or two generations after veterans were settled in the region. On the other hand, there are similarities with the South Baths of Perge, as the latter also display a series of apses in phased placement at its southern side[17].

14 Taken together, there are convincing arguments to establish the presence of a mid-1st c. A.D. bathing facility at Sagalassos. The apsidal wall defined the southern and suggest the western and eastern extent, while the wall southwest of the *praefurnium* establishes the northern extent of these Old Baths (fig. 4). While it cannot be proven, the number of reused blocks in the ashlar piers of the late 1st – early 2nd c. A.D. cross-shaped hall likely came from nearby, and thus possibly belonged to the Old Baths.

Below the *palaistra*

15 A control excavation in between the stylobate of the 2nd – early 3rd c. A.D. *palaistra* and the northern wall of the cross-shaped hall exposed earlier contexts, as well as the ophiolitic bedrock (fig. 4. 9). Based on the pottery, the lowest deposit was dated to 50 B.C. – 50 A.D., succeeded by a 10–35 A.D. stratum, which was topped by a 350–400 A.D. layer. As the foundations of the northern wall were present below the

12 Waelkens et al. 2010, 268.
13 Personal communication Patrick Degryse.
14 Waelkens et al. 2010, 268.
15 Henderson 2010, 217–242.
16 Waelkens et al. 2010, 268.
17 Wood 2017, 440.

second stratum, this provides a *terminus ante quem* in the first half of the 1st c. A.D. for its construction. To be clear, the actual northern wall of the cross-shaped hall is a later addition upon the remains of an earlier structure, which was reworked into its foundations. A second control excavation was placed in the south-eastern corner of the courtyard of the *palaistra* (fig. 4. 9). Here, a 50 B.C. – 50 A.D. deposit was found directly on top of the ophiolitic bedrock, and succeeded by a 5th – 6th c. A.D. deposit. Based on its dating, the structural remains reworked into the foundations of the northern wall could be slightly earlier than the Old Baths. Additionally, considering a distance of *c.* 50 m as well as compositional differences, the relation between these structures remains uncertain[18].

Below the Eastern Extension

16 A control excavation in the Eastern Extension (EE) area of the cross-shaped hall (fig. 4), exposed a dark brown loam with some brown clay chunks, and included pieces of tuff rock and small-to-medium-sized limestone rubble. The pottery was dated to 15–30 A.D., and was situated below 2nd c. A.D. fills associated with the construction of the Bath-Gymnasium. As a result, it is clear that there were no brick vaults present below the EE area. As with the early-to-mid 1st c. A.D. datasets from the *palaistra* area, there is no reason to associate this deposit with the Old Baths.

The (Early-to-)Mid-1st c. A.D. Situation

17 The substantial height difference of *c.* 8.00 m between the ophiolitic bedrock south of the apses and below the *praefurnium* and *palaistra* area necessitates a short digression into the local geology. At least for the southern part of the Service Area and the EE area, vaults were not present (fig. 2). On the other hand, vaults formed the substructure of the western part of the Bath-Gymnasium, and were placed upon 1–50 A.D. strata as well as the bedrock (fig. 2). Taken together, this suggests that the ophiolitic bedrock did not form a level plane. When exposed, this created a significant height differential in the area, which seems to be partially responsible for the distinction between an upper and lower city in terms of building orientation. The fact that the Old Baths, as well as the Bath-Gymnasium, were positioned at this transition might be reflected in their orientation, which is somewhere in between that of the upper and lower city (fig. 1). This observation, combined with the early 1st c. A.D. datasets refutes the assertion[19] that part of the hill was levelled for the construction of the Bath-Gymnasium. If a large-scale terracing operation or clay quarrying activities were partially responsible for the absence of part of the ophiolitic sequence (as it was quarried for pottery production) it occurred at an earlier date. While Hellenistic pottery production has been attested nearby (below the later Odeion), this situation can also have a purely geological origin. This mid-1st c. A.D. situation brings us to the late 1st – early 2nd c. A.D., and sets the scene for the construction of the Roman Imperial Bath-Gymnasium.

The Late 1st – 2nd c. A.D. Datasets

18 In this section, the late 1st – 2nd c. A.D. evidence concerning the construction of the Bath-Gymnasium and the incorporation of the Old Baths are presented. For convenience, we discuss the parts of the Bath-Gymnasium from south to north, and east to west, departing from the southern area of the cross-shaped hall. The current status does

18 Waelkens et al. 2014, 45.

19 Waelkens 1993, 47; Waelkens et al. 2004, 424; Waelkens et al. 2005, 274.

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Fig. 10: Northern view of the cross-shaped hall, including the 16 piers.

Fig. 11: Northern view of the inner face of the cross-shaped hall's southern wall.

not cover the full extent of the bathing complex, as rooms to the north of F2, east of NA, and possibly east of SA will remain unexcavated (fig. 5).

The Cross-shaped Hall (SA, EE, F1 and NA)

19 The cross-shaped hall is a west-east and north-south oriented hall, respectively subdivided in a western (F1) and eastern arm (EE), and northern (NA) and southern (SA) parts (fig. 3. 5). No physical barriers separated these areas. The cross-shaped hall is characterised by 16 ashlar piers (fig. 3. 10). The four central piers originally stood up to a height of *c.* 11.45 m above floor level, while the six northern and six southern piers stood up to *c.* 4.90 m. In the NA and SA area, north-to-south oriented arches sprang from pier to pier, spanning the intermittent gaps and providing support for the vaulted roof. Based on collapsed fragments, it could be presumed that the superstructure covering the central area consisted of a brick cross-vault (brick sizes: 40 × 40 × 5 cm, 48 × 42 × 7 cm). As the preserved masonry constructions on top of the preserved ashlar piers become larger than those of the piers themselves, springs must have been positioned on top of the latter. The four taller central piers were supported by north-south and west-east oriented ashlar arches. This created a central dome, which towered over the complex, and included windows which lit and warmed the cross-shaped hall[20]. During the 5th c. A.D., the original floor was completely replaced by a mosaic, while no indications concerning the composition of the former were preserved.

The Southern Area of the Cross-shaped Hall (SA)

20 The southern wall of the cross-shaped hall (SA) consisted of an ashlar exterior placed in between the southwestern and -eastern piers, and a later inner face of mortared rubble (fig. 11). A control excavation reached the foundation trench of the outer wall, as well as the southwestern pier, 6.80 m below the floor level (fig. 12). The foundation fill consisted of a mix of reworked ophiolite and building debris, and included late 1st – early 2nd c. A.D. SRSW sherds. The substructure of the wall and pier consisted of 15 ashlar courses, which were more roughly worked in the lower courses. The ashlars of the original visible masonry construction show a clear setting back in contrast with the foundations (fig. 12), likely indicating the first floor of the SA area. Firstly, these results provide a late 1st – early 2nd c. A.D. construction date for the southern wall and southwestern pier. Considering the shared construction technique, and the fact that the piers can only function as a group, we presume the other 15 piers were erected in the same period. Secondly, based on the relationship between the later mosaic floor and the setting back, the floor did not shift significantly during the next five centuries of use.

20 Waelkens et al. 2012, 143

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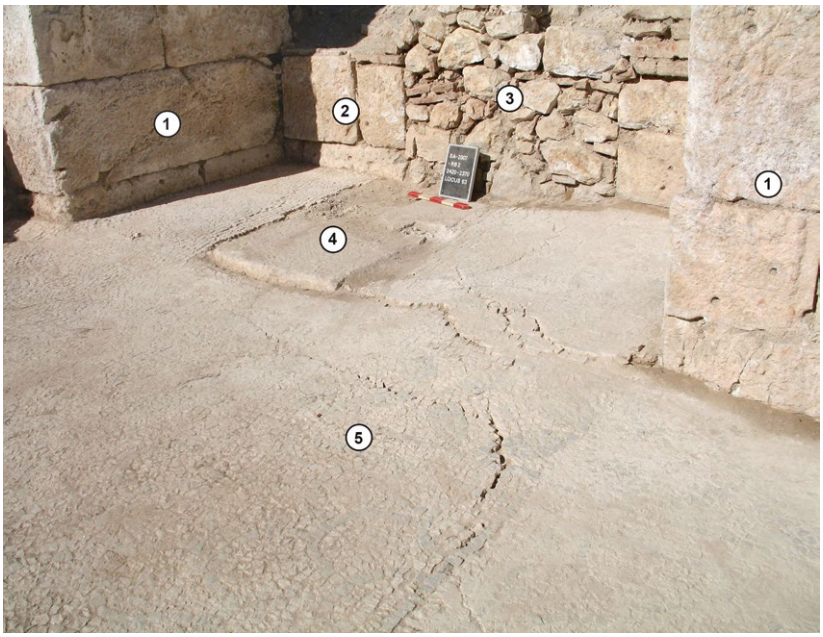

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Fig. 12: Southwestern view of the control excavation exposing the impressive foundations of the southern wall of the cross-shaped hall.

Fig. 13: North-eastern view of the south-western recess of SA. One can see (1) the late 1st – early 2nd c. A.D. piers, (2) the late 1st – early 2nd c. A.D. western wall, (3) the later fill-in of an original door opening, (4) the base of an acrolithic statue of Hadrian, which likely led to the closing of the entrance, and (5) the 5th c. A.D. mosaic, which postdates the installation of the statue.

Fig. 14: Eastern view upon the western side of SA.

Fig. 15: North-western view of the eastern side of SA. Notice the similarities in construction between the later southern and eastern walls.

Fig. 16: Western view of the north-eastern recess of SA. Indicated are (1) the late 1st – early 2nd century piers, (2) the late 1st – early 2nd century eastern walls, (3) the later fill-in of an original door opening, (4) the base of an acrolithic statue of an unknown emperor, for which the door was closed off, and (5) the 5th century mosaic, which postdates the installation of the statue.

21 The western wall of SA consists of brickwork (*c.* 0.40 × 0.40 × 0.05 m) upon ashlars, and was installed behind and visible in between the western row of piers (fig. 14). The observation that the lower limestone courses align with those of the piers suggests that these walls were part of the late 1st – early 2nd c. A.D. phase (fig. 13). In between the southwestern and subsequent pier, a doorway (1.50 m) was constructed as part of the brick wall (fig. 13), facilitating access to C2 (fig. 5). Subsequently, the brickwork walls were continuous up to the northernmost pier of the SA area (fig. 14). On the opposite side, the eastern wall of SA is mostly composed of a poorly preserved segment of mortared rubble up to the northernmost two piers (fig. 15). The similarities with the later inner face of the southern wall suggest that these were not original either, but that they all predated the 5th c. A.D. mosaic which neatly borders these walls. In the northernmost recess in between the piers, the eastern wall was composed of two ashlar and brick wall segments that define another doorway (1.61 m) (fig. 16). While the southernmost segment of this wall consists of ashlars aligning with the piers and only has a few pieces of rubble inserted into its cracks, the northern segment shows more evidence of later repairs. Similarities with the wall in the southwestern recess, and the alignment with the pier, suggest these walls were mostly original. The absence of an ashlar exterior, and the presence of a doorway suggests that at least one more space is situated to the east. While we have insight into the 2nd c. A.D. extent of SA and its connections to other rooms, no contemporary information regarding its function was obtained.

The Eastern Area of the Cross-shaped Hall (EE)

22 The EE area (14.70 × 12.30 m) was not entirely excavated as the easternmost parts of the northern and southern walls, and the entire eastern wall remain buried. The indicated location of the eastern wall was based on several in situ rusticated ashlars visible on the eastern slope. We assume that the eastern wall was comparable to the northern and southern wall defining this space. Currently, the northern (14.40 × 2.83 × 1.83 m) and southern walls (15.30 × 2.65 × 1.22 m) consist of a thick, well-constructed mortared rubble core (fig. 17)[21]. This core was originally hidden behind a brick inner façade of which little is preserved. The presence of this brick face can be shown from imprints in the mortar substrate at floor level. At the westernmost parts of the northern and southern walls, remnants of the upper brick courses were partially preserved similarly suggesting a brick face abutting the central piers. Following these imprints along the original trajectory of the northern and southern wall, we observe that they included an apsidal niche (fig. 18).

23 Initially, the inconclusive geophysical information was used to argue for the presence of vaults below EE. Consequently, the walls were attributed to the first half of the 2nd c. A.D.[22]. In 2011 and 2012, control excavations were initiated in EE to confirm the presence of a 2nd c. A.D. pool or *natatio*[23]. This hypothesis was based on faint traces of a continuous series of walls defining a rectangular structure (11.75 × 11.55 m) along the walls of EE (fig. 17), as well as traces of a lime-based mortar with hydraulic properties in the northern apse. This 2nd c. A.D. pool was allegedly filled in to facilitate the placement of the later mosaic floor, which was not preserved (or was never present) in EE. Cutting through the mortar substrate, these excavations exposed the walls of the rectangular structure, which were composed of mortared rubble in the lower courses, and roughly worked polygonal blocks in the upper courses. Below the mortar, and abutting these walls, was a brown-grey fill of sand. Interestingly, the pottery mostly included 2nd c. A.D.

21 Waelkens et al. 2011, 242.

22 Waelkens et al. 2006, 321; Waelkens et al. 2009, 436 f.

23 Waelkens et al. 2013, 247.

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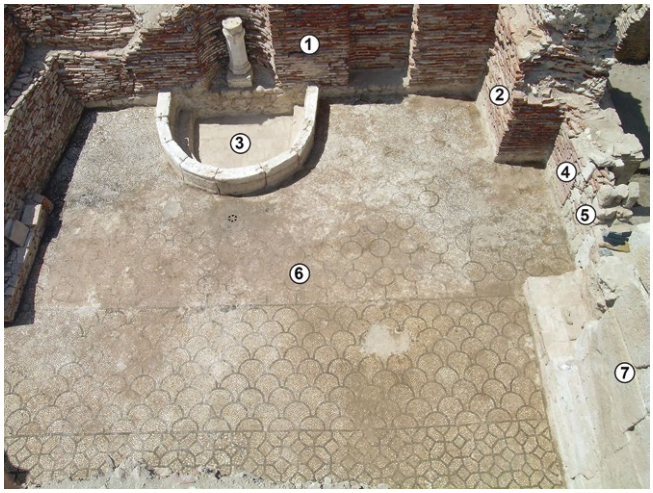

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Fig. 17: North-western view of the EE area. Visible are (1) the faint traces of the late 1st – early 2nd century foundations, (2) the late 1st – early 2nd century southern wall (cut out in the late 6th – early 7th century), (3) the later radial walls and associated structures, (4) the 6th century lime kilns, and (5) a 6th century metal kiln.

Fig. 18: South-western view of the carved-out brick apse of the northern wall of the EE area, leaving the mortared rubble core exposed.

Fig. 19: Eastern view of F1, including (1) the late 1st – early 2nd century western wall, (2) the late 1st – early 2nd century northern wall, (3) the semi-circular pool, (4) a brick fill-in of an earlier door opening to a service corridor, (5) a rubble fill-in of a later door opening, (6) the 5th century mosaic, and (7) one of the late 1st – early 2nd century piers.

Fig. 20: Western view of the service corridor in between F1 and F2/A1. Visible are (1) a late 1st – early 2nd century pier, (2) the late 1st – early 2nd century northern wall of F1, (3) the late 1st – early 2nd century southern wall of F2/A1, (4) the brick fill-in of a late 1st – early 2nd century doorway, (5) a 6th – early 7th century floor, and (6) the 6th – early 7th century mortared rubble fill-in of a doorway leading to NA.

material, which the 2012 excavation refined to the late 1st – early 2nd c. A.D. In addition, no physical floor indicative of a pool was found up to a depth of 2.30 m. As the excavated depth far exceeded the maximum depth of most Roman pools (*c.* 1.20 m), it was concluded that the EE area never included a *natatio*. However, this conclusion does not explain the presence of the late 1st – early 2nd c. A.D. rectangular structure. A clue can be found in the observation that part of it is present below the southeastern pier, indicating the structure was built simultaneously in the late 1st – early 2nd c. A.D. As the (sub)structure follows the alignment of the northern, southern and eastern walls, and continues in between the eastern central piers of the cross-shaped hall (which carried the heavy dome), we are actually dealing with the foundations of these walls. This explains the late 1st – early 2nd c. A.D. fill. As a result, we can ascribe the northern, southern, and eastern wall a *terminus post quem* in the late 1st – early 2nd c. A.D. Considering their solid construction and foundational function they are most likely part of the late 1st – early 2nd century building phase.

The Western Part of the Cross-shaped Hall (F1)

24 Like the western wall of SA, the western wall of F1 was composed of mortared limestone blocks and rubble, upon which a brick (40 × 40 × 5 cm) superstructure was placed (fig. 19). From south-to-north, the brick part originally included a rectangular (1.50 × 0.60 m), apsidal (1.75 × 0.70 m), and rectangular (2.00 × 0.60 m) niche. At some point, a semi-circular pool was placed against the lower mortared rubble courses of the western wall (fig. 19). In terms of dating, the pool can be assigned a *terminus post quem* in the late 1st – early 2nd c. A.D. (i.e. the construction of the cross-shaped hall), and a *terminus ante quem* in the 5th c. A.D. when the mosaic was placed neatly around it. This large window has been glossed over in earlier publications, where it was ascribed to the 2nd c. A.D., and became the main reason the mostly unexcavated cross-shaped hall was interpreted as a *frigidarium*[24]. As we consider the pool a later addition, it will be discussed further on. However, it cannot be entirely ruled out that it was constructed as part of the original cross-shaped hall.

25 The westernmost section (2.40 × 0.60–0.80 × 5.05 m) of the northern wall of F1 bonds with, and was therefore constructed simultaneously with the western wall (fig. 19). Afterwards, the western wall turns northwards, creating a rectangular niche of a similarly constructed brick segment (0.60 m), which is followed by a door-shaped fill-in (0.85 m) of thinner bricks (*c.* 27 × 26 × 3 cm) (fig. 19. 20). The section in between this former doorway and the pier is a later modification consisting of rubble and reused building blocks (1.17 m) (fig. 19). On the opposite face of the wall, we can observe that the mortared rubble modification is in-part placed against the original brickwork which abuts the ashlar pier (fig. 20). Consequently, the northern wall of F1 originally led to the corridor behind it, which provided access to F2 and the Service Area (fig. 5). The southern wall of F1 was poorly preserved (fig. 32), but seems to mirror the arrangement of the northern wall in terms of niches and an entrance. This entrance originally facilitated access to C2 (fig. 5).

The Northern Area of the Cross-shaped Hall (NA)

26 Like SA, the northern part (20.40 × 16.80 m) of the cross-shaped hall (NA) is defined by the ashlar piers, and the wall segments between these. As mentioned, the northern wall incorporated an earlier structure in its foundation. The segments on top (13.10 × 1.22 × 1.40–2.60 m) are separated into a western and eastern section, which flank the main entrance (3.35 m) to the cross-shaped hall. This entrance is characterised by two limestone steps and was modified at a later date (fig. 21). Currently, the inside of the northern wall is composed of later mortared rubble and reused ashlars, which were placed against the original inner face, and on both sides included a rectangular recess (fig. 21). In the western and eastern extremities of the brick face (southern), the remains of vertical terracotta pipes are visible (fig. 21). The outer face consists of a local variant on *opus vittatum mixtum* (henceforth referred to as *opus vittatum*) (fig. 9). As the lower courses of the outer wall stand upon the early 1st c. A.D. wall, and are abutted by a deposit dated to the second half of the 4th c. A.D., their placement falls within a wide chronological range. Based on the construction of the cross-shaped hall, we can reasonably ascribe the brick/*opus vittatum* sections to the late 1st – early 2nd c. A.D.

27 The western wall (15.50 × 0.47–1.73 × 2.80 m) of NA is constructed in brickwork (fig. 22) placed upon a limestone substructure, which aligns with the courses of the piers. This indicates that the entire western wall of the cross-shaped hall was constructed simultaneously, and can be dated to the late 1st – early 2nd c. A.D. In between the southwestern and south-central pier of NA, two wall sections frame a doorway (1.20 m), leading to a corridor linking NA to the Service Area (fig. 20). Another entrance was

24 Waelkens et al. 2006, 321.

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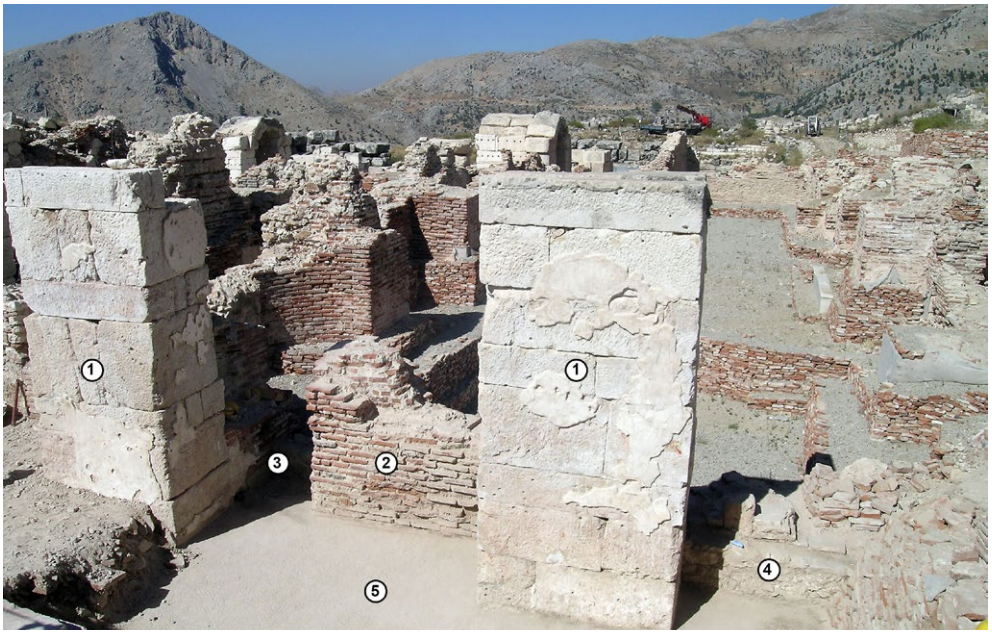

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Fig. 21: The northern wall of the cross-shaped hall (NA), including the entrance leading to the *palaistra*. Indicated are (1) the late 1st – early 2nd century piers, (2) a later inner face set against the original brickwork, and (3) a later brick structure subdividing the original entrance.

Fig. 22: Eastern view of the western walls and piers of NA. Indicated are (1) the late 1st – early 2nd century piers, (2) the late 1st – early 2nd century brick wall in the central recess, (3) the associated opening to F2/A1, (4) the mortared rubble wall of the northern recess, and (5) the 5th century mosaic.

present in the next recess, leading to F2/A1 (fig. 22). The last recess was poorly preserved as only a small section of mortared rubble and brick was found. There is no indication of a doorway (fig. 22).

28 The eastern wall of the NA area consisted of *opus vittatum* segments behind and visible in between the ashlar piers, creating a total of three rectangular recesses mirroring the western side. In between the southern and south-central pier, the visible segment consists of a lower course of irregularly arranged mortared rubble, succeeded by five courses of bricks, which is followed by another band of mortared rubble (fig. 23). The subsequent recess displays more irregular patchwork of mortared rubble and brick, indicative of extensive repairs (fig. 24). The final segment in between the north-central and northern pier is comparable to that of the southernmost recess, and is composed of two mortared rubble sections divided by five courses of bricks. This suggests that the original wall was continuous. In comparison to their western counterparts, some of the ashlars of the eastern piers protruded into the eastern wall. This had no structural function, as the eastern wall abuts all of these piers. This observation, together with the lack of doorways, was indicative of the eastern extent of the complex. However, the absence of an ashlar exterior, and the partial presence of a room might suggest otherwise (fig. 5). Considering their different construction technique, the current eastern wall could be part of a later modification or renovation, as they do not include any similarities with the ashlar piers they abut. However, it is also possible that the input of bricks during the large-scale construction of the baths was lacking, explaining the

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Fig. 23: Western view of the south-eastern recess of the cross-shaped hall (NA), and the eastern wall.

Fig. 24: Western view of the eastern piers and wall segments. Compared to the bands of the south-eastern recess, the central one is a patchwork of rubble and bricks.

combination of full brickwork and *opus vittatum* walls in the same areas. Currently, our only indications are a *terminus post quem* in the late 1st – early 2nd c. A.D., and a *terminus ante quem* in the 5th c. A.D. If they are later (re)constructions, an earlier wall is presumed to be at the same location.

Palaistra (P)

29 In 2013–2014, immediately north of the cross-shaped hall, a collapsed colonnade was excavated, including an in situ west-east oriented stylobate (fig. 9). Based on the geophysical results (fig. 25), the estimated extent of the wall surrounding the colonnaded courtyard measured *c.* 37 × 22 m[25]. As discussed, two control excavations exposed the ophiolitic bedrock, upon which the stylobate had been placed (fig. 9). A small foundation trench, which cut through an early-to-mid 1st c. A.D. beaten earth walking level, provided a *terminus post quem*, while the deposit on top of the stylobate offered a *terminus ante quem* in the second half of the 4th c. A.D. Amidst the collapse, five Corinthian capitals were found – including a windblown variant (fig. 9) – and some were stylistically dated to the 2nd – 3rd c. A.D. However, the final phase of the colonnade included a wide variety of elements which originated at different times. To the east, the colonnaded courtyard was further delineated by a north-south oriented *opus vittatum* wall (fig. 26), which was placed perpendicular upon the northern wall of the Bath-Gymnasium (fig. 3. 5). Two limestone doorposts indicate the location of a former entrance (fig. 26). Lastly, to the northwest of the courtyard, a collapse indicative of a monumental gateway (fig. 5, SG) is present (fig. 27), which facilitated entry to the *palaistra*, the Bath-Gymnasium, and possibly also to the street ascending towards the Upper Agora. This so-called Severan Gate was described by Lutgarde Vandeput[26], and dated by Marc Waelkens to the early 3rd c. A.D.[27]. Considering that the construction of the Bath-Gymnasium started in the late 1st – early 2nd c. A.D., and that *palaistrai* became increasingly common elements of bathing complexes in Roman Imperial Asia Minor[28], an origin in the 2nd – early 3rd c. A.D. for the *palaistra* is proposed.

The Southern Wing (C2)

30 During the construction of the Bath-Gymnasium, the Old Baths were incorporated into, and became the southern wing of, a much larger complex (fig. 5). To arrive at the 2nd c. A.D. lay-out of the southern wing we need to discuss several later modifications,

25 Waelkens et al. 2014, 44 f.
26 Vandeput 1997b, 220–222.
27 Waelkens – Mitchell 1988, 207 f.; Waelkens et al. 2014, 45.
28 Yegül 2010, 156 f.

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Fig. 25: The geophysical results indicating the extent of the *palaistra*, the wall around it, as well as a possible open area situated to its north.

Fig. 26: Western view of the wall surrounding the *palaistra*. Indicated are (1) the original *opus vittatum* wall, (2) the doorposts, (3) the later fill-in of this entrance, and (4) a later mortared rubble segment.

Fig. 27: The collapse of the so-called Severan Gate, which formed the main entrance to the Bath-Gymnasium, and its *palaistra*.

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which currently obscure it. Firstly, the current western and southern wall are a later arrangement, as the apsidal wall of the Old Baths (fig. 6) initially defined the southern extent of the Bath-Gymnasium (fig. 5). There are several arguments substantiating this interpretation. First, the poorly preserved section of the western wall consists of an ashlar outer and brick inner face. The latter blocks a vaulted entranceway leading to C3 (fig. 5. 28), rendering it obsolete. Either unexpected complications during the original construction process required adjustments, this was intended as a niche (unlikely as its northern counterpart functions as a doorway, and it has been cut through), or we are dealing with a later wall. Considering the care and quality of construction, and the many solutions to keep this entrance functioning (e.g., moving the entrance slightly eastwards), we reasonably assume the latter. Secondly, the adjustments to the northern wall of the Old Baths included the construction of a brick apse which was filled in at a later date. This can be discerned by its shape, as well as the differences in brick size (*c.* 40 × 40 × 5 cm and *c.* 28 × 28 × 3 cm) (fig. 29). The observation that this northern apse mirrored the central apse of the Old Baths (fig. 5), suggests the former was modelled upon the latter. Third, behind the later brick southern wall, the inner face of the westernmost apse of the Old Baths is visible, and partially constructed in brick as well,

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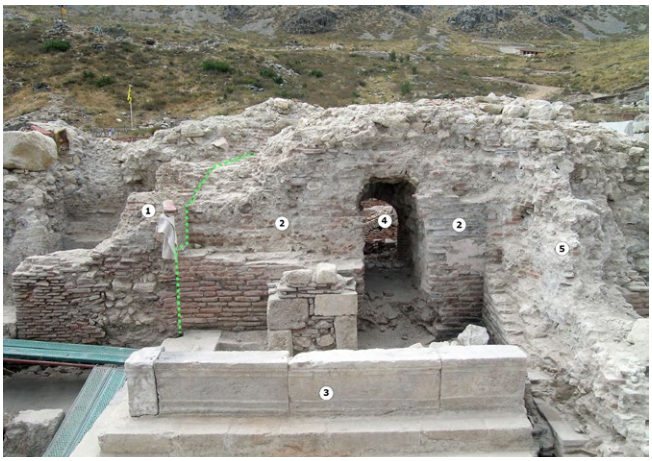

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which occurred when it was incorporated during the late 1st – early 2nd c. A.D. (fig. 30). Fourth, in terms of trajectory, the late 1st – early 2nd c. A.D. southern wall of the cross-shaped hall (SA) is continuous with the apsidal wall, while a section of the current southern wall is indented northwards (fig. 3. 5). Fifth, as discussed, the pool in the eastern apse of the Old Baths (fig. 5. 7) displays 2nd c. A.D. modifications. As its current western backwall includes air flues, that wall can be associated with the pool's reuse as a (later) *praefurnium*. As the aforementioned backwall was used to fill in the western half of the eastern apse, and the current southern wall stands on the fill-in of the central and western apse (fig. 6), we can substantiate the late 1st – early 2nd c. A.D. western and southern extent of this area (fig. 5).

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Fig. 28: South-eastern view of the western wall of C2 (C4). Visible are (1) the late 1st – early 2nd century vaulted entrance, (2) the later western wall blocking the entrance to C3, (3) the (later) ashlar outer face, (4) the southern wall of a 6th century *praefurnium*, (5) the southern wall of C3, and (6) a limestone feature possibly associated with a NW pool. (Left corner) The view from the north upon the blocked doorway.

Fig. 29: Southern view of the northern wall of C2 (C4). Visible are (1) the apse, (2) the fill-in of the apse, (3) the later pool, (4) the later passageway, and (5) the later division wall. The green line indicates the visible division between (1) the apse and (2) its infill.

Fig. 30: View from the west upon the inside of the western apse, and the mortared rubble core of the latter inner wall, which obscured the former.

31 A second later modification is the current wall subdividing C2 into C4 (western half) and T2 (eastern half) (fig. 5. 31). Firstly, this brick division wall bonds with the fill-in of the northern apse, indicating it was built simultaneously (fig. 29). Secondly, its southern segment also bonds with the inner brick face of the later southern wall (fig. 31). Thirdly, to support its weight, as well as facilitate air circulation between the hypocausts of C4 and T2, the hypocaust was modified, as shown by cut out bricks. Eliminating these two major modifications results in the construction of the southern wing as one room (C2), which included at least one pool in the pre-existing eastern apse (fig. 5). Because of later modifications, we have no information regarding the 2nd c. A.D. western and southern wall. In the northwest, the vaulted entrance facilitated access to C3, while a northeastern doorway allowed access to F1 (fig. 5). The eastern wall of C2 is the already discussed late 1st – early 2nd c. A.D. western wall of SA (fig. 14), and consisted of brickwork placed upon a limestone substructure, into which a south-eastern entrance was set. In regards to the north-eastern wall sections, and opening to F1, little is preserved. However, the cavity wall – with some later repairs – was partially intact (fig. 32), demonstrating that the link with the hypocaust already existed. While poorly preserved throughout most of C2, sections provide enough information concerning its construction (fig. 33).

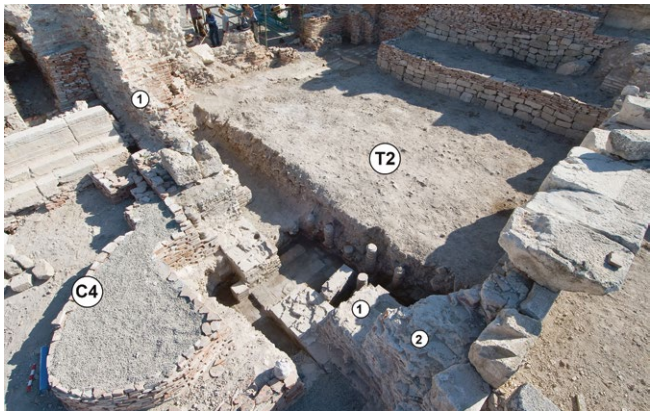

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Fig. 31: Southern view of (1) the brick division wall subdividing C2 in C4 and T2. Indicated is (2) the location where this division wall bonds with the later southern wall.

Fig. 32: Eastern view of T2. Indicated are (1) the late 1st – early 2nd century northern walls (southern walls of F1), (2) the original door opening to F1, (3) the later floor of the shallow pool, (4) the later floor surrounding the shallow pool, (5) the mortared rubble infill closing off a corridor between T2 and the Service Area to facilitate the construction of a 6th century stairway, and (6) an example of a cavity wall, which links to the underlying hypocaust.

Fig. 33: The partially preserved hypocaust of C2 (C4).

Fig. 34: (left) The southernmost part of the western wall of the Service Area, which included a double vaulted opening to the C3 hypocaust (possibly associated with the 1st century *praefurnium*), which was later filled-in. (right) The wall segment immediately north of the closed-off opening, which revolved around the late 1st – early 2nd century *praefurnium* serving C3.

The substructure of the hypocaust floor successively consisted of mortared rubble, and a yellow mortar, which formed the bedding for the brick (40 × 40 × 5 cm) floor. The *pilae* were composed of two bricks (40 × 40 × 5 cm, 30 × 30 × 5 cm) supporting 1.10–1.50 m tall stacks of mortared brick discs (ø: 25–30 × 3–5 cm). The ceiling of the hypocaust has mostly collapsed, but based on comparable structures at Sagalassos, and a section observed within the later north-western *praefurnium*, it was composed of square bricks (70 × 70 × 8 cm), followed by a local variant of *opus caementicium* (henceforth referred to as *opus caementicium*), and a pinkish lime-based mortar with hydraulic properties into which the (lost) marble or limestone paving was placed. In the north-western part, a vaulted opening in the brick wall – immediately above the ashlar substructure – facilitated ventilation between the hypocausts of C2 and C3 (fig. 69). During the 2nd c. A.D., the only documented *praefurnium* which directly served C2, was the 1st c. A.D. *praefurnium* associated with the Old Baths (fig. 5). Based on the presence of at least one pool, the cavity walls and a hypocaust, we propose the southern wing as a 2nd c. A.D. *caldarium*.

The Service Area (S)

32 In between F1 and C3, a smaller rectangular room is present, which can currently be subdivided in an eastern corridor (including an ascending staircase), and three western rooms (fig. 3. 5). This room also connects to a west-east oriented corridor linking to F2/A1, F1, and NA.[29] The actual eastern wall is the late 1st – early 2nd c. A.D. western wall of F1 (fig. 19). The southern wall is the already discussed northern wall of C2 and includes the vaulted channel of the 1st c. A.D. *praefurnium* (fig. 8). The western wall abuts the brick section of the southern wall, providing a *terminus post quem* in the late 1st – early 2nd c. A.D. for its construction (fig. 8). Currently, this western wall is a patchwork of various modifications. Based on the preserved sections, it originally consisted of brickwork with panels of mortared rubble (fig. 34). Near its southern extremity, this wall originally included a double-vaulted opening, which likely connected the 1st century *praefurnium* to the C3 hypocaust. In the centre of the western wall, another vaulted opening was constructed as part of it (fig. 34). This opening is also associated with the eastern pool and hypocaust of C3 (fig. 5). In front of this opening another *praefurnium* was installed, which based on its many modifications served C3 for a long time. As a result, this rectangular room included two functioning *praefurnia* in the 2nd c. A.D. The north-western area of the Service Area remains mostly unexcavated, but based on the plan of the ground floor (vaults), it was situated above the eastern end of the corridor northeast of Room 3 (fig. 2). Here, indications for a staircase suggest a connection between the Service Area and Room 3 (ground floor). This has led to the hypothesis that we are dealing with a service room facilitating access between the first and ground floor. Reasonably assuming that wood was stored in the vaulted rooms, servants could carry up the necessary fuel to keep the two *praefurnia* operational. In addition, this connection facilitated much-needed ventilation to improve an otherwise smoky experience. As the ophiolitic bedrock is present below the 1st c. A.D. *praefurnium*, the vaults did not extend entirely below the Service Area. In all likelihood, this establishes the eastern extent of the vaults.

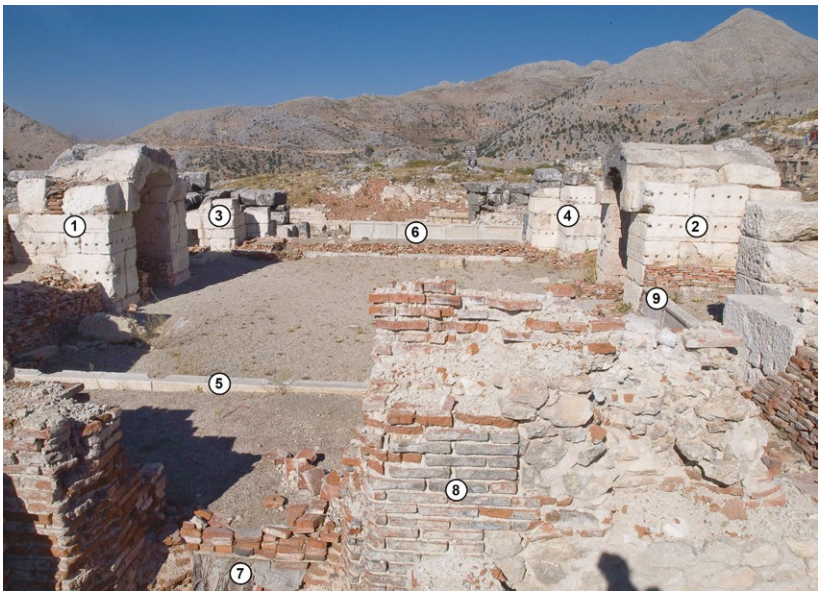
The Central Room (C3)

2nd c. A.D. Lay-out

33 West of the Service Area, and situated in between the southern and north-central room, a central room (C3) is located (fig. 3. 5) which is situated on top of the vaults (Room 2 and 3, fig. 2). As such, any part of this room can be ascribed a *terminus post quem* in the late 1st to the first half of the 2nd c. A.D. The central room is defined by six ashlar piers, including a northern (4.10 × 3.65 m) and southern (4.20 × 2.90 m) vaulted entrance (fig. 35), which respectively facilitated access to the northern and southern wing. Furthermore, the north- (2.60 × 2.40 m) and south-western (4.10 × 3.90 m) piers also included vaulted corridors, which facilitated access to C1, and to a room with a window with a view on the Lower Agora (fig. 5).[30] The north- and south-eastern pier were L-shaped, and in between, the western wall of the Service Area formed the eastern wall of C3. Based on stone-carving specificities and the lack of indications for reuse, the ashlars of the piers were specifically extracted and cut for this space of the Bath-Gymnasium. The application of pointed claw chisels with four teeth suggests a date in the 2nd c. A.D. The wall sections in between the northern piers were constructed entirely of brickwork. Originally, a service corridor for water infrastructure existed in between the north-eastern pier, and the Service Area, which ran along the southern wall of F2 (fig. 5). Currently, most of the western wall of C3 has been dismantled and/or collapsed

29 Waelkens et al. 2001, 18.

30 Waelkens et al. 2000b, 170.



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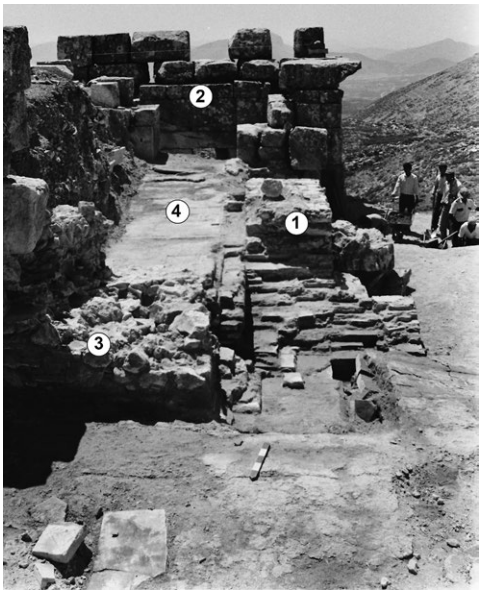

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Fig. 35: Eastern view (from the Service Area) of C3. Indicated are (1) the late 1st – early 2nd century southern vaulted entrance leading to C2 (blocked at a later date), (2) the contemporary northern vaulted entrance leading to F2/A1, (3) the late 1st – early 2nd century southwestern pier, in which a *praefurnium* was constructed the latest during the 6th century, (4) the north-western pier, (5) the parapet of the late 1st – early 2nd century eastern pool, (6) the parapet of the late 1st – early 2nd century western pool, (7) the *praefurnium* serving C3 in the Service Area, (8) the wall dividing C3 and the Service Area, and (9) the parapet of a later *alveus* or plunge pool.

Fig. 36: Northern view of (1) the remains of the western wall of C3, (2) the southern wall of C3, (3) the wall defining the north-western corner of C3, and (4) the floor of the western pool.

(fig. 36). Only the southern part is substantially intact and consisted of limestone ashlars. Based on a few preserved parts, the original continuation of this wall is considered to have been built in *opus vittatum*, consisting of alternating bands of mortared rubble and brickwork (fig. 36). It is impossible to determine if it originally abutted an ashlar exterior. Finally, the outer face of the southern wall is composed of limestone ashlars (fig. 28). The inner face in the SE corner consists purely of brickwork, while the part in between the southwestern pier and southern entrance was built in *opus vittatum*. It is possible that the latter was modified when the western wall of C2 was (partially) rebuilt, and blocked the southern entrance.

Marmorsaal or *caldarium*?

34 Before we discuss the pools and hypocaust, we would like to consider the role of this central room in the Bath-Gymnasium. Based on the excavations in 2000, it has been proposed as the 2nd c. A.D. *Marmor-* or *Kaisersaal*, a distinctly modern name for a facility within a bathing complex which was dedicated to the imperial cult[31]. This interpretation was based on refitted fragments of an inscription found among the veneering of a (later) northern *alveus* or plunge pool in C3, in the debris of the eastern pool of C3, and as part of the floor of the southwestern room of F2/A1. While incomplete (two fragments could be translated), the resulting text is an imperial dedication involving at least the emperors Lucius Verus and Marcus Aurelius:

> »(A) Für die vaterländischen Götter und die göttlichen Augusti, den Imperator Caesar Lucius Aurelius Verus Augustus Armeniacus, Parthicus Maximus ...«, and (B): »Für den Imperator Caesar Marcus Aurelius Antoninus Augustus, Imperator zum * Male, ... (?), die glänzende Polis der Sagalasser, die erste Pisidiens und Bundesgenossin der Römer ...«[32]

31 Waelkens et al. 2001, 17; Waelkens et al. 2005, 275.

32 Eich et al. 2018, 77–80.

»(A) To the native gods and the divine Augusti, the Imperator Caesar Lucius Aurelius Verus Augustus Armeniacus, Parthicus Maximus … «, and (B): » To the imperator Caesar Marcus Aurelius Antoninus Augustus, Imperator for the * time, … (?), the shining polis of the Sagalassians, first of Pisidia and ally of the Romans …«

35 Based on the assumption that these marble plaques adorned the walls of the central room, it was identified as a *Marmorsaal*[33]. To be clear, it remains unknown what was dedicated, and whether this event is necessarily linked to the Bath-Gymnasium. Nevertheless, various publications have presented the 165 A.D. date of the inscription as the inauguration of the Bath-Gymnasium. Additionally, when a series of imperial acrolithic statues were found in the southern part of the cross-shaped hall, it was argued that these statues originally stood in the *Marmorsaal*[34]. This interpretation is not necessarily in line with this central room featuring a hypocaust and at least two pools. Therefore, it was first argued that the *Marmorsaal* became a *caldarium* in the early 6th c. A.D., while after the discovery of the imperial statues it was argued that this occurred during the late 4th c. A.D. In the latter scenario, the statues were moved from the *Marmorsaal* to the cross-shaped hall.

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Fig. 37: The hypocaust of C3. (left) The vaulted support of the eastern pool interlocking with the late 1st – early 2nd century wall. (right) The rounded *pilae* which make up the majority of the hypocaust.

Fig. 38: A close-up of the area in between the floor and the continuous brickwork below the ashlar vaulted entrance. Note the gap of the *cavity wall*.

Dating the Hypocaust

36 To evaluate this point of view, we turn to the hypocaust (fig. 37). In contrast to the hypocausts of C1 and C2, this one still supports the floor and is therefore better preserved, albeit more difficult to document. Beyond the observation that it is situated upon a brick vault, the substructure of this floor has not been investigated. The hypocaust floor consists of bricks, upon which both cylindrical and rectangular *pilae* were installed (fig. 37). As in C2 (fig. 33), the cylindrical *pilae* consisted of a larger (40 × 40 × 5 cm) and smaller (30 × 30 × 5 cm) brick (fig. 37), upon which a stack of discs (⌀: 20–25 cm), and a comparable pair of bricks was placed. The rectangular *pilae* were simply composed of bricks (30 × 30 × 5 cm) and are usually situated along the walls. These *pilae* supported a ceiling of *bipedales* (80 × 80 × 10 cm), upon which *opus caementicium* and a lime-based mortar with hydraulic properties were applied[35]. Lastly, into a thin mortar bedding, the marble and/or limestone paving was placed. In addition to *pilae*, vaulted supports were present along the western and eastern sides of the hypocaust (fig. 37), providing extra support to bear the weight of the large rectangular western and eastern pools. As some of these supports bond with the eastern wall and the late 1st – early 2nd c. A.D. vaulted opening leading to the Service Area (fig. 34. 37), the hypocaust must have been constructed simultaneously with said wall. Furthermore, the two lowest courses of ashlars of the northern entrance do not display clamp holes, and the cavity walls in between the floor and vaulted entrance span that gap (fig. 35). Immediately below these two ashlars, the brick vault (Room 2) seems to be present, which is also the northern

33 Waelkens et al. 2001, 17.

34 Waelkens et al. 2009, 437; Waelkens et al. 2010, 269.

35 Waelkens et al. 1998a, 290; Waelkens et al. 2000b, 170.

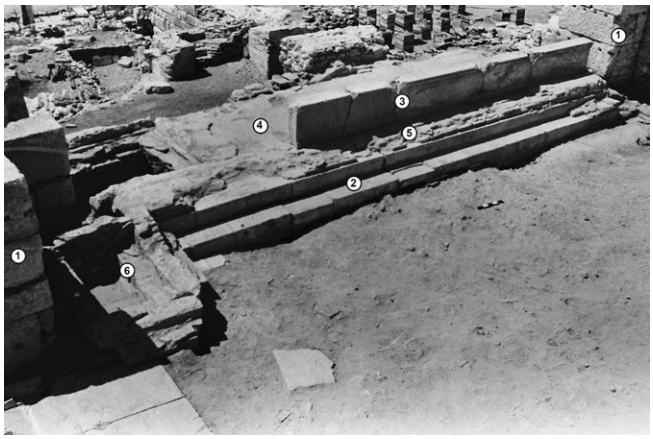

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Fig. 39: South-eastern view of the western pool of C3. Indicated are (1) the late 1st – early 2nd century piers, (2) the original stairs, (3) the final location of the parapet, (4) the mortar substrate of the pool floor, (5) the remains of a later brick wall, (6) a 6th century smaller SW pool built partially on the steps.

Fig. 40: Northern view upon the eastern pool of C3. The central opening once held the *testudo alvei*.

wall of the hypocaust. In addition, there is no evidence of carving along the wall (fig. 38), which was the case for the hypocaust modifications in C4/T2. This suggests that the floor existed at this level since the piers were constructed, and is more or less located at the same height as the floor level of the cross-shaped hall (SA area), which did not shift significantly based on the setting back between the foundations and the masonry construction in the late 1st – early 2nd c. A.D. south-western pier. Lastly, during the excavations of the ground floor below (Room 2 and 3, fig. 2), a gradual accumulation of hypocaust refuse situated below a 2nd – 3rd c. A.D. deposit, and itself including 1st – 3rd c. A.D. sherds, suggests an active *praefurnium* and hypocaust were situated above it. Taken together, we can substantiate that the hypocaust was part of the original 2nd c. A.D. central room.

37 This has several implications, including the reconsideration of this space as the presumed *Marmorsaal*. First of all, the comparably sized eastern and western pool – respectively 10.25 × 3.05 × 1.05 m and 10.25 × 2.85 m (depth could not be reconstructed) – were originally interpreted as a later modification[36]. However, based on the vaulted supports and hypocaust, we can ascribe them to the original construction of the Bath-Gymnasium (fig. 5). In their original state, both pools consisted of two limestone steps ascending towards a parapet of limestone blocks, with a similar profile at the top and bottom (fig. 39). In contrast to the later pools, these parapets were well-fitted in between the western and eastern piers and/or entranceways. Concerning the western pool (fig. 39), only the mortar bedding of the floor was preserved, indicating that at some point the original stone floor was changed or removed. Lastly, the former presence of water infrastructure, as well as unidentified features leaving behind a circular indentation can be observed in the mortar. In regards to the eastern pool, the lateral walls were placed against the eastern, northern and southern walls of the room, and consisted of finely worked stone slabs. The current floor consists of mortar bedding displaying the indentations and imprints of a brick and/or stone paving (fig. 40). Based on mortar lining linking the brick (sub) floor and the basin walls (fig. 40), the current state was constructed simultaneously, and possibly represents the original phase (not including paving and veneering). In the centre of the pool, a large rectangular opening is present (fig. 40), which connects to the vaulted opening of the Service Area (fig. 35)[37]. This has been interpreted as the former location of a so-called *testudo alvei* or a semi-cylindrical container of riveted metal sheeting. The flat bottom part of the *testudo alvei* was placed above the *praefurnium*, and its other end opened into the pool, which allowed heated

36 Waelkens et al. 2000b, 170.

37 Waelkens et al. 2001, 17.

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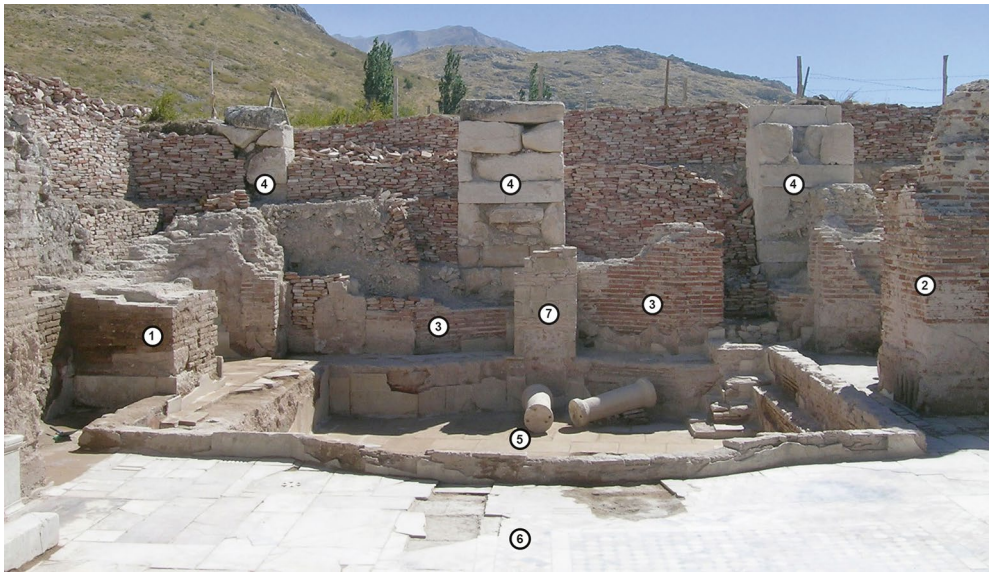

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Fig. 41: Eastern view of F2/A1, indicated are (1) the late 4th – early 5th century eastern pool, (2) late 4th – early 5th century *opus sectile* floor, the late 4th – early 5th century (3) southern and (4) northern plunge pool, the late 4th – early 5th century (5) southern and (6) northern recesses with seats, (7) the late 4th – early 5th century *apodyterium* area, (8) the later *tepidarium* (T3), and (9) the late 1st – early 2nd century vaulted entrance to C3.

Fig. 42: Western view of the eastern part of F2/A1. Indicated are the late 1st – early 2nd century (1) northern, (2) southern, and (3) eastern wall of F2/A1, (4) the late 1st – early 2nd century piers of the cross-shaped hall, (5) the late 4th – early 5th century eastern pool of F2/A1, (6) the late 4th – early 5th century *opus sectile* floor of F2/A1, and (7) a later *opus vittatum* pilaster likely to ensure structural integrity.

Fig. 43: North-eastern view of the *apodyterium* area during the 2003 excavations, indicated are (1) the *opus vittatum* western wall of F2/A1, (2) the possibly later *opus vittatum* division wall, (3) the late 4th – early 5th century benches, (4) the late 1st – early 2nd century vaulted entrance to C3, (5) the late 4th – early 5th century *opus sectile* floor, and (6) the filled-in doorway between the *apodyterium* and the *tepidarium* (T3).

water to warm the pool continuously through convection[38]. A comparable rectangular opening is present at the southern end of the western pool, indicating a comparable *testudo alvei*, and suggesting that the SW corner possibly housed a *praefurnium* from the beginning. Altogether, the 2nd c. A.D. presence of a hypocaust, two large pools, the *testudo alvei*, and cavity walls indicates that this space was originally constructed as a *caldarium*, and not a *Marmorsaal*. Secondly, in regards to the original location of the statues, little space would have been available when taking the pools and entranceways into account (fig. 5. 35). In addition to this, the state of preservation of these statues, as well as the fact that they were partially composed of metal, suggests that they never stood in a humid environment. To conclude, the presented evidence does not support the idea that C3 was a *Marmorsaal* or that the imperial statues once stood there. This central room functioned as a *caldarium* from the onset, which included at least two pools, and could be reached via C1, F2/A1, the Service Area, and likely via C2 as well (fig. 5).

38 See: Yegül 2010, 92–94.

Fig. 44: Eastern view of the C1 area. Indicated are (1) the hypocaust, (2) the floor, (3) the brick facing of the western wall, (4) the mortared rubble core of the western wall, (5) the ashlar exterior face of the western wall, (6) the *opus vittatum* northern wall, and (7) the (collapsed) vaulted corridor of the ground floor.

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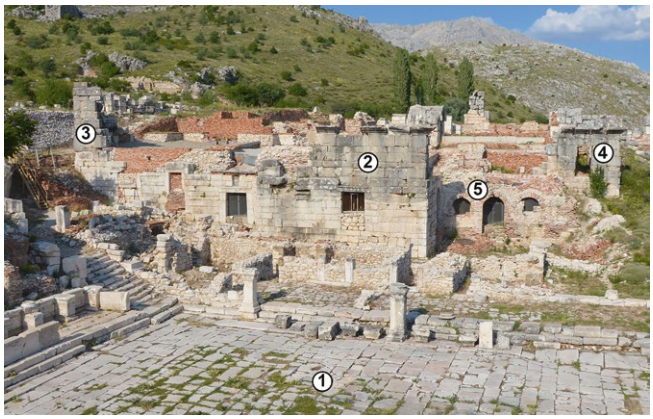

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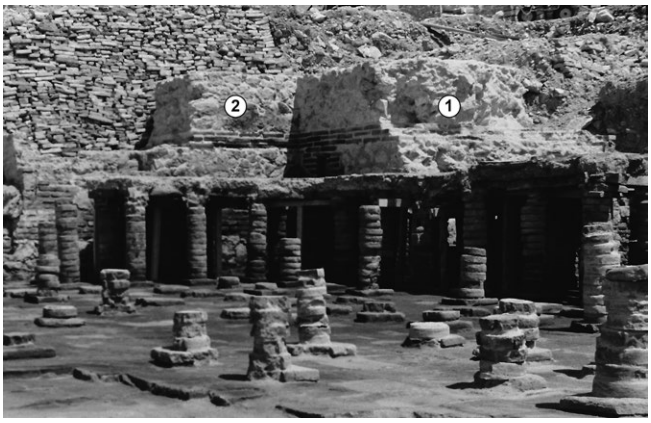

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Fig. 45: The (1) Lower Agora and the western façade of the Bath-Gymnasium, of which (2) the ashlar walls of C1, (3) T1, and (4) C3 are indicated. While most of the ground floor was built in the late 1st – early 2nd century, a later southwards addition is (5) Room 1.

Fig. 46: South-western view of the north-eastern corner of C1. Indicated are (1) the northern segment of the eastern wall in *opus vittatum*, which bonds with (2) the comparable northern wall.

The North-central Room (F2/A1)

38 As the visible parts of the current pools, benches and floor of the north-central room (30.40 × 10.20–13.40 × 7.95 m) are all later modifications (fig. 41), only the walls will be discussed here. The eastern wall of F2/A1 was bonded with the western wall of the cross-shaped hall (fig. 42), and can therefore be dated to the late 1st – early 2nd c. A.D. An apsidal niche (4.85 × 0.90 m) was constructed as part of it (fig. 42). The northern wall of this large room was mostly composed of brickwork, supported by a lower course of limestone ashlars (fig. 41. 77). This wall is comparable to the western wall of the cross-shaped hall in construction. From east-to-west, an apsidal niche (3.51 × 1.87 m), a rectangular niche (3.85 × 1.55 m) with a doorway (1.50 m), a second rectangular niche, and a third rectangular niche with doorway are present (fig. 41)[39]. The westernmost segment consisted of brick as well, and seems to have included a northern entrance to the unexcavated space, and indirectly to the Central Shaft (fig. 5). The southern wall was built in a comparable construction technique, and mostly mirrors the arrangement of the northern wall (fig. 41). However, there was no doorway in the third rectangular niche, and it abutted the ashlar vaulted entrance of C3

39 Waelkens et al. 2005, 275.

(fig. 41). In contrast to the other walls, the western wall was constructed in *opus vittatum* (fig. 43). We believe a west-east oriented division wall (fig. 43) to be a later modification, which would transform the original 2nd c. A.D. arrangement into one open space. However, it cannot be excluded that it already existed in the 2nd c. A.D. Currently, later modifications make it impossible to confirm the earliest function of this room. As there was no hypocaust system, a function as a *caldarium* or *tepidarium* can be excluded, and the substantial foundations of the eastern pool make a (partial) function as *frigidarium* likely.

Western Caldarium (C1)

39 The C1 area (16.50 × 13.50 m) was the first section of the bathing complex to be excavated[40]. While the hypocaust was partially preserved, the floor above it was almost completely gone (fig. 44). As a result, almost no information concerning the functioning and make-up of the room is available. The northern wall of C1 consisted of *opus vittatum*, with a lower section of mortared rubble, followed by five courses of bricks, followed by another segment of mortared rubble (fig. 44). This wall included a poorly preserved doorway to T1, as well as a vaulted opening which connected the hypocausts of C1 and T1. The western wall consisted of an ashlar outer face, composed of six courses on top of the ground floor (not including the cornice) (fig. 44. 45). It partially rested on the inner wall. From north-to-south (fig. 44), this wall consisted of (1) a small *opus vittatum* segment which is bonded and comparable in make-up as the northern wall, (2) a collapse associated with a window at ground floor level, (3) a segment composed of a thick core of mortared rubble (*opus caementicium*) with a brick inner and ashlar outer face, and (4) an area where the wall of the first floor had collapsed entirely into Room 4 below (fig. 44). Because of a later southern extension (Room 1), there is little left of the southern wall, but we assume it also had an ashlar exterior face like the other outer walls. The southern part of the eastern wall (western wall of C3) was placed upon a substructure of small limestone blocks. Upon the actual floor, immediately south of the vaulted passage, this *opus vittatum* wall turned to the east, abutting the vaulted entrance which facilitated traffic between C1 and C3 (fig. 36). The northern segment of the eastern wall had mostly collapsed, but was present in the NE corner (fig. 46). Here, it formed a continuation with the southern wall of T1, consisting of a mortared rubble band, followed by three courses of brick and another mortared rubble band. In terms of an inner wall, its width was considerable to bear the vaulted ceiling. Interestingly, immediately above the floor an air flue can be seen, which was connected to the Central Shaft (fig. 46).

40 The C1 hypocaust (fig. 44. 46) mostly consisted of cylindrical *pilae* (*c.* 1.25–1.44 m), usually composed of a single square brick (40 × 40 × 5 cm), followed by a stack of mortared discs, and crowned by two square bricks (30 × 30 × 5 cm, 40 × 40 × 5 cm), which supported a ceiling of *bipedales* (80 × 80 × 10 cm). Upon this ceiling, successive layers of lime-based mortars were applied and formed the bedding for the limestone and/or marble paving stones[41]. While currently considered part of the original bathing complex, this hypocaust was initially believed to be a 3rd – 4th c. A.D. modification[42]. While neither option can be definitively excluded, based on the continuous floor levels within the baths and the dating of the vaults below, we believe the hypocaust was already part of the 2nd c. A.D. complex. Rather unsurprisingly, considering most of the actual floor collapsed, no evidence of pools was found. Its location within the complex, however, clearly suggests a room that would have benefitted from (additional) solar heat. While C1 likely was a *caldarium* during its long use-life[43], the evidence is not as substantial as for C2 and C3.

40 Waelkens et al. 1998b, 290.
41 Waelkens et al. 1998b, 290 f.
42 Waelkens et al. 2000a, 340.
43 Waelkens et al. 1998a, 273 f.

Western Tepidarium (T1)

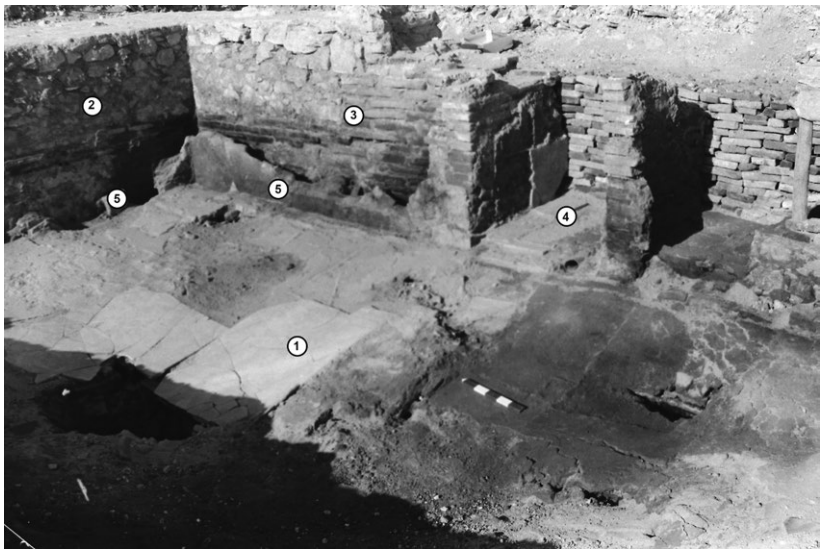
41 Like C1, T1 is a poorly preserved room (12.50 × 9.14 m), which forms the north-western corner of the bathing complex (fig. 3 and 5). The northern wall (16.20–13.40 × 2.10 m) of this room was composed of an ashlar exterior (fig. 45), and an *opus vittatum* interior face of mortared rubble, followed by three courses of brick, and another band of mortared rubble (fig. 47)[44]. Based on its preserved outline, the northern wall of T1 included a window (2.25 m wide), which is partially to blame for its poor preservation. The current composition of the northern and western outer wall included spoliated parts of Doric entablature, as well as a bilingual inscribed element[45]. Based on the reuse of Doric elements in the Antonine Nymphaeum[46], the reuse of blocks of earlier buildings already occurred in the 2nd c. A.D. However, the inscribed block suggests a much later modification[47]. Whether this comprises one or multiple modifications cannot be established. The *opus vittatum* segments of the northern and eastern (9.14 × 1.08 m) walls were bonded and constructed simultaneously (fig. 47). The western wall (9.05 × 0.90 m) is mostly gone, but based on the north-western corner also consisted of an ashlar exterior, and *opus vittatum* interior. The southern wall (13.40 × 2.00 m) consisted of *opus vittatum (*fig. 48), but its make-up does not exactly align with that of the western and eastern walls, which were placed against it. In contrast to the other walls, there was no cavity wall along this wall section. Halfway along the wall, a vaulted entranceway facilitated access to a few steps descending to the C1 area. Various collapsed sections of the floor offered a quick look at the unexcavated hypocaust system below, which was composed of rectangular and cylindrical *pilae*. Via a vaulted opening this heating system was connected to the hypocaust of the C1 area[48]. At 5.12 m from the eastern wall, a delineation of mortar and marble paving stones has created a sunken area in the centre of the room. As water infrastructure was found in the proximity of the southern wall, we are possibly dealing with a foot bath similar to that of T2 and T3. Based on the bonding walls and connected hypocausts, C1 and T1 were constructed simultaneously[49]. Functionally, the presence of a hypocaust, its proximity to a supposed *caldarium*, and the foot bath suggested it was a *tepidarium* at some point in time[50]. Here, we must keep in mind that there is ample evidence of large-scale modifications, including the western façade. The fact that a lack of structural integrity made in-depth documentation impossible, means that we cannot determine the original state of this room. As such, while T1 likely was a *tepidarium* during its last phase, its 2nd c. A.D. function remains in question.

Central Shaft (CS)

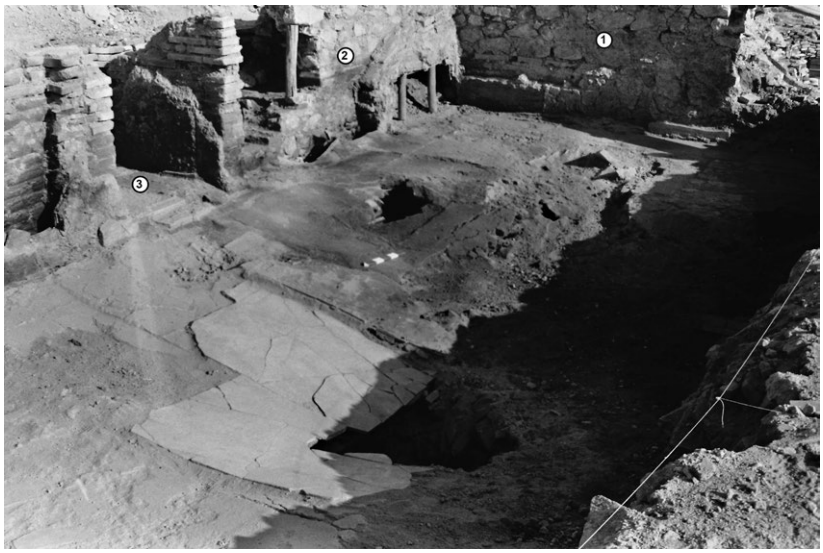
42 Immediately west of F2/A1, and east of T1, the so-called Central Shaft (13.40 × 9.05 m) was located (fig. 5). Unfortunately, its link to the ground floor meant that the collapse and erosional infill piled up to two full storeys in height, which made this relatively narrow space difficult to excavate. Like C1 and T1, the walls of CS were mainly composed of brickwork and *opus vittatum*, with neatly delimited sections of mortared rubble and brick courses. These walls bonded and were therefore constructed simultaneously. In the western wall (9.05 × 2.50 m), two brick vaults were present (fig. 49). The largest of these offered access to a grand staircase (2.03 × 3.25 m) descending to Rooms 4, 5 and 6 (ground floor, fig. 2). The smaller one connected to the C1 hypocaust, and was likely linked to a *praefurnium*. Based on beam holes, wooden landings might have been situated

44 Waelkens et al. 2001, 18.
45 Waelkens – Vermeersch 1996, 132 f.
46 Talloen – Poblome 2020.
47 Waelkens et al. 1998b, 290 f.
48 Waelkens et al. 2000a, 347; Waelkens et al. 2001, 18.
49 Waelkens et al. 1998b, 290 f.; Waelkens et al. 2000a, 347.
50 Waelkens et al. 2000a, 347; Waelkens et al. 2001, 18.

between the floor levels[51]. The northern wall of the Central Shaft (13.40 × 1.35 m) included a small brick vault (0.95 × 0.92 m) set approximately 2.80 m above the floor (fig. 49). A feature below it was interpreted as a possible gutter, and thus associated with drainage. East of this vault, a staircase connected to the unexcavated room to the north (fig. 5). The eastern wall (9.05 × 0.70 m) was the western wall of F2/A1 (fig. 43). Lastly, the southern wall seems to be a later modification including tuff rock, and two brick types (40 × 40 × 5 cm and 28 × 28 × 3 cm), built upon a vaulted opening linking to the C3 hypocaust (*praefurnium*?). Based on (later) drainage infrastructure gravitating towards it, as well as the lack of supports, it has been suggested that the Central Shaft was unroofed, and included features and piping to catch and direct rainwater. However, this could have resulted in considerable issues of structural integrity and countless roof tiles in the collapse suggest otherwise. Beyond a *terminus post quem* in the late 1st – early 2nd c. A.D. (vaults), and a *terminus ante quem* in the late 6th – 7th c. A.D., there is no hard evidence to refine the dating of these walls and modifications. Based on the similarities with the Service Area, including a link to the ground floor (fig. 2), CS likely provided a service function. However, at least during its final phase, the narrow staircase ascending north was lined with marble, and could have been a public accessway as well, perhaps being used to access the *latrina* on the ground floor[52]. If we expand upon the similarities with the Service Area, we can argue that the Central Shaft (initially) included a western and southern *praefurnium*. Currently, there is no *praefurnium* associated with the original phase of use of the C1 and (possibly) T1 areas. We know that a *praefurnium* was not located along the eastern part of C3 (unless completely dismantled), which only leaves T1 and the Central Shaft. Considering the available evidence, the latter is the most likely theory of the two.



47



48

Fig. 47: South-western view of the T1 area. Visible are (1) the floor, (2) the *opus vittatum* northern and (3) eastern wall, (4) an entrance leading to CS, and (5) parts of the inserted *tubuli*.

Fig. 48: North-western view of the T1 area. Indicated are (1) the southern and (2) eastern wall, as well as (3) the doorway to CS.

The Ground Floor

43 As excavations began from the west, the ground floor (fig. 51) was one of the first areas to be excavated. Unlike the first floor, there were not many indications of the functions of these vaulted rooms. For that reason, they were simply numbered. As Room 1 is a later modification entirely, it will be discussed further on.

51 Waelkens et al. 2001, 18.

52 Waelkens 2003, 219 f; Waelkens 2005, 274.

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Fig. 49: Eastern view of (1) the western wall and vaulted openings, as well as (2) the northern one in the CS area. (lower right) The view from inside Room 6 (ground floor), and the staircase leading to CS.

Fig. 50: (above) Southern view of Room 2, (below) northern view of Room 2. Indicated are (1) the mortared rubble northern wall, (2) the corridor leading to Room 4 and CS, (3) a later blockage wall, (4) another unexcavated corridor (blocked at a later date), (5) the vaulted brick entrance leading outside, (6) a later blockage wall, and (7) the northern corridor in the eastern wall leading to Room 3.

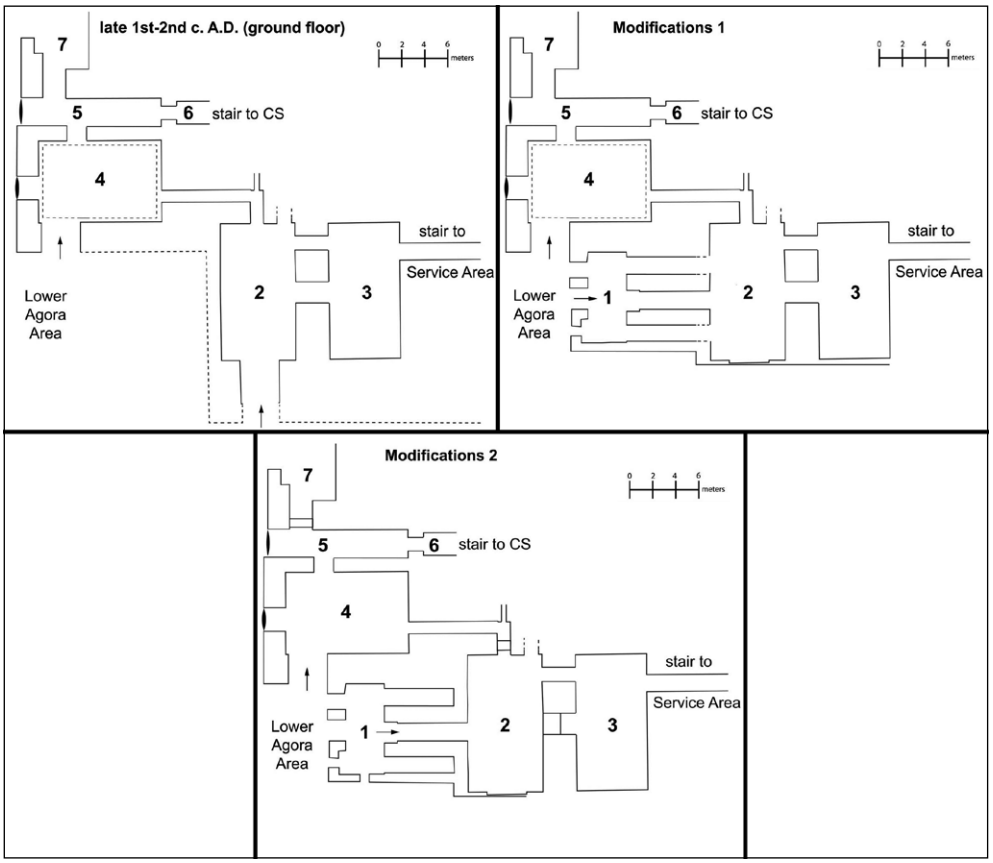
Room 2

44 Room 2 (12.00 × 6.70 m) is situated in the south-eastern part of the vaults (fig. 51). Its vaulted ceiling was constructed of brick facing (40 × 40 × 5 cm) in a north-south orientation set in a mortared rubble core (*opus caementicium*) (fig. 50). Furthermore, the northern wall was built in mortared rubble, and included a double vaulted entrance, which led to a corridor (fig. 50). The latter bifurcated into a northern continuation leading to CS and a west-east oriented corridor leading to Room 4 (fig. 51). These corridors can be linked to water infrastructure supplying the *latrina* (Room 4). Immediately to the east of this corridor, another vaulted entrance was present in the northern wall of Room 2, and while some uncertainty remains, it probably led to CS as well[53]. Because this corridor is partly hidden behind the eastern wall (fig. 50), the northern wall was constructed first[54]. This suggests that Room 2 and 3 were built after the northern parts of the vault. The southern end of Room 2 originally opened into a double brick vault (fig. 50), which ended in a vaulted ashlar entrance (currently buried). The upper part of this vaulted entrance is visible in the southwestern corner of C3. The eastern wall of Room 2 was set in brick and included two vaulted corridors which led to Room 3 (fig. 50. 52). The bonded bricks demonstrate that Rooms 2 and 3 were constructed simultaneously[55]. This supports the observation that they were situated below C3 (fig. 2). The original floor of Room 2 was composed of a mortar substrate, which is still visible in the profile of the control excavations. In turn, this substrate was present on top of the discussed 25 B.C. – 50 A.D. deposits, which provided a *terminus post quem* for the construction of Room 2. On top of the early-to-mid 1st c. A.D. deposits, successively a displaced 2nd – 3rd c. A.D. (coming from Room 3), a 3rd – 4th c. A.D., and a 4th c. A.D. series of strata were excavated. Based on evidence from this room, a *terminus ante quem* for Room 2 can be set in the 2nd – 3rd c. A.D. However, it can be dated to the late 1st – early 2nd century based on its simultaneous construction with Room 3.

Room 3

45 The comparably sized Room 3 (11.95 × 7.26 × 3.73 m) was also delimited by a mortared rubble northern wall, a similar southern wall, and a western and eastern wall which carry the brick vault (fig. 52)[56]. As the northern wall is taller than the vault (similarly to Room 2), it already existed or was built immediately before the vault. It is possible this discrepancy was for the purpose of supporting the north-eastern part of C3 above it. In the eastern wall, a corridor leads eastwards, and seems to end in a staircase (fig. 52). The latter possibly connected the ground floor to the Service Area. As the bedrock was exposed in the centre of this vaulted chamber, we can establish a significant difference in the height

53 Waelkens et al. 2000a, 356–361.
54 Waelkens et al. 2000b, 171.
55 Waelkens et al. 1998b, 291; Waelkens et al. 2000a, 356–361.
56 Waelkens et al. 1998b, 292; Waelkens et al. 2000a, 361.



51

Fig. 51: Maps of the late 1st – 2nd c. A.D. ground floor and subsequent modifications, adapted from a drawn plan by David Depraetere.

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Fig. 52: (above) Northern view in Room 3, (below) south-eastern view in Room 3. Indicated are (1) the mortared rubble northern wall, the (2) southern and (3) northern corridors in the western wall leading to Room 2, (4) the corridor leading to a staircase ascending to the first floor in the Service Area, and (5) the southern mortared rubble wall. One also sees the charcoals and ash from the hypocausts above impacting the walls.

between the ophiolitic bedrock in the Service Area and in Room 3. A subsequent red brown matrix with limestone inclusions covered part of the vault's foundations, and based on an almost complete 2nd c. A.D. bowl, provides a *terminus ante quem* for Room 3 in the 2nd c. A.D. Two archaeologically sterile strata were followed by a gradual accumulation of charcoal and ash (fig. 52), which included 2nd – 3rd c. A.D. ceramics. This locus has been associated with the cleaning of a hypocaust[57]. As Room 3 is situated below C3, and near the *praefurnia* of the Service Area, these are the most likely culprits. On top of these maintenance deposits, a gradual collection of 2nd – 3rd c. A.D. waste was documented.

Room 4

46 Room 4 (8.05 × 10.48 m) is situated in the northwestern part of the vaults and below C1 (fig. 2). Its southern wall was set in an ashlar masonry exterior, and included a vaulted window or entrance to the Lower Agora area (fig. 51). The inside consisted of the brick vault (fig. 53). The exterior face of the western wall was also set in ashlar masonry (fig. 45), while the inside consisted of irregular ashlars and rubble and included a window (2.04 × 2.74 m) facing the Lower Agora (fig. 53). The ceiling was composed of a brick (40 × 40 × 6 cm) double vault, which descended eastwards. Here, the mortared rubble eastern wall included a double vaulted entrance, which is at the opposite end of

57 Waelkens et al. 2000b, 172.

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Fig. 53: Room 4 (*latrina*). (above left) View of the eastern wall, (above right) view of the south, (below left) the north-eastern corner, (below right) the western wall. Indicated are (1) the eastern wall, (2) the corridor to Room 2 and CS (water infrastructure), (3) the southern part of the vault, (4) the window and/or entrance to the Lower Agora, (5) the western wall, (6) window, (7) the sewer outlet, and (8) doorway to Room 5.

Fig. 54: View of the central and western part of Room 5. Indicated are (1) the window, (2) the doorway to Room 4, (3) the doorway to Room 7, and (4) the mortared rubble part of the northern wall.

the west-east oriented corridor leading to Room 2 (fig. 51). The northern wall was poorly preserved but included a brick vaulted entrance to Room 5 (fig. 51. 53)[58].

47 A sewage channel enters Room 4 from the east, and is composed of rubble walls and a double vaulted brick cover. It is likely this channel links to other sewage channels which follow the walls of Room 4 (fig. 53). Its function is indicated by small openings in all four walls, indicating that we are dealing with a *latrina*. The seats affixed to these openings were supported by mortared rubble foundations placed along the walls. The waste from the channels was directed into a sewer (68.75 × 0.60 × 1.20 m) situated in the northern corner of the western wall (fig. 53), and descending southwards underneath the street along the western façade of the Bath-Gymnasium. The 13° angle is considered indicative of a waste channel. Based on different construction techniques, this sewer was modified several times. In the sewage channel, the strata included 4th – 7th c. A.D. coins and mid-5th – 6th c. A.D. ceramics. This provided a *terminus ante quem* for the silting up of this channel. During excavations of the street west of the baths, part of this sewer was present below the 2nd c. A.D. paving (currently the 6th c. A.D. paving is exposed). Chronologically, the *latrina* has been considered a later modification[59]. However, considering its orientation along the western façade of the baths, and a comparable dating range, it is reasonable to argue that it was constructed at the same time as the original complex. A series of radio-carbon datings of organic materials obtained during coring included a 130–150 A.D. date from the lower strata of this room. This organic material was situated in strata with faecal biomarkers, therefore confirming that the *latrina* was in use[60]. At least during its final phase, the floor of this *latrina* was composed of brick and limestone slabs (covering the sewage) (fig. 53). It can only be assigned a *terminus ante quem* in the mid-5th – 6th c. A.D., based on the strata on top of it.

Room 5

48 Partially collapsed, the western wall of Room 5 led to another window providing a view onto the Lower Agora (fig. 54). The eastern wall was built in mortared rubble, and included another collapsed entrance leading to Room 6 (fig. 49). The north-

58 Waelkens et al. 1998b, 292; Waelkens et al. 2000a, 361 f.
59 Waelkens et al. 2006, 319.
60 Baeten et al. 2012, 1149 f.

ern wall was also partially built in mortared rubble, and included a collapsed entrance to Room 7 (fig. 54)[61].

Room 6

49 Well-preserved, Room 6 included a vaulted ceiling situated higher than in Room 5, which sprang from mortared rubble walls. The staircase ascending towards CS is located at its eastern end (fig. 49). The room is situated below the north-eastern part of C1 (fig. 2).

Room 7

50 As debris blocks the entranceway from Room 5, not much can be said about the interior of this room except that the walls consisted of mortared rubble and brick, and that it was situated below T1. Along its exterior, an excavation exposed a framed doorway (1.78 × 3.00 m), as well as a window (1.20 × 1.72 m) situated 2 m further south.

Summary

51 Chronologically, Room 2 and 3 can be ascribed to the second half of the 1st – 2nd c. A.D. on the basis of stratigraphic contexts. As their northern wall already existed, this suggests that construction of the vault began in the northern part. For Rooms 4, 5, 6, and 7 no stratigraphic evidence associated with the foundations was obtained. However, the association with the 2nd c. A.D. sewage, and Room 2 and 3 being built against them, suggests this part was built in the 2nd c. A.D. as well. As construction of the baths was initiated in the late 1st – early 2nd c. A.D., the vaults were likely constructed during that range, or briefly thereafter (fig. 38).

52 Beyond their function in expanding space to accommodate and support the first floor, there is little evidence to determine what most of these large, vaulted chambers were used for. Beyond a doubt, Room 4 was a *latrina*, which likely served both the baths, as well as visitors from the Lower Agora. The comparable nature of Rooms 2 and 3, and their relationship to CS and the Service Area suggest a service function. Possibly, staff entered the baths via the southern entrance in Room 2 (fig. 51). Furthermore, these rooms provided more than enough space to store fuel, which could be brought to the *praefurnia* in CS and the Service Area via the corridors and likely staircases. During the late 2nd – 3rd c A.D., refuse from the hypocaust, and other cleaning activities (including 2nd – 3rd c. A.D. pottery) was regularly dumped in this area. For Room 5, 6 and 7, a comparable function can be argued considering their relationship to the Central Shaft.

Later Modifications

53 In this section, we discuss the major modifications to the Bath-Gymnasium. This does not include minor modifications associated with maintenance, which can be found on virtually any wall or feature. We describe the modifications by room, in the same order as the late 1st – 2nd c. A.D. datasets. The representation of modifications on the same map (fig. 5) does not indicate simultaneous occurrence nor causal links. Still, we combined modifications which are likely to fall within a similar time range. This way we avoid ending up with a few dozen maps showing each individual change, while still visually clarifying the complex history of the Bath-Gymnasium.

61 Waelkens et al. 2000a, 362.

Fig. 55: Northern view of SA, and the 5th century mosaic. Indicated are (1) the south-western recess in which a statue of Hadrian stood, and the (2) central western, (3) south-eastern, and (4) central eastern recess where a statue of Faustina the Elder and two unknown empresses were positioned.

55

The Cross-shaped Hall (SA, EE, F1 and NA)

The Mosaic (SA, F1, NA)

54 Except for the EE area, a mostly black-and-white geometric mosaic is well-preserved throughout the cross-shaped hall (fig. 10. 13. 14. 15. 55). The limestone *tesserae* (3 × 3 cm) which constituted this dichromatic floor were roughly cut, and often fashioned from former *crustae*[62]. While certainly not the first major modification to the cross-shaped hall, its placement provided a *terminus ante* or *post quem* for various features. Therefore, its dating will be discussed first.

55 In the past, both a late 4th and early 6th c. A.D. date have been suggested[63]. To settle these ranges, we turn to a series of control excavations. In 2009, a control excavation in a section of SA where the mosaic had been destroyed by the collapsing vaults (fig. 55), documented a substrate with 5th – 6th c. A.D. ceramics. Of course, this gap in the floor could be the result of later activities and/or be a direct consequence of the final collapse, which could lead to contamination. In 2010 and 2011, two control excavations went below the mortar substrate of the mosaic in the EE area. This respectively exposed a 2nd c. A.D. brown grey sandy fill, and 2nd – 4th c. A.D. ceramics in the mortared substratum above. Unfortunately, it remains unclear if the mosaic ever existed in this area, as the only remnants are situated at the western edge of EE. In 2012, two additional control excavations in the F1 and NA area removed the mortar substrate where the *tesserae* had not been preserved, therefore examining closed contexts below the mosaic. Below this mortar substrate, a dark brown layer with numerous smaller *tesserae* (1 × 1 cm), and another grey mortar substrate were exposed. Two sherds in the latter were dated to the 4th c. A.D., while most sherds in the former could be dated to that century as well. The youngest sherds were attributed to the 400–450 A.D. range. As a result, it was concluded that the mosaic can be ascribed a *terminus post quem* of 400–450 A.D. Additionally, in 2009, a series of post holes which had been cut through the mosaic were excavated (fig. 55). Most of these were situated in the SA area, and can be interpreted as part of a scaffolding to temporarily support a damaged roof. After their use, these postholes were filled-in with brick fragments and pottery sherds, which was a customary practice at Sagalassos. While earlier material was present, the latest sherds belonged to the 5th – early 6th c. A.D., providing a *terminus ante quem* for the placement of the mosaic into which the postholes were cut. We can reasonably assume that the postholes did not occur immediately after the mosaic was placed. Furthermore, based on stylistic similarities with the 5th c. A.D. mosaic of the local Prytaneion, a construction date in that century is possible[64]. Lastly, as part of the mosaic, a tessellated panel framing a

62 Waelkens et al. 2009, 436
63 Waelkens et al. 2012, 144; Waelkens et al. 2013, 248.
64 Uytterhoeven – Poblome 2019.

56

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poorly preserved text of seven lines was laid-out in smaller *tesserae* (1 × 1 cm) (fig. 56). This text faces the northern entrance, and can be reconstructed as follows:

»(1) [. .]ΥΦ[. . . . . .]
(2) ΛΑΙ[. . . . .]
(3) ΟΥ[. . . . . .]
(4) ΤΟΝΟ[. . . . .]
(5) ΚΑΙ[. . . . .]ΝΕΩΣΑΝΤΟΣ
(6) ΤΟΔΗ[. . .]ΣΙΟΝ ΠΟΛΛΑ
(7) ΤΕ …«

56 Because of the poor preservation, only the final part was translated to either »and of him who renewed the public hall many …« or »when he renewed the public hall many …«[65]. A public dining function is suggested by late 5th c. A.D. dumps containing faunal remains and associated crockery indicative of such feasts[66]. Combining this information, the mosaic can reasonably be ascribed to the 5th c. A.D. Interestingly, the term ›renew‹ suggests that this was not a new function, though it is impossible to determine how far back this use goes. Because this mosaic either neatly borders modifications, or was removed to facilitate modifications, it offers us the tools to sequence those modifications. We will begin in the southern part of the hall, and argue our way northwards.

Fig. 56: Close-up of the tessellated text panel.

Fig. 57: (above) The head and leg of an acrolithic statue of Hadrian. (below) The base on top of which this statue was placed. (right) Hadrian.

Fig. 58: Western view of the central-western recess. Visible is the imprint of the statue, the finely dressed slab on which it stood, and a hole cut through the mosaic, possibly to affix the acrolithic statue.

The Reuse of Royal Acrolithic Statues (SA)

57 Between 2007 and 2011 the partial remains and implications of six acrolithic statues, originally representing emperors and empresses, were excavated in between the recesses of the SA area (fig. 55). In the southwestern recess, the marble head and right leg of a larger-than-life statue of Hadrian (*c.* 4.50–4.70 m in height) were found near a limestone base with asymmetrical cut-outs (fig. 57)[67]. The original door opening behind it was closed off with pieces of rubble and brick (fig. 13). Based on the mosaic being adapted to damaged parts of the base (e.g., south-eastern corner), as well as the mosaic's substrate indicating the former extent of the base, the latter was placed before the 5th c. A.D. mosaic was laid out (fig. 57). The mosaic does not neatly border the fill-in

65 Translation by Inge Uytterhoeven.
66 De Cupere et al. 2015, 193.
67 Waelkens et al. 2009, 437; Mägele 2017, 438 f.

of the doorway, but it is unlikely that the entrance remained functional with the statue of Hadrian in front of it. As this entrance facilitated access to a *praefurnium*, it means that this furnace's retirement can provide a *terminus post quem* for the placement of Hadrian's statue.

58 In the central-western recess, the imprint of the feet and drapery into the surrounding mosaic were the only remnants of the statue (fig. 58). In contrast to Hadrian, this statue was placed directly on a finely dressed limestone slab. Possibly, stability issues required the installation of additional support, as suggested by a hole cut through the mosaic, and situated against the brick wall (fig. 14). Based on similarities affecting the base associated with Faustina the Elder (below), it can be argued that an empress stood here.

59 In the north-western recess, almost all of the marble components of the acrolithic statue of an emperor (*c.* 4.50–4.70 m) were discovered, including the head, arms and legs. As a matter of fact, the legs were still standing in situ on top of a base with asymmetrical cut-outs comparable to that of Hadrian (fig. 59). The observation that the left foot was set in front of the right one, which aligned with the positioning of the cut-outs, suggested this base was produced or modified for this specific purpose. In addition, the imprint of the feet was visible (fig. 59). Likely, the feet, legs or other components were affixed by means of these cut-outs. The base was abutted by the 5th c. A.D. mosaic. This work of art was initially interpreted as a representation of Marcus Aurelius[68]. While some doubt had already been cast[69], an ongoing comparative study of the head with coins and three-dimensional portraits by Jane Fejfer, suggests we are dealing with a statue of the emperor Septimius Severus, not Marcus Aurelius. In particular, the short curly hairstyle, large wide-open eyes and the grooved cheeks correspond better to portraits of Septimius Severus (fig. 59)[70].

60 In the south-eastern recess, an imprint of the drapery, and part of the feet of a statue – comparable to the central western recess – were preserved (fig. 60). Similarly, it was placed directly on a finely worked slab[71]. Because of its position opposite Hadrian, this statue was identified as the empress Vibia Sabina. However, as not all statues are set in spousal relations, this identification is not definitive. In addition to the statue, the 5th c. A.D. mosaic also neatly borders the poorly preserved rubble wall behind it. In fact, the mosaic also abutted the mortared rubble face placed against the southern outer wall of the cross-shaped hall, providing a *terminus ante quem* for these adjustments in the 5th c. A.D.

61 Immediately north, in the central eastern recess, a comparable imprint indicative of feet and drapery was exposed (fig. 61). As the head of Faustina the Elder was found in its vicinity (fig. 61), this empress likely stood here. The left arm was found as well. Faustina was placed directly on finely dressed limestone slabs. As these slabs were aligned with the extent of the niche, they seem to have been placed for this purpose. The mosaic neatly surrounded both the statue, as well as the poorly preserved rubble wall behind it. Based on a stylistic analysis, the statue was possibly produced in the 140s, and thus is likely posthumous[72].

62 Lastly, in the north-eastern recess, a base similar to those of Hadrian and Marcus Aurelius was discovered (fig. 62). The only difference was that this base had three, instead of two cut-outs, and the eastern two were symmetrical. Like Hadrian, this statue was situated in front of a former entrance. In this recess, the mosaic abutted

68 Waelkens et al. 2010, 267; Mägele 2017, 438 f.

69 Mägele 2017, 451.

70 Personal communication with Jane Fejfer. See also: Poblome et al. 2023, 40 f.

71 Waelkens et al. 2009, 436.

72 Mägele 2017, 442.

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Fig. 59: (left) The legs of the statue formerly attributed to Marcus Aurelius, and now ascribed to Septimius Severus found in situ on the base. (right) Septimius Severus.

Fig. 60: Western view upon the scant remains of the acrolithic statue in the south-eastern recess, possibly representing Vibia Sabina, based on Hadrian being positioned in the opposite recess.

Fig. 61: (upper left) The hollowed-out head of Faustina the Elder face-down. (centre) The imprint of feet and drapery in the central eastern recess. (upper right) Faustina the Elder.

Fig. 62: Eastern view of the base in the north-eastern recess.

the rubble fill-in of the doorway (fig. 46), providing a *terminus ante quem* for its blocking (fig. 15). In all likelihood, we can associate this closure with the installation of the statue, which provides support for the argument that the entrance behind Hadrian was blocked as well. Because of its position opposite Marcus Aurelius, the (missing) statue was originally attributed to Faustina the Younger. However, as the former statue likely represents Septimius Severus, and this type of base seems to be used for emperors, this remains uncertain.

63 To summarise, before or during the 5th c. A.D., a series of larger-than-life acrolithic statues representing at least Hadrian, Faustina the Elder and (likely) Septimius Severus were installed in the recesses of the SA area. None of these statues stood intact until the final collapse of this part of the complex, and parts appear to have been recycled for their raw materials. Despite various hypotheses, there is no decisive indication for their original position. As discussed, the argument[73] that these statues stood in the *Marmorsaal* of the baths needs to be reconsidered. A second hypothesis is that these statues came from the Temple of Antoninus Pius, situated approximately 230 m south of the baths. First, Semra Mägele argued that colossal, acrolithic statues of emperors which were found in or near their original location, all stood in sacred buildings (e.g., at Ephesos and Sardeis). Secondly, she proposed that the statues of Sagalassos stood inside and that their acrolithic nature would have made them unfit for a humid environment. Third, she pointed out that there are faint indications along the longitudinal walls of the Temple of Antoninus Pius at Sagalassos which suggest the prior location of pedestals. Along the same line, she did not consider the relatively small *cella* a valid counter

73 Waelkens et al. 2012, 143 f.

argument. Fourth, she suggested that the chronologies of the desacralisation of the temple, and the modifications to the Bath-Gymnasium overlapped[74].

64 While this is a possibility, these arguments require some nuance and raise some questions. First of all, the Temple of Antoninus Pius remains unexcavated, preventing the precision of observations required to validate any hypothesis. Secondly, the fact that this temple was only finished during the reign of the eponymous emperor could be problematic for the statue of Hadrian. Stylistic analyses suggested that a significant time gap existed between the sculpting of the Hadrian and Septimius Severus heads[75]. This increases the likelihood that the statues originated during the reign of the respective emperor. Third, the argument that the baths were an unfit, humid environment includes the assumption that the cross-shaped hall was a *frigidarium*, which was the opinion at the time. However, if it never included an actual pool, it could have served other purposes, like housing for acrolithic statues. Fourth, the idea that these statues were moved because the religious practices maintaining the temple (the Imperial cult) were no longer performed and/or abolished is counterintuitive. It seems odd that the (likely) Christian groups responsible for (re)configuring cultic practices would invest considerable effort in displaying these powerful actors of a cult they opposed in a public dining hall, unless they negotiated a compromise. Additionally, the assertion that the chronologies overlap is not quite in line with the actual archaeological dataset. The relocation of the statues occurred before or in the 5th c. A.D., while the temple became inactive in the late 4th – early 5th c. A.D. Altogether, at this stage of research, the original location of the statues remains impossible to determine.

65 This brings us to the arrangement and identification of these statues. While there is currently no doubt concerning Hadrian and Faustina the Elder, the identification of most of the other statues is based on the assumption that emperors were originally paired with their empresses. In the SA area, this seems no longer to have been the case. The bases of Hadrian and Septimius Severus are identical, which is an inference for a similar composition of the statue. Similarly, the head of an empress was part of a statue with drapery placed directly on the slabs, as this type of statue apparently balanced itself. As we have a total of three bases, and three baseless statues, the likelihood arises that there is a relation between composition, base and gender. This would mean that another emperor was situated in the north-eastern recess[76], and that we cannot reliably identify the other two empresses. Whether or not groups still reflected the original relationship between emperors and empresses, and arranged them as such, is important information for understanding the meaning of this group of statues.

A Possible Kitchen or Theatre-like Structure in the EE Area

66 In the EE area, the mosaic was either completely removed, or never present at all (fig. 17). As some small patches of *tesserae* remain near the transition of the central part of the cross-shaped hall to EE, either scenario remains possible. If the mosaic was present, this means that all modifications can be ascribed a *terminus post quem* in the 5th c. A.D. If not, we have a *terminus post quem* in the 4th c. A.D., based on the presence of sherds in the mortar substrate[77]. Considering the thicker mortar in this area, it remains possible its floor(s) differentiated it from the rest of the cross-shaped hall. Additionally, at least six mortared rubble walls (five are partially preserved) were built on top of the mortar substrate, forming a radial structure (fig. 17)[78]. The observation that

74 Mägele 2013; Mägele 2017.
75 Mägele 2017, 439.
76 Waelkens et al. 2012, 144. Mägele 2017, 438–443.
77 Waelkens et al. 2012, 144.
78 Waelkens et al. 2013, 247.

the northernmost of these walls displays the imprint of the bricks of the northern apse (fig. 63), indicates that this apse was not cut out to construct the radial structure. The two easternmost radial walls are partially constructed on top of the foundation of the eastern (outer) wall (fig. 17). In addition, along the northern and southern wall, the poorly preserved remains of rectangular structures were documented. In between these structures and the nearby wall, a comparable loose dark brown loam with red discolouration was excavated, suggesting these served a similar function involving heating and/or fire. The ceramics of these loci could be dated to the late 5th c. A.D., providing a *terminus ante quem* for these activities. Furthermore, the faunal remains suggested that these contexts could be associated with feasting[79]. Keeping in mind the presence of a 5th c. A.D. public hall with a possible dining function, these rectangular features could have been used for food preparation. Currently, it remains unclear where a kitchen could be located otherwise, as the doorways to the unexcavated rooms were blocked at this point. A hypothesis for the radial structure is that it facilitated the arrangement of a podium.

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Fig. 63: The mortared rubble follows the outline of the original brick apse, indicating it was not cut for the installation of the radial walls.

Metal and Lime Kilns in the EE Area

67 The radial structure was partially dismantled to facilitate the construction of a rectangular metal-recycling kiln, four-to-five comparable features, as well as two circular lime kilns (fig. 17). The largest metal-recycling kiln (1.82–1.98 × 0.40 × 0.38 m) was defined by reused bricks and rubble, and a layer of clay – burned to a crisp red – created an impermeable floor (fig. 17). Its function was inferred on the basis of metal production waste. In the vicinity, similar undefined spots of burnt clay suggest additional recycling activities (fig. 3). The eastern (⌀: 2.68 m) and western (⌀: 2.10 m) lime kiln were delineated by reused bricks set in clay (fig. 17). Additionally, four reused terracotta water pipes provided air circulation to the eastern kiln. Based on the absence of metal waste, and the presence of comparable structures at Sagalassos, these circular kilns likely produced slaked lime. Concerning their use, their relation with a beaten earth walking level which developed around them and on top of the mortar substrate, provides a *terminus ante quem* between 575–600 A.D.[80]. Subsequently, late 6th c. A.D. dumping activities filled-in these kilns, as well as the compartments in between the dismantled radial walls. We consider the activities of these kilns to be in the framework of organized activities directed at recycling useful building materials and/or parts of the decoration programme of the Bath-Gymnasium for other purposes.

68 Possibly contemporaneous with these recycling activities, a total of four irregular recesses were crudely cut out in the northern and southern wall to the west and east of the original apsidal niches, which were cut out as well. In some of these newly created recesses, brick, tuff rock, and rubble structures were installed, likely to provide additional support. Based on the observation that only the brick face was removed, this was likely an act of spoliation to obtain bricks. While we cannot relate these spoliation acts to the kilns, it is possible that (some of) the recycled bricks were used for the latter's construction.

79 Waelkens et al. 2012, 144.

80 Waelkens et al. 2012, 144.

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Fig. 64: (above left) late 1st – early 2nd century parapet of the eastern pool of C3, (above right) the (reused) parapet of the later NE *alveus* of C3, (lower left) the parapet of the F1 basin, (lower right) the parapet of the C4 pool.

The Semi-circular Pool or Fountain (F1)

69 Whether or not archaeologically preserved modifications occurred in the F1 area depends on the interpretation of the semi-circular basin (fig. 19). The curved parapet of this basin consisted of eight limestone slabs, fastened to each other by means of metal clamps. Approximately 0.70 m below the top, this parapet is abutted by a second row of limestone blocks, which was interpreted as a step and/or bench. Traces of a white lime-based plaster were observed on the surface of the parapet slabs. The floor of the basin consisted of limestone paving stones of varying sizes, placed in N-S oriented rows. On top of this floor, a broken water spout was found, which was thought to fit into a (now closed-off) hole in the apsidal niche *c.* 2.50 m above the basin's floor. Furthermore, a rectangular pedestal and a hexagonal statue based were set up inside the basin, and were at least on display in the niche during the last phase of use (fig. 19).

70 Initially, this basin was assumed to be an original pool, and became the main argument for interpretation of the cross-shaped hall as a *frigidarium*. Because of the panel text inferencing its later functioning as public hall, it was argued that this pool became a fountain in the late 4th c. A.D. Consequently, the dating and function of the pool run the risk of presenting a circular line of reasoning. First of all, this arrangement can be ascribed a *terminus ante quem* in the 5th c. A.D., as it is neatly bordered by the mosaic (fig. 19. 64). While it abuts the late 1st – early 2nd c. A.D. wall, this *terminus post quem* in the late 1st – early 2nd c. A.D. is complicated because a piece of veneering is situated in between. After all, veneering is likely to have been replaced at some point. Currently, our only clue can be found in a comparison of the parapets of all of the excavated pools (fig. 64). The parapets of the western and eastern pool of C3 are identical to each other (not the semi-circular pool) in terms of limestone-type (grey-veined), as well as their finely cut profiles (fig. 64). Furthermore, the parapet blocks neatly fit the space into which these pools were set. We have already established that these pools were an original part of C3. In regards to material, the parapet of the (later) northern plunge pool of C3 is similar as well (fig. 64), but was not made to fit this recess. Likewise, the parapets of the northern and southern pool of F2/A1 are comparable in terms of limestone-type and profiles. However, they were not crafted to fit these recesses. Based on their similarities, all of these parapet slabs were possibly crafted by the same group of stonemasons, likely in the 2nd c. A.D. (their earliest use). While part of the parapet of the western pool of C3 is missing, the combined length of the reused parapet slabs of C3 and F2 far exceeds this gap. As such, some of the slabs came from (an) unknown pool(s) which was/were dismantled. In contrast to the C3 and F2 pools, the parapet of the C4 pool was crafted from a different type of limestone (plain white), is not as finely dressed, and the profiles are not as carefully chiselled (fig. 64). In fact, these blocks could very well have served a different purpose before they were re-cut. Additionally, there is ample evidence that the entire arrangement is a later modification.

71 Returning to the semi-circular F1-basin (fig. 64), the limestone-type and carving are comparable to that of the C4 pool, suggesting a later modification. In addition, the blocks were placed against the veneering in between the wall and pool, similar to the later pools of F1/A2, and the later north-eastern plunge pool of C3. Currently, all

known in situ veneering is a later refurbishment as indicated by discontinuous profiles, and reused inscriptions. If the veneering is not original, neither were the parapet slabs placed against them. Of course, there is the possibility that the parapet was simply reset, as with the western pool of C3. Finally, the mortar foundations of the basin are minimal, suggesting only a relatively short history of use. While the evidence is not conclusive, it currently points to the semi-circular basin being a later modification. As the mosaic borders the fill-ins of the northern and the narrowing of the southern entrances to F1 (fig. 19), most of the nearest access points to a *frigidarium*, *tepidarium*, or *caldarium* were blocked at some point. As such, the distance to the next pool became substantial, suggesting that this basin eventually became a fountain.

Modifications in the Northern Area of the Cross-shaped Hall (NA)

72 In the northern area of the cross-shaped hall, reused building elements and mortared rubble formed a new inner face abutting the brick northern wall on both sides of the entrance (fig. 21). As these are neatly defined by the mosaic, they can be ascribed a *terminus ante quem* in the 5th c. A.D. However, it occurred after the step was partially re-cut, as the later wall segment was placed upon it. This carving of the steps is in alignment with the shape of a brick pillar which subdivided the entrance in two halves (fig. 21). The pillar is considered a later modification because of the use of differently sized bricks (30 × 30 × 5 × cm instead of 40 × 40 × 5 × cm) and the presence of plaster on this pier, where veneering was originally used for the rest of NA. As mentioned, all of the repairs to the eastern wall segments occurred before the placement of the mosaic. As the mosaic is not present in front of both blockages of the entrances in the southwestern and central recess of the NA area, it is very much possible that these doorways still functioned. If so, they would be the only interior passages after the placement of the mosaic, which meant that the cross-shaped hall only offered access to F2 (fig. 5). Finally, in front of the southernmost eastern recess, the mosaic was partially removed for the installation of three metal kilns. The northern one measured 1.10 × 2.15 m, while the dimensions of the central kiln were 0.80 × 0.66 m. The southern one was smaller and poorly preserved.

Palaistra (P)

73 The diversity of architectural elements amidst the collapse of the courtyard's colonnade, suggests that it was repeatedly modified. Possibly the first of these alterations concerned the partial (*c.* 3.50 m) dismantling of the colonnade directly in front of the entrance. Additionally, parts of the colonnade were used to block the south-eastern entrance to the *palaistra* (fig. 26). However, based on the stratigraphic position of the collapse, and the presence of 5th – 6th c. A.D. deposits below the current beaten earth walking level of the courtyard, at least the south-eastern part of the *palaistra* area remained in (re)use. In the northern profile, the outline of a circular feature defined by curved ashlars can be discerned (fig. 65), and was possibly a basin. Furthermore, a new space was created by placing four architrave-frieze blocks against the northern wall of NA. Within this space, two freestanding rubble features, as well as a rubble construction lining the stylobate were constructed, and likely formed a series of benches (fig. 66). Last, the presence of 6th c. A.D. faunal remains – indicative of food consumption – can possibly be associated with the public hall to the south. These remains mostly included goat and/or sheep, and are comparable to such dumps found along the southern wall of the public hall.

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Fig. 65: Eastern view of the circular feature within the *palaistra* area.

Fig. 66: North-eastern view of the later modifications south of the *palaistra*. Indicated are (1) the reused architraves placed against (2) the northern wall of the cross-shaped hall, (3) the mortared rubble benches, and (4) the (former) stylobate and bases of the colonnade.

The Southern Wing

Transformation into C4 and T2

74 To establish the 2nd c. A.D. layout, we detailed the major modifications which transformed the southern wing into the arrangement represented by the actual ruins. To recap, structural issues resulted in instability and possibly the partial collapse of the western and southern wall of C2. What followed seems to have been a major renovation, and functional modification. First of all, the western and southern wall were rebuilt, and now consisted of a brick inner and ashlar outer face (fig. 28). A lot of curvilinear blocks of the apses were partially re-cut and reused in these new walls (fig. 6). The cornice blocks of the outer wall rested upon the inner wall, indicating they were constructed simultaneously. At the northern extremity of the western wall, a brick apse was constructed (fig. 29). To the south, the outline of an opening (*c.* 2.00 m) can be observed in the western wall, which was possibly a vaulted window. Because of its placement, the western wall now blocked the vaulted entrance to C3 (fig. 28). At some point, a pool was installed in the southeastern recess of C3 (fig. 67), suggesting that no new doorway between C3 and C4 (formerly C2) was constructed (fig. 5). As discussed, the brick inner wall obscured the central and western apse, which were filled-in with mortared rubble, and formed additional support for the new southern wall (fig. 6). Secondly, the hypocaust was partially dismantled to install the vaulted support bearing the weight of a north-south oriented brick division wall (16.50 x 11.00 m), which subdivided C2 into C4 and T2 (fig. 31)[81]. While the southern segment of the division wall bonds with the southern brick wall, its northern segment is bonded with the brick fill-in of the northern apse (fig. 29). Third, in addition to the subdivision, whatever functions the apses fulfilled, they were abandoned.

The New Pools of C4 and T2

75 Likely shortly after the subdivision, cavity walls were constructed along the filled-in northern and new division wall. In turn, a platform including two limestone steps was placed upon the floor, abutting the interior facing of the cavity wall. On top of it, roughly cut parapet slabs were placed, which together with the northern and division wall formed a rectangular pool (fig. 29). The floor of this pool was composed of former *crustae* of varying sizes set into a mortar bed. In addition, a north-south oriented row of limestone blocks – comparable to those of the lower step – was found in the north-western corner (fig. 28). Possibly, this was the substructure of a pool as well, but not enough evidence

81 Waelkens et al. 2009, 435 f.

remains to establish this with certainty. While it is possible that the 1st c. A.D. *praefurnium* in the Service Area still functioned and was filled in at a later date (fig. 8), it could have occurred during the filling-in of the northern apse as well. If the latter is the case, C4 did not have a direct connection to a working furnace, and would have been heated via C3 and T2 (fig. 5).

76 In T2, a new floor was placed around a foot bath (fig. 32). Based on the mortar imprints, the northern part of the floor was composed of square stone slabs of varying sizes, while the eastern part included irregularly cut fragments of former *crustae*. The poorly preserved foot bath seems to have covered the central part of the room, and abutted the surrounding floor. The floor of the foot bath consisted of reused *crustae* and limestone tiles cut into different sizes (fig. 32). In the north-western corner of T2, the phased segment of the division wall segued into a corridor leading to the Service Area (fig. 5. 32). While the floor of T2 borders the original northern wall (south wall of F1), it is not present in front of the blockage of said entrance, indicating that this corridor could still function. This likely *tepidarium* was served by a new *praefurnium* constructed to the south (fig. 5).

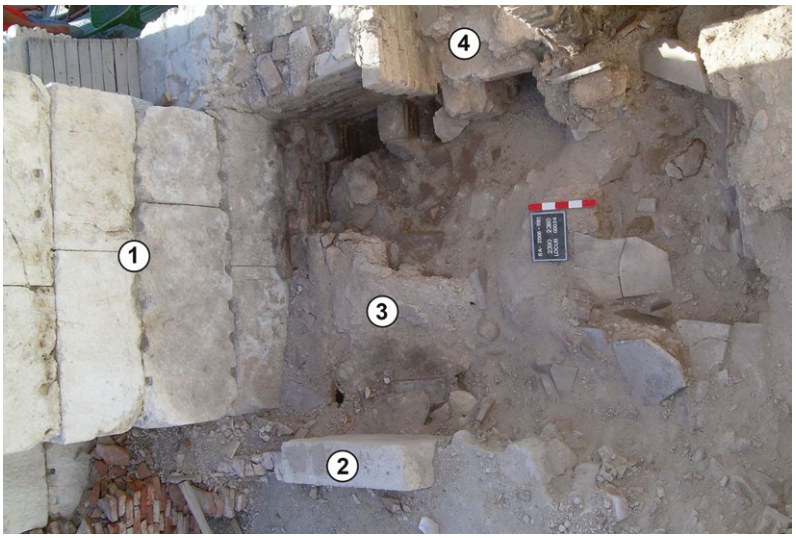

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Fig. 67: View of the south-eastern recess of C3 (bordering C4). Indicated are (1) the south-eastern pier of C3, (2) the parapet of the later south-eastern *alveus*, (3) the remains of the mortar substrate of the pool floor, and (4) the channel of the later *praefurnium*, which made the *alveus* obsolete.

The Southeastern *praefurnium*

77 To install the southern wall of T2, half of the mid-1st century eastern apse was backfilled with mortared rubble. North of the western half of this apse, an outer wall consisting of ashlars, and inner wall of brick comparable to the western and southern wall of C4 was built (fig. 68). Likewise, the cornice blocks were supported by the inner wall. At the centre of the (former) apse, this southern wall turned southwards, and connected to a west-east oriented wall – possibly part of the original southern wall – which linked to the southwestern pier of the cross-shaped hall (fig. 5). This created a rectangular room south of T2, which included half of the former pool in the eastern apse, and could be accessed via the southwestern entrance (formerly) in between C2 and SA (fig. 13). The northern wall of this room was mostly built in brick, but included a well-constructed mortared rubble section. Herein, a brick vaulted passage was set, which was linked to the hypocaust of T2 (fig. 68). Furthermore, part of the former floor level was cut out, connecting the pool to this opening. Lastly, air flues were constructed as part of the western wall of this room (fig. 68). Altogether, we are dealing with a *praefurnium*, which served T2, and by extension, C4. Either it replaced the 1st c. A.D. *praefurnium* in the Service Area, or it was built to serve T2 specifically. This is the last modification which can reasonably be ascribed to the transformation of C2 into C4 and T2. However, it remains difficult to chronologically situate this sequence.

78 Based on the assumption that C3 was a *Marmorsaal* until the late 4th c. A.D., and that an early 6th c. A.D. earthquake destroyed parts of the baths, the southeastern *praefurnium* was believed to be a 6th c. A.D. modification[82]. However, both the interpretation of C3 as a *Marmorsaal* and the early 6th c. A.D. earthquake can be refuted. In addition, the blockage of the southwestern accessway provides a *terminus ante quem* for the *praefurnium*'s use, as well as the transformation of C2, in the 5th c. A.D. This is also suggested by

82 Waelkens et al. 2009, 435.

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Fig. 68: Southern view of the south-eastern *praefurnium* serving T2. Indicated are (1) the later brick southern wall of T2, (2) the mortared rubble segment into which (3) the furnace channel was set, (4) the later brick western wall of the SE *praefurnium*, and (5) the later ashlar outer face of C4.

Fig. 69: (left) After the western parapet of (1) the C4 pool had been broken out, and the floor removed to install (2) the *praefurnium*, which served C3 via (upper right) an original opening, could be accessed by servants via (lower right) a series of steps.

the well-constructed brick walls. However, this still leaves us with a time range of *c.* 200–500 A.D. While it has been reported that this *praefurnium* was provisionally dated to the 5th c. A.D. (possible) on the basis of fills[83], none of the excavated strata can be associated with its construction. As such, its dating remains uncertain.

The Northwestern *praefurnium* of C4

79 In C4, the western parapet of the rectangular pool was partially dismantled, and brick wall segments narrowed its width (fig. 69). In addition, a passageway was cut through the northern wall behind it (fig. 29), which linked the Service Area to C4 (fig. 5). At the latest during this modification, the 1st c. A.D. *praefurnium* was dismantled, and its circulation channel filled-in (fig. 8). Immediately west of the pool, a section of the floor was removed, the hypocaust was broken out, and around this area a rectangular structure (4.60 × 3.60 m) was constructed in reused brick, rubble, tuff rock, ashlars and *crustae* (fig. 69). At its lowest level it incorporated the *pilae*, the brick floor of the former hypocaust, as well as the vaulted opening to C3 (fig. 69). To access this new *praefurnium*[84], staff could enter C4 via the newly created passageway, walk across the former pool, and descend via three reused limestone blocks (fig. 69). In between a remaining part of the former division wall, an accessway was constructed out of bricks of different sizes. While no stratigraphic evidence is available to date its construction, the fill which terminated this *praefurnium* included ceramics datable between 450/75-550/75 A.D. Relatively, we can ascribe it a *terminus post quem* in the 5th c. A.D., as the construction of this *praefurnium* meant that the (later) northern pool of C4 (Fig.29), possibly also a northwestern pool), and the south-eastern pool of C3 (fig. 67) could no longer function (fig. 5). This means it likely occurred quite some time after the transformation of C2 into C4 and T2.

The Abandonment of the Southern Wing

80 Due to the dating of the backfill of the north-western *praefurnium* between the late 5th – late 6th c. A.D., and the use of the already abandoned southeastern *praefurnium* as a dumping ground, as shown by 6th c. A.D. refuse containing scores of *unguentaria*, the southern wing seems to be the first abandoned area of the Bath-Gymnasium. This occurred during the 6th c. A.D.

83 Waelkens et al. 2009, 435 f.

84 Waelkens et al. 2009, 436.

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Fig. 70: (left) The opening carved into the western wall. (right) The later corridor, which was eventually closed to construct a staircase.

Fig. 71: Close-up of a heavily modified part of the western *praefurnium* of the Service Area.

Fig. 72: North-western view of the Service Area. Indicated are (1) the later W-E oriented division wall with vaulted entrance, which abuts (2) a later N-S oriented division wall associated with a connection to T2.

The Service Area (S)

A Series of Modifications of the Western Wall

81 Because of its central positioning and service function, most of the modifications in this space can be related to those in the surrounding rooms. Let us begin with the western wall. First, an opening cut through the southernmost segment, possibly to facilitate ventilation of the C3 hypocaust and/or linked to the 1st c. A.D. *praefurnium*, was patched with brickwork (fig. 70). As the southernmost of two brick pillars which flank the western *praefurnium* abuts the fill in this opening, these were placed afterwards (later modification to the central *praefurnium*). As discussed, the central vaulted opening was an original part of the wall and was associated with the hypocaust and *testudo alvei* of the C3 eastern pool. A variety of modifications like tuff rock repairs, and the installation of a new boiler (shown by its mortar imprint), indicate that the western *praefurnium* was maintained for a long time (fig. 71). However, it remains impossible to determine when it was retired. Immediately north of the *praefurnium*, a west-east oriented division wall, including a vaulted entrance, was built against the western division wall (fig. 72).

The Subdivision in a Western and Eastern Part

82 This N-S oriented *opus vittatum* division wall (fig. 72) is itself a later modification. Initially, it seems to have been built to function as a corridor leading to T2 (fig. 5), suggesting its construction occurred during the transformation of C2 into C4 and T2. As a result, part of the early-to-mid 1st c. A.D. ashlar wall (fig. 8) was dismantled,

and the Service Area was subdivided in a western and eastern area. It cannot be determined if the west-east oriented division wall was built simultaneously or if it was a later modification. Further study is required to determine the impact on the *praefurnia*, but the western *praefurnium* seems to have remained operational. If the narrow space retired the 1st c. A.D. *praefurnium*, its channel was filled-in with mortared rubble (fig. 8), and C4 was not directly linked to a furnace. Considering the tight space in relation to the western *praefurnium*, this is currently thought to be the most likely scenario.

A Staircase

83 The southern segment of the service corridor to T2 was filled-in with mortared rubble (fig. 32), and make-shift stairs of reused blocks were constructed (fig. 70), which led to the roof or possibly a second storey. Remains of a water reservoir were also encountered at this level, positioned against the northern wall of the Service Area. This feature was possibly placed during this modification as well. Stratigraphically, the filling-in of the service corridor and construction of the stairs can be dated to the 6th c. A.D.

The Southern Passageway

84 With respect to the new *praefurnium* in C4, an arched passageway was cut into the southern wall of the Service Area (fig. 8. 29). Against the cut brickwork, a new brick vault was placed (fig. 8). If it was not already, the 1st c. A.D. *praefurnium* and its channel certainly became obsolete after this operation concluded. This intervention likely occurred after or simultaneously with the construction of a staircase in the T2 corridor, providing a *terminus ante quem* in the 6th c. A.D. Otherwise, the amount of effort invested in carving this passageway could easily have been avoided by using that corridor to reach C4. As such, this modification can be situated between the 5th – late 6th c. A.D. and indicates that the Service Area retained its function throughout the history of the Bath-Gymnasium.

Abandonment and Spoliation

85 A last series of activities, post-dating the late 6th – 7th c. A.D. abandonment of the baths and public dining hall, concerns a lot of evidence that infers metal processing: an unfortunate fate for the *testudines alveolorum,* boiler(s), lead plumbing as well as the presumably bronze cuirasses of the acrolithic emperor statues. This is further contextualised by a 7th c. A.D. beaten earth walking level, which developed in the corridor facilitating access between the cross-shaped hall and the Service Area (fig. 20). This suggests that the accessway remained open after the mosaic was placed in the hall.

The Central Room (C3)

86 While a range of modifications can be attested in C3, the poor preservation of the floor and hypocaust below makes it difficult to chronologically arrange these modifications.

Repairing the Western Pool

87 At some point, the western pool of C3 underwent significant repairs. A brickwork wall was placed upon the upper step (fig. 39). For this purpose, the parapet slabs were temporarily removed. This is indicated by their negative imprint on the second step that demonstrates their original location. Based on the continuation of this brick segment (fig. 39), the southernmost part of the parapet was not yet dismantled.

A Series of Plunge Pools

88 Firstly, the northern service corridor in between C3 and F2/A1 was closed by brick (fig. 5). Subsequently, a plunge pool or *alveus* (3.98 × 1.85 × 1.39 m) was installed

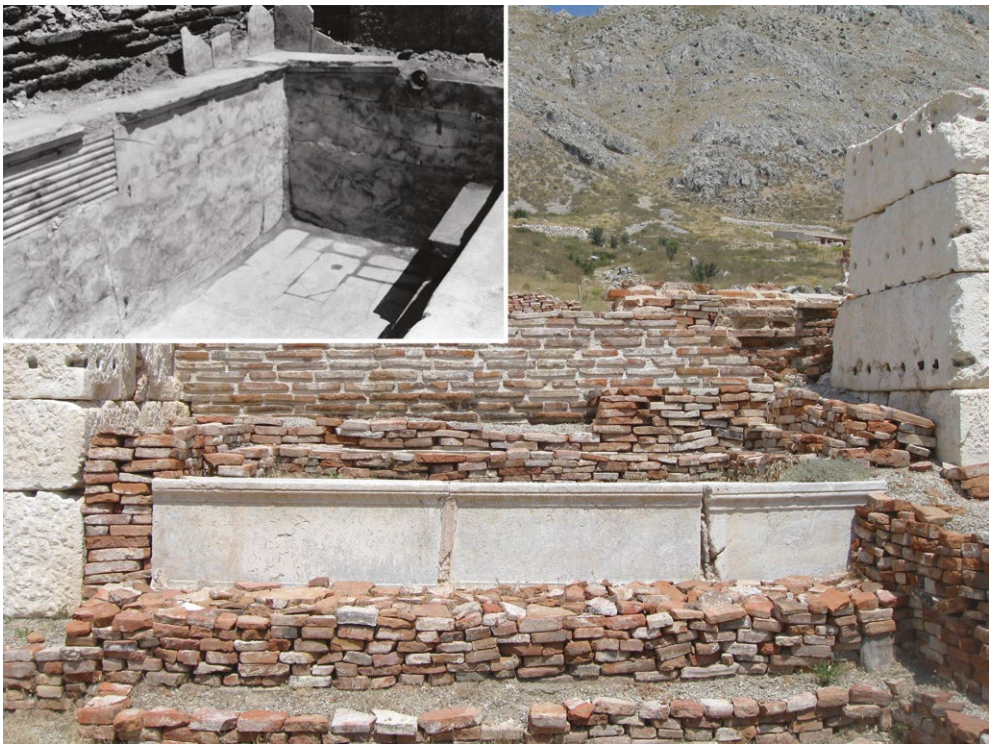

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Fig. 73: (upper left) The inside of the northern plunge pool. (centre) Southern view of the northern plunge pool after conservation.

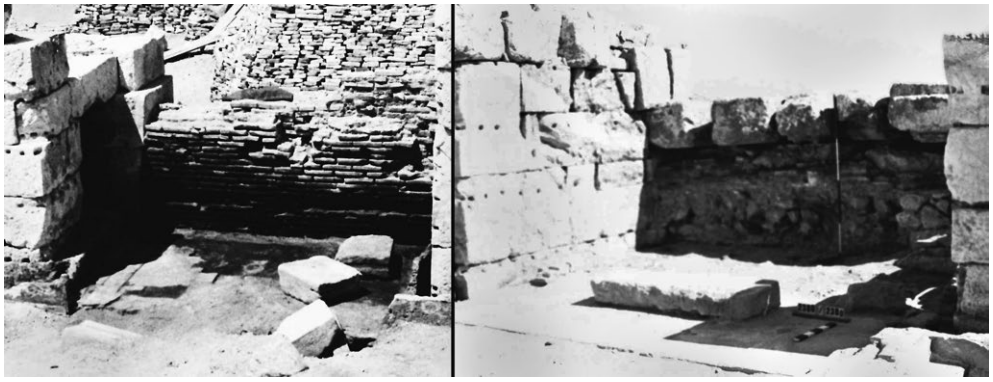

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Fig. 74: (left) The north-western recess (in brick). (right) The south-western recess (in *opus vittatum*).

in this newly created recess (fig. 73). While the old and new brick walls formed the back and lateral walls, a cavity wall and veneering were (re)inserted and placed successively to furbish this pool (fig. 73). Amidst the veneering were reused *crustae*, fragments of inscribed plaques, as well as ›Egyptianizing‹ iconography[85]. The floor consisted of reused *crustae* as well, which were cut into varying sizes. The parapet slabs are comparable to those of the western and eastern pools, but were clearly reused, as they were somewhat awkwardly fitted into the recess (fig. 73). The parapet was placed upon a substructure of brickwork. On the interior side, a lower course of limestone blocks was placed upon these bricks, and partially against the parapet, forming a step and/or bench. Based on a partially preserved parapet slab, a (likely) comparable pool was constructed in the south-eastern recess, yet was poorly preserved because of the (later) *praefurnium* of C4 (fig. 67). As the backwall was partially dismantled and rebuilt for the latter, the use of this pool can be ascribed a *terminus ante quem* in the late 5th – late 6th c. A.D.

89 On the basis of collapsed blocks (fig. 74), it has been argued that comparable pools were also built in the north-western and -eastern recesses. However, the evidence

85 Waelkens et al. 2000b, 170.

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Fig. 75: Southern view of the newly cut connection between the later south-western *praefurnium* of C3 and its hypocaust.

Fig. 76: An example of Christian graffito from the parapet of the eastern pool of C3.

is not as straightforward as for the north- and south-eastern *alvei*. A north-western pool is doubtful considering the vaulted corridor leading to C1, and the floor level being situated at its original height. While it was blocked at some point, the wall is permeable. Additionally, there are no traces of veneering (fig. 74). It is more difficult to assess whether a southwestern pool existed, because of the (re)construction of a later *praefurnium* in the southwestern room of C3. After all, the latter would have required the pool to be dismantled, as the *praefurnium*'s eastern wall (the hypothetical western wall of the pool) was permeable. Considering the absence of any positive evidence, the presence of a southwestern pool is considered uncertain.

A Duo of Smaller Pools

90 Another modification involved the installation of two smaller pools – both of which measured 1.40 × 0.95 × 1.15 m – constructed mostly of brickwork, but also including mortared rubble. One was built in the north-eastern corner, in part against the parapet of the northern plunge pool, indicating it post-dated that modification. The other was better-preserved and situated in the southwestern corner (fig. 39). The southwestern pool was partially placed upon the step of the western pool, in the area where the parapet of the latter was dismantled, and the floor was removed and/or had collapsed (fig. 39). Technically, both pools could function simultaneously, and the absent parapet slabs could be related to a later collapse or the construction of the southwestern *praefurnium*. The specific function of these smaller pools remains unclear.

A Southwestern *praefurnium* in C3

91 An invasive modification concerns the transformation of the southwestern corner (fig. 35) – including the vaulted corridor and window – into a (mostly) brick *praefurnium* (6.00 × 2.50 m)[86]. The entranceway was blocked with brick, rubble and tuff rock, and included a ventilation hole. Clearly, if a pool was ever present here (fig. 74), it had

86 Waelkens et al. 1998a, 275.

to be dismantled. Along the eastern part of this new *praefurnium*, two vertical terracotta water pipes likely facilitated ventilation. A series of openings linked to a vaulted passage (3.60 × 0.80 m), which in turn connected to the hypocaust of C3 (fig. 75). The difference between the floor of the repurposed *praefurnium* (limestone slabs) and the hypocaust (brick) once more emphasizes that this was mostly a later modification[87]. To facilitate entrance to the *praefurnium*, it is possible a small extension was built immediately west of the window (fig. 45), which then became an entranceway. Unfortunately, this extension had completely collapsed, and could not be examined. In all likelihood, it could be reached via a vaulted entrance in Room 1 (ground floor)[88].

Long Use-life and Abandonment

92 The increasing amount of active and obsolete *praefurnia*, its central location facilitating insulation, the complete closing of all entranceways except the northern one, and the consistent construction of new pools, suggests that C3 was the last *caldarium* standing. This is also underlined by the presence of Christian graffiti on various features[89]. For instance, on the parapet of the C3 eastern pool a house with a cross at its centre (fig. 76), as well as the more common alpha and omega were etched. Upon the north-eastern pool, a series of crosses were incised. Similarly, graffiti on the parapet of the western pool boasted that »the good fortune of the faithful of Saint Michael ruled the city«. This practice was also documented in other areas which remained active. For example, on a collapsed pilaster in the western part of the F2/A1 area an angel was incised, as well as several crosses. Painted graffiti on a block of the north-western central pier of the cross-shaped hall faintly exclaimed »for the Christians«. Based on the stratigraphic information, this area was abandoned as baths in the late 6th – early 7th c. A.D.

The North-central Room (F2/A1)

The *opus sectile* Floor

93 Like the cross-shaped hall, the laying out of a new floor makes it possible to chronologically order a variety of modifications, and will therefore be discussed first. Largely preserved, this floor is a pretty patchwork of marble slabs of different sizes, as well as *opus sectile* consisting of diamond-shaped, hexagonal, and octagonal pieces placed in star-shaped patterns (fig. 41). A lot of the *opus sectile* pieces were crafted from former *crustae*, as indicated by discontinuous profiles[90]. Where the paving stones or *opus sectile* are gone, their imprint in the mortar bedding demonstrates that the entire floor was conceived of as a whole, and its placement can be considered one event. Based on numismatic evidence encased in mortared rubble benches, which were installed on top of this floor (fig. 41. 43), the latter's arrangement has been ascribed a *terminus ante quem* in the late 4th – early 5th c. A.D.[91].

94 While this line of reasoning can be correct, the evidence is not definitive and includes nuance. The main argument concerns three coins: two respectively minted in 392–395 A.D. and 395–408 A.D. in name of Honorius, and the other minted in 395–408 A.D. in name of his eastern peer and brother Arcadius. The first coin was still encased in a bench, while the others were found in debris associated with these benches. In this debris, a few sherds of a 4th c. A.D. *oinophoros* were found as well. Because the coins entered circulation within a short range of time, these were used to set a construction

87 Waelkens et al. 2000a, 348–355.
88 Waelkens et al. 2000a, 355 f.
89 Waelkens et al. 2000b, 171.
90 Waelkens 2003, 219.
91 Waelkens et al. 2004, 425.

date for these benches in the late 4th – early 5th c. A.D. While we currently follow this line of reasoning, a few caveats warrant mentioning. First of all, the common presence of 4th – 5th c. A.D. coins in 6th – 7th c. A.D. strata at Sagalassos adds uncertainty, as does the long circulation of coins. Secondly, while this is somewhat remedied by the comparable minting ranges, the small amount of coins and ceramics need to be considered, as with dating there is strength in numbers. To conclude, while a late 4th – early 5th c. date is currently the most likely range for the installation of the benches, a later date cannot be excluded.

A Central-eastern Pool

95 A first modification concerned a large central pool (*c.* 9.5 × 10 m) situated at the eastern end of the room (fig. 41)[92], consisting of a shallow and a deeper part. The deeper section was sunk into the floor, and composed of two linear and two apsidal sides bordered by brick walls. The shallow part was defined by a low parapet constructed in comparable brick, abutting the original northern and western wall of the room (fig. 77). These bricks (26 × 26 × 4 cm) differed from those in the original walls (40 × 40 × 5 m). As a result, the upper parapet created a seating area, which included the north-eastern and eastern apsidal niche of the original room (fig. 77). Both brick walls were covered in veneering, including reused *crustae*. The pool could be accessed via a north-western, southwestern, and south-eastern staircase, all covered in veneering and consisting of three steps (fig. 41). Lastly, a floor of brick and stone tiles was placed, abutting the veneering of the walls and steps.

96 As in other areas, traces of smaller subsequent modifications can be observed. For instance, the north-western steps keel over towards the north, and the brick floor along the eastern part of the deeper pool was modified (fig. 41). Interestingly, the fill-in of the doorway in the rectangular niche immediately northwest of the pool consisted of comparably-sized brick (fig. 77). As such, the partial closing of this room can likely be associated with the reconstruction of the pool. Beyond the foundation's depth, there is no evidence that an earlier pool existed at this location. As the *opus sectile* floor abutted the pool, and was pressed into a mortar bedding, the pool was rebuilt before the floor was arranged. In the centre of the eastern niche a brick pillar was constructed, possibly as additional support for the roofing (fig. 42). As it was situated upon the floor, it postdated or was part of the construction of the pool. Finally, during the last phase, two cylindric pedestals collapsed into the pool (fig. 42), and were believed to have carried small statues of Aphrodite and Eros, found collapsed inside the pool and stylistically dated to the 2nd c. A.D.

A Duo of Plunge Pools

97 A second series of modifications concerns the construction of a northern and southern plunge pool west of the eastern pool (fig. 41). The northern pool is narrower and shallower, and not as well-preserved (3.85 × 1.20 × 0.95 m). The northern wall made up the back- and lateral walls of this pool, which were refurbished with reused *crustae* set in a lime-based mortar (fig. 78). The southern edge was composed of a 0.73 m high limestone parapet, which was installed upon a single step of limestone blocks. Here, the finely cut mouldings were continuous, suggesting that these blocks were originally part of the same feature. However, their awkward arrangement (fig. 78) indicated that these were not intended to fit into this particular recess. In contrast to its southern counterpart, there is no evidence that any part of the parapet or its base was covered in veneering or plaster. The connection between the parapet and the protruding walls of the original niche was facilitated by small bricks comparable to those of the larger eastern pool. Part of the brick back wall was apparently repaired, as shown by the

92 Waelkens et al. 2004, 425.

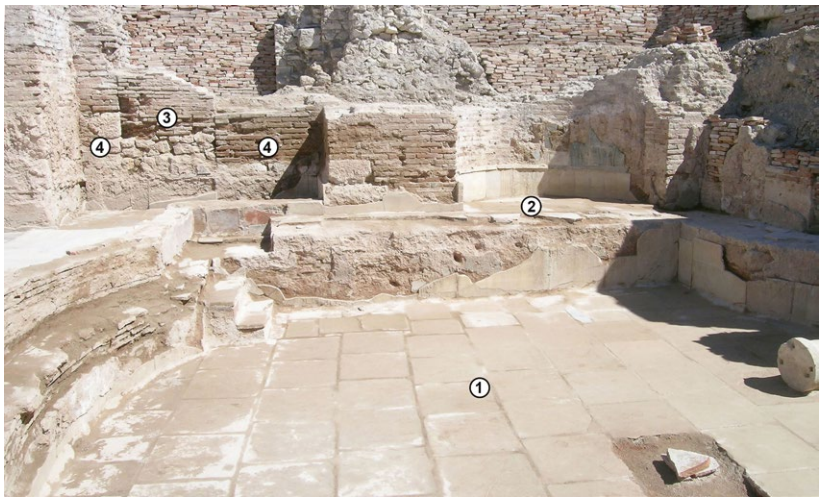

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Fig. 77: Southern view of (1) the deep part of the later eastern pool upon (4) the original northern wall of F2/A1. Also indicated are (2) the shallow part of the pool, and (3) the blockage wall of an entrance.

Fig. 78: (left) Eastern view of the interior of the southern plunge pool. (right) Eastern view of the northern plunge pool.

Fig. 79: Northern view upon the southern plunge pool. Also visible is the opening constructed in the original backwall.

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mortared rubble modification, which included a central opening hole. As the *opus sectile* floor was present below the lower step (fig. 41), the pool was constructed after the floor had been laid out.

98 The southern pool was somewhat more sizeable (3.85 × 1.60 × 1.25 m), and more elaborately decorated (fig. 78). Like its northern counterpart, the back- and lateral walls were formed by the original wall of the room, and comparably refurbished with reused *crustae* set into a volcanic-based mortar. Two 0.70 m high limestone parapet slabs were installed on top of a brick substructure, akin to the C3 northern plunge pool. As the parapet abutted the veneering, it was placed afterwards (fig. 79). The brick substructure was completely covered in marble veneering, including reused, inscribed *crustae*. This included fragments of a poem, and ›Egyptianizing‹ scenes. Against the eastern and western end of this brick substructure, two limestone blocks were placed. As the western one abutted the gutter of the pool, these blocks were placed last or could even be later additions (fig. 79). The gutter descended westwards along the southern wall.

99 Moving to the interior, a lower step composed of four limestone blocks, was placed against the brick substructure and on top of the pool's floor. The latter consisted of at least four different types of colourful, marbled stone (fig. 78), likely reused. The presence of a rectangular opening – mirroring the repaired section behind the northern pool – seems to be part of the original wall (fig. 79). Currently, it is blocked by a later brick fill-in. Considering that this blockage is associated with the construction of the north-eastern pool of C3, and assuming that the considerable similarities between said pool and the northern and southern pools of F2/A1 imply simultaneous modifications,

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Fig. 80: Close-up of the seat in the southern rectangular niche. The reused *crustae* were attached by means of clamps and a pinkish lime-based mortar with hydraulic properties.

Fig. 81: Close-up of the seat in the northern rectangular recess. One can observe how the veneering is in accordance with the extent of these seats.

this opening was not used as a water outlet for this particular pool. In contrast to the southern pool, the *opus sectile* floor was placed after the brick substructure (fig. 79). This means that if these two pools were constructed simultaneously, they were part of the same modification that rearranged the floor.

A Series of Benches

100 In the rectangular niche west of the southern pool, a U-shaped structure of mortared rubble, brick and tuff rock was built (fig. 41). This feature has been interpreted as a seating area, which included a brick platform, and was placed against the veneering (fig. 80). As part of the seats as well as the brick floor were installed upon the gutter of the southern pool, these were constructed after said pool was (partially) installed. A fourth modification concerned a similar arrangement across the room, in the rectangular niche west of the northern pool (fig. 41). Here, a stepped feature, mainly consisting of brick, tuff rock, and mortared rubble, was placed on top of the *opus sectile* floor, and against the veneering as well (fig. 81). The observation that the veneering indicated the extent of these seats suggests they were part of the same event. Two openings – comparable to those above the northern and southern pool – were present above these seats as part of the original walls. Additionally, a continuous mortared rubble bench (once covered in veneering) was constructed in the westernmost part of F2/A1 (fig. 43).

The West-east Oriented Division Wall

101 As mentioned, the dating of the division wall (fig. 43) is ambiguous. The floor serves as a *terminus ante quem*, while its placement on the (undated) northern part of the western wall of F2/A1 provides a *terminus post quem.* As the wall itself was constructed in a manner similar to the western wall (which it abutted), the possibility that this was an original wall remains. Currently, there is no way to settle this argument. Both this wall, as well as the western and northern wall were bordered by the late 4th – early 5th c. A.D. mortared rubble benches. As discussed, a now closed-off doorway is present in the eastern part of the division wall. However, it still functioned when the benches were installed, as indicated by a door-sized opening in the otherwise continuous row of seats (fig. 43)[93]. In addition, the southern row of seats was installed behind and over a gutter, and therefore postdated this water infrastructure (fig. 43). Lastly, the mortared rubble benches closed-off the northwestern passages to the unexcavated room north of F2/A1 (fig. 5).

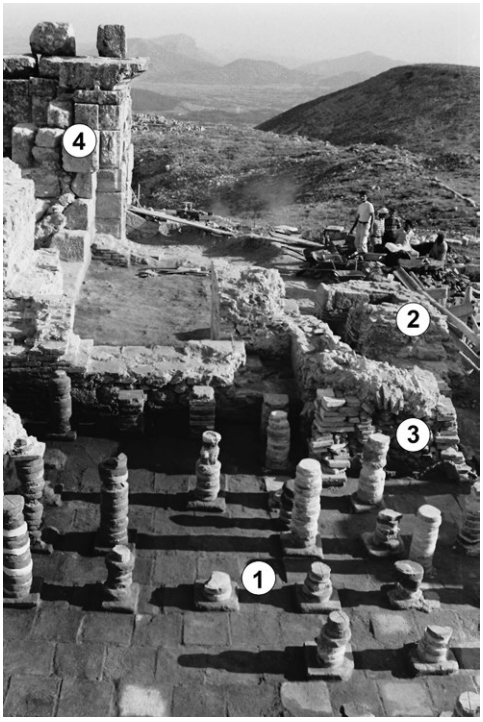
93 Waelkens 2003, 219.

T3

102 Because of this division wall a southwestern room was created, which fulfilled a transitional role in between F2/A1 and C3, and is designated T3 (fig. 5)[94]. In contrast to F2/A1, it was situated upon a small hypocaust, and cavity walls were constructed along the walls (fig. 82). For that purpose, the northern entranceway to F2/A1 was closed (fig. 43), which means that the cavity walls, and the hypocaust likely postdated the late 4th – 5th c. A.D. significantly. While the floor was comparable to that of F2/A1 in terms of reused *crustae* cut into varying sizes, a height differential was created by adding an additional set of marble slabs on top (fig. 82). A terracotta pipe opened into this foot bath (fig. 82), which suggested that this section of F2/A1 served as a small *tepidarium* in the second half of the 5th – 6th c. A.D. If the hypocaust existed before the door was blocked, and the cavity walls constructed, an intermediate function as a small, heated hallway in between a *frigidarium* and *apodyterium*, and *caldarium* is probable.

103 In summary, the relative sequences and similarities between various features suggest that most of the discussed modifications were part of a larger renovation or repurposing of this room. Based on the dating of the mortared rubble benches, this event is believed to have occurred during the late 4th – early 5th c. A.D. or briefly thereafter. The pottery found on top of the floor and below the (gradual) collapse suggested that the room was abandoned in the late 6th – early 7th c. A.D.[95], and that spoliation occurred afterwards.

82



83

Western Caldarium (C1)

104 A major modification involved the addition of Room 1[96] (fig. 51), and on top of it a *praefurnium* (10.20 × 5.00 m) serving C1 (fig. 83). This furnace was linked to the hypocaust of C1 via a vaulted passage (2.40 × 0.50 m) (fig. 83). Based on pottery finds, a *terminus ante quem* for this *praefurnium*'s activity can be set in the second half of the 5th – 6th c. A.D. Since this dump was present below the later collapse layers, the *praefurnium* was already abandoned by then[97]. Only in the northern part of C1 was the floor partially preserved, and included reused wall veneering, indicating later modifications and/or repairs[98]. The poor state of the first floor of C1 makes it impossible to identify and contextualise modifications, as well as identify their functions. Based on the presence of the hypocaust, it was most likely a *caldarium* in its final phase.

Western Tepidarium (T1) and Central Shaft (CS)

105 The poor preservation and/or partial excavation of T1 and CS make it impossible to determine original functions and contextualise modifications. In its final form the floor of T1 consisted of marble slabs (2.00 × 1.40 m) pressed into a mortar substrate (fig. 47), and possibly included a foot bath. Contemporaneously, its walls were decorated with marble veneering, Corinthian pilaster capitals and tessellated panels of gilded, glass *tesserae*[99]. In all likelihood, T1 at least served as a *tepidarium* during its final phase.

Fig. 82: Western view of T3. Visible are (1) a cavity wall, (2) the foot bath and (3) associated water infrastructure.

Fig. 83: Northern view of (1) the C1 hypocaust and (2) the first floor on top of Room 1, including (3) the furnace channel of the *praefurnium*, and (4) the SW corner of C3.

94 Waelkens 2003, 219; Waelkens et al. 2004, 425.
95 Waelkens et al. 2004, 425.
96 Waelkens et al. 2000a, 355.
97 Waelkens et al. 1998a, 274; Waelkens et al. 2000a, 347.
98 Waelkens – Vermeersch 1996, 132; Waelkens et al. 2000a, 339.
99 Waelkens et al. 2001, 18.

Fig. 84: (upper left) Western view of the exterior of Room 1. Indicated are (1) the original ashlar wall of Room 4 including the window/entrance, against which (2) Room 1 was set. (right) North-western view of the same situation, with a better view on (3) the SW corner of C3, against which a small platform was placed, using the window as an entrance. (lower left) Northern view inside Room 1, indicated are (4) the corridor leading to Room 2, and (5) a later entrance with a staircase ascending to the aforementioned platform.

84

The Ground Floor

106 Compared to the first floor, the evidence for modifications of the ground floor is notably limited (fig. 51).

Room 1

107 Based on its construction *vis-à-vis* the other vaulted chambers, Room 1 (7.65 × 3.50 m) is considered a later modification/addition (fig. 84). To be clear, its 6th c. A.D. dating is based on the presumed 518 A.D. earthquake[100], for which there is no substantiation. The ceiling was composed of tuff blocks and upright bricks (40 × 40 × 5 cm). The northern wall was constructed of mortared rubble, but also included reused ashlars. Originally, a window may have been present, but was filled-in with mortared rubble. As the vault of Room 1 obstructed this window, the northern wall predated its construction. The southern wall was constructed of mortared rubble and brickwork (40 × 40 × 5 cm). The bonded western and eastern wall forms vaults of bricks (40 × 40 × 5 cm) and tuff blocks. Furthermore, three arched entrances were constructed in the western wall (fig. 87), while three corridors were situated in the eastern one (fig. 51). At a later date the central one was obstructed by a rubble fill[101]. The other two corridors currently end in a brick wall, and it remains uncertain when they functioned as passages until. Approximately 1 m east of Room 1, the construction technique of the corridors changed, which has been interpreted as the original extent of the vaults. At some point, a poorly preserved staircase was constructed in the southern wall of Room 1, which was covered by a brick vault of poor quality. This led to a collapsed platform linked to the southwestern *praefurnium* of C3[102].

Room 2

108 The following modifications cannot necessarily be associated with each other and their order of appearance does not represent a chronological succession. In Room 2,

100 Waelkens et al. 2000a, 355.
101 Waelkens et al. 1998b, 291.
102 Waelkens et al. 2000a, 355 f.

the double vaulted entrance in the northern wall was filled-in with rubble (fig. 50). Furthermore, the southern entrance area to the room was closed by a larger wall of mortared rubble, while the actual entrance was filled-in with rubble (fig. 50). Based on the presence of Early Byzantine material in the upper strata, the closure of this entrance area can be given a *terminus ante quem* in the late 6th – early 7th c. A.D. However, the amount of refuse dumps associated with 5th – 6th c. A.D. ceramics suggest that the original function of Room 2 was abandoned beforehand. Lastly, an opening was cut through the (current) southern wall (fig. 50), which can possibly be associated with a small fire and plastic materials exposed in the (original) entrance area behind it. As such, this opening likely represents recent activities.

Room 4

109 At some point, drainage issues caused floods, which buried the original floor, and likely the *latrina* below a clayish sediment. The latter included 5th – early 7th c. A.D. ceramics, as well as 1st – 6th c. A.D. coins, and a *terminus ante quem* can be set in the early 7th c. A.D. At least two beaten earth walking levels developed on top of this sediment during the 5th – 7th c. A.D. During this time range – before the walking levels developed – the room likely became a manure producing unit, as indicated by faecal biomarkers obtained through coring. The associated radio-carbon dating provided a time range in Early Byzantine period for these activities. Based on the wet conditions, the dung was not used as fuel, and the stratigraphy made its use as stables unlikely[103].

Room 7

110 At some point, the doorway to Room 7 was obstructed by a wall of reused architectural elements.

Functional Assessment and Local Contextualisation

111 To follow this section, we refer to the maps (fig. 4. 5) displaying the major phases and modifications. These also indicate which modifications are substantiated in the archaeological/built record, and those which are more or less hypothetical.

The Mid-1st c. A.D.

112 The first map (fig. 4) shows the known parts of the Old Baths against the backdrop of the first floor of the 2nd c. A.D. complex, as well as the locations of the aforementioned (early-to-)mid-1st c. A.D. contexts. Keeping in mind that the Old Baths were not completely dismantled, that their partial incorporation is confined to the southern wing of the Bath-Gymnasium, and that unidentified structures existed on the location of the later vaults, it had a comparatively smaller capacity. It seems as if this facility was constructed to serve the needs of a local community. The construction of southward-facing apses (fig. 6) is a common, cost-efficient technique to optimise the heating of *tepidaria* and *caldaria*. The 50–100 A.D. *praefurnium* (fig. 8) seems to have served the Old Baths, though likely not from the beginning. If and how subfloor air circulation was initially guaranteed is uncertain. As the internal division of this original bathing facility was completely dismantled during its incorporation, no deeper analysis is possible.

103 Baeten et al. 2012, 1155–1157.

The Late 1st – 2nd c. A.D.

The Construction and Purpose of the Bath-Gymnasium

113 A second map (fig. 5) displays the late 1st – 2nd c. A.D. construction of the Bath-Gymnasium. Regarding its construction process, stratigraphic evidence associated with various parts of the foundations suggest that it began during the late 1st – early 2nd c. A.D. While several publications state that construction lasted until the presumed inauguration in 165 A.D.[104], this is based on the imperial dedication found in parts and in a recycled context in C3. As it is unknown what was dedicated, and such dedications often concerned smaller additions (e.g., a statue or colonnade) and/or renovations[105], this inscription cannot be considered proof of the conclusion of the construction process. As matters stand, we do not know the original location of this inscription. A lot of material in the baths was reused, some of it – like the Egyptianizing reliefs – came from elsewhere. While tempting, it is currently ill-advised to assume a direct relation between this inscription and the Bath-Gymnasium. Regardless of this inscription, if the construction process was a lengthy one, this does not exclude that finished parts became operational before other areas were erected. After all, public bathing became part of daily life at the latest during the mid-1st c. A.D., and it is unlikely that two generations patiently waited for a new complex to be finished. In addition, if its date is correct, the erection of the Severan Gate indicates that the complex was not constructed in one go[106], but was expanded and modified to fit changing needs, and those associated with the representation of the *polis*.

114 The transition from a local bathing facility to a complex with a potential capacity exceeding these local needs, can be contextualised in the late 1st – early 2nd c. A.D. maturation of the cityscape. While Sagalassos gradually developed into a *polis* in architectural terms during 200/150–50/25 B.C.[107], widespread construction of political and public facilities in cut-stone (e.g., paving of the *agorai*, *gymnasium*, *bouleuterion*, Old Baths) only took off in the first half of the 1st c. A.D.[108]. From the late 1st – 2nd c. A.D., large-scale constructions and modifications in ashlar and/or brick masonry further materialised a cityscape representative of a regional centre, and included at least four *nymphaea*, two temples, two bathing complexes, an *odeion*, a stadium, and a theatre. Even though such a thing is impossible to quantify, the idea that some of these facilities potentially exceeded the size and needs of the local population (estimated at *c*. 2600–3650 during the 2nd c. A.D.[109]), combined with the reshaping of the Temple of Apollo Klarios and the construction of the Temple of Antoninus Pius, has led to the hypothesis that Sagalassos received a first neokorate during the reign of Hadrian or briefly thereafter[110]. We need to clarify that currently the title of *neokoros* of Sagalassos is epigraphically attested not earlier than on a late 3rd – early 4th c. A.D.[111] and a mid-4th c. A.D. milestone[112].

115 Nevertheless, based on contextual evidence, the hypothesis of a Hadrianic neokorate is upheld by the Sagalassos Project. The privileges and festivals that came with the title of *neokoros* provided opportunities for the local elite and community, and facilitated all sorts of activities, including economic ones, in part aimed at attracting

104 Waelkens et al. 2009, 435.
105 Zuiderhoek 2009, 28–35. For Sagalassos: Eich et al. 2018, 71–75.
106 Waelkens et al. 2014, 45.
107 Daems – Poblome 2016; Daems – Talloen 2022.
108 Vandeput 1992; Vandeput 1997a; Talloen – Waelkens 2004; Talloen et al. 2016; Talloen – Poblome 2016.
109 Cleymans 2018.
110 Waelkens 1993, 46; Talloen – Waelkens 2005, 229–231; Waelkens – Jacobs 2014, 113.
111 Waelkens 2015a, 198.
112 Devijver – Waelkens 1997, 310–313; Eich et al. 2018, 91 f.

(supra-)regional visitors during festivities[113]. To accommodate festival crowds and generally to impress locals and visitors with its urban status, a larger bathing facility was planned along with other sizeable architectural projects, such as the theatre and stadium. It is within this narrative that we need to see the construction of the Bath-Gymnasium, which, as a project, forms part of wider architectural traditions within Asia Minor. This could further provide an explanation for the presence of three active *caldaria* (fig. 5) likely inaugurated sometime during the 2nd c. A.D. The idea is that the central *caldarium* (C3) was operated continuously, based on its central position (better insulation), as well as its proximity to two *praefurnia*. The other *caldaria* (C1, C2) could have been fired up, especially for festival days[114]. It is possible that C1 and C2 served a different function during other periods.

Bathing Sequences

116 While typical bathing sequences have been hypothesized for the 2nd c. A.D. baths, this scenario[115] represents a palimpsest of reasoning and includes a lot of assumptions, many of which we revisited in the first part of this study (e.g., *Marmorsaal*, EE *natatio*). Based on the evidence as we understand it now, only the presence of three *caldaria*, the *palaistra* and service rooms can be reasonably substantiated for the 2nd c. A.D. Despite targeted excavations, there is no evidence that the cross-shaped hall served as a *frigidarium*. In fact, a multi-purpose public space currently seems the most likely original function. If the semi-circular basin (F1) was built in the 2nd c. A.D., this multi-functionality could have included a small *frigidarium*. If any lead was taken from the Vedius Baths of Ephesos and the Bath-Gymnasium of Sardeis[116], the direct connection in between the cross-shaped hall and the *palaistra*, in combination with its size, suggests that at least part of it could have been a *Marmorsaal* (i.e., large elaborately decorated rooms focusing on a specific statue or series of statues displayed in an apse). This assumes that the statues originally stood somewhere in this large hallway and were only moved a short distance.

117 Keeping the unexcavated rooms in mind, and assuming that later modifications retained the original functionalities of rooms, the speculative local sequences of (1) *palaistra* (P), *apodyterium* and *frigidarium* (F2/A1), potential *tepidarium* (T3), and *caldarium* (C3), (2) *palaistra* (P), *apodyterium* or *frigidarium* (unexcavated northern room), *tepidarium* (T1), and *caldarium* (C1), and (3) *palaistra* (P), *frigidarium* (F1), *tepidarium* and/or *caldarium* (C2) have been proposed (fig. 5)[117]. However, the possibilities are numerous, even without considering local conceptions of gender separation or the effects of larger crowds during successful festival periods. Furthermore, the fact that the Old Baths had its own arrangement, and was incorporated into the Bath-Gymnasium, makes it difficult to impose a bathing sequence on the southern wing (P-F1-C2). To conclude, we emphasize that the complex afforded flexibility in terms of bathing practices. Because of later modifications, an in-depth functional assessment of the 2nd c. A.D. arrangement is beyond archaeological reconstruction.

Comparison with the Agora-Gymnasium of Sagalassos

118 Until recently, the Bath-Gymnasium was the only known public bathing facility in Roman Imperial Sagalassos. Private bathing facilities have been excavated[118], and a few unexcavated complexes throughout the town are preliminarily and inconclusively iden-

113 Talloen – Waelkens 2004, 172–181; Waelkens et al. 2009, 437; Waelkens 2011, 70.

114 Janssen et al. 2017, 595 f.

115 Janssen et al. 2017, 596.

116 Yegül – Favro 2019, 689.

117 Janssen et al. 2017.

118 See: Uytterhoeven et al. 2013.

85

Fig. 85: (left) Orthophotographic image of the area immediately east of (1) the Upper Agora. Indicated are (2) the *latrina*, (3) the Hellenistic wall upon which the Roman Imperial western Doric portico was built, (4) the stylobate of the northern Doric portico, and (5) the bathing facilities, including the outline of the apsidal hypocaust (green). (right) Orthophotographic image of the excavated part of the hypocaust. While the central part is collapsed, the northern and southern areas are well-preserved. Indicated are the completely excavated sectors, as well as the origin (red square) and direction of a water channel descending from the first floor (still active).

tified as potential baths based upon geophysical analyses. However, in 2021, an apsidal hypocaust was excavated as part of the Agora-Gymnasium complex, situated immediately east of the Upper Agora (fig. 1). As the description of this building requires its own manuscript, we will only outline the basics here. In the late 1st c. B.C., levelling activities turned an open area immediately east of a Middle-to-Late Hellenistic building of ashlar masonry into a courtyard (a likely *palaistra*). This first series of modifications – which incorporated part of the Hellenistic building – implied the establishment of a *gymnasium*. During the early 1st and/or late 1st – early 2nd c. A.D., a Doric portico was constructed around this courtyard, and in the late 1st – early 2nd c. A.D. a *latrina* was installed in the western wing of the lower floor (fig. 85). Based on the available evidence, this lower floor consisted of a western and eastern wing of successive rooms, which spanned almost the entire length (*c*. 60.00 m) of the adjacent agora (fig. 85). Unfortunately, little is known about the upper floor, as it collapsed during a fire in the second half of the 4th c. A.D.[119].

119 The bathing facility is situated north of the *palaistra* (fig. 85). The northern and western wall consisted of *opus vittatum*, and the building consisted of two floors (excluding the hypocaust). The latter could be entered via a western service corridor constructed as part of the imposing western wall (fig. 85). As this entrance could only be reached via the lower floor of the complex to the east, the entire area east of the agora can be considered an Agora-Gymnasium complex. The hypocaust (fig. 86) was composed of a brick (40 × 40 × 5 cm) floor, upon which cylindrical *pilae* were placed. These *pilae* consisted of two square bricks (40 × 40 × 5 cm, 30 × 30 × 5 cm), on which a stack of brick discs (⌀: c. 27 cm) were installed, which were crowned by two square bricks (40 × 40 × 5 cm, 30 × 30 × 5 cm), and supported a ceiling of *bipedales* (80 × 80 × 10 cm). Hereupon a local version of *opus caementicium* and a pinkish lime-based mortar with hydraulic properties formed the bedding for a floor of marble paving stones (first floor) (fig. 86). The detail of this arrangement was almost identical to the hypocaust of C2 of the Bath-Gymnasium (fig. 33). Currently, the first floor is buried below *c*. 3.50–4.00 m of soil. In regards to the second floor, two apsidal niches can be observed as part of the inner face of the western wall, while the rest remains unexcavated, and most likely collapsed

119 Beaujean et al. in preparation.

upon the first floor. In terms of interpretation, a hypocaust is not necessarily indicative of a bathing facility. However, its inclusion within said *gymnasium* with *palaistra* fits within the emerging architectural tradition of a so-called bath-*gymnasia*. Currently, it is believed that the space above the hypocaust either served as a *basilica thermarum* or a *caldarium*. The ambiguity is mainly a result of the limited amount of soot marks in the hypocaust, suggesting it was not used as intensively as the C3 *caldarium* of the Bath-Gymnasium (fig. 37), for instance.

86

Fig. 86: (centre) Southern view in the hypocaust (immediately east of the service entrance). (upper right) Because of the central collapse, the make-up of the ceiling and first floor is visible: from bottom to top *bipedales*, *opus caementicium*, lime-based mortar with hydraulic properties, floor of marble tiles (buried below the collapse of the vaults).

120 Regarding the construction of these baths, only a preliminary date in the 2nd – early 3rd c. A.D. can be given. The 350–400 A.D. fire and similarly dated large-scale modifications completely altered the area to its west, dismantling almost everything up to the bedrock. The few remaining contexts associated with the foundations of these baths contained 2nd c. A.D. material, but the number of sherds was too little to be considered conclusive. While it is likely that the first and second floor remained in use, the hypocaust, and by extension the building's function as a hot-water bathing facility, were retired in the second half of the 4th c. A.D. This is attested to by refuse dumps within the hypocaust, providing ceramic and numismatic datasets inferential of that time range[120]. The available information makes it possible to identify the Agora-Gymnasium as a 2nd – early 3rd c. A.D. bath-*gymnasium* complex[121].

121 This new information makes it possible to re-contextualise the Bath-Gymnasium by comparing it to this bath-*gymnasium*. First, both bathing facilities were situated in close proximity to an agora (fig. 1). To the west, both facilities are oriented towards an open public space, making maximum use of the added heat provided by the midday and afternoon sun. While the well-studied Upper Agora was the civic and cultural heart of the Roman Imperial city, the less-investigated Lower Agora is considered to have been more of a commercial hub. Of course, the construction of the Bath-Gymnasium significantly impacted the Lower Agora's functionalities. Secondly, if the late 1st c. B.C. courtyard east of the Upper Agora can already be associated with a *gymnasium*, the Agora-Gymnasium did not include hot water facilities, and possibly originally focused on a specific social group[122]. In other words, it was not originally conceived of as a bath-*gymnasium*, but developed into one. In contrast, the Old Baths were created as a public bathing facility, and did not seem to have included a *palaistra*. While it is impossible to determine its social range, its visitors may have been more varied. This difference extends into the 2nd c. A.D., as the *palaistra* preceded the bathing facility at the Agora-Gymnasium, and the expansion of the bathing facilities preceded or occurred simultaneously with the laying-out of the *palaistra* at the Bath-Gymnasium[123]. Third, while the eastern extent of the Agora-Gymnasium remains unclear, the Bath-Gymnasium seems to have been substantially larger (*c.* 5.890 m^2, including the *palaistra* and unexcavated rooms), even if we allow for the maximum possible extent of the former (3.580 m^2, based on survey evidence). The capacity of the Bath-Gymnasium

120 Beaujean et al. in preparation.
121 Yegül 2010, 155–158.
122 Beaujean et al. in preparation.
123 Poblome et al. 2015, 88.

to serve (festival) crowds positions it first and foremost as *the* 2nd – early 3rd c. A.D. bathing complex. The Agora-Gymnasium likely served a more select group (e.g., athletes, male elite) during such occasions, as its bathing facilities were more limited[124]. Fourth, while at least two hypocausts of the Bath-Gymnasium remained functional beyond the 4th c. A.D., the hypocaust of the Agora-Gymnasium was retired during 350–400 A.D. As bathing remained an important aspect of daily life at Sagalassos – as shown by the countless *unguentaria* in 5th – 6th c. A.D. dumps around the Bath-Gymnasium – the closure of one (assuming it was a *caldarium*), and continued use of the other, suggests that the initial functional differentiation between a *gymnasium* and public baths never truly disappeared.

Later Modifications

122 As mentioned, the presented modifications have been abstracted on a series of maps (fig. 5). To be clear, these maps do not necessarily depict simultaneous events, and are ordered in terms of likely contemporaneity.

Modifications 1

123 The first series of modifications (fig. 5) can be separated into four events which cannot currently be associated with one another. First, there is the transformation of the southern wing. In all likelihood, this sequence of events was initiated by the partial collapse or increasing instability of the southern and western wall. While not necessarily immediately, this (impending) disaster was used to transform a former space, at least including a *caldarium* (C2), into a *caldarium* (C4), a *tepidarium* (T2), and *praefurnium*. While this transformation impacted the circulation of the building, as the southern wing became isolated, a lot of resources were invested to keep the area functional, including the (re)construction of cavity walls, a new *praefurnium*, at least two pools and a new connection to the Service Area. In terms of capacity, little space was lost. Based on material similarities with the northeastern pool of C4, the semi-circular basin (F1) could have been constructed during this time range as well.

124 Secondly, there is the addition of a vaulted compartment (Room 1) to the ground floor (fig. 5), which also supported a new *praefurnium* serving C1. Because of our poor understanding of C1, including the possible location of an earlier *praefurnium* (T1 or CS), we need to tread lightly. Currently, the safest hypothesis is that this new *praefurnium* replaced an earlier one and that the western area was maintained both in terms of function and capacity.

125 Third, there is the late 4th – early 5th c. A.D. transformation or refurbishment of the north-central room (F2/A1) (fig. 5). Based on the evidence, both functional change (*apodyterium, basilica thermarum*) and/or continuity (*frigidarium*) remain plausible scenarios. Both an original function as an *apodyterium* or a *basilica thermarum* can be supported by the many entrances, as well as the recesses typical of such spaces in Asia Minor. During the transformation all three northern entrances, as well as the one to CS, were blocked.

126 Fourth, a series of smaller plunge pools were added to C3 (fig. 5), which seem to represent a continuation in terms of function (*caldarium*). Based on material and contextual similarities between comparable plunge pools, this modification seems to have occurred simultaneously with the transformation of F2/A1.

127 These modifications barely impacted the maximum capacity of the complex, and with some possible exceptions, represented functional continuity. However, the increasingly limited circulation within the building does suggest more control in terms of social and/or functional separation. In terms of activity, the operation of the existing hypocausts was guaranteed by maintaining the old and installing new *praefurnia*. Lastly, the quality craftsmanship of these modifications, particularly evoked by thousands of

124 Beaujean et al. in preparation.

crustae fashioned from all kinds of stone-types, as well as architectural decoration stylistically dated to the 4th c. A.D., suggests that cost was not a major issue. Whether these modifications occurred more or less simultaneously in the late 4th – early 5th c. A.D. or more than half-a-century apart, they represent the social, economic and environmental sustainability of the Bath-Gymnasium to serve large crowds into the late 4th – early 5th c. A.D.

Modifications 2

128 The second series of modifications (fig. 5) can be considered one larger event (southern wing), and a whole range of smaller occurrences. For now, the latter are only contextualised within their respective rooms. To start with, the southern wing was turned into a service area, including a new *praefurnium* built to serve C3. The construction of the heating chamber in C4 resulted in the dismantling of the south-eastern plunge pool of C3. As a result, the southern wing became the first former bathing area to lose its primary function. This had an impact on the capacity of the bathing complex, by removing the southern bathing sequence. This careful transformation, sacrificing a *caldarium* (C4) and likely the *tepidarium* (T2) to serve the central *caldarium* (C3), could suggest that larger crowds visiting the baths were a thing of the past, with local needs persevering.

129 Secondly, the Service Area once more underwent several modifications, including the introduction of a northern division and staircase (fig. 5). Whether the western *praefurnium* remained functional is doubtful. Despite this, the room retained its basic function throughout five centuries, demonstrating its vital importance to the everyday business of running an ancient bathing complex.

130 Third, the (re)construction of the southwestern *praefurnium* in C3 (fig. 5) either modified or retired the larger western pool, a possible southwestern plunge pool and possibly the *praefurnium* serving C1. However, together with the construction of smaller southwestern and northeastern pools, this new *praefurnium* indicates that C3 remained functional. The blockage wall obstructing access between C1 and C3 can most likely be ascribed to this time range. If true, C3 could only be accessed by the smallish *tepidarium* of F2/A1. Based on the latter, this can be ascribed a *terminus post quem* in the late 4th – early 5th c. A.D. However, considering this occurred after the southern wing became a service area, a date in the late 5th – 6th c. A.D. is currently the most likely time range. Whether these modifications were simultaneous or spread over a century, they indicate considerable efforts to keep the central *caldarium* operational, which was situated at the end of a typical *frigidarium-tepidarium-caldarium* sequence (fig. 5).

131 In F2/A1 the modification of the southwestern room into a likely *tepidarium* and the resultant blockage of the entrance to the *apodyterium* should be mentioned (fig. 5). Apparently, the earlier (re)construction into a *frigidarium* proved sustainable, and this remained an active part of the bathing facilities.

132 Lastly, we arrive at the renovation of the cross-shaped public hall, which likely included facilities for food preparation and/or a podium-like structure (fig. 5). Based on the 5th c. A.D. text panel, it was already a public hall before the mosaic was placed. As such, it cannot be excluded that modifications which preceded the mosaic were associated with this. The most likely events to be associated concern the closure of several doorways. Only the main entrance, and the passages to the *frigidarium* (F2/A1), Service Area and T2 remained open during the last phase of use. Furthermore, the semicircular pool possibly became a fountain, as its accessways to most of the other areas were obstructed. Naturally, the most intriguing alteration involving this public dining hall, is the installation/reconfiguration of the colossal acrolithic statues. As discussed, their original location remains in the realm of speculation. If they originally stood in the Bath-Gymnasium, the only excavated space they could have been positioned in is the

cross-shaped hall, possibly within the EE area. However, the latter's transformation into a possible kitchen and/or theatre-type structure, as well as the uncertainty regarding an apse in the eastern wall, make it impossible to further develop this argument. As the cross-shaped hall likely served as a lynchpin in group formation (e.g., feasting), and the statues were a part of those interactions, their actual meaning could provide nuance to these communal activities. Some argue that their meaning remained rooted in a localised version of imperial histories. As the statues were not entirely arranged according to spousal relations, there is the possibility that this group of statues constituted a different meaning.

133 To conclude, this second series of modifications indicate three patterns in association with the actual bathing facilities: (1) a trend towards an increasingly smaller set of bathing facilities, (2) a trend towards increasingly fewer public connections between rooms, and (3) a clustering of retired and new *praefurnia* in service of C3. As such, we observe a reversal of the late 1st – 2nd c. A.D. transition from a smaller communal facility to a larger complex capable of entertaining more visitors. Because of social and economic factors, the (supra-)regional function of the baths was no longer a factor, and efforts now mostly focused on local needs. Because of its centrality (i.e., insulation) and proximity to a relatively recent furbished *frigidarium* (F2/A1) and Service Area, C3 was the best option for a sustainable bathing facility. These modifications likely fall in the 5th – late 6th c. A.D. range.

Modifications 3

134 The third series of modifications (fig. 5) are uniform in their character: spoliation. Throughout the verifiably active parts of the complex (i.e., cross-shaped hall, F2/A1, C3 and the Service Area) evidence of scavenging for reusable materials is attested. Based on the stratigraphic evidence, these activities began before the mid-7th c. A.D. seismic event brought parts of the building down. Clearly, the late 6th – early 7th c. A.D. was the end of the long use-life of the Bath-Gymnasium and the common practice of public bathing at Sagalassos.

Discussion

135 Before we move on to contextualise these local developments within a (supra-) regional framework, we need to discuss the tendency to include undatable contexts within a series of excavated and/or epigraphically-confirmed late 4th – early 5th c. A.D. datasets at Sagalassos, which together suggest Christian unrest. Regarding the reliably dated contexts, the best examples are the transformation of the Temple of Antoninus Pius[125], a fire at the Neon Library[126], a fire and subsequent transformation of the Agora-Gymnasium[127], and the transformation of the Tychaion[128]. Examples of currently undatable or re-dated contexts, or comparable cases of late 4th – early 5th c. A.D. events which have recently been refuted, include the transformation of the Doric Temple and NW-Heroon into parts of the fortifications[129], the destruction of the statues displayed in the Antonine Nymphaeum[130], a fire at the ›Prytaneion‹[131], and – naturally – the installation of colossal acrolithic statues in the public dining hall of the Bath-Gymnasium. We certainly do not doubt that most of the

125 Talloen – Waelkens 2004.
126 Waelkens 2015b.
127 Beaujean et al. in preparation.
128 Talloen 2019.
129 Waelkens et al. 2000c.
130 Vandeput 1997a.
131 Uytterhoeven – Poblome 2019.

confirmed events can be associated with religious processes. However, their direct causal relation to each other, expressed by historical narratives, misrepresents their dating, as well as the complexity of those processes. Furthermore, such interpretations should be based solely on confirmed contexts, or at least the speculative nature of uncertain contexts should be underlined, lest this nature gets buried in the citational cycle of historical and archaeological research. After all, the acrolithic statues could have been installed at the end of the 5th c. A.D., potentially half-a-century after the Temple of Antoninus Pius lost its sacred function. In addition, there are plenty of late 4th – early 5th c. A.D. datasets which have little to do with Christian unrest, and paint a more complicated picture of that time range. The transformation of the *frigidarium* (F2/A1) is a perfect example, but we could also cite large-scale modifications in the so-called Urban Mansion[132], or the Odeion[133]. This issue is not spatiotemporally-specific, and similar problems revolve around the ascription of various datasets of modifications to the early 6th c. A.D., solely on the basis of an earthquake for which there is no evidence at all. In fact, this is the very reason why the mosaic of the cross-shaped hall was initially ascribed to the early 6th c. A.D. Keeping in mind the chronological complexity of bathing complexes, our analyses suggest that most of these transformations and refurbishments can be associated with (re)configuring the practice of public bathing according to contemporary beliefs and needs. This might not be as spectacular as a singular, cityscape-altering event, but is likely more representative of past realities.

Conclusion

136 This paper presented the main lines of the building history of the Roman Imperial Bath-Gymnasium of Sagalassos according to information obtained during 21 years of archaeological excavations. This resulted in a clearer picture of the nature and the changes to this grand complex. During the mid-1st c. A.D., a first public baths – the Old Baths – was constructed at Sagalassos, providing a service which would remain popular for over five centuries. The emergence of public bathing at Sagalassos fits within wider trends of Asia Minor, as this institution became more widespread between 133 B.C.–25/50 A.D.[134]. Locally, this bathing facility was part of a wider effort to alter the cityscape, which included a *bouleuterion*, *gymnasium* and the paving of the *agorai*. While little is known of its arrangement, the craftsmanship of the apses indicate that imperial incorporation brought with it an influx of social groups of varying needs, and the skills and/or relations to materialise them.

137 The Old Baths were partially incorporated into, and its construction materials reused, to build a large bath-*gymnasium* during the late 1st – 2nd c. A.D. This much larger complex facilitated the growing role of Sagalassos as a regional centre, and further materialised its civic prestige. Like before, the archaeological evidence aligns with the current understanding of public bathing in Asia Minor, including the observation that *gymnasia* increasingly included hot-water facilities, and that actual baths also came to include *palaistra*[135]. At Sagalassos these two trends are represented by the Bath-Gymnasium and the Agora-Gymnasium.

138 In the past, the late Roman downsizing of the baths had been attributed to a reduction in the frequency and size of festivals at Sagalassos. The first potential explanation is that Pisidian Antioch became the administrative centre of the newly cre-

132 Uytterhoeven et al. 2013.
133 Waelkens et al. 2009.
134 Yegül – Favro 2019, 683.
135 Yegül 2010, 157 f.

ated *provincia* Pisidia during the reign of Diocletian[136]. While unspecified, this argument seems to suggest that the authority to organise certain festivals shifted to that city, or at least was withheld from Sagalassos. A second hypothesis is that *neokoria*-titles were no longer granted in the post-Constantine period, which devalued their relevance, as well as the associated spectacles[137]. While a downsizing does eventually occur, the first argument establishes a link which misrepresents the evidence, as the archaeology of the baths does not inference a downsize until the 4th c. A.D. at the earliest. In fact, the late 4th – early 5th c. A.D. modification into or furnishment of the *frigidarium*, as well as the placement of the 5th c. A.D. mosaic are reminders that cost and resources were not an issue, and that large parts of the baths remained active. As such, the Bath-Gymnasium provides an archaeologically well-documented example of the many efforts undertaken to sustain public bathing despite significant political and social changes. Based on the archaeology, the decreasing size of the baths – particularly in terms of bathing areas – was a gradual process and cannot be directly ascribed to historical events.

139 The costly late 4th – early 5th c. A.D. efforts to (re)construct a *frigidarium* at the Bath-Gymnasium, and the 350–400 A.D. destruction of the Agora-Gymnasium, seem to be a local crossroads originating in supra-regional events. Christianity becoming the imperial religion, and the subsequent abolishment of *gymnasia*-type structures, is likely to have played a role[138]. Like elsewhere, such interpretations are complicated by the persistence of pagan actors, and their possible reuse in Christian practices. At Sagalassos, the various examples of Christian graffiti in the active parts of the Bath-Gymnasium demonstrate that public bathing was among the latter. Because it was discovered recently and remains mostly unexcavated, the subsequent uses of the first and second floor of the Agora-Gymnasium baths are currently unclear, and could provide more nuance regarding this transformation. So far, the local contexts align with the wider picture in the Roman East, wherein public bathing remained an important part of daily life during the 4th – 6th c. A.D.[139].

140 While we do not know when the cross-shaped hall became a public hall partly associated with dining, it shows that the increasing opposition to animal sacrifice did not mean that people were no longer provided with meat during festivities[140]. At 5th – 6th c. A.D. Sagalassos, the cross-shaped public hall (including faunal remains indicative of butchering), as well as indications for meat preparation at the *Makellon*, are possibly in relation to festivities on or near the Upper Agora of Sagalassos[141]. In fact, the dining hall seems to be an exception or at least a variation on the Late Antique transition from benefactors focusing on buildings instead of banquets[142].

141 In addition to providing an archaeological showcase for developing insights into why dime-a-dozen cities like Sagalassos built and sustained such impressive bathing complexes, this paper attempted to emphasize the dynamic nature of such facilities, as well as the complexity of the archaeological record. Too often, the deceivingly clear maps of partially excavated or even surveyed bathing facilities, as well as ideal Vitruvian bathing-cycles present a reductive picture of the dynamic, complex nature of past bathing facilities. The Bath-Gymnasium and bathing facilities of the Agora-Gymnasium will undoubtedly prove to be a welcome source of information for future historians and archaeologists.

136 Waelkens 2011, 70.
137 Burrell 2004, 374.
138 Yegül 2010.
139 Yegül – Favro 2019.
140 Graf 2015.
141 Poblome et al. 2022b.
142 Graf 2015, 320.

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ZUSAMMENFASSUNG

Eine chronologische und funktionale Bewertung des römisch-kaiserzeitlichen Bad-Gymnasiums von Sagalassos (SW Asia Minor)

Bas Beaujean – Johan Claeys – Frans Doperé – Jeroen Poblome

Zwischen 1995 und 2014 hat das archäologische Forschungsprojekt Sagalassos große Teile eines grandiosen Badekomplexes ausgegraben – in der Unterstadt unmittelbar östlich der Unteren Agora gelegen. Seine langjährige Nutzung – vom 1. bis zum 6./7. Jh. n. Chr. – und die wartungsintensive Natur solcher Gebäude machen es schwierig, ihre Entwicklungsphasen zu verstehen. Oft sind dafür mehrere Hypothesen möglich. In diesem Beitrag werden die archäologischen Datensätze chronologisch geordnet, die relative Abfolge von Kontexten und der damit verbundenen Datierungskriterien beschrieben und der aktuelle Stand der Forschung für deren Interpretation erörtert. Anhand einer Reihe von Lageplänen und Vergleichsarbeiten können die Narrative, die sich in einer Vielzahl von Berichten und Publikationen herausgebildet haben, neu bewertet werden. Anschließend stellen wir archäologische Erkenntnisse und offene Fragen zum römisch-kaiserlichen Bad-Gymnasium vor. Darüber hinaus wird das Gebäude im dynamischen Stadtgefüge des kaiserzeitlichen, spätrömischen und frühbyzantinischen Sagalassos kontextualisiert. In diesem Zusammenhang stellen wir eine kürzlich entdeckte Badeanlage östlich der Oberen Agora zusammenfassend vor und diskutieren ihre Beziehungen zu den anderen Bädern. Abschließend nutzen wir die Ergebnisse, um das Konzept des römisch-kaiserzeitlichen Bad-Gymnasiums als Beitrag zu einer breiteren Debatte hervorzuheben.

SCHLAGWÖRTER

Sagalassos, Klassische Archäologie, Bäder, Gymnasien, Palästren

ÖZET

Sagalassos´taki Roma Dönemi Hamam ve Gymnasiumu. Kronoloji ve İşleve Yönelik bir Değerlendirme

Bas Beaujean – Johan Claeys – Frans Doperé – Jeroen Poblome

Sagalassos Arkeolojik Araştırma Projesi, 1995 ve 2014 yılları arasında Sagalassos'un aşağı kentinde, Aşağı Agora'nın hemen doğusunda yer alan geniş bir hamam kompleksinin büyük bir kısmının kazısını gerçekleştirmiştir. Yapının uzun süre (MS 1.–6. yüzyıl) hamam olarak kullanılmış ve yoğun onarım geçirmiş olması, farklı yapı aşamalarının anlaşılmasını karmaşıklaştırır ve birbirinden farklı hipotezlerin izin verir. Bu makale, arkeolojik konteksterin birbirine göre sıralanışını ve bununla ilişkili olarak tarihlendirme kıstaslarını tarif ederek arkeolojik veri setlerini kronolojik olarak sunar ve bunların yorumlanması açısından bugünkü durumlarını tartışır. Yapının planı üzerinde yapılan analizler ve karşılaştırmalı çalışma ile bundan önce yayınlanmış raporlar ve yayınlara dayanarak oluşturulmuş anlatılar tekrar değerlendirilebilir. Aynı zamanda bu makalede Roma İmparatorluk Dönemi hamam ve gymnasiumuna dair arkeolojik bilgi ve belirsizlikler de sunulacaktır. Bunlara ek olarak yapı, Roma İmparatorluk, Geç Roma ve Erken Bizans dönemlerinde Sagalassos'un dinamik kentsel dokusu içindeki bağlamına oturtulacaktır. Bu anlamda, yakın zamanda Yukarı Agora'nın doğusunda ortaya çıkarılmış hamam işlevli yapı, özet bir şekilde tanıtılacak ve diğer hamam yapılarıyla olan ilişkisi tartışılacaktır. Son olarak, varılan sonuçlar Roma İmparatorluk Dönemi hamam ve gymnasiumuna daha geniş tartışmalara katkıda bulunma potansiyelini vurgulamak için kullanılacaktır.

ANAHTAR SÖZCÜKLER

Sagalassos, Klasik arkeoloji, hamamlar, gymnasiumlar, palaestralar

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