

The Roman public baths of Central Italy
during the Imperial period:
an architectural study

Volume III: Catalogue of bath buildings

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Template for catalogue entry, with detail of content

Latin name of site (modern name), name of baths

Cat. #

Other names of bath building

1 – Location

1.1 Province, *Comune*

Modern Italian administrative boundaries, as of 2016-2019, depending on the moment in which the catalogue entry was completed. Modifications to administrative divisions can be followed at this address (www.tuttitalia.it).

1.2 – Gps coordinates expressed in decimal degrees. Approximate coordinates will be indicated as such.

1.3 – Urban context when known. Common locations are close to the forum, to other known public buildings, in the periphery, close to the city walls, outside the city walls. The modern urban context can be indicated if useful for finding the building.

2 – Preservation

2.1 – State of preservation both in plan and elevation, with mention of potential restorations.

2.2 – Present use: what is the current status of the site (archaeological park, private grounds, backfilled, destroyed etc.), and which is the responsible authority (*Soprintendenze* (i.e. regional archaeological authorities), *comuni* (i.e. local town councils), private individuals etc.).

3 – Research

3.1 – State of research: when was the site discovered, what has been excavated and by whom.

3.2 – Indication if visited, and date

4 – Dimensions

Surface area expressed in m², including courtyards, *palaestrae*, service areas and other annexes, and including the outer walls. The mention '>' followed by the dimensions represents the excavated surface area of the building when the entire structure has not been excavated. If the surface area changed between phases, they are indicated here with reference to the phasing proposed in point 5. When possible, other dimensions are provided, such as the respective surface of the cold and heated parts open to the bathers, or the surface of the potential *palaestra*.

5 – Chronology and phasing

The different phases are indicated using Roman numerals, with phase I being the original construction phase. The dating criteria are indicated when available (C: urban context; M:

material, i.e. pottery, coins, other artefacts found during excavations; I: inscription; S: stylistic; T: typology; CT: construction techniques). The phases defined are then used in the other points.

5.1 – Construction and remodelling phases

Indication of the date of construction and the aspect of the initial structure. List of the different phases the bath building went through during its lifetime, with indication of the proposed dating and the nature of the modifications. It is not always possible to attribute modifications to specific phases, or to confirm the contemporaneity of different changes; when no relative chronology can be established between several modifications, they are referred to as a single phase with a symbol '+' next to the phase number (e.g. 'phase II+'). If pre-existing structures are known, their nature and dating are provided.

5.2 – Date of abandonment as a bath building

When the structure stops being used as a bath building, which does not exclude later re-use for other purposes. The dating elements are specified when possible. The later use of the building is also briefly described if available.

6 – Description of the remains and identification of rooms

6.1 – Description of the rooms

Following the numbering of rooms as visible on the plan, or the path that could be followed by bathers. Description of the dimensions, equipment, passages and mention of other elements worthy of notice, which are described more precisely in other parts of the entry (for instance the type of decoration, such as 'mosaic floor', may be mentioned here, and further described under point 10.1). The modifications brought to any of these are also indicated here.

6.2 – Rooms functions and bathing circuit(s)

The functions proposed for the different rooms are indicated here, as well as the bathers' circuit based on those functions. Whether the propositions for the functions and circuits are based on the authors who published the baths or on personal interpretation is made clear. Discussions on the function of the rooms and possible reconstructions of rooms and circuits are also tackled here. If there needs to be a discussion on the public nature of the building, it will also be tackled here (apart from the entries in the gazetteer layout, which have the 'reliability' field at the beginning of the entry in which that question is tackled).

7 – Construction techniques and materials

This part concerns only the *construction* materials; for the materials used for the decoration, see 'decoration' below (point 10.1). For the materials used for the heating system, see 'heating systems' below (point 8).

7.1 – Floors: only the types of floors that are non-decorated are listed here (e.g. *opus spicatum* in service areas). For decorated floors, see point 10.1.

7.2 – Walls: what type of facing is used for the walls. Wall decoration is not considered here. I have avoided traditional Latin (and pseudo-Latin) nomenclature based on Vitruvius for wall facings in favour of more descriptive, if heavier, expressions. The most common correspondences are:

- *Opus testaceum*: concrete wall faced in horizontal courses of brick (also 'brick-faced concrete');
- *Opus incertum*: concrete wall faced with irregular stone blocks;
- *Opus reticulatum*: concrete wall faced in reticulate (also 'reticulate facing');
- *Opus vittatum*: concrete wall faced in horizontal courses of small stone blocks;
- *Opus mixtum*: concrete wall faced in a combination of reticulate and courses of small stone blocks;
- *Opus vittatum mixtum*: concrete wall faced in horizontal courses of brick and small stone blocks.

7.3 – Roofs: any information about the different types of roofs and vaults, when available. Hypotheses based on 3D reconstructions made by authors, as well as personal hypotheses based on the thickness of the walls and the shape of the rooms, are formulated here too.

8 – Heating devices

8.1 – Description of the fire chambers, furnace, boilers etc.

All information pertaining to the *praefurnia*, boilers, *testudines*, and to the relevant aspects of the service rooms from which these devices were operated.

8.2 – Description of the way the bathing rooms were heated.

All information pertaining to the hypocausts, such as the materials and dimensions of the elements used for the *area*, the *pilae*, the *suspensura* floor, as well as indication of potential connections between hypocausts and of wall heating.

9 – Water management

9.1 – Water supply to the building

Any elements connected with the water supply, such as wells, cisterns, reservoirs, water pipes etc. If the town was supplied by an aqueduct, it will be mentioned here.

9.2 – Water supply to the rooms

Indication of all elements requiring a water supply in the building, and of all traces (positive and negative) of the water to these facilities.

9.3 – Drainage

All elements connected to the water disposal, such as underground channels, downpipes, pools and basins outlets etc.

10 – Decoration and material

10.1 – Decoration

Description of the motifs and materials of the decoration of the baths, for floors, walls and roofs.

10.2 – Material found in the baths (incl. inscriptions)

Brief mention of the material found in the baths. A longer description is offered only when the material may have been relevant to the working or use of the baths (e.g. strigils, flasks etc.), and for inscriptions.

11 – Bibliography

All bibliographical material is listed, with indication of the most relevant material as well as of specialized material. Non-consulted references will also be mentioned, with the indication 'non-consulted'. Whenever the existence of archival material is mentioned in the literature, the references are copied here.

12 – Illustrations

References for all illustrations are listed, subdivided by types (city plans, plans, pictures, 3D reconstructions, archaeological material). If the same plan or picture is published several times, it is referenced only once (either the original publication, the best reproduction, or the most easily accessible reference).

The entry is followed by a series of illustrations of the bath building, starting by a plan and following, whenever possible, the same order as the entry (structures, building materials, heating systems, water management, decoration, material). Unless indicated otherwise, the pictures are by the author.

Template for gazetteer entry

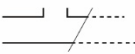
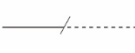
Latin (modern) name of site, name of baths

Cat. #

Reliability:

1. Location	1.1 – Province, comune 1.2 – Gps coordinates 1.3 – Urban context
2. Preservation	2.1 – State of preservation
3. Research	3.1 – Present use
4. Dimensions	
5. Chronology and phasing	5.1 – Construction and remodelling phases 5.2 – Date of abandonment as a bath building
6. Rooms description and function	6.1 – Description of the rooms 6.2 – Rooms functions and bathing circuit(s)
7. Constr. techs. and mats.	
8. Heating devices	8.1 – Description of the fire chambers, furnace, boilers etc. 8.2 – Description of the way the bathing rooms were heated
9. Water management	9.1 – Water supply to the building 9.2 – Water supply to the rooms 9.3 – Drainage
10. Decoration and material	10.1 – Decoration 10.2 – Material
11. Biblio	
12. Illustrations	

Graphic conventions

	Wall (preserved/reconstructed)		Walls (original construction)
	Limit (stairs, bench, basin etc.) (preserved/reconstructed)		Structures preserved in foundations/at hypocaust level
	Trench limits		Walls/foundations (various phases)
	Underground structures		Windows
	Dismantled structures		Post-antique/modern structures
	Entrance (preserved/reconstructed)		
	Service entrance (preserved/reconstructed)		
	Staircase - upwards		
	Drain		Boiler (probable/hypothetical)
	Grating		<i>Testudo</i> (possible)
	Overflow		<i>Praefurnium</i> (preserved/reconstructed)
	Wastewater channel (reconstructed/preserved)		Hypocaust (preserved/reconstructed)
	Clean water channel (reconstructed/preserved)		Hypocaust with wall heating (preserved/reconstructed)
	Latrines (reconstructed/preserved)		Wall heating (preserved)
	Water feature (pool, basin, <i>labrum</i> , well etc.)		Hypocaust passage, with direction of heat (preserved/reconstructed)
	Reconstructed water feature		Chimney
	Sewers		

Abruzzo

1 – Location

1.1 – Province of L'Aquila, Comune of Massa d'Albe

1.2 – 13.411345 E, 42.080080 N

1.3 – In the city centre, between two *decumani* (Via del Miliario to the W, Via dei Pilastri to the E), the *macellum* to the N and the sanctuary of Hercules to the S

2 – Preservation

2.1 – Good in plan, hypocaust level/first few courses in elevation

2.2 – Part of an archaeological area

3 – Research

3.1 – Excavated between 1949 and 1953 by the University of Louvain, Belgium (dir. de Visscher, De Ruyt, De Laet, Mertens) and the Soprintendenza del Lazio (dir. Cianfarani).

3.2 – Visited in April 2017

4 – Dimensions

> 1,000 m². The quadrangle bound by R2 (NE), R6 (SE), R9 (SW) and R7 (NW) has a surface area of ca. 1,600 m². *Caldarium* R2 ca. 100 m².

5 – Chronology and phasing

5.1 – Several phases.

I: contemporary with other buildings to the N. Limited extent

- R1
- Possibly included small circular room R3 and room with pool R6

II+: 2nd cent. AD (?)

- Enlargement, occupying several *tabernae* in Via dei Pilastri and Via del Miliario
- The mosaic with inscriptions [E02] and [E03] belongs to one of these successive restorations/ and/or modifications
- Probably included R2 and R9

5.2 – Unknown

6 – Description of the remains and identification of rooms

6.1 – The organisation of the baths is difficult to reconstruction because of the many restorations and modifications the structure went through during its lifetime. The rooms most clearly associated with the baths are:

R1: heated room directly N of R2, with an apse in SW corner, against the back of the apse in R2. Obliterated by modifications to the *macellum*. **R2**: heated room in NE part of complex, between the *macellum* and the E *cardo*. 12 x 7.80 m, with large apse in N wall (2.25 m wide, 1.60 m deep) and two rectangular pools along lateral walls (7.50/4.60 x 1.20/1.50 m). Heated from both E and W. The room was built over earlier *tabernae*. **R3**: circular room. Probably heated. Belonged to phase I, possibly decommissioned in later phase. **R4–R5**: two heated rooms. **R5** was equipped with a semi-circular pool on its W part. **R6**: large pool, accessible from the Sanctuary of Hercules to the S and possibly from the baths too. Connected to phase I. **R7**: long room, leading from Via del Miliario into the baths. In all likelihood the main entrance to the baths and the room in which the inscriptions [E02] and [E04] were set (see 10.1–2). **R8–R9**: another group of heated rooms on SW corner of baths, poorly preserved. **R10**: two large latrines.

6.2 – R3 was called *laconicum* based on its shape. R2 had a shape typical of a *caldarium* (see ch. II). Main entrance from R7.

7 – Construction techniques and materials

7.1 – No information available

7.2 – Some of the rooms reused the walls faced with irregular rubblework that belonged to earlier *tabernae*. The walls built for the baths were faced with brick courses.

7.3 – No information available

8 – Heating devices

8.1 – R1 heated from the NW (phase I, later decommissioned). Two circular structures on plan (Mertens 1969) could have been boilers. R2 heated from both E and W. A circular structure next to the W *praefurnium* on plan (Mertens 1969) could have been a boiler. Both *praefurnia* equipped with outer longitudinal extensions, and probably with short inner ones. The *praefurnia* heating R4 and R5 can be reconstructed based on the indication of their longitudinal extensions (in both cases inside the room).

8.2 – R1: *area* of tiles, *tubuli* on walls. R2: *pilae* 0.35 m high, *suspensura* floor 0.35 m thick, *tubuli* on walls. R4: *pilae* made of *bessales*.

9 – Water management

9.1 – AE 1954.33 attests to the restoration, in the Tiberian period, of an aqueduct which construction could be dated to the late 2nd–early 1st cent. BC based on its construction technique and on an urban redevelopment of the city at that time.

9.2 – Pools reconstructed in R2 (hot), R5 (hot?), and R6 (cold). R1: a lead *fistula* (diam. 0.25 m) was set vertically in the W part of the room.

9.3 – A vast sewer network ran under the city, passing under the baths; it is unclear how the baths were connected to it.

10 – Decoration and material

10.1 – Monochrome white mosaic floor (unspecified room). Figurative mosaic floor in R2, depicting sea creatures (seahorses, dolphins) in black on white background. Wallpainting with 'Egyptianising' motifs in latrines R10. Two inscriptions in the floor of one of the rooms on the S *decumanus* (see 10.2)

10.2 – Fragment of a shallow *labrum* from the NE rooms of the baths (around R2). *Luni* marble, L max 0.80 m, H max 0.35 m, T 0.18–0.20 m.

Two mosaic inscriptions and one inscription on a stone block (DE VISSCHER & DE RUYT 1955, no 16, 20)

- **AE 1952.19 = EDR073859 = [E02]:** *Vibia C(ai) f(ilia) Galla balne[u]m / de sua pecunia ref(iciendum) cur[avit]*

Inscription on a mosaic floor, in white *tesserae* on black background. Frame: W 3.19 x H 0.70 m. Discovered in 1951 in the entrance (R7) of the bath building, alongside [E04] The inscription is said to have been located on an entrance room on Via del Miliario, on a mosaic floor 4.55 m x 'una decina di m' (Salcuni). The room that best fits this description is R7, being roughly 4.50 m wide for a length of ca. 15 m, and seemingly accessible from both W and E sides. Another (less likely) possibility would be the room directly to the N of R7, if the N–S wall that cut it in two belonged to a later phase. The other rooms on Via del Miliario were either too short (ca. 6 m), heated, and/or not accessible from both sides. This would also fit with the description of the inscriptions as being to the SW and NE of the room.

De Visscher dated the inscription to the 2nd half of the 3rd cent. AD based on the identification of *Vibia Galla* as the daughter of emperor C. Vibius Trebonianus. This dating was opposed by further authors, who suggested *Vibia Galla* was an ancestor of the emperor, who lived in the 1st–2nd cent. AD. Buonocore, connecting this inscription to another one mentioning the *gens Vibia* (BUONOCORE 2013, no 16), suggested that the baths may have been paid for by the father of *Vibia Galla*, and restored by the daughter, in the mid-1st cent. AD.

- **[E04]:** *[---]D[---]pecu[ni(a) sua refic[iendum]---]C[---]*

Found at the same time as inscription above (AE 1952.19 = [E02]); it was set on the same floor, on the opposite side of the room.

- **[E03]:** *[---]RAI[---] / [---]VM therm[as? ---] / [---]IIII vir i(ure) d(icundo) quinq(uennalis) pat[ronus?] / [---]O ob me[rita---] / [---]ob ho[nor] con[latum? ---].*

Limestone block found reused(?) in the façade of a *taberna* along Via dei Pilastri.
Inscription W0.41, H 0.22 m, letters average 3.8 cm

11 – Bibliography

MERTENS & DE LAET 1950, 264–265; DE VISSCHER 1951, 410–411; DE VISSCHER & DE RUYT 1951, 71–72; DE VISSCHER *et al.* 1954, 92–94; MERTENS 1969, 69–71; COARELLI & LA REGINA 1984, 83–84; AMBROGI 2005, no 143 (material); DE ROSA 2008, 61 (water); SALCUNI 2012, no ALBA 03 (decoration); TESS5636; TESS18916; TESS18917

12 – Illustrations

MERTENS & DE LAET 1950, fig. 12 (picture), pl. II (plan); DE VISSCHER *et al.* 1954, fig. 9, 12 (plans); MERTENS 1969, pl. XVIIb (pictures), general plan

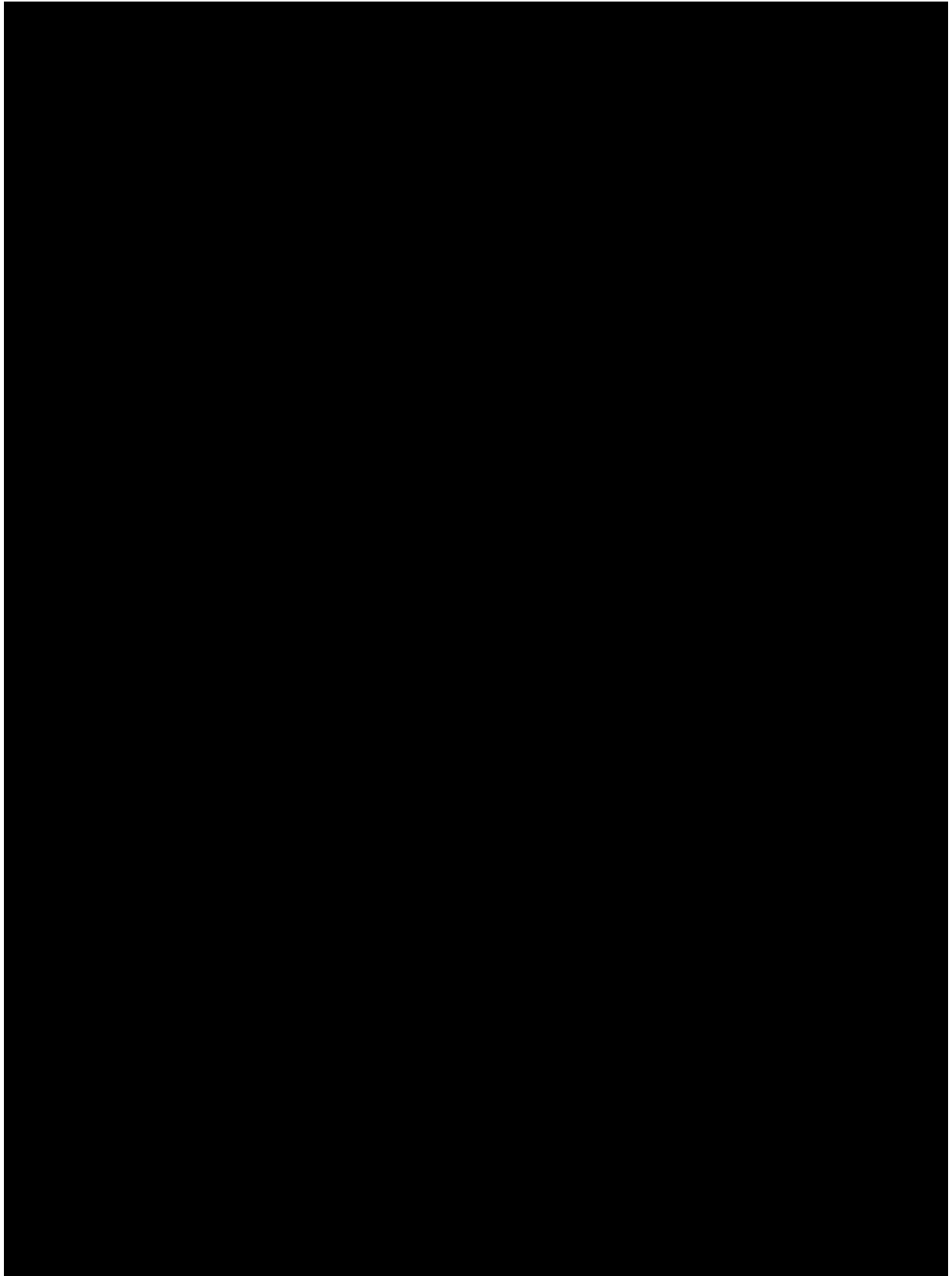


Figure 1: Plan of the baths of *Alba Fucens* (after DE VISSCHER *et al.* 1954, fig. 12; MERTENS 1969, plan).

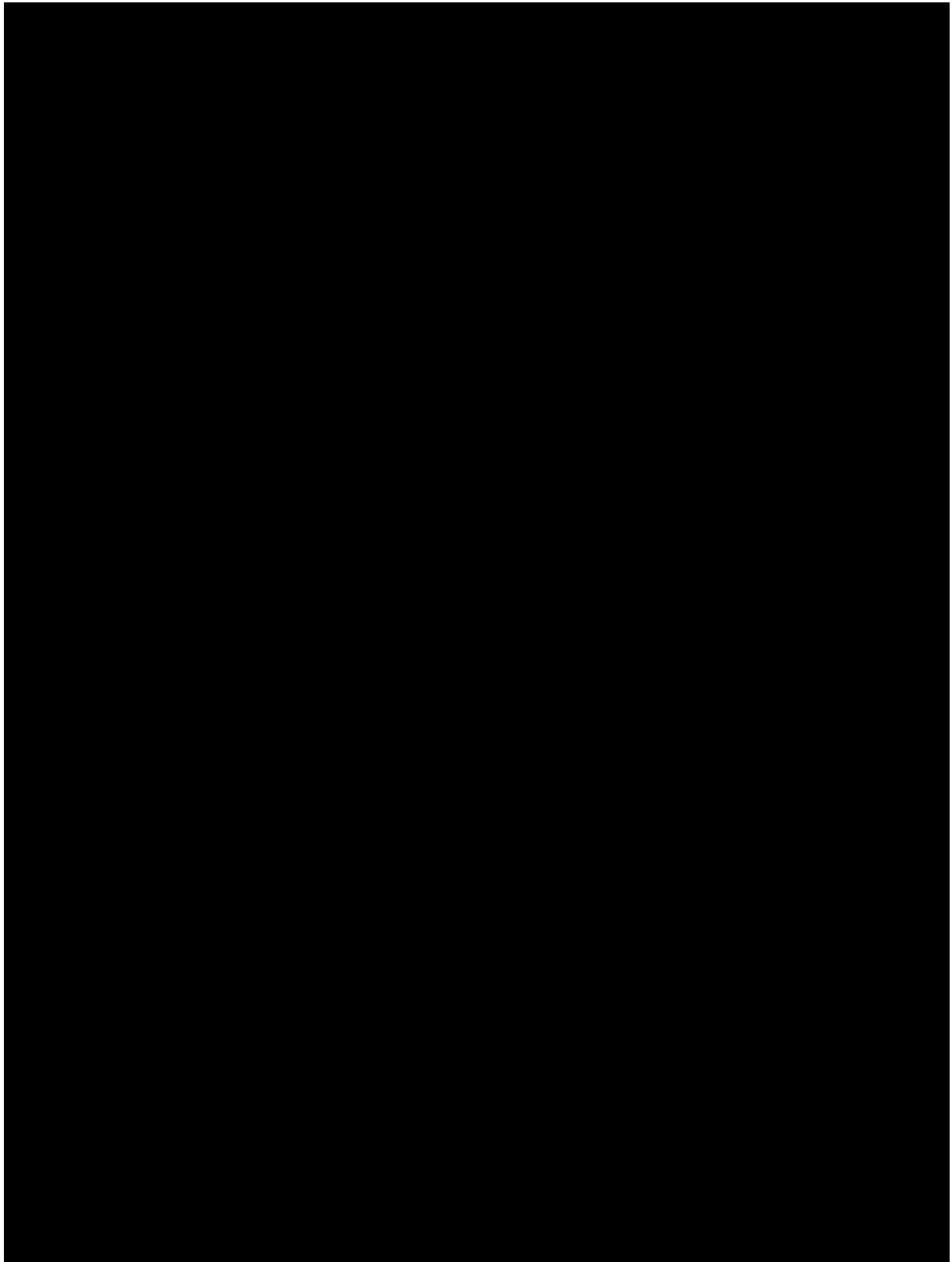


Figure 2A–E: Baths of *Alba Fucens*. General views: **A**: view of NE part of the baths, from NE. **B**: view of SW part of the baths, from E. **C**: view of NW part of the baths, from NW. **D**: R2, from NE. **E**: R5, from W.

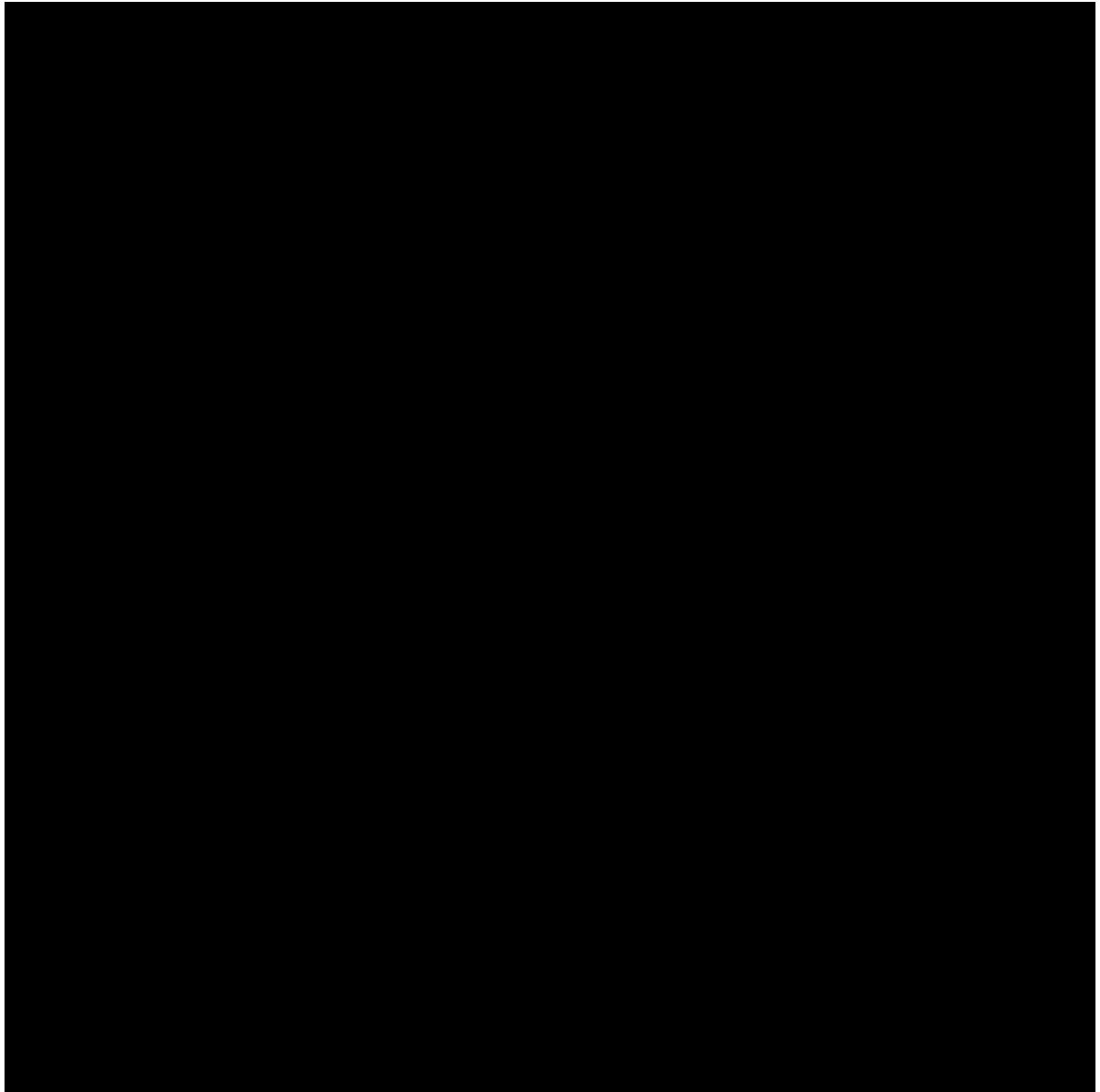


Figure 3A–F: Baths of *Alba Fucens*. **A:** R6, from NE. **B–C:** R7, from W and E, respectively. **D:** W part of R9, from E. **E:** R10, from NE. **F:** R5, from N.

1 – Location

1.1 – Province of Chieti, Comune of Vasto

1.2 – 14.712400 E, 42.113958 N

1.3 – In the NE part of town

2 – Preservation

2.1 – Large part of the remains is under the Via Adriatica (S) and the church of S. Antonio (W). Restored during the 1990s.

2.2 – Parco Archeologico delle Terme Romane dell'antica *Histonium*

3 – Research

3.1 – Limited excavations in 1973-1974. Extensive excavation in 1994-1995 and 1997 by the Soprintendenza Archeologica dell'Abruzzo (dir. A. Staffa).

3.2 – Visited in April 2016

4 – Dimensions

At least 1040 m², of which at least 120–190 m² heated

5 – Chronology and phasing

5.1 – I: 2nd cent. AD (Staffa: ?)

I+: several undated modifications, some of which possibly followed the AD 346 earthquake: reflooring of R1, pool in R13, new floors in R9 and R10

5.2 – Unknown. 6th-7th cent. AD walls in R10, later church on top of the W part of the building

6 – Description of the remains and identification of rooms

6.1 – The baths were organised on three terraced levels descending from W to E (upper one: R1, R2, R3 and R4); intermediary one (R5, R6, R7, R8, R9, R10, R11, R12 and R14, possibly with pool R13); lower one (R15, ca. 1 m below R10). R1 and R2 were at the centre of the building, with the other rooms distributed around them. R5, R6 and R7, in the SW part of the complex, were heated; R8 and R9 may have been heated too.

R1: largest room, probably separated from R2 by pilasters of which a few remains have been found. First floor in Cipollino, possibly the original one; on it was created a second floor in reused marble fragments, some of which inscribed (see AE 2004.461). To the W opened **R2**, another large room (13.50 x 12.60 m) floor with a figurative mosaic. R2 was accessible from **R3**, ca. 0.30 m higher and with a mosaic floor, and from **R4**. To the S were the heated rooms **R5**,

R6 and **R7**, and possibly heated rooms **R8** and **R9**, whose hypocaust floors were lower than **R1** and **R2** but at the same level as **R10**. **R9** had a first floor of tiles at the same level as the floor of **R10**; in a later phase, a mosaic floor was added ca. 0.30 m above the first one, in which case it was certainly not heated anymore. **R10**: 8.30 x 6.25(?) m. Figurative mosaic floor, later covered by a second mosaic floor of which nothing remains. To the W of **R10** were **R11** and **R12**, two small square rooms heavily damaged in 6th-7th cent. wall when a wall obliterated their E part. The floor of **R15** was ca. 1 m below that of **R10**. **R13** was described as a pool lined in *cocciopesto*, with a floor ca. 1.70/1.80 m below **R10**. Possibly added in a later phase. **R10** and **R13** were separated by a narrow space ending to the E by a segmental arch, 0.70 m high, closed off in post-Roman period, possibly a *praefurnium* (see 8.1).

6.2 – Too little remains of the baths to identify functions or reconstruct paths. Tentatively, the dimensions and decoration of **R1** and **R2**, as well as their central position, could be seen as a group *frigidarium*–vestibule separated by a columnar screen (cf. *Teate Marrucinorum* [Ab.03], *Cumae* [Ca.02]). The heated rooms were to the SW, where service areas are expectable. It is probable that the *caldarium* was located further SW than **R6**–**R7**.

7 – Construction techniques and materials

7.1 – Cocciopesto floor in **R11**

7.2 – Brick-faced concrete

7.3 – Several collapsed fragments of concrete that belonged to upper part of walls/springing of vaults are visible to the E of the baths.

8 – Heating devices

8.1 – An arch opening between **R10** and **R13**, blocked at a later date, has been interpreted as a *praefurnium*. If the identification is correct, its distance from the heated rooms suggests it belonged to an earlier arrangement of the baths.

8.2 – **R5**, **R6** and **R7** were heated, **R8** and **R9** may have been heated. *Area* of *bipedales* (with marks of fingers) in **R5**, **R6** and **R7**. *Area* of tiles in **R9**. No visible hypocaust connections, but a connection must be reconstructed between **R5** and **R6** since **R5** could not have been heated from anywhere else.

Staffa 1998 mentioned remains of *tegulae mammatae* but the level of preservation of the walls suggests the remains could instead be a lining of tiles on the walls of the hypocaust.

9 – Water management

9.1 – Two aqueducts supplied the city, and possibly dated to the 1st cent. AD. Two reservoirs, the ‘Piccole Cisterne’ and ‘Grandi Cisterne’, were built as terminal points of these aqueducts in the 2nd cent. AD. They were located in high point in the S part of town and could have supplied the baths, located at a lower level. There is no evidence of a direct connection between aqueducts and baths.

9.2 – R13 was a pool/water container.

9.3 – Concrete extrados of drainage channel visible for 4.85 m in E part of baths, from E wall of R14 and heading E; may have been used to dispose of water from pool in R13, and neighbouring rooms.

10 – Decoration and material

10.1 – Mosaic floors in R2, R3 and R10. **R2**: 13.50 x 12.60 m, black on white background: in a frame of pelts, several sea-themed creatures and divinities in quadrilobed medallions, separated by vegetal elements. **R3**: white, frame of peltas. **R10**: 6.74 x 3.9 m, figurative: sea creatures in crosses and ellipses. *Tesserae* of local stone, white, black and dark ivory. 3rd cent. AD (Fabbricotti).

Marble floor in R1: Cipollino in phase I, reused marble slabs in later phase.

Fragment of stone architrave possibly coming from the decoration of the baths.

10.2 – one inscription:

- **AE 2004.461 = SupplIt 22, 26 = EDR109929** (STAFFA 1995, 60–61, fig. 66): *Iuliae Corneliae Primae* / [---/---/---] / *d. d.*

L5: *d(ono) d(edit)* (Staffa) or *d(ecreto) d(ecurionum)* (AE)

Negative imprint left in the mortar of the floor of R1 in which the inscription was reused. Letters 3–2.5 cm. Dated 3rd cent. AD (palaeography)

11 – Bibliography

FABBRICOTTI 1984, 139–143 (decoration); STAFFA 1995, 54–62; MONTANARO, BARBONI & MACCHIAROLA 1998 (decoration); STAFFA 1998; TESS4009; TESS4010

12 – Illustrations

STAFFA 1995, 59 (plan), 60–64 (pictures), 65–68 (decoration); STAFFA 1998

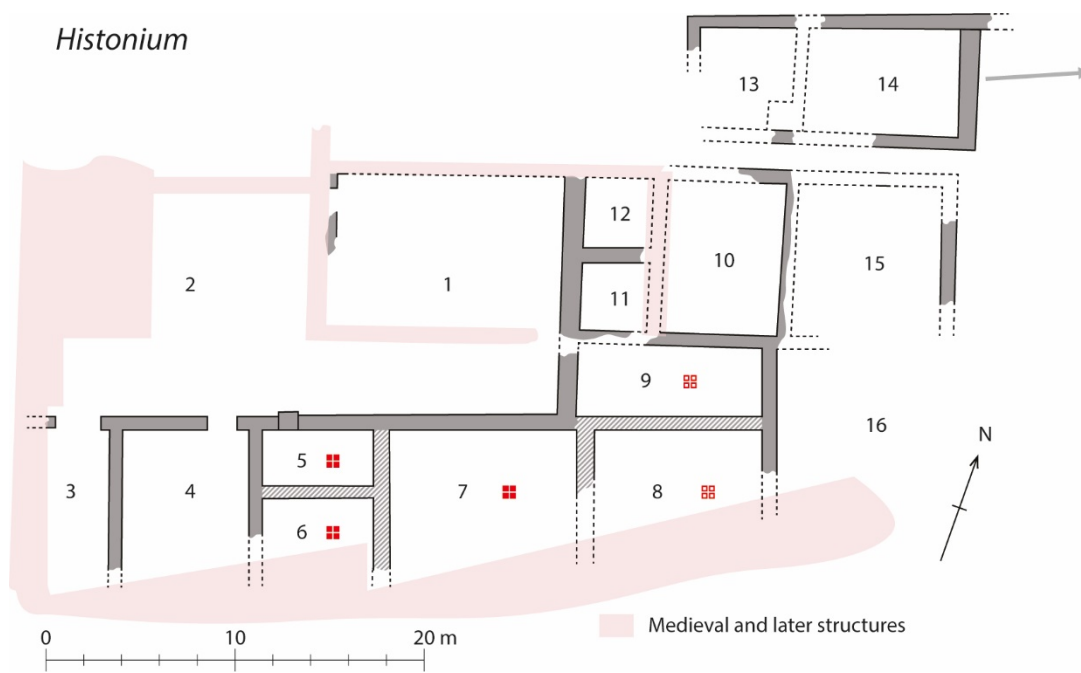


Figure 4: Plan of the baths of *Histonium* (after STAFFA 1998, fig. 2).

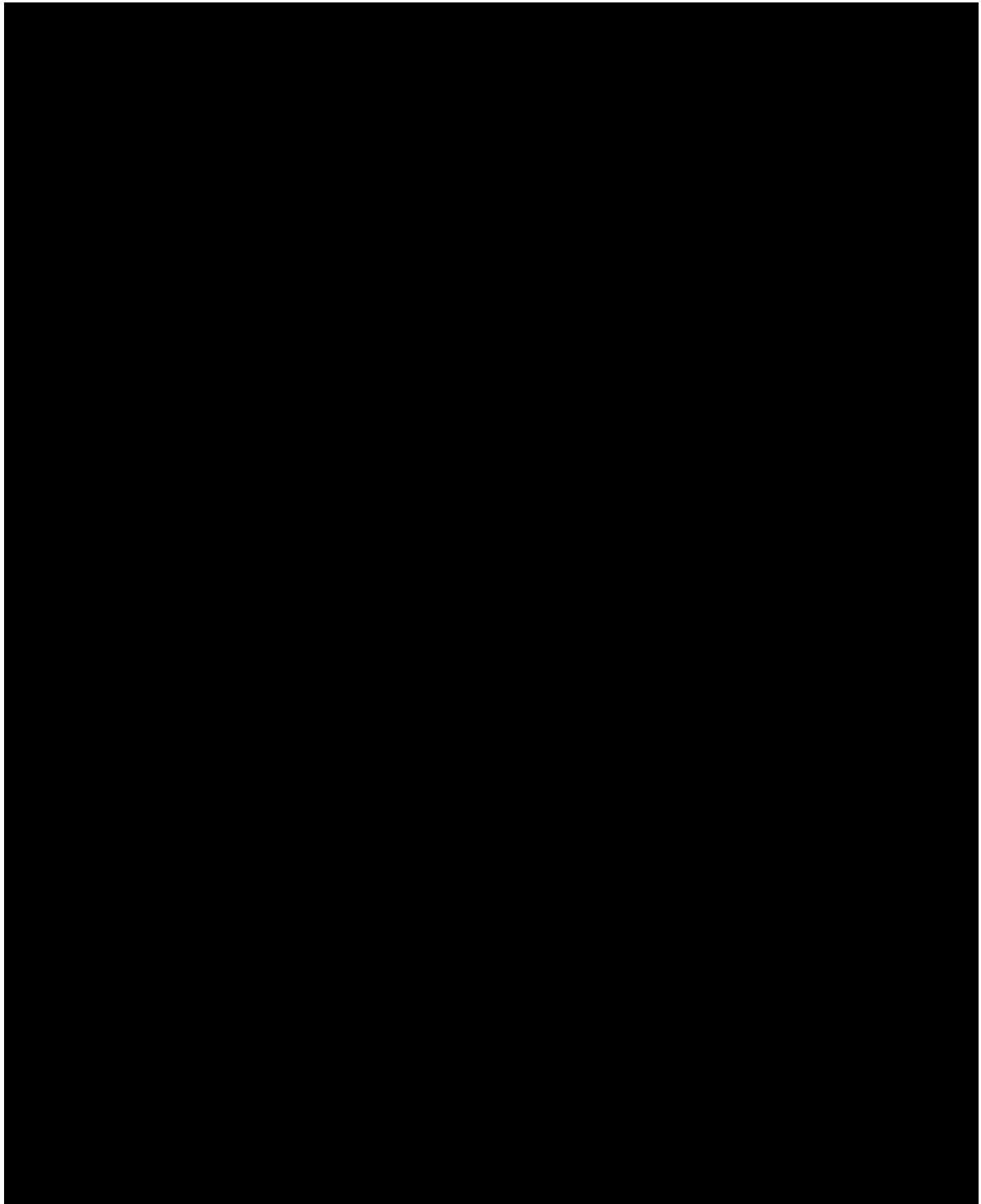


Figure 5A–I: Baths of *Histonium*. **A:** R2, from S. **B:** R7, from SW. **C:** R11–R12, from SW. **D:** R10, from S. Heating: **E:** *bipedalis* from the *area* of a heated room, with finger marks. **F:** arched structure between R10 and R13, from W. Decoration: **G:** marble floor in R1. **H:** detail of the mosaic floor in R10. **I:** detail of the mosaic floor in R2.

1 – Location

1.1 – Province and Comune of Chieti

1.2 – 14.168234 E, 42.347319 N, ca. 275 m asl.

1.3 – In the E part of the town and outside the ancient city walls, on a hillside, next to and connected with a large cistern. Now in località Fonte Grande.

2 – Preservation

2.1 – Well preserved in plan apart from the S part, lost in a landslide. Bathing area preserved up to 2–3 m height, cistern well preserved. R4 and most of R6 and R7 are not visible today.

2.2 – *On an area archeologica managed by the Soprintendenza.*

3 – Research

3.1 – Known at least since the 18th cent. AD. Excavated in the 1930s and 1950s by the Soprintendenza alle Antichità per l’Abruzzo, possibly further small excavations in the 1990s. Restored several times (1936, 1956, 1958–59, 1970s). In particular, the terracing wall separating the baths from the N platform (N wall of R2) was entirely rebuilt, and the mosaic of R5 was restored. Cleaned occasionally, recently in September 2019. The baths have never been fully studied; the focus has been on the water cistern.

3.2 – Visited in April 2016

4 – Dimensions

1,800 m², of which ca. 350 m² for the heated sector

5 – Chronology and phasing

5.1 – Without much details on the evidence used, the construction (I) is dated in the 1st–2nd cent. AD: 1st cent. AD for D’Emilio (urbanism), mid-1st cent. AD for Cianfarani (material), 2nd cent. AD for Tavano, mid-2nd cent. AD for Campanelli, who also mentioned three main phases between 1st–2nd cent. AD.

- II: Modifications in R2, R3 and R5. Redecoration. All the modifications are not necessarily contemporaneous.

5.2 – 4th cent. AD (material)

6 – Description of the remains and identification of rooms

6.1 – The bath building was located on a terrace and connected to a cistern located on a ca. 6 m higher upper terrace, separated by a triangular platform (possibly a road); they had different orientations. From the platform, a large staircase R1 led into the bath building.

R1: staircase, ca. 3.5 m wide and min. 8 m long, leading into a long corridor R2. **R2:** ca. 35.90 x 6.10 m corridor, running for almost the whole length of the bath building apart from a small room to the W, R3. The E short side of the room seems to take the shape a semi-circular apse (R4). Mosaic floor. Provided access to R3 and R5; access to the latter was monumentalized by two columns. Two openings towards R2: a large central one with marble threshold with a longitudinal groove, suggesting it could be closed off by panels, and a smaller entrance to the side, marble threshold with hinge imprint. **R3:** small room, ca. 6.10 x 5.80 m, *cocciopesto* floor. Several square holes in the N wall, at regular intervals (3 lines of 3 holes, ca. 0.10 m on the side, 0.50 m apart vertically and ca. 1.70 m horizontally), interpreted as slots for shelves' supports. **R4:** apse closing R3 to the E. **R5:** 16.3 x 12.40 m room, accessed from R2 and giving access to R8 to the W, R12 to the S and R6 to the E. Mosaic floor. In a secondary phase, the room was subdivided by a ca. 0.40 m thick N–S wall set on the mosaic, ca. 2.85 m from the W wall, creating a small square room and a longer corridor along the W wall through which access to R8 was possible. Remains of a wall of the same thickness ca. 2 m from the E wall suggests there might have been a similar subdivision in the E part of the room. **R6–R7:** two rectangular rooms, ca. 10.50 m long, ca. 6.50 and 5.50 m wide, respectively. R6 gave access to R7. **R8:** heated room, 9.45 x 11.55 m, accessible from R5 and leading to R10. **R9** was a fire chamber for the operation of *praefurnia* A and B; it was accessible via R3 (see 8.1). **R10** was a second heated room located between R8 and R11 (ca. 8.20 x ca. 11.50 m). **R11** was also heated and measured ca. 7.85 x ca. 11.50 m; it was equipped with two hot-water pools, a horseshoe-shaped one to the S (11b, diam. ca. 5 m) and a rectangular one to the W (11a, ca. 5 x ca. 2.8 m), accessible via a series of steps. Pool R11a had windows on the N and S walls. **R12:** square room (13.90 m on the side), located at a lower level than R5 and accessed from it via one or two steps. The S and E part are poorly preserved. Two semi-circular niches were located in the NW and NE corner, the latter one hosting a pool accessible via three steps, veneered in marble and floored in *opus spicatum*; it is possible there was another pool in the NW apse. Some authors suggest the S part of the room may have contained a larger pool, possibly in the apse **R13**. **South** of the building, next to pool R11b, at least two water channels run with an E–W orientation. They were built in the 18th cent. AD to carry the water from the hill; they are covered with a brick barrel-vault.

6.2 – R1 was the entrance staircase and R3 a service area leading towards the fire chamber R9. R2 was a very long vestibule with possible further functions (esp. considering the presence of apse R4). R6 and R7 do not have a clear function; they perhaps acted as *apodyteria*. D'EMILIO 2013 suggested that they composed another heated sector, roughly symmetrical to the W one (R8–R10–R11), but there is no conclusive evidence to support this identification. R5 was a large, well decorated redistribution room. R8–R10–R11 were the heated rooms of the baths, R8 being a *tepidarium* based on its position in the heating circuit, R11 a *caldarium* equipped with

two heated pools R11a and R11b. R12 was probably the *frigidarium*, with a cold-water pool R12a and with two possible additional ones, one in the NE corner and a larger one to the S, in R13.

After entering via the staircase R1 and crossing the corridor R2, bathers would have entered the hall R5. From there, after using the *apodyteria* R6–R7, they would have started a circular circuit through the heated rooms R8–R10–R11, finishing in the *frigidarium* R12 and going back to R5.

7 – Construction techniques and materials

7.1 – Maiella limestone for the mosaic in R1. Cocciopesto in R3 and *opus spicatum* in pool R12a.

7.2 – All the walls are made of concrete and faced in brick courses. The bricks are ca. 5–7 cm thick.

7.3 – No evidence. A 3D model reconstructed the baths with barrel-vaults on R2, R6–R7, R8, R10–R11, and a dome on R12; the pierced flat roof in R5 is unlikely.

8 – Heating devices

8.1 – Two *praefurnia* operated from R9 (ca. 11.50 x ca. 2 m). *Praefurnium A* was covered by a relieving arch of *sesquipedales* under which were set three large stone blocks (two vertical stones topped by a lintel); the space between the post-and-lintel structure and the arch was blocked with brick courses. Longitudinal extensions towards the heated room. *Praefurnium B* was also covered by a relieving arch made of *sesquipedales*. Slit-windows in the W wall of R9 in correspondence to the *praefurnia*.

R11, as a *caldarium* with hot-water pools, must have been heated. From pictures, there was a *praefurnium (C)* to the W of pool R11a, probably equipped with a boiler (see point 9.2). The fact that the key of the intrados of the arch above the *praefurnium* was higher than the floor of the pool further suggests the pool might have been equipped with a *testudo*. It is likely that R11 was equipped with a second *praefurnium*, but there are no mentions of such.

8.2 – *Pilae* made of *bessales* (observed in R8), *tubuli* (rectangular section) in the heated rooms.

9 – Water management

9.1 – Several cisterns are known in the city, and an inscription commemorates the restoration in the late-1st–early 2nd cent. AD of an aqueduct built during the Augustan period (*CIL IX.3018* = *ILS 5761* = *EDR115108*).

A large cistern was located just N of the baths, ca. 60 x 14.15 m, oriented SW–NE and mostly dug in the hillside. It was made in concrete covered in *opus signinum*, and divided internally in 9 barrel-vaulted naves (each ca. 5.80 m wide) communicating with each other. The *opus signinum* went up to the level of the springing of the vaults at 2.85 m, but there are traces of water on the walls up to 4.20 m; based on those numbers, the capacity was calculated at either

2,450 m³ or 3,356 m³ (the lower figure may be more representative of the intended capacity of the reservoir, the larger of the maximum capacity it reached on several occasions). Each nave ended with a curved wall, acting as a buttress to support the weight of the hill to the N, and of the water to the S. The floor level was accessible by a staircase in the NE nave. There was a drainage pipe (lead, 0.10 m diam.) in the second nave (from the NE) for the emptying of the cistern, and two pipes supplying water to the baths in the sixth and seventh naves; the latter was a 0.15 m diam. terracotta pipe ca. 0.75 m above the floor level. In a secondary phase, the fifth nave was subdivided in two, creating a smaller reservoir of ca. 70 m³ in it. The cistern was supplied by rainwater (entering through circular holes in the vaults) and by the Fonte Grande spring (channelled from the upper part of the hill, ca. 120 m away, to the cistern and ending up in the 5th nave, in the smaller reservoir in a secondary phase); considering the volume of the cistern, it supplied not only the baths but also probably other parts of the town.

9.2 – Two holes in the upper parts of the W wall of pool R11a were probably used to pass pipes from a boiler on *praefurnium* C to pool R11a to supply it with hot water.

9.3 – In R9, ca. 0.20 m wide channel going S (*praefurnium*?) to N then turning 90° W towards the exit.

10 – Decoration and material

10.1 – **R2**: White background mosaic with black crosses (TESS18809). **R5**: white background mosaic with black geometric pattern of squares alternatively containing crosses and leaves, and central pseudo-emblema depicting a trident, a dolphin and two hippocamps (TESS18810). Many traces of marble veneer, in two phases according to AGOSTINI, MARIOTTINI & ROMANO 2002.

- I: veneer mostly of Cipollino from Euboea
- II: previous veneer removed or covered with wide variety of marble of different provenances. Traces of marble veneer *in situ* in the heated rooms, on the terracing wall (R2 N wall), on the later N–S wall in R5. Geometric design: panels and pilaster strips in Breccia di Settebasi, Fior di pesco and Pavonazzetto, door frames in Portasanta, Cipollino and Proconnesian marble, mouldings in Giallo antico, Africano, Proconnesian and white Carrara marble. Bases and capitals (vegetal decoration) of pilaster strips in Rosso antico. One pilaster strip capital in Proconnesian white marble, same decoration. Wall veneer of Greco scritto, including in pools R11b and R12a. Pool R11a veneered in Proconnesian marble. Floors covered with slabs of Breccia Corallina or white marble. Columns separating R2–R5 made of Proconnesian marble. Evidence of polychrome mosaic in glass paste.

10.2 –

- Marble fragments. Found in early excavations, stored in the cistern without indication of provenance. 75 cases of fragments of grey and white marble (of which ca. 65 of marble and

ca. 10 of Greco scritto), and 70 cases of fragments of coloured stones (of which 50 of Breccia di Settebasi and 10 of Cipollino).

- Varied material: a large unfluted column shaft, several fluted column shafts, an inscribed cippus, a fragment of the face of a woman's statue, the torso of a *togatus*.
- A fragmentary inscription possibly mentioning *thermae*. Found in proximity to the columnar screen (between R2–R5). See catalogue of inscriptions [E86?].
- A hoard of ca. 300 coins. Found in the 1930s excavations and containing almost exclusively coins of emperor of the 1st half of the 3rd cent. AD.

11 – Bibliography

ANNIBALDI 1940; 1942; CIANFARANI 1949; 1961, 309–312; COARELLI & LA REGINA 1984, 150–151; SCICHILONE *et al.* 1987; FABBRICOTTI 1991, 55–56; NIELSEN 1993, cat. 53; CAMPANELLI 1997, 32–33; ROBOTTI 1997; TAVANO & MONASTERIO 2001, 44; AGOSTINI, MARIOTTINI & ROMANO 2002 (on marble decoration and material); D'EMILIO 2013

Water: COLOSIMO 1940; OBLETTER, PICCIOLI & DE MARTIIS 1985, 93–107; BURRI 1987; OBLETTER & ANTONUCCI 1991, 83–89; AGOSTINI & CAMPANELLI 1995–1996, 213–214; DE ROSA 2008, 217–218, 234

12 – Illustrations

Plans: CIANFARANI 1949, plan C; CIANFARANI 1961 (also city plan); COARELLI & LA REGINA 1984, 150; COARELLI 1985, 474 (city plan); OBLETTER, PICCIOLI & DE MARTIIS 1985, fig. 98; SOMMELLA 1985, fig. 3; FABBRICOTTI 1991, fig. p. 57; NIELSEN 1993, fig. 82; CAMPANELLI 1997 (aerial view)

Pictures: ANNIBALDI 1940, fig. 1; ANNIBALDI 1942, fig. 9; CIANFARANI 1961, fig. 3; OBLETTER, PICCIOLI & DE MARTIIS 1985, fig. 97, 105–109; SCICHILONE *et al.* 1987, fig. p. 301–305; FABBRICOTTI 1991, fig. 12; ROBOTTI 1997, fig. p. 49–50; TAVANO & MONASTERIO 2001, 45; D'EMILIO 2013, fig. 1, 4, 11–31, 32–34 (material)

3D models: Terme romane di Chieti 2019

Reservoir: COLOSIMO 1940, fig. p. 253, 255, 257, 260–261; CIANFARANI 1961, fig. 4–5; OBLETTER, PICCIOLI & DE MARTIIS 1985, fig. 99–104; SCICHILONE *et al.* 1987, fig. p. 302–303; FABBRICOTTI 1991, fig. 13–14; OBLETTER & ANTONUCCI 1991, fig. p. 84, fig. 15–17; AGOSTINI & CAMPANELLI 1995–1996, fig. 3; D'EMILIO 2013, fig. 6–10

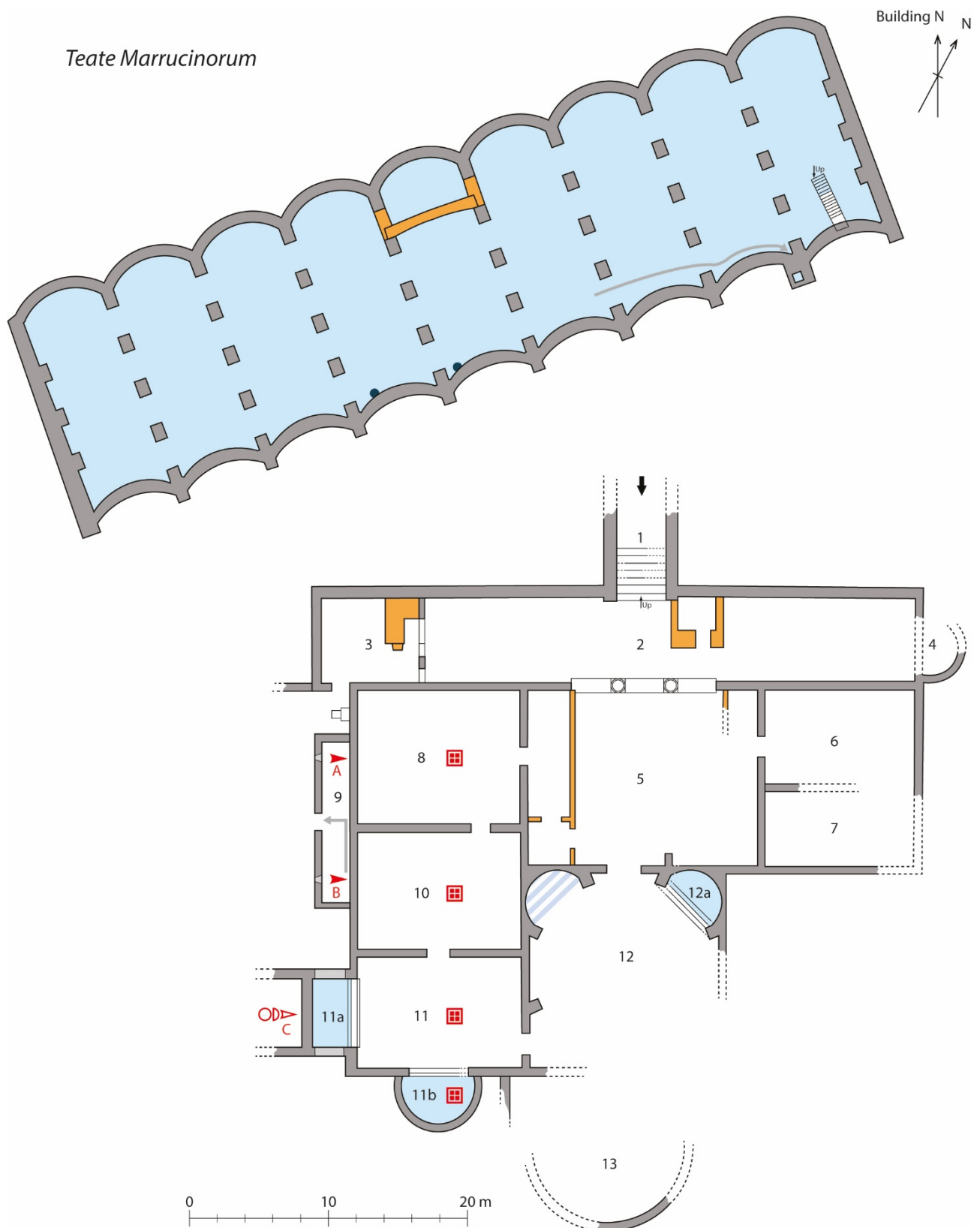


Figure 6: Plan of the baths of *Teate Marrucinorum* (after CIANFARANI 1961, pianta; FABBRICOTTI 1991, fig. 12).

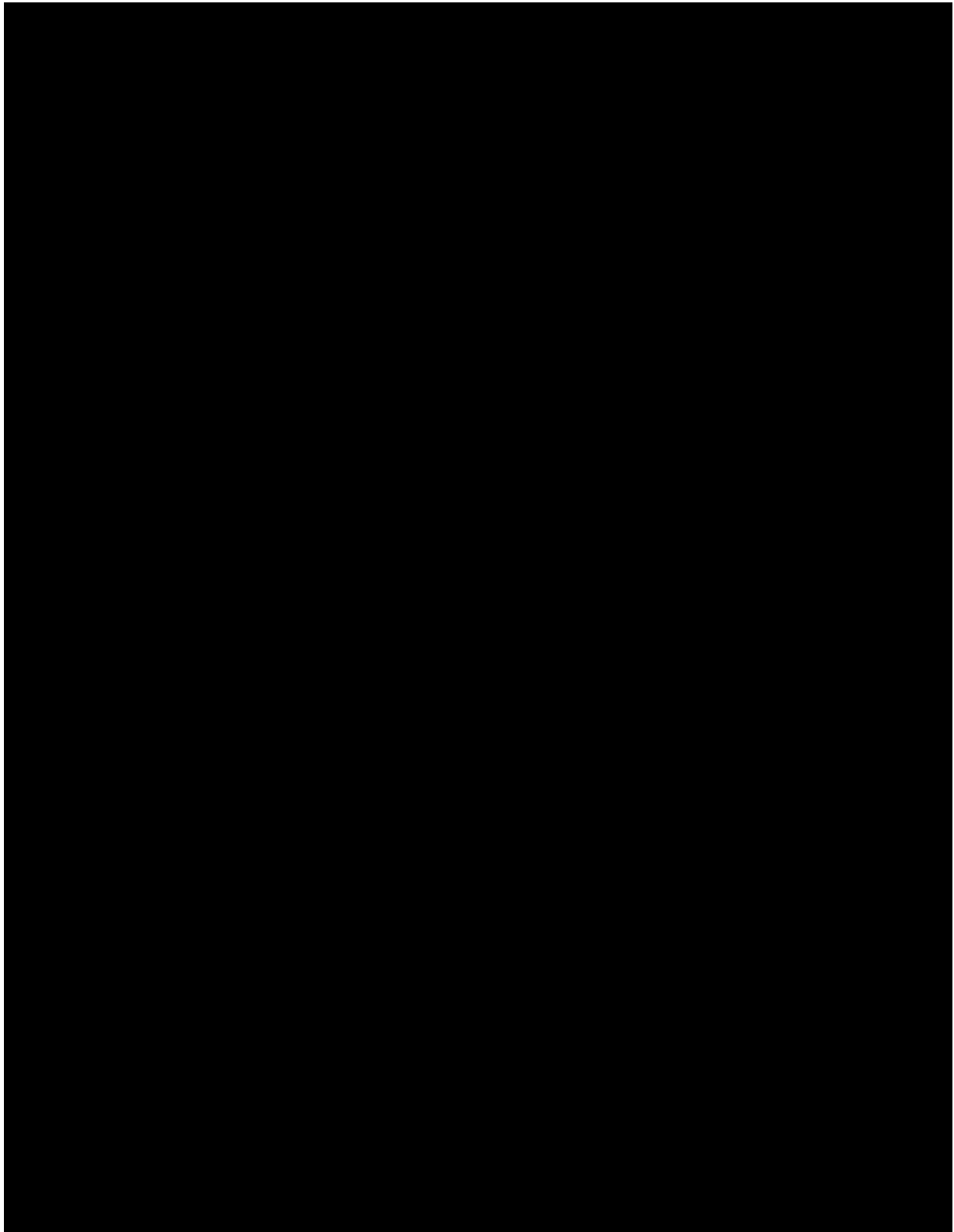


Figure 7A–E: Baths of *Teate Marrucinorum*. **A:** general view from SW. **B:** Hypothetical 3D model. **C:** R12, from SW. **D:** entrance R1 from N. **E:** R2, from E (A: GIAMPIETRO 2014; B: Terme romane di Chieti 2019; D–E: D’EMILIO 2013, fig. 4; E: FANTASTICO ABRUZZO 2019).

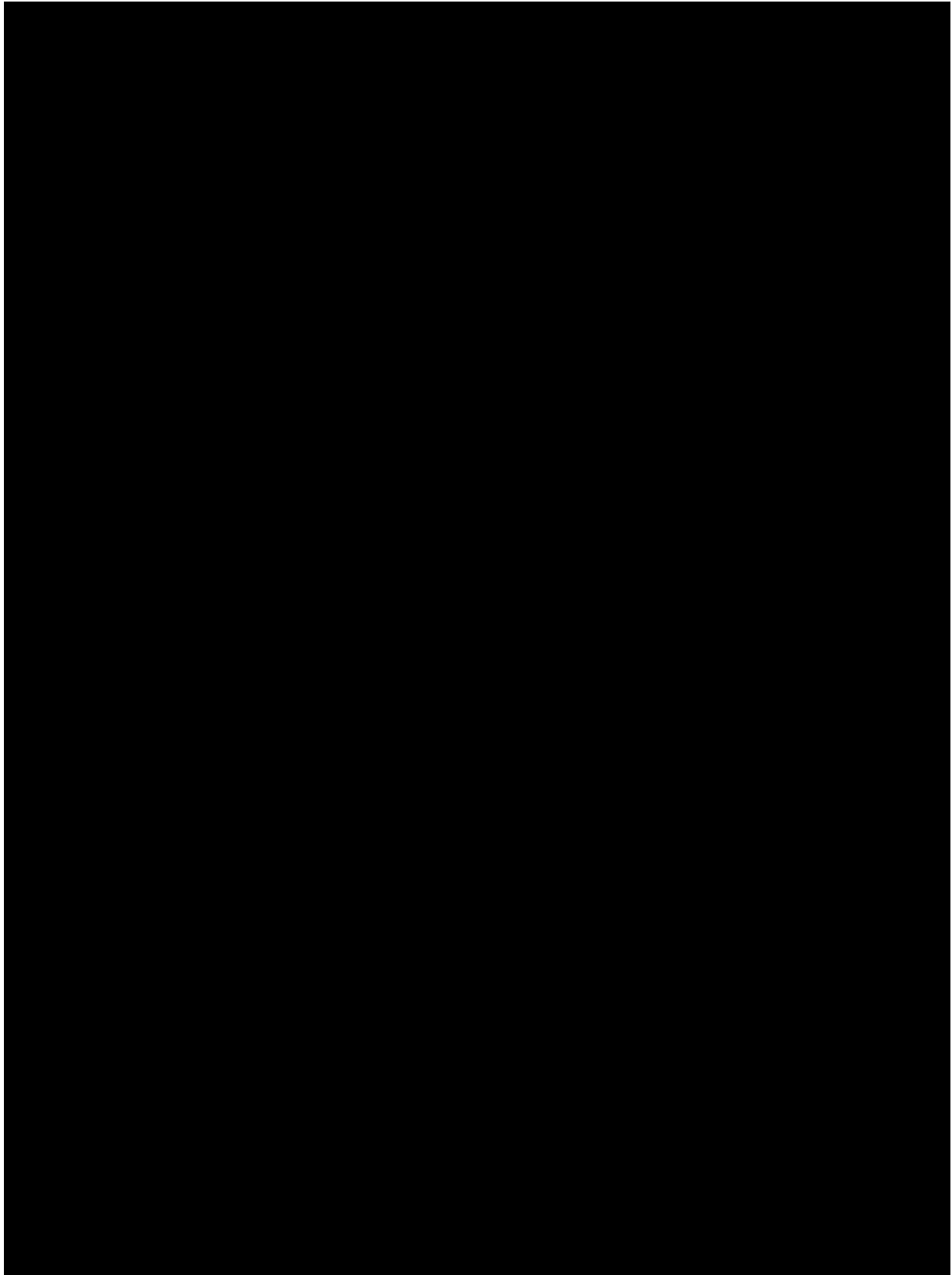


Figure 8A–J: Baths of *Teate Marrucinorum*. **A:** R5, from SW. **B:** R12a, from NE. **C:** R10, from SE. **D:** R11, from E. Heating systems: **E:** detail of hypocaust. **F:** *praefurnium* A, from E. Water storage: **G:** central chamber of the reservoir, from SE. **H:** water reservoir, from W. Decoration: **I:** R5, from S. **J:** central panel in mosaic floor of R5, from E (B–F, I–J: D'EMILIO 2013, fig. 4, 16, 21, 24, 28, 30–31).

Reliability: baths, probably public (absence of connection with other buildings)

1. 1.1 – Province of L'Aquila, Comune of Corfinio
1.2 – 13.838533 E, 42.122677 N
1.3 – Close to a *domus*, with which it apparently has no connection.
2. 2.1 – Walls preserved at the level of the hypocaust/foundations.
2.2 – Currently visible and part of the Archaeological Park "Don Antonio Colella".
3. 3.1 – Partially excavated by E. Carnabuci, mostly unpublished.
3.2 – Not visited
4. The visible remains are included in a rectangle roughly 16 x 9.6 m, for a surface area of 150 m².
5. No information available.
6. 6.1 – The complex was composed of three main rooms (R1, R2, R5) and two smaller ones (R3, R4), arranged linearly. R1 was rectangular and its E end was closed by a curvilinear niche.
6.2 – Based on its shape, R1 could have been the *caldarium*.
7. No information available (the facing visible on fig. 10–11 is restored).
8. 8.1 – The opening in the N wall of room 1 was probably linked to a *praefurnium*.
8.2 – R1 and R2 were heated. Remains of *pilae* made of *bessales*. R3 and R4 may have been heated as well. Two connections between the hypocausts of R1 and R2.
9. 9.1 – An undated aqueduct, restored in the early 1st cent. AD (*CIL* IX.3308 = EDR146846), is known to have supplied the town. Remains of aqueducts have been found, one of which tapped into a spring in the Aterna valley and entered town from the SW, changing orientation at the level of San Peligno, passing along a large water tank and heading in the direction of the baths. A second aqueduct probably supplied *Corfinium*, tapping into a spring in Anversa degli Abruzzi.
9.2–3 – No information available.
10. No information available.
11. VAN WONTERGHEM 1984, 119–120 (water); VALENTI 2010, 122
12. DROSDEK 2009 (picture); PAGLIANTINI 2012 (plan, reproduced from non-consulted publication); BRUGNOLI 2019 (picture)

Corfinium, loc. Piano San Giacomo

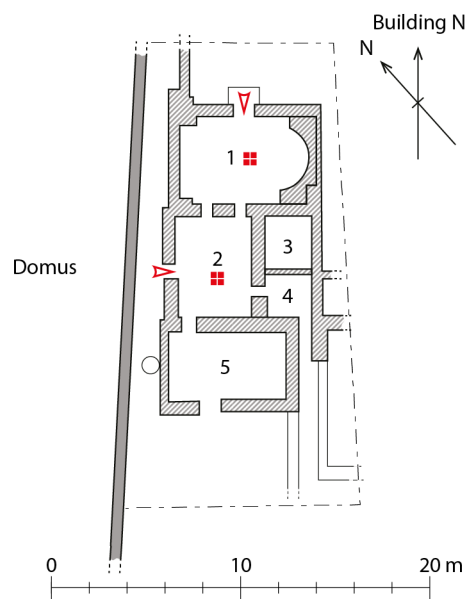


Figure 9: Plan of the baths of *Corfinium* in località Piano San Giacomo (after PAGLIANTINI 2012).

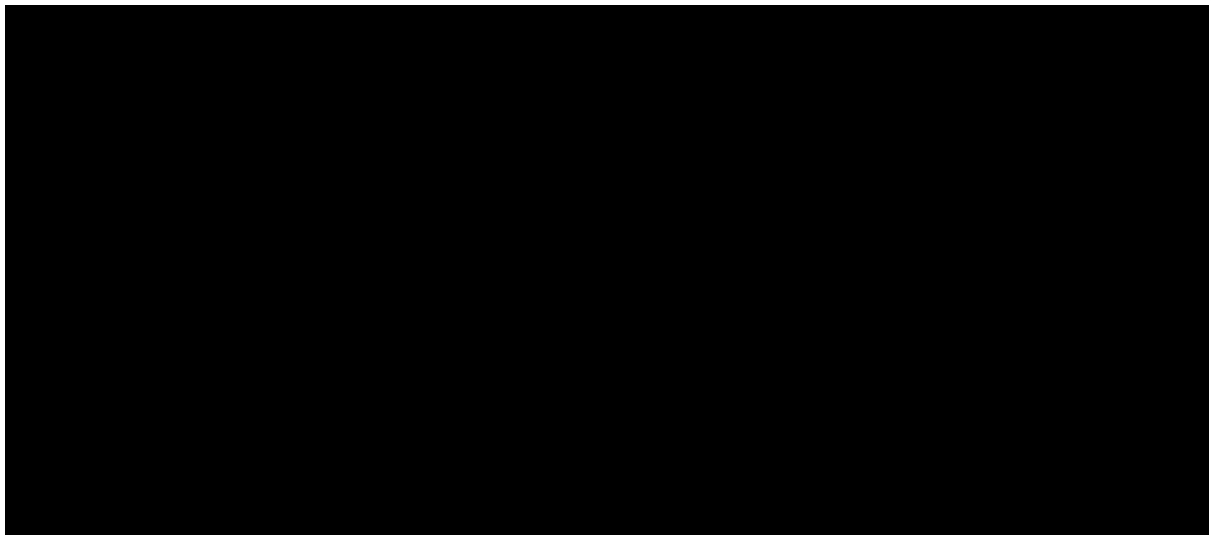


Figure 10: Baths of *Corfinium* in Località Piano San Giacomo. General view from NE (DROSDEK 2009, amended by author).

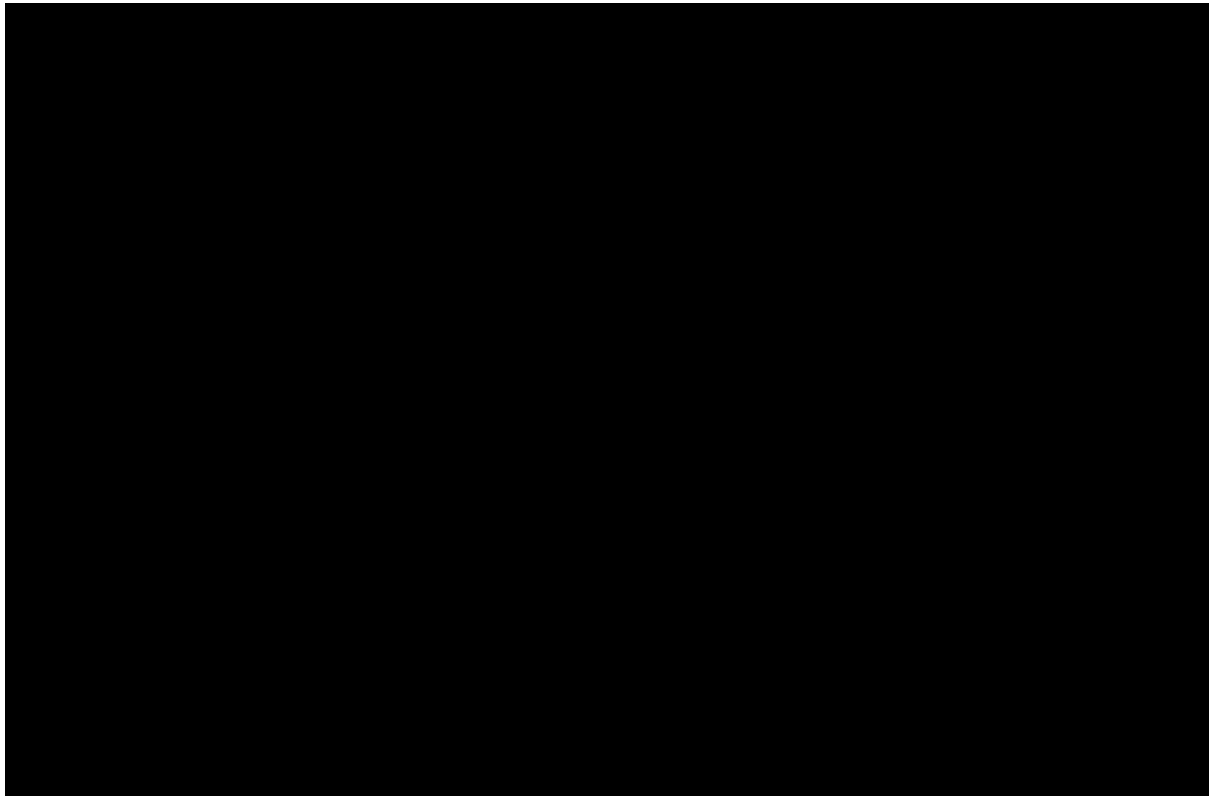


Figure 11: Baths of *Corfinium* in Località Piano San Giacomo. General view from N (BRUGNOLI 2019, amended by author).

Interamnina Praetuttiorum (Teramo), Corso de' Michetti Ab.G.05

Reliability: bath building, probably public (dimension of heated room)

1. 1.1 – Province and Comune of Teramo
1.2 – 13.707302 E, 42.657752 N
1.3 – In the centre of town
2. 2.1 – Poor
2.2 – Backfilled
3. 3.1 – One trench opened in 1989 by the Soprintendenza dell'Abruzzo.
3.2 – Not visited
4. Precise dimensions unknown. Ca. 340 m² for R1–R2, > 800 m² according to Staffa's reconstruction.
5. 5.1 – I: unknown.
II: remodelling phase(s) in Late Antiquity
Restructuration of some rooms, use of different *pilae*, reuse of material
5.2 – Before 5th–6th cent. AD.
Occupation of building in High Middle Ages, and of reservoir 4 in 11th–12th cent. AD

6. **6.1** – One large heated room (R1–R2) with apse, more than 20 m E–W, ca. 17 m restored width; mosaic floor. Two further rooms (R6) E of R1–R2. R3 is a small room behind the apse of R1–R2, at a higher level.
6.2 – R6 could be service area based on the floor types.
Staffa restores R1–R2 as central room, then two lateral wings, each ca. 12 m wide (the W wall of the W wing (8 on plan) was preserved until 1961, and he restores the E (9 on plan) wing on symmetry). Staffa compares the plan to that of the other bath building in the Isolato Castelli (see [Ab.G.06]).
7. **Floors:** cocciopesto in R3. In R6: small square terracotta *tesserae* (4 cm side) on one part, cocciopesto on the other. **Walls:** brick facing in R1–R2, 5–6 cm thick, bound with 1 cm thick mortar.
8. **8.1** – No information available.
8.2 – *Area* of R1–R2 in tiles with knocked-off flanges on a layer of cocciopesto. 2 types of square *pilae: bessales* (21 cm on the side) and irregular (23 cm on the side) obtained from recutting larger terracotta elements. Possibly belong to two different phases. *Pilae* and *suspensura* floor are 65 cm high altogether.
9. **9.1** – Small reservoir in R4. R5 could be a larger reservoir (cocciopesto on walls).
9.2 – No information available.
9.3 – No information available.
10. **10.1** – R1–R2: black and white mosaic floor with inserts of coloured marble *crustae*.
10.2 – /
11. STAFFA 1990, 26–27.
12. STAFFA 1990, fig. 2 (plan, R–S), 8 (picture).

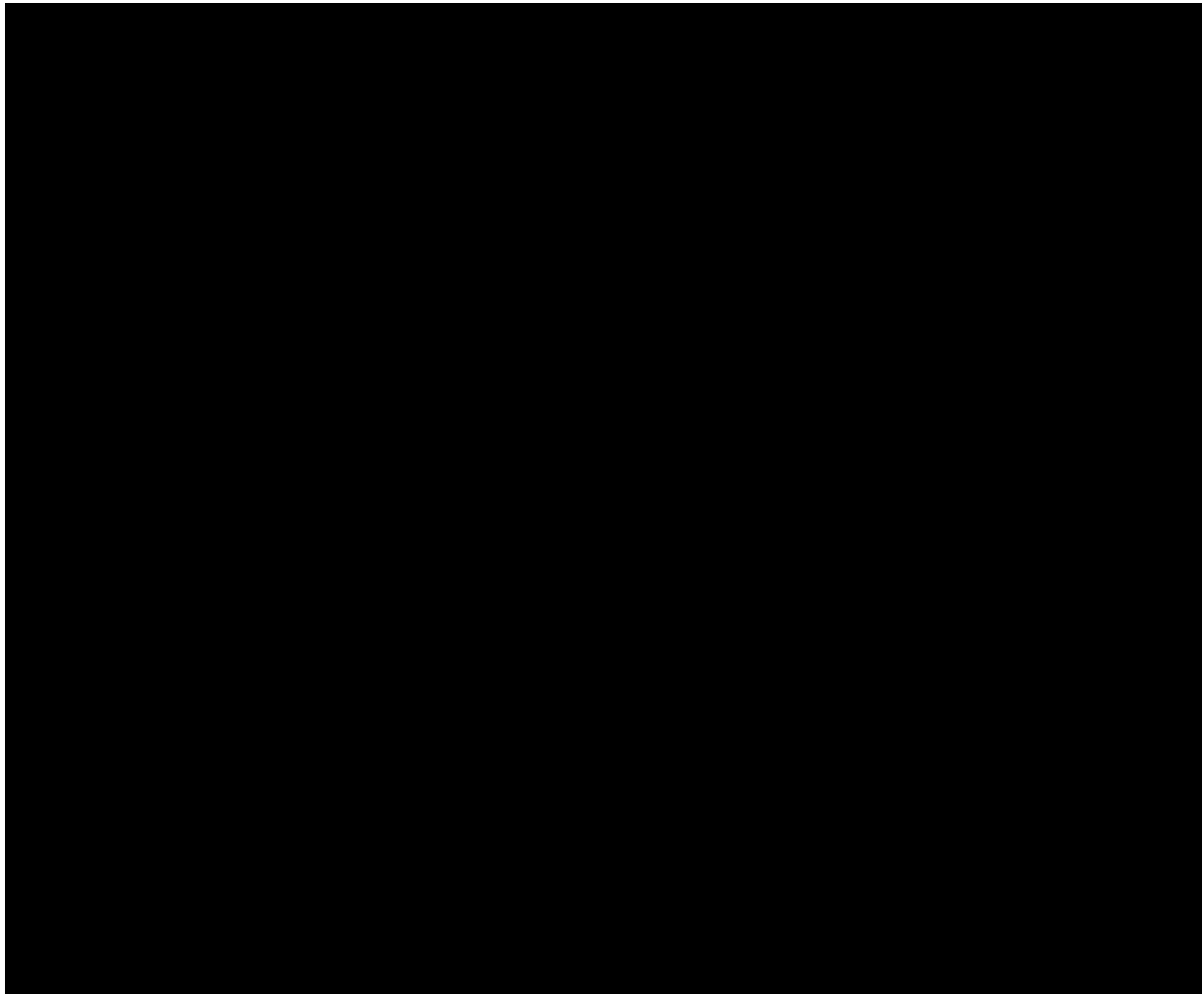


Figure 12: Reconstructed plan of the baths of *Interamnia Praetuttiorum* in Corso de' Michetti. The structures interpreted as belonging to the baths are highlighted in orange (STAFFA 1990, fig. 2, amended by author).

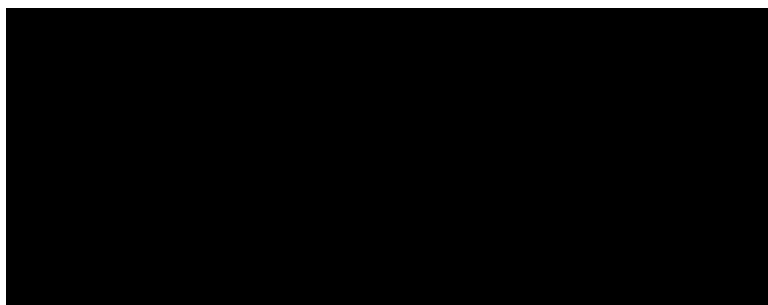


Figure 13: Baths of *Interamnia Praetuttiorum* in Corso de' Michetti during excavations (STAFFA 1990, fig. 8).

Terme a nord del Foro, Terme in Via Muzi, Terme in Piazza Verdi

Reliability: probably baths (heated room), probably public (scale, proximity to forum)

Province and Comune of Teramo

13.705679 E, 42.657946 N

A bath building is mentioned under the Isolato Castelli since the 16th cent. AD, and repeated in late 19th cent. AD text. Its identification was confirmed in 1980 by Migliorati.

E of the theatre, N of the forum. In the W part of the *insula* was found one large heated room with apse on its W end and large pool with mosaic floor and walls veneered in marble. Brick facing. 1 m high *pilae* made of *bessales*; *tubuli* on walls. One water disposal channel/sewer running under it in direction NW–SE, brick faced, 1.35 m deep, 0.60 m wide, covered in CBM set a cappuccina.

In 1963, during works in the E part of *insula*, were found Republican-period *lithostroton* floors and a later circular water tank (diam. 7.85 m, 2.30 m deep, waterproof lining), the latter possibly connected to the baths.

Dated early 2nd cent. AD (urban development, incl. amphitheatre) or 3rd cent. AD.

An inscription found nearby (see [E33]) was tentatively connected to this bath building.

Bibliography: MAZZITTI 1983, 90–93, 99–101; GUIDOBALDI 1995, 226; MIGLIORATI 2017, 166–169

Illustrations: SOMMELLA 1985, fig. 2–3 (plans)

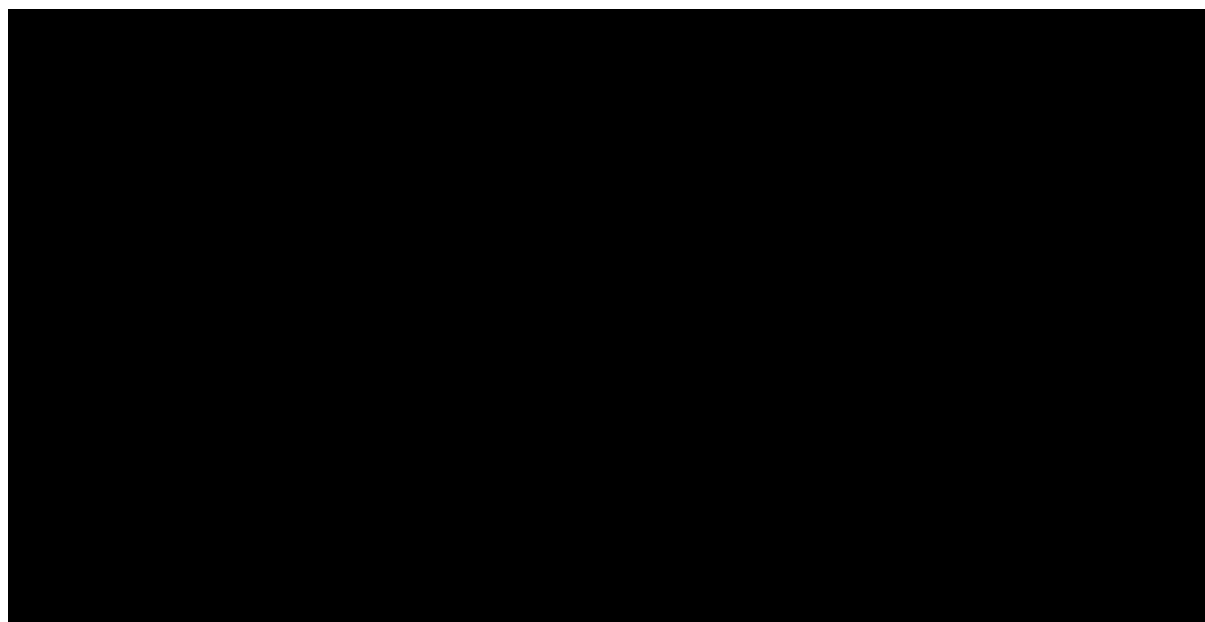


Figure 14: Baths of *Interamnia Praetuttiorum* in Isolato Castelli. Details of the hypocaust (L) and of the brick facing (R) (MIGLIORATI 2017, fig. 12–13).

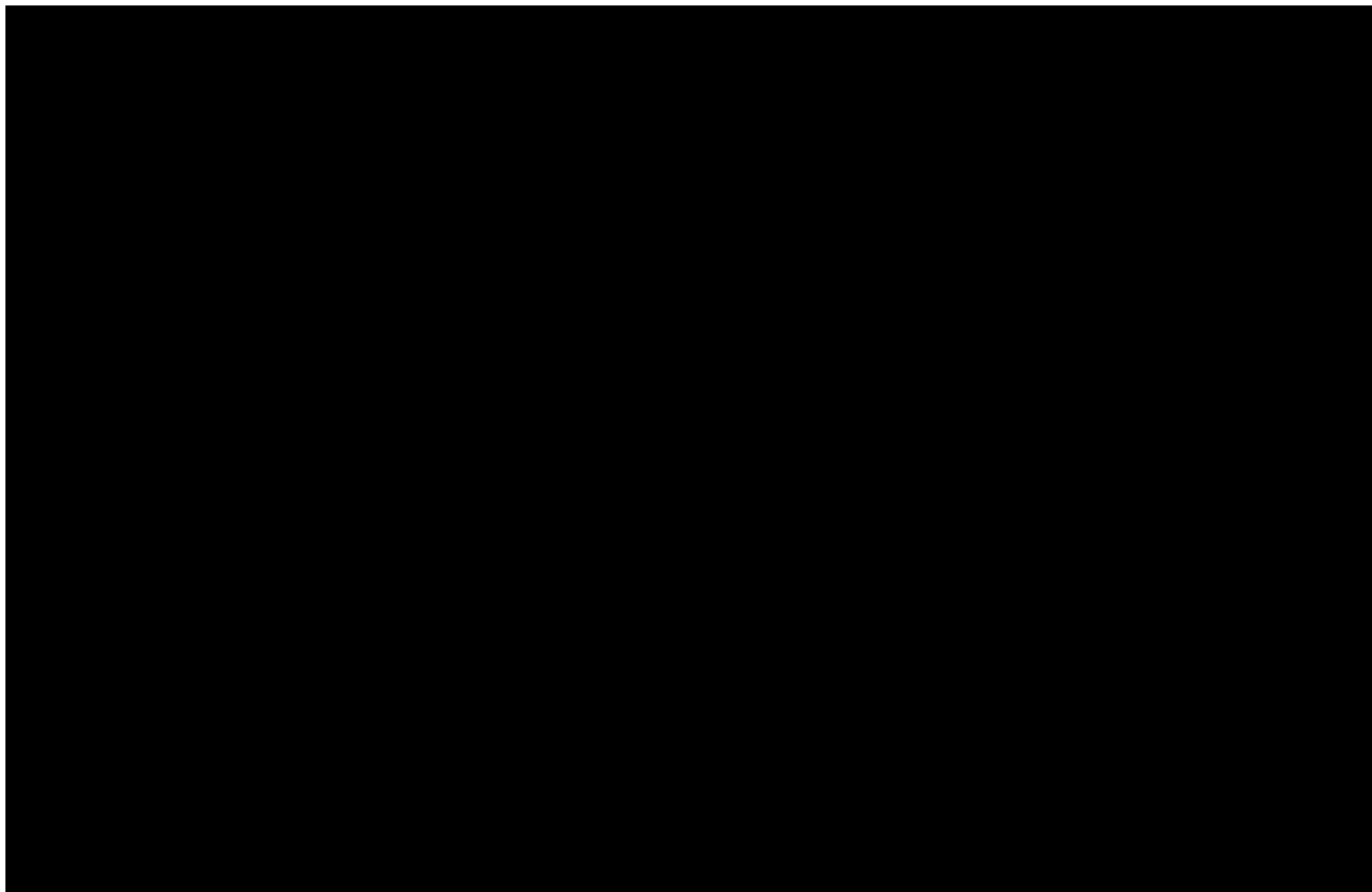


Figure 15: Reconstructed plan of the baths of *Interamnia Praetuttiorum* in Isolato Castelli. The structures interpreted as belonging to the baths are highlighted in orange (SOMMELLA 1985, fig. 2, modified by author).

Reliability: baths, probably public (size, location)

1. 1.1 – Province of Chieti, Comune of Montenerodomo
1.2 – 14.250307 E, 41.996953 N
1.3 – On the southern edge of the city.
2. 2.1 – Only one room preserved at the level of the hypocaust, with walls up to 1 m high; the rest of the building was built over.
2.2 – Part of the archaeological park of *Iuvanum*.
3. 3.1 – Excavation in 2007. Tuteri mentions that the baths were recently (info. 2010) brought back to light, pointing in the direction of a previous excavation campaign.
3.2 – /
4. More than 200 m².
5. 5.1 – I: 2nd cent. AD (?)
5.2 – /
6. 6.1 – **R1**: Large heated rectangular room, ca. 11 x 8.25 m. Horseshoe apse in the S wall (ca. 2 m deep) in which Tuteri restores a pool (R1c). The walls in the corners are much thicker than the other walls; the recesses created by these wall portions could have held pools (R1a, R1b). Two other rooms are visible in foundations, one (**R2**) to the N of R1, the other (**R3**) to the E of it.
6.2 – Based on the fact that it was heated, on its shape and on the likely presence of pools, R1 can be identified as the *caldarium* of the baths. No mention is made of it, but R3 could be a service area with *praefurnia* to heat R1.
7. 7.1 – No information available
7.2 – All the walls of the main room are made of brick-faced concrete. The walls of R3 were made of concrete faced with reticulate and brick courses.
7.3 – The increased thickness of the corners of R1 suggests it could have been covered by a groin vault.
8. 8.1 – A *praefurnium* to heat R1 was probably located in R3; it is possible, although less likely, that there was another one W of R1.
8.2 – The hypocaust floor of R1 was made of tiles with broken flanges (remains visible in the NW and SE corners).
9. 9.1 – No information available
9.2 – R1a and R1b probably required water, R1c was supplied with water.
9.3 – Water was disposed from pool R1c via a pipe, still *in situ* in the S wall, made of an upside-down *imbrex* covered by a small brick.
10. 10.1–2 – No information available
11. TUTERI *et al.* 2010, 46–47.

12. TUTERI *et al.* 2010, fig. 22 (plan); Il Parco Archeologico. Scoperte recenti 2019 (pictures).

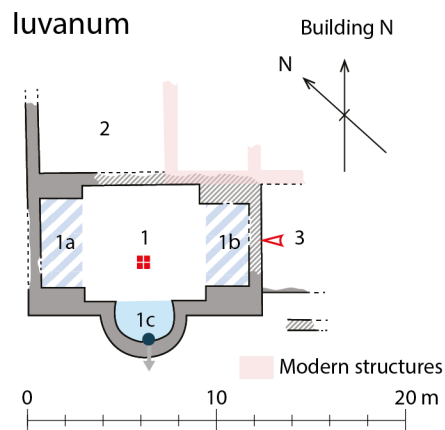


Figure 16: Plan of the baths of *Iuvanum* (after TUTERI 2010, fig. 22).

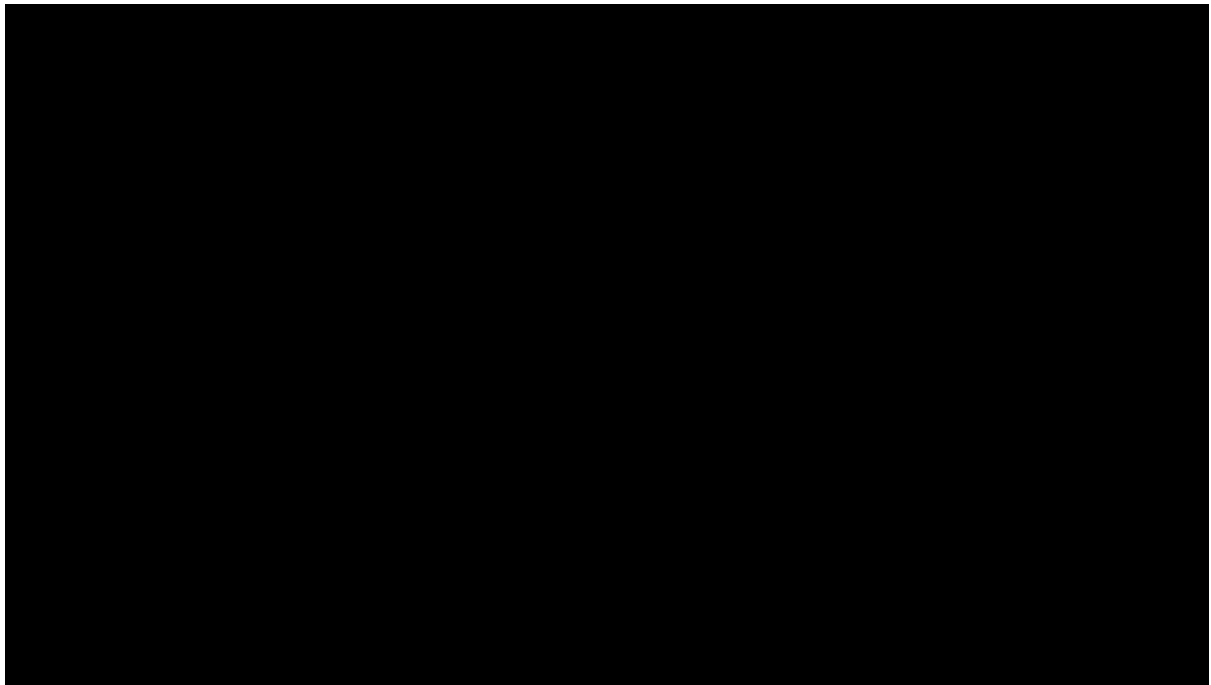


Figure 17: Baths of *Iuvanum*. Clockwise from S, SW, N, E. The black arrow in the TL picture points at the drainpipe from pool R1c (Il Parco Archeologico. Scoperte recenti 2019, amended by author).

Abruzzo, uncertain identifications

Amiternum (San Vittorino Amiterno)

Ab.G.08

Reliability: possibly baths (design of building, presence of pool). If baths, probably public (scale, location)

Province and Comune of L'Aquila

13.308537 E, 42.400210 N

The remains of what has been interpreted as a bath building were found in the S part of the centre of *Amiternum*, along the eastern side of the *Via Caecilia* and E of the amphitheatre, in an area occupied only from the 1st cent. AD.

Magnetometric surveys conducted by the University of Köln (dir. M. Heinzelmann) in 2009 revealed a ca. 45 x 80 m building, possibly with a *palaestra* in the middle. One small excavation was conducted, bringing to light a large apse, initially accessible via several steps and veneered with marble on waterproof mortar, probably a pool. The apse was faced in brick, other walls were faced in reticulate with brick quoins. In later phase(s), the veneer was robbed and the apse was integrated into a rectangular structure, in the walls of which several fragments of a marble statue were incorporated.

These baths may already have been discovered in excavations in 1926 (which recovered red and blue wallpainting) and/or before 1985 (Segenni 1985 mentioned reticulate-faced walls, a mosaic floor with geometric motifs, and wallpainting with figurative motifs).

Dated to the Flavian period (Tuteri) or to the 2nd cent. AD with late antique enlargement (Heinzelmann *et al.*).

Two aqueducts are known in *Amiternum*, a first one built in the late 1st cent. BC (*CIL* I².1853 = EDCS-24700084) and restored in the 4th cent. AD (*AE* 1937.119), and a second one built in the Tiberian period.

Two inscriptions mentioning baths are known from *Amiternum*: *CIL* IX.4196 = [E05] (2nd–3rd cent. AD, construction of *balnea*), and *AE* 1937.119/120 = LSA-1788 (AD 325, restoration of *thermae*); neither of the two inscriptions can be directly related to this set of baths.

Bibliography: SEGENNI 1985, 139, 142; HEINZELMANN 2009, 175; TUTERI 2009, 172; HEINZELMANN, JORDAN & MURER 2010, 9, 16; HEINZELMANN, JORDAN & BUESS 2011, 80, 84–85; personal communication M. Buess

Illustrations: HEINZELMANN, JORDAN & BUESS 2011, fig. 3 (location), 7 (plan), 8 (pictures)

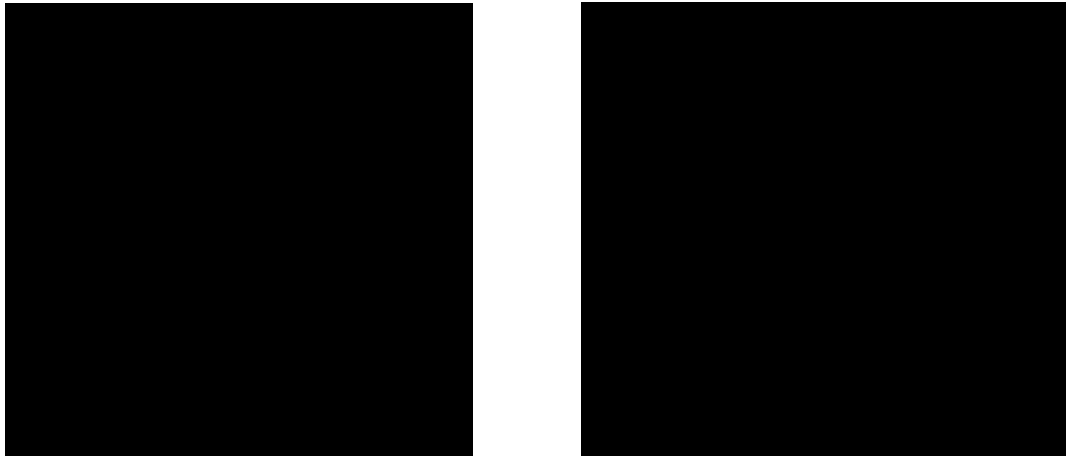


Figure 18: Excavated remains of the baths of *Amiternum* (HEINZELMANN, JORDAN & BUESS 2011, fig. 7–8).

Antinum (Cività d'Antino)

Ab.G.09

Reliability: weak (local tradition)

Province of L'Aquila, Comune of Cività d'Antino

13.470164 E, 41.885481 N

Two perpendicular walls (18 and 16.3 m long), in irregular reticulate, dated to the Late Republican period, locally called 'le terme' after a mention of water pipes connected to these walls. More likely identified as terracing walls.

Bibliography: QUILICI 1966, 47, note 36; COARELLI & LA REGINA 1984, 107.

Illustrations: QUILICI 1966, fig. 2 (city plan), 36–37 (pictures).

Anxanum (Lanciano)

Ab.G.10

Reliability: weak (local tradition)

Province of Chieti, Comune of Lanciano

14.391394 E, 42.232638 N (city)

Online mention of a bath building in the archeological park of *Anxanum*, in Via dei Frentani. The information possibly comes from the *Antiquitates Frentanorum* of Pietro Pollidori (1st half of 18th cent. AD) and can be considered of doubtful reliability.

Bibliography: IV Regio Augusta – Sabina et Samnium 2015

Reliability: unknown

Province of Chieti, Comune of Casoli

14.264731 E, 42.129191 N (approx.), 320 m asl

Behind the *cavea* of the theatre, nowadays in *Via dei Gentili*, a possible bath building was identified before 1966 and backfilled consequently. The walls were faced in reticulate or *opus incertum*.

Bibliography: LA REGINA 1967a, 94; 1967b, 179; TORELLI 1980, 149; TAVANO & MONASTERIO 2001, 168

Illustrations: LA REGINA 1967b, fig. p. 177

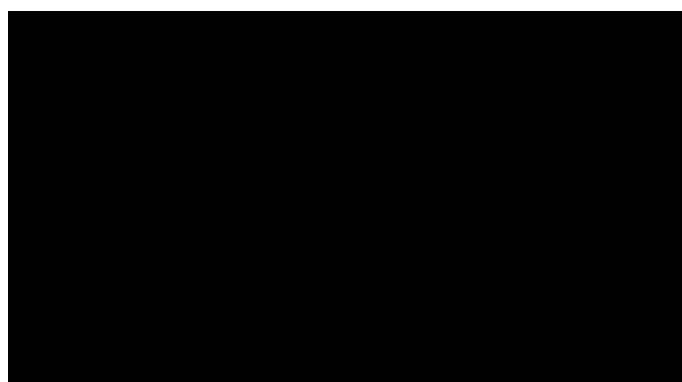


Figure 19: Plan of the city of *Cluviae*. The arrow (to the left) points at the structures identified as baths (LA REGINA 1967b, fig. p. 177, amended by author).

Reliability: weak

Province of L'Aquila, Comune of Corfinio

13.839995 E, 42.121557 N

In and around the 'Casa Galli' were found several walls made of brick-faced concrete with reticulate panels, belonging to a circular structure with a diameter of ca. 26 m. The walls were discovered in 1908 by Colella who identified them as belonging to a bath building, but La Regina (no reference, quoted by Van Wonterghem) suggested that they could instead belong to a *macellum*.

Bibliography: VAN WONTERGHEM 1984, 118, 130–131, fig. 108 (no 13)

Illustrations: VAN WONTERGHEM 1984, fig. 108 (city plan, no 13), 127 (plan), 128–129 (pictures)

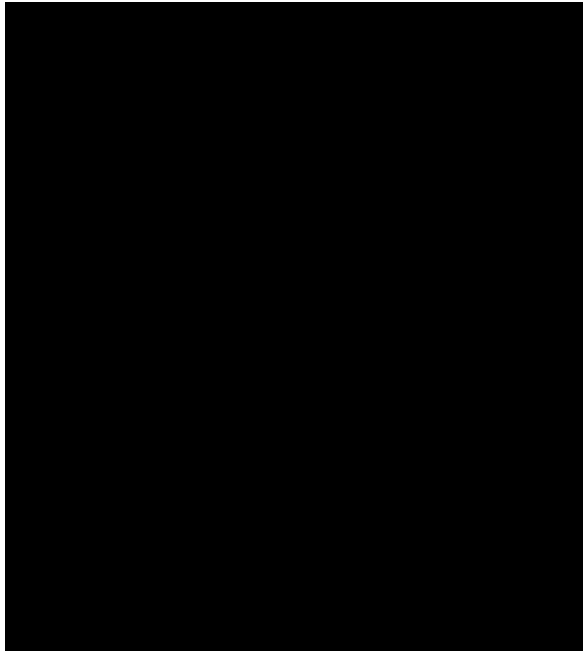


Figure 20: Plan of the structures around the 'Casa Galli' at *Corfinium* (VAN WONTERGHEM 1984, fig. 127, amended by author).

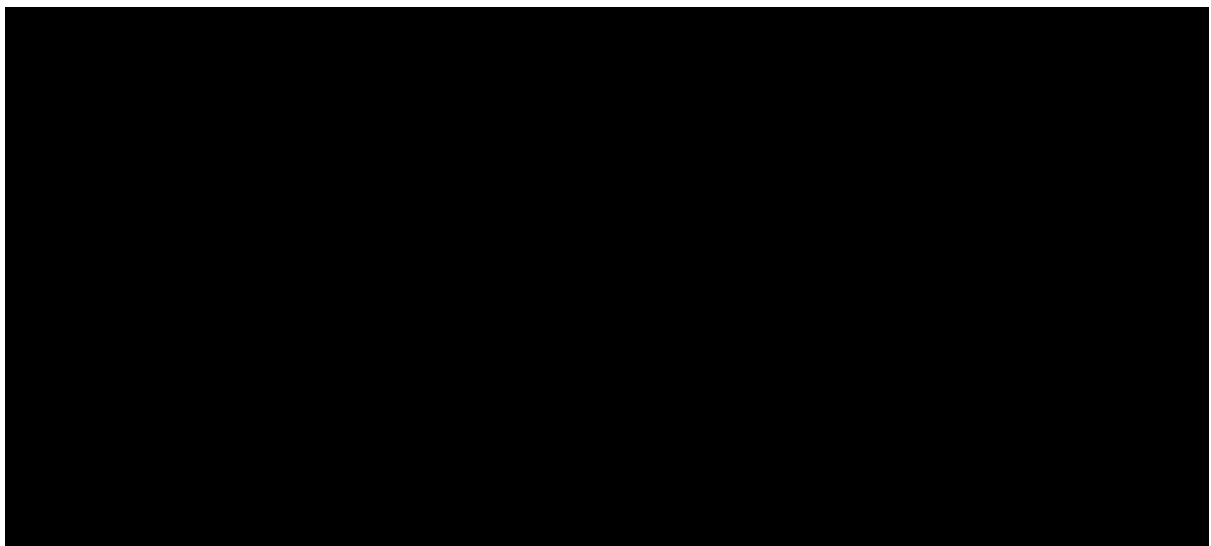


Figure 21: Structures around the 'Casa Galli' at *Corfinium*. L: W curvilinear wall, from S. R: detail of the wall facing technique (VAN WONTERGHEM 1984, fig. 128–129).

Corfinium (Corfinio), Madonna di Loreto

Ab.G.13

Reliability: possibly baths (one heated room), status unknown

Province of L'Aquila, Comune of Corfinio

13.839063 E, 42.123263 N

Several rooms possibly belonging to a bath building were excavated in 1696–97 in a vineyard close to the chapel of the Madonna di Loreto, possibly the same as the remains of hypocaust

discovered in the 17th cent. in the same location. The rooms were floored with mosaic and marble slabs, and one of them was equipped with a hypocaust and *condotti* (chimneys?) in the four corners. The hypocaust was made with 70 terracotta *pilae* high ca. 0.66 m ('*tre palmi*').

Bibliography: VAN WONTERGHEM 1984, 118, 131–132

Illustrations: VAN WONTERGHEM 1984, fig. 108 (city plan no 15)

Corfinium (Corfinio), San Pelino

Ab.G.14

Reliability: weak (erudite tradition)

1. 1.1 – Province of L'Aquila, Comune of Corfinio
 - 1.2 – Between 13.836452 E, 42.117821 N (church of San Pelino) and 13.839730 E, 42.119794 N (church of Madonna delle Grazie)
 - 1.3 – S of the city, outside the walls.
2. 2.1 – Poor. Nothing is visible of the remains in the '*piscina*' area. Van Wonterghem saw remains of the precinct walls (1984), but based on Google Street View pictures, only a few stretches of the S part of the precinct wall are now visible (2018).
 - 2.2 – '*Piscina*' area backfilled before or in 1882.
3. 3.1 – '*Piscina*' area excavated in 1877–1879 by Antonio de Nino behind the church of Madonna delle Grazie.
 - 3.2 – Not visited
4. '*Palaestra*' 33,750 m², '*natatio*' 1,750 m²
5. 5.1 – Mid-1st cent. BC–mid-1st cent. AD for Lugli (CT) (1957, 505–506, 633) or 2nd cent. AD for Van Wonterghem (U) (1984, 115, 157, 159).
 - 5.2 – No information available.
6. 6.1 – Complex composed of a large open space bounded by walls (the so-called '*palaestra*'), with a large basin (the so-called '*piscina*') and associated structures in its N corner. '*Piscina*': 34 x 51 m rectangular basin in the N corner of the precinct. '*Palaestra*': 236 x 143 m rectangular open space bounded by a precinct wall, for a surface area of ca. 33,750 m². A series of short walls set at regular intervals (8.50–10 m apart, maximum 14.75 m) lean against the inside of the precinct wall and are the remains of partition walls or buttresses. The entrance to the space was hypothetically located along the NE side. A ca. 131.50 m long V-shaped ditch, orientated E–W, with flat bottom and dug in the bedrock, was identified in the W part of the area; it has been called '*Vallo di Cesare*' by De Nino and put in connection with Caesar's occupation of Corfinium in 49 BC, but the material (late Roman and medieval coins) found in it does not support this interpretation.
 - 6.2 – Little allows to identify a bath building in this structure, and other functions have been proposed, none more convincing. An identification as bath building is not without issues: the plan is very unusual and none of the usual rooms are visible; there

is no evidence of a heating systems; the *palaestra* (and the scale in general) would be far beyond any other example of bath building in Central Italy.

7. Walls: mostly reticulate with some brick-faced walls. The '*piscina*' had brick-faced walls and a rough *selciato* as floor. The precinct wall of the *palaestra* was faced with reticulate (blocks 6 cm on the side). The walls leaning against the precinct walls were ca. 0.60 m thick (one was 1.10 m thick); they were faced in horizontal courses of small blocks of limestone, ca. 20–27 cm long, 9 cm thick.
8. No information available.
9. 9.1 – See [Ab.G.04]. The first aqueduct for which remains are known changed orientation at the level of San Peligno and passed along a large water tank located ca. 150 m NNW of the '*piscina*'.
9.2–3 – Two channels were connected to the '*piscina*', one entering it from the middle of the E side, the other starting from the N corner. The second channel was large enough to stand in it. It is unclear if they are channels for supply or drainage, but the available information (dimensions and location of arrival/evacuation) suggests the former was for supply, the latter for disposal.
10. 10.1 – No information available.
10.2 – Various material found in the '*piscina*' and connected channels: fragments of terracotta pots, lamps, painted plaster, marble, antefixes and sculptures, architectonic elements, one weight made of black marble, objects in bronze, ivory and bone, and 63 coins, 6 of which could be dated under Augustus (2 coins), Nero, Domitian, Faustina and Valens.
11. BESNIER 1900, 251–252; VAN WONTERGHEM 1984, 118–120, 157–162
12. VAN WONTERGHEM 1984, fig. 108 (city plan, no 36), 177–178, 183 (plans), 179–182 (pictures)

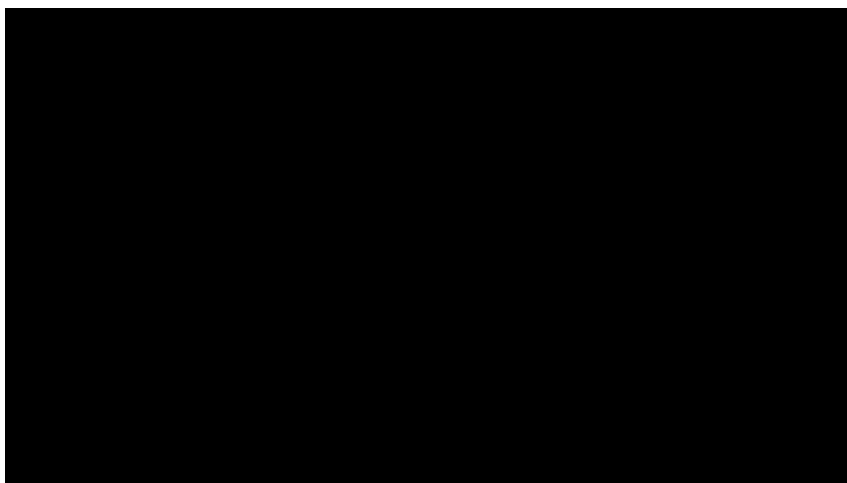


Figure 22: Plan of the structures at *Corfinium*, San Pelino (VAN WONTERGHEM 1984, fig. 177).

Forconium (Cività di Bagno), Baths next to the *lacus*

Ab.G.15

Reliability: probably baths (hypocaust and pools), status unknown

Province and Comune of L'Aquila

13.439893 E, 42.309076 N (*Forconium*)

Mention of a small bath building close to the *lacus*, of which a hypocaust and pools have been found. Dated to the Augustan period.

Bibliography: TUTERI 2010, 181

Forconium (Cività di Bagno), Villa Oliva

Ab.G.16

Reliability: probably baths (thesis on the topic), status unknown

Province and Comune of L'Aquila

13.442663 E, 42.308199 N (villa Oliva)

Mention of a bath complex incorporated into the foundations of the 15th cent. Villa Oliva.

Bibliography: MICARI 2008 (not consulted); TUTERI 2010, 180; L'Aquila (AQ). *Forconium* 2018

Hatria (Atri), Structures under the cathedral

Ab.G.17

Reliability: weak (pool and possible connection to reservoir). Alternatively identified as a *macellum* (MESSINEO 2001–2002, 112–114, fig. 127 (not consulted), mentioned in STAFFA 2002, 39) by comparison of plan with the *macellum* of *Saepinum*.

1. 1.1 – Province of Teramo, Comune of Atri
1.2 – 13.97872 E, 42.58036 N (cathedral)
1.3 – Nowadays under the altar of the cathedral of Atri
2. 2.1 – Poor
2.2 – Unknown
3. 3.1 – Unknown
3.2 – Not visited
4. Unknown, hypothetically restored at 2,000 m².
5. 5.1 – First decades of 2nd cent. AD (S: comparison with mosaics from Ostia)
5.2 – No information available
6. 6.1 – Two rooms partially preserved built on top of a cistern; one room rectangular, the other one possibly circular or octagonal (dimensions restored 16 x 16 m), equipped with a hexagonal pool in the centre, marble veneered. Mosaic floors in both rooms. E boundary of complex corresponding to E limit of reservoir; S maximal extension ca. 30 m S of pool, where a *decumanus* ran.
6.2 – No information available

7. The floor of the hexagonal pool was restored with large bricks (0.40 x 0.25 m).
The walls are made of brick-faced concrete.
8. 8.1 – No information available
8.2 – No information available
9. 9.1 – The baths are built on top of a large reservoir (25 x 28 m), dated to the 3rd cent. BC, with walls built in local conglomerate covered in *cocciopesto*. During the mid-Imperial period, brick-faced pillars supporting groin vaults were added, possibly at the same time or in provision for the construction of the baths.
9.2 – The hexagonal pool would have required water.
9.3 – No information available
10. 10.1 – Hexagonal pool veneered with slabs of cipollino marble on a layer of waterproof mortar. The floor of both rooms is made of a black and white mosaic depicting fish and other sea creatures on a white background. A mosaic fragment depicting a horse in black on a white background, preserved in the cloister of the cathedral, could belong to the same mosaic floor.
10.2 – No information available
11. COARELLI & LA REGINA 1984, 44–46; AZZENA 1987, 45–46, 75–77, 86
12. AZZENA 1987, fig. 44 (plan), 45 (mosaic), 80 (water)

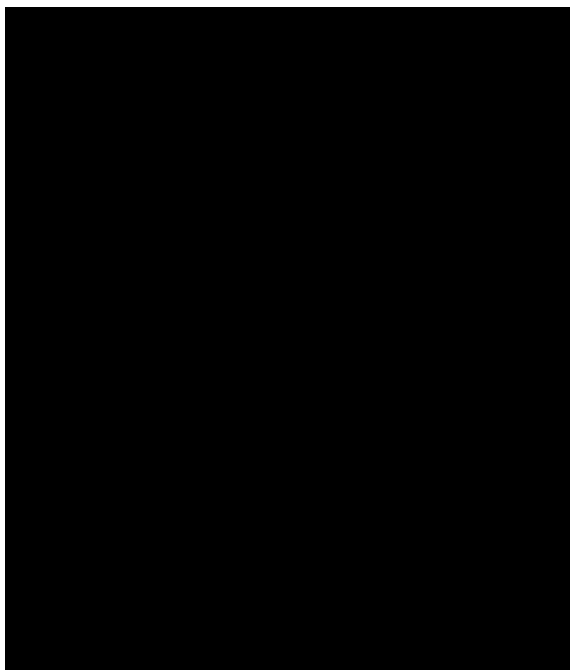


Figure 23: Plan of the structures under the cathedral of *Hatria* in relation with the reservoir underneath (AZZENA 1987, fig. 80, amended by author).



Figure 24: **L:** plan of the structures under the cathedral of *Hatria*. **R:** fragment of a mosaic floor possibly coming from the structures under the cathedral (AZZENA 1987, fig. 44 (amended by author), 45).

Interamnina Praetuttiorum (Teramo), SM delle Grazie

Ab.G.18

Reliability: not baths

Province and Comune of Teramo

13.710222 E, 42.656687 N

Long assumed to be a bath building, the structures in Piazza Madonna delle Grazie have lately been reinterpreted as two successive domus (2nd cent. BC and 1st cent. AD, the latter equipped with a private bathing suite) and a later *fullonica* (3rd cent. AD).

Bibliography: MAZZITTI 1983, 111–112; ANGELETTI 2006, 131–133

Illustrations: MAZZITTI 1983, pl. XII (plan); ANGELETTI 2006, fig. 201 (plan)

Marruvium (San Benedetto dei Marsi)

Ab.G.19

Reliability: bath building (several heated rooms), status unknown

1. 1.1 – Province of L'Aquila, Comune of San Benedetto dei Marsi
1.2 – 13.625645 E, 42.004267 N (approximate)
1.3 – In the urban centre.
2. 2.1 – Some rooms are preserved up to 2 m height.
2.2 – Backfilled, not visible anymore.
3. 3.1 – Discovered in 1980–81, only partially investigated in five unconnected trenches.
3.2 – Not visited
4. Unknown; possibly occupied a whole *insula*.
5. 5.1 – Pre-bathing: late 1st cent. BC houses (remains in trenches 1, 4, 5).
I: late 1st cent. AD – early 2nd cent. AD (U, CT, Material); II: undated.
5.2 – mid-4th cent. AD, when lime production facilities were created in the building
Used as a cemetery during the medieval period (2nd half of 9th – mid-13th cent. AD).
6. 6.1 – Several rooms have been discovered in five unconnected trenches, ca. 0.50 m above the earlier houses, which were razed and the terrain levelled to make way for

the bathing complex; all these rooms presented similarities in construction technique may have belonged to a single complex.

Two rooms in trench 1, two heated rooms (later subdivided with partition walls) in trench 2, non-described remains in trench 3, two further rooms in trench 4 containing evidence of the collapse of an upper floor, and one final room in trench 5, with later modifications (blocking of a passageway, redecoration).

6.2 – Not enough information

7. Floor of *cocciopesto* ('*battuto bianco*') in trench 5. Concrete walls, facing combining brick courses and reticulate panels, with brick quoins. The later walls in trench 2 are made of stone pieces and brick bound with lime mortar. In trench 5, the collapse of the ceiling included remains of white plaster with traces of a ceiling made with reeds.
8. 8.1 – No information available.
8.2 – The two rooms in trench 2 had *pilae* made of *bessales* on an *area* of tiles. Several terracotta *tubuli* found in the collapse in trench 3.
9. 9.1–3 – No information available.
10. 10.1 – Painted plaster on several walls: one in trench 1 (pink and yellow squares with red and black frames), the two walls in trench 4 and one in trench 5 (squares imitating marbles).
10.2 – One inscription [E42] reused in the construction of the church of Santa Sabina mentioned a *balneum muliebre*. It is not possible to connect it to the bath building.
11. SOMMELLA 1985, 373–374; SOMMELLA & TASCIO 1991, 459–460, fig. 1–8}
12. SOMMELLA 1985, fig. 10, 12–13 (plans); SOMMELLA & TASCIO 1991, fig. 1 (city plan), 2, 7 (plans), 3–6, 8 (pictures)



Figure 25: Axonometric reconstruction and picture of the remains of a heated room in Via della Moletta (L: SOMMELLA 1985, fig. 13; R: SOMMELLA & TASCIO 1991, fig. 5).

Campania

Campania, Catalogue

Cales (Calvi Risorta), Central Baths

Ca.01

Terme centrali

1 – Location

1.1 – Province of Caserta, Comune of Calvi Risorta

1.2 – 14.133829 E, 41.199130 N

1.3 – E of the theatre, occupying the W part of an *insula*

2 – Preservation

2.1 – Good in plan and elevation

2.2 – On private grounds

3 – Research

3.1 – Excavated in part (shortly?) before 1961. N and S parts not excavated. Only published in part by Johannowsky, recently under study by S. Quilici Gigli (communication Soprintendenza Campania)

3.2 – Visited in March 2016 and March 2017

4 – Dimensions

> 1,200 m²

5 – Chronology and phasing

5.1 – Following Johannowsky 1961:

I: 90/70 BC (stuccowork in R3, CTM)

II: ca. AD 100, restoration (CTM?)

- Addition of heated room R9 to the SW
- Creation of entrance R1 to the NW
- Change of some rooms: R4 and R10 became heated, R3 equipped with a pool

5.2 – Unknown

6 – Description of the remains and identification of rooms

6.1 – The baths occupied the W part of an *insula*, possibly the entire *insula*. The W façade, the only one preserved, was animated with engaged columns (Attic bases, Ionic two-sided capitals) on a limestone stylobate supporting tuff architraves. Entrance from the NW via

corridor **R1**, created by reducing surface area of R2 (not excavated). R1 led into **R3**, one of the largest rooms of the baths (8.80 x 18.95 m). Long walls animated with engaged columns, and E–W colonnades in the N and S parts of the room in correspondence to the last engaged columns of the side walls. *Opus scutulatum* and mosaic floor; stucco panels above the columns on the long sides. Equipped with a pool in later phase. R3 led into **R4**, a large room (ca. 8.80 x 14 m) with small rectangular niches in the walls. Tuff blocks framed the niches; they were reduced in phase II to install *tubuli* to transform the room in a heated space. **R5**: heated circular room, 6.50 m diam., accessible from the N and from R6 (0.75 m wide door). Four rectangular niches topped by arches. **R6**: square heated room. Accessible from R4, led into R5 and R8. **R7**: service corridor along the E side of the baths. Barrel vaulted. **R8**: service room, 3.5 x 7.5 m from plan, accessible from R6 and leading into R7 and R11. **R9**: large heated room to the SW of the complex, added in a secondary phase (II?). The N apse may have contained a pool, or have been a passage. **R10**: large room, 8.80 m E–W and possibly up to 15 m N–S. Niches in the W and E walls, similar to those in R4. Horseshoe-shaped apse on E side, diam. 6.50 m. Like R4, modified in phase II to become heated, with addition of *tubuli* against walls. **R11**: service area, possibly from which *praefurnia* were operated. Water tank above R11. **R12**: deep well

6.2 – R3 interpreted as an *apodyterium* in phase I, later turned into a *frigidarium* when a pool is added along the W side. **R5** identified as a *laconicum* by Nielsen based on its shape. She suggested, probably in comparison with Pompeian examples, that the room was initially heated by braziers (no hypocaust). **R10**, being the largest heated room, could have been the *caldarium* if it was equipped with hot-water pools.

7 – Construction techniques and materials

7.1 – No information available

7.2 – I: irregular reticulate with sawtooth quoins in CBM or bonded quoins in small stone blocks. Reticulate made with blocks of limestone in the lower part and tuff in the upper part; the junction occurred at ca. 3.05 m from the circulation level in R3. In some rooms unspecified smaller service rooms, the reticulate was made of tuff blocks exclusively.

II: brick facing

Stone: white limestone (reticulate blocks, aggregate in the concrete of the walls, thresholds, door architraves) and local grey tuff (reticulate blocks, architectonic elements such as column bases and capitals)

7.3 – Barrel vault preserved in R7. Remains of vault preserved in R6, barrel or groin vault, with row of CBM marking the start of the vault.

8 – Heating devices

8.1 – No information available

8.2 – II: wall heating with *tubuli* in R4, R5 and R10

9 – Water management

9.1 – Well R12 inside the baths, probably the only source of water. The shape of the well suggests the use of a bucket-chain as water-lifting device, raising water into a raised water tank located above R11, lined with a thick layer of *cocciopesto* on the floor and walls.

9.2–3 – No information available

10 – Decoration and material

10.1 – Four stucco panels preserved on upper register of W wall of R3 (various motifs: herms, wreaths, tripod, aedicule, jug). *Opus scutulatum* and black and white mosaic floor in R3.

10.2 – Torso of statue of Artemis found in pool of R3. Dated 2nd cent. AD

11 – Bibliography

JOHANNOWSKY 1961, 259-263; NIELSEN 1993, cat. 35

12 – Illustrations

JOHANNOWSKY 1961, fig. 3 (plan), 4–11 (pictures)

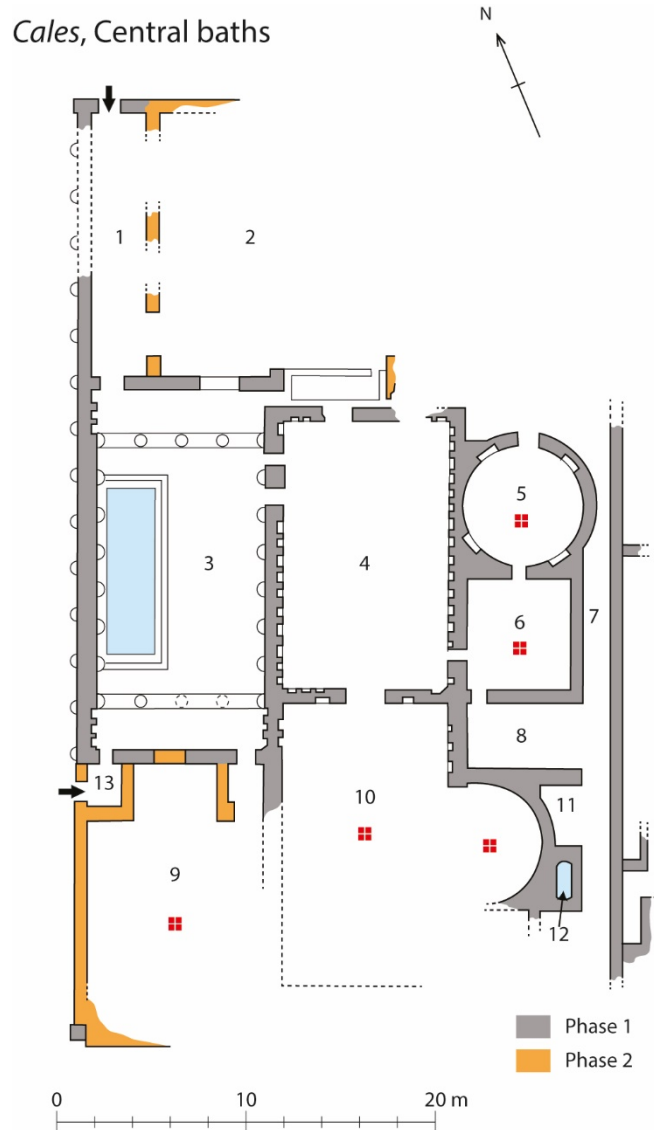


Figure 26: Plan of the Central Baths of *Cales* (after JOHANNOWSKY 1961).

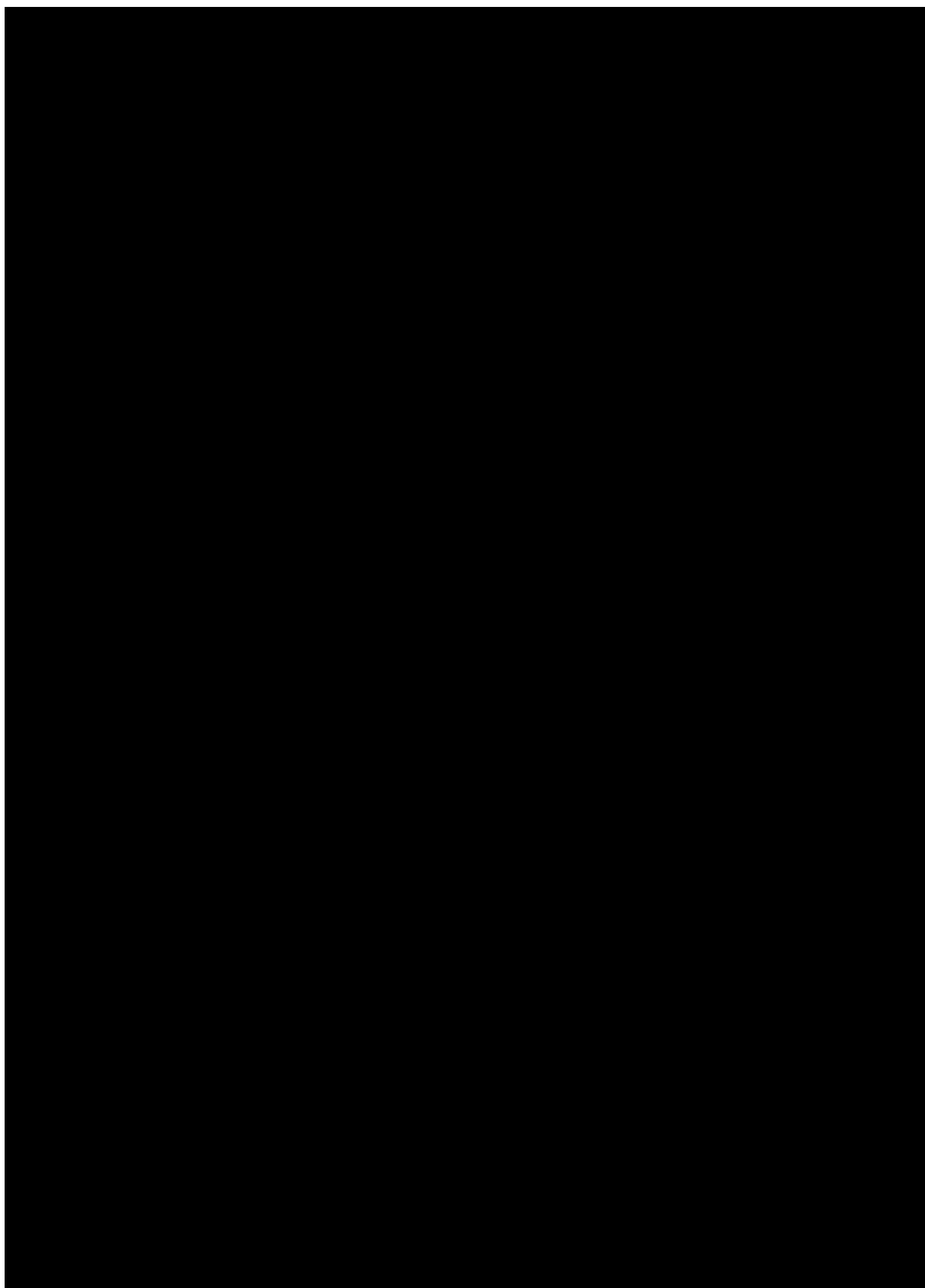


Figure 27A–C: Central Baths of *Cales*. **A:** general view from SW. **B:** W façade, from W. **C:** R3, from S.

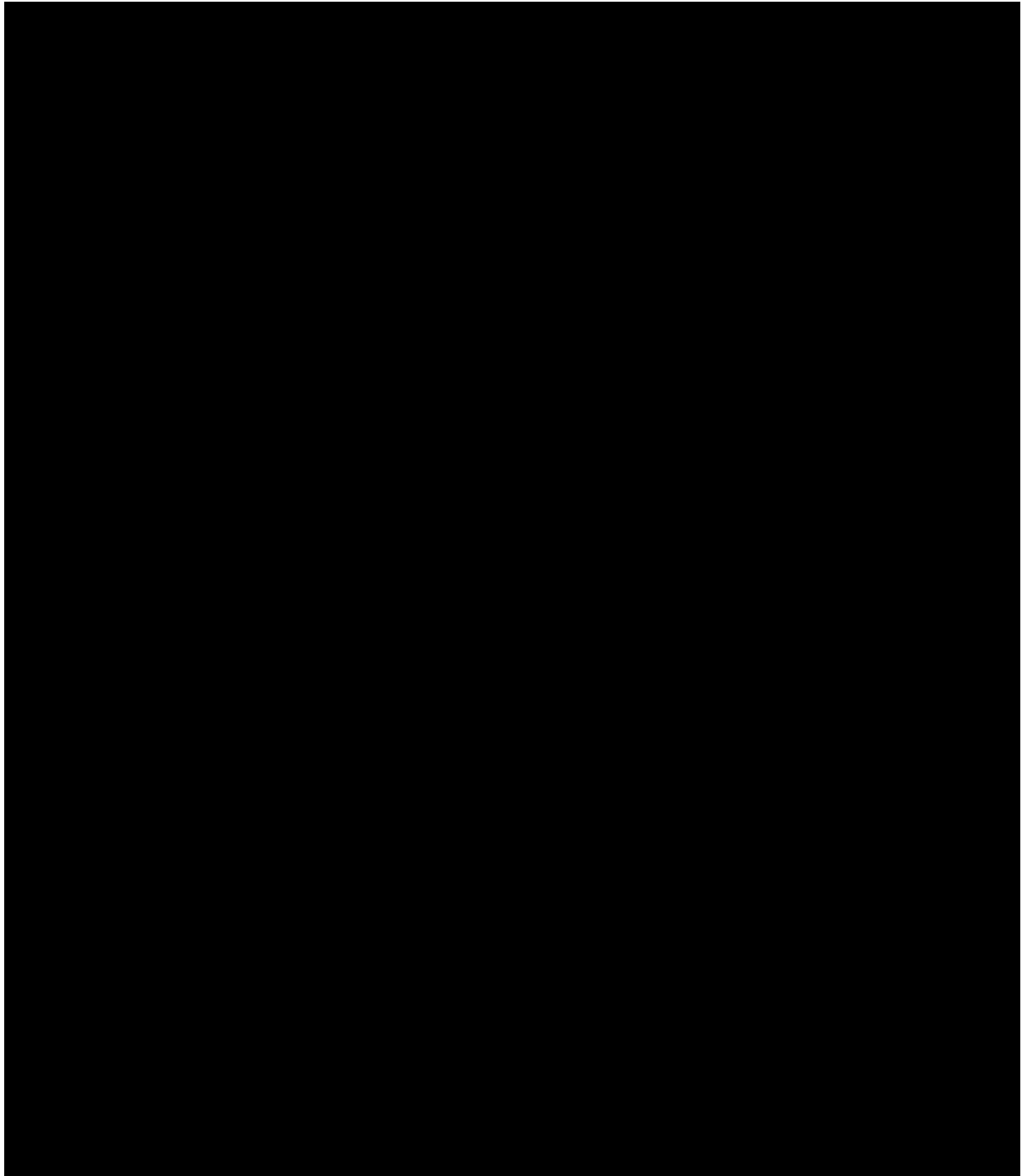


Figure 28A–E: Central Baths of *Cales*. **A:** R4, W wall, from E. **B:** R5, from S. **C:** R7, from S. **D:** R10, E apse, from NW. **E:** R13, from SE.

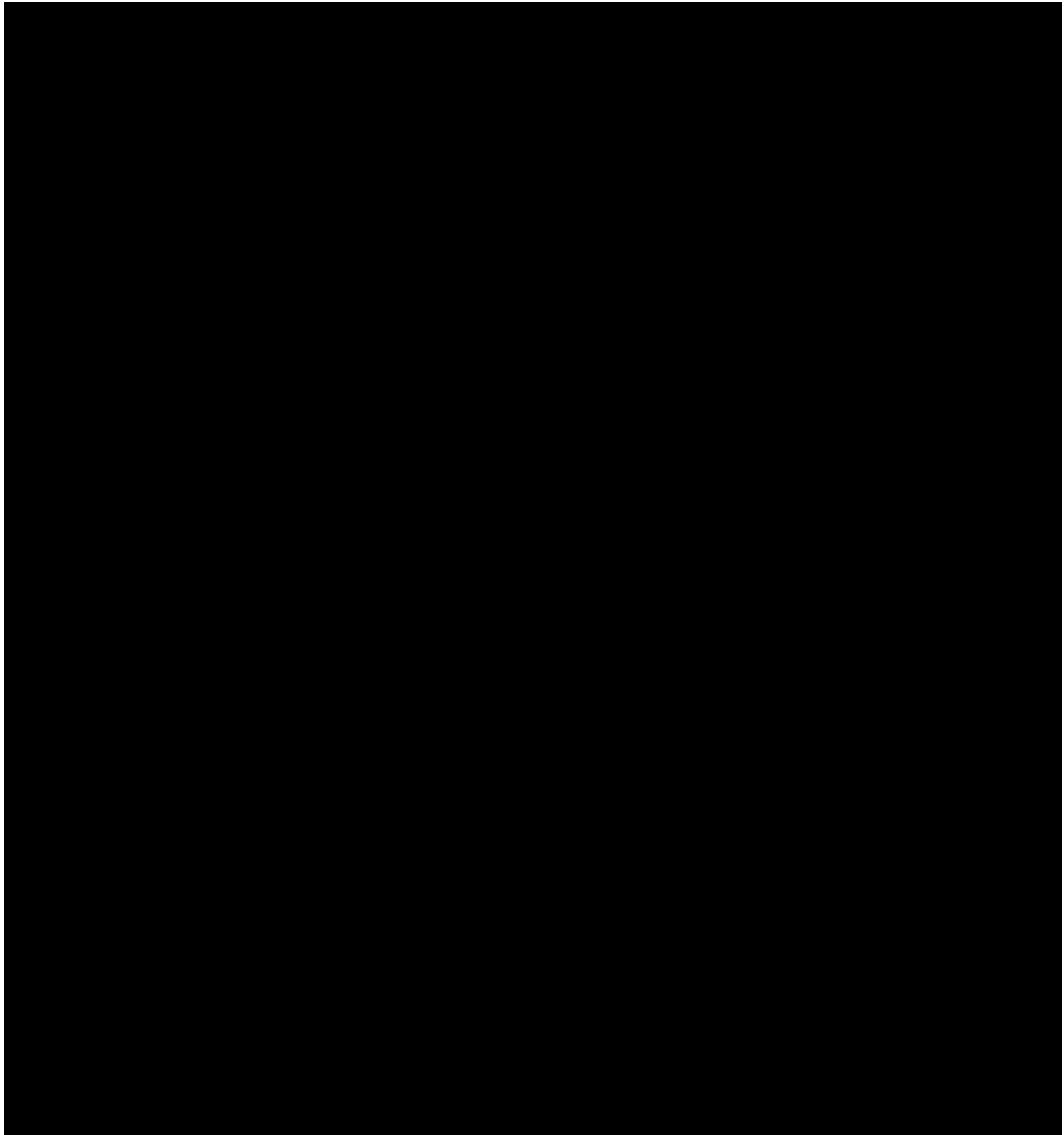


Figure 29A–G: Central Baths of *Cales*. Construction materials: **A**: detail of the facing in R3, W wall. **B**: detail of the concrete in R3, W wall. **C**: detail of the brick columns on the W façade of the baths. Water management: **D**: well in R12. **E**: water tank above R11, from SE. Decoration: **F**: floor in R3. **G**: stuccowork in the upper parts of the W wall of R3.

1 – Location

1.1 – Città Metropolitana di Napoli, Comune of Pozzuoli

1.2 – 14.056881 E, 40.849210 N

1.3 – In the centre of the town, NW of the forum, N of the Capitolium, at a crossroads between the *Via Domitiana* and another road

2 – Preservation

2.1 – Very good. Several restorations: after initial excavation (1950s), in late 1980s–early 1990s, in 1992-1994

2.2 – Part of the Parco archeologico dei Campi Flegrei (campiflegrei.multipledesign.com)

3 – Research

3.1 – Excavations 1952 (dir. A. Maiuri). Several small-scale trenches in 1992. Unpublished PhD thesis on the topic (Guardascione 2008).

3.2 – Visited in March 2016

4 – Dimensions

860 m² (Guardascione)

1,300 m² from plan, up to 3,500 m² with *palaestra*

5 – Chronology and phasing

5.1 – Phasing by Guardascione (2008, 118–125; 2009, 311)

I: early 2nd cent. AD (T, CTM)

II: shortly after I

- addition of R14
- blocking of passage from R10 to R9

III: late 2nd–1st half of 3rd cent. AD

- modifications in service area R2
- addition of R13, with blocking of E passage of R10; reduction of passages in R9; addition of piers in NE and SE corners of R11; partition wall in R14; addition of R15. Possibly reduction of passage R11 to R12; possibly blocking of central window of R8a.
- heating: reduction of *praefurnia* in R6, decommissioning of *praefurnium* C
- later: restorations in R3

5.2 – 5th cent. AD (M)

6 – Description of the remains and identification of rooms

6.1 – The baths occupied the N part of an *insula*, with a possible *palaestra* in the S part. They were organized along two E–W axis, a first one with the entrance R14–vestibule R11–cold room R8, a second one directly to the S, containing the heated rooms. The baths were accessed from the SE corner of R1, into the W portico of R1 leading to entrance to the bathing block in R11. There was also possibly an entrance from the NE corner of R1.

R1: Large open-air courtyard, poorly preserved and investigated. Remains of the stylobate of a 3 m-wide portico along S side. No remains of floor. W limit unknown, but probably not further W than W wall of R2.

R2: L-shaped service area containing *praefurnia* A and B. 0.81 m lower than the level of R1; accessible from the latter and from the N by steps, replaced later by a stone threshold. Numerous modifications.

R3: 5 x 5 m heated room, with three rectangular pools on the S (R3a, 4.50 x 2 m), W (R3b, 2.50 x 4.50 m) and N sides (R3c, 4.50 x 2.50 m), accessible from R4. Probably a window in S wall, but structures not preserved high enough; opening/window in N wall, created in a later phase as indicated by absence of proper jambs. Pool R3c decommissioned in phase III.

R4: rectangular heated room, 9 x 5.90 m, with segmental N side, accessible from R5 and leading into R3 via openings with marble thresholds (marks of door hinges). Directly heated from the S. Probably a window in S wall, but structures not preserved high enough.

R5: rectangular heated room, 10 x 8 m, with segmental S end, accessible from R7 and leading towards R4. Remains of window jambs in S wall (hypothetically reconstructed as three windows). Low structure, possibly a bench, added against the *tubuli* in the NW corner in a later phase. In phase III, opening towards R9 created, and restoration of the brick facing of the S wall.

R6: 1.40 m wide service corridor running along the S side of heated rooms R3, R4, R5 and R9, from which *praefurnia* C, D, E and F were operated. Covered with rampant vault. Accessible from the W (R1) via five steps.

R7: small square transition room (3 m on the side) between R5, R8 and R9. Window on W wall. Mosaic floor. In phase III, passage towards R9 reduced.

R8: a central room of the baths, set along the main E–W axis. 8.60 x 9 m, equipped with two cold-water pools, a segmental pool R8a to the W and a rectangular one, R8b, to the N. **R8b**, ca. 5.80 x 4.50 m from plan, was accessible via three steps, had two lateral small segmental niches on the short sides, and a large window (or two/three smaller windows) on its N wall. **R8a** was also accessible via four steps, and had three windows on its W wall; the central one was blocked in a later phase.

R9: heated room, 9.40 x 9 m, directly heated from the S. Originally accessible from R7, R10 and R11; passage towards R5 opened in a later phase. Blocking of passage towards R10 in phase II; reduction of passage towards R7 in phase III. Probably a window in S wall (traces of jambs in SW corner).

R10: rectangular room, 5.40 x 9.20 m, originally accessible from R9, R11 and R13; passage towards R9 blocked in phase II; passage towards R13 blocked in phase III.

R11: the first room of the bathing block accessed by bathers. 11.60 x 9 m, , accessible from the E (R14) and leading into R10 and R9 to the S, R12 to the N, and R8 to the W via a tripartite passage framed by two marble columns with corresponding semi-columns on the N and S walls, covered by arches.

R12: 13 x 6 m, accessed from R11, and later led into R14 when that room was added.

R13: poorly preserved room, min. 8 m N–S, min. 4 m E–W, added in phase III, possibly at the same time as the passage towards R10 was blocked. Gutter running on the floor along W, N and E walls, suggesting the room was not covered. Cocciopesto floor

R14: rectangular room, 10 x 8.60 m, added in phase II against the E wall of R12; it opened to the S (towards R14) and to the E, and communicated with R12 to the W via a passage created for the occasion.

R15: walls added later against the outer wall of the baths. It is unclear if they were related to the functioning of the baths.

6.2 – R1 could have been the *palaestra* of the baths. R3, the last heated room in the bathing path and equipped with heated pools, was the *caldarium*; R9 was a *tepidarium*, R4 or R5 a sweat bath. R7 was a heat trap, positioned between the *frigidarium* R8 (equipped with two cold-water pools) and the heated rooms. R11 was a vestibule. R12 could have been an *apodyterium*, as well as R14, built in a later phase. The function of R10 and R13 is unknown.

Path: bathers would enter the bathing block via vestibule R11, from which they could have used the *apodyterium* R12, and other annex rooms (e.g. R10). They could have started the heated circuit directly by entering R9, starting a retrograde path through the heated rooms: *tepidarium* R9 – heated room R5 – heated room R4 – *caldarium* R3 – back to *frigidarium* 8 via R4, R5, then R7.

The changes in the circuit that occurred in phases II and III concerned mostly the entrance area and secondary rooms; the only passage in the bathing sector concerned by later modifications was the connection between R7 and R9, suggesting that the intended circuit was to enter the heated sector from R9, reach the *caldarium*, then exit the heated sector via R7.

7 – Construction techniques and materials

7.1 – R13 cocciopesto

7.2 – I: Brick facing in heated rooms (R3, R4, R5 and R9), brick facing and quoins with reticulate panels in other rooms. The bricks are cut from *bessales* and *sesquipediales*. Levelling courses of *bipediales*

III: modifications faced in alternate courses of bricks and stone blocks and/or exclusively in stone blocks.

7.3 – Fragment of collapsed vault in R9, decorated. Rampant vault above R6. Probably cross-vaults above R8 and R11, as suggested by the thickening of the walls in the corners.

8 – Heating devices

8.1 – Service area **R2**, from which *praefurnia* A and B were operated, probably both with boiler and *testudo*.

Praefurnium A, heating R3c and R3. Opening covered by a brick arch, outer extensions facing in brick courses, supporting a boiler. The height of the key of the arch, and the cut in the floor of pool R3c, support the presence of a *testudo*. Against the S extension, a rampant arch supported a staircase that led to the top of the boiler. S extension reinforced in later phase.

Praefurnium B, heating R3b and R3: ca. 0.50 m wide channel flanked by masonry extensions faced with brick courses in the lower part, then in alternating courses of brick and tuff blocks. The *praefurnium* was equipped with a boiler, and possibly with a small *testudo*.

To the S of *praefurnium* B, small space covered by a segmental arch (possibly fuel storage). In phase III, addition of a staircase leading to a boiler that probably sat on top of the *praefurnium*.

R6 was the other main service area of the baths, from which *praefurnia* C, D, E and F were operated. **Praefurnium C**: heated R3a and R3. Heavily restored, covered by brick arch. In phase III, the rise of the arch was blocked. Guardascione reconstructed both a boiler and a *testudo* on this *praefurnium*, but the absence of longitudinal extensions does not support this reconstruction. **Praefurnium D**: heated R4. Heavily modified, brick arch destroyed. **Praefurnia E and F**, heating R5 and R9, are still mostly buried now; the latter had a lintel in a single slab of refractory stone.

8.2 – R3, R4, R5 and R9 were heated. *Pilae* made of *bessales* or occasionally of small masonry blocks. Wall heating of *tubuli* in all rooms, 0.14 m wide.

9 – Water management

9.1 – City supplied by the Acquedotto del Serino/*Aqua Augusta* since the Augustan period. Redistribution reservoir ca. 30 m NW of the baths, redistributing water to different parts of the city, including the baths; the reservoir was on two levels, and probably equipped with a water-lifting device. Large reservoir directly NW of the baths, from which the baths were supplied; on two floors, with the upper floor subdivided into four tanks.

9.2 – Hypothetically: from the reservoir to the NW of the baths, two main supply lines:

- a supply line towards the service area R2, to feed a tank probably to be reconstructed in the room and that in turn supplied the boilers on top of *praefurnia* A and B. From the boilers, water reached pool R3b via two openings on its W wall, and pool R3c via an opening on its W wall and two on its N wall. The walls of R3a are not preserved high enough to determine where the water entered.
- One (or possibly two) supply lines for the cold-water facilities. From an unknown point in the reservoir, a pipe headed eastwards, reached the outer wall of R8, and from there
 - One line entered at the junction between R8a and R8b, and supplied both pools

- One line ran along the outer walls of R8b, entered R12, ran along its W wall and entered R8b through its SE jamb.
- One line ran along the W wall of R8a and entered through it via its S jamb (opening preserved) and possibly via a central opening under the axial window sill.

The preserved pipes passages in the cold section (on S jamb of R8a and W jamb of R8b) had a square section, 0.20 m on the side, and were lined with tiles. The opening in the N jamb of R8a seems to have been concealed by modern restorations, and two openings from R8b towards R8 seem superfluous and could have been made to facilitate the robbing of the lead pipes.

The capacity of the pools has been estimated at 45 m³ for the cold-water pools R8a and R8b (reconstructed depth 1 m), and ca. 22 m³ for the hot-water pools R3a, R3b and R3c (reconstructed depth 0.80 m).

9.3 – Limited information available. Gratings at centre of R8 and R11. Drainpipe in centre of steps of R8b, possibly connecting with channel under the central grating of R8. Well on the floor of R8a, apparently connected with a channel heading NW outside the baths. Drainpipe in R5, at foot of N wall, leading into drainage channel outside the room.

10 – Decoration and material

10.1 – Mosaic on floors of R7 (white), R12 and R14 (white, black frame). Marble slabs on floors of R8 and R11, and on walls of R7, R8, R11 and R12. White plaster on walls of R14, with red line in lower part. Stucco and coloured glass paste on vault fragment in R9.

Columns separating R8 and R11: Carystian marble on Attic bases of *Luni* marble

10.2 – No information available

11 – Bibliography

AMALFITANO, CAMODECA & MEDRI 1990, 272-273, 298-301; ARTHUR 2002, 89; GUARDASCIONE 2008; D'AMBROSIO 2009; GUARDASCIONE 2009

12 – Illustrations

AMALFITANO, CAMODECA & MEDRI 1990, fig. p. 298–99 (pictures), 299 (plan); D'AMBROSIO 2009, fig. 1–2, 4 (plans and sections), 3 (pictures); GUARDASCIONE 2009, fig. 1 (plan), 2 (pictures), 3–6 (water); GUARDASCIONE 2019, fig. 1, 5 (plans), 6–9 (pictures)

Cumae, Forum Baths

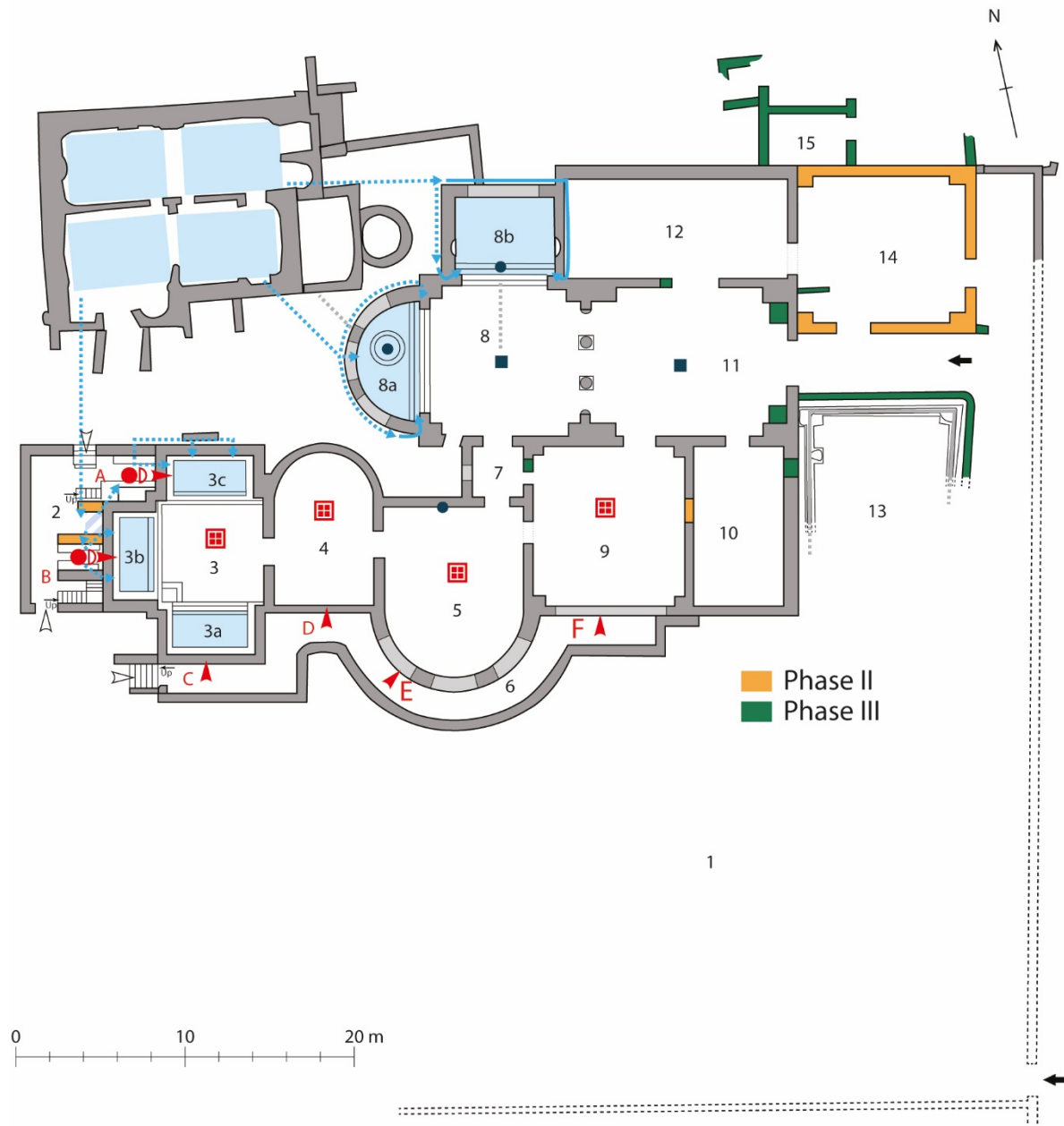


Figure 30: Plan of the Forum Baths of *Cumae* (after D'AMBROSIO 2009, fig. 1–2).

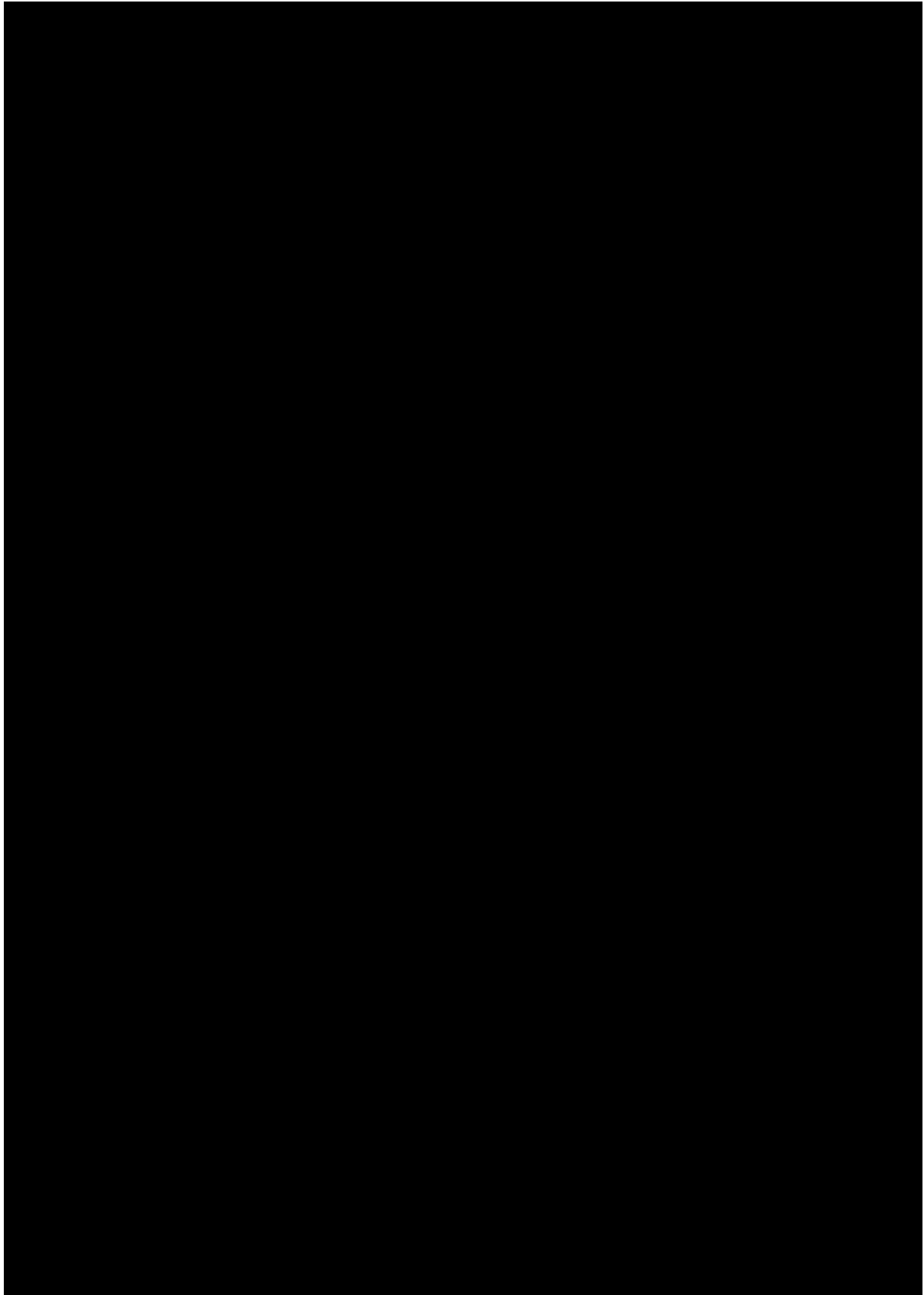


Figure 31A–E: Forum Baths of *Cumae*. **A–C**: panoramic views from S, E and S, respectively. **D**: R11 and R8, from E. **E**: R8, from E.

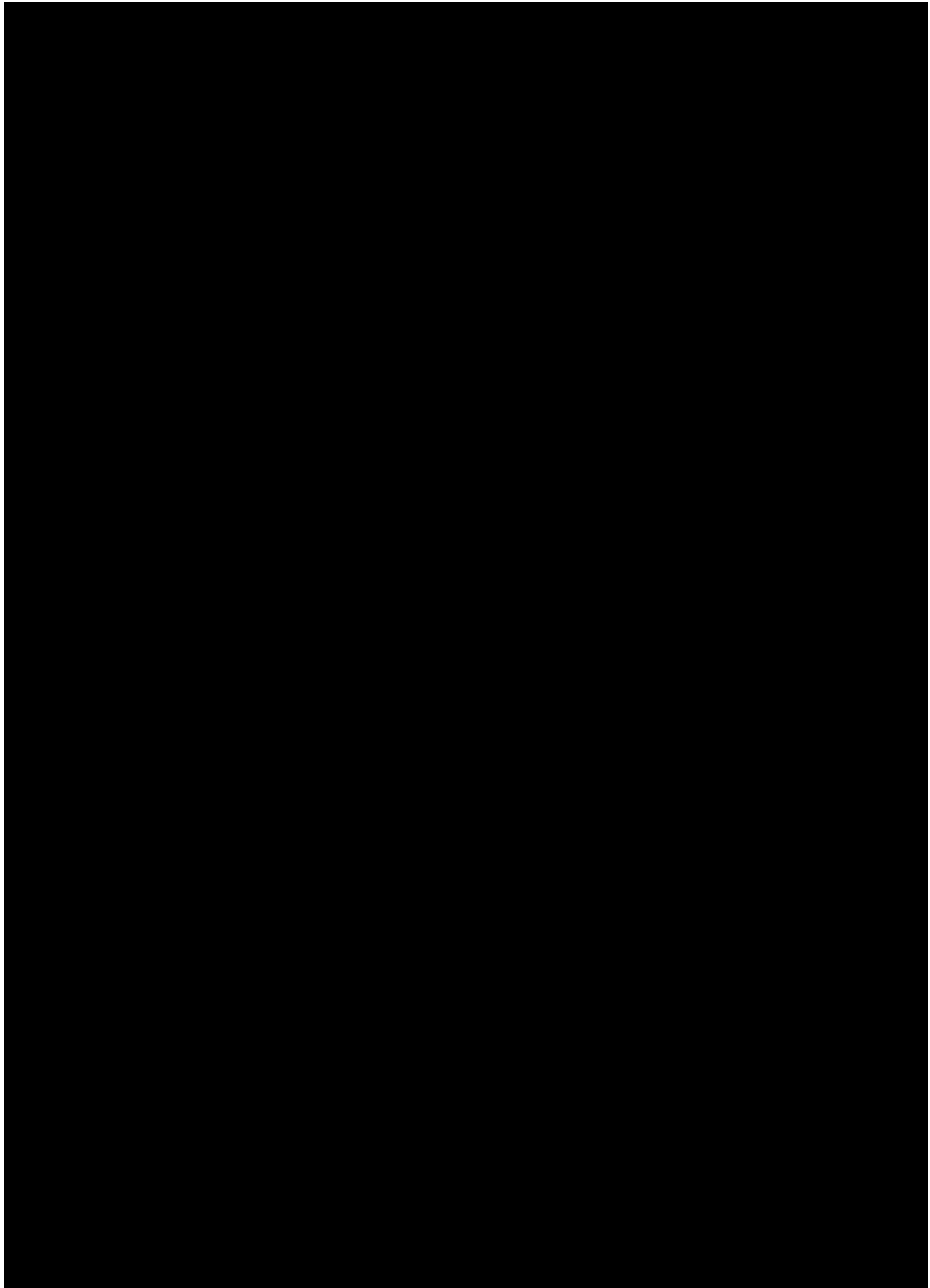


Figure 32A–I: Forum Baths of *Cumae*. **A:** R11, from W. **B:** NE corner of R11, with pier added later. **C:** R8b, from S. **D:** R8, from N. **E:** niche in W wall of R8b, from E. **F:** R8a, from E. **G:** R3, from SE. **H:** R3a, from E. **I:** R3b, from E.

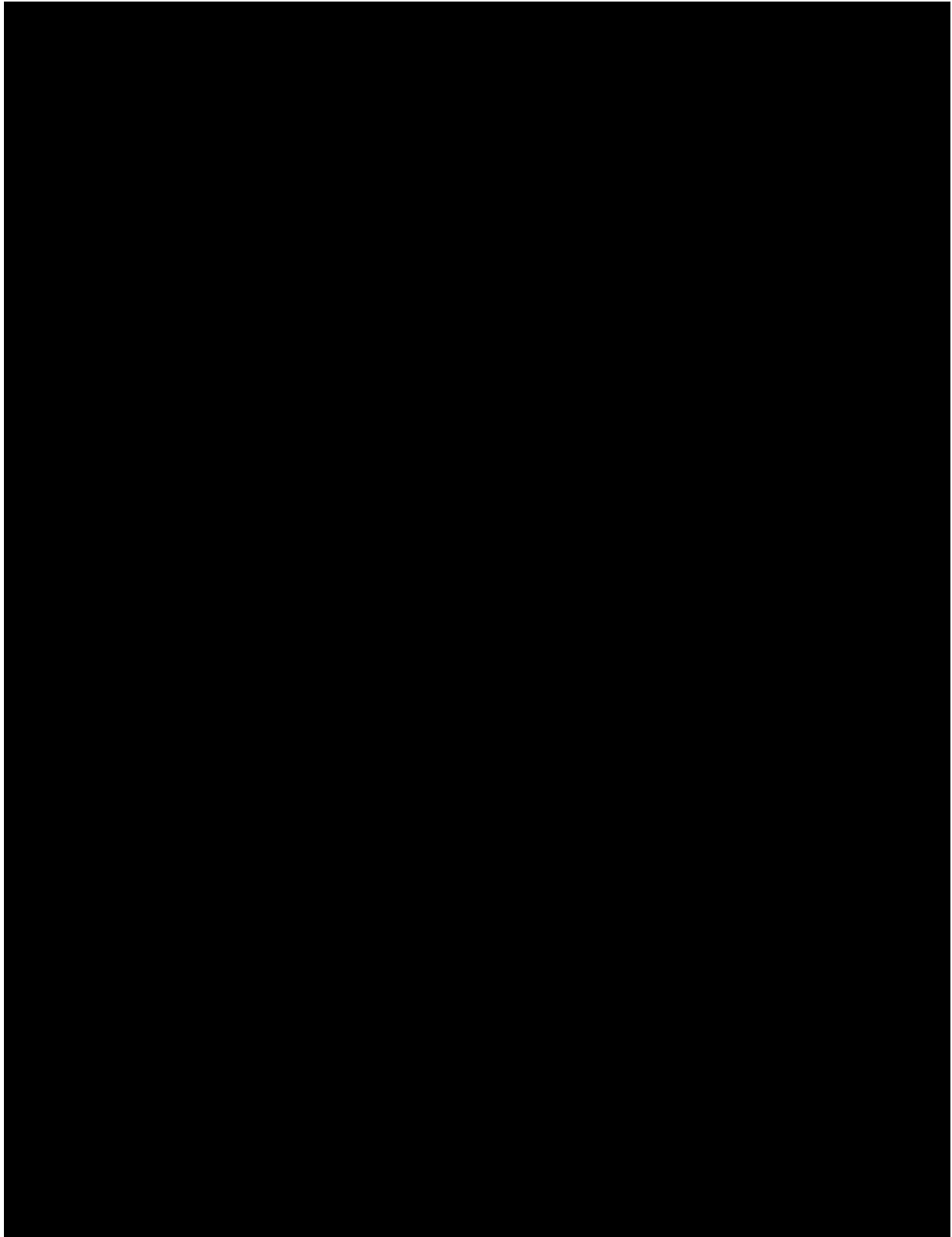


Figure 33A–I: Forum Baths of *Cumae*. **A:** R4, from S. **B:** R5, from SW. **C:** R9, from SW. **D:** R10, from SW. **E:** R6, from S. **F:** R2, from E. **G:** staircase in SE corner of R2, from NW.

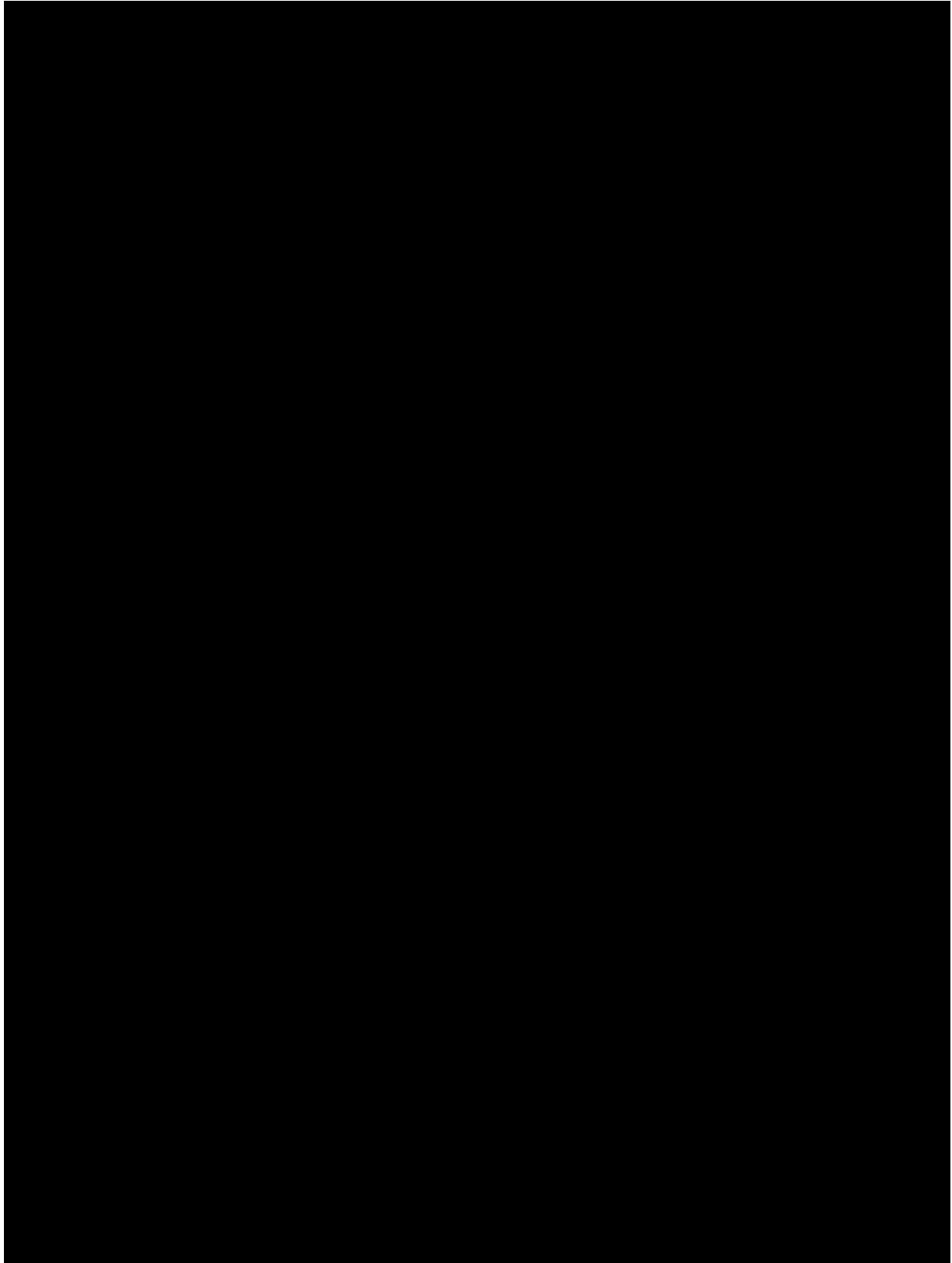


Figure 34A–H: Forum Baths of *Cumae*. **A:** *praefurnium* A, from W. **B:** *praefurnium* F, from S. **C:** *praefurnium* B, from W. **D:** wall heating in NW corner of R5. **E:** detail of hypocaust in R3c. **F:** waterproofed room in the water reservoir NW of the baths, from E. **G:** W wall of R12. Note the small openings in the wall for the passage of water pipes. **H:** opening for water pipe in the W jamb of R8.

1 – Location

1.1 – Metropolitan City of Naples, Comune of Bacoli

1.2 – 14.085475 E, 40.785127 N, 2.5–7 m asl

1.3 – Towards the centre of *Misenum*, ca. 100 m away from the supposed location of the forum, at the foot of the promontory of Miseno into which R3 was partly dug.

2 – Preservation

2.1 – Only one room and two service area are known, well preserved in elevation.

2.2 – On private property

3 – Research

3.1 – Appears on a 1768 map by Paoli. Never fully investigated. Excavation mid-1980s. Visible remains published by Cudemo

3.2 – Not visited

4 – Dimensions

> 300 m² (of which R1 > 100 m²)

5 – Chronology and phasing

5.1 – I: 2nd cent. AD (?). **Later modifications:** blocking of S niche in R1, followed by a refurbishment of (at least) the wall heating of the room.

5.2 – Late 4th–early 5th cent. AD (material), possibly because of the groundwater level raising. Later turned into a ceramic production workshop, first in 6th cent. AD (kiln in NE passage of R2, small bench against S wall of R1), then in Medieval period (11th–12th cent. AD: kiln against N and E walls of R2).

6 – Description of the remains and identification of rooms

6.1 – **R1:** heated room, 8.30 m x min 12.20 m, including a large recess in E wall fitted with pool R1a and 2.20 m wide segmental niche in S wall, later blocked. The W part of the room is unexcavated; it is reconstructed by Maniscalco as a semi-circular apse, on unclear evidence. Accessible via two 1.45 m wide openings in N wall, covered by a relieving arch and a flat arch; other passages in S and E walls, which may have been opened in later phases. There are several windows and opening in the E wall of R1, above the pool, but it is unclear which ones

are original. **R1a**: pool in E recess of R1, 6.58 x 2.70 m, lined with *cocciopesto* and veneered with marble. One access step two the W. Small apse in S wall.

R2: service area from which *praeefurnium* heating R1 was operated. Four accesses, two in N wall (towards an unexcavated room) and two in S wall towards R3. All passages were covered with round and segmental arches. Barrel vault with square opening at the centre. Later additions: 1) two 1.20 m long N–S walls along S wall, added in correspondence with SE opening, of unclear function; 2) a 3.15 x 2.90 m structure in the NW corner, between the *praeefurnium* and the NW opening, equipped with a staircase and a small barrel vault; 3) a small water tank in SW corner (possibly after abandonment of the baths).

R3: service corridor along the S side of R1, ca. 19.30 m long, 2.16–2.80 m wide, in communication with R2 to the NE and another room to the W, the latter via a passage covered by a flat arch. Its S and E boundary were dug in the bedrock. Large rectangular niche in E part of S wall, 2.68 x 0.98 m, 3.10 m high; a second, smaller niche opened in this recess, 1.28 x 0.35 m, 1.54 m high. Both were covered by round arches. Probably connected with a water supply system (see 9.1). R3 communicated to the W with **R4**, a smaller service room, 4.30 x 2.30 m, with a further opening to the W, unexcavated, and a 1.65 m wide passage to the N, covered by a segmental arch, blocked in a later phase.

6.2 – R1, a heated room with at least one heated pool, probably located at the end of the heated circuit, was in all likelihood the *caldarium* of the baths.

7 – Construction techniques and materials

7.1 – No information available.

7.2 – Several construction and facing techniques:

- S and E walls of R3 dug in hillside
- Brick-faced concrete: R1
- Concrete faced with horizontal courses of stone blocks: later additions in R2 (possibly with CBM courses) and blocking of N passage of R4
- Courses of stone blocks and CBM: Blocking of S niche in R1
- ‘*Opus mixtum*’ (probably brick courses and reticulate): N wall of R3, W wall of R2

7.3 – R1a was covered by a barrel vault made of concrete with radially-set *bipedales* and smaller CBM. Large stone (‘piperno’) corbels at the springing of the vaults to support a false ceiling. R2: barrel vault, pieces of tuff as aggregate. R4: concrete vault. Marks of the wooden centring still visible

8 – Heating devices

8.1 – *Praefurnium* in R2, heating R1. 4.40 m long, 3.85 m wide. Probably equipped with a boiler and a *testudo*: the plans show a circular shape on the extensions of the *praeefurnium* (consistent with a boiler, necessary to supply R1a), and both the height of the arch of the *praeefurnium* and the cut in the floor of pool R1a are consistent with the presence and removal of a *testudo*.

8.2 – 0.70 m high *pilae* made of *bessales* (0.22 m side) supporting a *suspensura* made of *bipedales*, and three layers of *cocciopesto*.

Wall heating: rectangular section *tubuli* around pool R1a and along S wall of R1, including on wall blocking S niche. Cudemo mentioned remains of *tegulae mammatae* found in the baths, of unclear provenance.

A series of circular holes in vault above R1a (2 in N part, 1 at centre and 5 in S part of vault), and two circular openings in the crown of the vault of R2, fitted with terracotta tubes, probably acted as chimneys.

9 – Water management

9.1 – The ‘Grotta c.d. della Dragonara’ to the SW of the baths, supplied by a spring in the promontory of Miseno, stored water for the city and fleet of *Misenum*.

The recess and niche in the SE corner of R3 contained a lead *fistula* (diam. 8.5 cm) heading S into the wall for min. 1.15 m. At the point where the *fistula* entered the niche, it connected to a channel cut in the S wall of R3 and heading W; the channel may have contained a *fistula* too, later robbed. Cudemo suggested this arrangement was functional to the water supply of the building.

9.2 – The structure N of the *praefurnium* may have supported a water tank supplying the boiler with water. Two lead *fistulae* slightly to the S of the *praefurnium*, of unclear function.

9.3 – No information available

10 – Decoration and material

10.1 – Marble veneer on floor and walls of R1 and R1a, plaster in R4. Marble used: africano, breccia di Settebassi, cipollino verde, fior di pesco, greco scritto, pavonazzetto, Proconnesian. Many elements of marble architectonic decoration: capitals, columns, bases, architraves, cornices, pilaster strips, slabs.

10.2 – Late 4th–6th cent. AD ceramics

11 – Bibliography

CINQUE, RUSSO & PAGANO 1991; MANISCALCO, NASTI & PARMA 1997, 104–107; CUDEMO 2016
Mentions: AMALFITANO, CAMODECA & MEDRI 1990, 254; DE ROSSI *et al.* 2010, 488

12 – Illustrations

MANISCALCO, NASTI & PARMA 1997, fig. 84 (plan); CUDEMO 2016, fig. 1 (Paoli’s 1768 plan), 2 (plan), 3–12 (pictures)

Misenum

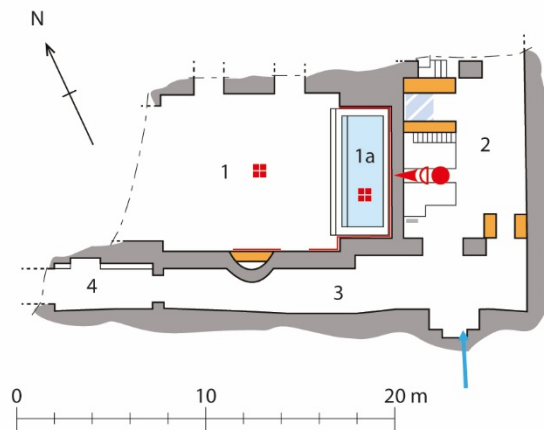


Figure 35: Plan of the baths of *Misenum* (after CUDEMO 2016, fig. 2).

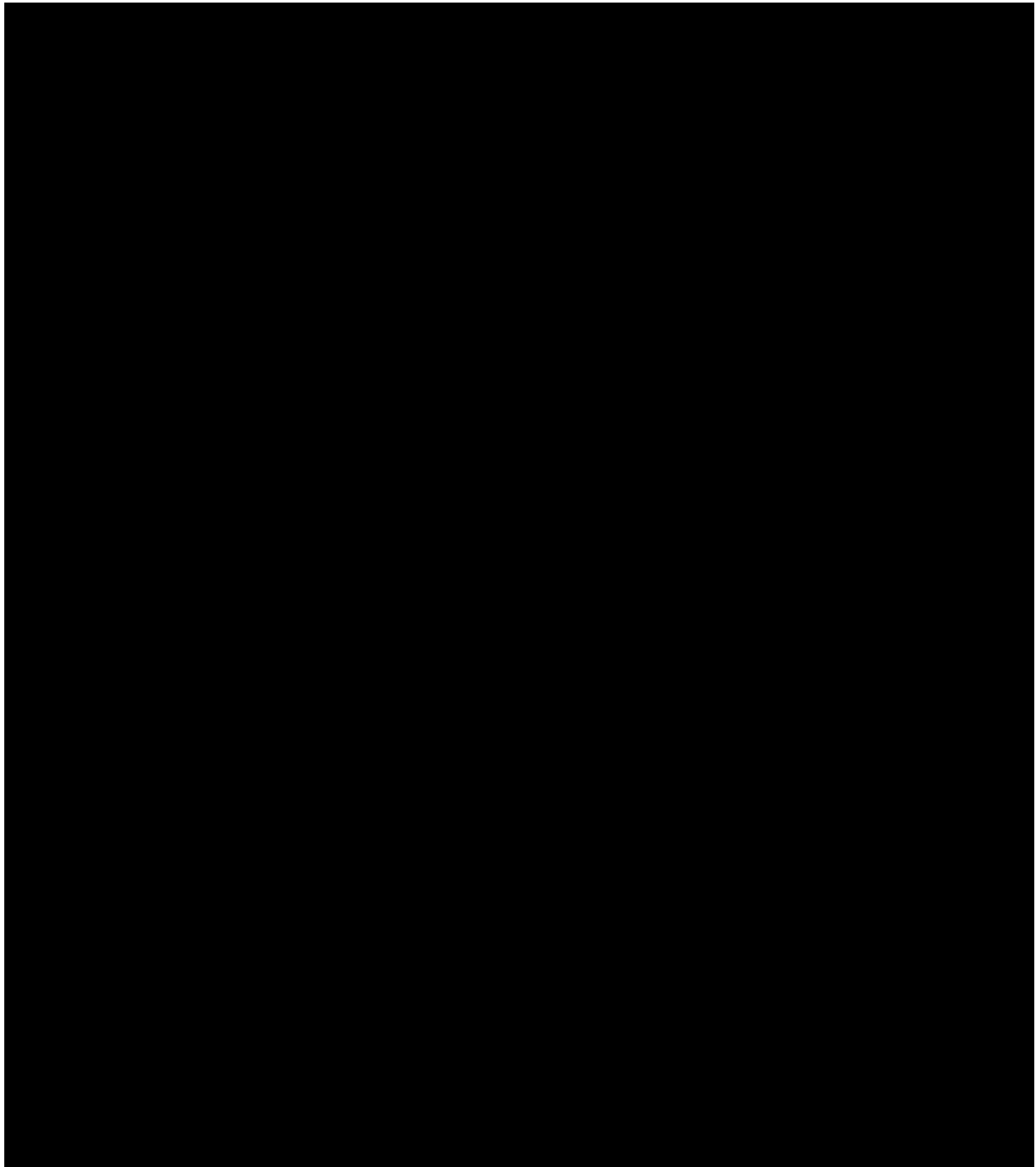


Figure 36A–F: Baths of *Misenum*. **A:** R1–R1a, from W. **B:** R1, from S. **C–D:** R2, from SW and N. **E:** R3, from E. **F:** niche in SE part of R3, from NW (CUDEMO 2016, fig. 3–4, 6–9).

1 – Location

1.1 – Città metropolitana and Comune of Napoli

1.2 – 14.189041 E, 40.830290 N

1.3 – At a crossroads between the main road linking *Puteoli* to *Neapolis*, and a secondary road

2 – Preservation

2.1 – Well preserved; some of the rooms on the N side have been destroyed by the construction of the modern road Via Terracina between WWII and the 1980s.

2.2 – In the grounds of the University of Naples Federico II. They are fenced and accessible on special occasions

3 – Research

3.1 – Discovered in 1939 during the construction of the Mostra Triennale delle Terre Italiane d'Oltremare, excavated 1939–40 (dir. A. Maiuri). Limited further excavations soon after the war. Mostly abandoned after, with occasional restorations of the walls and decoration, the latest of which took place in 1990. Studied by E. Laforgia (publications 1981, 1985), currently being re-examined by Marco Giglio (University of Napoli 'L'Orientale') and Gianluca Soricelli (Università del Molise).

3.2 – Visited in March 2016 and 2017

4 – Dimensions

950 m² of preserved remains, subdivided as follows: 670 m² for the baths, 260 m² of open-air area (of which 56 m² underground corridor R19). The commercial structures to the E occupy a further ca. 190 m²

5 – Chronology and phasing

5.1 – The phasing of Giglio & Soricelli is followed here:

I: 1st half of 2nd cent. AD¹

- Included: Cold/non-bathing rooms R3, R4, R6 (with pools R6a–R6b), R9, R16; heated rooms R10, R11, R12, R13; transition rooms R7, R8, R14, R15 (heated), R21; service rooms: R17, R18, R19, R20; *praefurnia* A and B

II: late 2nd–early 3rd cent. AD or 2nd half of 2nd cent. AD–4th cent. AD (both dates mentioned by Giglio & Soricelli)

¹ Same dating for Amalfitano *et al.* Other dates proposed: early 2nd cent. (Nielsen); Mid-2nd cent. AD (Laforgia 1981: T, CT, S).

Ila:

- Addition of corridor R1, modifying entrance to the baths (staircase into R1 removed, staircase into R5 removed and passage blocked)
- Addition of commercial structures E of R1, at a higher level
- Addition of latrine R2
- R5 modified: E passage blocked; W part transformed into staircase R22 connecting R3 to R23; passage in S wall opened towards R3
- Strengthening of heating system: extension of underground service corridor along R12, R11 and R10 until R9; addition of *praefurnia* C, D, E; addition of hypocaust in R9; creation of hypocaust connections between R12–R11 and R11–R10
- Modifications of circulation: blocking of passages between R3–R4, R9–R10, R7–R8, R7–R10, opening of passages between R3–R5, and R4–R8. The door between R17 and R20 is blocked and the staircase that put them in communication is removed; access to R17 is made via a staircase against its N wall, leading towards the NW (R18?)
- Addition of shaft R25 with waterwheel
- Redecoration

Ilb:

- Reduction of capacity of pool R6a
- Creation of water-disposal network in R6a, R6b, R6, discharging in R2
- Creation of staircases in R21 and R22
- Connection between R15 and R13 is blocked
- Creation of small fountain W1 in R2 (possibly already in Ila, see 9.2), and addition of two small structures (pilasters? basins?) veneered in marble at the ends of the semicircular part of R2
- Redecoration of R15 and R6a, repairs of mosaic floors in R2, R3, R6

5.2 – Unknown. After the robbing of marble decoration and metal elements, some rooms were reused (traces of hearths). Later, a water tank was created in corridor R1 and a small basin in SE corner of R10, possibly connected with the use of the area for agricultural purposes.

6 – Description of the remains and identification of rooms

6.1 – The baths were organized on two levels: a main, lower level including the central body of the baths (R1 to R16), and an upper level occupied by a few rooms to the N (R23–R24), some of which partly destroyed by the extension of Via Terracina. The baths were bound to the N by the *Via Puteolis-Neapolim*, to the S by another E–W road located at a lower level than the N road; both roads connected via a street along the W side of the baths. In its last phase, the baths were composed of 28 rooms, with eight further rooms on its E side, on the other side of and at a higher level than corridor R1, with possible commercial function and possibly associated to the baths.

The entrance to the baths was from the E; in phase IIa, it comprised a small staircase leading into a long corridor (**R1**, 14 x 2.30 m), transformed into a cistern during the Medieval period.² A 1.05 m opening in the N wall led into the latrines in **R2**, added in phase IIa, composed of a barrel-vaulted rectangular space (6.20 x 1.20 m, 2.80 m high) ending with a small basin (1.20 x 0.70 m) against the E wall, and a semi-circular space on the N side (diam. 4.80 m). The latrine channel ran along the segmental wall; slightly above the channel are visible the holes that supported the seats. Small fountain against E side, added in phase IIb. Lit by 5 windows that opened in the segmental wall. R1 also led, via an upwards staircase, into a series of rooms to the E interpreted as *tabernae* and added in phase IIa, and into **R3**, a large hall (dimensions) and also the first room of the baths in phase I. Mosaic floor. R4 and R5 opened on each side, as well as R8 and R22, leading to the heated section and the upper floor, respectively. R3 largely communicated with R6, the two of them being separated only by a pair of columns. **R4**: accessible from R8 and initially from R3 but passage blocked in phase II. **R5**: in phase I, accessible from the outside of the baths (traces of arch in upper part of S wall) and not leading further. In phase II, the S passage was blocked, the W part of the room was turned into a staircase (R22) leading from R3 to R23, and a passage was opened in the S wall towards R3 and led to R22 but without communication with R3, which was opened only in phase II. **R6**: largest and central room of the baths, giving access to several rooms and parts of the baths (to/from heated sector with R7 (blocked in IIa), R15 (blocked in IIb) and R14; to/from upper floor via R21 and R22 in phase IIb; to/from service area R17 via R20 in phase I, via R18 in phases IIa–IIb). Equipped with two cold-water pool R6a and R6b, and with rectangular room R16 opening off N wall. Pool **R6a** was initially rectangular; it was modified in phase IIb: its floor was raised and a segmental back wall was added, giving it a curvilinear shape; both modifications reduced its overall capacity. **R6b**: rectangular pool. **R7**: corridor leading from R6 to R10; its S end was blocked in phase II. **R8**: corridor leading from R3 to R9, with passages towards R7 (blocked in phase II) and R10. **R9** was a circular room with two horseshoe apses to the NW and NE, the north-western serving as entrance into the room from R8, and as exit towards R10, the latter blocked in phase II. Not heated by *praefurnium* and not hypocaust in phase I (but may have been heated by braziers). **R10**: heated room. Accessible from R7, R8, R9, then only from R8 in phase II. It led into **R11**, a square heated room, also accessible from R14, and leading to R12. **R12** was another heated room, roughly square with a segmental W wall. Traces of windows on W and S walls. R12 led into **R13**, the largest heated room of the baths, rectangular-shaped with a segmental apse on the long E wall. Both accesses to R13 were set in this apse. One pool R13a in the N part; there could have been a pool in the W part too, but no traces are left of it. One large window in S wall, three in W wall, the central one being larger than the lateral ones. **R14** was a corridor connecting R6 and R11. **R15** was another corridor, heated, connecting R6 and R13; its W end was blocked in phase IIb. **R16** was a square room set along the longitudinal axis of the baths (R3–R6–R16), opening off R6; in phase II, a

² The cistern is 7.20 x 2.20m and starts at 3.90m from the N wall of the corridor. The cistern was still standing when the building was first excavated in 1939, see pictures in LAFORGIA 1981, pl. I, fig. 1-2.

passage was opened in its N wall towards R18. **R17** was a service area from which *praefurnium* A was operated and giving access to R19 via an opening in its NW corner. It was located below the circulation level of the rest of the baths. Its large size would have made it possible to store fuel in it for the furnaces. In phase I, R17 was accessible from R20 via a staircase in its NE corner (passing under the staircase leading from R6 into R18). That staircase was blocked in phase II; the access to R17 was possible from the NW, from a higher level: either from the street or from R18; a staircase starting against the N wall of R17 (of which 2–3 steps are still visible) led westwards, passed above the passage towards R19, then it may have bifurcated N and opened into the E-W part of **R18**, a corridor leading from R6 (and R16 in phase II) towards the service area R17 via a flight of stairs, and possibly to the street to the W. **R19** was an underground service corridor running along the S side of the heated rooms, and from which all other *praefurnia* (B, C, D and E) were operated; it was probably accessible from R17. Built in two different phases: in phase I, it extended only until the W wall of R12; in phase II, it was extended all the way to the W wall of R9. **R20** was a small rectangular room opening off R6. **R21** was a small room off R6; in phase IIb, a staircase leading to R23 was added. **R22** was initially part of R5; it was created as a discrete room in phase IIa and was fitted with a staircase leading to R23 in phase IIb. **R23** and **R24** were two rooms at a higher level than the main part of the baths, accessible from stair R21 and R22 (the latter in phase II); they possibly extended further N. R24 had four piers in the corners, and benches between them. Both had mosaic floors. **R25**: rectangular shaft added in phase II, 6.10 x 1.85 m, 4.65 m deep. Probably equipped with a noria and connected to the water supply of the baths.

6.2 – Entrance from **R1** into vestibule/redistribution hall **R3**. Based on their position close to the entrance, **R4** could have been an *apodyterium* in phase I, replaced by **R5** in phase II. **R6** was a *frigidarium* with two cold-water pools. **R13**, the last heated room in the heated circuit, was a *caldarium* with at least one heated pool. The functions of the other is hypothetical: **R10** could have been an entrance *tepidarium*; it was not the first room on the heated path: R9 was, but R9 seems to have been an optional halt and the heated circuit could have started in R10 (via R8). **R17**, by its position before the *caldarium* R13, could have been a sweat-bath (*laconicum/sudatio*). **R15**, a corridor with low heat between *caldarium* R13 and *frigidarium* R6, was probably a heat trap.

The multiplication of transition rooms (R7, R8, R14, R15) and the difficulty in identifying the function of several main rooms (R9, R10 and R11 in phase I) complicates the reconstruction of bathing paths. From a vestibule R3, one could use the *apodyterium* (R4 in phase I, R5 in phase II). The heated circuit started in R10 in phase I, with very lukewarm rooms R10, R11, then into sweat-bath R12 and *caldarium* R13, then via R15 use the *frigidarium* R6; one could use only the lukewarm rooms, leaving before the sweat-bath via R14.

In phase IIa, several paths possible from R3 via three connection rooms (R8, R14, R15), the most canonical one being: heated rooms R9 – R10 – R11 – sweat-bath R12 – *caldarium* R13 – heat trap R15 – *frigidarium* R6. The circuit could be shortened by starting from R10 (through R8) or from R11 (through R14).

In phases I and IIa, the path was circular; in phase IIb, it became retrograde for the hottest rooms.

7 – Construction techniques and materials

7.1 – No information available

7.2 – Concrete walls, several facing techniques (see plan below)

- Brick facing (in heated rooms)
- Horizontal courses of blocks of tuff (most additions in phase IIa)
- Combination of reticulate and brick courses, with brick quoins (R3 to R6, R14 to R16, R21)

7.3 – Barrel vault in the S part of R2. Corridor R19 barrel-vaulted, traces of centring visible on intrados.

8 – Heating devices

8.1 – R17 was the main service area for the operation of *praefurnium* A. It was large enough that fuel could have been stored in it for the supply of all the *praefurnia*. The masonry block against the W of the *praefurnium* could have supported a water tank. ***Praefurnium A*** was a large structure, with an outer channel faced in brick courses and probably a boiler on top of the channel; the sub-circular shape of the damage of the masonry block against the W side of the channel may be due to the former presence of a boiler. The opening in the wall was topped by an arch whose keystone was higher than the floor of R13a, suggesting the presence of a *testudo*, later removed; the floor of R13a was restored in modern times, removing all possible traces of a *testudo*. The masonry block to the E of the *praefurnium* could have had a flight of stairs for attendants to operate the boilers; the easternmost preserved part of the block could be a step.

All the other *praefurnia* were operated from corridor R19, built in two phases (see 6.1); several square openings in the ceiling of R19 provided light and air for the operators, and allowed fumes to leave. ***Praefurnium B***: brick flat arch, brick jambs, no visible extensions. ***Praefurnium C***: created in phase II by digging in W wall of R11. Short extensions inside room, brick faced. ***Praefurnium D***: created in phase II by digging in S wall of R10. No proper jambs. ***Praefurnium E***: created in phase II, well made with brick jambs topped by a small brick round arch on furnace side, by a flat brick lintel on hypocaust side. No extensions.

8.2 – *Area* made of tiles (at least in R9 and R13). Ca. 0.75 m high *pilae* made of hollow tubes set on four *bessales* and topped with four further *bessales*. Most of the of hollow tubes *pilae* are restored, and Giglio & Soricelli suggested all of them might be modern restorations; archival pictures would instead tend to suggest these tubes might have been there originally. From archival pictures, some of the tubes seem to have been made of discrete circular bricks capped by a CBM similar to the tapered end of the hollow tubes. *Suspensurae* mostly restored, but made of a single layer of *bipedalis* and a layer of *cocciopesto*.

Hypocausts protected by a layer of *cocciopesto* (at least in R9, R10, R11, possibly some very fragmentary remains in R13).

Hypocaust connections: **I**: connection between R12–R13 via 0.40 m wide passage; connection between R13–R15 via a terracotta pipe (ca. 0.075 m diam.) set in the wall; according to Giglio & Soricelli, connections between R10–R11 and R11–R12 via similar terracotta pipes, set ca. 0.20 m above the hypocaust floor (a possible pipe may be preserved in the W wall of R10, ca. 1 m N of the hypocaust connection dug in phase II). **II**: wider connections between R10–R11 and R11–R12 created by digging through the walls and through the *cocciopesto* covering the hypocaust. These connections did not have proper jambs.

One pipe set in the N part of the E apse of R13, ca. 2.60 above *area*, and connected with service area R17, possibly an airway/chimney.

Wall heating: R11, R12 and R13 were equipped with *tubuli*, but traces of nails in the walls could be consistent with an earlier wall heating system made of *tegulae mammatae*. R15 was equipped with *tegulae mammatae*. R9 had no wall heating. The walls of R10 were heated according to Giglio & Soricelli, whereas personal observations (lack of gap between *suspensura* and wall) would indicate they may not have been heated. For Giglio & Soricelli, the walls of all rooms were heated from phase I, which is unusual considering R10 and R11 were barely lukewarm in phase I, as they received heat only indirectly, from the *praefurnia* A and B via small hypocaust connections.

9 – Water management

9.1 – Remains of Serino aqueduct (*Aqua Augusta*) were noted slightly N of the baths (Amalfitano *et al.*), which could have supplied the baths.

R25 was a rectangular shaft added in phase 2 (6.10 x 1.85 m, 4.65 m deep). A pier against the N wall and a corresponding recess in the S wall could have supported the central shaft of a *noria*, lifting water at a higher level, in all likelihood to supply the baths. The volume of the shaft was ca. 52 m³, but it was certainly never filled with water to its upper edge otherwise the waterwheel could not have spun; a water level closer to ca. 2 m is more likely. The walls of the shaft are lined with *cocciopesto*. A passage opens along in S side, close to the floor; it is lined with tiles and covered by tiles set a *cappuccina*. Another passage opens into its E side, close to the floor; the passage was made in a later phase as it cut into the *cocciopesto* lining. The 1939 plan made by the Soprintendenza indicated stair in along the W part of the shaft, which may have been added in a later phase.

In **R17**, a masonry stand next to *praefurnium* A could have supported a water tank feeding water to the nearby boiler.

9.2 – Water was needed for pools R6a and R6b (cold), and R13a (hot); in phase II, water was needed for the basins and gutter channel in latrine R2. The capacity of pool R6a was reduced in phase IIb by raising its floor and adding a segmental back wall.

In **R6a** and **R6b**, two recesses were dug in the E and W, with curvilinear shape, probably fitted with water pipes to feed water to the pool. They probably belonged to secondary phase, as the fact that they were dug through the access steps, the quoins, and the facing, would suggest.

In R6b, a hole in the middle of the back wall may also have been fitted with a water pipe.

R13a: a rectangular opening in the N wall of R13, above the arch of the *praefurnium*, served in all likelihood to pass the water supplying hot water to the pool.

In **R2**: a small fountain W1 was created in the E part of R2 in phase II (IIb for Giglio & Soricelli, but a supply of clean water was necessary for the gutter, and a basin may have existed in phase IIa already); it was supplied via a pipe in its back wall. Its overflow was probably led into the gutter channel directly to the N, in which a groove had been cut, probably to fit a pipe. Water in the gutter itself may have overflowed into a small basin W2 (possibly added in phase IIb).

9.3 – I/IIa: E–W oriented channel passing under R5 and R21, probably used for the disposal of water of pool R6b; probably connected to latrine R2 in phase IIa.

IIb: Channel A started in N wall of R6a (pipe just above floor), headed N passing under a grating at the centre of R6 (collecting water spilled in R6), and discharged into channel B, an E–W oriented channel created at the junction of channel A and the short channel into which water from R6b was emptied (leaving R6 via a channel in the E part of its S wall). Channel B flowed E into the latrine channel in R2. 2nd small grating in R3 above channel B.

In **R2**: the latrine channel was flushed by water from different sources: 1) a drainpipe embedded in the wall at the E end of the channel discharged its water, possibly rainwater collected from roofs; 2) the latrine gutter with clean water, filled by the fountain in W1, discharged into the latrine channel in its W corner; 3) W2, perhaps a small basin, probably also discharged into the latrine channel; 4) in phase IIb, channel B discharged into the latrine channel in its W corner.

The water in the latrine channel was then evacuated via another channel heading NW, of which the top of a relieving arch is visible.

10 – Decoration and material

10.1 – Most of the decoration was made in phase IIa. Mosaic **floors**, white background, some with a black frame; in R4, R5, R7, R8, R9, R14, R15, R20, R21, R22. Figurative mosaic floor, black figures on white background, marine scene, in R3 (Nereid on the tail of Triton; 2 cupids, one dolphin), R6 (four groups: sea panther pursued by Cupid, Neptune on sea griffin, Cupid on seahorse, female divinity on sea ox; four dolphins in corners) and R2 (two dolphins, a sea griffin). Marble floor in R10, R11, R12, R13, R16

Wall decoration: marble slabs in R3, R6, R8, R10, R11, R12, R13, R14 (traces up to 2.50 m), R15, R16. Stucco/wallpainting in R2, R4, R5, R9, R20, R21, R22.

IIb: Mosaic floor in R6 repaired after new drainage system fitted; the repairs also restored the figures.

Marble used: remains of Rosa antico (floor), Bardiglio (plinth in R14) and Rosso antico (central zone in R14)

10.2 – /

11 – Bibliography

LAFORGIA 1981; 1985, 340–343; AMALFITANO, CAMODECA & MEDRI 1990, 46–55; MEDRI 2016, 101–104; GIGLIO & SORICELLI 2019

12 – Illustrations

Plans and sections: LAFORGIA 1981, pl. 10–14; LAFORGIA 1985, pl. xlix; AMALFITANO, CAMODECA & MEDRI 1990, fig. p. 47; MEDRI 2016, fig. 12; GIGLIO & SORICELLI 2019, fig. 1, 7–8, 10–11

Pictures: LAFORGIA 1981, pl. 1–3; LAFORGIA 1985, fig. p. 342–344; AMALFITANO, CAMODECA & MEDRI 1990, fig. p. 46–50; GIGLIO & SORICELLI 2019, fig. 5–6, 9, 12–13

Decorations: LAFORGIA 1981, pl. 4–9; LAFORGIA 1985, fig. p. 343–344; AMALFITANO, CAMODECA & MEDRI 1990, fig. p. 50, 52–55; GIGLIO & SORICELLI 2019, fig. 14–15

Neapolis, Fuorigrotta Baths, phase I



Neapolis, Fuorigrotta Baths, phase IIa

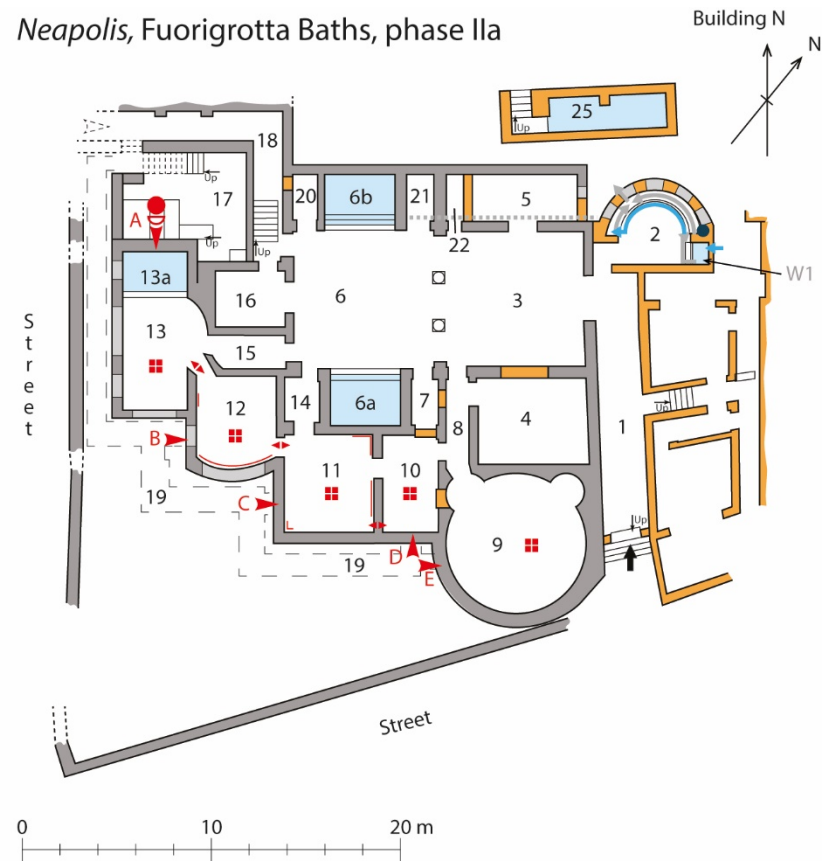
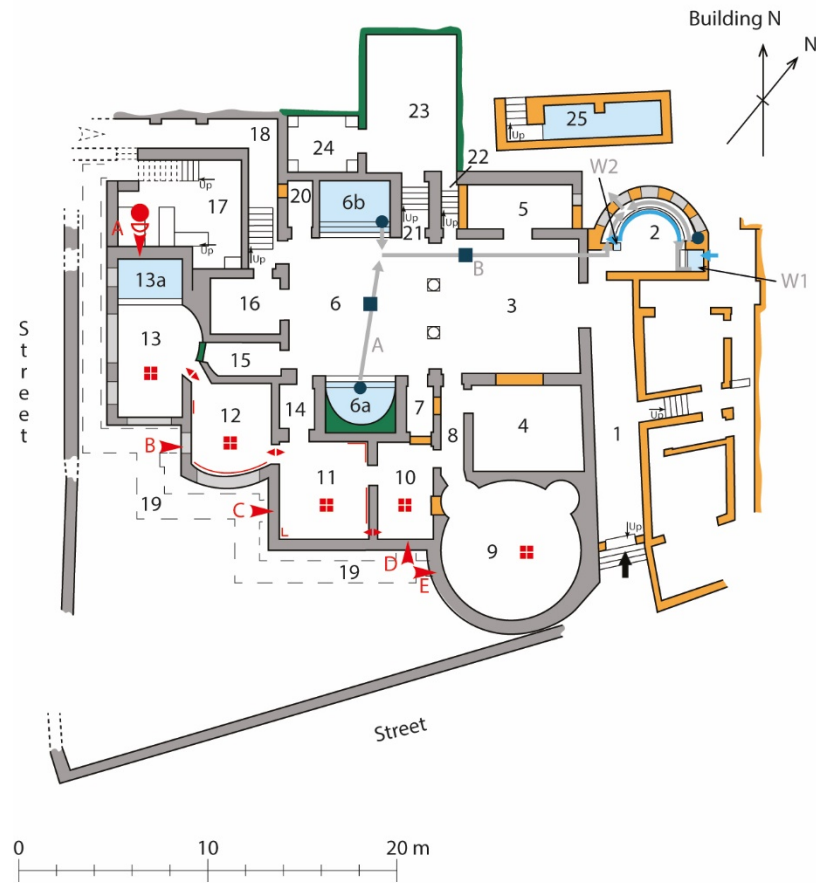


Figure 37: Plan of the Fuorigrotta Baths of *Neapolis*, phases I and IIa (after GIGLIO & SORICELLI 2019, fig. 7-8).

Neapolis, Fuorigrotta Baths, phase IIb



Neapolis, Fuorigrotta Baths, facing techniques

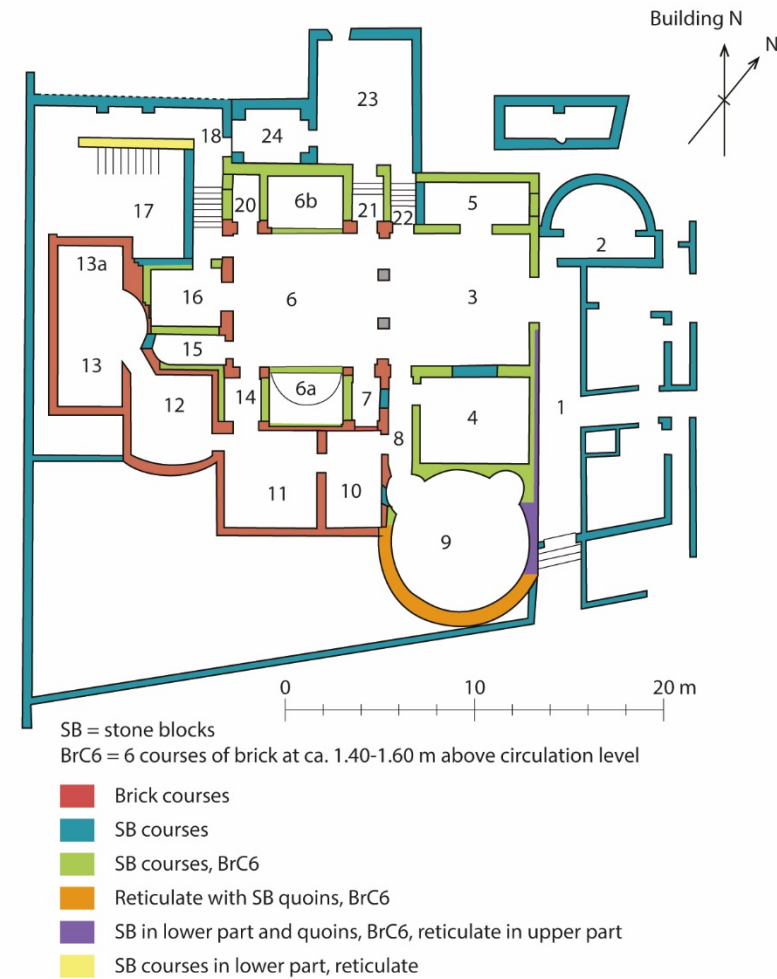


Figure 38: L: Plan of the Fuorigrotta Baths of *Neapolis*, phase IIb. R: Facing techniques used in the baths (after LAFORGIA 1981, pl. XII; GIGLIO & SORICELLI 2019, fig. 11).

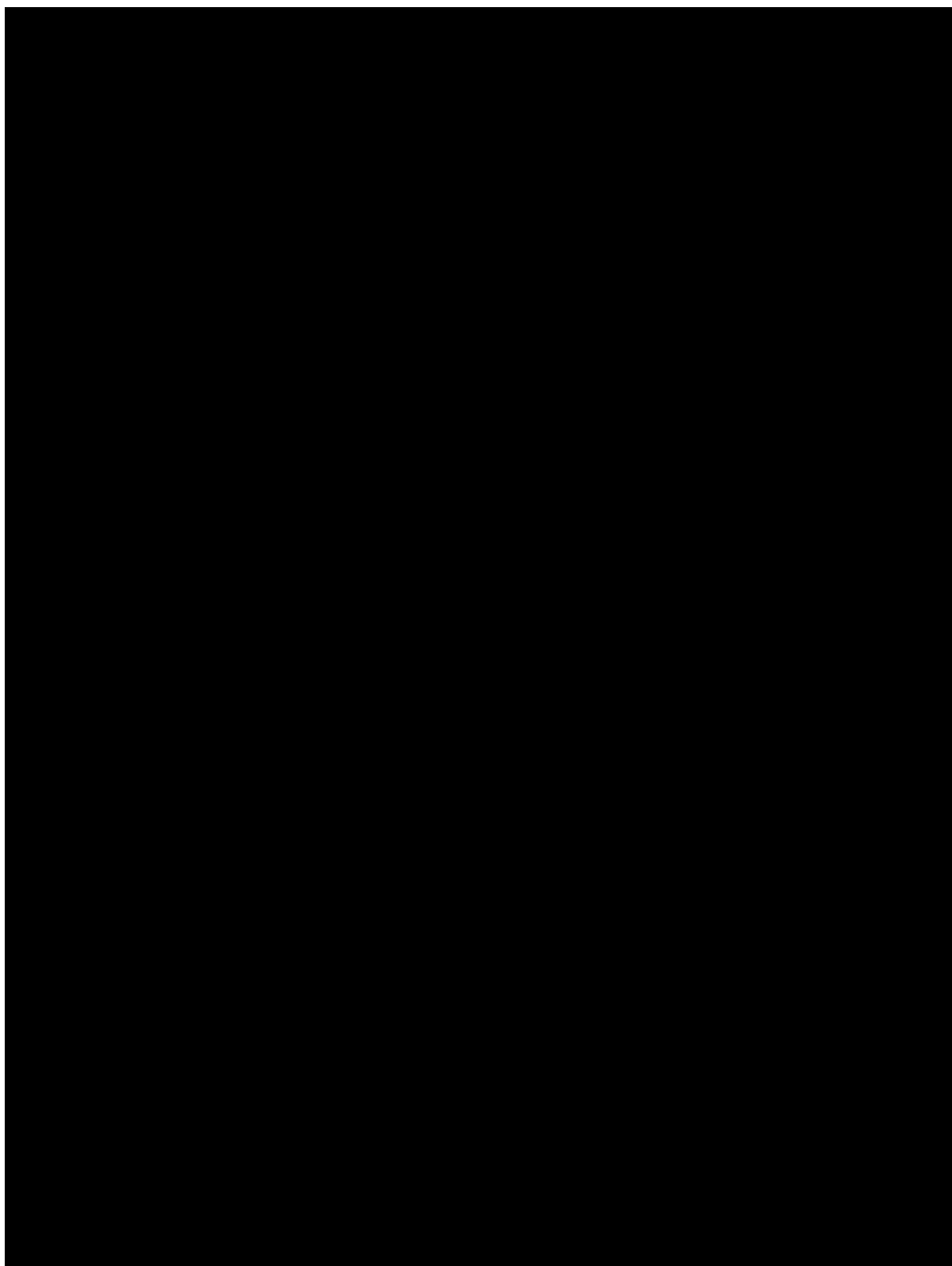


Figure 39A–E: Baths of *Neapolis* Fuorigrotta. **A:** general view of the structures E of the baths, from N. **B:** general view of the baths, from E. **C:** R1, from S. **D:** R6, from N. **E:** R6b, from S (D: GIGLIO & SORICELLI 2019, fig. 15).

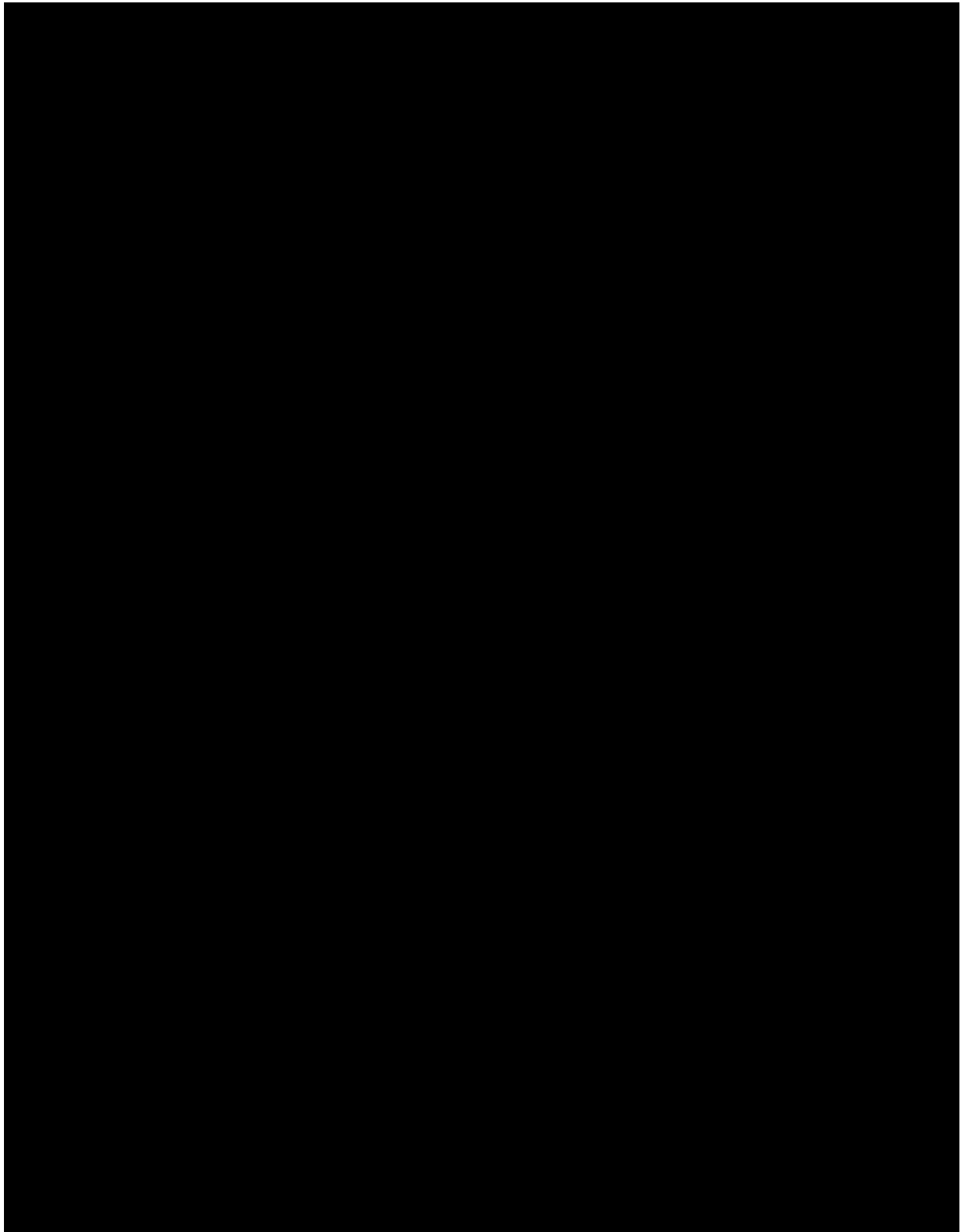


Figure 40A–G: Baths of *Neapolis* Fuorigrotta. **A:** R2, from E. **B:** R9, from S. **C–D:** R13 and R13a, from NE and S, respectively. **E:** R11, from W. **F:** R12, from NW. **G:** R19.

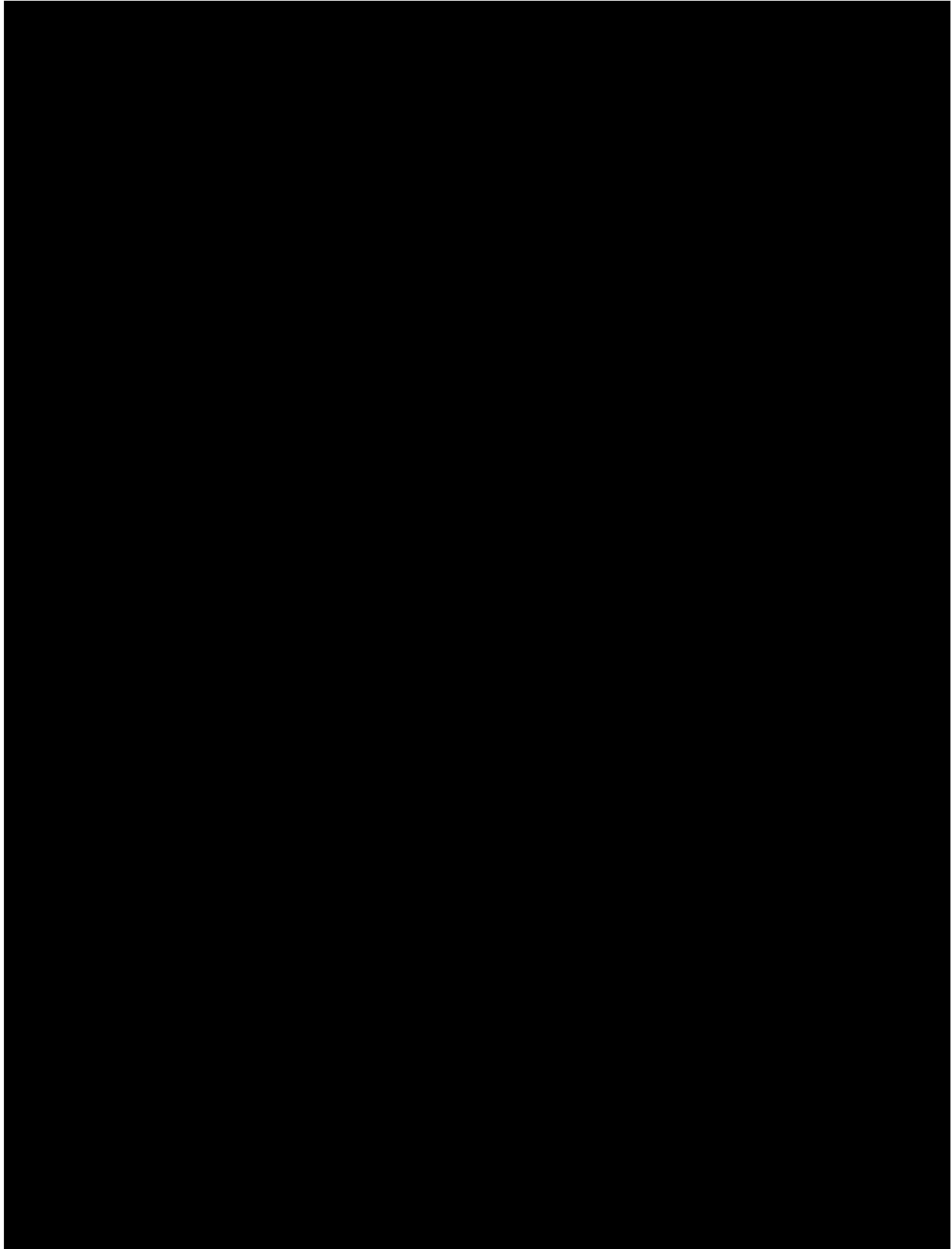


Figure 41A–G: Baths of *Neapolis* Fuorigrotta. **A:** R17, from W. Construction materials: **B:** brick facing in R6. Heating: **C:** *prae-furnium* A, from NE. **D:** hypocaust connection between R13 and R15. **E–G:** wall heating. *Tubuli* in R11 (E), *tegulae mammatae* in R15 (F–G).

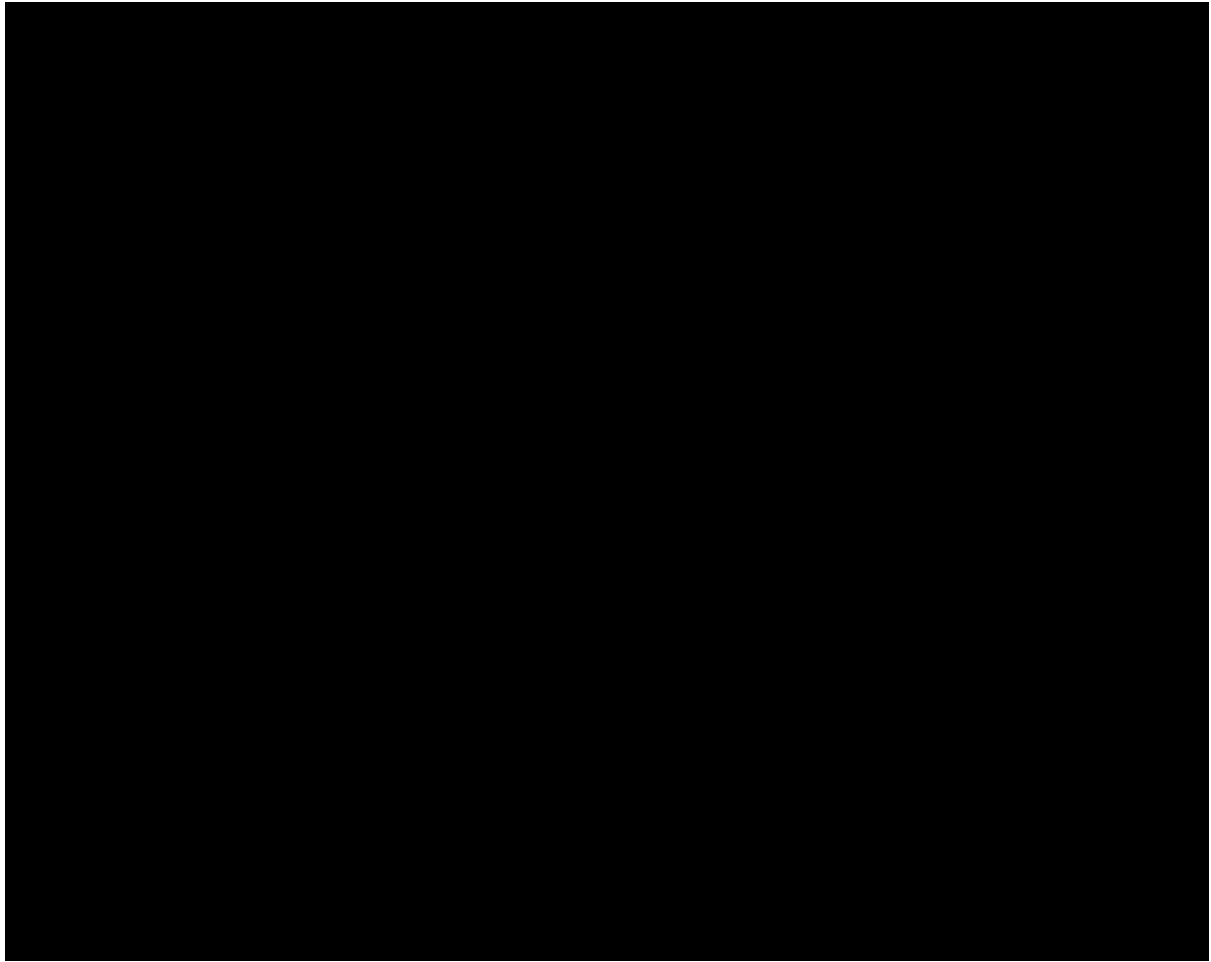


Figure 42A–D: Baths of *Neapolis* Fuorigrotta. Water elements: **A**: Fountain W1 in R2, from W. **B**: shaft of water-lifting device in R25, from E. Decoration: **C**: stucco decoration in R22. **D**: mosaic floor in R9.

1 – Location

1.1 – Province of Salerno, Comune of Capaccio

1.2 – 15.004860 E, 40.420993 N, 15 m asl

1.3 – Between a row of *tabernae* opening on the Forum to the N and the Santuario Meridionale to the S, on an irregular lot, bound to the W by the *cardo maximus*

2 – Preservation

2.1 – Good in plan, up to 1.5 m in elevation

2.2 – Part of the Parco archeologico di Paestum

3 – Research

3.1 – Excavated in 1933 (dir. A. Marzullo). Two trenches in 1988 (dir. M. Modugno)

3.2 – Visited in March 2016

4 – Dimensions

1,100 m², on a lot ca. 41.50 x 32 m

5 – Chronology and phasing

5.1 – According to Torelli: **I**: Late Republican–early Imperial (CT); **II**: restorations in early 3rd and AD 240s (inscription).

Phasing according to Vitti:

Pre-baths: small street running at back of *tabernae* of forum was obliterated by the baths

I: 1st half of 3rd cent. AD (construction by *Venneianus* father)

Two *praefurnia* A and B, accessible from S passage of R11 and from R9. *Taberna* in R12. R9 was the entrance to the baths, subdivided in two by N–S wall. R3 accessible from R19. Two pools in R1. R4 had only one pool in N apse, and E wall of R4 was E boundary of the baths. R7 was smaller.

IIa: 2nd half of 3rd cent. AD. restoration by *Venneianus* son, after a fire

Addition of tripartite arched entrance R16, leading to decommissioning of *praefurnium* B; *praefurnium* A decommissioned as well, the floor of the rooms they were in (R11, R14) raised. R9 enlarged, becoming a single larger room. Opening of passage in E wall of R3, closing of N passage of R3. E recess of R1 was closed to create *praefurnium* D, operated from R3. Creation of *praefurnium* C (in temenos of Republican temple) to heat R8 from the S. Addition of R5 and R6 against E wall; R7 was enlarged, and access via R6 created.

IIb: undated

Addition of structure R13 against R16, and creation of R15 to the S of R16 by blocking the S arch of the tripartite entrance. R9 was reduced by the creation of a wall in its S part. Semi-circular structure created in E recess of R1 to support boiler.

5.2 – Unknown

6 – Description of the remains and identification of rooms

6.1 – The complex was organised around the central heated room R1, with heated rooms to the S and the other rooms arranged to the E, N and W of them. It was set at a higher level than the circulation levels of the surrounding structures in order to accommodate the hypocausts, since no digging was made to set the furnaces at a lower level.

R1: 6.80 x 6.40 m heated room, with two lateral rectangular recesses (W: 5.60 x 2.60 m; E: 5.50 x 3 m) probably fitted with pools. Segmental niche in N wall. E recess later blocked to create a *praefurnium*, possibly at the same time as decommissioning of *praefurnium* B. In the space thus created, a horseshoe-shaped wall was added. Accessible from **R2**: square heated room, 6.70 m on the side. Small niche in W wall. Led into R1 and accessible from **R8**, a 6.70 x 7.60 m heated room.

R3: 11.90 x 11.70 m. Bench against W, N and E walls, with traces of a plaster lining. Initially opened towards R19, later blocked.

R4: 9.80 x 9.40 m, with two extensions that probably contained pools: a semi-circular apse to the N (R4a, diam. 6.60 m), and a roughly square recess (R4b, 5.40 x 4.80 m) to the E, covered by a concrete barrel vault. Accessible from R3, led to R7 and RT; the latter passage was covered by a flat arch and a relieving arch made of *sesquipedales*.

R5: room of irregular shape, 7.50 m N–S, max. 5.80 m E–W (from plan). Initially communicated with FR and R19; both passages were blocked in a later phase, blocking off any access to the room.

R7: 7.80 x 4.10 m room, accessible from R4 and R16. Probably smaller in phase I, with an E walls in the continuation of the E wall of R4, and unique access from R4.

R9: 11.80 x 8.20 m room, accessible from R14. Initially divided in two parts, with connection to R10. Threshold in W wall indicates initial connection to *cardo maximus*, later blocked. The room was later reduced by the addition of an E–W in its S part.

R11: 8 x 7.90 m room, from which *praefurnium* A was operated. A threshold covered by the S indicates that the room had an earlier floor level at the same level as the hypocaust of R2.

R12: 6 x 3.30 m, opening on the *cardo maximus* and not connected to other rooms of the baths.

R13: 4.40 x 3.80 m solid structure, with 0.11–0.13 m thick layer of *cocciopesto* on top. Possibly supporting a water tank (see 9.1).

R14: 5 x 5.10 m, accessible from R11 in phase I and R14a in phase II possibly related to the operation of hypothetical *praefurnium* B

R15: this room may initially have been similar to R12 and open only to the *cardo*. In a later phase, it was modified by the creation of entrance R14a.

R16: entrance from the W and the *cardo maximus*. 1.80 m wide passage, originally covered by an arch, possibly a triple arch later narrowed down when R13 and R15 were added.

6.2 – R1 was a *caldarium* with two heated pools, of a shape common in Central Italy (see section II.2.3). R8, as the first heated room, was a *tepidarium*, and R2 could have been a sweat-bath because of its intermediary position and the absence of pools. R4 was the *frigidarium* with one then two cold-water pools. R9, by its position towards the entrance of the baths, and the presence of benches along the sides of the room, could have been an *apodyterium*; R3 has also been identified as an *apodyterium* (possibly with additional functions), for its position as a passage room between *apodyterium* R9 and bathing rooms to the E.

The path was retrograde from the entrance: vestibule/*apodyterium* R9 – *apodyterium* R3 – *frigidarium* R4 (possibility to use R7) – *tepidarium* R8 – sweat-bath R2 – *caldarium* R1.

7 – Construction techniques and materials

7.1 – No information available

7.2 – Foundations of the W wall of the bath, along the *cardo maximus*, made of C-shaped blocks of local travertine, ca. 0.30 m high, 0.60 m deep. They were also found under the *tabernae* of the forum and probably belonged to a construction phase pre-dating the bath building.

Three main construction techniques (a-c) and several additional isolated techniques. The main construction material for the facings of the walls is a local travertine.

- a) Courses of brick and small stone blocks in R1, R2 and R3. Walls ca. 90 cm thick. Groups of three brick courses, distant 0.73 m. Rectangular bricks, 0.27–0.29 x 0.215 m, with long side visible. Travertine blocks, some of which were roughly squared, were arranged in sub-horizontal courses. Larger squared stone blocks used in corners. Bonded quoins made of bricks. Putlog holes (0.08 x 0.10 m, 1.20 m interaxial distance).
- b) Similar technique to a), but irregular; in R3, R6, R9, R4. Walls 0.50–0.60 m thick. Groups of three brick courses, bricks 0.22–0.30 m visible side. Quoins made of slightly squared larger stone blocks, or bricks.
- c) Irregular stone facing in stone blocks, in R11, R12, R14, R15, R16. Walls 0.45–0.50 m thick.
 - The two parapet walls of entrance R16 were made with two courses of tiles with knocked-off flanges, 2.5–3 cm thick, alternating with a course of squared stone blocks. Thickness of two rows of tiles and one row of stone: 0.17–0.18 m.
 - Courses of brick and tile in the blocking of the large E niche in R1b
 - Irregular courses of bricks of irregular shape and dimensions in R5
 - In R1b (IIb), sub-horizontal courses of small squared travertine blocks, alternating with courses of bricks and tiles 1.18 m from each other
 - Reused CBM (3.5–6.5 cm thick) and squared stone blocks for the piers in R16

7.3 – Wooden roofs in R14 and R11, based on dimensions of rooms and limited thickness of the walls. R1a and R1b covered by barrel vaults made of *sesquipedales* (left whole or cut in two). A fragment of the collapsed vault is still visible in R4b: concrete barrel vault, traces of the centring still visible; pairs of *sesquipedales* at regular intervals, set horizontally, following the profile of the intrados. The extrados was flat and covered by a 0.12–0.15 m thick layer of *cocciopesto*.

8 – Heating devices

8.1 – *Praefurnia* A and B in phase I, decommissioned in phase II when *praefurnia* C and D and built. Almost no remains of the *praefurnia*. *Praefurnium* A had outer extensions in *sesquipedales* and tiles, and was covered by an arch made of *bessales*; it was probably fitted with a boiler to heat the water for pools R1a and R1b, and two travertine slabs in NE corner of the room probably belonged to a staircase leading to the boiler. *Praefurnium* D was made in bricks, 0.47 m wide, covered by an arch made of *bessales*. Vitti postulated a boiler above the *praefurnium*.

8.2 – In R2 and R1 (at least): *area* of *sesquipedales*, 0.65 m high *pilae* made of *bessales* and set at an interaxial distance of 0.60 m to support a *suspensura* floor of *bipedales* and *cocciopesto*.

Wall heating with *tubuli* in R1 (*in situ* in R1a), R2 (found in collapse layers and traces on the walls, every 0.27–0.30 m), R8. In R1: rectangular section *tubuli*, 0.10 x 0.12 m, 0.37 m high, set against wall and covered by a 13 cm thick CBM layer, then three additional layers: clay (1 cm), *cocciopesto* (0.5 cm) and plaster with CBM fragments (2.5 cm).

9 – Water management

9.1 – Remains of an aqueduct, possibly dated to the 1st cent. BC, were identified outside the E city gate of *Paestum* (Porta Sirena). It was restored in the late 3rd–4th cent. AD (AE 1975.261 = *ILPaest* 110 = EDR076095).

The masonry block in R13, added in phase IIb, could have supported a water tank; on its W side, outlet of large channel partly dug into one of the C-shaped blocks, could belong to R13 or be functional to the disposal of water from the baths.

A 1.70 x 1.70 m structure to the E of the baths (E of R4b), oriented SE–NW, was lined in *cocciopesto* and supplied in water via a coming from the SE; water then left the structure via a lead *fistula* in the N corner. This structure was called *castellum aquae* by Vitti but its function is unclear.

9.2–3 – No information available

10 – Decoration and material

10.1 – Mosaic floor in R3 and R4; loose blue *tesserae* found in R2.

10.2 – One inscription (VITTI 2019, 296–297)

- AE 1935.28 = EDR073273 = [E49]: *M(arcus) Tullios Cicero Venne/ianus Ilvir q(uin)q(uennalis) p(atronus) c(oloniae), balneas / nobas a solo sua pecunia extru / xit et*

dedicavit. M(arcus) Tullius Cice/ro Venneianus filius balneas eas/dem, vi ignis multifaria corruptas / sua pecunia restituit, curantibus / Tulliis Primigenio et Nedymo et / contutoribus eorum, et incolumes ad usum civium rei pu/blicae tradidit.

Marble *tabula ansata*, W: 130 cm, H: 77 cm, T: 3.7 cm, discovered in 1933 at the entrance of the baths (R16). Dated early 3rd cent. AD

Commemorates the restoration of the baths at the beginning of the 3rd century AD by *M. Tullius Cicero Venneianus*, *duumvir* and patron of the city, and a second restoration by his son around AD 240, after a fire.

11 – Bibliography

CAMPANELLI & M. 1999; TORELLI & CIPRIANI 1999, 105–106; VITTI 2019

12 – Illustrations

VITTI 2019, fig. 1 (location), 3, 9, 12–13 (plan), 4–8, 10–11 (pictures)

CAMPANELLI & M. 1999, fig. 20–21 (plan), 22–23 (pictures)

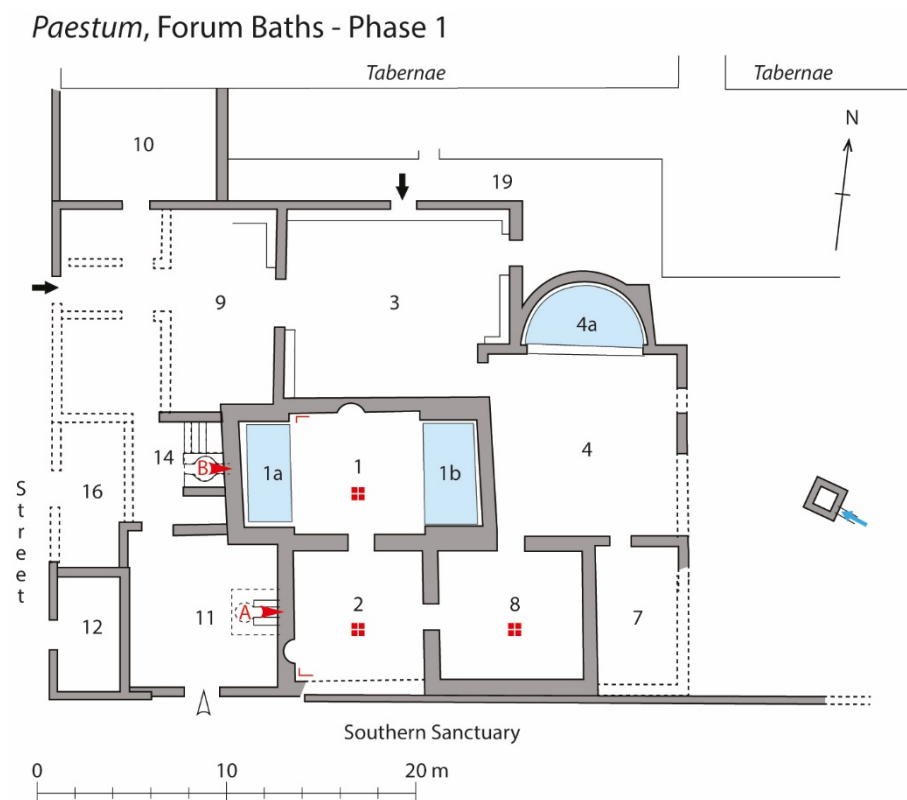


Figure 43: Plan of the Forum Baths of *Paestum*, phase I (after VITTI 2019, fig. 12, 20).

Paestum, Forum Baths - Phases IIa-IIb

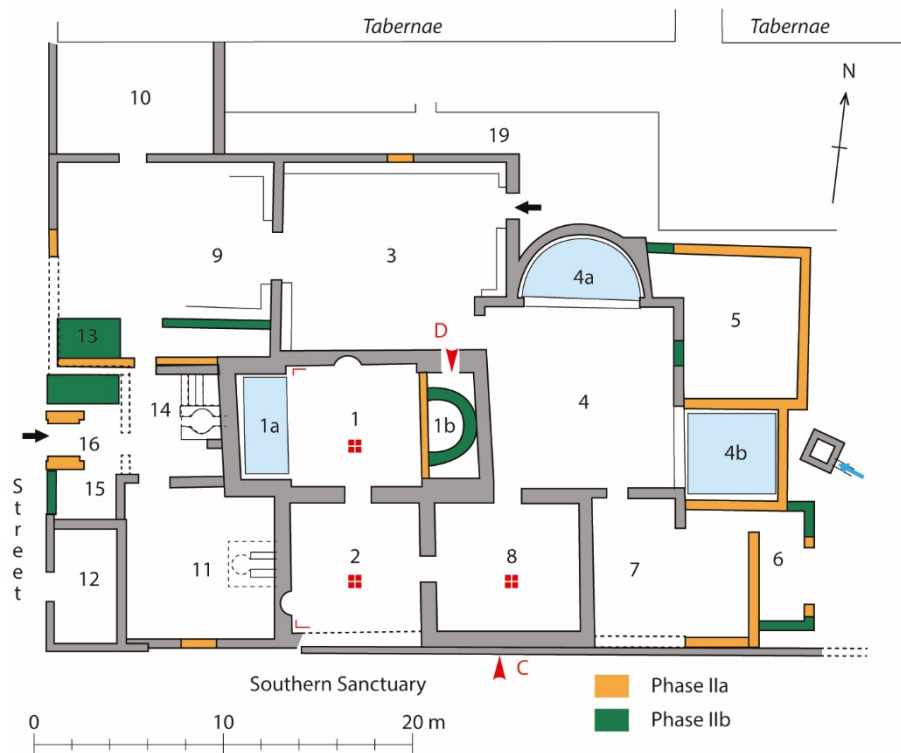


Figure 44: Plan of the Forum Baths of *Paestum*, phases IIa–IIb (after VITTI 2019, fig. 13, 20).

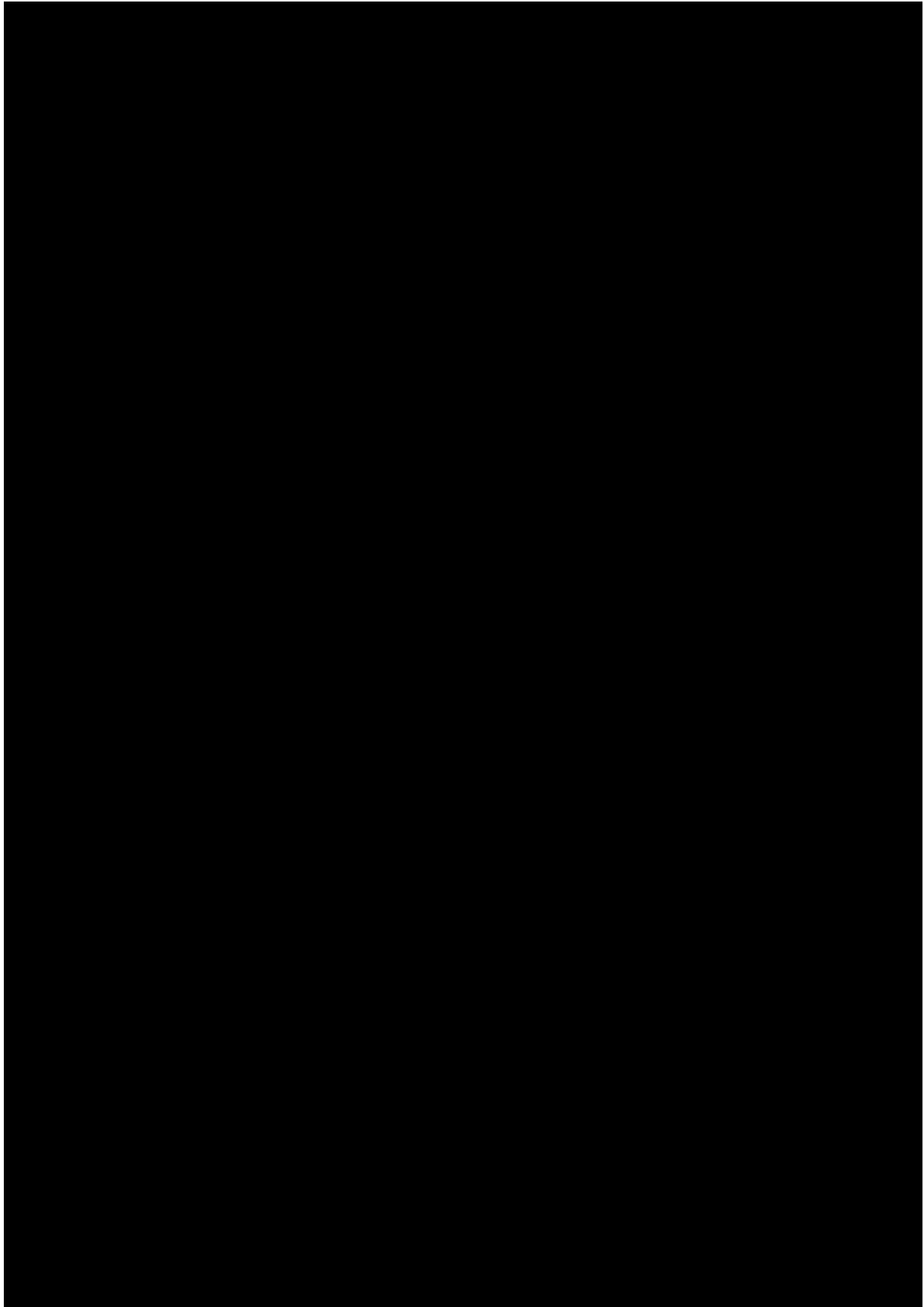


Figure 45A–E: Forum Baths of *Paestum*. **A**: view of the central part of the baths (R1, R4), from SE. **B–E**: panoramic view of the baths, from S, W, N and E, respectively.

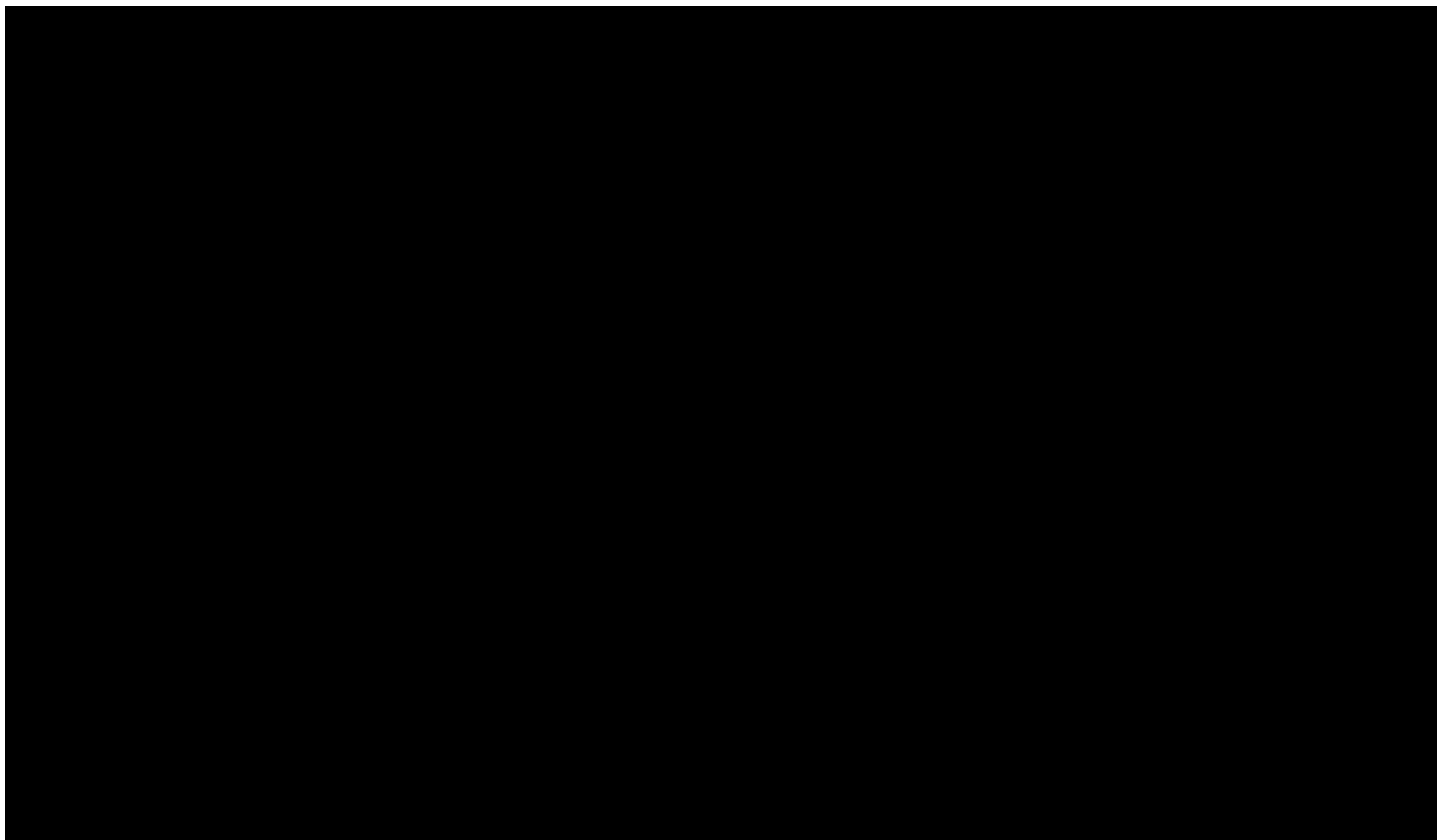


Figure 46A–I: Forum Baths of *Paestum*. **A:** R1b, from W. **B:** R4, from NE. **C:** R4b, from W. **D:** R3, from W. **E:** R16, from E. **F:** R3, from N. **G:** R4a, from S. Construction techniques: **H–I:** facing techniques a) and c), respectively.

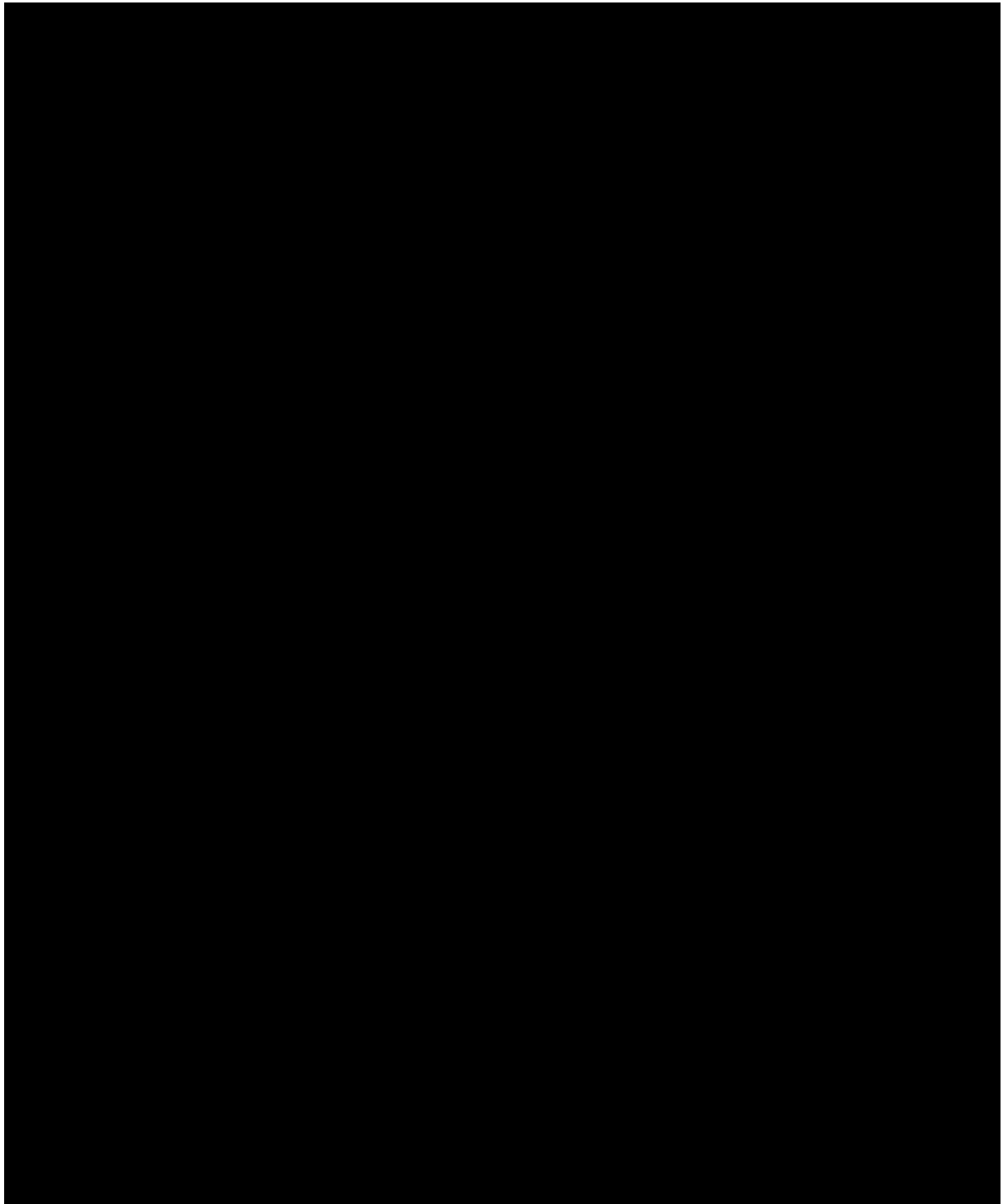


Figure 47A–E: Forum Baths of *Paestum*. **A**: C-shaped stone blocks used in foundations. Water elements: **B**: water-related structure to the E of the baths. Heating: **C**: *praefurnium* B, from W. **D**: *praefurnium* D, from N. **E**: hypocaust in R1, from N (VITTI 2019, fig. 5).

1 – Location

1.1 – Province of Salerno, Comune of Capaccio

1.2 – 15.003942 E, 40.419985 N; 15 m asl

1.3 – In the centre of *Paestum*, W of the Temple of Hera I. They occupied the central part of an *insula*, bound to the E and W by two *cardines*, to the N by the *Domus* con Piscina, to the S by a series of rooms of unclear function.

2 – Preservation

2.1 – Good in plan; up to 1 m above circulation floor. Heavily restored, and construction of new walls during restorations (e.g. W boundary of the baths)

2.2 – Part of the Parco archeologico di *Paestum*

3 – Research

3.1 – Excavated 1950s–1960s (dir. Sestieri), no documentation. Further investigations in 2007–2008 by the Cooperativa Archeologia di Firenze (dir. N. Cinelli, R. Pinzuti) and the Soprintendenza per i Beni Archeologici di Salerno, Avellino e Benevento (dir. M. Cipriani).

3.2 – Visited in March 2016 and March 2017

4 – Dimensions

Currently visible remains: 1,250 m² (Pocobelli), ca. 1,000 m² (from plan, rectangle bound by R8 to NE, R16 to SE, W cardo to W), or 825 m² (Nielsen). To these figures must be added the surface area of the remains that extended over the W cardo.

Bathing block, from plan: **I**: 320 m²; **II**: 470 m²; **III**: 500 m²

Nielsen also gave figures of ca. 2,000 m² with a palaestra, and 3,300 m² with a natatio.

5 – Chronology and phasing

5.1 – Phasing according to Pocobelli

I: after the AD 79 eruption (stratigraphy)

II: unknown

- Enlargement of *frigidarium* R6 with addition of R6b, and addition of avant-corps and engaged columns in façade of pools R6a and R6b
- New rooms: R2, latrine R5, *caldarium* R13
- Addition of water tank in R15

III: after the 2nd cent. AD (material in stratigraphic context)

- Abandon of *caldarium* R13 for stability reasons, and construction of new *caldarium* R7
- Modification of R12 into a *piscina calida*
- Redecoration of pool R6a
- Enlargement of water tank in R15

5.2 – Unknown

6 – Description of the remains and identification of rooms

6.1 – The baths occupy the central part of an *insula*, stretching between the two *cardines* to the E and W; they originally extended over the *cardo* to the W and connected the baths to remains in the W *insula*, as visible in 20th cent. aerial pictures, but these remains were removed to return the road to its original aspect.

Nielsen connected the baths to a porticoed area directly to the N (R1), which she interpreted as a *palaestra*, and to a large pool (*natatio*) further N in the *insula*. The bath building, *palaestra* and *natatio* may have been connected with each other, as suggested by the presence of a colonnade along the W wall of *palaestra* R1, starting from the N wall of R2 and leading northwards into a corridor that eventually led to the *natatio*.

The original entrance to the baths is not known since the rooms on the W *cardo* were destroyed. The entrance now takes place via **R2**, a small rectangular room (4.10 x 4.65 m) created in phase II in the NW corner of the baths. R2 opened to the N into a porticoed area **R1**, to the E into latrines **R5** (3.50 x 1.80 m, added in phase II), and to the S into R3. **R3** now measures 10.60 x 5.30 m, but 20th cent. aerial pictures show that it originally extended further W. R3 led to the S into a porticoed area R4 (threshold made of a travertine slab with holes for door hinges), and to the E into R6. **R6**: rectangular room (9.40 x 4.90 m) oriented N–S. Black and white mosaic floor, marble wall veneer. R6 was equipped with a large rectangular pool to the S, **R6a**, 6.10 x 4.90 m, accessed via three steps covered in marble. The pool was lined with two layers of *cocciopesto*, then veneered with marble slabs. R6 modified in phase II, with the addition against the N wall of four projecting brick elements with semi-columns; on the upper step of the S pool, two semi-columns were added against the E and W walls, and two columns in between. The N wall of R6 was also pierced in phase II to lead into **R6b**, a newly added pool with segmental N wall, 4.20 x 3.20 m, accessible via three steps. Marble veneer on walls and floors. R6 opened to the E into **R11**, a 6.60 x 3.30 m heated room, oriented N–S, directly heated from the S. R11 led into R12 to the E and R9 to the N. **R12** was, in its latest state (phase III), a 9.30 x 5.20 m, 1 m deep pool heated from the S, lined with *cocciopesto* and accessible via five steps. A 0.40 m wide bench ran along the N and part of the W wall. Originally (phases I–II), R12 was a shorter heated room (ca. 6.70 m N–S), without heated pool; it was extended southwards in phase III when the pool was built. R12 led, in phase II, into R13 to the E. **R13**, a 8 x 7.60 m room heated from the E, equipped with a semi-circular apse on the N wall (diam. 1.80 m) and a rectangular recess on the S side, 5.60 x 2.30 m, probably fitted with a pool and

heated directly from the SE. Modifications during the lifetime of R13: addition of two buttresses in NE and SE corners, opening of a door or a window in the S wall of pool R13a.

From R11, a second passage towards the N led into **R9**, a small 3.20 x 3.20 m room, indirectly heated. R9 led to the E in **R10**, 5.20 x 3.30 m and oriented E–W, directly heated from the E. Two passages were opened in phase III in the N walls of R9 and R10 to access the newly built **R7**, a 9.60 x 5.80 m room, N–S oriented, heated from the NE and equipped with a semi-circular niche in the E wall, fitted with a pool **R7b** veneered with marble slabs and directly heated from the E. R7 probably also had a rectangular pool along the N wall, **R7a**, as suggested by visible remains in the room of what could be the parapet wall separating the room from the pool.

R4, R8, R14 and R15 were four service areas along the S and E parts of the baths, from which the *prae furnia* were operated. A large water tank, 16.60 x 3.10 m, was added in R15 along the E *cardo*; it was built in at least two phases, probably in phases II and III. **R16** was a latrine in the NE corner of the baths.

6.2 – I: linear plan, retrograde path with bifurcation: apodyterium R3 – frigidarium R6 with pool R6a – tepidarium R11, from which either a) heated room R9 and sweat-bath R10, or b) caldarium R12. **II:** same path, with caldarium moved to R13 instead of R12, which became another heated room. **III:** identical path until R11. Possibility to use piscina calida R12, or to enter R9, from where a circular path started with R7 and R10. Return via R9 and R11 to frigidarium R6.

7 – Construction techniques and materials

7.1 – Tiles in R16. **III:** cocciopesto in R12.

7.2 – Ca. 0.60 m thick walls in concrete, four facing techniques:

- irregular facing made of roughly hewn limestone blocks, bound with a grey mortar with small inclusions: R2, R3, R6, R6a, R9, R10, R11, R12
- panels of roughly hewn limestone blocks framed by courses and quoins of bricks; grey friable mortar with large inclusions: R13
- alternate courses of bricks and roughly hewn limestone blocks, bound in grey mortar: R6b
- alternate courses of bricks (four courses) and squared limestone blocks: R7

The hypocausts in R9, R10, R13, and partly in R7, were faced in courses of tiles and bricks

7.3 – No information available

8 – Heating devices

8.1 – Nine *prae furnia* over the lifetime of the baths. **I:** *prae furnium* A in R4 heated R11, *prae furnium* C in R14 heating R10, and possibly a *prae furnium* B in R4 heating R12, since it was the largest heated room of phase I; since R12 was extended southwards in phase III, all traces of possible *prae furnium* B have disappeared. **II:** addition of *prae furnia* D and E in R15, heating R13a and R13, respectively. **III:** decommissioning of R13, leading to the abandonment of

praefurnia D and E; S extension of R12 now turned into a *piscina calida*, obliterating *praefurnium* B and leading to the creation of *praefurnium* F; construction of R7, with *praefurnia* G, H and I in R1 and R8, heating R7b, R7 and R7a, respectively.

Praefurnia A, E, F, and G were set at a lower level than the circulation floor, and surrounded by low walls. The *praefurnia* were made with brick jambs and lintels in refractory stone (A, C, G and H); some were fitted with outer longitudinal extensions (A, C, I).

Praefurnia I and F were probably equipped with boilers, possibly with *testudines*. *Praefurnium* E was covered by a brick arch, the intrados of which was cut, possibly to fit a *testudo*. *Praefurnium* G was probably equipped with a *testudo*, as the cut in the pool's floor would suggest.

8.2 – *Areae* made with mixed materials: *bipedales* in R7, tiles and *bipedales* in R10, limestone slabs in R9 and R11, tiles, *bipedales* and *pedales* in R13. *Pilae* made in *bessales* (0.70 m high in R13). In R13, the *pilae* supported a *suspensura* of *bipedales* (0.07 m thick) and a 0.07 m thick layer of *cocciopesto*.

Wall heating of *tubuli* (*in situ* in R12).

Hypocaust connections: **I**: connection R9–R11, three connections R9–R10. **II**: three connections R12–R13. **III**: connections R12–R13 blocked; new connections R9–R7 and R10–R7.

9 – Water management

9.1 – See [Ca.05]. Water tank built in R15 in phase II, enlarged in phase III. Floored in *cocciopesto*.

9.2 – In phase III, R6a supplied via a channel in tiles and *cocciopesto* coming from the S of the *insula*, entering the pool via a square opening in the S wall.

9.3 – Water-disposal channel along E side of R3, with side walls lined in *cocciopesto* and covered by travertine slabs. **II**: terracotta tube in NE part of R6b. **III**: Lead *fistula* in SE corner of pool R12, direction unknown. Lead *fistula* in SE corner of R6a.

10 – Decoration and material

10.1 – Mosaic floor in R6 (black and white) and R13. Marble veneer on walls and floor of R6b, on walls and steps of R6a, on walls of R6 (traces of attachments in the walls). Plaster on walls of R3.

10.2 – No information available

11 – Bibliography

Archival material: POCOBELLI 2009 (unpublished report from the Cooperativa Archeologia)
NIELSEN 1993, cat. 50

12 – Illustrations

GRABNER 2001a, fig. 2 (plan); pictures and plans in the archival material from the Cooperativa Archeologia

Paestum, Large Baths, phase I

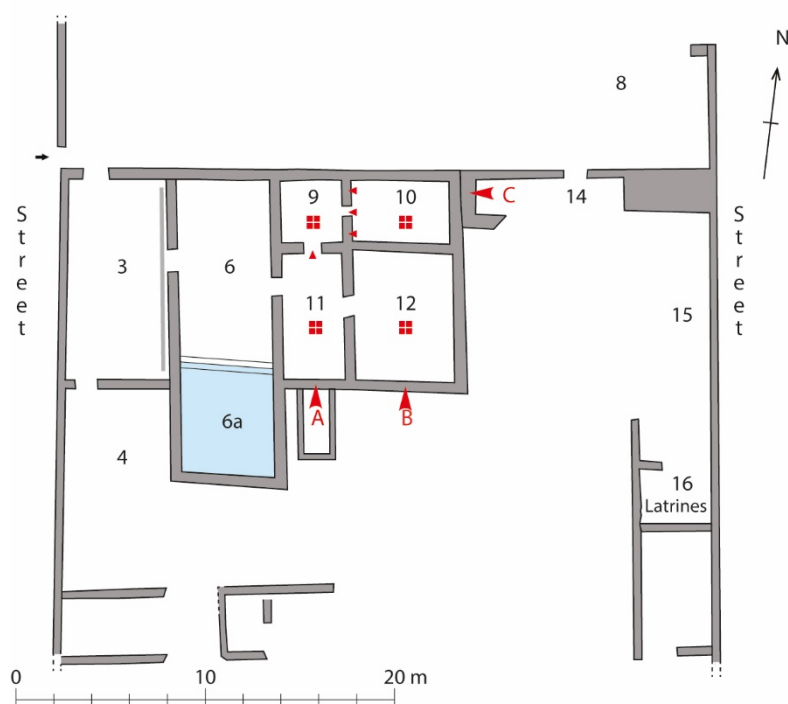


Figure 48: Plan of the Large Baths of *Paestum* in phase I (after POCOBELLI 2009).

Paestum, Large Baths, phase II

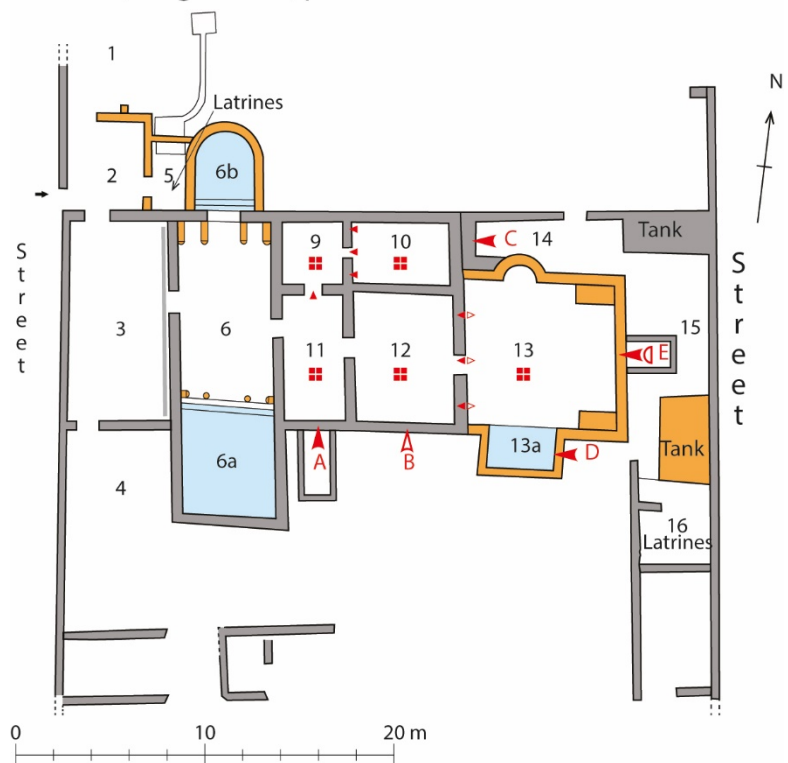


Figure 49: Plan of the Large Baths of *Paestum* in phase II (after POCOBELLI 2009).

Paestum, Large Baths, phase III

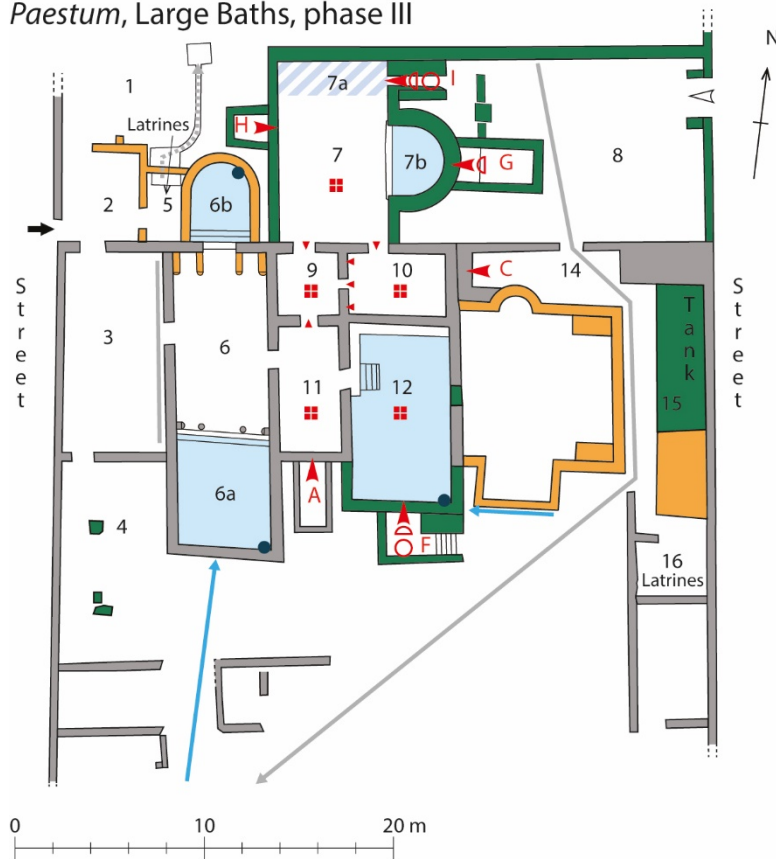


Figure 50: Plan of the Large Baths of *Paestum* in phase III (after POCOBELLI 2009).

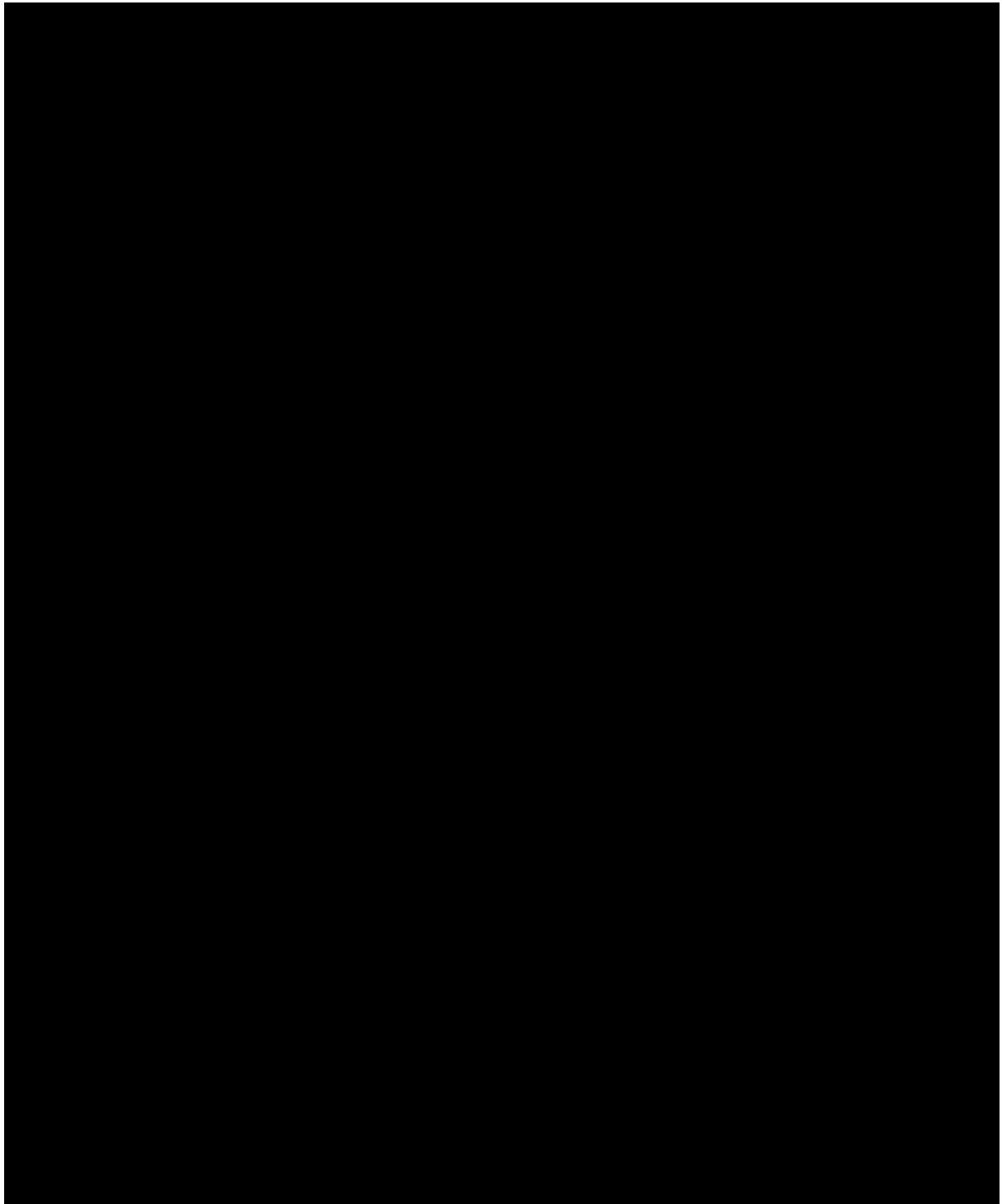


Figure 51A–D: Large Baths of *Paestum*. **A:** aerial view of the baths, with the possibly connected *natatio* and *palaestra* to the left. N to the L. **B:** 20th cent. aerial view; visible are the original extent of R3 and the structures on the W *cardo*. N on top. **C:** R3, from S. **D:** R16, from N (POCOBELLI 2009).

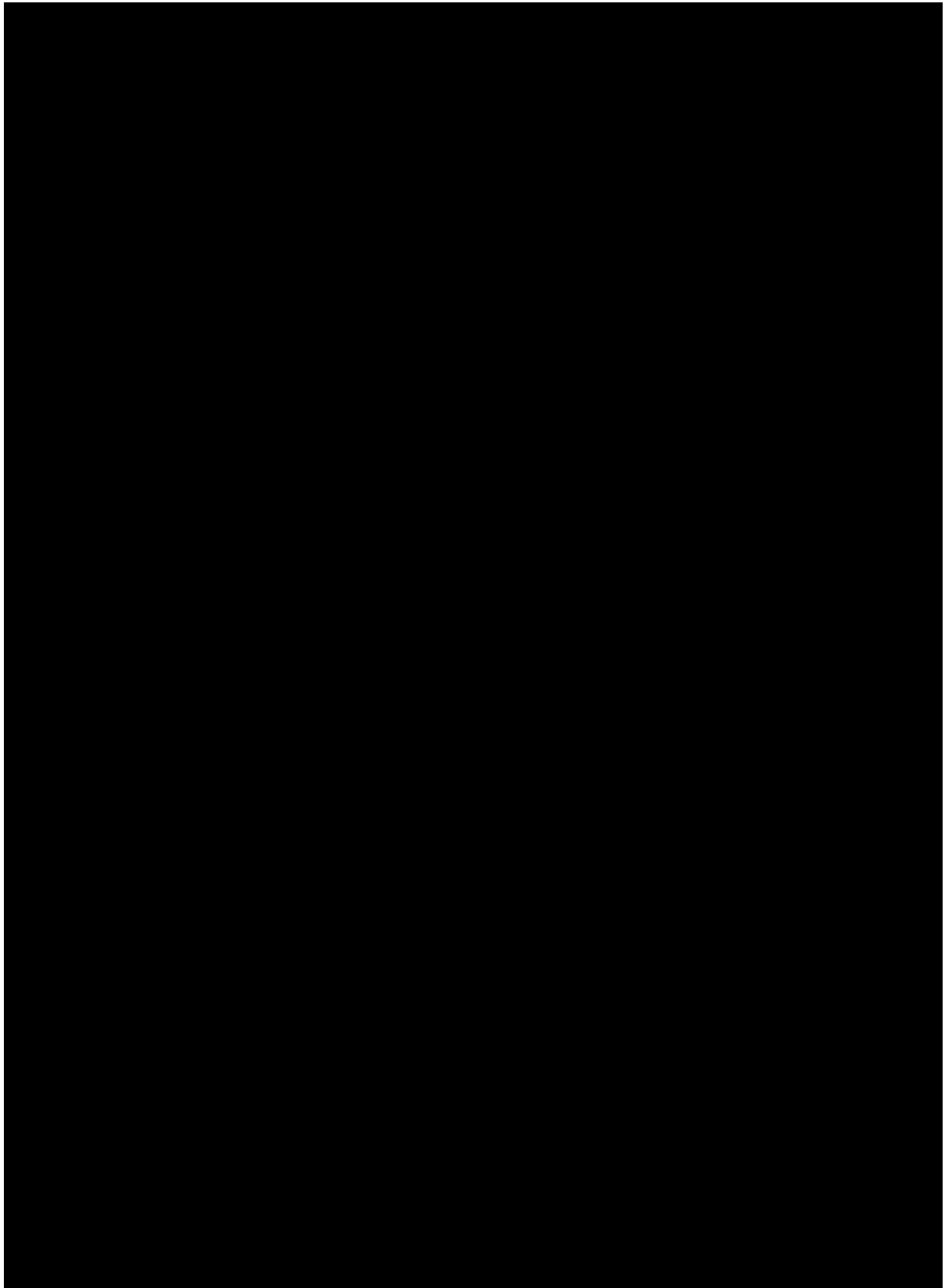


Figure 52A–G: Large Baths of *Paestum*. **A:** R6 and R6a, from S. **B:** R6b, from S. **C:** N side of R6, from S. **D:** R6a, from N. **E:** R8, with R7 in the background, from SE. **F:** R11, from N. **G:** R9, from NW (POCOBELLI 2009).

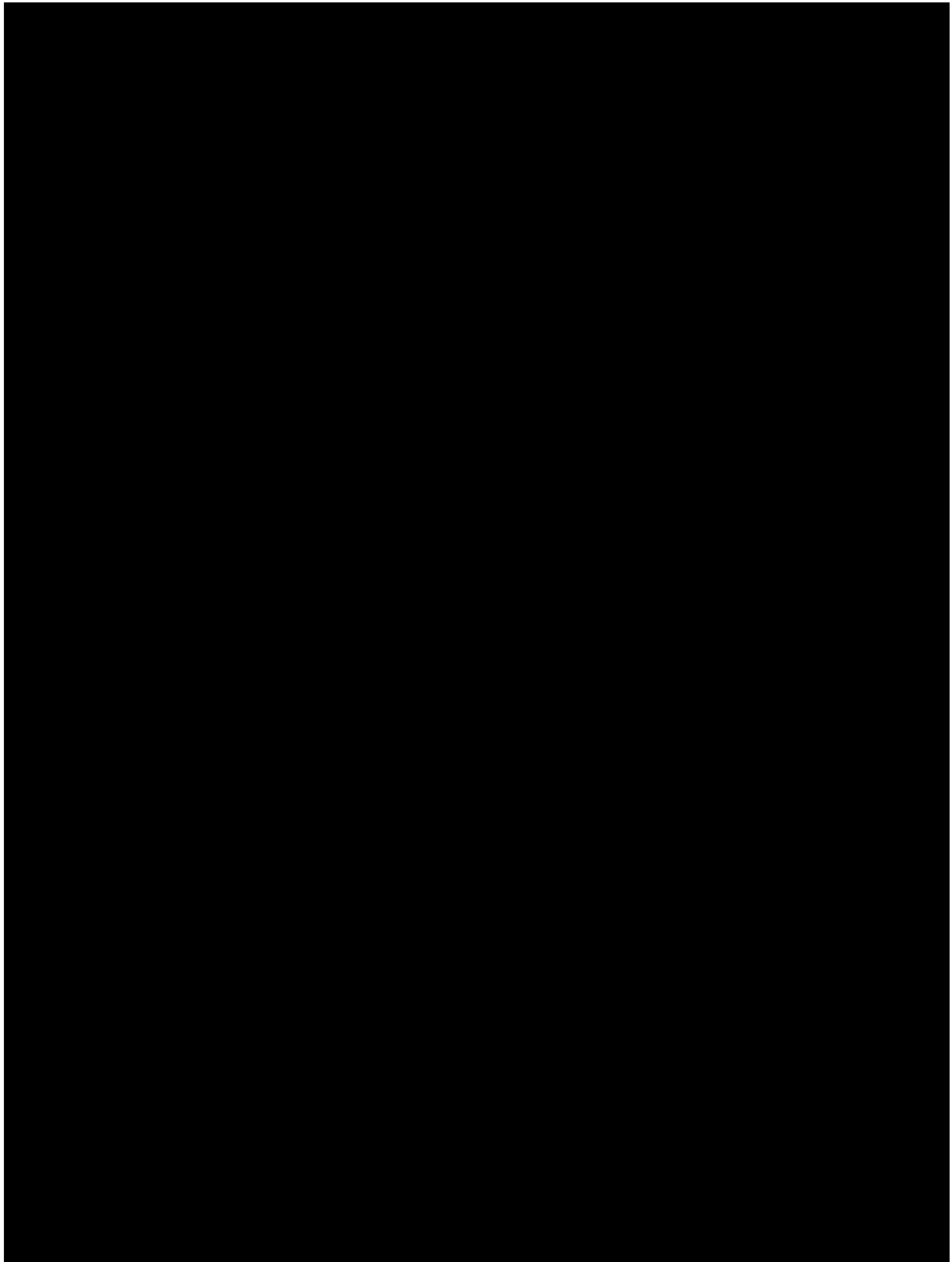


Figure 53A–F: Large Baths of *Paestum*. **A:** R13, from E. **B:** SE corner of R13, from W. **C:** R7, from N. **D:** R7b, from N. **E:** R12, from S. Heating systems: **F:** detail of hypocaust in R13 (POCOBELLI 2009).

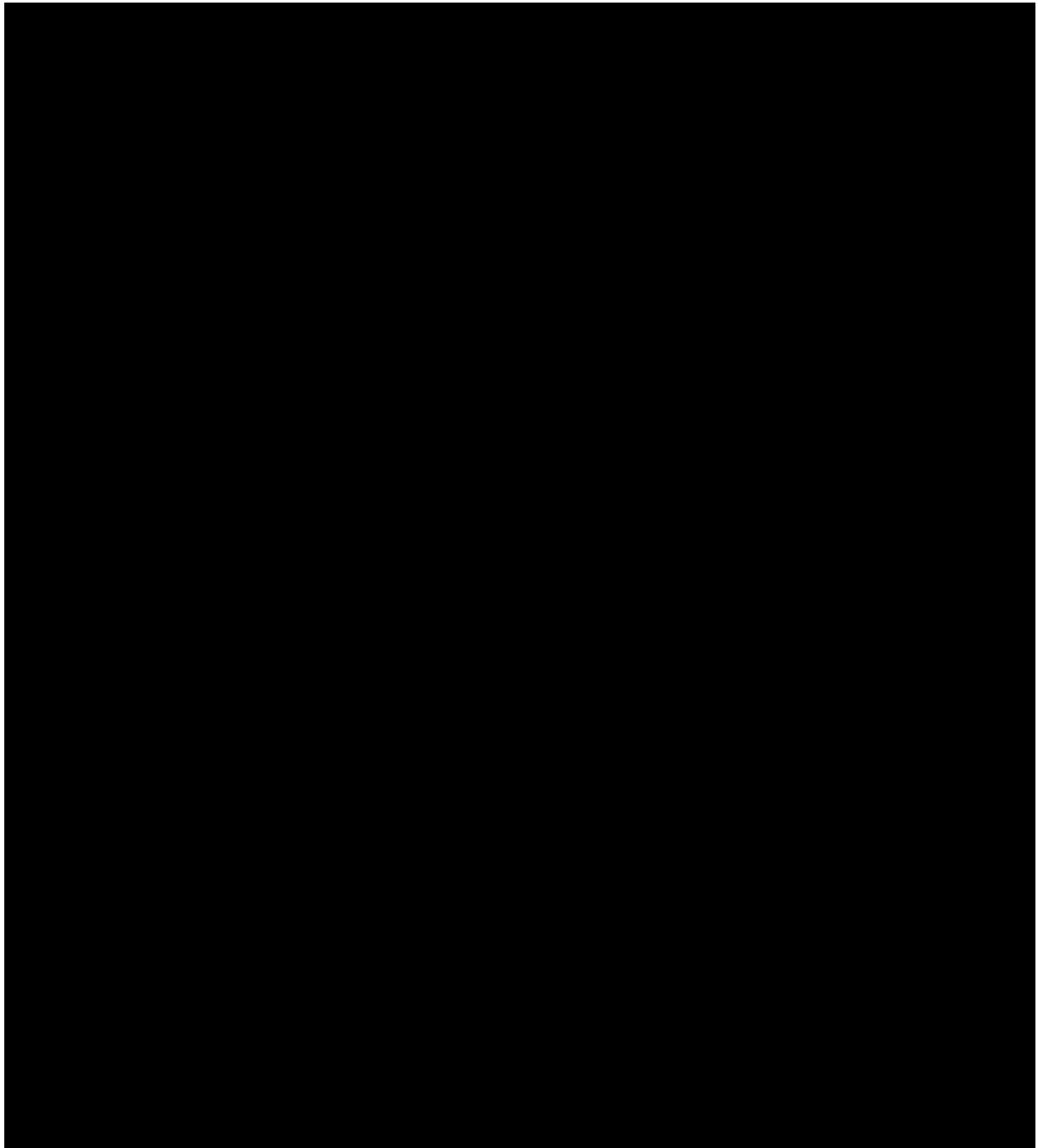


Figure 54A–F: Large Baths of *Paestum*. Heating systems: **A–B**: *praefurnium* G, from W, then E. **C**: *praefurnium* H, from W. **D**: *praefurnium* I, from E. Water management: **E**: water tank in R15, from N. **F**: water supply (top) and disposal (bottom) in R6a, from N (POCOBELLI 2009).

1 – Location

1.1 – Città Metropolitana di Napoli, Comune di Pozzuoli

1.2 – 14.12187 E, 40.82796 N; 25-35 m asl

1.3 – On the western outskirts of town, W of the Flavian amphitheatre, on a slope overlooking the sea to the S, in an area with remains of mixed building types (a temple, a nymphaeum, residential buildings, tabernae). Nowadays between Via Terracina to the N and Via Pergolesi to the S.

2 – Preservation

2.1 – Limited in plan, with only R2 preserved up to 15 m, along with some service areas to the SW, in Via Pergolesi. The lower register of the walls of R1, R2 and R3 is still below ground.

2.2 – On private grounds

3 – Research

3.1 – Known at least from 16th cent. (drawing by H. van Cleve, reproduced in SOMMELLA 1978, fig. 41) and long identified as a temple to Neptune. Brief notices by Jorio and Dubois; Jorio mentioned an excavation by Mons. Rosini, bishop of Pozzuoli in the 1st half of the 19th cent., who reached the floor level of the baths and during which he discovered “*i ruderi di una stanza circolare, che ancora conservava i segni di essere stata rivestita di eccellenti marmi elegantemente travagliati [...] le pareti della detta stanza rotonda esser dovevano decorate con la medesima pasta vitrea a diversi colori*”, as well as a statue of Venus Anadyomene and a fragmentary inscription. A heated room was discovered in the late 19th cent. AD.

The baths were investigated in the 1970s and an architectural survey conducted. Limited excavations at the end of the 1990s, in the area of the apse in R4. Restorations are not mentioned in the literature, but the walls have been visibly restored and/or stabilized using metal clamps, as well as some of the original materials.

3.2 – Visited in March 2016. The crest of the walls was covered with vegetation at the time of the visit.

4 – Dimensions

Total estimate ca. 7,000 m²

R2: 70 x 16.50 m, so at least 1,150 m²

R4: 14.50 x 9.40 m, so at least 136 m²

5 – Chronology and phasing

5.1 – Phasing according to SOMMELLA 1978, 29, 32:

I: 1st half of 2nd cent. AD (CT: facing combining brick courses and reticulate), possibly Hadrianic (brickstamps)

II: late 2nd-early 3rd cent. AD (CT: think red bricks characteristic of the Severan period)

- Walls partly clad with brick courses, animated by semi-circular and rectangular niches

III: last phase, not precisely dated (CT: facing combining courses of brick and stone blocks)

Phasing according to DEMMA 2006, 478-479:

I: post Augustan (brick stamp C) but pre-Hadrianic

II: Hadrianic or later (brick stamps).

- construction phase using *testaceum* and *reticulatum*
- addition of *reticulatum* walls around apse of R4

III: Severan (CT, U)

- cladding of walls with wall faced in brick courses
- possibly contemporarily: Addition of pilasters against outer wall of *caldarium* apse

IV: 4th-5th cent. AD (S, CT)

- modifications and restorations
- mosaic floor in S area

5.2 – Unknown

6 – Description of the remains and identification of rooms

6.1 – What remains nowadays of this impressive bath complex is mostly two huge walls on Via Terracina, oriented E-W and standing for ca. 15 m. Three levels have been identified: a lower one with the *praefurnia* found along Via Pergolesi, an intermediate one, still mostly below ground, and the upper one visible today. It has been suggested that a circular room identified as a *nymphaeum* and located NE of the structure, the so-called ‘Tempio di Diana’, could have been part of the bath building; its orientation is however slightly different than that of the main fabric of the structure.

R1: dimensions not preserved, but at least 70 m long (S wall). Stands at a height of 15 m above ground (with several meters still below ground) and presents a very animated façade subdivided in three parts, two recessed extremities and a central part. The central part had several horizontal rows of niches, alternatively rectangular and semi-circular; based on a 16th cent. drawing, the middle of this central part was occupied by a large opening towards room F, now below the floor level. Many alterations are visible in the façade, the main one being the cladding of the central part with an additional wall faced in brick courses, when the extremities were faced in a mix of reticulate and brick courses. Some of the niches of the central section were blocked up with courses of alternating bricks and tuff blocks, and consolidations made of small reticulate blocks disposed haphazardly are visible in several points.

R2: elongated rectangular room, 70 m long, 16.50 m wide. The variations in the springing of the vaults along the N wall indicates the presence of five spaces along an E-W axis: a central

space, covered with a groin vault, which gave access to R3 to the S; on either side, two barrel-vaulted spaces with coffers and decorated with mosaics, and two lateral spaces originally covered by groin vaults and lit by large windows pierced in the N and S walls. The E and W extremities of room 2 were closed by apses.

R3: little remains of this room, mostly overbuilt; it is in axis with R2 and was probably accessed from it.

R4: heated room, S of R3, accessed from the latter, on central axis. Not much preserved, overbuilt. In original phase, apse was realized in bricks with small pilasters in the corners where the pipes for water drainage were also located. On the S side, next to the apse, must have been an open courtyard on which opened a portico with pilasters or columns (foundation blocks recovered, in piperno blocks) linked with small brick walls. In a successive phase, the apse's wall was doubled and clad by a brick structure.

Service areas: inside n°102 in Via Pergolesi are visible the remains of some *praeefurnia*; they are located at a level significantly below that of the remains in *via Terracina*. The walls are faced in bricks with occasional use of reticulate.

6.2 – R2 is traditionally interpreted as a *frigidarium* by comparison with the imperial baths of Rome. This bath building has been identified as representative of the 'imperial type' following models from Rome, based on its scale, the succession of *frigidarium* (R2) – *tepidarium* (R3) – *caldarium* (R4) from N to S, and the possible symmetrical disposition of the rooms on either side of this axis. R1 was further identified as a *natatio*, probably based on its position next to the *frigidarium* and on the animation of the S façade, in all likelihood by comparison with the baths of Diocletian in Rome.

7 – Construction techniques and materials

7.1 – No information available

7.2 – Three types of wall facings were used in the structure, associated by Sommella to three different phases: **I:** combination of reticulate and brick courses; **II:** brick facing, **III:** alternance of courses of bricks and small tuff blocks.

Reticulate blocks are used haphazardly in modern(?) consolidations of the S façade of room N. The walls of the service areas are faced in bricks with occasional use of reticulate.

7.3 – R1 subdivided in five spaces with different vaulting solutions: central cross vault, flanked by barrel vaults, themselves flanked by other cross vaults.

8 – Heating devices

8.1 – Mention of the discovery of *praeefurnia* in a basement in Via Pergolesi.

8.2 – Mention of wall heating system in one of the heated rooms.

9 – Water management

9.1 – *Puteoli* was supplied by the *Aqua Augusta*/Serino Aqueduct since the Augustan period.

A reservoir is located NW of the baths at a higher level, but no indication of any connection with the baths. The largest known reservoir in the city is the 'Piscina Cardito' but its location SE of the centre makes it unlikely that it supplied the bath building; there may have been larger reservoirs in town since, for instance a hypothetical reservoir located at the arrival point of the aqueduct in town.

Paoli's plan indicates the presence of the remains of an 'aqueduct', in the SW part of the baths, with an E-W leg followed by a N-S leg heading in the direction of the service areas/R2.

9.2 – Dubois mentioned the presence of perpendicular(?) water pipes in the walls.

9.3 – No information available

10 – Decoration and material

10.1 – Very little of the decoration remains. Mention of mosaic floors and marble veneer in S part of the baths (R4). Some of the stuccoed coffers of the barrel vaults in R2 are still visible, and are clearly depicted on Paoli's drawing. A 'circular room' identified during the early 18th cent. excavation was apparently veneered in marble, and the (upper part of the?) walls were covered in polychrome glass paste *tesserae*.

10.2 – Found in 1819: a statue of Venus Anadyomene in a heated circular room (R4?); a fragmentary inscription (unpublished); marble slabs; glass paste *tesserae*.

Three brickstamps (NSc 1886; DEMMA 2006, 479–482):

- *CIL XV.555: ex figlinis Domit. Domitian. / C. Galvisi Mnester / Kalbeic.*
- *CIL XV.693: ex officina Valeriaes Nices / ex prae. Plot. Aug. / dol.*
Found close to Via Pergolesi before 1886. On tiles. Hadrianic
- **Unreferenced:** *Gami . Urt / A[---]*
On a circular brick from a *pila*

11 – Bibliography

DUBOIS 1907; SOMMELLA 1978, 29–32; VALERIO & ZUCCO 1980–1981; JOHANNOWSKY 1993, 105–107; DEMMA 2006

12 – Illustrations

SOMMELLA 1978, fig. 41–50 (plans and pictures); VALERIO & ZUCCO 1980–1981, fig. p. 193–199 (plans and sections); JOHANNOWSKY 1993, fig. p. 106, 257–261; DEMMA 2006, fig. 2–4 (plans), 5–7 (pictures)

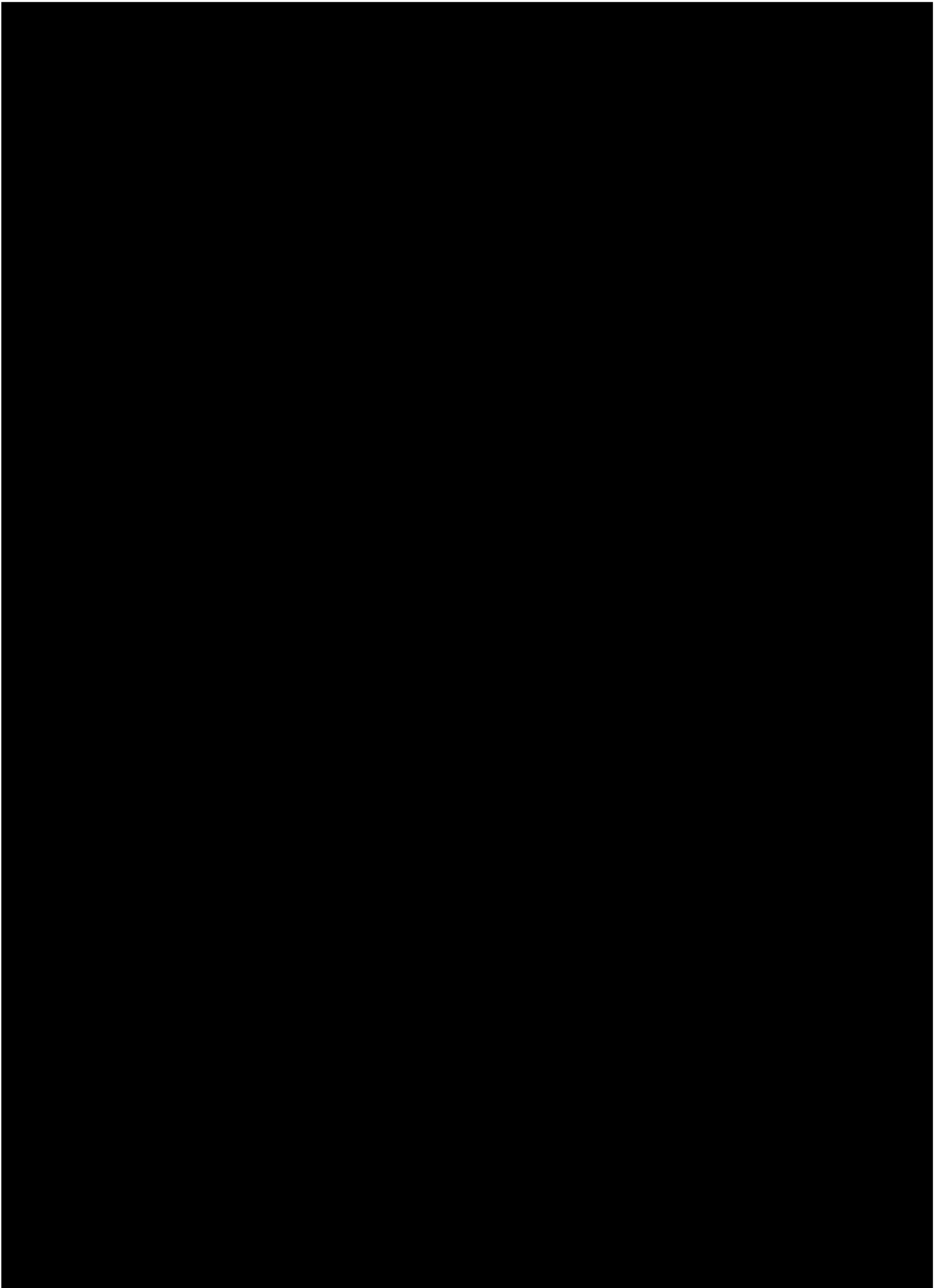


Figure 55: Plan of the baths of *Puteoli* (JOHANNOWSKY 1993, fig. p. 106, modified by author).

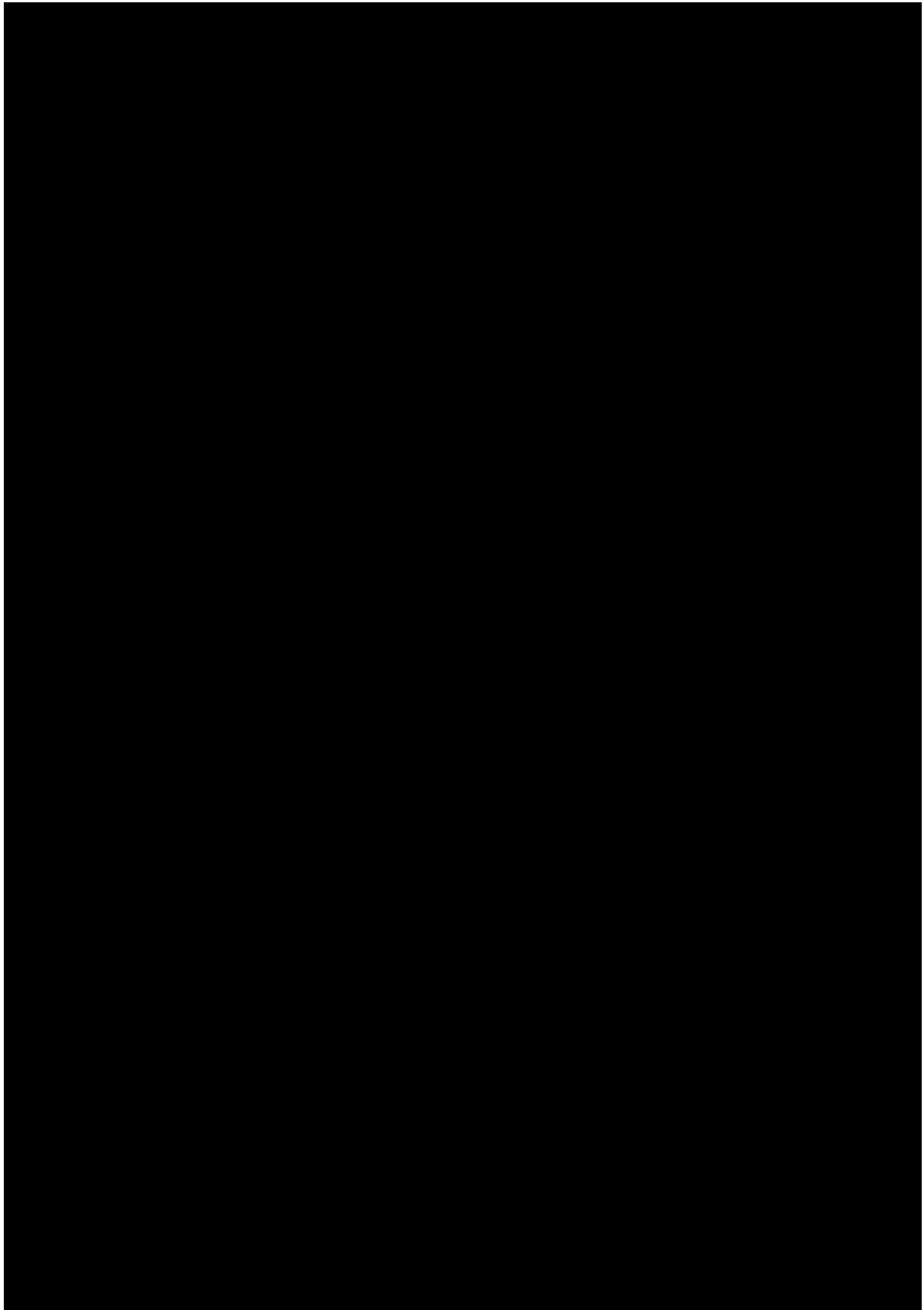


Figure 56: Baths of *Puteoli*. **T**: R2, from SW. Note the facing of phase I (acc. to Sommella). **B**: detail of the facing of phase II (acc. to Sommella) on the S wall of R1 (JOHANNOWSKY 1993, fig. p. 258–259).

1 – Location

1.1 – Province of Benevento, Comune of San Salvatore Telesino

1.2 – 14.506521 E, 41.223172 N

1.3 – In the urban centre, SE of the forum, SW of the theatre

2 – Preservation

2.1 – The eastern part of the building is lost under a modern road. Some rooms have not been fully excavated (R1b, R1c, R2, R3)

2.2 – On private land

3 – Research

3.1 – Discovered 1952, brief excavation 1950s (Soprintendenza alle antichità di Napoli?), further research since 2016 by the Telesia Archaeological Project (dir. L. Pedroni)

3.2 – Not visited

4 – Dimensions

> 1000 m² (probably extended further W). Heated section: ca. 335 m²

5 – Chronology and phasing

5.1 – I: 1st–2nd cent. AD (CTM: QUILICI 1966) or late 1st–1st half of 2nd cent. AD (BARRANCO SERRANO & PEDRONI 2019: CTM, *pilae* shape,³ use of *tubuli*, decoration)

II: late 3rd–early 4th cent. AD (SIMONELLI & BALASCO 2005, 257, note 33) or mid 4th cent. AD? (post AD 346 earthquake for BARRANCO SERRANO & PEDRONI 2019)

BARRANCO SERRANO & PEDRONI 2019 suggested that some of the modifications of phase II (movement of the fountain from R1a further to the E) could be due to issues in the water supply of the baths, in which case the transformation of the *labrum* in *caldarium* R7 into an *alveus* could not belong to the same phase. An intermediary phase for this transformation, prior to the 4th cent. AD, is therefore a possibility.

5.2 – Mid 4th cent. AD (SIMONELLI & BALASCO 2005, 257, note 33: following the AD 346 earthquake) or late 4th cent. AD? (BARRANCO SERRANO & PEDRONI 2019, following the AD 375 earthquake)

³ The use of the shape of the *pilae* as chronological marker is a proposition of GRACIANI GARCÍA 2011, 634–636, and is opposed in chapter V.

6 – Description of the remains and identification of rooms

6.1 – R1: 14 x 14 m room with two opposed pools (R1b, R1c). The square pool to the north (**R1b**), ca 6 x 5.50 m, was accessible via three steps, the passage being monumentalized by two brick columns. A ledge went around the three other sides of the pool, and rectangular niches were located in the W, N and E walls. To the south was a smaller, rectangular pool (**R1c**), not entirely excavated. In a later phase, the opening of an entrance in the S wall of the baths, in R3, seems to have also destroyed part of the SE corner of pool R1c, it is therefore likely that the pool was decommissioned in that same stage. At the centre of R1 was a shallow basin (**R1a**), compared to an *impluvium*, framed by four brick pilasters; brick semi-columns were set against the sides of pilasters turned towards the pool. The central basin was probably open to the sky.⁴ R1 gave access to R2, R3, R4 and R5. **R2:** unexcavated. Accessible from R1. **R3:** small rectangular room, ca. 2.5 x 6 m max. Accessible from R1. Initially, gave access to R6 but the passage between the two rooms was blocked at a later stage. Initially, the room was indirectly heated from the hypocaust of R6. At a later stage, the S wall of the room was pierced to create an opening, turning the room into an entranceway. **R4:** not entirely excavated. Service area for the working of the furnaces. Accessible from R1 and probably also from the outside via a passage in the N wall. To the W of that space were three parallel elongated rooms, barrel-vaulted, faced in *opus incertum* and ca. 1.60 m high. Interpreted as water tanks by BARRANCO SERRANO & PEDRONI 2019, but their limited height would not allow the water to be high enough to supply the boilers that filled the N pool of R7, located at a higher level since set on hypocaust. They could still be water tanks if there was another tank at a higher level, and if water was raised from those elongated spaces to that latter tank, but this arrangement would require a water-lifting device and, above all, space to accommodate such device; no evidence of such was found yet. A more likely interpretation, considering their position close to the furnaces, is that of fuel storage space. **R5–R6:** 12 x 7 m and 6 x 7 m heated rooms. R5 was accessible from R1 via a door covered by a brick segmental arch, and gives access to R6 and R7. R6 was accessible from R3 and R5; in a later phase, the passage to R3 was blocked. **R7:** 6 x 15 m room, mostly destroyed by the modern road. The S wall of the room was apsidal and possibly fitted with a *labrum*; the northern end is lost but probably contained a hot water pool. In a later phase, the S apse was closed off and probably turned into a pool. **R8:** 4 x 4 m room, unconnected to the baths, not fully excavated. Possibly a *taberna*

6.2 – R1 was a *frigidarium* with two cold-water immersion pools (R1b, R1c). The function of R2 is unknown, but it could have been a changing room, unless such room is to be looked for to the W of *frigidarium* R1. R3 in phase I has been interpreted as a *destrictarium* by BARRANCO SERRANO & PEDRONI 2019 but its small dimensions and indirect heating suggest it could (also?) have been a heat trap; in phase II, it was turned into an entrance. R5 and R6 have been interpreted as two *tepidaria*; it is possible that one of them functioned as a sweat-bath, but the lack of information on the presence of *praeurnia* prevents us to confirm this. One of them could

⁴ This arrangement is comparable to the *atrium*/vestibule of the Suburban Baths of *Herculaneum*.

also have had the function of *destrictarium*. R7 was a *caldarium* with its hot-water immersion pool R7a, possibly a *labrum* in phase I, turned into a second immersion pool R7b in phase II.

The bathing circuits were:

I: entrance from the W – *frigidarium* R1 – *heat trap*? R3 – *tepidarium*? R6 – *tepidarium*? R5 – *caldarium* R7 and back, with the possibility to exit from R5 into R1

II: entrance from R3 – *frigidarium* R1 – *tepidarium* R5 – choice between *laconicum*? R6 and *caldarium* R7, then back to R1.

7 – Construction techniques and materials

7.1 – No information available

7.2 – Heated rooms R5, R6 and R7 were faced with brick courses, the non-heated rooms were faced in brick courses with reticulate panels.

7.3 – Groin vault in R1 (large fragment in the room, made of concrete faced with brick); barrel vaults in R5, R6 and R7. The three elongated spaces in the W part of R4 were barrel-vaulted.

8 – Heating devices

8.1 – R4 was a service area for the operation of the furnace heating R5; another furnace is probably to be reconstructed further E, to heat R7. It is possible that there was another furnace on the E or S wall of R7, and hypothetically one to heat R6.

No traces of boilers, but they were necessary to heat the water of the pool(s) of R7.

8.2 – R3, R5, R6 and R7 were heated. R3 was heated indirectly (at least in phase I), whereas the others were probably heated directly, and R7 certainly was.

Areae made of square bricks (probably *bipedales* instead of the *pedales* indicated in BARRANCO SERRANO & PEDRONI 2019). Ca. 0.60 m high *pilae* made of circular bricks with a diameter slightly inferior to one foot, and supporting *bipedales*. Wall heating with rectangular *tubuli*.

9 – Water management

9.1 – Town supplied by aqueduct entering city from the N. The baths could have used water from a large reservoir located along the city walls. Possible cistern under R1, collecting rainwater from *impluvium* R1a.

9.2 – **I:** R1, a groove in the floor of the *impluvium* R1a initially contained a *fistula*, suggesting a fountain was probably placed at the centre of the *impluvium*. **II:** traces of another *fistula* found to the E of the *impluvium* R1c, set on the floor and therefore belonging to a later phase; the *fistula* probably supplied another fountain raised on a circular base, traces of which (1 m diam.) are still visible on the floor (it is also possible that the *impluvium* fountain was moved into that new position at a later stage).

9.3 – No information available

10 – Decoration and material

10.1 – R1: polychrome *opus signinum* floor (insertions of terracotta, tuff and limestone fragments), and white mosaic around *impluvium* R1a. E wall with wall painting in phase I, replaced by marble veneer in phase II. Painted vault depicting blue hexagonal coffers framed in ochre. **R3:** white mosaic, replaced by marble slabs in phase II.

Numerous fragments (500+) of marble decoration found in the baths. Marble slabs used to veneer the walls of pool R1b (Greco scritto), the floors of pools and basins R1a, R1b, R1c (white marble, probably *Luni*), the brick pilasters and semi-columns in R1, and probably the walls of R1, R3 and pool R1c. The SW corner of the floor of *impluvium* R1a shows traces of restoration with marble fragments, some of which inscribed.

Marble fragments are mostly of Greco scritto (35%), white marbles (34%), cipollino and Proconnesian (10% each), and minor occurrences of verde antico, breccia garganica, pavonazzetto, for di pesco, giallo antico.

Initial wall decoration of R1 could have been panels with inscribed octagons with concave sides, comparable to those of the baths of *Teate Marrucinorum* (AGOSTINI, MARIOTTINI & ROMANO 2002, fig. 4).

10.2 – Two large inscribed stone blocks, not *in situ*, in R1: large limestone base, with erased inscription (*damnatio memoriae?*), and large limestone architrave fragment with moulding. Stucco relief depicting Theseus fighting the minotaur, which gave its name to the bath building. Now preserved in the *Museo provinciale del Sannio* in Benevento (Inv. no 37St. = 505). Dated to the Flavian period on stylistic grounds (MIELSCH 1975, 63, 147, K 56, pl. 56.2)

11 – Bibliography

QUILICI 1966, 98, 106 note 44; SIMONELLI & BALASCO 2005, 257, note 33; BARRANCO SERRANO & PEDRONI 2019

12 – Illustrations

BARRANCO SERRANO & PEDRONI 2019, fig. 1 (plan), 3 (city plan), 6–11, 13 (pictures)

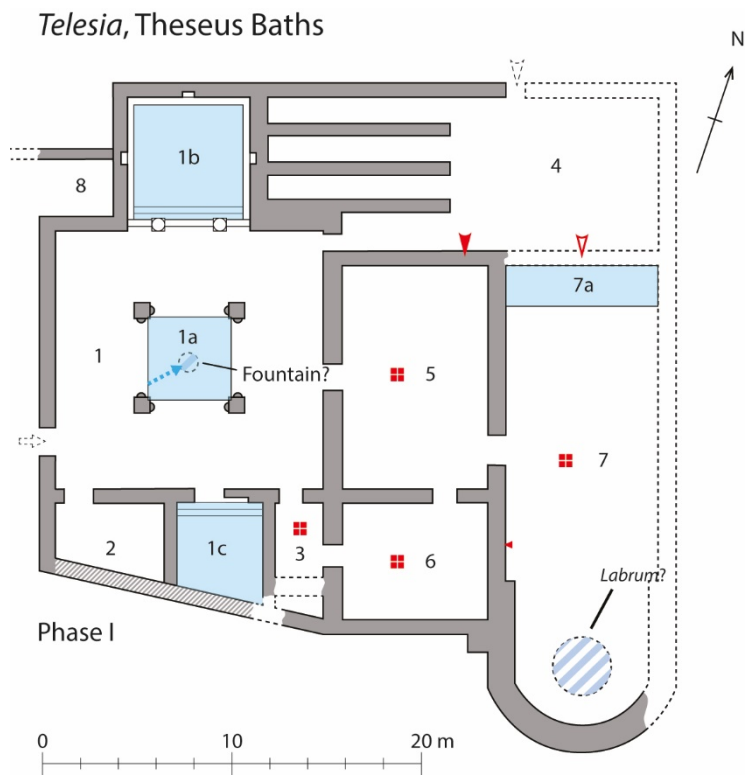


Figure 57: Plan of the Theseus Baths of *Telesia*, phase I (after BARRANCO SERRANO & PEDRONI 2019, fig. 1).

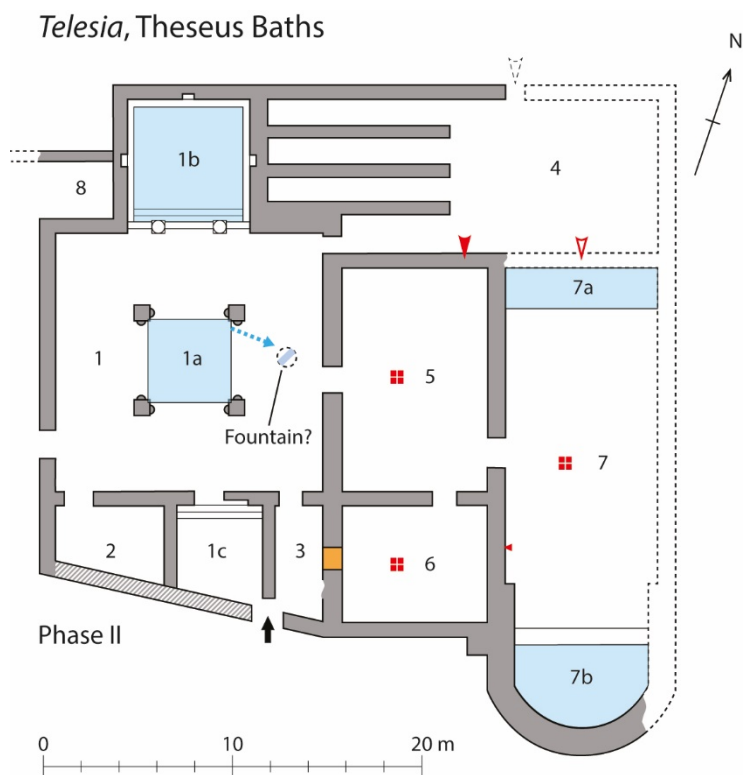


Figure 58: Plan of the Theseus Baths of *Telesia*, phase II (after BARRANCO SERRANO & PEDRONI 2019, fig. 1).

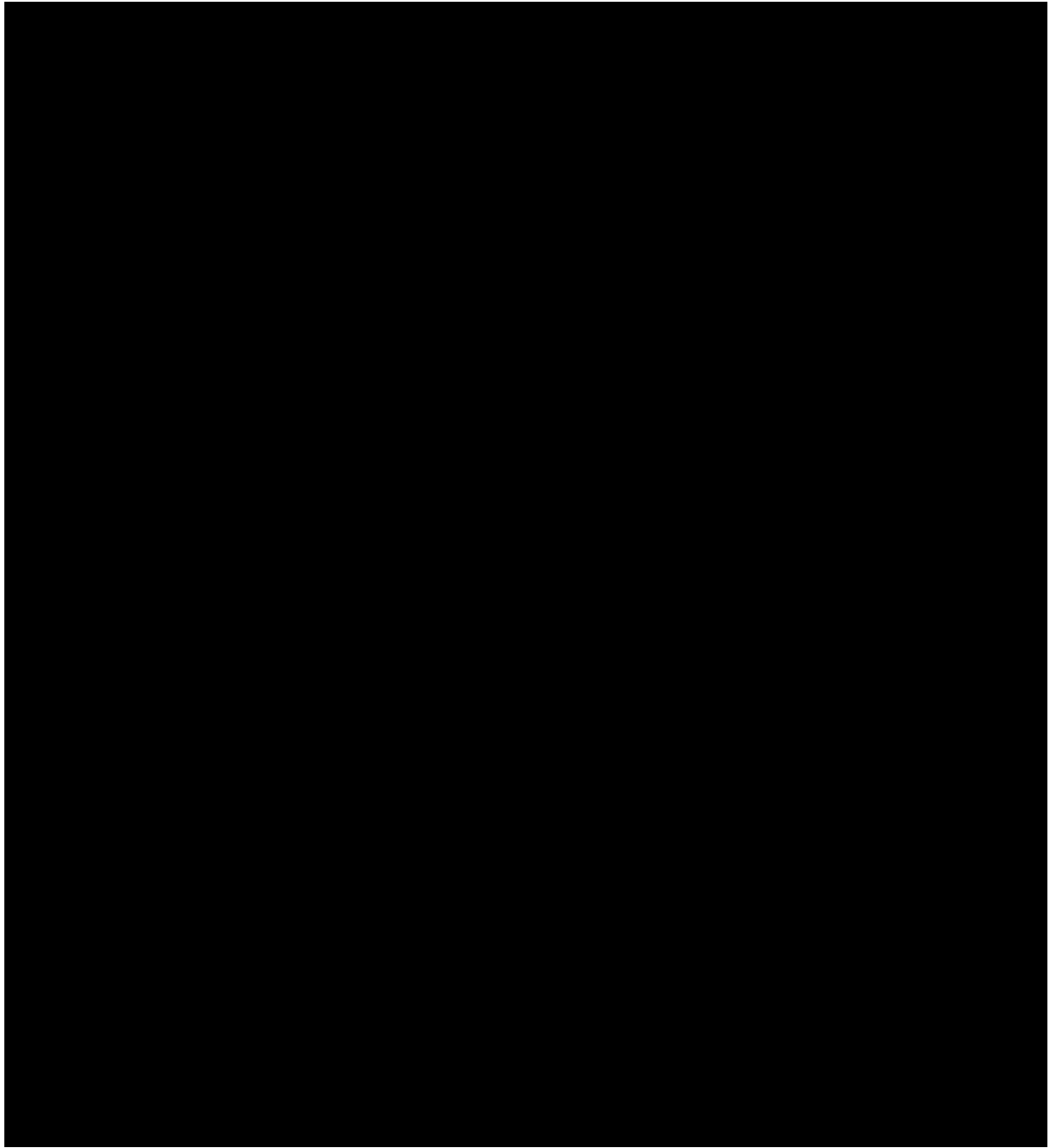


Figure 59A–F: Theseus Baths of *Telesia*. **A:** general aerial view. N to the left. **B:** R1, from SW. **C:** R1c, from W. **D:** R1b, from SE. **E:** R5, from S. **F:** R7b, from E (BARRANCO SERRANO & PEDRONI 2019, fig. 7–11, 13).

1 – Location

1.1 – Province of Salerno, Comune of Ascea

1.2 – 15.159366 E, 40.159560 N

1.3 – At the foot of the Acropolis hill, at a crossroads between the road leading down from the Acropolis and a road leading in the Quartiere Meridionale. The baths form the NE edge of the Quartiere Meridionale, which they overlook from a slightly raised position. Next to a large urban public well and to residential areas.

2 – Preservation

2.1 – Very good. Restored in early 1990s by Soprintendenza Archeologica di Salerno.

2.2 – Part of the Parco archeologico di Elea-Velia, open for visits

3 – Research

3.1 – Excavated 1959 (dir. P.C. Sestieri), then 1966 (M. Napoli). Surveyed (drawings, photographs) in 1975

3.2 – Visited in March 2016 and 2017

4 – Dimensions

1,100 m², of which heated sector (R6, R7, R8) ca. 200 m²

5 – Chronology and phasing

5.1 – **Pre-bathing phases:** an earlier building stood on the site, of which walls along the W side of the baths and under R4b remain, as well as a well accessible in R15; the building may have had a function connected with water (there was also a large well to the NW). A terracing wall bound the plot of land to the N.

I: late Flavian-early 2nd cent. AD (T, S)

Ia: undated modifications, not necessarily contemporaneous

- Raising of window sills in R4b
- Change of wall heating system for *tubuli*
- Addition of four stone blocks in R6

II: late 4th cent.

- Transformations in *caldarium* R8: pools R8a and R8b modified for individual immersion in small basins, addition of benches along the walls of R8; R8b possibly no longer heated

- After, passage R7-R8 blocked
- Narrowing down of opening towards R4a
- Narrowing down of passage R1–R2

5.2 – Not before 5th cent AD. Blocking of R1 and of passage R1–R2. Furnace in R4c.

6 – Description of the remains and identification of rooms

6.1 – Service areas to the N with water tank, heated rooms to the N, entrance from the E, R1, via a triangular-shaped space connecting with the road.

R1: 8.7 x 4.40 m entranceway. The passage from the street was covered by a large arch supporting an upper floor. Passage R1–R2 narrowed down in phase II by two brick piers; later entirely blocked.

R1 led into vestibule **R2**, 9 x 9.75 m, which communicated with R4 to the W via 7.30 m wide tripartite passage composed of two columns and corresponding brick antes protruding from the lateral wall. R2 also led into R3 via 2.95 m wide passage, and into latrines R12.

R3, 11.50 x 9.35 m, trapezoidal shape. Putlog holes on the W wall, 1 m apart from each other, 1.34 m above floor.

R4 8.85 x 9 m, largest and central room of the baths, equipped with two pools R4b and R4c, and recess R4a along N wall for a *labrum*. Mosaic floor. R4 opened into transition rooms R5, R9 and R10; R5 and R9 were closed by doors.

R4a: 3.30 x 2.90 m, window (0.40 m wide x 0.70 m high) on W wall. Holes for centring of the vault still visible in upper part of W wall. Contained *labrum* or fountain, max. 0.60 m diam.

R4b: 5.20 m x 2.80 m, pentagonal pool, ca. 1 m deep. Accessible via three steps, 0.95 m high in total, running for entire length of pool. Two niches on N and S walls, 1.05 m wide, 0.50 m deep. Three windows in W wall, initially 1.20 m above floor, later raised to 1.80 m. Width 1.64 m (central window) and 1.40 m (lateral windows). view overlooking the Quartiere Meridionale, the harbour and the sea.

R4c: 4.35 x 2.25 m pool. Pool floor at same level as floor of R4; separated from it by parapet wall, preserved for 0.35 m. After abandonment of the baths, a kiln was created in the pool.

R5: 2.95 x 2.45 m room, accessible from R4 and leading into R6. Series of small holes (4–5 cm diam.) 1.70 m above floor on N and W walls, for support of vault. Small arched window on N wall (0.60 m high, 0.40 m wide), ca. 1.90 m above floor.

R6: 7.40 x 7.30 m heated room, accessed from R5 and leading to R7 and R8 (1.40 m wide opening). Four large sandstone blocks along S and N walls, roughly 0.40/0.45 x 0.45/0.50 m, 1.20/1.30 m high, added in later phase (Ia?).

R7: heated room, 6.10 x 5.90 m. Accessible from R6, leading into R8 (1.40 m wide opening); the latter passage was later blocked. Recess in NW corner (1.85 x 1.30 m), covered by cross-vault, contained a *labrum*.

R8: heated room, 7.45 x 8 m, equipped with two pools R8a and R8b. Accessible from R6 and R7, led into R9 via 1.25 m wide passage. Window in W wall, S of R8b, 0.73 m wide. Benches added along E, S and N sides in phase II.

R8a: 4.8 x 3.8 m heated pool, separated from R8 by steps. modified in phase II: opening towards R8 closed off apart from passage along E wall. New division of space in R8a, with floor at ca. 1.10 m above floor of R8, and accessible via three steps made of sandstone blocks, ca. 1 m high in total. The S part of R8a became a small room (1.30 x 3 m), leading via a 1.20 m passage into a heated room (2.95 x 2.90 m) fitted with two small pools (each 1.20 x 0.70 m, 0.43 m deep) separated by a low wall.

R8b: 5.20 x 2.60 m heated pool. Three windows in W wall, at ca. 1.20 m above floor level. Protruded into R8 by 1.50 m. Modified in phase II: access steps from R8 raised to reach ca. 1.35 m above floor of R8, apse subdivided in two part by wall along the radius. N part fitted with small pool (2 x 1.80 m, ca. 160 m deep), with the curved walls regularised by a thick layer of mortar. Could have been used for *cold* water immersion.

R9: 2.80 x 1.90 m heated passage between R8 and R4 (1.40 m wide passage to R4). Both passages had marble thresholds, both with marks of a door hinge. Arched window on W wall, 1.35 m above floor, 1.20 m high and 0.88 m wide. Second window on E wall.

R10: 2.35 x 1.75 m corridor connecting R4 to R11 via 1.75 m wide passages. Putlog holes in W wall, ca. 1.30 m above floor level.

R11: 11.95 x 6.75 m room, with recess R11a in N wall. In SW part of the room, extrados of vault covering R15. On S wall, traces of two possible columns, which could have framed a passage or a window overlooking the fountain in R14.

R11a: shallow pool, 3.35 x 2.20 m, opening off R11. Bench along W wall.

R12: trapezoidal-shaped latrine, max. 7.60 x 5.90 m, accessible from R2 1.05 m passage (sandstone threshold) and through a 2.45 x 1.40 m corridor. Small basin W2 (1 x 0.55 m) in NW corner. Latrine channel along N and E walls.

R13: ca. 2.30 m wide service corridor running along the NE and N side of the baths. Max 14 m N–S, max. 19 m E–W, from plan. Accessible from E via courtyard (1.50 m wide passage) and from W via passage next to large urban well. Water tank W1 against outer face of N wall. Five putlog holes are visible on E part of N wall, close to E entrance, ca. 1.42 m above the floor; regularly spaced (1.20 m apart). *Praefurnia* A, B, D and E were operated from R13 in phase I. Phase II modifications: E entrance blocked, *praefurnia* A and B decommissioned, *praefurnia* C and F (along W side of baths) created.

R14: 5.80 x 1.35 m staircase made of seven blocks of sandstone, leading to a 1.65 x 1.60 m landing from which the fountain W5 (1.35 x 1.35 m) could be used (the fountain was also accessible from ground level). Access could be blocked, as indicated by hole in 4th steps for hinge. Could hypothetical have been used as a secondary entrance (see 6.1, R11).

R15: 5.60 x 0.85 m room, 1.75 m high. Not strictly part of the baths, as it was accessible, via a 0.70 m high, from the E–W street to the W of the baths, and granted passage toward well W6.

Access covered by an arch made of *sesquipedales*, then room covered by large conglomerate blocks set on the floor of R11

R16: service courtyard in NE part of baths, max. 9.50 m E–W, max. 13.50 m N–S. well in the centre of the courtyard, pre-dating the baths. Accessible from the E (Via di Porta Rosa), led into R13 and probably to upper floor located above R12, the S part of R13, and R1, via a wooden staircase in its SW corner.

6.2 – The identification of the function of the main room is straightforward: R4 was a *frigidarium* with two cold-water pools R4a and R4b; R5 and R10 two heat traps that could be closed off to isolate the heated sector, as suggests by the marks of door hinges on the thresholds; R6, as a first accessible heated room, a *tepidarium*; R8, with two hot-water pools, a *caldarium*. R7, heated and with a *labrum*, could have been a sweat bath. R3, based on its position next to the entrance, could have been an *apodyterium*. The function of R11 is less clear; if R11a, a shallow pool with a bench, was a footbath, the position of the room away from the entrance would be surprising, unless there was an entrance from R11.

I: circular path: *frigidarium* R4 – heat trap R5 – *tepidarium* R6 – heated room (sweat-bath?) R7 – *caldarium* R8 – heat trap R10 and back to *frigidarium*

II: unclear to what extent all the rooms and heating systems continue being used; *caldarium* R8 becomes the central room of the baths. R4 seems to still have been in use.

7 – Construction techniques and materials

7.1 – Cocciopesto in R2, R3, R12, R10, R11, R11a

7.2 – Concrete walls, different facings:

- alternance of courses of sandstone blocks and brick (2 variants, junction at level of latrine): R1, R2, R3, R4a W and E wall (with brick quoins), R4b (with brick pilasters towards R4), R4c (brick pilasters towards R4), R5 W wall, R9 E wall, R10 (brick quoins towards R4), R11(?), R11a
- brick facing in heated rooms: R4, R4a N wall, R5 N, E and S walls, R6, R7, R8, R8a, R8b, R9 W wall
- rubblework (phase II): benches in R8, closing of passage between R7–R8

Stone: local sandstone. CBM: *bessales*, *sesquipedales* and *bipedales* in phase I, *bipedales* in phase II. Mortar: in phase I: soil and sand in lime mix, with small terracotta inclusions.

Levelling courses of *bipedales*.

7.3 – Possible second floor above rooms in SE part of baths, visible above the vault covering *praefurnium* E (a 2.30 x 2.05 m landing, floored in cocciopesto) and in the collapse of the vault of R1 (0.10 m thick cocciopesto floor).

Traces of vault springing in several rooms: barrel-vaults in R1, R4a, R9, R10. R4 was covered by a barrel vault according to Vecchio, but a cross vault remains a possibility. Cross vaults in R5 and R7.

8 – Heating devices

8.1 – Praefurnia A, B, D and E in phase I; in phase II, *praefurnia* A and B were decommissioned, and *praefurnium* C and F were added. **Praefurnia A and B:** 1.25 m wide opening topped by round arch made of *bipedales*, then reduced by brick jambs. Longitudinal outer extensions in brick and/or stone slabs to support boilers. Circular traces on upper surface of *praefurnium* A confirm original presence of boiler. Both boilers fitted with *testudines*. In phase II, a *fistula* drained the water from N pool of R8b by passing through the *praefurnium* opening, making it clear it was decommissioned. **Praefurnia D and E:** also covered with arches made of *bipedales*. From excavation pictures, the arches were segmental, almost flat, rather than round (as that covering *praefurnium* D was restored). In *praefurnium* D, the opening was reduced by brick jambs and a stone lintel in phase II. They were not equipped with longitudinal extensions. **Praefurnia C and F:** added in phase II. *Praefurnium* C had an arched opening and outer longitudinal extensions made of reused material (column shaft). *Praefurnium* F was created by digging a hole in the W wall of the baths, ca. 1 m above the outside circulation level, and fitted with jambs of reused Velian bricks.

8.2 – Hypocausts: Area in *sesquipedales*, 0.75 m high *pilae* made of *bessales* and supporting a layer of *bipedales*. Vecchio mentioned a distance of 0.30 m between the *pilae*, which is unlikely if the space between the *pilae* was indeed bridged by *bipedales*; she measured the distance between *pilae* close to the opening of a *praefurnium*, where it is possible that the *pilae* were set closer to each other.

Wall heating: in phase I: wall heating in *tegulae mammatae*, as indicated by the regularly spaced traces of nails (0.50 m vertically, 0.45 m horizontally) on the walls of the heated rooms, and by the knobs of *tegulae mammatae* found in the concrete pour used to raise the window sill in R4b. *Tegulae mammatae* replaced by *tubuli* in phase Ia, in R6, R7, R8 and R9. Two types of *tubuli*: 12 x 14, 12 x 9 cm. No *tubuli* in NW recess of R7. In phase II, after the modifications brought to pool R8a, new *tubuli* were fitted in it.

The *suspensura* floor is almost completely preserved, hiding the location of hypocaust connections.

A 0.41 x 0.65m opening in the hypocaust, under the outer part of the apse of R8b, may have served to regulate the flow of air in the hypocaust and the exhaust of gases.

9 – Water management

9.1 – The source of water was a spring (identified as the spring Hyele by Strabo VI.1.1) in the Valle del Frittolo, ca. 300 m NE of the baths. The water was channelled into an urban reservoir ca. 50 m N of the baths. The reservoir, ca. 20.50 m long and ca. 4 m high, was made in concrete faced with reused tiles and Velian bricks. Volume ca. 650 m³.

From there, a channel brought water down into tank W1 (3.80 m E–W, 3.40 m N–S) set against the N side of the baths. Made in concrete, waterproofed with *cocciopesto* lining. The floor of the tank was ca. 2.95 m above the floor of R13. There was a Roman-period tank directly SE of

the baths (volume of 30 m³ assuming a height of 2 m), on the other side of the street, which apparently did not serve to supply the baths.

Small raised water tanks in R13, next to boilers, of which the stands supporting them are preserved. One tank W3 next to R8b (stand 2.20 m N–S, 1.70 m E–W), another tank W4 directly N of *praefurnium* A (stand 1.80 m N–S, 2.40 m E–W)

9.2 –From W1, two water networks supplied the cold and heated facilities of the baths. Traces of the supply pipes are visible in the S wall of W1.

Cold sector: a *fistula* leaving W1 headed W, passed along the outer façade of the baths under the sills of the windows of R8b, and entered the building via purposely-made openings lined with tiles. The openings were all at the same level, in the brick courses of the facing, and were usually square, or rectangular when located in a curve. Water entered R4b in its NE corner, under the sill of the central window, and in its SE corner. From the NE corner of R4b, the water pipe continued to supply the *labrum*/fountain in R4a, passing through R9. Several pipes entered R11a from its NW corner, ran along its N wall (where a recess is still visible) and split in the NE corner. One pipe went through the N wall to supply R4b, a double pipe continued along the E wall, one entering R4c in its NW corner, the other one continuing along the E wall of R11a, the N wall of R11, and the W wall of R10 before entering R4c in its NE corner (the latter blocked in later phase). The cold-water network continued further S to supply fountain W5 (a hole in the back wall could have fitted a spout).

The presence of overflow pipes in R4b suggests it was continuously supplied with water; Vecchio also hypothesised a continuous renewal of water for R4c based on the arrangement of the water pipes.

Heated sector: a *fistula* leaving W1 headed into R13 and supplied the water tanks W3 and W4, from which the boilers were supplied. From the boilers, water was supplied to R8a (two holes in N wall for passage of *fistulae*), and R8b via a hole in the stretch of wall between R8a and R8b. Another pipe went to the *labrum* in the NW recess of R7, supplying it with cold or heated water.

R12: the basin W2 in the latrine was supplied in clean water by an independent water network, coming directly from the large urban reservoir N of the baths; it ran alongside the outer side of the N wall of R12 and entered the room in its NW corner.

Phase II: in R8a, the E opening for the passage of *fistulae* was blocked; only the W one supplied water to the newly created pools. The *fistula* originally supplying water to R8b was moved upwards to place it out of reach of the newly created *praefurnium* C.

9.3 – Phase I: **R3:** drainpipe in S wall, for disposal of cleaning water. **R4:** central grating, and second grating along N wall to collect water from *labrum* in R4a. **R4a:** two holes on the floor (0.15 m diam. and 0.20 x 0.26 m), at least one for water disposal of *labrum* in R4a. **R4b:** overflow in upper step of pool, made of cylindrical terracotta piece. Second overflow in SW wall, 1 m above floor. Drain at centre of the floor. **R11:** central grating. **R11a:** possible drain in NW corner. **R12:** latrine channel along N and E walls, water flowing from basin W2 into channel, leaving R12 in SE corner. **R13:** along E and N walls, water disposal channel, 0.20–0.25 m wide,

sides made of sandstone blocks. The channel may have started from R7 or R6; it left R13 at the level of *praefurnium* A where two holes in the N wall of R13 are visible. **W1**: drainage pipe in SW corner of tank, at floor level. **W5**: drainage pipe at bottom of pool. **W7**: 2.60 x 2.28 m, drainage pipe in the *cocciopesto* floor.

Wastewater from the cold-water pools R4b, R4c and R11a arrived in basin W7, from where it emptied into **channel A** (15.30 m long) heading S. Water from the *labrum* in R4a ended up in a drain at its foot, and/or in the grating against the N wall of R4. Both channels joined under the grating at the centre of R4, forming **channel B** heading south under R10, R11, and leaving the building through Via di Porta Rosa. At the point where channel B left the building, it was 0.50 m wide and 0.65 m high, covered by 0.60 x 0.38 m tiles set a *cappuccina*. Channel A flowed into channel B ca. 12.50 m south of the S façade of the building.

Wastewater from the hot pools was probably disposed of via the *testudines*. From there, it reached a grating to the NW of the building, where water from the tank W1 also arrived.

Phase II: R8a, drain in W part of N wall, under opening water supply. Second drain in NE corner, to dispose of cleaning and spilled water. **R8b**: N pool drained by lead *fistula* in the floor of the pool (5 cm diam., found *in situ*) through the opening of former *praefurnium* B. A *tubulus* was set horizontally in the upper part of the wall separating the two halves of R8b, allowing the passage of water from one side to the other (possibly for overflow?).

10 – Decoration and material

10.1 – Mosaic floor in R4 (complex geometric concentric frames, central figurative motif (procession of four sea monsters)) and R4c (white with black frame). Marble floor in R4a, R4b, R4c, R5, R6, R7, R8, R9, possibly R10. Marble wall veneer in R6, R7, R8, R4b, R4c, R8b.

Columns and thresholds in R4 made in ‘quarzoarenite’ from the Apennines. Columns in R2–R4: smooth shaft, Attic base.

10.2 – No material found during the excavations was recorded or published.

Five fragmentary inscriptions reused in the baths (EBNER 1966; 1978; VECCHIO 2007, note 10):

- **VECCHIO 2007, notes 10, 99**: [T]raiano Adriano / aug. pontif. max / trib. potestat. II / p. p. cos. II / d. d.
Marble slab reused in the floor of N part of R8b in phase II. Dedication to Hadrian, dated AD 118
- **VECCHIO 2007, note 92**: unreadable, two lines in Latin
Fragmentary inscription, white marble slab, 0.28 x 0.24 m, reused in the floor of the S part of pool R8a in phase II.
- **AE 1978.261 = EDR077104** (VECCHIO 2007, note 85): [Voconiae] M(arci) f(iliae) Severae / [sacerdot]i Cereris / [--- i]ncompara/[bili --- l]aude dignis/[simae ---]ctrici ordi/[n---]issimus se / --- or]do Augusta/[lium --- ho]norem et e/[---]a erga se ex / [---]suis statum / cuius ob / ---]EM dedit CE/[---] M M et spor/[---]ie sing. XVIIIIS / [---] a liberalitate / [---] quod annis ex / [---]]N natali ei[u]s / [---] p[ia]nt eo d. d.

White marble *tabula*, 0.78 x 0.35 m, letters 4–2.8 cm, reused in the floor of R6. Dedication to priestess of Ceres. Reading of the text completed by Vecchio.

- **AE 1978.262 = EDR077105:** *Brittius Prae/sens, v(ir) c(larissimus), / corrector, / curavit.*

Marble base, 0.63 (H) x 0.62 (W) x 0.32 (T) m, letters 5.5–6 cm (or 7.6 cm). Found in 1966 excavations in R6. Commemorative inscription dated 1st half of 4th cent. AD.

- **VECCHIO 2007, note 85:** [---] USP [---]

Pink marble fragmentary inscription, 0.21 x 0.15 m

11 – Bibliography

In-depth study: VECCHIO 2007

NIELSEN 1993, cat. 51; *Parco archeologico di Velia. Restauro delle terme romane* 1996; D'ANDRIA 1997; GRECO & DE SIMONE 2012 (water)

Reports: SESTIERI 1960a; 1960b

12 – Illustrations

Parco archeologico di Velia. Restauro delle terme romane 1996, fig. p. 4, 9–12, 14–15 (pictures), 6, inset (plans and sections); VECCHIO 2007, fig. 1–36 (plans, pictures, decoration); GRECO & DE SIMONE 2012, fig. 41–43 (water supply)

Velia, South Baths

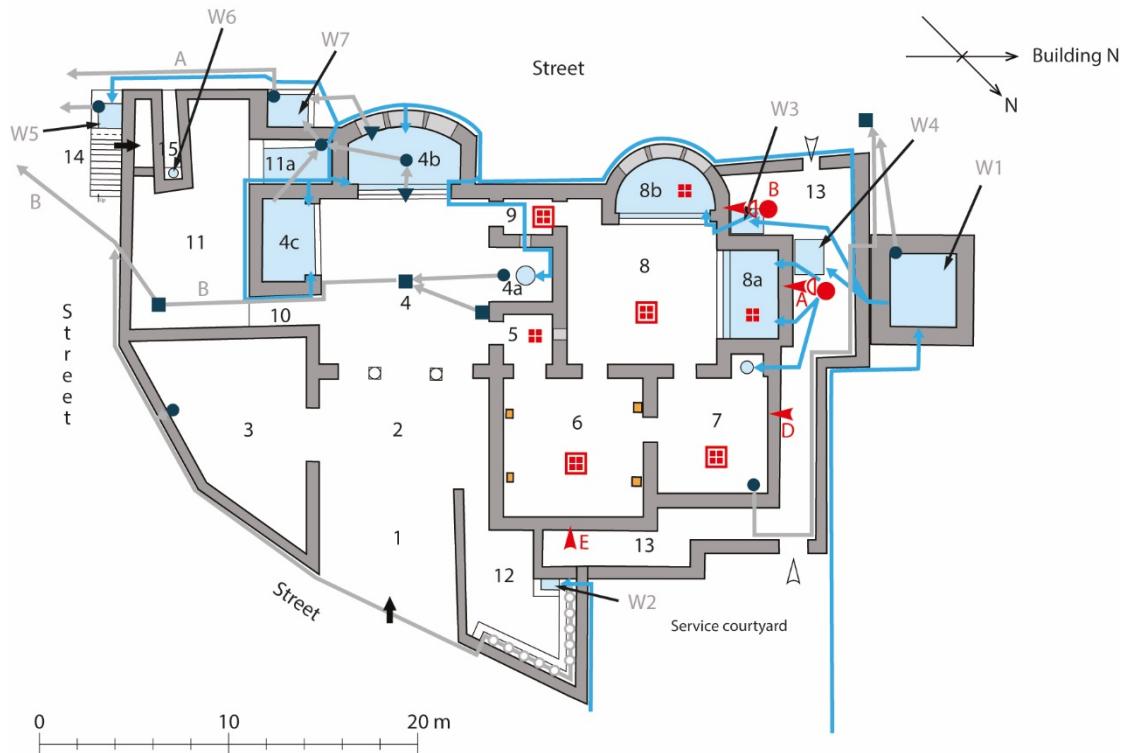


Figure 60: Plan of the South Baths of Velia, phases I–Ia (after *Parco archeologico di Velia. Restauro delle terme romane* 1996, plan inset; VECCHIO 2007, fig. 35).

Velia, South Baths

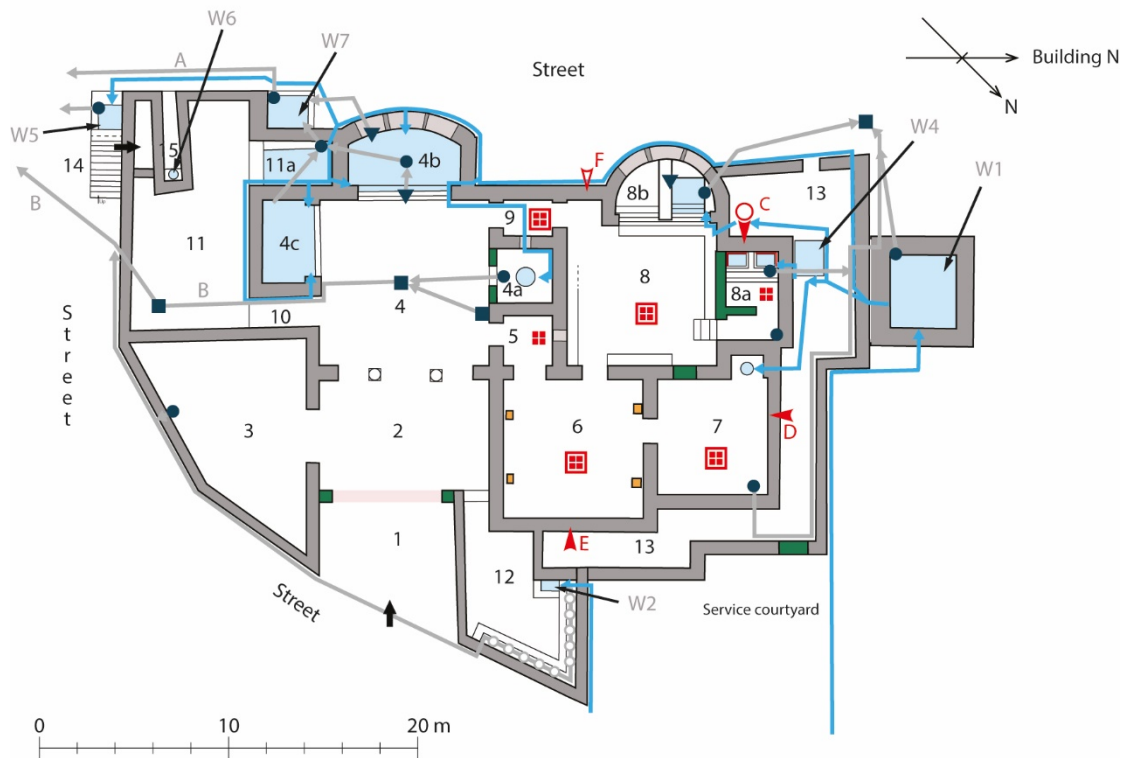


Figure 61: Plan of the South Baths of *Velia*, phase II (after *Parco archeologico di Velia. Restauro delle terme romane* 1996, plan inset; VECCHIO 2007, fig. 35).

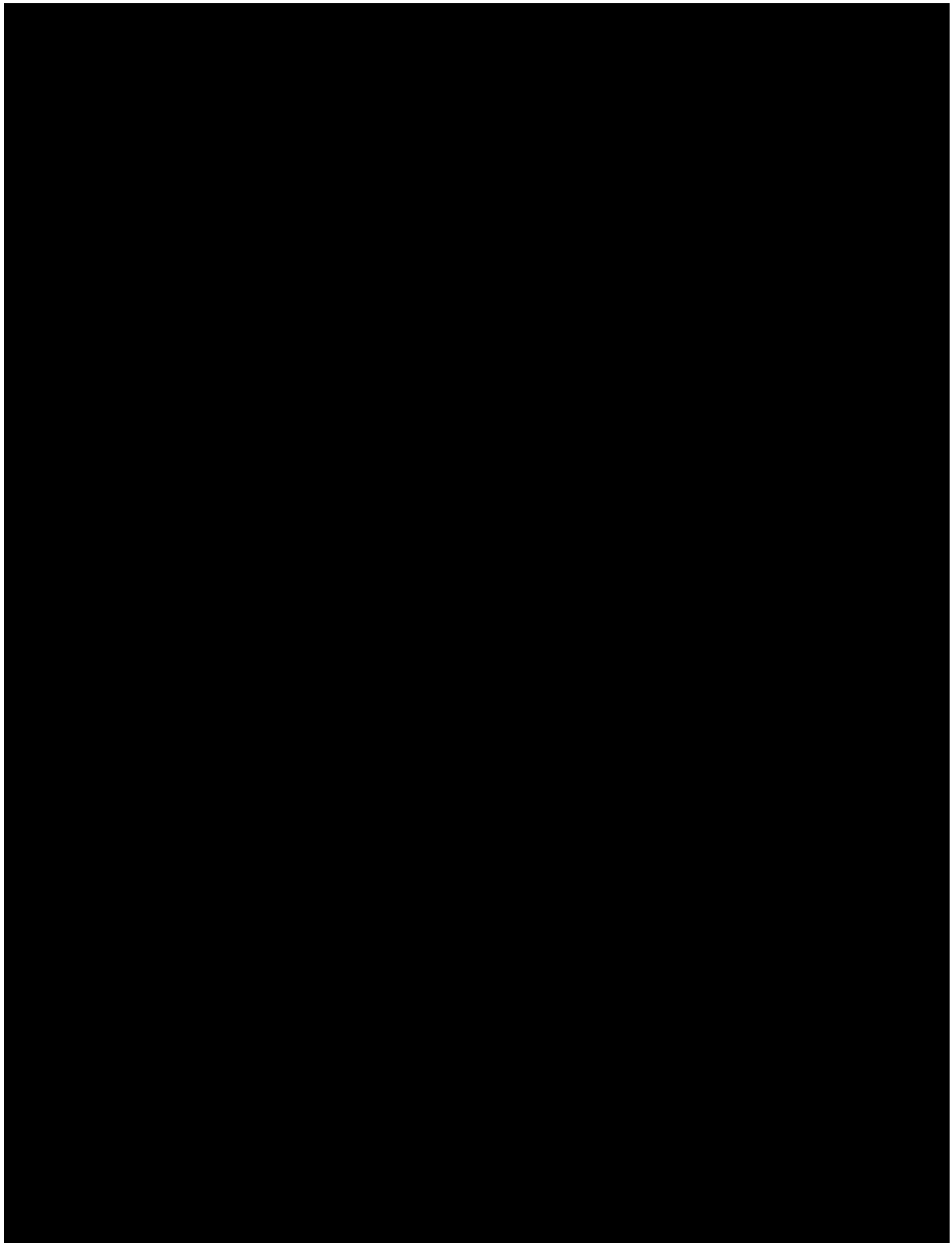


Figure 62A–E: South Baths of *Velia*. **A–B**: general views, from E and W. **C**: R4, from N. **D**: R1, from E. **E**: R4, from E (A: *Parco archeologico di Velia. Restauro delle terme romane* 1996, cover; D: © SABAP Salerno e Avellino, Ufficio Scavi *Velia*).

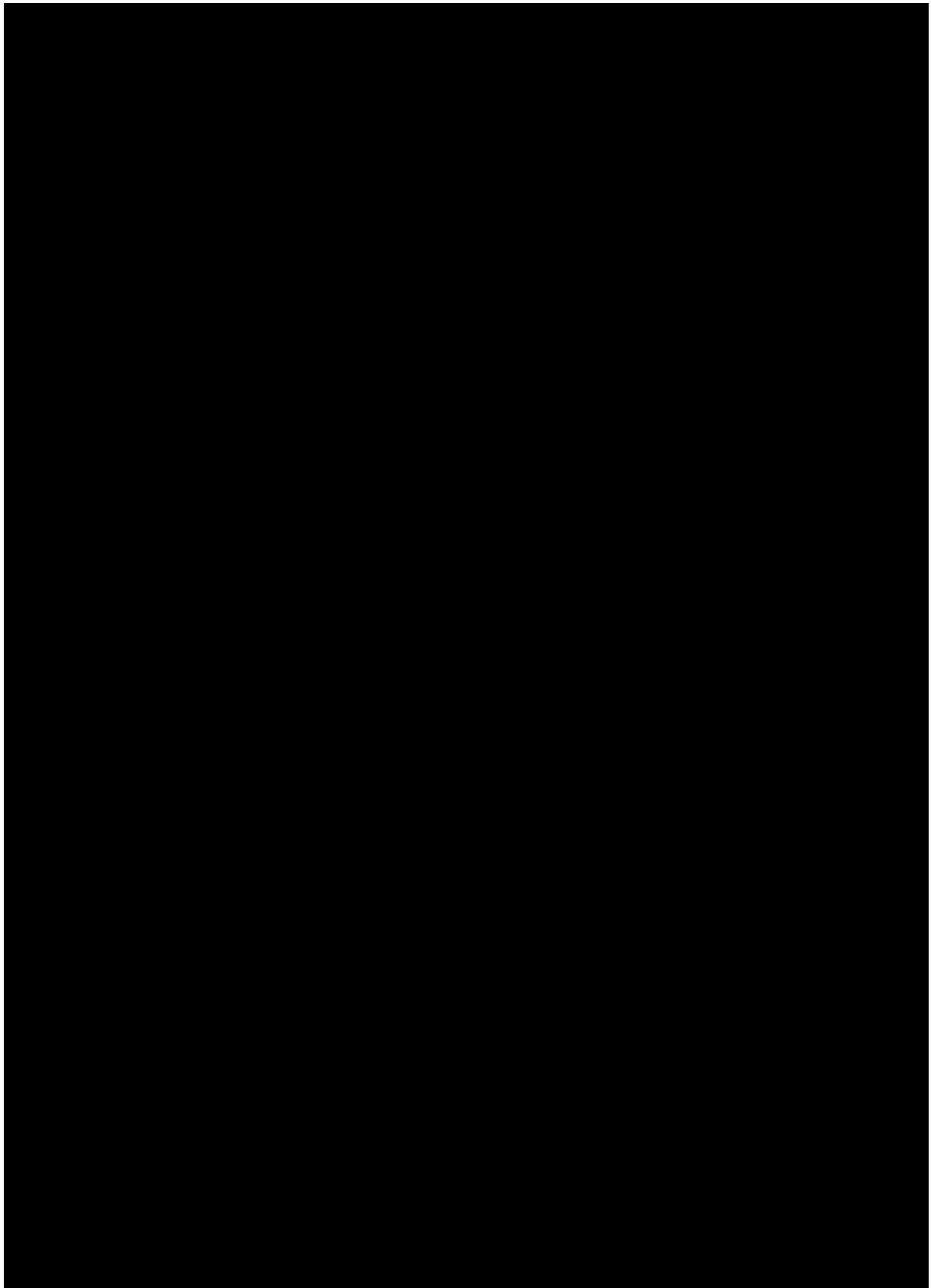


Figure 63A–F: South Baths of *Velia*. **A:** R4b, from E. **B:** R4, from S. **C:** R4c, from N. **D:** R7, from E. **E:** R8, from W. **F:** R6, from E (D–F: © SABAP Salerno e Avellino, Ufficio Scavi *Velia*).

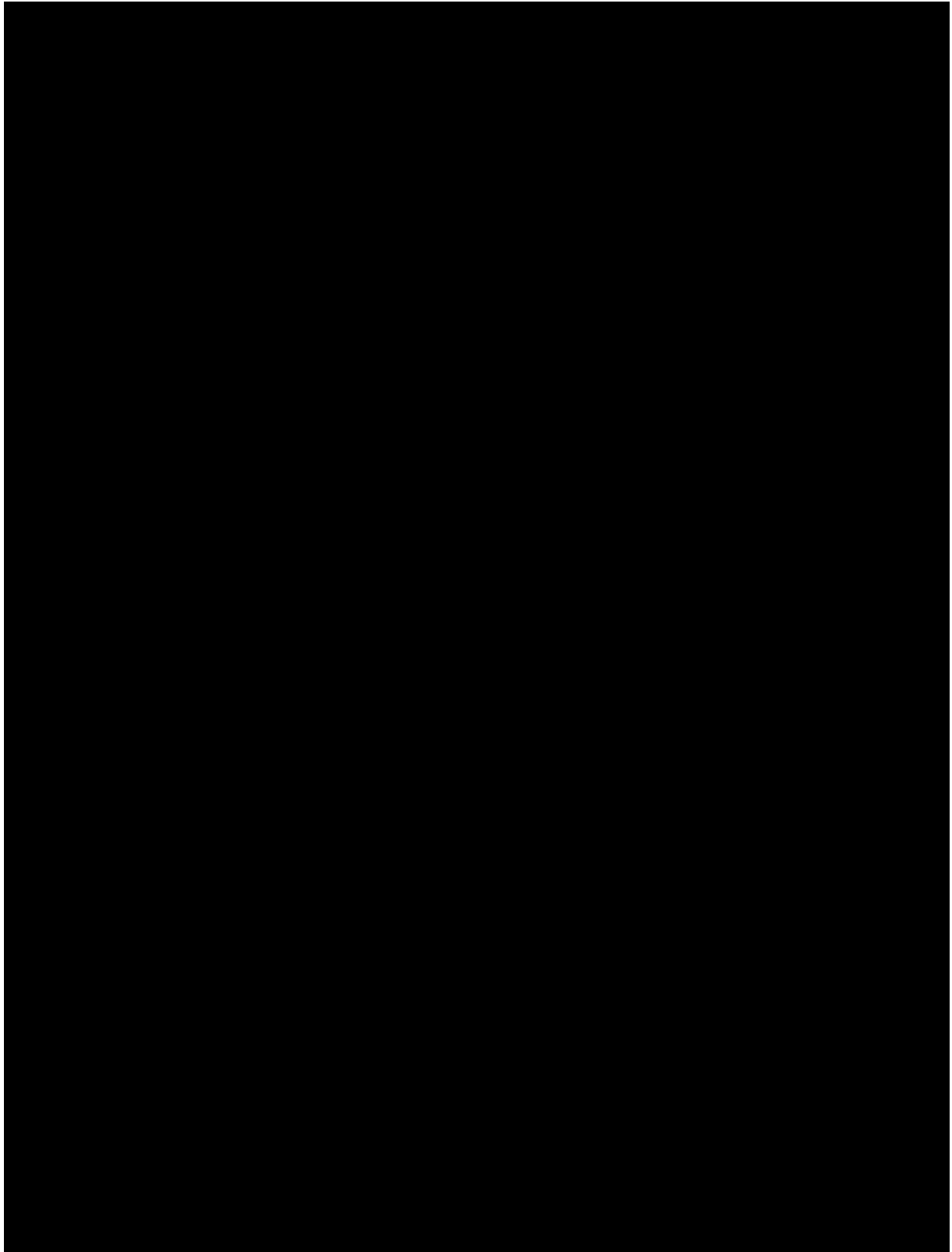


Figure 64A–J: South Baths of *Velia*. **A–B**: R8b, from E/NE. **C**: R8a, W part, from E. **D**: R8a, outer wall, from S. **E**: R9, from N. **F**: R10, from NE. **G**: R3 and R11, from SE. **H**: R11a, from S. **I**: R15, from E. **J**: channel of latrine R12, from S (B, D, G, J: © SABAP Salerno e Avellino, Ufficio Scavi *Velia*).

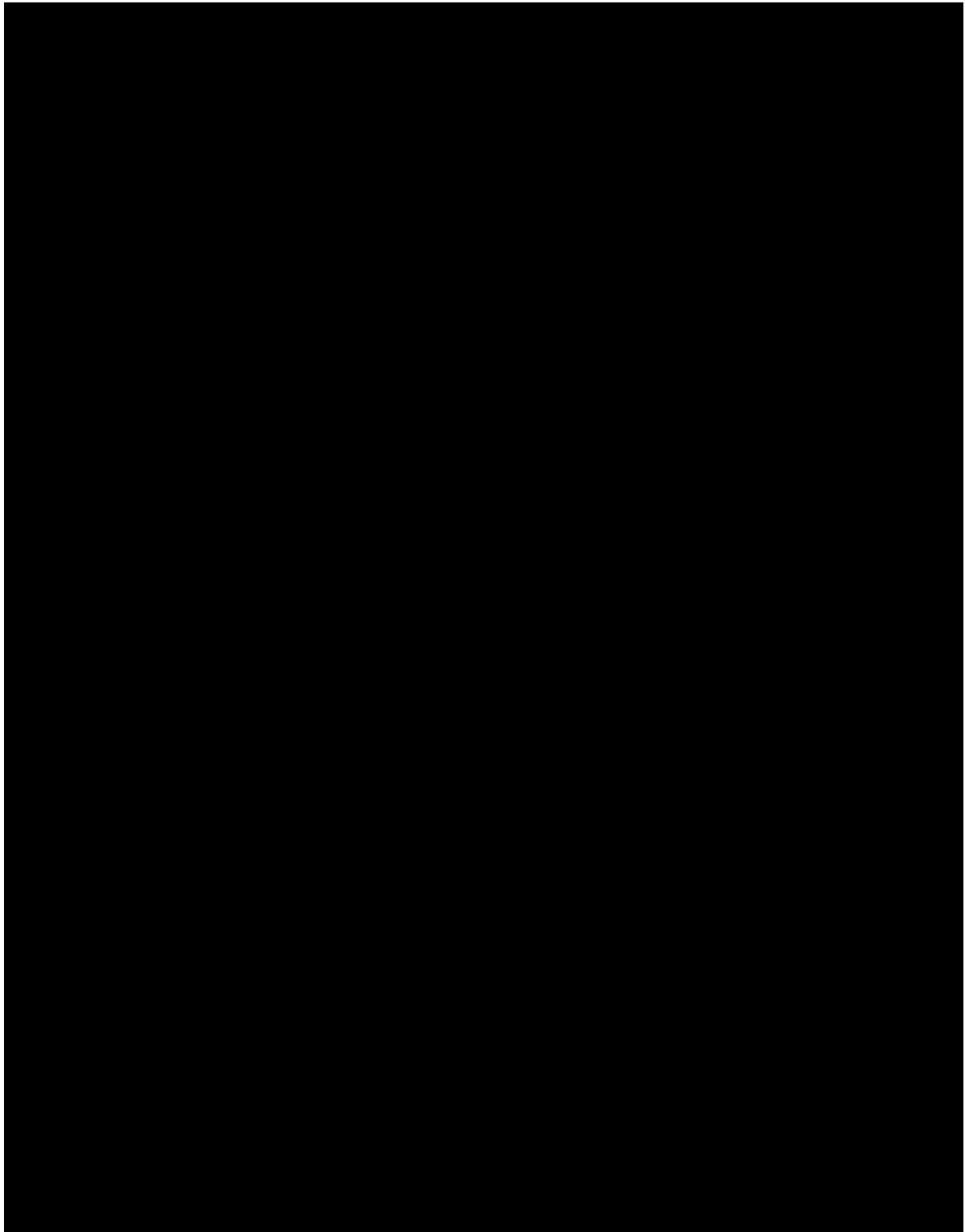


Figure 65A–J: South Baths of *Velia*. **A:** R14, from SE. Constr. mat.: **B:** detail of wall facing from outer wall. Heating: **C:** *praefurnium* A, form N. **D:** *praefurnium* D, from S. **E:** *praefurnium* B, from N; *praefurnium* C to the left. **F:** *praefurnium*(?) **F.** **G:** *praefurnium* B after restoration, from E. **H:** area of R7(?). **I:** wall heating in R6. Decoration: **J:** marble floor in R8 (D–E, H–I: © SABAP Salerno e Avellino, Ufficio Scavi *Velia*; C, J: *Parco archeologico di Velia. Restauro delle terme romane* 1996, fig. p. 4, 15).

1 – Location

1.1 – Province of Salerno, *comune* of Ascea

1.2 – 15.164006 E, 40.159433 N

1.3 – In the eastern neighbourhood of *Velia* (possibly a residential and productive neighbourhood), part of an *insula*.

2 – Preservation

2.1 – Complete in plan, variable in elevation, from up to 1.5 m in the N to foundations in the S, in part due to natural slope of terrain

2.2 – Part of the Parco archeologico di *Elea-Velia*. The baths were mostly overgrown by vegetation when visited.

3 – Research

3.1 – First unearthed in the 1930s by the Ente per le Antichità e I monumenti della Provincia di Salerno and the Museo Provinciale di Salerno (dir. Marzullo). Further excavations in 1983–1986 (University of Innsbruck, dir. Krinzinger), which uncovered the full extent of the baths. Several small trenches in 1997–1998 (University of Vienna, dir. Krinzinger) along S, E and N perimeter of baths. Unpublished doctoral dissertation on the baths by Grabner in 2001.

3.2 – Visited in March 2016 and March 2017

4 – Dimensions

I: ca. 400 m²; II: ca. 520 m²; III: ca. 650 m²; IV: ca. 750 m² (from plan)

5 – Chronology and phasing

5.1 – Four phases identified by both Krinzinger (1986) and Grabner (2001), with differences in the modifications and datings. Grabner is followed here, but the main differences with Krinzinger are indicated.

I: 1st half 1st cent. AD (T, CT, heating technology)

- R1, R2, R3 with pools, R4 and R5 with pools

II: 2nd half 1st cent. AD (CT, heating technology)

- Addition of R6 and R7
- N wall of R3 modified to add R3b. Cut of channel A, addition of channel C
- Drainage basins S of R2

III: Late 1st–early 2nd cent. AD (M)

- Addition of R8, R9, R10, R11 with pools, and R13

- Breaking of N wall of R3 to create passage to R8
- Breaking of channel channel B
- Hypocaust connection between R4 and R9

IV: 1st half of 2nd cent. AD (M)

- Addition of R14 and R15
- *Praefurnia* B, E and F decommissioned, replaced by *praefurnia* J and N
- E half of R7 dug deeper to accommodate *praefurnia* K, L and M
- Pool in R5b decommissioned

For Krinzinger, phase II and III are inverted, and the transformation of the N wall of D1 into an apse was completed between phases I and II. Dating: I: mid- to late 1st cent. BC (M, CT, T); II: 2nd half of 1st cent. AD (M); III: 2nd cent. AD (CT?); IV: later than the middle of the 2nd cent. AD (M, T)

Pre-bathing structures: remains of cocciopesto floors and walls under R1–R2, of dry-stone walls under R4, R5 and R6, of a N–S wall under R12. Two water disposal channels, one between F, R11a and R11b, another one N of R14.

5.2 – Unknown. Possibly still in use during 4th cent. AD. After abandonment, complete robbing: almost no remains of lead elements, or of marble decoration

6 – Description of the remains and identification of rooms

6.1 – The baths were originally arranged along a main E–W axis (phases I (R1–R5) and II (R6–R7)), to which a N–S axis was added in phase III (R8–R13), and a heated pool in phase IV at the junction of the two axes (R14–R16) (fig. 66–69, 70A)

R1: ca. 6 m N–S, possibly 7.5 m E–W, accessible from R2 via threshold. Marble veneer. **R2:** ca. 7 × 8 m, probably accessible from the E but passage not preserved, led into R3. Mosaic floor. Remains belong to phase II but probably existed already in phase I and modified when channel C was fitted in phase II. **R3:** ca. 7 × 5 m, accessed from R2. Marble veneer on floor and walls. In phase I, S wall opened towards rectangular pool R3a. N wall animated by three niches: lateral ones ca. 1.30 m wide, central one 2.50 m wide, 1.50 m deep, which contained a fountain or a small basin, max 0.50 m deep. In phase II, central niche of N wall turned into semi-circular pool. From R3, access to R4 in phase I via passage in S part of W wall, later (undetermined phase) blocked and new passage opened in N part of W wall. In phase III, W niche of N wall became passage towards R8. **R3a:** 4.6 × 2.3 m basin, 1.20 m deep, accessible from R3 via low wall (0.45 m wide) and 3 steps (0.30 m wide), all 0.30 m high. Passage later narrowed down by creating sort of platform against E wall, over several steps. Two pillars (0.40 × 0.45 m) divided the passage from R3 to R3a. Marble veneer on floor and steps. **R3b** (fig. 70D): created in phase II, 0.96 m deep, accessible via three steps (0.32 m wide, 0.24–0.44 m high). Marble veneer on floor and steps. A lead plaque of unclear function was nailed to the wall, on top of a marble fragment. **R4:** rectangular heated room (5 × 4.50 m) with shallow niche (ca. 1 m deep) on N wall, accessible from R3, leading into R4, possibly into R9 from phase III. **R5** (fig. 70B): heated room (ca. 5 × 4.80 m from plan), quadrangular with lateral pools R5a and R5b, and small semi-

circular niche in W wall (visible in foundations, ca. 0.90 m deep) which could have contained a small *labrum* (max. 1 m diam.) according to Grabner. Accessible from R4 (passage not preserved). Nothing remains of pool **R5a**, ca. 3.60 x 1.70 m. Pool **R5b** (fig. 70C) measured 3.50 x 2.30 m, reconstructed depth 0.60–0.80 m; removed in phase IV. **R6** (fig. 70E): heated room with lateral heated pools, added in phase II. Largest room of complex, and similar plan to R5 apart from the niche in the W wall, possibly quadrangular (preserved only in foundations). Nothing remains of pool **R6a**, but its *area* was 0.70 m below that of R6, suggesting the pool floor might have been lower than that of R6 and R6b and accessible via steps. Pool **R6b**: ca. 3 x 2.30 m (from plan), depth restored at 0.70 m. Traces of marble veneer on floor and walls. **R7** (fig. 72A–B, D): service courtyard from which several *praefurnia* were operated. Accessible from W, via steps. Created in phase II to accommodate *praefurnium* D to heat R6b, and a water tank along its W wall. In phase IV, the E half was occupied by R14 and the E part of the remaining section was deepened (and accessible via two steps) to open *praefurnia* K and L heating R14, which had to be below the level of the floor of pool R14. **R8** and **R9** (fig. 71A): two heated rooms (from plan: R8: ca. 4 x 2.50 m; R9: ca. 3 x 2.90 m) added in phase III. **R8** was accessible from R3 and led into R9, which in turn led into R10, and in phase IV into R15. **R10**: heated room (dimensions: 12 m²) added in phase III, accessible from R9, leading into R11. Marble floor. **R11** (fig. 71B–71C): Square heated room, ca. 2.50 m on the side, added in phase III, accessible from R10. Equipped with two heated pools R11a (floor ca. 0.50 m lower and accessible via two steps) and R11b (accessible by stepping over low wall). Marble floor in R11, R11a and R11b. **R12** (fig. 72C): service courtyard, led to R13, may have served for wood storage. **R13**: small service room (ca. 3 x 2 m from plan) for the operation of several *praefurnia*. Accessible from R12 via two steps. **R14** (fig. 71E–F): heated pool, 4.5 x 7 m, 1.30/1.40 m deep, with segmental N end. Added in phase IV. Entered from R15. N wall reinforced by second wall. Heated vault. Marble veneer on floor and steps. **R15** (fig. 71D): Small L-shaped room, added in phase IV, accessible from R9 and led into R14 via low wall (0.35 m high) and two steps. Marble decoration. **R16**: service courtyard, added in phase IV, access probably from outside the baths. Structure in SE corner (elevated tank, shaft).

6.2 – I: linear arrangement of *frigidarium* R3 (with one pool) – *tepidarium* R4 – *caldarium* R5 (with two pools) along central E-W axis, with retrograde path. Entrance from R2 (vestibule), with *apodyterium* in R1. **II:** addition of *caldarium* R6 with two pools. Axis remained the same, path remained retrograde. According to the excavators, R5 kept on being a *caldarium* with two hot pools. **III:** addition of secondary linear arrangement of rooms, along N–S axis, starting off *frigidarium* R3 – heat trap R8 – *tepidarium* R9 – heated room R10 – *caldarium* R11 (with two pools). Both paths were retrograde. **IV:** addition of *piscina calida* B14. The initial retrograde path R3–R4–R5–R6 remained, and the second retrograde path (R3–R8–R9–R10–R11) offered a bifurcation from R9 towards R15–R14.

Based on the size of the rooms and the lack of architectural pretention, Krinzinger (1986, 52) suggested the baths were private. The multiplication of rooms and paths, the extension of the building over time, as well as the limited dimensions of both the individual rooms and the

overall facility, would instead suggest that the building was open to the public. It is possible that the baths were under private ownership (which may have been what Krinzingner meant) and exploited for profit, with the addition of a *piscina calida* aiming at increasing the attractiveness of the baths.

7 – Construction techniques and materials

7.1 – No information available

7.2 – Several techniques: irregular reticulate facing in R3b, R5b, and in foundations of R15. In R5b at least, the reticulate is made of reused, broken Velian bricks (fig. 71G). **I:** irregular stone facing with quoins of squared sandstone blocks. **II:** same techniques as phase I in R6b; reused Velian bricks in R6. **IV:** brick-faced walls. W wall of R14 made of reused Velian bricks; S wall of R14 made of roof tiles.

7.3 – R14: heated concrete barrel vault above room, quarter of sphere above segmental end. Outer side of roof was flat.

8 – Heating devices

8.1 – **I:** R4 and R5 heated. R5 heated by *praefurnium* B to N (obliterated by R15 in **IV**), by *praefurnium* A to S. No *praefurnium* S of R4 according to Grabner. No traces of boilers, but probably to be reconstructed above *praefurnium* A or B, or both (reconstructed on B on plan, as B was higher which would have facilitated water distribution). Total: 2 *praefurnia*, 2 heated pools, 2 heated rooms, min. 1 boiler.

II: addition of *caldarium* R6 and heated pools R6a and R6b, with two *praefurnia* to N (D) and S (C, lost). A wall in the hypocaust of R6 separated it from R6a, with the consequence that R6a was heated by independent *praefurnium*, C. Creation of service courtyard R7 to operate *praefurnium* D (fig. 72A–B, D), made of a ca. 0.50 m wide channel with outer longitudinal extensions (2.50 m long, made with CBM and Velian bricks, and two larger stone quoins) that probably supported a boiler. The cut of the floor of pool R6b and remains of a lead plate in its thickness are consistent with the presence of a *testudo*. Total: 4 *praefurnia*, 4 *alvei*, 3 heated rooms, min. 2 boilers, min. 1 *testudo*.

III: addition of heated rooms R8, R9, R10, R11 and heated pools R11a and R11b, with *praefurnia* E, F (both obliterated by R14 in phase IV), G, H, and I (a flat lintel made of tiles covered the latter). Creation of service room R13 to operate *praefurnia* H and I (and J in phase IV); R13 was accessible from courtyard R12, which could have served as storage area. *Praefurnium* G heated pool R11b and R11, and was equipped with two outer longitudinal channels that probably supported a boiler. The cut of the floor of pool R11b and traces of a metal plate in its thickness are consistent with the presence of a *testudo* on *praefurnium* G (max. width 0.50 m). *Praefurnium* H was an arched opening in the S wall of R11a; a cut in the floor of pool R11a and traces of a lead plate are consistent with the presence of a *testudo*, but the absence of longitudinal extensions and the fact that there only 0.13 m separated the intrados of the arch and the pool of the floor make it unlikely that there was a *testudo*. Either it was a very small *testudo* (possibly

the 'semi-testudo' type of Maréchal, see MARÉCHAL 2017), or the presence of the lead plate must be explained in a different way. Total: 9 *praefurnia*, 6 heated pools, 7 heated rooms, min. 3 boilers, min. 2 *testudines*.

IV: Addition of heated rooms R14 and R15, leading to the decommissioning of *praefurnia* B, E, and F. R7 was modified, its E half deepened to accommodate *praefurnia* K (arch) and L (flat lintel made of tiles), which had to be at a lower level to heat R14. ***Praefurnium J*** created to heat R10, in replacement of *praefurnium* F, and placed on small base to reach desired height. ***Praefurnium K*** was the main heat source for R14 and was equipped with 2 m long longitudinal extensions inside the hypocaust. It was topped by an arch whose keystone was higher than the floor of the pool; combined with the typical cut in the floor of R14, these hints suggest *praefurnium* K was equipped with a *testudo*. There are no traces of additional boiler, whereas the quantities of hot water required for R14 would probably have required one. ***Praefurnium(?) L*** (fig. 72A): identified as a *praefurnium* by Grabner, working as secondary heat source for R14; alternatively, it could have been an opening for regulating the draft. ***Praefurnium M*** (fig. 72B) (flat lintel made of tiles) created to heat upper level of R15's hypocaust. ***Praefurnium N*** created as replacement of decommissioned *praefurnium* B; it heated R5b exclusively as a wall in the hypocaust of R5 was added, separating R5 and R5b (pool in R5b decommissioned). *Praefurnium N* was equipped with inner longitudinal extensions made of bricks. ***Praefurnium O***: a hole in the N wall of R14, noticed during a site visit, could be what remains of a *praefurnium*. Total: 11–12 *praefurnia*, 5 heated pools and one *piscina calida*, 9 heated rooms, min. 3 boilers, min. 3 *testudines*.

8.2 – Area (fig. 70B, E, fig. 71A) made of mixed materials:

- Velian bricks (0.38 x 0.38 m) and 0.60 x 0.50 tiles in R6–R6a (phase II; the separation between bricks and tiles happened along the prolongation of the E wall of R6b);
- 0.60 x 0.50 tiles (R5 in phase I, R9 in phase III);
- 0.70 x 0.50 m tiles (R4 in phase I);
- *Bipedales*, tiles, and square CBM in R8 (phase III).

Pilae made of *bessales*. Occasional hollow tubes used in phase I: one found *in situ* in R5b (and further fragments during excavation). From picture, the extremities widened to 0.26–0.28 m.

Suspensura made of *bipedales*.

Wall heating: some *tegulae mammatae* found during excavation, probably came from R4, R5 and pools R5a–R5b in phase I (possibly 0.53 x 0.53 m). Another type of *tegulae mammatae*, 0.21 x 0.51 m, with square bosses in corners and two holes in middle for nails, was possibly used for the vault of R14. From phase II, use of *tubuli*, some still *in situ* in R6b, R10, R11, R11a, R11b, R14, R15. In phase IV, *tubuli* added in R5b.

Remains of tiles set as protection of hypocaust walls in NE corner of R5.

Two-tier hypocaust in R14–R15: a lower level under R14, extending under R15 in the shape of five N–S oriented walls supporting the upper hypocaust level. Lower level heated by *praefurnia* K and L, upper one by *praefurnium* M.

Hypocaust connections: **I**: three connections between R4–R5. **II**: possible connections between R4–R5 not preserved. **III**: connections between R8–R9, R9–R10, R10–R11. Connection created between R4–R9. Probable hypocaust connections between R11a–R11 and R10–R11 hidden by *suspensura* floor. Probably no hypocaust connection between R11 and R11a as the latter was ca. 0.30 m below R11. **IV**: unitary two-tier hypocaust under R14–R15, but independent from hypocaust system of other rooms.

9 – Water management

9.1 – 25 m NE of baths, a 4.50 x 3.50 m structure was interpreted as a water tank storing water for the baths. Ca. 1.30 m above circulation level of the baths. Height unknown.

In the baths:

- **II**: a 2 x 2 m water tank (W3, fig. 72D) in W part of R7, on raised platform, probably supplying water to boiler on *praefurnium* D. Pipe embedded in facing of E wall, below tank floor, possibly drainage pipe.
- An inscribed lead pipe (2 fragments, total length 2 m, see section 10.2) going through N wall of R7, in S direction, passing on top of upper step of R7 entrance, and probably supplied tank.
- **IV**: elevated water tank (W5, fig. 72D) in R16, against W wall of R14. Lead pipe on its W side, for disposal to W.
- Flat roof of R14 could have supported water tank.

9.2 – No traces left. **I**: R5a and R5b required hot water, R3a and a water feature in the central niche of the N wall of R3 required cold water (total capacity estimated at 23 m³ by Grabner). **II**: additionally, R3b required cold water, R6a and R6b required hot water. **III**: additionally, R11a and R11b required hot water. **IV**: additionally, R14 required hot water. R5b decommissioned.

9.3 – **I**: channel A (fig. 72C) collecting wastewater from a water feature in central niche of N wall, heading N then turning E after R1. Channel B probably collecting wastewater from NE corner of R4, heading NE and flowing into channel A (fig. 72C). No traces left for water disposal of R5a and R5b: either into T5, then water led into R4 from where it discharged into channel B, or independent channels of which nothing is preserved.

II: R6a: no traces of disposal channel, but probably outside the building since the floor of the pool was lower than that of R6, making a disposal in R6 impossible. R6b: traces of a disposal pipe in steps towards R6, where water was disposed of; it then may have flowed in the same channel where water from R6a was disposed of. Also hole in E jamb of *praefurnium* D, possibly for emptying water from *testudo*/boiler. R3b: emptying via lead pipe in E wall (0.10 m diam) into channel C, heading SE then S under R2, arriving in small basin W1 (S of R2), then probably disposed of the baths in channel D. Disposal from R3a modified: towards E into basin W2, then probably S into channel D.

III: channel B decommissioned. R11a discharged to the E (break in E wall due to removal of lead pipe), first in a small basin (W4) then in channel E (fig. 72C), which flowed eastwards into

channel A. R11b emptied in R11 (imprint of pipe visible in steps). N–S slope from R11 to R9, leading water from R11b to R9 then outside, probably to the W (possible traces obliterated by addition of R14 in phase IV). Addition of channel F (fig. 72C), coming from N and discharging in channel E; origin of channel F unknown, and may not be related to baths. Vertical drainpipe in SW corner of R8, connecting to horizontal pipe (0.10 x 0.20 m) connecting R8 to R4.

IV: R15: lead pipe in W wall, at floor level, leading water out of the room and probably into vertical clay pipe N of *praefurnium* M(?). Water from R11b possibly disposed of via same channel (N–S slope from R11 to R9 since phase III, then slope E–W from R9 to R15). Another channel parallel to W wall of R14 (unclear location), possibly the one into which the vertical pipe emptied. Water from R14 disposed of via lead pipe in W wall, ca 0.10 m diam. Shaft between tank and R14, probably connected with water disposal of R14.

Channels made of concrete walls, covered with Velian bricks (channels A, B, C, and D) or stone blocks (channel E). Mortar floor, apart from channel D, floored with tiles.

10 – Decoration and material

10.1 – Marble veneer in R1 (walls), threshold R2–R3, R3 (floor and walls), R3b floor and steps (apparently not walls), R3a (possibly floor and steps), R33 (floor), R6b (floor and walls), R10 (floor and probably walls), R11 (floor and probably walls), threshold R10–R11, R11a (floor), R11b (floor), R14 (floor, walls and steps). Three types of polychrome marbles in R15.

Mosaic floor in R2 (fig. 72E) (phase I), black (lava) and white (limestone), geometric frame, central 3.50 x 2 m frame with marine elements (fish), dated 1st cent. AD. Damaged by channel C in phase 2, repaired with mortar.

10.2 – Marble fragments, mainly light grey with grey-blue veins. Occasional giallo antico fragment. One pilaster strip capital, giallo antico or Breccia di Sette Bassi, dated 4th cent. AD. Found in backfill layers (provenance from baths uncertain). Some stucco fragments, incl. stucco head. Not found *in situ*, so could have belonged to building preceding baths.

Inscription GRABNER 2001b, vol. 1, 54

Three inscriptions on lead pipe, two at one end, the third one at the other end. Found in R7 during 1998 excavations, crossing from N to S the N wall of R7

Pipe 2 m length (with another fragment), 9.5 cm diameter, 1–1.5 cm thickness. Letters 2–2.2 cm

Q. V. S. F.

Only the *Q* and *F* are legible on one of the inscriptions.

Picture: GRABNER 2001b, vol. I, Abb. 44

11 – Bibliography

KRINZINGER 1986; GRABNER 2001b

12 – Illustrations

KRINZINGER 1986, Figures 1–2 (plans), Abbildungen 1–16 (pictures), Planbeilagen 1, 5 (city plan), 2–3 (plans, sections); GRABNER 2001b, pl. 1–3, 35 (plans), 4–34 (sections), fig. 1–42 (pictures), 43–55 (material)

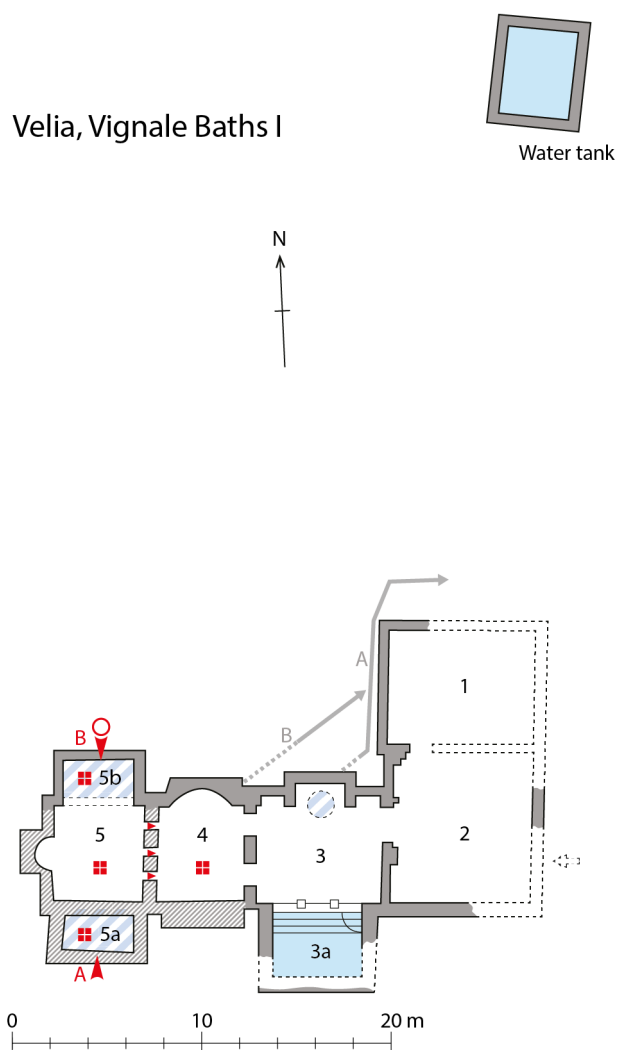


Figure 66: Plan of the Vignale Baths of *Velia* in their first phase, with indication of the water tank to the NE (after KRINZINGER 1986, fig. 1; GRABNER 2001b, pl. 2–3).

Velia, Vignale Baths II

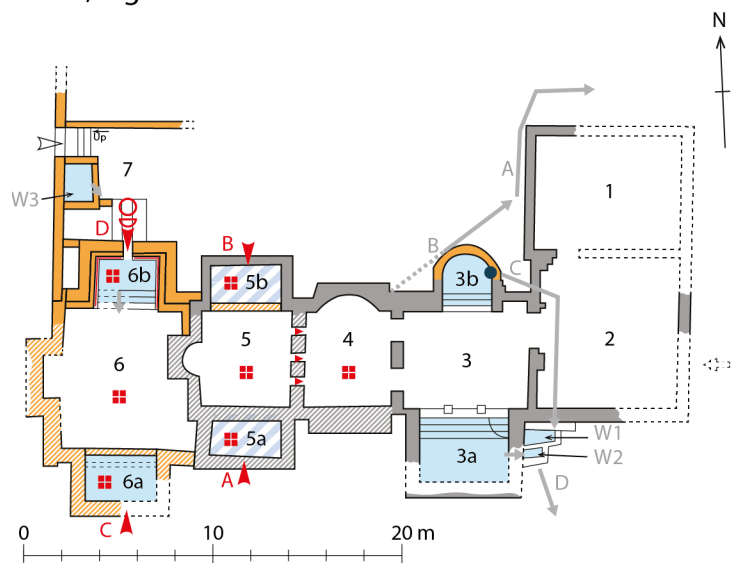


Figure 67: Plan of the Vignale Baths of *Velia* in phase II (after GRABNER 2001b, pl. 2–3).

Velia, Vignale Baths III

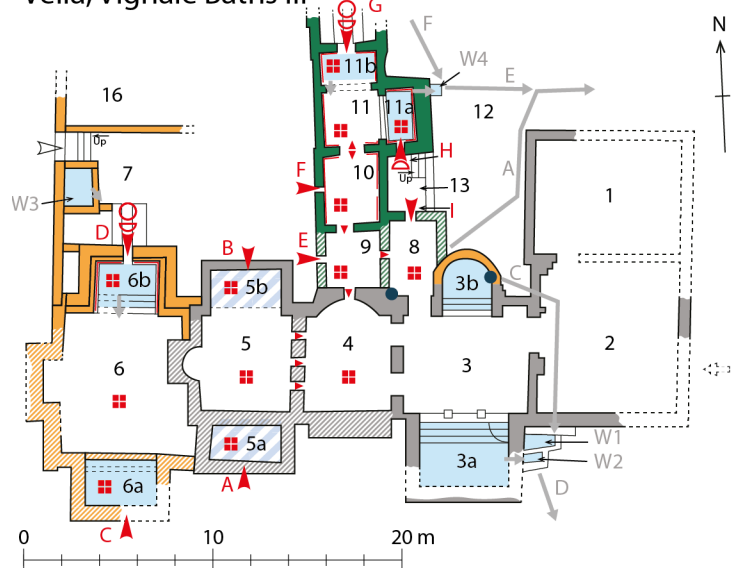


Figure 68: Plan of the Vignale Baths of *Velia* in phase III (after GRABNER 2001b, pl. 2–3).

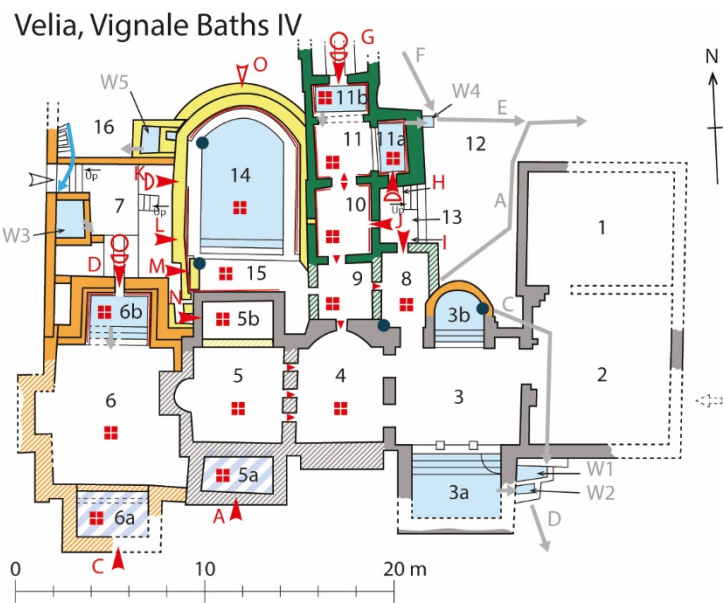


Figure 69: Plan of the Vignale Baths of *Velia* in phase IV (after GRABNER 2001b, pl. 2–3).

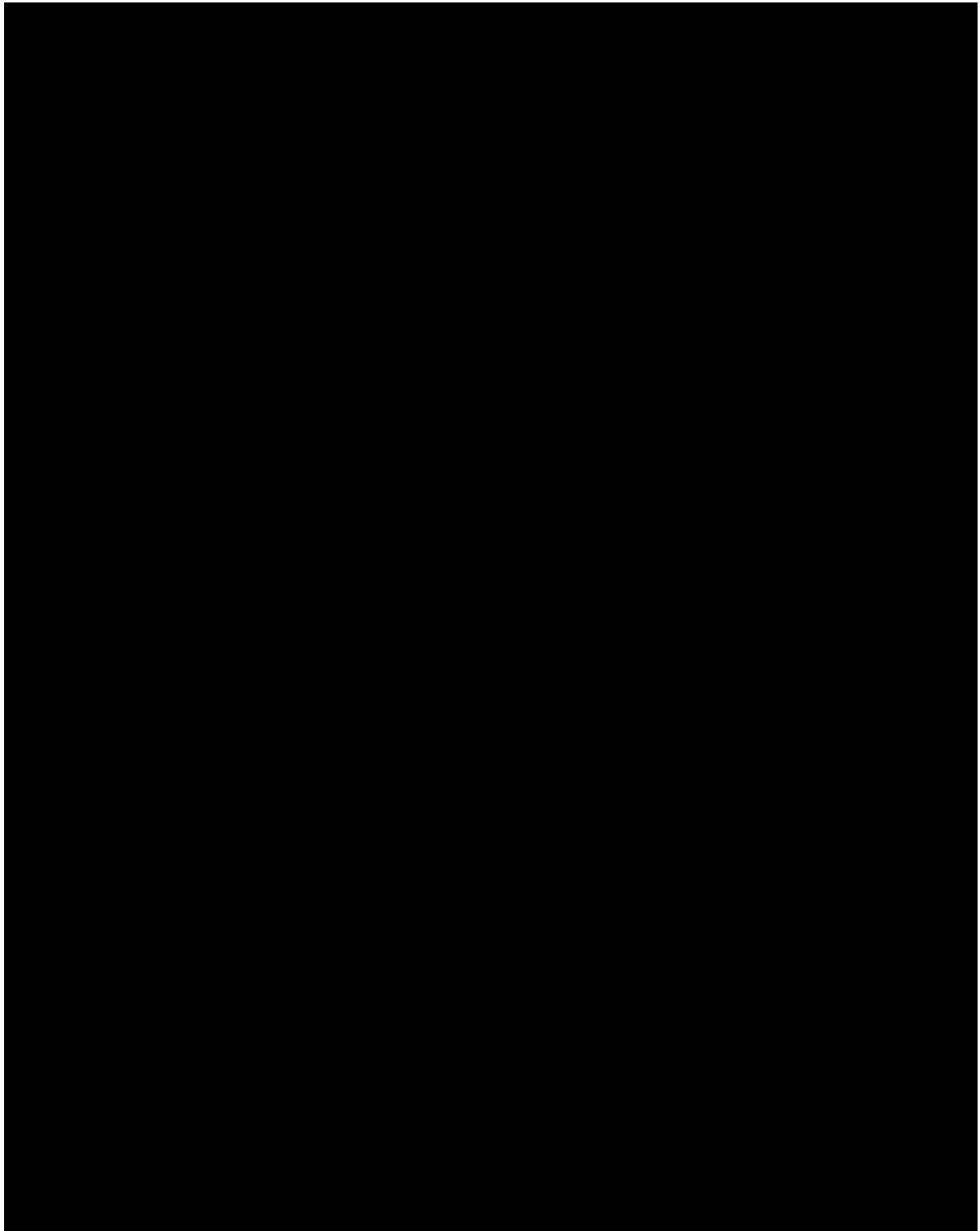


Figure 70A–E: Vignale Baths of *Velia*. **A:** general view, from N. Phase I: **B:** R5–R5a, from S. **C:** R5b, from S. Phase II: **D:** R3b, from E. **E:** R6–R6a, from N (B–E: KRINZINGER 1986, Abb. 4, 8, 10, 12).

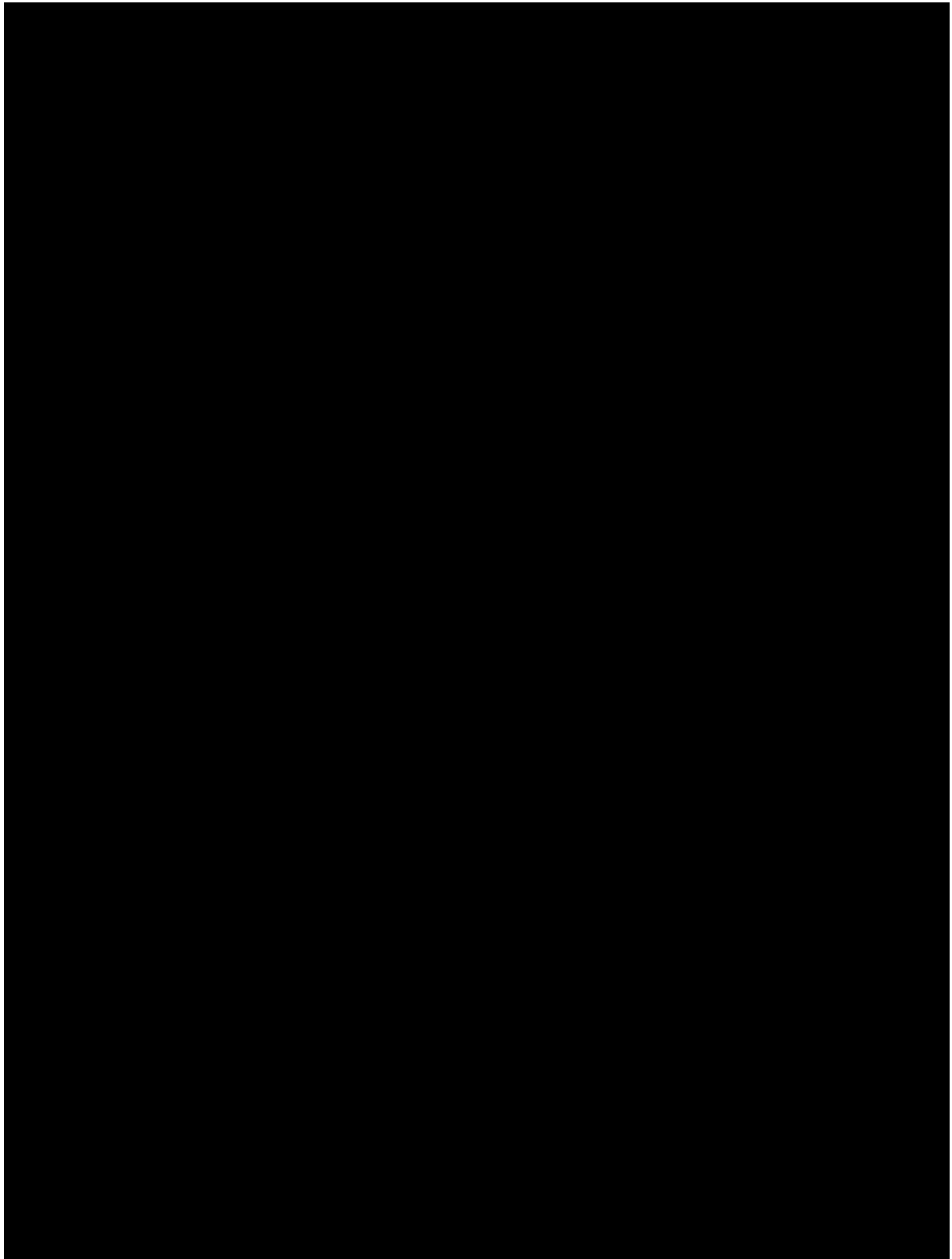


Figure 71A–F: Vignale Baths of *Velia*. Phase III: **A**: R8, R9, R10, R13, from S. **B**: R11, R11a, R11b, R12, from N. **C**: R11a, from S. Phase IV: **D**: R15, from E. **E–F**: R14, from E and from N. Construction materials: **G**: irregular reticulate made of broken reused Velian bricks (A–B, E: KRINZINGER 1986, Abb. 1, 5, 16).

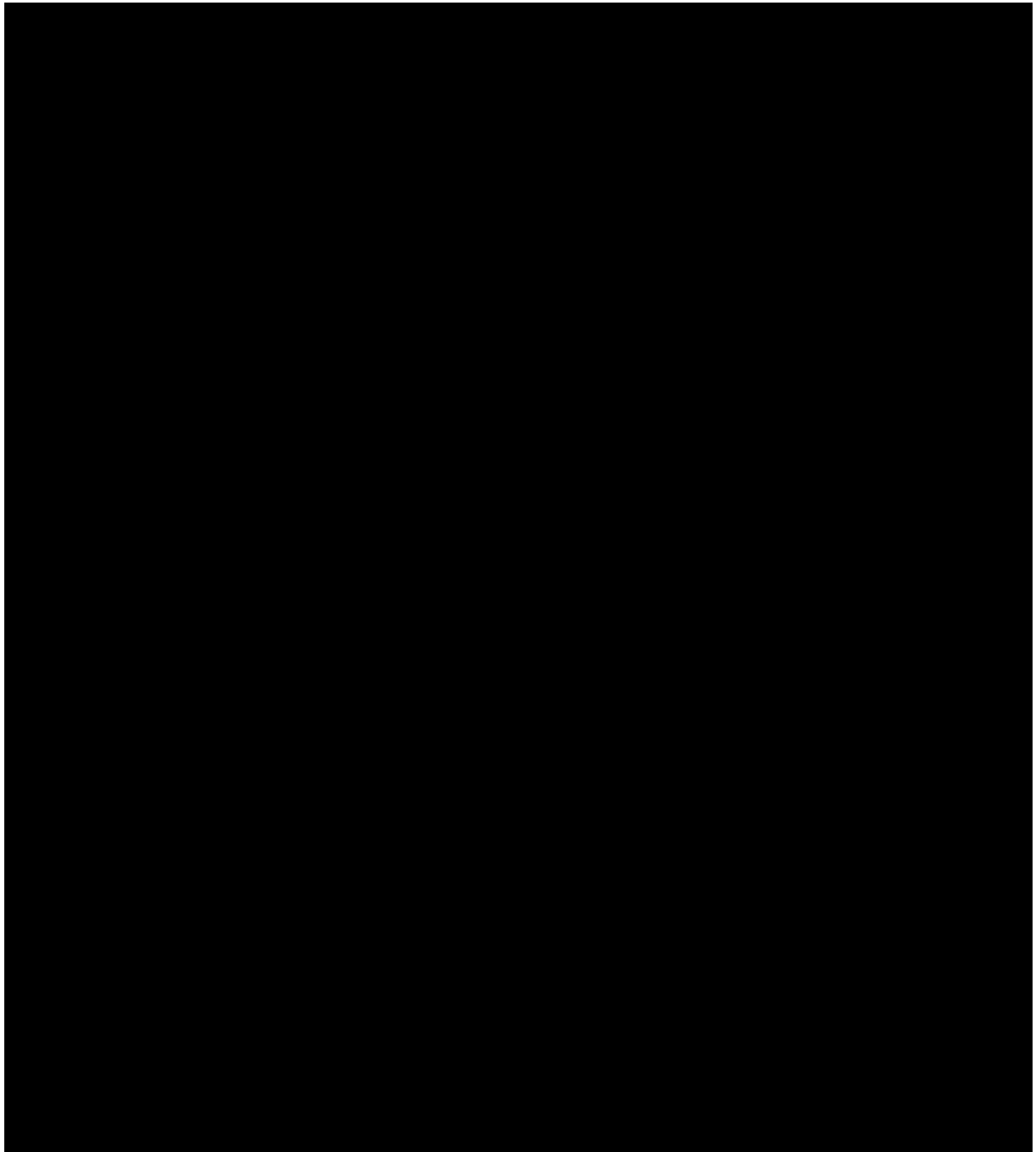


Figure 72A–G: Vignale Baths of *Velia*. Heating and water elements: **A:** R7, with *praefurnia* D, L, and K, from NW. **B:** R7, with *praefurnia* D, L, M, and pool R6b, from W. **C:** R12, with water disposal channels A, B, E, and F, and basin W4, from N. **D:** R16 and R7, with basins W5 and W3, from NE. Decoration: **E:** drawing of the mosaic floor in R2 (KRINZINGER 1986, Abb. 6–7, 9, 15, Planbeilage 2).

Campania, Gazetteer

Atella (Sant'Arpino)

Ca.G.11

Reliability: baths, public (dimensions)

1. 1.1 – Province of Caserta, Comune of Sant'Arpino
1.2 – 14.259253 E, 40.960052 N
1.3 – Possibly close to the forum
2. 2.1 – Good in plan apart from the E section, at hypocaust level/first few courses in elevation
2.2 – Filled back
3. 3.1 – The baths were discovered and partly investigated by Johannowsky in 1966, and further excavated in 2010 by the Soprintendenza (dir. E.A. Stanco). Most of the surface of the baths was uncovered. Not properly published yet, and no plan available.
3.2 – Not visited
4. > 1170m²
5. 5.1 – I: Imperial (Rota)/2nd cent. AD (Johannowsky)
II+: 3rd-4th cent. AD modifications (Rota), until 6th cent. AD (Johannowsky):
 - Redecoration of *frigidarium* R1
 - Contemporaneously or later: blocking of S apsidal pool of *frigidarium*, new cocciopesto floor fitted on top and connected with the outside
 - New entrance to the *frigidarium*
 - Modification in two heated rooms

Pre-baths: a series of Republican/'Hellenistic' *domus* occupied the site

5.2 – Later than the 6th cent. AD (Johannowsky). Robbing of decoration.
6. 6.1 – **R1**, 14.80 x 8 m, unheated, with two segmental pools, R1a on E short side, and R1b on S side. In a later phase, the S apsidal pool was decommissioned and replaced by an ascending flight of stairs leading into a portico, possibly an entrance to the baths. Four heated rooms to the N of R1; the first two underwent significant (undescribed) changes in later phases, one being subdivided to create a smaller room within it. From S to N: **R2**: N of R1, 11.20 x 7.45 m, heated from the E. **R3**: roughly square room (9.10 x 8.30 m), heated from W. **R4**: 13.50 x 7.55 m, heated from W. Two 'sfiatatoi' (chimneys? Hypocaust passages?). **R5**: 11.20 x 7.45 m, heated, equipped with a pool in a large apse to the W.
R6: service area along the W façade of the heated sector, from which the *praefurnia* were operated.
6.2 – R1, unheated and with pools, was a *frigidarium*. **R5**, last heated room of the heated sector and equipped with a pool, was the *caldarium*.
The orientation of the baths, with the heated rooms to the N/NW, is unusual.
7. Cocciopesto floor in portico S of R1.

In heated rooms, brick facing and quoins with reticulate panels. The E wall of one (unspecified) pool was faced in reticulate.

8. 8.1 – No information available

8.2 – Area of various CBM, *pilae* made of *bessales* and circular bricks (alongside each other at least in R3), supporting a *suspensura* made of *bipedales* and a *cocciopesto* layer.

9. 9.1–2 – No information available

9.3 – Traces of a drain found in a trench dug along the W sector of the baths, made of different techniques and probably belonging to different periods

10. 10.1 – Polychrome marble floor and wall veneer in several rooms. Mosaic floor in one room created by subdividing of one of the heated rooms (mostly white, occasional coloured *tesserae*). Moulded stucco decorated the *frigidarium* and some of the heated rooms.

10.2 – Several reused inscriptions, unrelated to the baths, commemorating the construction of monuments and mentioning emperors and members of the elite.

Five inscriptions (PEZZELLA 2017, 74–83, fig. 24–28) reused in the floor of R1

- [Ti(berio)] Claudio Ti(beri) F(ilio) Ti(beri) N(epoti) N(eroni) / [pa]tri Ti(beri) Caesaris Au[gusti] f(ili) / Au[gusti] et Neronis [Claudi] / [Dr]usi Germanici [co(n)s(ulis) imp(eratoris) II] / [t]r(ibun) mil(itum) e[t---]

Fragment of a white marble slab. Inscription in honour of *Tiberius Claudius Nero*, father of the emperor *Tiberius*, by military tribunes. Dated AD 14–37

- Dru[sus] [VS Caesar Ti. Caesaris. Aug. F. trib. pot. II] / A]b Urbe co[ndita] / sacer]dos pu[blicus]

Five fragments, white marble, dated 1st–2nd cent. AD

- Delm[atiae] / Hisp[aniae] / (Au)gusta(li)

Three fragments, white marble

- LART[---

One fragment, top left part of inscription, white marble, moulded cornice

- [Imp. Caes. L. S]eptim[io Severo] / [Pio Per]tin[aci---] / [Ar]abico[---] Adiabe]nic[o] / [---d]om[i]no in[dulgentissimo]

Seven fragments. Dedication to the emperor *Septimius Severus*. Dated AD 195–198

11. JOHANNOWSKY 1966, 2365; IORIO 2010, 83–85; ROTA 2012, 1358–1360; PEZZELLA 2017, 74–80 (material)

12. IORIO 2010, fig. 83, 85; ROTA 2012, fig. 1; RESCIGNO & SIRANO 2014, fig. 4; PEZZELLA 2017, fig. 24–28 (material)

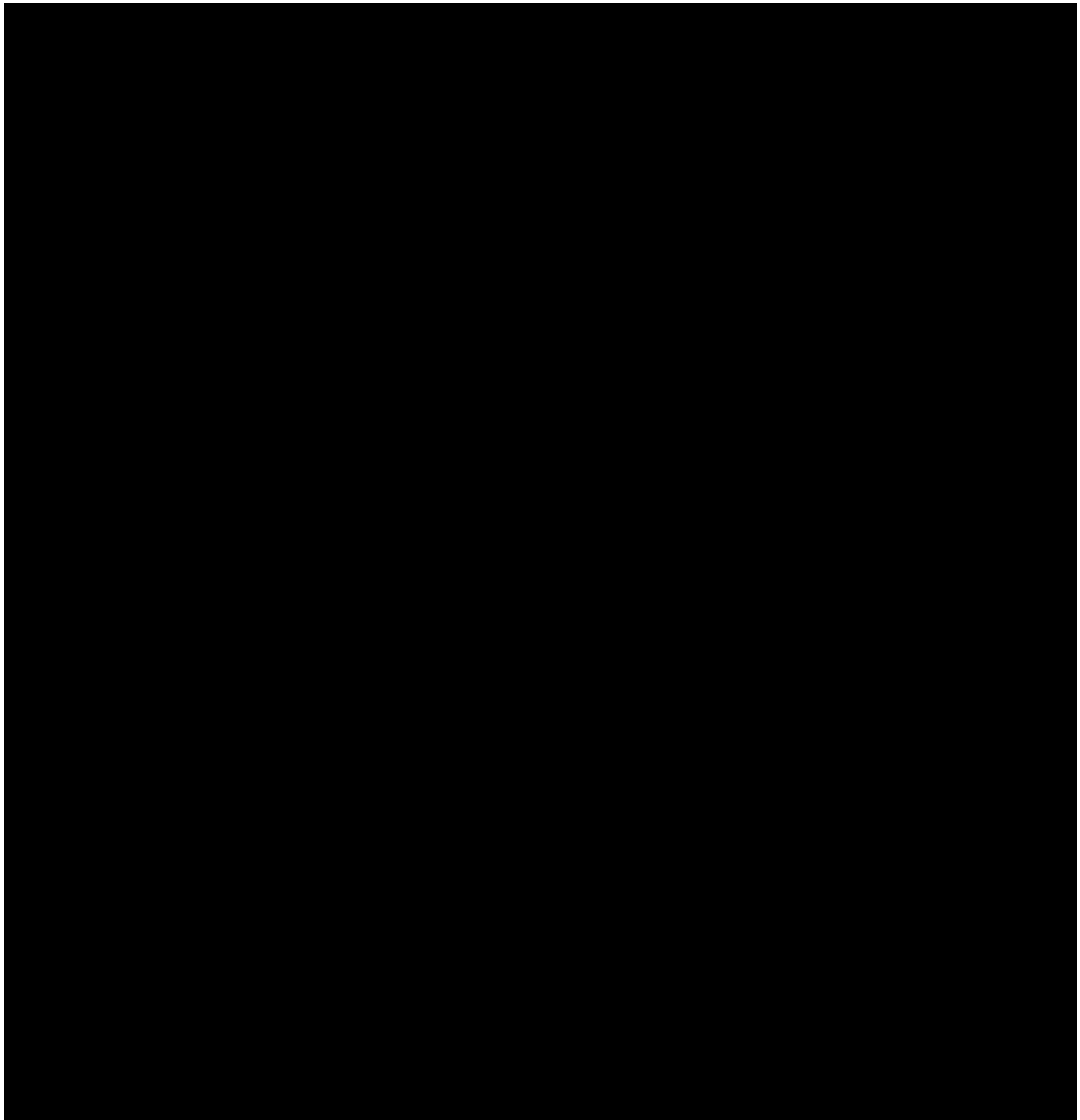


Figure 73A–E: Baths of *Atella*. **A**: satellite view, N on top. **B–C**: general views, from SW and NE. **D**: view of R4, from E. **E**: detail of the hypocaust in one of the heated rooms (A: © Google Earth, 19.06.2013; B: RESCIGNO & SIRANO 2014, fig. 4; C: ROTA 2012, fig. 1; D: IORIO 2010, fig. p. 85; E: PROLOCO SANT’ARPINO 2019).

Reliability: probably bath building (heated rooms, design of rooms), probably public (dimensions of rooms)

Province of Caserta, Comune of Santa Maria Capua Vetere

14.262920 E, 41.082717 N

A series of unconnected trenches opened between 1951 and 1969 along the modern Corso dei Martiri d'Ungheria, in the centre of the Roman city and along the N side of the *decumanus maximus* (*Via Appia*), revealed structures identified as belonging to a single, large bath building.

Trench A: two rooms, walls faced with courses of stone blocks ('tufelli'), lined with *cocciopesto*, floor in *cocciopesto*. 0.40 m thick walls, 4 m apart. One of the walls was doubled by another wall, 0.25 m thick, along its E side; at its N end was a cylindrical hole, diam. 0.20 m, possibly fitted with a pipe for water disposal.

Trench B: ca. 20 m to the SE, remains of a rectangular heated room with an apse along the N wall. 14.70 m E–W and min. 8.60 m N–S. *Area* in 'battuto' (*cocciopesto*?), 1.17 m high *pilae* made of circular bricks. *Praefurnium* on the N side, opening covered by an arch (diam 1.17 m). There was a rectangular recess in the wall E of the apse, starting from 0.35 m above the *area* and closed with a thin wall. Two 1.50 m wide openings in the E wall, the N one blocked later by a thin wall, turning the passage into a niche. There was a 1.50 m wide niche between the two openings, also blocked in a later phase. Walls faced in irregularly alternating courses of bricks (0.27 x 0.13 x 0.03 m) and stone blocks ('tufelli', 0.08 x 0.24 m). Lining of white plaster. Material: red painted plaster, stuccowork with vegetal motifs, fragments of marble slabs used as veneer (incl. red marble and white marble), an inscribed marble fragment (0.12 x 0.075 m, T 0.02 m) with rubricated letters. [---]L[---]/[---]ICI[---]/[---]UII[---]/[---]

Trench D: ca. 45 m further SE of trench B. Ca. 10 x 4 m heated room, faced with courses of stone blocks ('tufelli', 0.24 x 0.08 m, 0.28 x 0.08 m); *area* made of square bricks ca. 0.30 m on the side, tubular *pilae* 0.48 m high and 0.17 m diam.

Trench C: ca. 20 m to the NE of trench D. Ca. 0.87 m wide stylobate, with remains of stuccoed tuff columns.

De Franciscis suggested that the remains of trenches A, B and D, because of their similar construction techniques, levels, and orientation, were part of a single large bath building dated to the 1st cent. AD (CTM), built over an earlier house (trench C). The distance between the two heated rooms, ca. 45 m, would suggest that this bath building was of vast dimensions (amongst the largest of the catalogue) or that they belonged to two different bath buildings. The dimensions of the room in trench B points in the direction of a complex of large dimensions.

Bibliography: DE FRANCISCIS 1973, 95–99

Illustrations: DE FRANCISCIS 1973, fig. 1–5 (plans and sections), 6 (material)



Figure 74: Plan of the *Decumanus* Baths of *Capua*. Scale 1:800 (DE FRANCISCIS 1957, fig. 1, modified by author).

Capua, *Decumanus* Baths

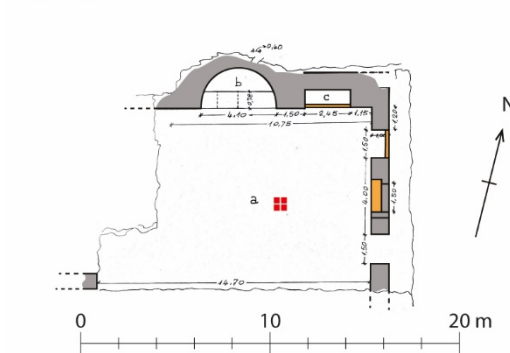


Figure 75: Plan of the *Decumanus* Baths of *Capua*. Room in trench B (DE FRANCISCIS 1957, fig. 5, modified by author).

Reliability: bath building, probably public (dimensions, direct access from a street, absence of connection with other structures, fact that the complex was rebuilt at a smaller scale after having been destroyed)

1. 1.1 – Province of Benevento, Comune of Circello
1.2 – 14.810935 E, 41.319464 N, ca. 700 m asl
1.3 – In a *vicus/pagus*, along a road to the W, close to a sacred complex. Composed of two successive baths, a 'large' and a 'small' complex
2. 2.1 – Good in plan (possibly not entirely excavated), at hypocaust level/first few courses in elevation
2.2 – Part of the Area archeologica di Macchia
3. 3.1 – Excavations by the Soprintendenza Archeologica di Salerno (dir. Johannowsky) between 1982–1988
3.2 – Not visited
4. > 500 m² (roughly, from plan)
5. 5.1 – Possibly three construction phases, the first one dated to late 1st–early 2nd cent. AD (La Rocca) or the 3rd cent. AD (Johannowsky).

Pre-baths: Late Republican

- mosaic floor in R1, reused in baths
- structures under R1

I: Late 1st–2nd cent. AD

- construction of large complex (R1 to R5)

II: 2nd half of 3rd–early 4th cent. AD (material)

- restoration of structures
- possibly addition of pools(?) R1b and to NW of R3

III: 2nd half of 4th cent. AD?

- abandon(?) of large complex
- construction of small complex

5.2 – Possibly 2nd half of 4th cent. AD for large complex, in connection with earthquakes in area; unspecified for small complex

6. 6.1 – 2 discrete complexes, a first, larger one to the N, a smaller, later one to the S.

R1: largest room of the first baths. It existed before the baths were built, and was reused in phase I when pool R1a was added. **R1a**, a pool with segmental back wall, was accessible via a flight of bricks steps. A small segmental structure (**R1b**) was added in the SE corner of R1, possibly a pool too. R1 was accessible from the W via R2, itself opening on a street to the W. **R3** and **R4** were heated rooms, probably accessible from R1 by passing through R5. R3 had a small apse in its NW corner, possibly added in a later phase, and possibly fitted with a pool. In La Rocca's plan, a room N of R4 was shown with a floor similar to that of R3, suggesting the room might have been heated, or a service area from which to operate a *praefurnium*.

Small complex: three small heated rooms R6, R7 and R8, R6 being equipped with a possible pool with segmental pool (R6a). Other rooms with unspecified features to the S and W of R6 and R8.

6.2 – R1, with cold-water pool R1a, can be identified as the *frigidarium*; R2 was the entrance to the baths and could have acted as *apodyterium*. R4, being the first heated room of the heated circuit, was a *tepidarium*; R3 could have been the *caldarium*, in which case at least one pool needs to be reconstructed in that room.

Small complex: R6 was probably a *caldarium*, equipped with a hot-water pool R6a. R8 may have been a *tepidarium*; R7, off the *caldarium* R6, directly heated by a *praefurnium* to the W, and with an access only from R6, may have been a sweat-bath.

7. Floors: *cocciopesto* in R1a, R1b.

Walls: brick facing (large complex), courses of small limestone blocks (small complex)

8. 8.1 – No *praefurnium* recorded for the **large complex**, but at least one must be reconstruction along the W side of the baths (possibly in the room W of R4). **Small complex:** A *praefurnium* replaced R1b in phase III to heat R7 and probably the following rooms (R6, R6a, R8). Outer extensions which may have supported a boiler. It is probably that there was another *praefurnium* to heat the small complex.

8.2 – Area of *bipedales* (R3) or limestone slabs (small complex), *pilae* made of *bessales* (R8) or circular bricks (R6). Wall heating with *tubuli*, preserved in R7. Hypocaust connections reconstructed from pictures between R6–R7, R6–R8, and R3–R4.

9. 9.1 – No information available

9.2 – Cold water required for R1a, maybe for R1b; warm water necessary possibly for R6a, and probably for unknown pools in R3

9.3 – Water-disposal channel covered by tiles set a *cappuccina* under R1b

10. 10.1 – R1: mosaic floor, white rectangles on black background, in geometric frame of light grey *tesserae*.

10.2 – Inscription *CIL* IX.1466 = [E40] has been hypothetically connected to this bath building.

11. JOHANNOWSKY 1988, 838–840; LA ROCCA & RESCIGNO 2010, 247–253; TESS10990

12. LA ROCCA & RESCIGNO 2010, fig. 291 (plan), 292–305 (pictures); MADDALENA 2015

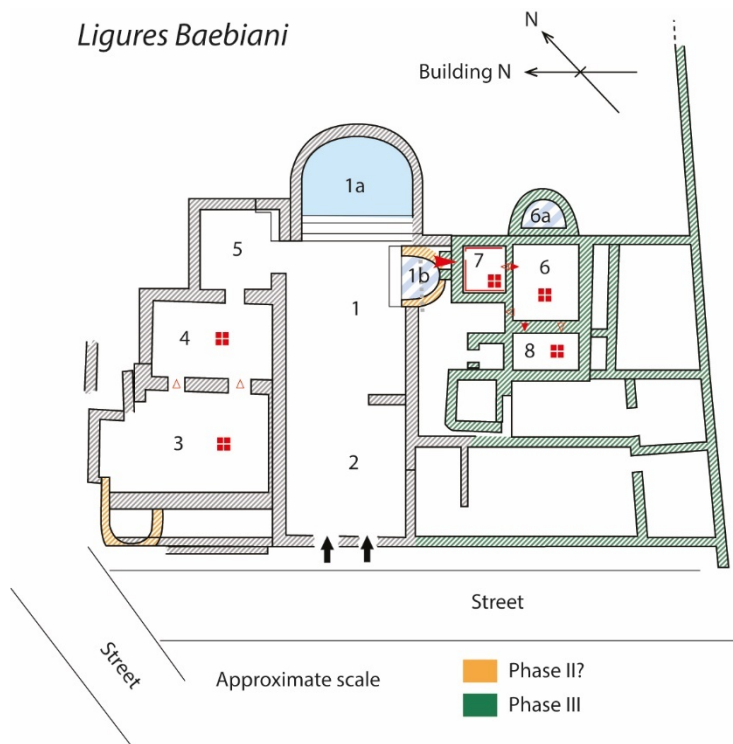


Figure 76: Sketch of the baths of *Ligures Baebiani*. Scale approximate, phasing hypothetical (after LA ROCCA & RESCIGNO 2010, fig. 291).

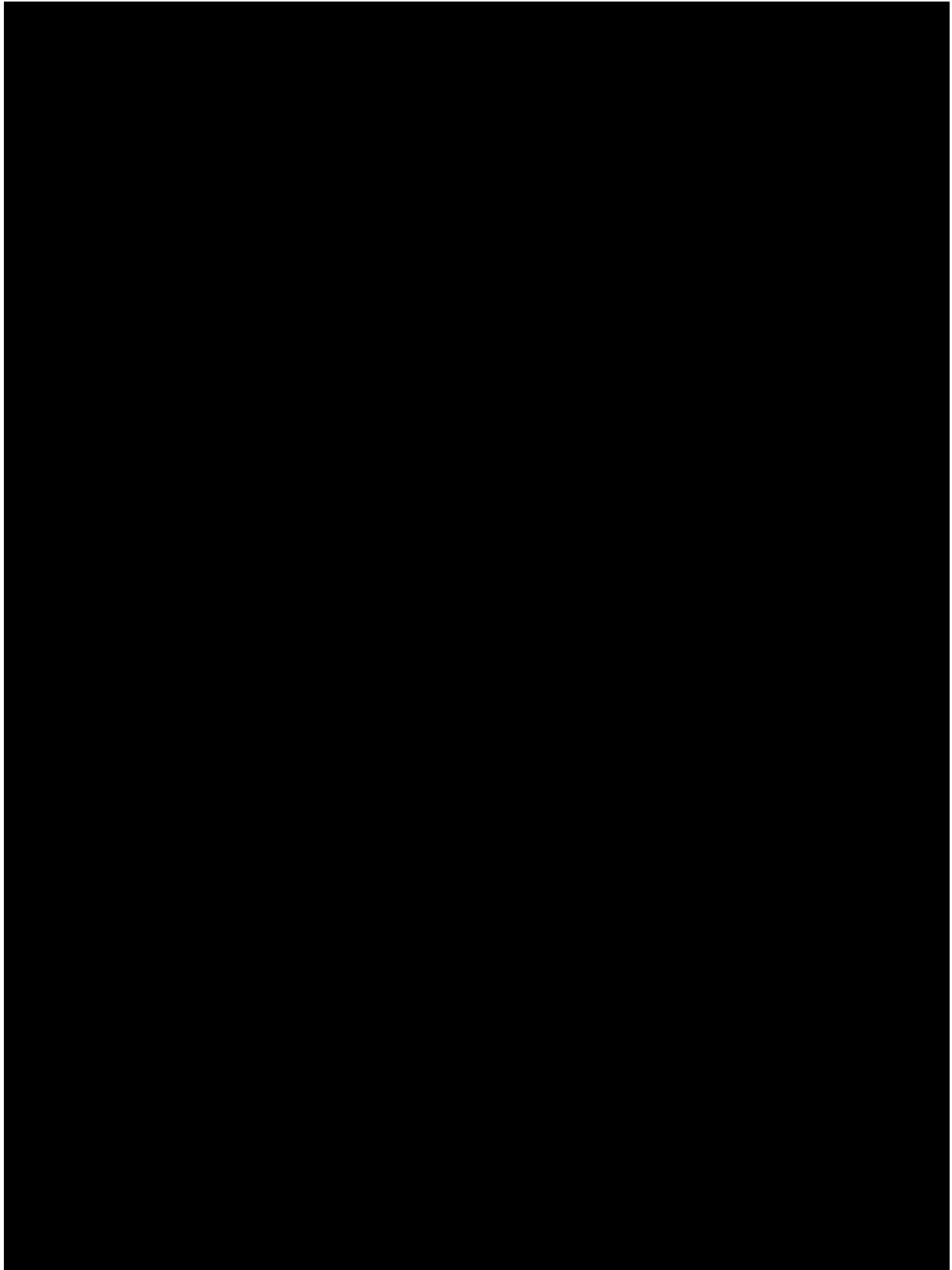


Figure 77A–G: Baths of *Ligures Baebiani*, large complex. **A:** general view, from E. **B–C:** R1, R1a and R1b, from E. **D:** R2, from W. **E:** mosaic floor in R1, from W. **F:** heated rooms R3–R4n from NW. **G–H:** R3 and niche in NW corner of R3, from N (A: MADDALENA 2015; B–H: LA ROCCA & RESCIGNO 2010, fig. 292, 294, 296, 298–300, 305).

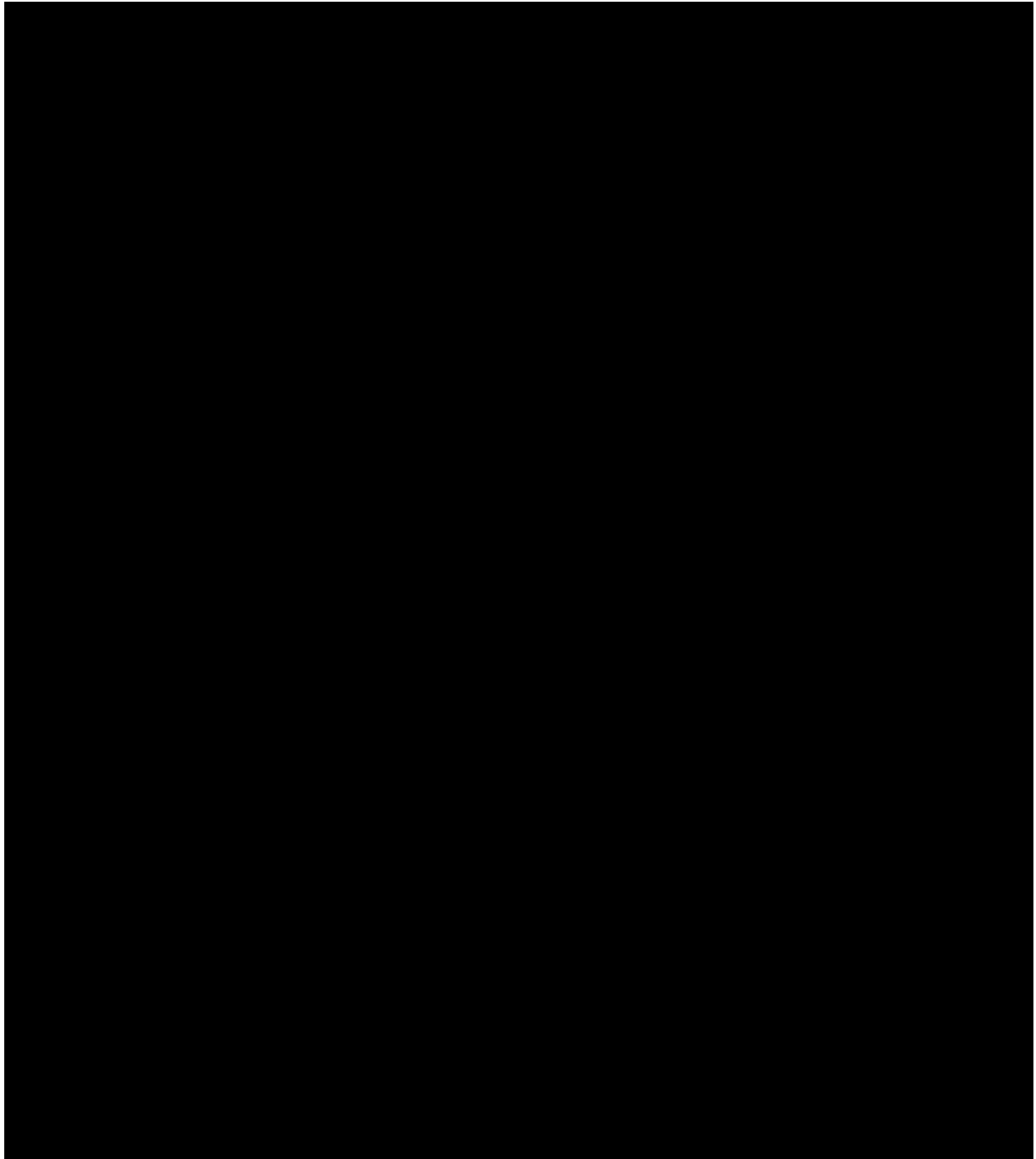


Figure 78A–E: Baths of *Ligures Baebiani*, small complex. **A:** general view, from E. **B:** R6, from W. **C:** R8, from N. **D:** R7, from E. **E:** *praefurnium* heating R7, from N (LA ROCCA & RESCIGNO 2010, fig. 301–304; E: MADDALENA 2015).

Piazza Municipio

Reliability: baths, probably public (location)

Città metropolitana and Comune of Napoli

14.252019 E, 40.839930 N (N baths)

14.252405 E, 40.839272 N (S baths)

Remains of two bath buildings were discovered in Piazza Municipio, during the excavations of the Roman harbour of *Neapolis* (2000s). Both were in the harbour, ca. 30 m away from each other, and separated from the water by a ca. 6 m wide road. It has not yet been determined if they belonged to the same larger complex, if they were two discrete buildings, or if one belonged to a private villa.

Northern Baths

10 rooms excavated for a surface area of 265 m², including an *apodyterium*, a covered cold-water pool, and a heated room with a pool on the W side and an apse on the E side containing a *labrum*, the base of which was preserved. Wall heating with *tegulae mammatae*. Walls faced in reticulate, quoins in tuff blocks, floors in *opus spicatum*, mosaic floor in the *caldarium*.

Built in the Augustan period, abandoned mid–5th cent. AD, tombs dug in the baths in the 6th–7th cent. AD.

Southern Baths

Discovered in 2009. First phase in the early imperial period; phase II in the 2nd half of 2nd cent. AD.

From plan, the southernmost room could be a *caldarium* with three apses fitted with pools; the smaller room directly to the SE was a service area from which a *praefurnium* was operated. The other rooms to the SW were further heated rooms, with a corridor running along the SW side of the building. Walls faced in reticulate with quoins in stone blocks, and brick arches above the *praefurnium*.

Bibliography: SALVATORE 2011, 713; CINQUANTAQUATTRO 2015, 871–873

Illustrations: GUZZO 2009, fig. 9 (picture); SALVATORE 2011, fig. 15 (picture); CINQUANTAQUATTRO 2015, fig. 8–9 (pictures); GIAMPAOLA, CARUGHI & GIORDANO 2017, fig. 3 (plan, city plan)

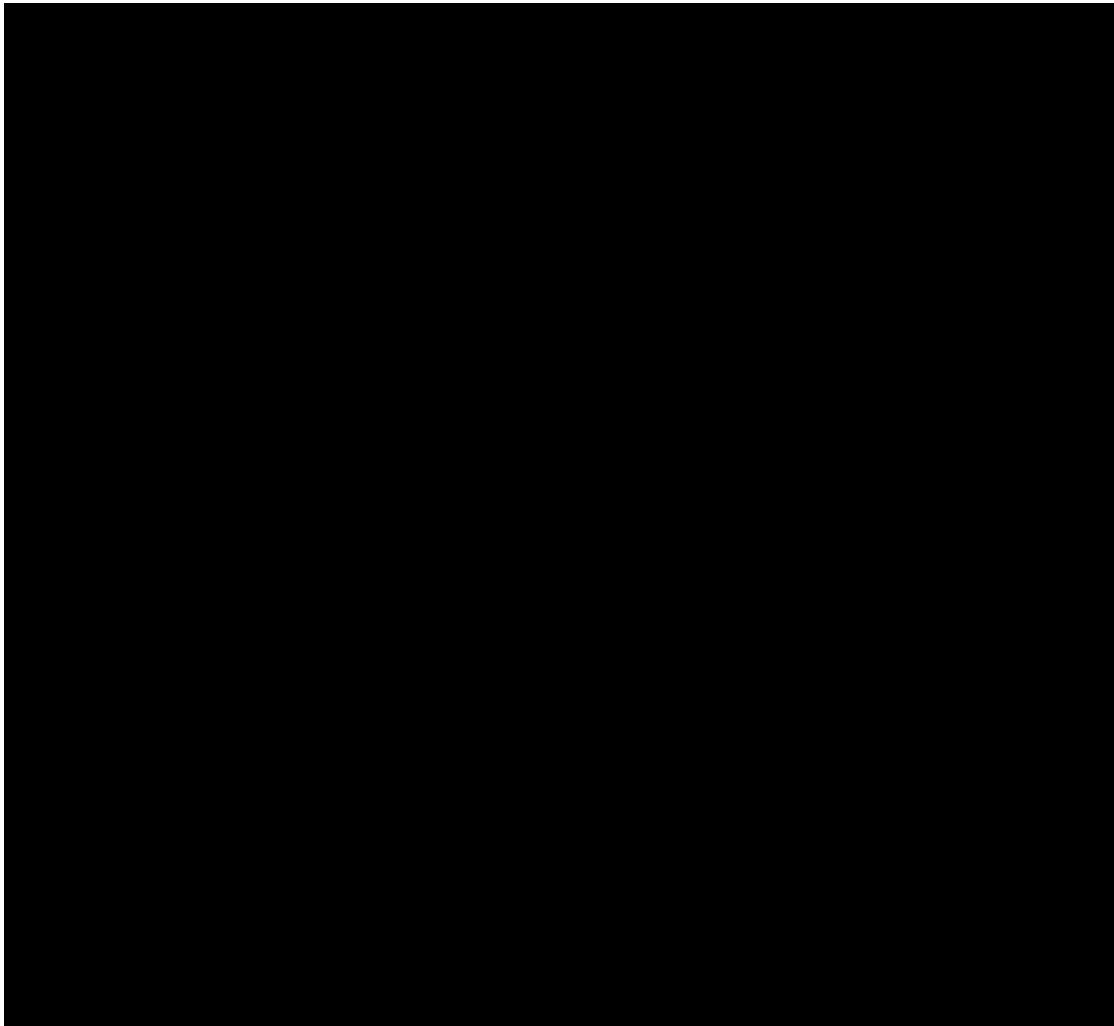


Figure 79: Plan of the Harbour Baths of *Neapolis*. Scale 1:400 (GIAMPAOLA, CARUGHI & GIORDANO 2017, fig. 3).

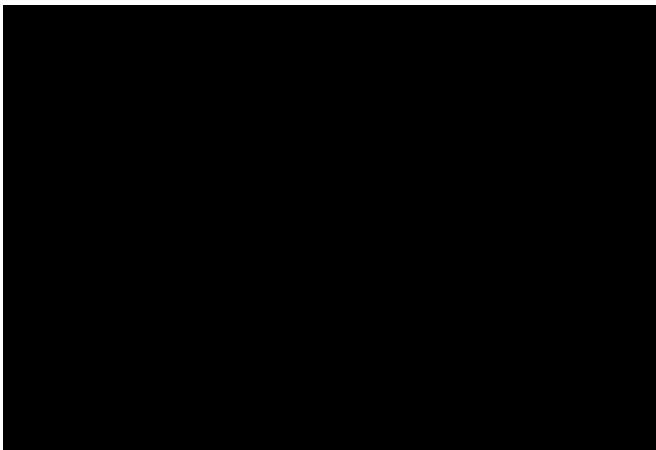


Figure 80: Aerial view of the Northern Baths in the harbour of *Neapolis* (CINQUANTAQUATTRO 2015, fig. 8).



Figure 81: Southern Baths in the harbour of *Neapolis*. **L**: westernmost room of the baths, from SE. **R**: southernmost heated room of the baths, from SE (GUZZO 2009, fig. 9; SALVATORE 2011, fig. 15).

Neapolis (Napoli), Santa Chiara

Ca.G.16

Reliability: baths, public (dimensions)

1. 1.1 – Città Metropolitana e Comune di Napoli
1.2 – 14.252574 E, 40.845586 N
1.3 – W of the city walls, in an area incorporated inside the city walls in the 2nd cent. AD
2. 2.1 – Only five rooms are known, preserved for a few courses in height.
2.2 – Part of the Complesso monumentale di Santa Chiara
3. 3.1 – Discovered 1951-1952 during restorations conducted on the basilica and the convent (after having been bombed in 1943), then excavated (dir. De Franciscis). There are no records of these excavations.
3.2 – Visited in March 2016
4. > 450 m²
5. 5.1 – 1-2nd cent. AD (Vecchio: CT) or construction 1st cent AD with 2nd cent. AD extension (Giampaola)
5.2 – Unknown
6. 6.1 – **R1**: 15.85/16.20 × 5.75 m pool, 1.50 m deep, lined with cocciopesto. The pool is partly integrated in the structures of the convent. Along the N and W sides of the inner wall, 0.60 m below the rim of the pool, ran a 0.40/0.50 m wide bench; a three-step stair in the NW corner granted access to the pool.
R2: W of R1 was another rectangular pool with apse on N side, ca. 4.50 m wide. Access from the S via a few steps. Remains of the original veneer in marble slabs.
R3: heated circular room with four apses, ca. 5 m diam. Probably covered with a dome. Floor decorated with mosaic.
R4 lead into R3. Damaged, the remaining part measures 5 × 4 m.
R5: large water storage facility, 11 × 9 m, probably covered with barrel vaults supported by pilasters. Lined with cocciopesto.

Service areas: only partly explored, composed of a network of corridor under the baths.

6.2 – R1: *natatio*; **R5:** water tank.

7. R1: Walls in mortared rubble with *opus reticulatum* facing covered by a 2.6 cm thick layer of waterproof *opus signinum* and a first layer of rough plaster, 3 cm thick. The latter was probably covered by a second layer of coloured plaster of which some fragments have been found in the filling of the *natatio*.

R3 brick facing

8. **8.1** – No *praefurnia* found.

8.2 – Area of tiles (R3), *pilae* made of circular bricks and hollow tubes (found in R3 and in collapse layer in R1). Terracotta pipe in S wall of R3 (diam. ca. 15 cm), possibly a hypocaust connection? Hypocaust passage in NE apse of R3, covered by flat lintel, blocked by large stone block.

9. **9.1** – Naples was supplied by the *Aqua Augusta*/Serino Aqueduct since the Augustan period, which apparently ran under Santa Chiara. **R5** was a large water storage facility with three naves, probably covered with barrel vaults supported by pilasters. Lined with *cocciopesto*.

9.2 – No information available

9.3 – Network of channels in the thickness of the W wall of R1, that seems connected to the pool; the channels were faced in *opus reticulatum* and covered with large tiles. Drain in SW corner of R2.

10. **10.1** – Fragments of coloured plaster found in collapse layers of R1. Marble veneer in R2. Mosaic floor in R3.

10.2 – No information available

11. DE FRANCISCIS 1954; VECCHIO 1985; GIAMPAOLA 1994, 77; ALABISO 1995, 61–66

12. GIAMPAOLA 1994, fig. p. 76 (plan), 272–273; ALABISO 1995, fig. p. 64 (plan), 65–66 (pictures)

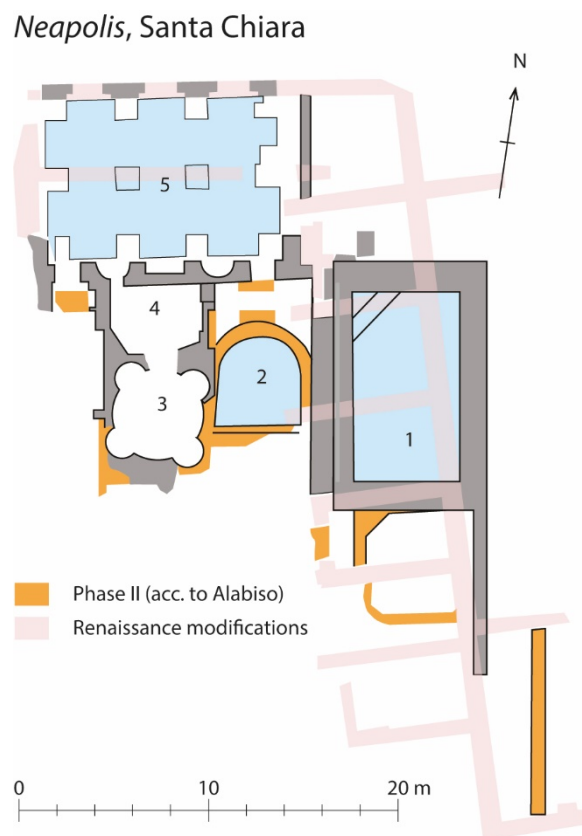


Figure 82: Plan of the baths of *Neapolis, Santa Chiara* (after ALABISO 1995, fig. p. 64).

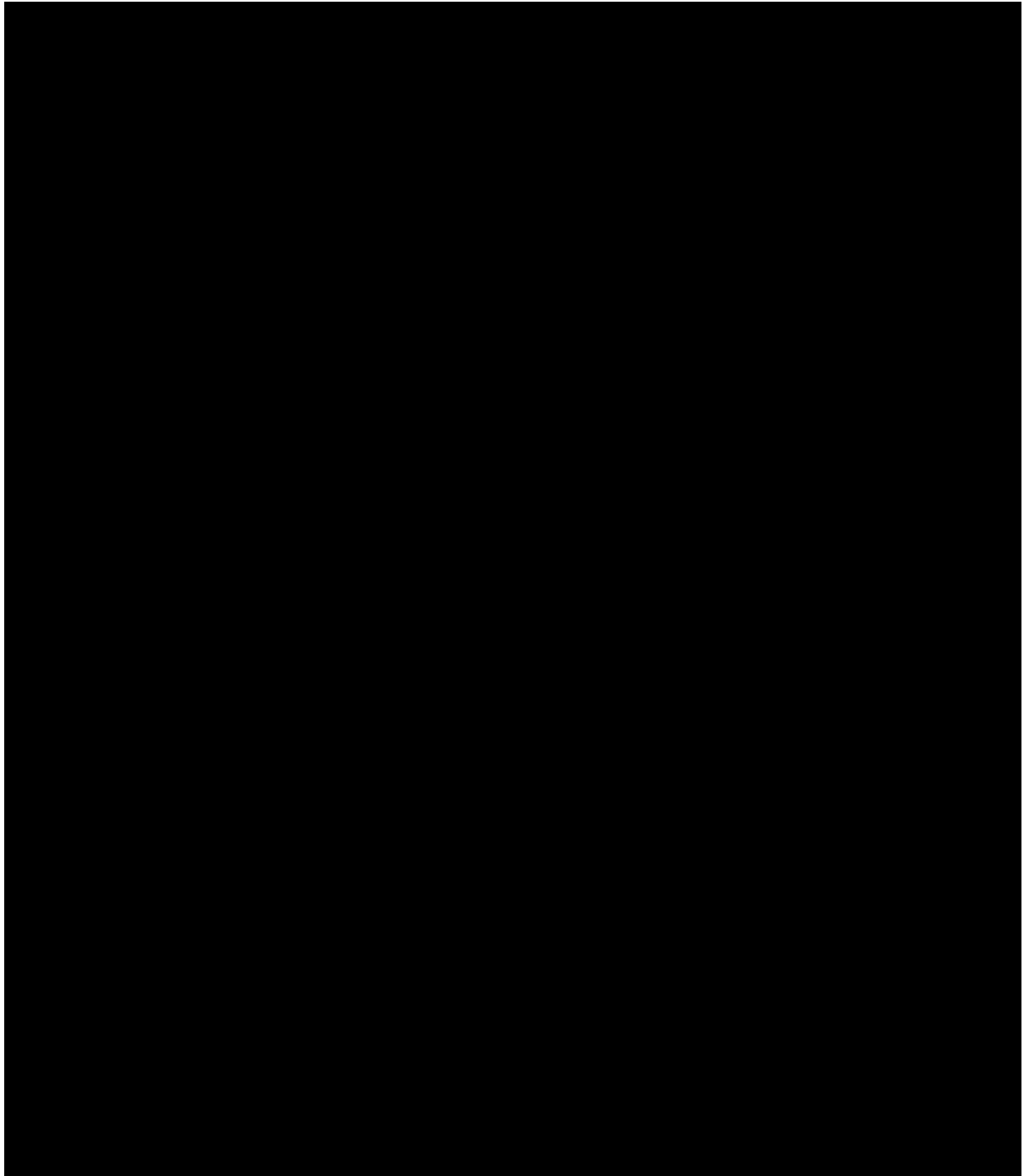


Figure 83A–E: Baths of *Neapolis*, Santa Chiara. **A:** general view, from N. **B:** R3, from W. **C:** R5, from E. **D–E:** Underground service area (A, D–E: ALABISO 1995, fig. p. 65–66).

Terme in via Carminiello ai Mannesi

Reliability: bath building, possibly public (access from outside of *insula*)

1. 1.1 – Città metropolitana di Napoli, Comune of Napoli
1.2 – 14.260260 E, 40.851156 N
1.3 – Occupying the S part of an *insula* in the centre of the city
2. 2.1 – Only some unconnected rooms from the N part of the baths are preserved, for several meters in elevation. Restored.
2.2 – Part of the Area archeologica di Carminiello ai Mannesi, managed by the SABAP per l'area metropolitana di Napoli
3. 3.1 – Discovered after the church of SM del Carminiello was bombed in 1943. Excavated in 1983 by the Soprintendenza per le province di Napoli e Caserta (dir. P. Arthur, G. Vecchio)
3.2 – Visited in March 2016
4. > 300 m² (350 m² for the quadrangle delimited by R1 to the SW, R3 to the NW, R7 to the NE and the continuation of R1 and R7 for the SE boundary.
5. 5.1 – I: end of 1st cent. AD
II: undated
 - R114 turned into cistern
 - Contemporaneously or later: several rooms converted into a *mithraeum*
- 5.2 – 1st half of 5th cent. AD
 - R5, R6, R9 and R10 used as lime kiln, then abandoned before 6th cent. AD
 - Reuse of several rooms in 7th–8th cent. AD

Church built in upper floor in R112–R115; R25 reused as crypt, possibly R12 too

6. 6.1 – The baths were part of a larger complex on two floors (29 rooms and 700 m² on ground floor) that occupied the S part of an *insula*, bound by a *cardo* to the W. The complex comprised, on the ground floor, a series of shops to the NW, the service areas associated bath building with the baths (R13–R14, R23–R29), a *mithraeum* (R15–R16, possibly R17, R19–R20) and, on the upper floor, a residence centred on the courtyard with the fountain (N of R4) and the baths proper (R1–R6). Although the baths were part of the initial plan of the *insula*, they have been built with a different orientation, requiring adaptations at the junction between the two sections of the *insula*.

R1: in SW part of *insula*, rectangular with semi-circular SW end, 3 m diam. To the N was **R2**, a rectangular room (ca. 6 x 3.50 m) with a semi-circular apse on its NW wall (diam. 3 m), only partly preserved. S of R2 was **R3**, another rectangular room, ca. 6.50 x 4.50 from plan, possibly with an apse on its N wall. **R4** (5.80 x 4.50 m) was located directly to the E of R3, and turned into a cistern at a later date; it was lined with *cocciopesto* and equipped with semi-circular steps in the SW and SE corners. **R5** was

a small space at the junction of R2, R4 and R6, of irregular shape to allow for the change of orientation between the group of rooms to the S (R1, R2, R6) and those to the N (R3, R4, R7). SE of R4 and E of R2 was **R6**, a room whose NW part only is preserved, finishing in a semi-circular apse (4.50 m diam.), and with a passage to the N towards R7, a 6.80 x 3.70 m rectangular room.

6.2 – R2 could a *caldarium* equipped with pools along the short sides, by comparison with other *caldaria* with a similar shape (see section II.2.3).

7. Walls in concrete faced with brick courses and quoins framing reticulate panels. Reticule made of Yellow Tuff
8. **8.1** – Nothing preserved
8.2 – One row of *tubuli* in the wall separating R4 and R7, and in the N wall of R3.
9. **9.1** – Naples was supplied by the *Aqua Augusta*/Serino Aqueduct since the Augustan period.
9.2 – No information available
9.3 – Drainage pipe in S wall of R4, heading S.
10. **10.1–2** – No information available
11. DELAINE 1994
12. DELAINE 1994, fig. 1 (axonometric reconstruction), 6–10 (plans and sections), pl. 1–55 (pictures of entire complex)



Figure 84: Plan of the baths of *Neapolis*, Vico Carminiello (after DELAINE 1994, fig. 6–7).

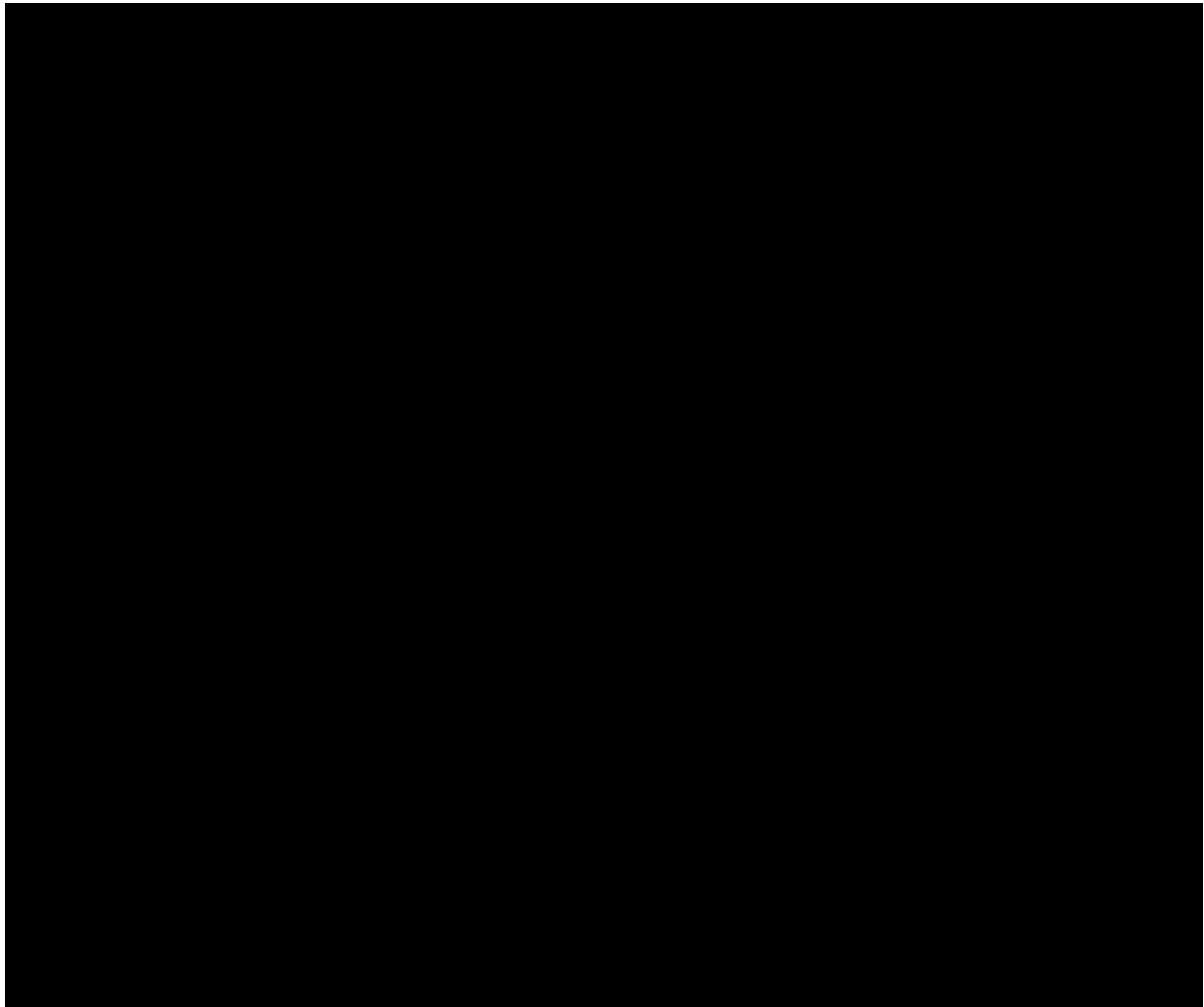


Figure 85A–D: Baths of *Neapolis*, Vico Carminiello. **A:** R4, from N. **B:** back wall of R2, from N. Construction techniques: **C:** detail of facing in brick courses and reticulate panels. Heating systems: **D:** row of *tubuli* in the thickness of the wall between R4 and R7, from S.

Telesia (San Salvatore Telesino), Terme Sabiniane

Ca.G.18

Terme di Venere marina

Reliability: public baths (dimensions, location)

1. 1.1 – Province of Benevento, Comune of San Salvatore Telesino
 1.2 – 14.505991 E, 41.222126 N
 1.3 – In the centre of town
2. 2.1 – Four rooms preserved
 2.2 – Overgrown by vegetation
3. 3.1 – Already investigated in 19th cent. Excavations in the 1950s by the Soprintendenza alle Antichità di Napoli (dir. M. Paolini); unpublished.
 3.2 – Not visited
4. Unknown

5. 5.1 – I: 1st–2nd cent. AD (Quilici: brick facing)
5.2 – Unknown
6. 6.1 – R1: first accessible room. Niche in S long wall with pool accessible by steps and lined with cocciopesto. Mosaic floor. Small transition rooms R2 and R3 in SE and SW corners, giving access to heated rooms R6 and R4, respectively.
R4: heated room, rectangular niche in S wall, possibly containing a pool or basin.
R5: to the N. Heated from the W. Possible pool in W side, based on possible presence of *testudo*.
R6: heated room. Connection to passage room R2, leading back to R1.
6.2 – R1: *frigidarium* with cold-water pool. R2 and R3: heat traps. R6, without pools, was probably a *tepidarium*; R4, equipped with a pool, could have been the *caldarium*. A complete bathing circuit is preserved, with a circular path. An *apodyterium* might be missing, possibly to be reconstructed E of R1.
7. R1: walls faced in brick courses and reticulate. R5–R6: hypocaust faced in brick courses
8. 8.1 – One *praefurnium* heating R5 from the W, possibly equipped with *testudo*, in which case a pool can be reconstructed along the W wall of R5. Another *praefurnium* heating R4 can be reconstructed. There was probably a service corridor along the W side of the baths from which the *praefurnia* were operated.
8.2 – R4, R5 and R6 were heated. *Area* of tiles (at least in R4). *Pilae* made of circular bricks (from *CIL*). Wall heating with *tubuli* (remains in R4 N wall, R5 N and S walls, R6 S wall). Two hypocaust connections between R4 and R5, and two further connections between R5 and R6. Cylindrical terracotta tube in SW corner of R5, possibly a chimney.
9. 9.1 – See entry *Telesia*, Theseus Baths [Ca.08]
9.2 – Cold-water pool in R1, possible hot-water pools in R4 and R5.
9.3 – No information available.
10. 10.1 – No information available
10.2 – These baths were tentatively identified as the object of the restoration mentioned in the inscription *CIL IX.2212*, dated to AD 352/357.
Four inscriptions found in the baths in 1840:
 - *CIL IX.2201 = EDCS-12401714: [Vipsaniae M(arci) Agrippae f(iliae) Agrippi]nae Drusi / [Caes(aris) matri aviae Ti(beri) et Germanici Caes(aris)] divi Aug(usti) pron(epoti)*
Dated AD 19
 - *CIL IX.2202 = EDCS-12401715: Sabinae / Aug(ustae) / d(ecreto) d(ecurionum)*
AD 119–137
 - *CIL IX.2203 = EDCS-12401716: Imp(eratori) Caesar[i] / M(arco) Aurelio / Antonino Aug(usto) / pontif(ici) maxim[o] / trib(unicia) pot(estate) XVI / co(n)s(uli) III / coloni[a] / Telesi[ni] / [d(ecreto) d(ecurionum)]*
AD 161–162
 - *CIL IX.2204 = EDCS-12401714: [---] Septimio Severo p(atri) p(atriae) A[ug(usto)] co(n)s(uli) II Imp(eratori) M(arco) Aurelio Antonino Pio Felici Aug(usto) co(n)s(uli) III*

AD 194–211

11. GRABNER 2001b, K. 62QUILICI 1966, 98, 106 note 44

12. –

Campania, uncertain identifications

Abellinum (Avellino), La Cività

Ca.G.20

Torre degli Orefici

Reliability: possibly baths (heated room), status unknown

Province of Avellino, Comune of Atripalda

14.830813 E, 40.922382 N

Mention of a bath building next to a city gate. The remains include a heated room with apse, with walls faced in reticulate and in '*opus mixtum*'. On site (visited Easter 2017), only the lower courses of a series of rooms set in two rows are visible, along with a Medieval tower (the '*Torre degli Orefici*') built on top of the remains. Large structures ca. 20 m further W, at a lower level, could be part of the baths, possibly substructures. Loose material in crates on site included circular bricks of a diameter of ca. 0.20 m with mortar on both flat sides, probably used to form the *pilae* of hypocausts, but not necessarily of these baths as there is also a private bathing suite on the site.

Bibliography: DE CARO & GRECO 1981, 175

Illustrations: CEGLIA 2017

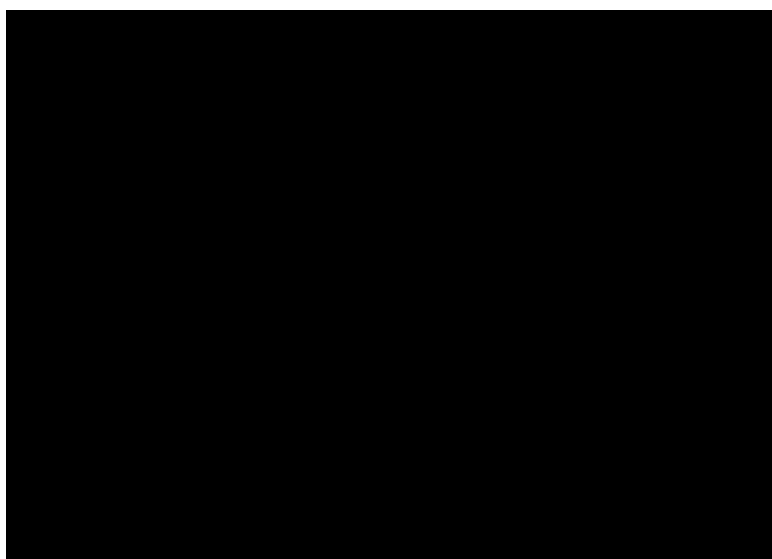


Figure 86: Aerial view of the baths(?) of *Abellinum*. N to the left (© Bing Maps [accessed 01 May 2020]).

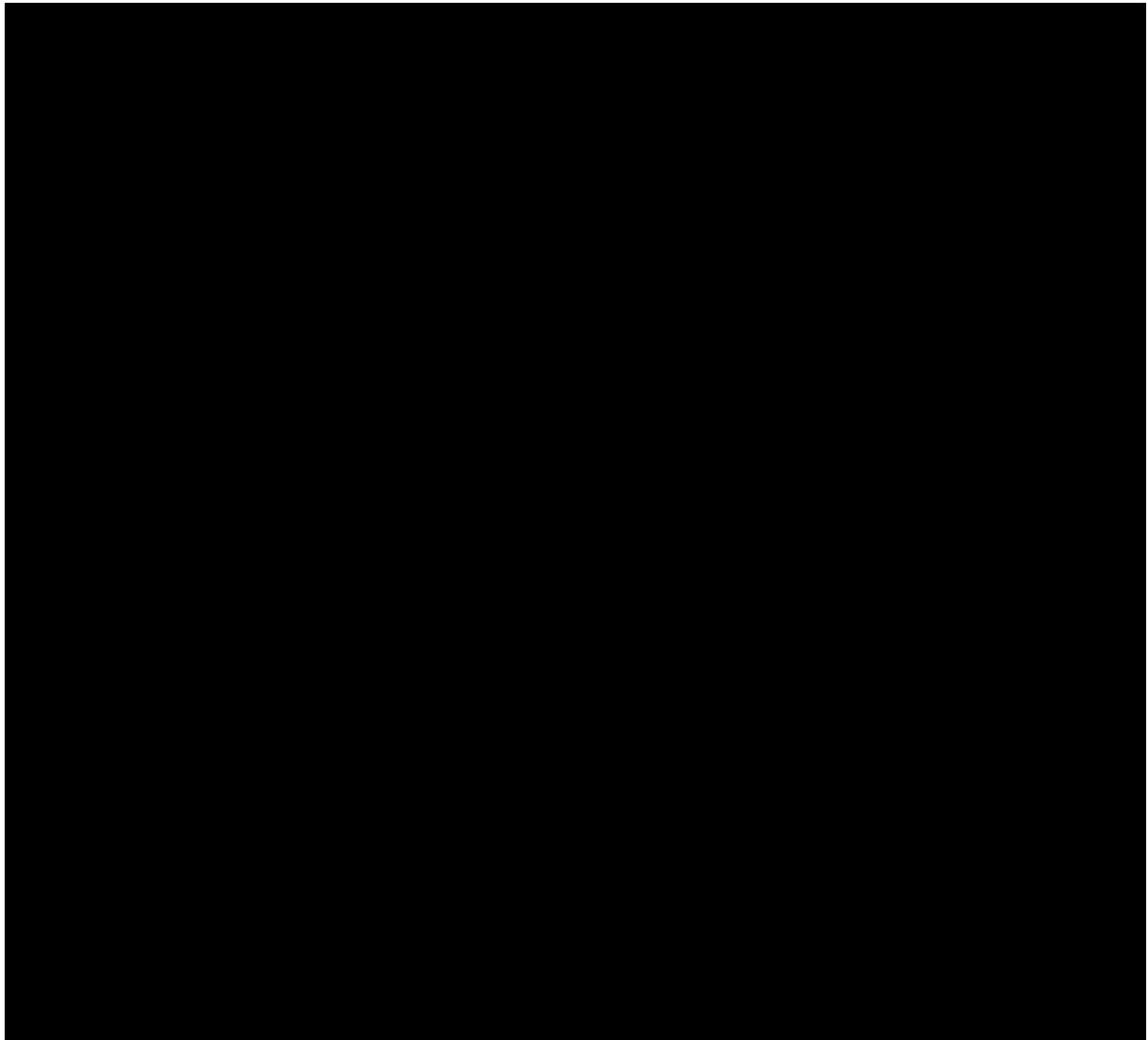


Figure 87: Baths(?) of *Abellinum*. **A–B:** general views, from S. **C:** general view, from NW. **D:** general view, from W (D: CEGIA 2017).

Acropolis (Agropoli)

Ca.G.21

Reliability: possibly baths (pool), status unknown

Province of Salerno, Comune of Agropoli

14.997885 E, 40.356549 N

Excavations led in 1976 by the Soprintendenza archeologica della Campania in the *vicus* close to S Marco di Agropoli brought to light the remains of two rooms and a pool (ca. 3.30 m wide), along with water disposal channels. These remains were interpreted as belonging to a large bath building, dated to the 2nd cent. AD. The walls were built on earlier structures, and graves were dug in them between the late 3rd and the 4th cent. AD.

Bibliography: CANTALUPO 1981, 34

Illustrations: CANTALUPO 1981, pl. 3–4 (plans), fig. 20–22 (pictures)

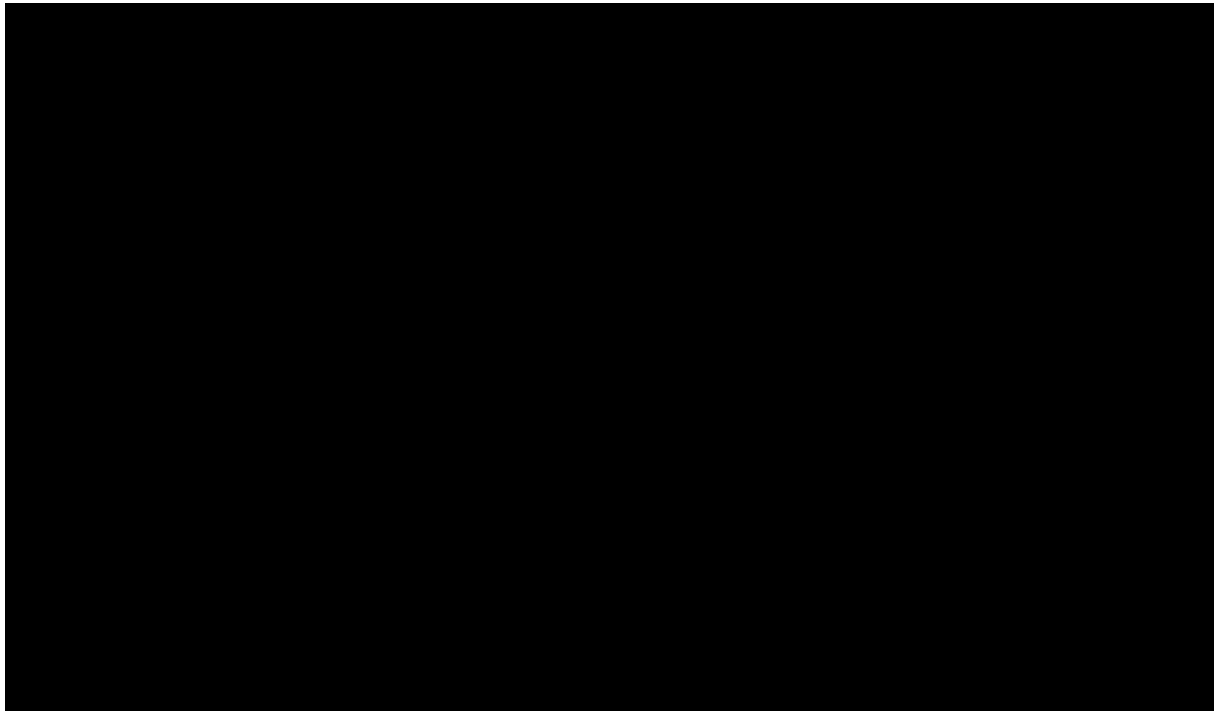


Figure 88: Baths(?) of *Acropolis*. **A:** plan. **B–C:** general views of excavation, from S and NW. **D:** pool, from N (CANTALUPO 1981, pl. 3, fig. 20–22).

Caياتia (Caiazzo), Vico Fontanelle

Ca.G.22

Reliability: possibly baths (heated rooms, chimneys), possibly public (dimensions, location)

Province of Caserta, Comune of Caiazzo

14.366189 E, 41.176966 N

Next to a terracing tentatively identified as the forum of the city, the remains of a possible bath buildings were identified in Vico Fontanelle under a Renaissance palace. They comprise a large heated room **R1**, 12 x 8.20 m, with a semi-circular apse on its S short side, communicating to the E with a smaller rectangular room **R2**, 9 x 6.30 m. A third room was indicated further E in earlier publications (see reproduction in DE CARO & GRECO 1981, fig. p. 223) but was no longer visible to Pagano. Brick-faced walls. Relieving arches made of *bipedales* are visible on the outer face of the E wall of E2; in the E and W walls of R2, Pagano recorded ‘cunicoli per la circolazione dell’aria calda’, probably to be understood as chimneys. Pagano mentioned that an aqueduct (‘del Formale’) supplied the city.

Dating: 2nd cent. AD (Pagano: CTM)

Bibliography: DE CARO & GRECO 1981, 223–224; PAGANO 1998, 52–55

Illustrations: PAGANO 1998, fig. 28 (location), 29 (plan), 30–31 (pictures)

Caiatia, Vico Fontanelle

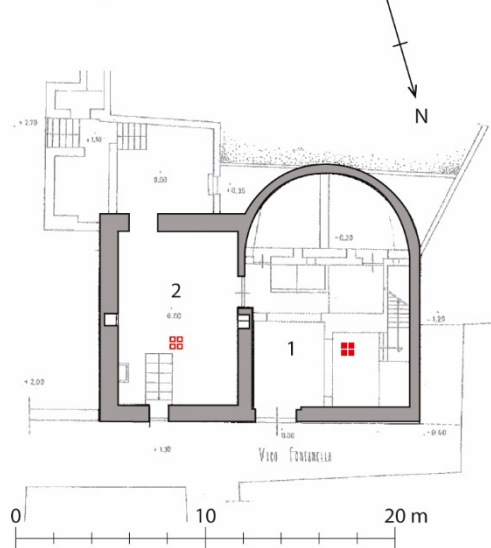


Figure 89: Plan of the Baths of *Caiatia*. Scale 1:400. Structures not relevant to the baths are greyed out (PAGANO 1998, fig. 29, modified by author).



Figure 90: Baths of *Caiatia*. **L:** brick-faced N wall of R1, from E. **R:** back of S apse of R1, from S (PAGANO 1998, fig. 30–31).

Cales (Calvi Risorta), Northern Baths

Ca.G.23

Terme settentrionale, Terme di San Leo

Reliability: possibly baths (presence of *tubuli* in some walls), possibly public (location, dimensions)

1. 1.1 – Province of Caserta, Comune of Calvi Risorta
 1.2 – 14.134395 E, 41.200598 N
 1.3 – In the centre of town, on the western side of the *cardo maximus*
2. 2.1 – Only a few unconnected walls are preserved. One of these (A) stands at a height of more than fifteen meters (foundations included)

- 2.2 – Private property?
3. 3.1 – Unexcavated, mostly unpublished
3.2 – Visited in March 2016
 4. Unknown, but the remains, covering a surface area of ca. 900 m², hint at a complex of large dimensions
 5. 5.1 – I: variously dated in the 1st half of the 1st cent. AD (Bonacci: CTM) or the 2nd cent. AD (Johannowsky). Middle-imperial for Passaro
5.2 – Unknown
 6. 6.1 – Bonacci, using the plan provided by Femiano, tentatively reconstructed a ca. 9.50 m wide and 15 m long rectangular room (R1), delimited by walls B–C and E–F, with apse D (diam. 10.50 m) at its northern end. Wall A, ca. 10.20 m E of walls B–C, belonged to the building; wall G could also have been part of the building.
6.2 – /
 7. Walls in concrete, several facing: 1) reticulate facing with 6 courses of bricks at regular intervals; 2) brick facing; 3) small stone blocks in upper parts of walls.
Several large windows open in the upper parts of the walls; the jambs and segmental arches made of brick.
 8. 8.1–2 – No information available
 9. Drainpipes in the thickness of the walls
 10. No information available
 11. JOHANNOWSKY 1961, note 15; PASSARO 2006 [2009?], 138; BONACCI 2013, 63-66, 126
 12. FEMIANO 1990, pl. IX (plan)

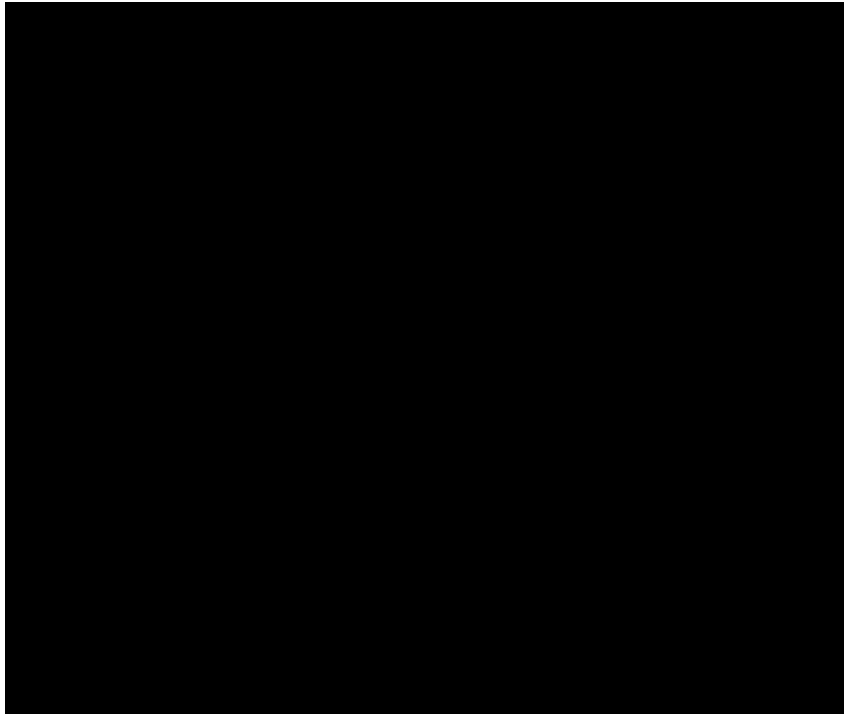


Figure 91: sketch of the remains of the Northern Baths of *Cales* (FEMIANO 1990, pl. IX, modified by author).

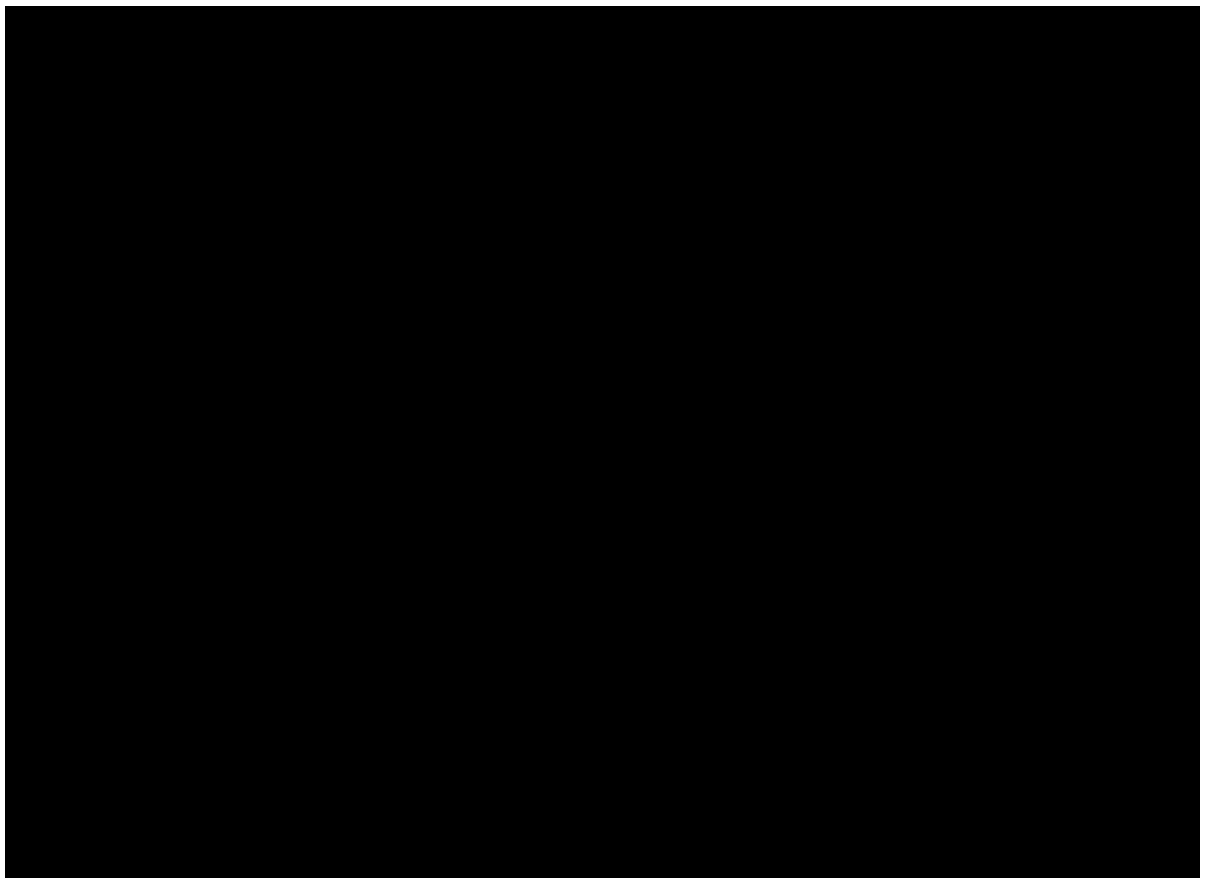


Figure 92: Northern Baths of *Cales*. **TL**: wall A, façade overlooking the *cardo maximus*, from NE. **TM–TR**: remains of walls. TR shows the drainpipes in the wall. **B**: wall in reticulate with brick courses.

Reliability: possibly baths (two heated rooms), unlikely public (small dimensions, presence of many private villas in surroundings)

Città metropolitana di Napoli, Comune of Capri

14.235049 E, 40.556438 N

Several possibly contemporary walls under the church of S Costanzo define six rooms, two of which could have been heated rooms, as indicated by the floor in CBM (possibly *bipedales* from plan, and not *tegulae mammatae* as reported by Belli *et al.*) and the discovery of remains of *pilae*. Fragments of mosaic floor, white *tesserae*.

Terminus postquem 1st cent. BC, modification of the organisation of the rooms in the early imperial period. Complex possibly used until 4th cent. AD.

Bibliography: BELLI *et al.* 1998, 164–165

Illustrations: BELLI *et al.* 1998, fig. 7.26 (picture), 7.27 (plan)



Figure 93: L: Plan of the remains under the church of S Costanzio in *Capreae*. R: view of the heated room to the SE, from N (BELLI *et al.* 1998, fig. 7.27, 7.28, modified by author).

Reliability: not enough information

Province of Caserta, Comune of Santa Maria Capua Vetere

14.259791 E, 41.087588 N

Mention of a bath building in the northern part of town.

Bibliography: DE FRANCISCIS 1973, 99

Reliability: probably baths (heated room), possibly public (location, dimensions)

Province of Caserta, Comune of Carinola

13.994099 E, 41.181916 N (approx.)

Excavations in 2009 by the SBA per le province di Salerno, Avellino, Benevento e Caserta and the Seconda Università degli Studi di Napoli brought to light the remains of a heated room set along a *decumanus* of the Roman city. The heated room occupied (part of) an *insula*. Rectangular room (unspecified dimensions, possibly ca. 9 m N–S from picture), faced in ‘*opera mista*’ with brick quoins, equipped with a hypocaust and *tubuli* on the walls; a small apse in one wall (for a *labrum*?) and a rectangular recess in one of the walls, possibly for a pool. *Praefurnium* behind the rectangular recess/pool, in a corridor running around part of the heated room. A second room to the N, walls faced in reticulate, semi-columns plastered and painted. In a secondary phase dated 4th–5th cent. AD, room turned into Christian cult place: apse blocked up; pool in rectangular recess decommissioned; floor of recess raised and floored with slabs of cipollino, on which a masonry pier supporting a limestone slab was set (possible altar?); circular baptistery added at centre of room, with two rows of steps for immersion veneered with Imperial-period and late antique inscriptions) and terracotta and lead pipes for drainage.

An inscription mentioning *thermae* is known from the site of *Forum Popilii* (CIL X.4718 = EDCS-19800247).

Bibliography: RICCIARDONE 2009; NAVA 2011, 774–776

Illustrations: RICCIARDONE 2009, fig. p. 38; ALPHALABTIGUIDA 2014

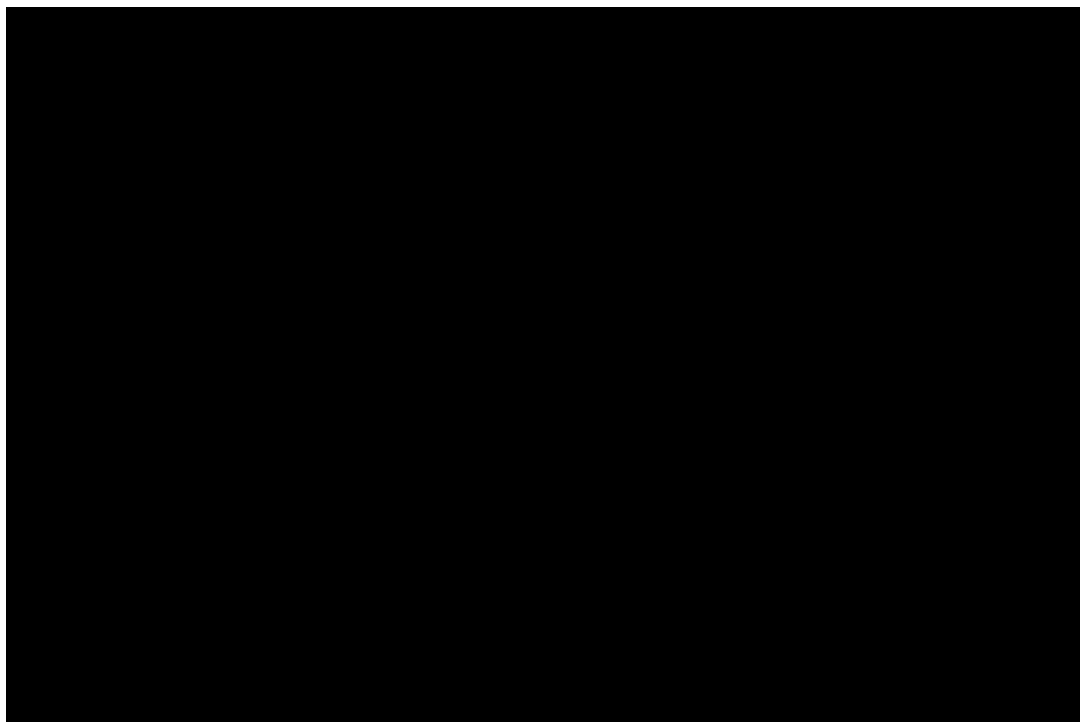


Figure 94: Remains of the baths of *Forum Popilii*. N to the left (ALPHALABTIGUIDA 2014).

Reliability: not enough information

Città metropolitana di Napoli, Comune of Bacoli

14.083451 E, 40.788945 N (approx.)

An inscription currently under publication by G. Camodeca mentioned Caracalla as restorer of the *balnea* of the *classis Misenensis*, whose location was identified on the other side of the city in respect to the baths in Via Dragonara [Ca.03], beyond the theatre. Structures were brought to light in that area, possibly belonging to the baths.

Bibliography: CAMODECA 2011, 389; CUDEMO 2016, 1665

Reliability: possibly baths (one heated room?), status unknown

Città metropolitana and Comune of Napoli

14.259598 E, 40.853119 N

Roman remains under the Curia Arcivescovile of Naples, found during stabilisation works on the cathedral in 1969–1972 (dir. Di Stefano), were interpreted as belonging to a bath building. Remains included a first apse faced in brick and with a diameter of 2.60 m, a second apse close to it, faced in reticulate and *opus incertum*, with a diameter of 3.40 m, and one brick-faced wall on the back of the second apse. Remains of water pipes for supply and drainage were also found. The remains were interpreted as belonging to heated rooms of a bath building on the basis of the presence of ‘fori di *tubuli*’, the meaning of which is unclear. A picture shows a brick facing with possible remains of a *suspensura* floor.

At a lower level, another room, covered with a sail vault, including a channel in *cocciopesto* and next to it, a slot for a water pipe. Two further smaller rooms on the opposite side(?), one of which subdivided by a partition wall in ancient times. On one wall, wallpainting depicting a naked warrior, dated 1st cent. AD. Further remains were found under the nearby ‘salone delle conferenze del Tribunale ecclesiastico’ (water channels in brick, an engaged column in a brick wall, remains of a bichrome mosaic floor), hypothetically connected to the bath building.

Bibliography: RIPPA 2007

Illustrations: RIPPA 2007, fig. 1–5 (pictures), 6 (plan)



Figure 95: Plan of the remains (in black) under the Curia Arcivescovile of *Neapolis*. Scale 1:400, N to the left (RIPPA 2007, fig. 1, 6).

Neapolis (Napoli), Baths under SM Donnaregina

Ca.G.29

Reliability: not enough information

Città metropolitana and Comune of Napoli

14.258693 E, 40.854078 N

The church of SM Donnaregina was apparently built (1620–1649) within abandoned Roman baths, excavated by G. Vecchio and G. Mollo. Remains of a heated rectangular room and two rectangular apsed basins lined with *opus signinum*. *Tubuli* on the walls. Polychrome geometric mosaic floor. Built in the 2nd–3rd cent. AD, with later modifications.

Bibliography: ARTHUR 2002, 80, 157

Archival material: 1988 report by G. Mollo ('Saggi stratigrafici in Santa Maria Donnaregina Nuova (Napoli)'), held by the Soprintendenza Archeologica della Province di Napoli e Caserta

Neapolis (Napoli), Baths under Palazzo Borsa

Ca.G.30

Baths under Sant'Aspreno

Reliability: not enough information

Città metropolitana and Comune of Napoli

14.256110 E, 40.856473 N

The church of Sant'Aspreno, included in the Palazzo Borsa, was apparently built within abandoned Roman baths. Giampaola mentions the baths in a list of public buildings.

Bibliography: GIAMPAOLA 1994, 76; ARTHUR 2002, 80

Illustrations: GIAMPAOLA 1994, carta archeologica no 39 (city plan)

Reliability: not enough information

Città metropolitana and Comune of Napoli

14.255979 E, 40.853541 N

Mention of a bath building under the complex of Santa Patrizia.

Bibliography: BALDASSARRE 1983, carta archeologica no 7 (city plan)

Reliability: not enough information

Città metropolitana and Comune of Napoli

14.263120 E, 40.848418 N

Mention of a bath building in Via San Donato – ex vico Sant’Agostino alla Zecca, connected to a portico with wallpainting dated to the 2nd cent. AD.

Bibliography: GIAMPAOLA 1994, 75

Illustrations: GIAMPAOLA 1994, carta archeologica no 72 (city plan)

Emilia-Romagna

Emilia-Romagna, Catalogue

Mevaniola (Galeata)

Em.01

Reliability: public baths (inscription)

1. 1.1 – Province of Forlì-Cesena, Comune of *Galeata*
1.2 – 11.90444 E, 43.98802 N
1.3 – Close to the *forum*
2. 2.1 – Only partly excavated, preserved for a few courses in height. Restored
2.2 – In a fenced area
3. 3.1 – Excavation 1958–1965 (dir. Bermond Montanari), never fully published
3.2 – Not visited
4. > 760 m²
The excavated remains fit in a 32 x 23 m rectangle (from plan)
5. 5.1 – phasing according to Lippolis:
I: undated
II: 2nd half 1st cent. BC (inscription [E43])
 - Refurbishment of baths, including water disposal network5.2 – Unknown
6. 6.1–2 – The visible structures belong to phase II, and were organised in a square block with an entrance from the NW and the heated rooms to the SE.
The entrance was in the NW part of the baths, in an unspecified room. The mosaic floor inscription came from that part of the baths, from an unspecified room identified as the *apodyterium*. **R1a** was a cold-water pool accessible via two steps from R1. The heated rooms were in the SW part of the complex: **R5** was equipped with a semi-circular apse (R5a, diam. 2.15 m) on its S short side, probably fitted with a pool. **R6**, further E than R5, could also have been heated, and could also have been equipped with a pool accessible from R5. R4 and R8 were the largest and one of them could have been the *frigidarium*, but there is no mention of any of those two rooms being equipped with a pool.
7. The *frigidarium* (unspecified room) was originally paved with stone slabs, and the two pools of the *caldarium* R5 had an *opus spicatum* floor. *Opus spicatum* also in the *apodyterium* (unspecified, but the room equipped with mosaic inscription [E43])
8. 8.1–2 – No information available
9. 9.1 – Remains of a water channel made of terracotta tubes fitted together, bringing water into a small rectangular water tank (4 x 1.90 m) ca. 200 m NE of the baths; from this water tank, water was distributed via lead *fistula* still *in situ* at the floor level of the tank.

9.2 – R1a and R5a were pools. The benefactor commemorated in inscription [E43] also restored the water supply to (at least) the baths.

9.3 – Water disposal channel from pool R1a, heading S and exiting building to the S. Another water disposal channel probably connected to the W corner of pool R5a, exiting the building to the S then heading SE. Both channels had sides made of CBM.

10. 10.1 – The *apodyterium* (room unclear) had an *opus spicatum* floor with mosaic *emblema* preserved for 0.82 x 0.77 m. The *emblema* contained an inscription in black *tesserae* on white background which commemorated the restoration of the bath building and its water supply by one or several magistrates, including a certain *Caesius*. See [E43].

10.2 – No information available

11. LIPPOLIS 2000, 137, 139; BERMOND MONTANARI 1965, 83–84; TESS14386; TESS14387; TESS14388

12. BERMOND MONTANARI 1965, 83–84, fig. 81 (plan), 82–83 (pictures); LIPPOLIS 2000, 138 fig. 3 (plan), 140 (picture)

Mevaniola

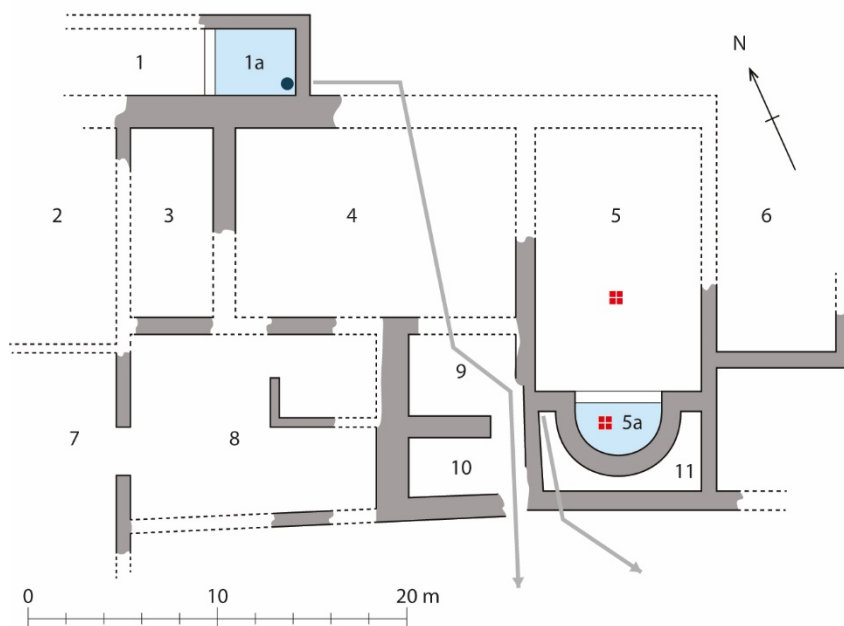


Figure 96: Sketch of the baths of *Mevaniola* (after LIPPOLIS 2000, fig. p. 138.3).

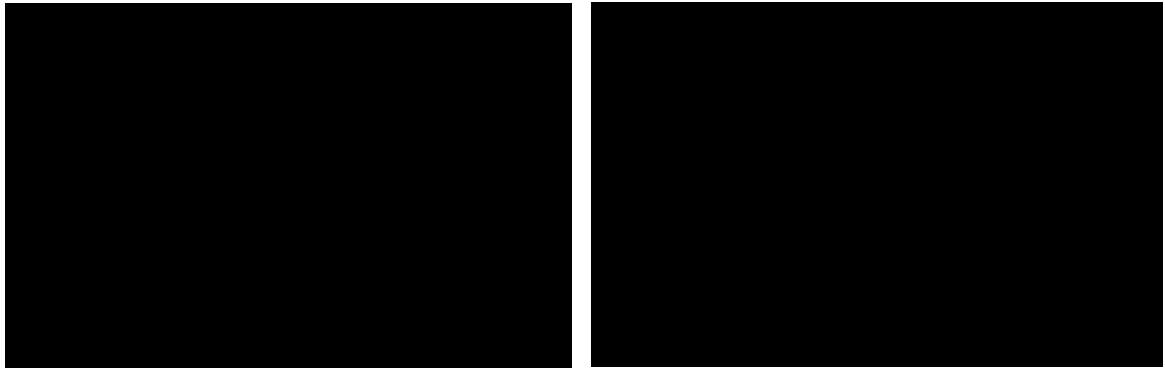


Figure 97: Baths of *Mevaniola*. **L:** general view from SW, R5a in the centre. **R:** general view from N, R1a in the foreground (L: LIPPOLIS 2000, fig. p. 140; R: MAIOLI 2000, fig. p. 554).

Lazio

Terme centrali, Terme vecchiane, Balneum di Marcus Veccius

1 – Location

1.1 – Province of Frosinone, Comune of Castrocielo

1.2 – 13.691664 E, 41.498611 N

1.3 – At the centre of the city, occupying a whole *insula*, E of the theatre. Between two *decumani*, conventionally called the ‘Via delle Teatro’ to the S and ‘Via delle Terme’ to the N

2 – Preservation

2.1 – Good in plan, hypocaust/1.5 m above circulation floor in elevation

2.2 – Part of the Area archeologica di *Aquinum*

3 – Research

3.1 – Ongoing excavations since 2009 by the Università del Salento (dir. G. Ceraudo)

3.2 – Visited in March 2016, excavated in July 2017, 2018, 2019

4 – Dimensions

5,200 m², of which 1,600 m² for the men’s sector, 1,400 m² for the women’s sector, 1,700 m² for the *palaestra* and 500 m² for the annexes to the *palaestra*

5 – Chronology and phasing

5.1 – Phasing according to CERAUDO 2019, 105–106. The establishment of a detailed phasing is in progress.

I: late 1st cent. BC/Augustan, offered by *M. Veccius* (inscription in floor of R11)

- Structures faced in reticulate with quoins in stone blocks
- Men’s and women’s sections, portico, *crypta*, *palaestra*

II: Julio-Claudian (inscription in floor of R10)

- Structures faced in reticulate with courses of bricks and tiles
- Refurbishment of women’s *frigidarium* R41
- or in phase III: decommissioning of R15

III: mid-2nd cent. AD (style of mosaics; hypothetical connection with unrelated inscription *EphEp* 8.604 = EDR143849)

- Structures faced with brick courses
- Addition of R17 and R34

- Extension of *palaestra* R47 to the W
- Redecoration of some rooms (mosaic floors in R8, R16)

IV: 3rd cent. AD (inscription reused in floor of R30)

- Refurbishment of floor in R30

Pre-baths: Late Republican floors under the rooms of the E sector

5.2 – 4th–5th cent. AD (material)

6th–7th cent. AD: parts of the building reused as cemetery (tombs in R11a, R20, R25, R31, R34, R41, R46, R47, and against the outer N wall of R10). NE rooms (around R26) of complex reused as dwellings in 13th–14th cent. AD

6 – Description of the remains and identification of rooms

6.1 – More than 80 rooms in two discrete complexes, one for men to the W and one for women to the E, and a communal *palaestra* to the S.

Three entrances to the baths:

- Two from the N *decumanus* into corridors **R3** (2.30 x 8.30 m) and **R35**.
- Larger entrance into *palaestra* R47 from the S, at crossroads between S *decumanus* (Via del Teatro, paved with limestone slabs) and N–S street (Via della Palestra, paved with basalt stone slabs). Threshold in local travertine, with holes for hinges of large double-leaf door.

Men's section:

Entrance from corridor **R3** (2.30 x 8.30 m), floored in *opus spicatum*, into large room **R8** (12 x 15 m from plan), floored with mosaic and possibly equipped with a central *labrum*; from R8, access to **R6** (6.30 x 6 m, from plan) to the N and **R9** (5 x 6 m from plan) to the S via passages that could be closed, as indicated by grooves in the limestone thresholds. From R8, also access to **R7**, 6.50 x 2.50 m (from plan) transition room towards latrine **R10**, rectangular room, 7.70 x 3 m, with 15 marble latrine seats along the E and N sides, a gutter running at their feet (see 9.3) and a small basin (1.60 x 0.80 m, 0.19 m high) along W wall, made of four 0.04 m thick marble slabs. Mosaic floor. Still from R8, access to **R2** to the W, 11.90 x 6 m, six pilasters at regular intervals along W wall, and the space in between them may have been fitted with shelves. Access to *palaestra* R47 towards S, and to bathing circuit to the E in R11. Behind R6 and R7 were two further rooms accessible from R3; **R5** (2.10 x 1.80 m) contained a well.

R11: accessible from R8, ca. 15 x 15 m (from plan), equipped with two immersion pools R11a and R11b, the latter added in a secondary phase. Possibly *labrum* at centre. Mosaic floor, with central pseudo-emblema. Two small basins, one in a recess on the E wall (**R11c**), the other in the NW corner of the room. Monumental inscription [E09] parallel to E wall. **R11a**: 6 x 6.90 m pool, accessible from R11 via two steps. A stepped structured, 1.30 x 0.80 m, was added against its N wall, in correspondence to a niche in the N wall. Mosaic floor, marble veneer on walls. From R11, access to R12, R13, R16 and R17. **R12**: 8 x 3.50 m, led into R14 and into service corridor R21. Mosaic floor. **R13**: ca. 7.80 x 11 m (from plan), unexcavated. **R14**: 6 x 5 m (from

plan), heated room. Indirectly heated in phase I, directly heated from R15 in phase II or III. **R15**: heated circular room with four niches, decommissioned in later phase (II/III?) and turned into service room from which *praefurnia* L, M and N were operated. **R16**: heated room, accessible from R11, R14 and R17. 15.50 x 10 m. Mosaic floor. **R17**: square heated room (45 m²) added in phase II, accessible from both R11 and R16. Symmetrical to R34 in women's section. **R22**: largest heated room of complex (195 m², ca. 22 m max length from plan), accessible from R16, equipped with four pools, and two further small niches in S corners of room.

Women's section:

Possible access from the E, not yet excavated; first excavated room is **R42**, leading into R41 via double passageway separated by central masonry pier, and into **R40**, a 9.80 x 6.10 m room with small extension in NW corner. Second access to the women's section from N *decumanus* via corridor R35, leading to R36 and R41. Limestone threshold with trace of hinge. The paving of the street changed in correspondence to the entrance, from large stone blocks paving to gravel. **R36**: latrine of women's section, 10/11 seats. Accessible from corridor R35 and, in phase I, from the N *decumanus*; wear marks on the limestone threshold indicate a revolving door. The latter access was blocked in phase II.

R41: 10 x 12 m, accessible from N *decumanus* via corridor R35, from the E (R42), and from the S (R44) and the *palaestra* R47. Equipped with two roughly square pools, **R41a** (4.85 x 4.30 m) to the N and **R41b** (5.30 x 4.40 m) to the S. Possible *labrum* in central position. Inscription [E10] in *tabula ansata* close to W wall, text oriented to be legible by bathers coming from the E. Led into the heated section via **R31**, transition space marking the entrance to the heated sector and leading into **R32**, a trapezoidal-shaped heated room, ca. 6.30 x 4.50 m from plan. R32 led into **R34** (6 x 6 m, added in phase III) and **R30** (8.30 x 5.80 m from plan), both heated; the latter led into **R24**, the largest heated room of the women's sector (8.50 x 6 m), equipped with two heated pools along the short sides (R24a, rectangular, and R24b, rectangular with segmental back wall) and a rectangular recess along the W wall, possibly containing a basin.

From R41, access to *palaestra* R47 via corridor **R44** and R56.

Communal *palaestra*

R47: trapezoidal, colonnaded, open-air courtyard, 60 x 27 m in phase III, the result of an extension towards the W. Portico on three sides (W, S, E); wall on the N side, animated with engaged columns in phase I. Three basins aligned E–W at the centre of the *palaestra*. The central one was made of blocks of travertine, and the two lateral basins were added later.

Several rooms on either side. To the W, **R49**, an apsidal room widely open to R47, flanked by a series of smaller rooms (R48, R50, R51). To the E, **R56**, a trapezoidal-shaped room also widely opened onto R47, and smaller rooms to the S (R52 to R55).

6.2 – From Ceraudo 2019

Men's section: from entrance corridor R3, passage into vestibule R8, flanked by R6 and R9, two rooms possibly used for secondary activities to bathing (e.g. ointment, cleaning), tentatively identified as an *elaeothesium* and an *unctorium/destrictarium*, respectively. R2: *apodyterium*, possibly with shelves between the piers on the W wall. R11 *frigidarium* with two cold-water pools. R16 *tepidarium* and R22 *caldarium*, with four heated pools. R15 possibly a *laconicum* in phase I (based on its shape), later turned into a service area; R14 could have taken up the function of sweat-bath then. R17 tentatively identified as a *sudatio*.

Bathing circuit: vestibule R8 – *frigidarium* R11 – *tepidarium* R16 (with side room R14) – *caldarium* R16 and back, with possibility to use R14 or R17 on the way back to the *frigidarium*

Women's section:

from entrance corridor R35 or from more monumental entrance R42, access to *apodyterium* R40 (identified based on its position close to the *frigidarium*) and to *frigidarium* R41 with two cold-water pools. R31 heat trap, R32 *tepidarium/destrictarium* (first heated room), and R24 *caldarium* with two heated pools. R30 was identified as a second *tepidarium* but could also have been a sweat-bath, and R34 was tentatively identified as a *sudatio*.

Bathing circuit: vestibule R42 – *frigidarium* R41 – heat trap R31 – *tepidarium* R32 (with bifurcation to R34) – heated room R30 – *caldarium* R24 and back, with possibility to use R34 on the way back to the *frigidarium*.

7 – Construction techniques and materials

7.1 – *Opus spicatum* in R3, R6, R7, R9, R44 (N part). Cocciopesto in R35, R40, R42, R44 (S part), R47 (portico), R56. *Sesquipedales* in R21.

7.2 – Walls in concrete faced either in reticulate with quoins in stone blocks (phase I), in in reticulate with courses of bricks and tiles (phase II), or with brick courses (phase III)

7.3 – No information available

8 – Heating devices

8.1 – 13 to 14 *praeurnia*, not all working contemporaneously. ***Praefurnium A*** heating R34 from R33, equipped with inner extensions in brick. ***Praefurnium B*** heating R30 from R29. ***Praefurnium C and D*** heating R24 from R29. ***Praefurnium E*** heating R22 from R23, equipped with very long outer extensions possibly supporting a boiler heating water for R22a. ***Praefurnium F*** heating R24 from R25, equipped with outer extensions supporting a boiler (traces of the casing on the *praeurnium* and remains of a lead *fistula* in the masonry block to the S of the *praeurnium*); possibly equipped with a *testudo*. ***Praefurnium G*** heating R22 from R25, possibly equipped with a *testudo*. ***Praefurnium H*** heating R22 from R20, blocked in a later phase. ***Praefurnium I*** heating R16 from R20, equipped with inner extensions. Possibly blocked in a later phase, possibly at the time of the construction of ***praeurnium J***, heating R16 from R19, equipped with inner extensions. ***Praefurnium K*** heating R17 from R8, covered by an arch

and framed by large stone blocks as jambs and lintel; not entirely excavated. *Praefurnium L* heating R14 from R15, created in phase II or III when R5 was decommissioned. Opening covered by a small brick arch. Possible *praefurnium M* heating R16 from R15. *Praefurnium N* heating R22 from R15, also created in phase II or III; equipped with long inner extensions in stone slabs.

Boilers can be reconstructed on top of *praefurnia* E and F, as well as on top of the circular structures in R23 (two boilers) and R29.

8.2 – Area in *sesquipedales* (at least in R32 and R34) or in tiles with knocked-off flanges (at least in R14), *pilae* made of *bessales* (0.25 m on the side). Wall heating with *tubuli* (*in situ* in R24a). Vertically-set tiles against the walls of the hypocausts (*in situ* in R15 and R30). All hypocausts connected, apart that in R14 and possibly R17. Four chimneys in R14, one on the opposite side of *praefurnium L*, the other three in the NW, NE and SE corners.

9 – Water management

9.1 – Four inscriptions commemorated *M. Barronius Sura (duumvir quinquennalis)* who offered a series of fountains, and therefore possibly the aqueduct, to the city of *Aquinum*. Dated late 1st cent. BC. It probably tapped water from springs towards Mt Cairo.

Two wells in the area of the baths, in R5 (W2) and W of R2 (W1). W1 was ca. 5 m deep, lined with rough blocks of travertine and had a fragment of *dolium* as *puteal*. W2 may have served to collect water to supply the latrine in R10.

Lead *fistula* found against the outer face of the N wall of the baths. Diam. ca. 5.5 cm, preserved in three fragments for 4 m. Evidence for further *fistulae* under the street to the N of the baths, suggesting the presence of a reservoir N of the baths.

9.2 – Negative evidence for water supply to several rooms:

R41: a channel from the NW corner of the room and headed to the centre of the room, lined with CBM. Probably contained a *fistula* supplying water to the central *labrum* of the room.

R11: complex water supply and drainage system, visible through restoration in the mosaic floors and through damage that occurred to the mosaic post-excavation due to the expansion of lead pipes under the floor. It is not possible to determine which pipes were connected to the supply system, and which ones were related to the drainage network.

Latrine **R10:** see 9.3.

9.3 – Three main sewer lines:

- a first one oriented E–W running under the N *decumanus*, into which the W latrine R10 discharged. Channel covered by rampant vault made in concrete with pieces of stone as aggregate.
- A second line, oriented NW–SE, passing under R44, the W part of R41, and R35. In the NW corner of R41, the sewer crossed two other channels, one heading W (0.60 m wide, 0.80 m high, covered in part in concrete, in part with slabs of local travertine), another one heading E then immediately bifurcating N and joining with latrine R36; this

channel used the foundation of the lateral walls as sides, was 0.30 m wide, and was covered with travertine slabs. There was an inspection shaft at this intersection, and another shaft in the SW corner of R41. The main NW–SE sewer was 0.90 m wide and covered with a concrete vault; it used the lower part of the reticulate W wall of R41 as W side, and its E side was a wall made of pebbles and mortar. Several secondary water disposal lines discharged into this main sewer, one of which via a terracotta *tubulus*.

- The third one was oriented E–W and passed under the N part of the *palaestra* R47; to the E, it connected with the NW–SE oriented sewer line. 0.50 m wide, concrete vault. It collected the water from the central pool of R47, as well as rainwater collected in the gutter channel running along the peristyle.

Latrine **R10**: water entered the room from the W, flowing into a small basin on the floor along the W wall (1.60 x 0.80 m, 0.19 m high). Water overflowed to the N, joining the gutter (0.12 m wide, 0.06 m deep) running at the feet of the users; this gutter discharged in the SW corner into the latrine channel (0.60 m lower, 0.50 m wide, floored with tiles with knocked-off flanges), and the water left the building to the N, discharging into one of the main sewer lines under the N *decumanus*.

Drainpipe in NW corner of **R11a** (which had a SE–NW slope), flowing into N leg of latrine channel (R10); there was possibly an overflow too, directly above the drainpipe, leading water in the same place. Drainpipe in N steps of **R11b**, heading N and possibly connection with disposal channel running E–W under R11 and collecting water from central *labrum* and R11c.

10 – Decoration and material

10.1 – Mosaic floors:

- Simple decoration in R11a (white), R12 (white with black frame), R36 (white)
- Geometric motifs in R8 (black and white), R11 (black dotted with small white crosses, white frame, and central pseudo-emblema with white frame and polychrome marble *crustae*), R22 (white, frame of black meander between two black lines), R41 (negative of R11: white dotted with small black crosses, double black frame, geometric central pseudo-emblema)
- Figurative on threshold R8–R11 (sea creatures), in R10 (6.60 x 2.10 m, Nilotic scene, black on white background), on threshold R11–R16 (sea griffin), in SW niche of R16 (sea panther), on threshold R16–R22 (rhinoceros, crater), on threshold R35–R41 (dolphin) and possibly on threshold R41–R44. Figurative panels dated 2nd cent. AD.

Marble floors in R24, R30, R31, R32, R34, R41b

Walls: marble veneer in R11a, R41b; plaster in R40; wallpainting and moulded stucco in R34

Vaults: coloured glass paste *tesserae* found in collapse layers in R11a, probably coming from the vault of the room

Marbles used: mainly pavonazzetto, carrara, greco scritto, giallo antico

Two mosaic floor inscriptions:

- **EDR168082 = [E09]** (CERAUDO, MOLLE & NONNIS 2017–2018): *M(arcus) Veccius M(arci) f(ilius) Ilvir quinq(uennalis) [ite]r(um) balneum virile et muliebr(e) cryptam palaest(ram) / ornamenta de sua p[ecu]nia faciunda curavit*

Inscription in black *tesserae* on white background on the floor of R11, within a black frame. On two lines, ca. 10 m long, letters 0.22 m high, text oriented towards W entrance of room. Dating: Augustan

Marcus Veccius, local magistrate, funded with his own money the construction of the baths (both men's and women's sections), the *palaestra* and the *crypta* (unclear meaning, possibly a covered walkway), as well as the decoration.

- **EDR168085 = [E10]** (CERAUDO, MOLLE & NONNIS 2013): *C(aius) Plotius Albanus, [---] / C(aius) Mevius Fest[us ---] + [---] / (:::hedera) in hoc o[pus ---] (:::hedera).*

Inscription in black *tesserae* on white background on the floor of R41, within a black *tabula ansata*. Frame 5 x 0.70 m, letters 0.15 m high, on three lines, text oriented towards E entrance of room. Dating: Augustan–early imperial

In R47, found four fluted columns, marble, longer than 4 m. They were laying next to each other, in correspondence to the S entrance of the baths, probably put there in a late period to be taken away.

10.2 – Many fragments of statuary: a head of Hercules, a small putto's head, a headless female statue in white marble wearing peplos and sandals, a portrait head identified as Caesar, a fragment of a portrait of Augustus, two other male portraits.

Several inscriptions found reused in R30 (CERAUDO 2019, note 36)

- *[Imp(eratori)] Caesari Divi [f(ilio)] / Augusto / [po]ntifici maximo / tribunicia potest(ate) XI[---?] / d(ecurionum) d(ecreto)*

Tabula, dedication to Augustus

- *Imp(erator-?) Cae[s(ar-?) --- Se-] / veri f(ilio?)? --- / Ara[bic-] --- / M[---]*
Caracalla?

- *[De]ntriae L. f. / Pollae / L. Dentrius Pius Stlaccianu[s], / nomine suo et Dentriae / Lezbiae uxoris / testamento poni iussit / arbitrato L. Dentrii Seleuc[i]*

Dentria Polla, member of the local elite in Augustan/Tiberian period

- *Q. Decio M. f. Ouf(entina) / patri Q. Deci Saturnini / auguri, Ilvir(o) i(ure) d(icundo), [q]uaestori / trib(un)o mil[(itum)? ---] / -----?*

Q. Decius Saturnius, member of the local elite in Augustan/Tiberian period

Several brickstamps

- **CIL X.8042, 65** and **CIL XV.1237** (CERAUDO, MOLLE & NONNIS 2017–2018, 13–14): *Lepidi*

Several examples, in particular from *bipediales* in the hypocaust of R22. Dating: early Julio-Claudian (probably belonged to phase I).

11 – Bibliography

CERAUDO & VINCENTI 2015 (decoration); CERAUDO, MOLLE & NONNIS 2017–2018; CERAUDO & MURRO 2018 (water management); CERAUDO & VINCENTI 2018 (decoration); CORSI, CERAUDO & MURRO 2018 (late antique modifications); CERAUDO 2019; CERAUDO & MURRO 2019 (water management); FERRARI 2019 (R10)

Excavation reports: CERAUDO 2011; CERAUDO *et al.* 2013; ALBIERO *et al.* 2014; CERAUDO *et al.* 2014; CERAUDO *et al.* 2017

12 – Illustrations

Many pictures in all the publications listed above. The plan of the baths is currently under revision; the latest version can be found in CERAUDO 2019, fig. 3.



Figure 98: Plan of the baths of *Aquinum* (after CERAUDO 2019, fig. 3 and a plan courtesy of the *Aquinum* Project/Aurora Quarta).

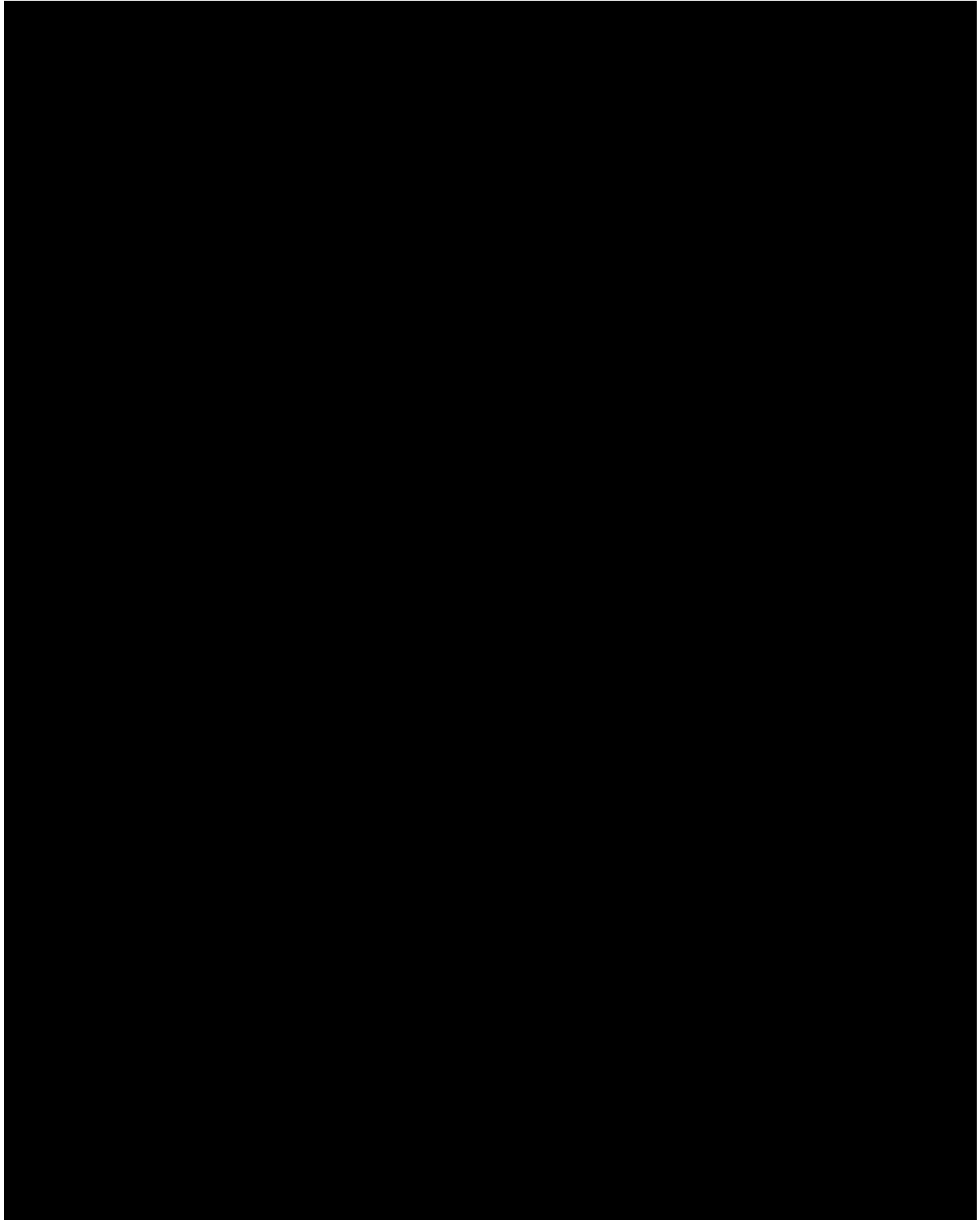


Figure 99A–E: Baths of *Aquinum*. General views: **A**: aerial view of the heated rooms. Red arrows indicate *praefurnia*, red circles, boilers. N on top. **B**: aerial view of the *palaestra* area. S on top. **C**: reconstructed model of the W part of the baths, from NE. **D**: plan of the baths, with indication of the different benefaction of inscription [E09]: men's baths in blue, women's baths in red, *crypta* and *palaestra* in shades of green/yellow. **E**: mode of the *caldaria* R22 and R24, from W (A, C, E: © *Aquinum* Project; B: CERAUDO 2019, fig. 15; D: CERAUDO, MOLLE & NONNIS 2017–2018, fig. 25).

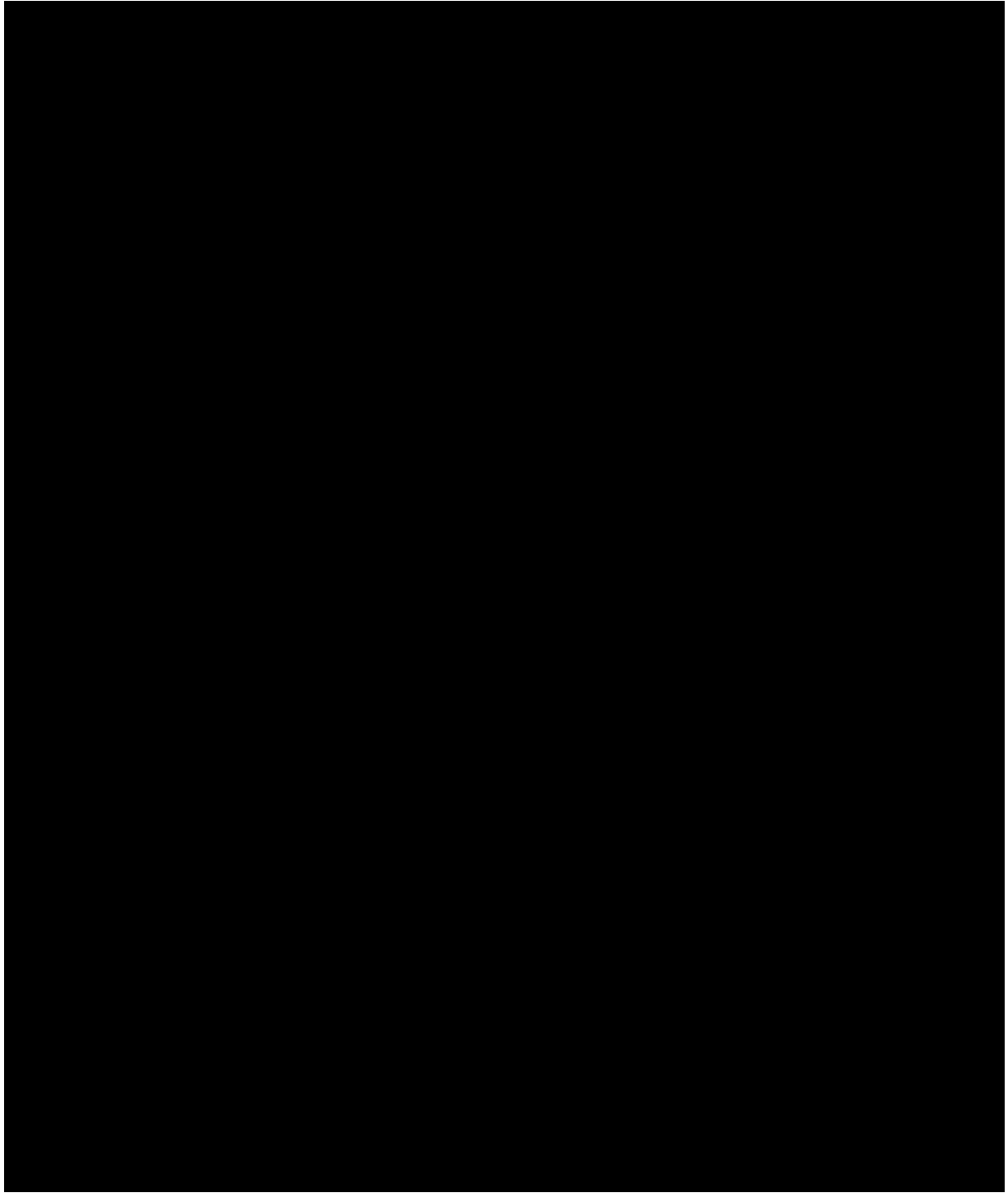


Figure 100A–G: Baths of *Aquinum*. Men's section: **A**: entrance R3, from N. **B–C**: *apodyterium* R2, current state and 3D model, from S NE, respectively. **D**: R7, from N. **E**: 3D model of men's *frigidarium* R11 and side rooms, from W. **F–G**: latrine R11, state after restoration and 3D model, from SE and NE, respectively (A–B, D, F–G: © *Aquinum* Project; C: CERAUDO 2019, fig. 20; E: CERAUDO, MOLLE & NONNIS 2017–2018, fig. 4).

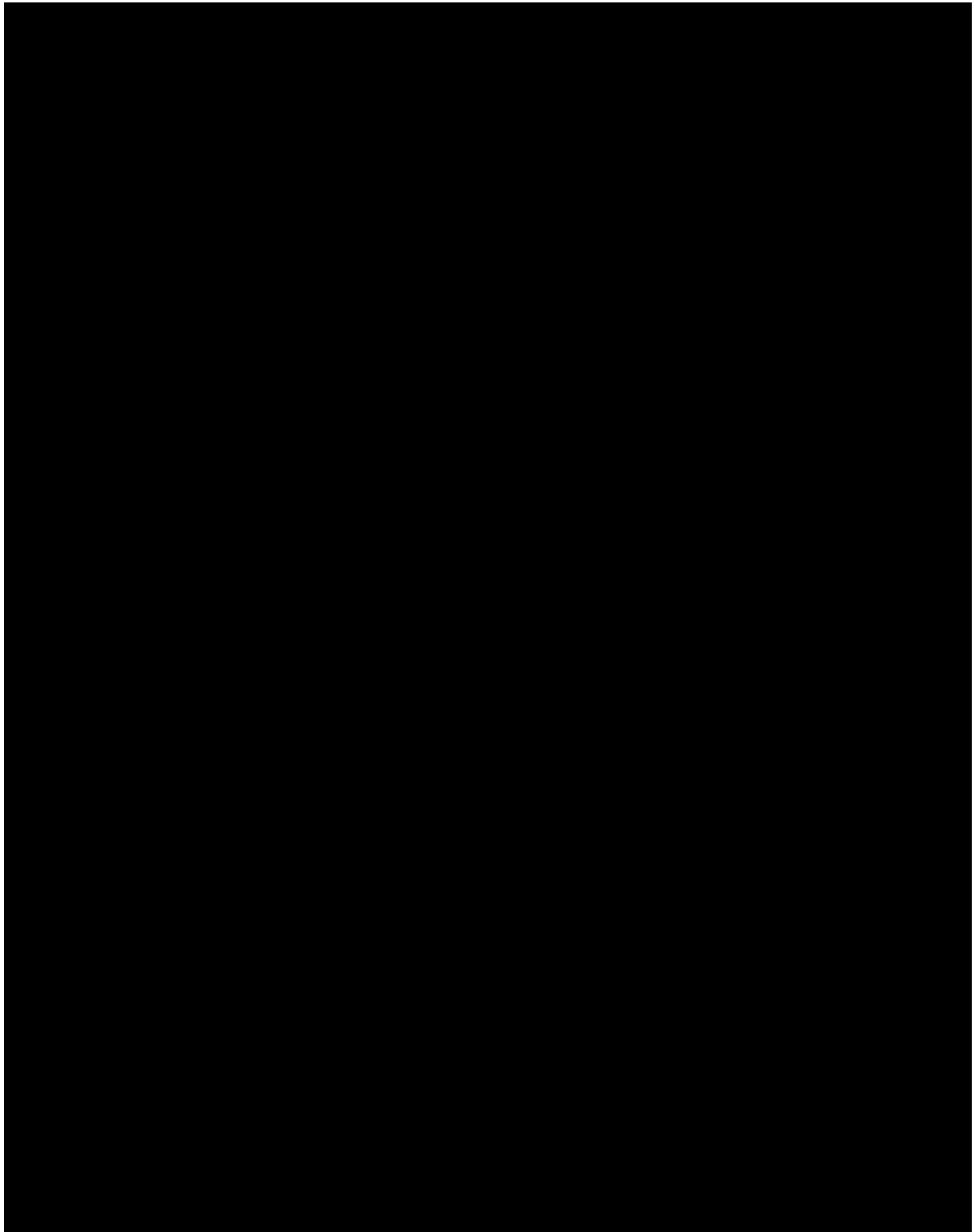


Figure 101A–F: Baths of *Aquinum*. Men’s section (cont’d): **A:** R11a, from E. **B:** R11b, from SE. **C:** R13, from NW. **D:** R17, from SW. **E:** *tepidarium* R16 (L) and *caldarium* R22 (R), from S. **F:** *tepidarium* R16, from NE (A: © *Aquinum* Project).

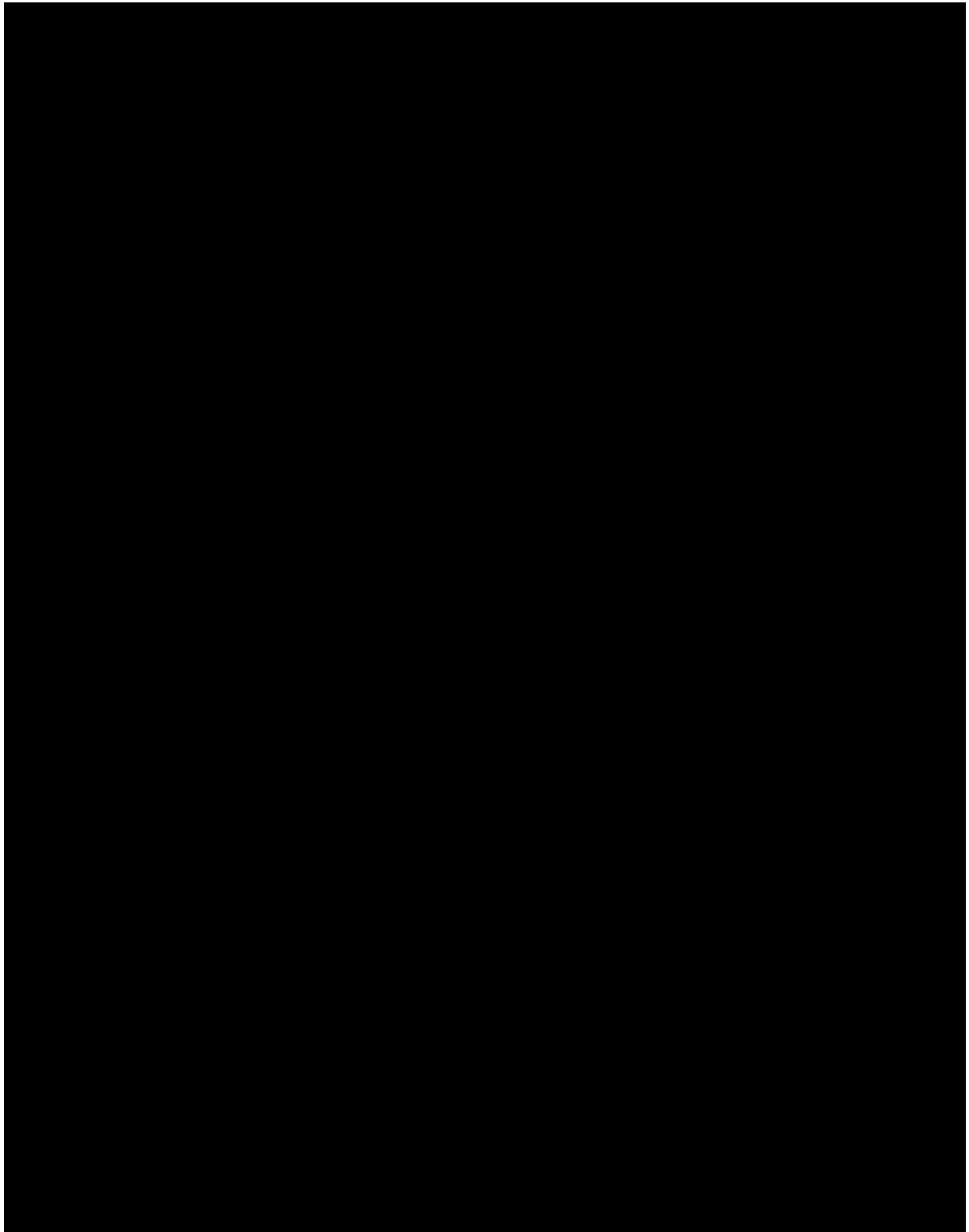


Figure 102A–F: Baths of *Aquinum*. Men’s section: **A**: S part of R22, from E. **B**: R14, from SW. **C**: R15, from S. Women’s section: **D–E**: R41 and sides rooms, state before restoration (**D**) and 3D model €, from NW and SE, respectively. **F**: aerial view of R41 before restoration, W on top (A, C: © *Aquinum* Project; D: CERAUDO & MURRO 2018, fig. 23; E: CERAUDO, MOLLE & NONNIS 2017–2018, fig. 6; F: CERAUDO & MURRO 2019, fig. 9).

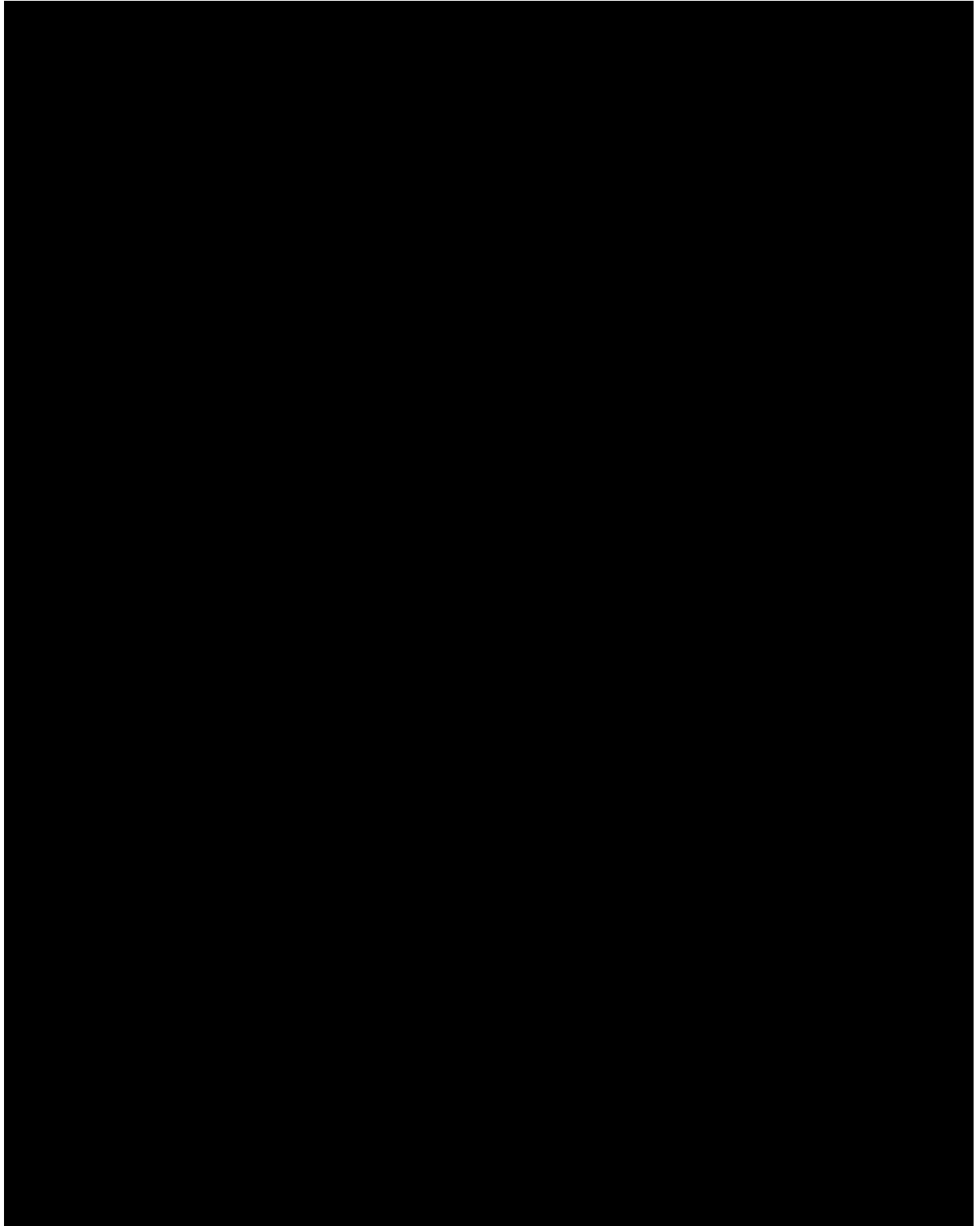


Figure 103A–H: Baths of *Aquinum*. Women’s section: **A:** R41b, from S. **B:** R41a, from S. **C:** latrine R36, from W. **D:** *tepidarium* R32 and heat trap R31, form SW. **E:** heated rooms R34 and R32, from S. **F:** R30, from S. **G:** *caldarium* R24, from S. **H:** R24b, from SW (A–E: © *Aquinum* Project).

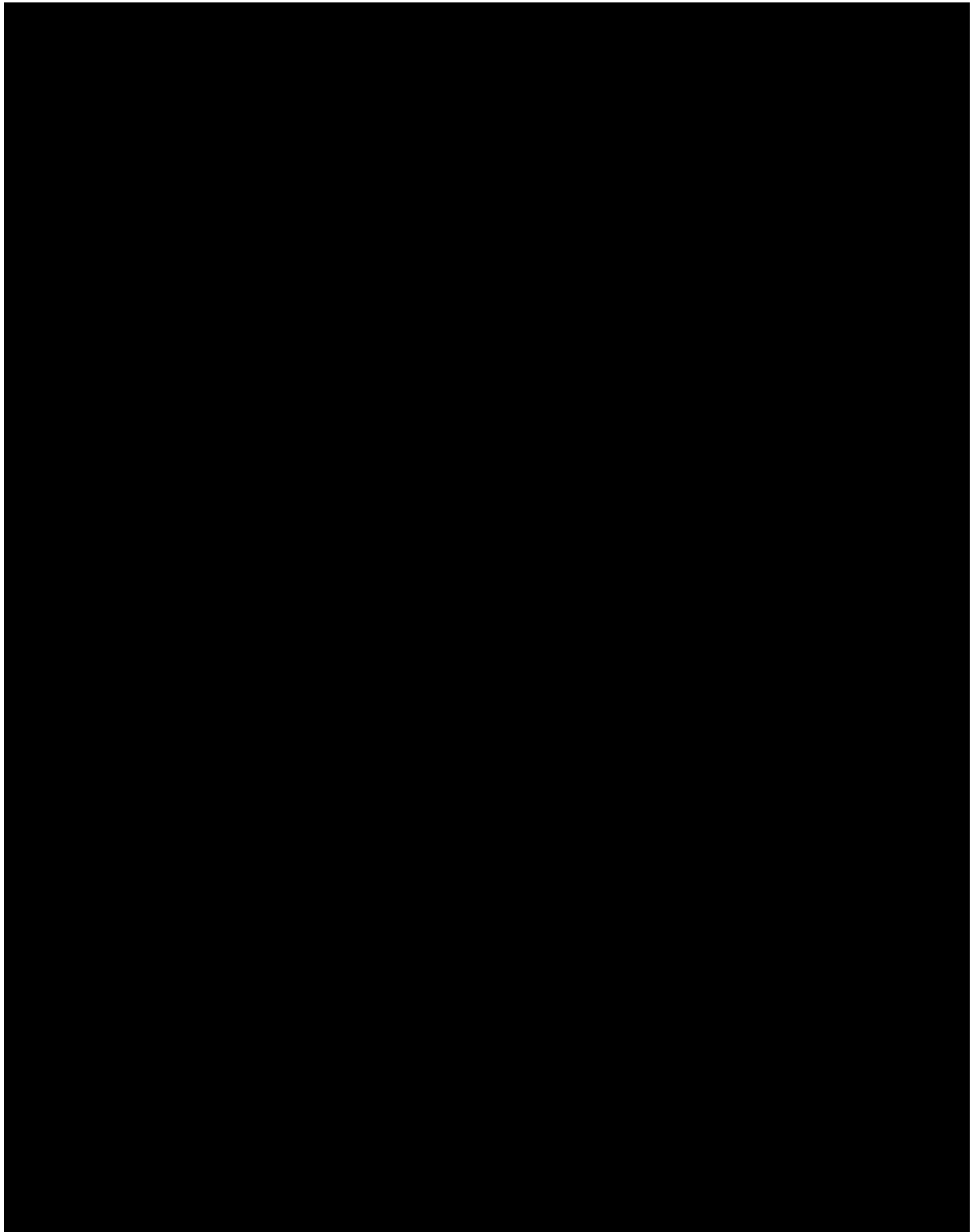


Figure 104A–F: Baths of *Aquinum*. *Palaestra* area: **A**: N part of the *palaestra*, from SW. **B**: R49, from SE. Service areas: **C**: R23, from NE. **D**: R29, from E. **E**: SW corner of R23, from NE. Note the circular boiler stands. **F**: R21, from W (F: © *Aquinum* Project).

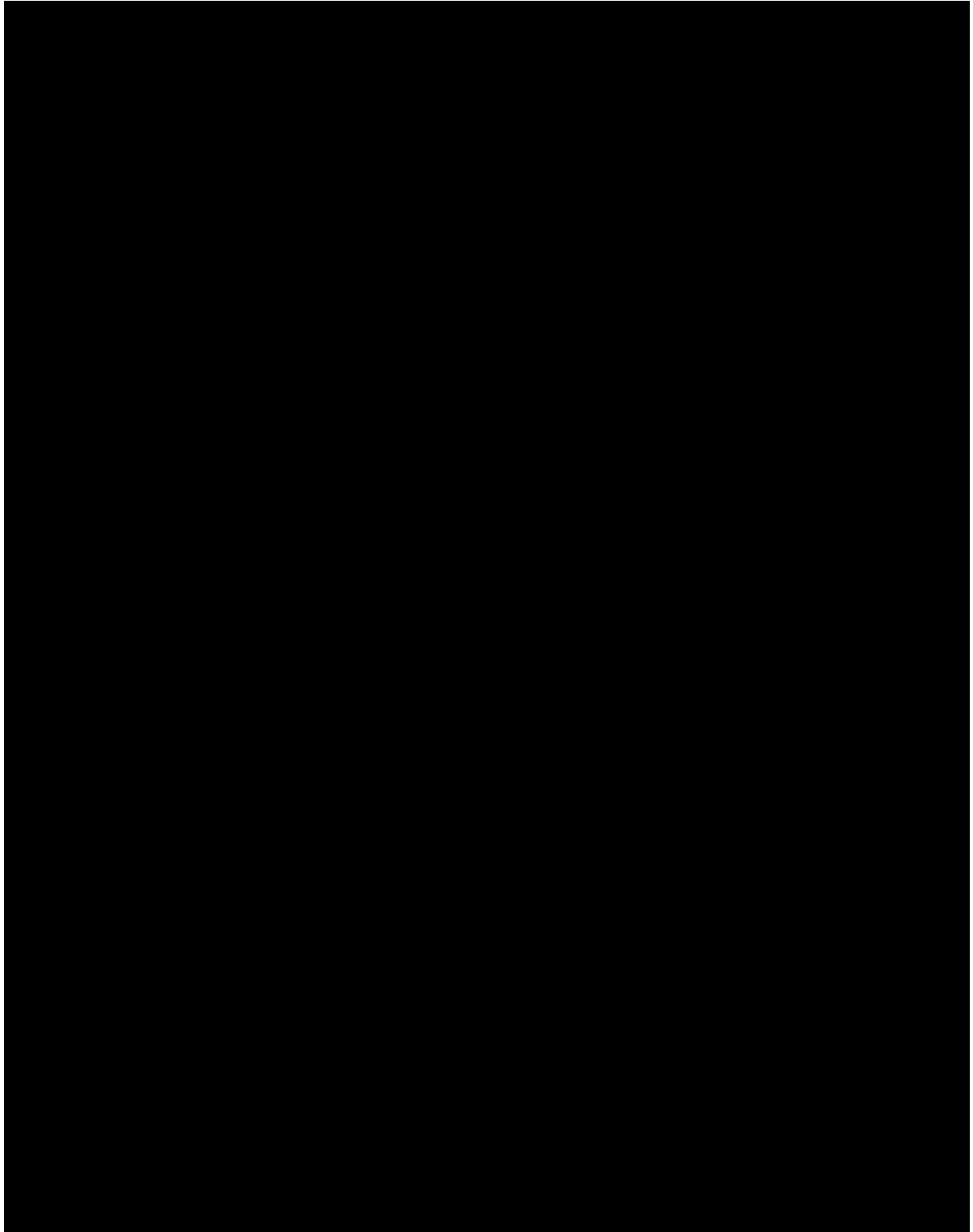


Figure 105A–F: Baths of *Aquinum*. Heating systems: **A**: *praefurnium* E, from W. Circular arrangement of boiler casing remains in dashed lines. **B**: *praefurnium* K, from SE. **C**: boiler in R29. **D**: view from above of R25 and *praefurnia* F and G. Dashed lines indicate remains of boiler casing, insert shows the *in situ* lead *fistula* that served to drain the boiler. **E**: Remains of boiler stand/casing in R23, from E. Water: **F**: sewer channel under R35 (A, E: © *Aquinum* Project).

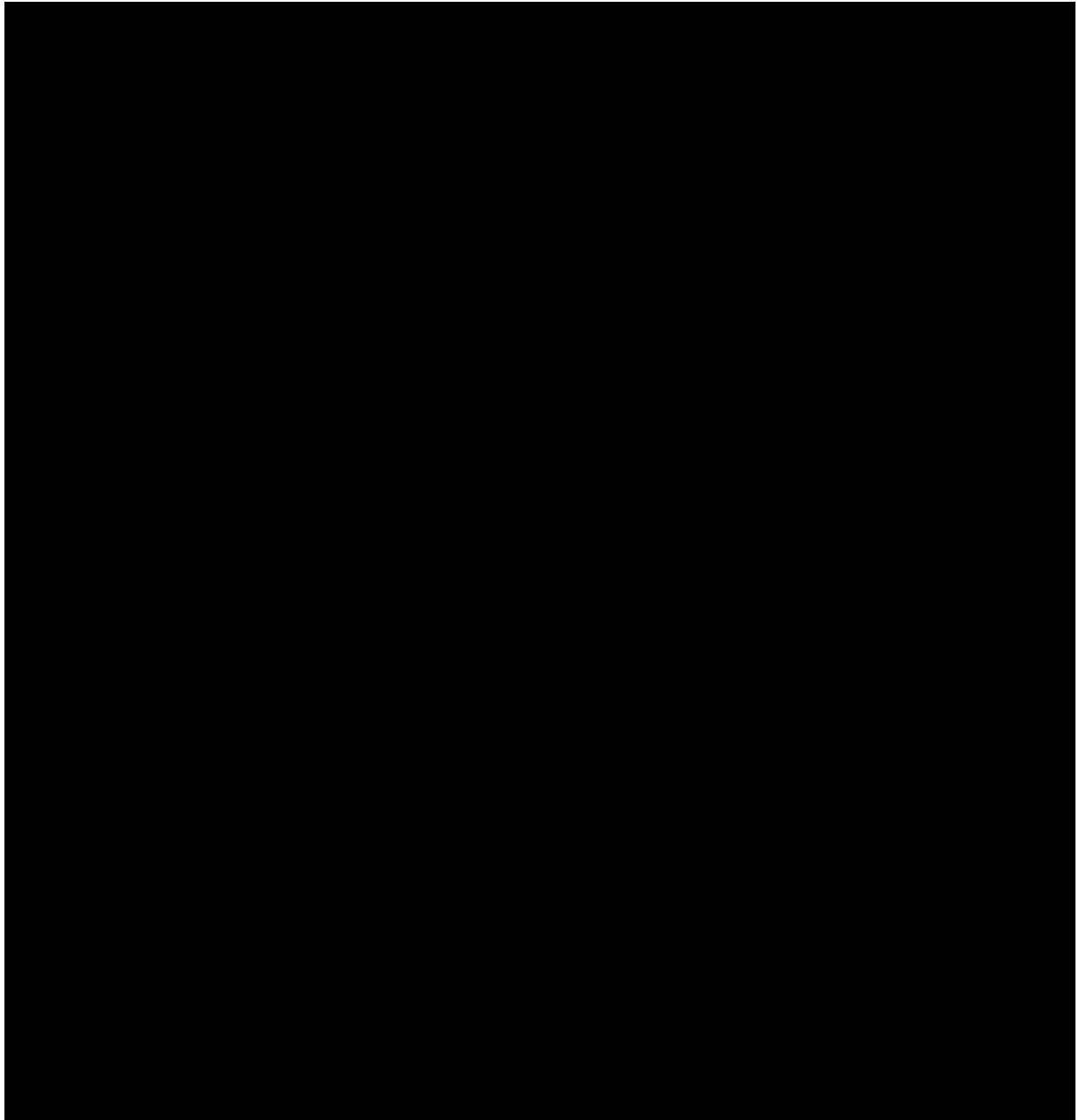


Figure 106A–G: Baths of *Aquinum*. Decoration and material: **A**: inscription [E09] in R11, from N. **B**: detail of mosaic floor in R8. **C**: detail of mosaic floor in R10, depicting a Nilotic scene, from E. **D**: mosaic floor in threshold R16–R22, depicting a rhinoceros, from W. **E**: central geometric panel on mosaic floor in R41, from E. **F**: marble columns in the *palaestra* R47. **G**: brickstamp *LEPIDI* (B: © *Aquinum* Project; C: CERAUDO & MURRO 2019, fig. 14; D: CERAUDO *et al.* 2017, fig. 8; E: ALBIERO *et al.* 2014, fig. 16; F–G: CERAUDO, MOLLE & NONNIS 2017–2018, fig. 7, 23).

1 – Location

1.1 – Metropolitan City of Rome, Comune di Albano Laziale

1.2 – 12.657748 E, 41.728033 N

1.3 – Directly outside the military camp of the *Legio II Parthica*, built by since Septimius Severus; SW of the *Via Appia*

2 – Preservation

2.1 – The S half of the substructures and the S row of heated rooms are preserved, for more than to 25 m high in total

2.2 – Largely incorporated in later buildings: houses, a church to S Pietro, the Convento delle Suore Oblate di Gesù e Maria

3 – Research

3.1 – The memory of the building was probably never lost, and part of its remains constantly visible. It was known as Palazzo di Ascanio during the Middle Ages. Scholarly interest since the 18th cent. AD, with plans by Volpi (1736), Canina (1856), Salustri (1910), and drawings by Piranesi and Rossini. Study by Gismondi and Lugli (remained unpublished). Considered by Tortorici (1974) in the frame of a study of the topography of the city. Most recent research project by the DAI Rom since 2010 (Nieberle).

3.2 – Visited in March 2016

4 – Dimensions

Substructures : ca. 2,750 m² (79 x 35 m)

Upper floor : ca. 7,500 m² (90 x 83 m)

5 – Chronology and phasing

5.1 – I: Under Caracalla (Brickstamps)

Since Lugli, the baths have been associated with a passage from the *Historia Augusta* (HA *Carac.* 2.4), mentioning how Caracalla, after having had Geta killed, went in person to *Castra Albana* to quieten the soldiers with the promise of gifts; the baths are assumed to have been one of those gifts.

5.2 – Unknown

6 – Description of the remains and identification of rooms

6.1 – The baths were built on two levels, a lower one (79 x 35 m) with substructures to create a terrace and to support the upper, main floor. The main façade of the lower level faced SW. Five rectangular elongated rooms, ca. 3 x 14.50 m, opened via large brick arches (7.80–8.10 m wide); they were flanked by narrower rooms, ca. 2.10 m.

The plan of the upper floor of the baths (ca. 90 x 83 m) is more hypothetical and in part based on the fact that the walls of the upper were set in correspondence to those in the substructures. The five southernmost rooms (R01-01 to R01-05) of the upper floor are better preserved; they were all heated, and some opened to the S via large windows. A corridor ran alongside their S side, at a lower level, probably a service corridor from which the *praefurnia* were operated; the corridor was originally covered and may have had a terrace on top. One room (37 x 11.50 m) from the N part of upper floor is better known as it was later incorporated in the Church of S Pietro. A series of walls and scattered remains are visible in the Quartiere di Cellomaio.

6.2 – The main function of the substructures was to serve as terracing for the upper floor. They could also serve as storage areas (for fuel) and service areas.

Based on orientation, on disposition and shape of rooms, Nieberle proposed that R1-01 and R1-05 were *caldaria*, R1-02, R1-03 and R1-04 were heated rooms, RR1-12 possibly a *frigidarium*, and even more hypothetically, RR1-19 a *palaestra* and RR1-23 a *natatio*. This reconstruction was in part based on well-known imperial-type baths, especially the contemporary Baths of Caracalla in Rome. It assumed an axial organisation of the rooms, and reconstructed it with a double circuit, which cannot be confirmed.

7 – Construction techniques and materials

7.1 – No information available

7.2 – Brick-faced concrete, with pieces of *Lapis Albanus* and possibly *Tufo Giallo della Via Tiberina* as aggregate. Two types of bricks, one redder, thinner, the other one yellow, less regular thickness. Possible use of *pozzolana* in the mortar.

With the baths of SM della Rotonda, the only building in town to use that technique. Walls and rooms dimensions correspond to multiple of the Roman foot (e.g. 7 RF for the walls).

7.3 – Series of barrels vaults, occasionally cross vaults.

8 – Heating devices

8.1 – The E–W corridor running along the S side of the S row of rooms on the upper floor was probably a service area from which the *praefurnia* were operated.

8.2 – No information beyond the presence of *tubuli in situ* on the walls of R1-05.

9 – Water management

9.1 – Two aqueducts are known to have supplied the *castra* and city; they both supplied the large Cisternoni (ca. 10,000 m³), enlarged in the 3rd cent. AD, when a second aqueduct started supplying them. From there, water flowed into several smaller reservoirs, one under Via Saffi (ca. 290 m³, possibly feeding the baths of Santa Maria della Rotonda), another one under the palazzo Comunale (capacity unknown), on the other side of the *Via Appia*, supplying the Cellomaio Baths.

9.2 – Nothing preserved. A hypothetical estimate, using the reconstructed pool from Nieberle's plan and assuming a depth of 0.80 m for the heated pools and 1 m for the cold-water pools, gives a figure of ca. 550 m³ of water capacity for the pools.

9.3 – Some drainpipes embedded in the thickness of the walls.

10 – Decoration and material

10.1 – Mosaic floor in some rooms around S Pietro: one white mosaic, one mosaic with black oval shapes on white background

10.2 – 5 brickstamps

- *Unreadable stamp* (TORTORICI 1975, 107): one stamp, *bipedalis* covering a window in a room from the lower floor
- **CIL XV.762b** (TORTORICI 1975, 107): *Opus doliare ex pre / domini NT Aug*, one stamp, *bipedalis* covering a window in a room from the lower floor. Dated under Caracalla
- **CIL XV.762a** (NIEBERLE 2012{94}): one stamp, *bipedalis* covering a window in a room from the lower floor. Dated under Caracalla
- Anepigraphic stamps (NIEBERLE 2012, 94: on *bessales* in the vaults of rooms on the lower floor. Severan period
- **CIL XV.381** (NIEBERLE 2015, fig. 3b): *Opus doliare ex figulinis Ocean/ is Minoribus praedis D N Aug*. One stamp, *bipedalis* covering a window in a room from the lower floor

Some of the same brickstamps were found in the Baths of Caracalla in Rome (DELAINE 1997, 251–254). Examples of *CIL XV 424a*, 408a, 408b were found in the surrounding area (MANCINI 1913, 52).

11 – Bibliography

TORTORICI 1975, 65–71 (water), 94–110; COARELLI 1985, 326–327, 329; NIEBERLE 2012; AGLIETTI 2015a(water); AGLIETTI 2015b, 102–103; NIEBERLE 2015; TESS6073; TESS6074

12 – Illustrations

TORTORICI 1975, fig. 136, 143–144, 148–159, 161, 163–169 (pictures), 137–141, 145 (early plans and drawings), 142, 160, 162 (plans), 146–147 (decoration); NIEBERLE 2012, fig. 2 (location); NIEBERLE 2015, fig. 2, 4–6 (plans), 3a (pictures), 3b (material), 7–8 (early plans)

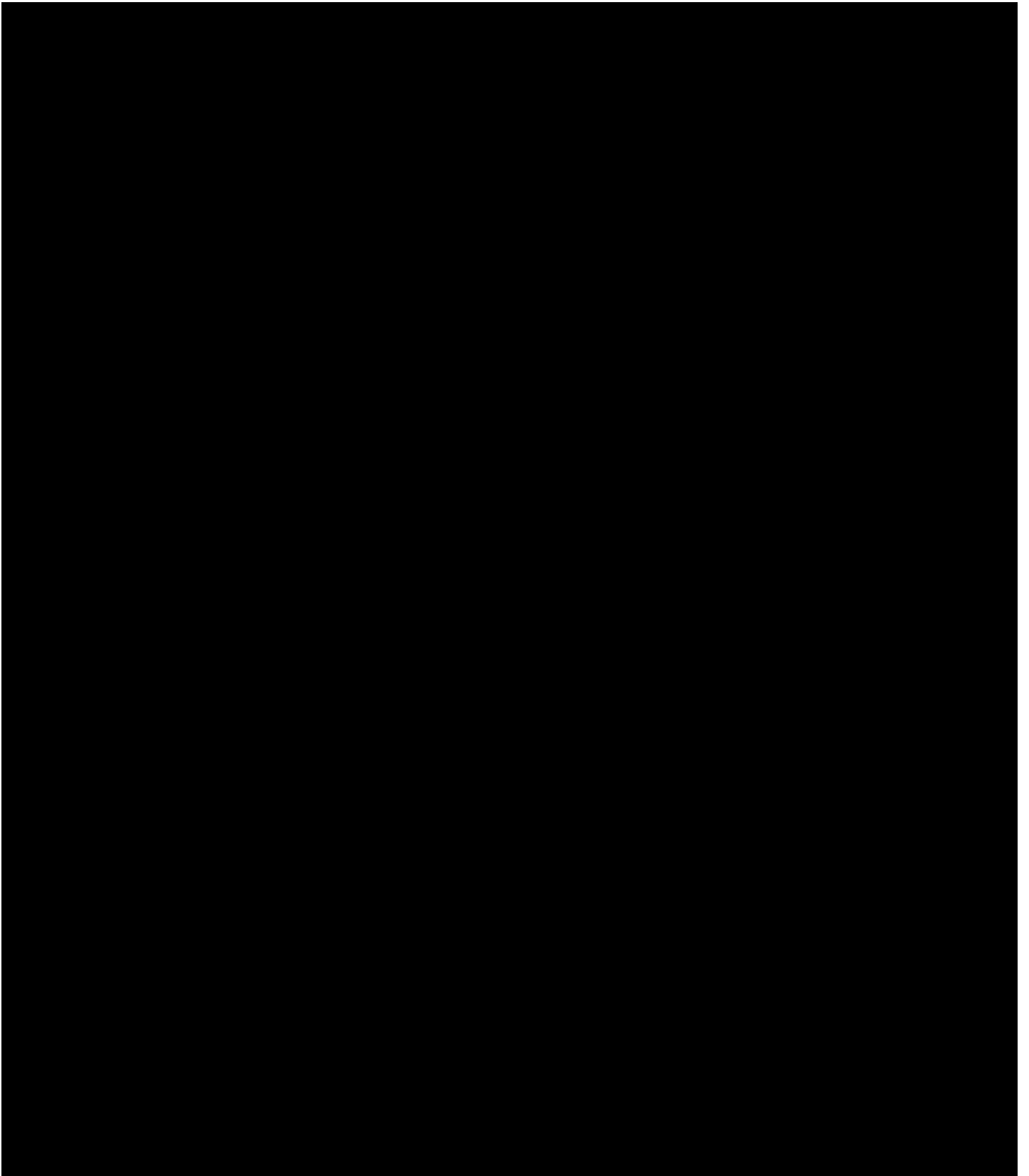


Figure 107: Reconstructed plan of the upper floor of the Cellomaio Baths of *Castra Albana*. The most securely identified rooms are R1–01 to R1–05 along the S façade (NIEBERLE 2015, fig. 4, modified by author).

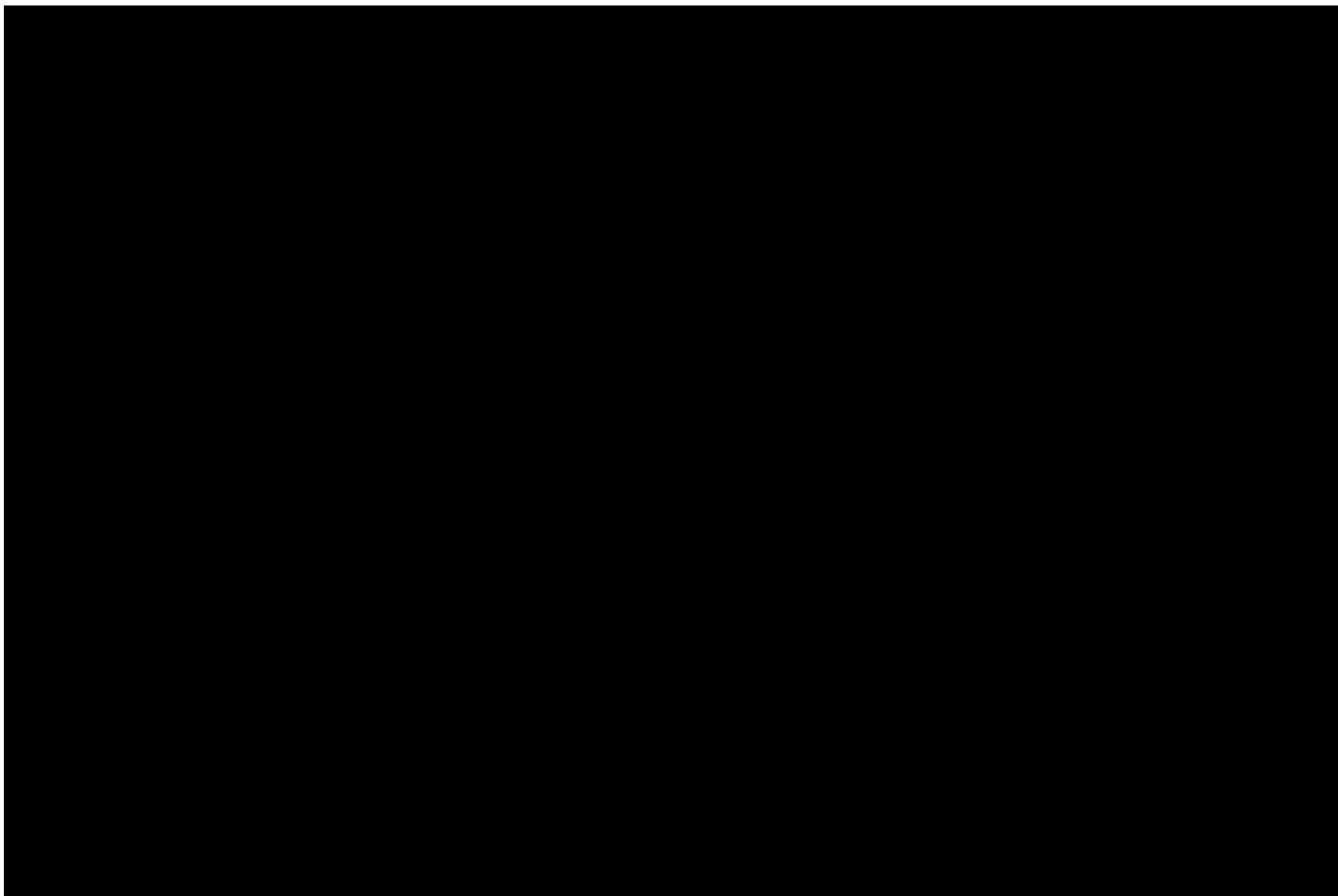


Figure 108: Plan of the lower floor of the Cellomaio Baths of *Castra Albana* (NIEBERLE 2015, fig. 4, modified by author).

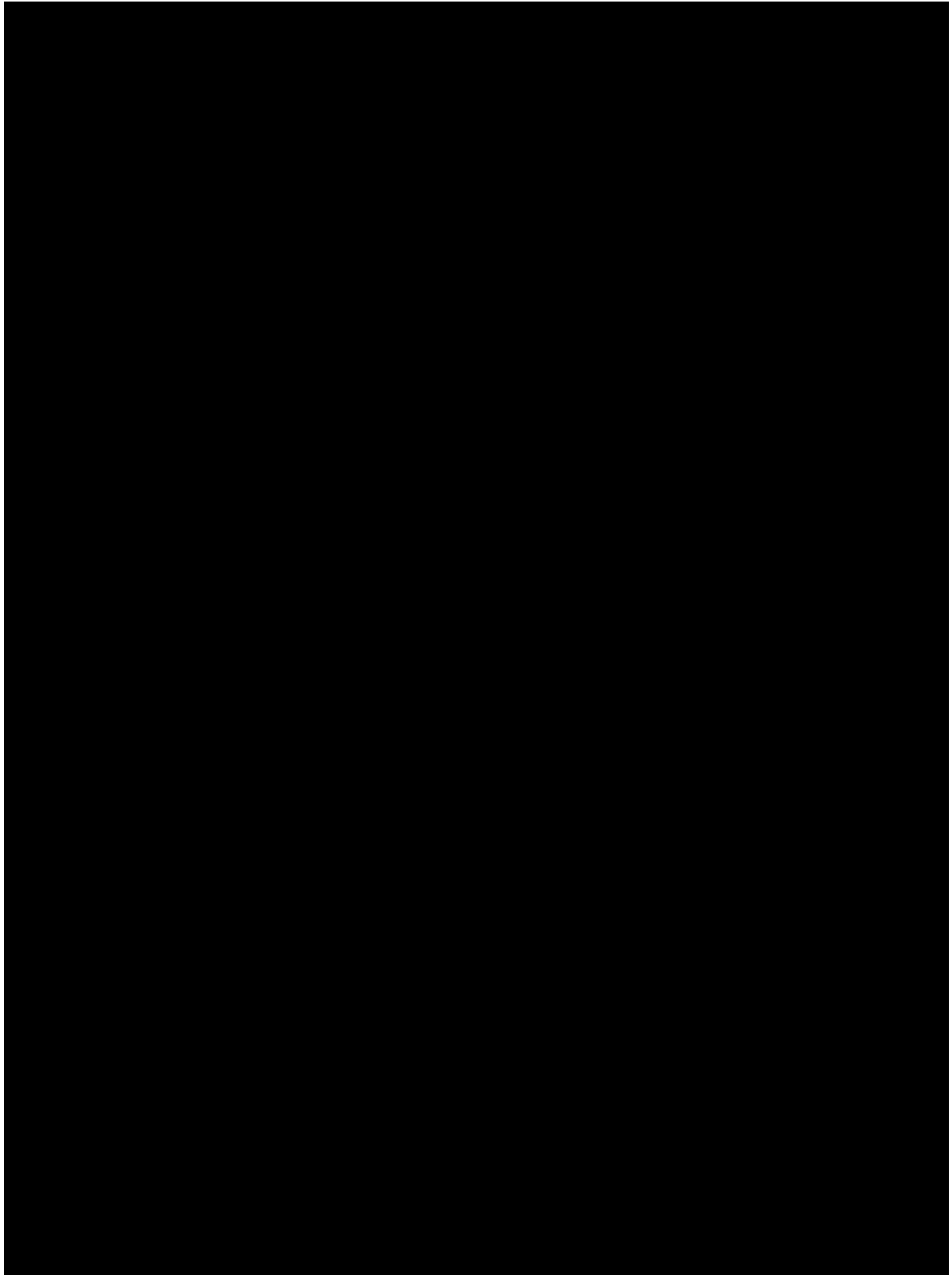


Figure 109A–D: Cellomaio Baths at *Castra Albana*. **A:** S façade, upper floor, from SE. **B:** S façade, lower floor, from S. **C:** room R0–24 (lower floor), from S. **D:** E wall of R1–04 (upper floor), from W (A, C: NIEBERLE 2015, fig. 1, 3a).

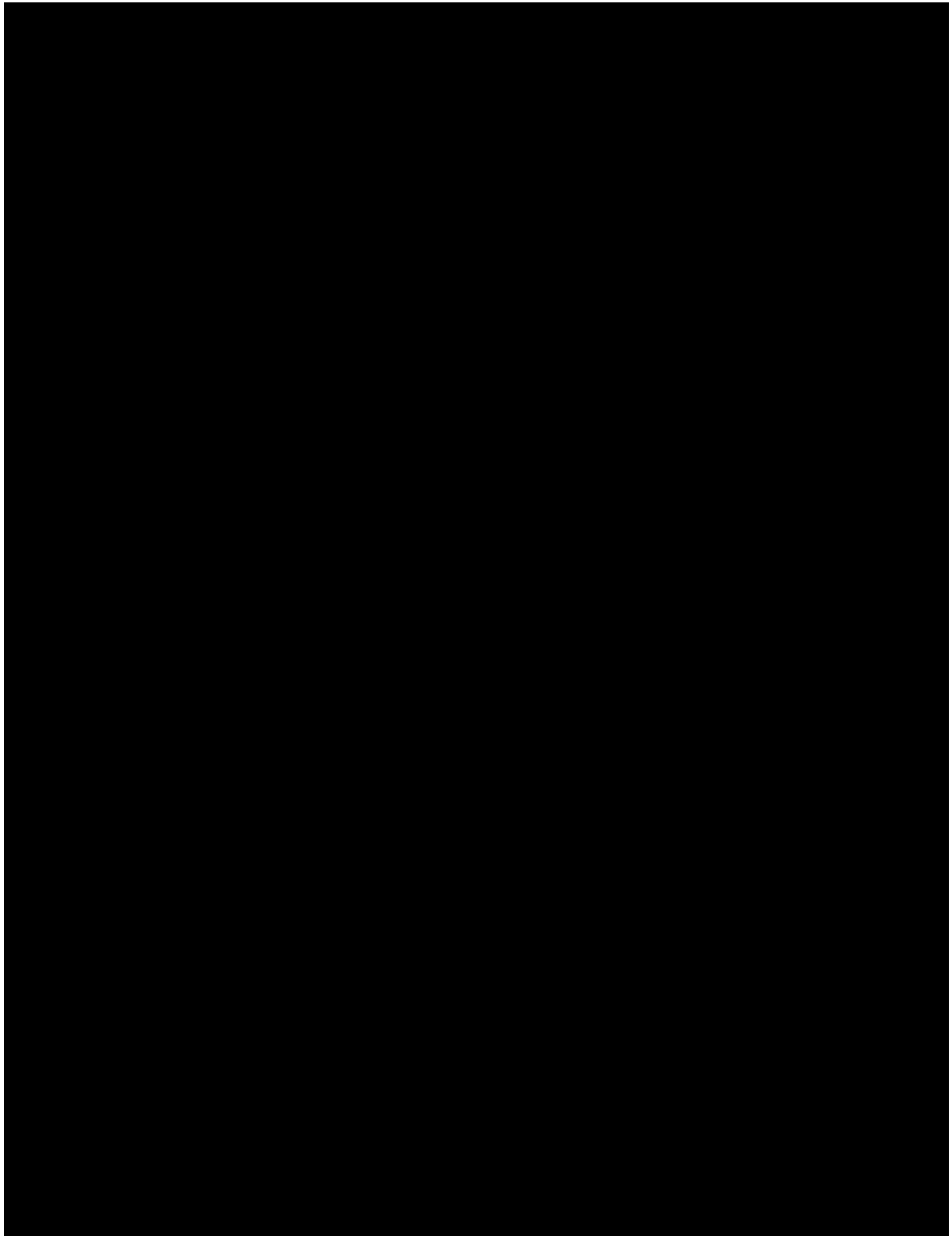


Figure 110A–J: Cellomaio Baths at *Castra Albana*. **A:** W wall of R1–05, from E. **B:** S façade of the church of S Pietro. Construction: **C:** vault in R0–21, *intrados* lined with *bessales*. **D:** vault of upper floor. **E:** relieving arch above connection on lower floor. **F:** brick facing in R1–02. **G:** detail of brick facing, inclusions of pozzolana(?) in mortar. **H:** drainpipe in W wall of R1–05. **I:** brickstamp *CIL* XV.381. **J:** mosaic floor in a room close to S Pietro (I: NIEBERLE 2015, fig. 3b; J: TORTORICI 1975, fig. 147).

1 – Location

1.1 – Province of Vitero, Comune of Ferento

1.2 – 12.132920 E, 42.488859 N

1.3 – On the W end of the tuff plateau on which the city of Ferentum stood, directly E of the theatre.

2 – Preservation

2.1 – Well preserved in plan, up to 2–3 m in elevation. Heavily restored (see 3.1). SW area not excavated.

2.2 – Part of the Area archeologica antica città di Ferento

3 – Research

3.1 – Discovered mid-19th cent. AD (Bazzichelli), excavated 1908-09 (Società Pro Ferento, dir. Rossi Danielli). Restored several times: briefly in 1909, 1927 and 1946, more extensively in 1969-74, 1979, 1983, 1986-93. A roof was added above the heated section in 1996-98.

3.2 – Visited in March 2016

4 – Dimensions

1370 m² (2220 m² with *palaestra*) (Nielsen); ca. 2100 m² (from plan)

5 – Chronology and phasing

5.1 –

I: Augustan period–1st quarter of 1st cent. AD

- Augustan: GARGANA 1935a, 42 (association with the Hortensii inscription); MAETZKE 1960; COARELLI *et al.* 1975, 266 (brick with reticulate panels); PAPI 2000, 126–128
- 1st quarter of 1st cent. AD: BARBIERI, AIELLO & GALLAVOTTI 1991, 65; ROMAGNOLI 2006, 64 (early 1st cent. AD); BOTTICELLI 2016, 753, 777
- TORELLI 1980, 222: Flavian (CTM), contra BOTTICELLI 2016.

II: 2nd cent. AD and connected with the creation of two separate circuits for men and women

- 2nd cent. AD: BARBIERI, AIELLO & GALLAVOTTI 1991, 65; PAPI 2000, 126–128 (CTM: brick)
- Late 1st- mid 2nd cent. AD: SPANU 2014, 131 (typology, style of mosaic decoration)
- 3rd quarter of 2nd cent. AD: BOTTICELLI 2016, 753, 777 (CTM, urban context (modifications in theatre))

Both Gargana and Maetzke (GARGANA 1935a, 42; MAETZKE 1960) dated phase II to the 1st quarter of 1st cent. AD; the latter added a third phase (undated) that saw the reuse of the inscriptions in R1.

Modifications of phase II:

- Creation of a women's circuit: creation of an entrance on the E side (R7) by splitting R8 and blocking its W passage. Blocking of E passages of R9 (towards R13 and R17) to isolate the two circuits. Division of R14 to create a *frigidarium* (R15) with immersion pool (R15a, taken over space from service area R23) and a *tepidarium* (R16, probably with R17). R21 became the *caldarium* of the women's section; the W passage to R20 was blocked and a pool added (R21a), along with a boiler on *praefurnium* B.
- In that same phase or in a different one, creation of two fountains in R1 (necessitating the blocking of two of the three passages between R1 and R9), and the passages between R1–R2 and R11–R2 were blocked too, possibly to further segregate the men's and women's circuits.

5.2 – Undated, but before 6th–7th cent. AD when graves were dug in R1.

Medieval modifications:

- Graves in R1
- Height of several walls in SW part of baths increased with large blocks of peperino or nenfro (esp. along the W side, but also in R13),
- Construction of private dwellings in R11 and R18
- Addition of a tower in NE corner (R5).
- Blocking of passages around R9: between R11–R12, R9–R10, R13–R14, and all access from R10 (to R9, R11, R18).
- Creation of large window in W wall of pool R9a, with reused travertine threshold blocks.

6 – Description of the remains and identification of rooms

6.1 – The bath building occupied a whole *insula*, roughly 36.70 m E–W and 55.10 m N–W, bound on all four sides by roads, ca. 0.50 m below the level of the N road. The main access was from the N into R1 via three entrances; the N wall of R1 was ca. 4.25 m away from the road, leaving space for a possible portico. There was a smaller entrance in R7 (phase II), leading to the women's section, and there must have been two further entrances, one from the S/SW, the other from the S/SE, to access the service areas. The building can be divided in two parts: to the north, a porticoed courtyard with pool and annexes (rooms R1 to R8), to the south the bathing block proper (rooms R9 to R25), subdivided at some point between a men's (R9, R11, R20, R22, R24) and a women's section (R7, R8, R14 to R17, R21). The SW area has not been excavated.

R1–R1a: large entrance courtyard, 25.70 x 19.66 m, with central pool. A 0.65 m thick stylobate ran on three sides (W-N-E) and probably supported a colonnade or a low wall interrupted by columns (remains of columns are still visible on site). The N wall opened via three doors onto the street (central door 2.55 m wide; lateral doors 2 m wide), set at a higher level and reachable via two steps. Several rooms opened onto the courtyard: R2, R3, R4 on the W wall, R5, R6, R7, R8 on the E wall, and R9, R11 and R14 were accessible through the S wall via ca. 2.40 m wide openings. Rossi Danielli indicated that two of the openings towards R2 and R8, 1.18 m wide, were already blocked in Roman times, and the travertine thresholds were still in place at the time of his report, but nothing of that is visible today. He further restored two 3.60 m wide openings in correspondence to and prior to the fountains, separated from the main entrance by 0.65 x 0.60 m pilasters, and later blocked.⁵ A length of 3.60 m is however unlikely as it would overlap with the N wall of R12–R13, and instead we propose to restore a length of ca. 2.5 m.⁶ Two roughly semi-circular fountains, 1.50 x 1.80 m, 0.60 m deep, were added against the S wall of the courtyard, possibly contemporaneously to the closing of the passages. At the centre of the courtyard is **pool R1a**, a 9.30 x 6.60 m, 1 m deep basin, probably unroofed and acting as an *impluvium* supported by four columns whose remains were found inside the pool and are now scattered around the courtyard. The pool was veneered with marble. Between the pool and the E wall of R1, Rossi Danielli indicated the presence of two circular elements (diam. 1.50 m, depth 5 m), possibly wells or fountains. Five medieval graves in the room, to the W and N of the pool.

R2–R3–R4: Three rooms opening off the W side of the portico of courtyard R1. Roughly 8 x 5 (R2), 6 x 5 (R3) and 5.5 x 5 m (R4). They only communicated with R1 apart from R2 which also had an opening towards R11. The passage between R2 and R11 was not indicated on Rossi Danielli's plan but the threshold is still in place today, so the passage was probably blocked in a later phase. Galli mentioned a small rectangular basin in R3, not visible today.

R5–R6–R7–R8: Four rooms opening off the E side of the portico of courtyard R1. Initially symmetrical to rooms R2–R3–4; in a secondary phase, R8 was split in two, its northern part (R7) became a secondary entrance, with the threshold still in place. Roughly 5.3 x 5 m (R5), 6 x 5 m (R6), 2.5 x 5 m (R7) and 4.8 x 5 m (R8). A tower was built in R5 during the medieval period.

R9, R9a, R9b: large rectangular room, ca. 10.5 x 9 m, with two lateral symmetrical rectangular pools on the W and E sides (R9a and R9b). Accessible from R1, its W and E walls were pierced by four openings (two on each wall, on either side of the pools), giving access to R10, R12, R13, R17. The passages towards R10 and R12 were blocked with large nenfro blocks in

⁵ This suggestion is difficult to confirm but the model of a passage between vestibule and *frigidarium* framed by two columns is known from other baths, see *Velia* South Baths [Ca.10], *Cumae* Forum Baths [Ca.02], *Neapolis* Fuorigrotta [Ca.04].

⁶ Rossi Danielli's suggestion may be based on the difference in wall facings, which he observed before the restoration (nowadays, the pilasters are faced with brick and the walls that blocked the former passages are faced with horizontal courses of stone blocks). The facing of the blocking walls stops exactly in correspondence to the outer limit of each fountain, where we propose to restore the outer boundary of those lateral openings.

medieval times, at least partly for R10.⁷ Also access to corridor R19 and heated room R20 to the S. For R20, the passage is now open, but there is some evidence that it was blocked at some point.⁸ Access to rectangular pool **R9a**, 5.75 x 3.20 m, via three steps.⁹ Within the pool, on the SE corner, was a smaller structure, possibly a basin, 1.15 x 1.22 m, built at a later date. **R9b** measured roughly 5 x 3.2 m and could be entered via three steps of the same dimensions as in pool R9a. Remains of marble slabs for floor and wall veneer in both pools.

R10: 2 m wide transition room between R9, R11 and R18. All passages (1.45 m wide towards R18) were blocked in the medieval period. Fitted with a 0.45 m wide bench along the N wall. Mosaic floor.

R11: 10.80 x 8.40 m. Access from the portico of room R1, to R9 through corridors R10 and R12, and to R2 via an opening in N wall. Also gave access to corridor R26 via 1.40 m wide opening. 0.40 m wide benches along E, S and W walls, covered in marble. Mosaic floor. The passage towards R12 was blocked with large nenfro blocks in medieval times.

R12: transition room between R11 to the W and R9 to the E via 1.45 m wide openings; Rossi Danielli mentioned the presence of marble thresholds, now gone. Fitted with a 0.45 m wide bench along the N and S walls. Mosaic floor.

R13: small transition room between R9 and R14 (ca. 1.40 m wide passages). Mosaic floor. The W passage towards R9 was blocked in Roman times with the same construction technique as the rest of the facing of the room (brick); the E passage towards R14 was significantly reduced (or blocked) with large nenfro blocks during the medieval period.

R14: 10.80 x 8.40 m room, symmetrical to R11 in a first phase, subdivided into R14–R15–R16 in secondary phase. Accessed from R1, R8, R13 and R17, and possibly R23. Mosaic floor.

R15+R15a: roughly 4.10 x 3.80 m, probably created in a secondary phase by subdividing R14; accessible from R14, gave access to R15a via two steps, and to R16. Mosaic floor. Pool **R15a**, 3.2 x 2.4 m, accessible from R15. Remains of hydraulic mortar and of marble veneer against the walls. Probably created in a secondary phase by taking over space from R23.

R16: heated room, roughly 4.5 x 3.70 m, probably created in a secondary phase by subdividing R14; accessible from R15, gives access to R17.

R17: small transition room between R9 and R14; in a secondary phase, the W passage towards R9 was blocked, the room became heated and allowed transition between R16 and R21.

R18: 12.5 m wide room, S boundary not preserved. Accessible from R10 and possibly R25. Significantly altered during medieval period: the N wall was raised, continue towards the W

⁷ This is visible in an archive picture, reproduced in BOTTICELLI 2016, fig. 4.

⁸ Galli stated that R9 and R20 were in direct communication. An archive picture (reproduced in BARBIERI, AIELLO & GALLAVOTTI 1991, fig. 39) shows the passage as being blocked, another one shows it as blocked or inexistent (reproduced in GARGANA 1935a). ROSSI DANIELLI 1959, fig. 97 could be, despite the label, a picture of the same room and the blocking of the door is clearer in it. The opening does not appear on Rossi Danielli's plan, probably because it was still blocked at the time of the excavation, and reopened only during a restoration phase.

⁹ Dimensions, top to bottom: 1, 0.25 m tread, 0.3 m riser; 2, 0.3 m tread, 0.4 m riser; 3, 0.27 m tread, 0.47 m riser.

with a slight inflexion southward; at the level of the change of orientation of the N wall started another medieval wall, running SE, at a higher level than the level of the Roman walls.

R19: N-S oriented corridor, min. 7 m long, 1.6 m wide, connected R9 to the N to R25 to the S; also gave access to R20 to the E via a 1.50 m wide opening, blocked at a later stage and no longer visible now.¹⁰ Mosaic floor according to Rossi Danielli, not preserved. Traces of marble veneer on W wall.

R20: rectangular heated room, 10 x 5.70 m, with masonry benches on the long sides. Possible passages in all four directions, towards R9 (N), R21 (E), R22 (S) and R19 (W). For R21, the E wall shows traces of a blocked passage, but this passage was not indicated on Rossi Danielli's plan, and for Galli the walls were not preserved well enough to ensure there was a communication between the two rooms. For R22, Rossi Danielli indicated there was a 1.40 m wide opening, located in the E part of the S wall, but on the ground this passage is now much narrower (closer to 0.50 m). A large squared stone block is incorporated in the S wall, probably the result of a recent restoration.

R21: rectangular heated room, ca. 7.2 x 5.7 m. Accessible from R17 (phase II) and possibly R20. The width of the room on the E part narrowed was down to ca. 5.1 m to accommodate hot-water pool **R21a** (phase II?), heated by *praefurnium* B. Remains of marble veneer in the pool. In the S wall, a small curvilinear niche with remains of a built-up basin in front of it, covered with waterproof lining.

R22: 9.80 x 6.87 m heated room. Probably accessible from R20. The plan in Rossi Danielli showed two passages towards R24; it is unclear if those are passages at the level of the hypocaust or at the circulation level, but even if the former is correct, the two rooms necessarily communicated by one or two openings. A large squared stone block is incorporated in the W wall, probably the result of a recent restoration. Marble pavement (Rossi Danielli) of which nothing is left.

R23: service area of the baths, roughly 3.10–4.50 m wide. The E wall is preserved for ca. 12 m but probably extended further south, from where there might have been a service entrance. From R23 were operated *praefurnia* B and C to heat R21 and R22, respectively, and a hypothetical *praefurnium* E to heat R24.

R24: Rectangular room with curvilinear apse in S wall, ca. 11.2 m E–W, not completely excavated. The plan in Botticelli showed that the walls were thicker in the NW and NE corner; this would be consistent with the positioning of pools against the W and E walls. The S apse could also have contained a *labrum*. SE corner of the room is highest preserved part, rising at ca. 9 m, and buttressed. Polychrome mosaic floor and walls.

R25: service area from which *praefurnium* A was operated. Not entirely excavated. Rossi Danielli's plan indicated a staircase leading to the *praefurnium*; the direction of the staircase was not specified but it possibly led down to a corridor running along the S wall of R20 and the W walls of R22 and R24.

¹⁰ The opening is visible in a picture in GARGANA 1935a.

R26: corridor indicated on Rossi Danielli's map, not visible today, accessible from R11. Probably *opus spicatum* floor (from documentation from the 1983 restoration campaign).

6.2 – R1 was the main entrance to the bath building, a porticoed courtyard with possible representation function, with pool **R1a**.¹¹ **R2 to R8** have no clear function, apart in a secondary phase when R7 was created to be a side entrance. **R10, R12, R13 and R17** were transitional spaces in phase I; in phase II, R17 became heated between two other heated spaces. **R9** was a *frigidarium* with its two cold-water pools. The presence of benches in **R11** suggests it was an *apodyterium*, and **R14** could have been too, by symmetry; in phase II, R14 could have been the *apodyterium* of the women's section (R8 could also have had that function). **R15**, created in that same phase, was a *frigidarium* with its cold-water pool R15a. **R20** was heated and by its initial position in the heated circuit, was the *tepidarium*; it was followed by heated **R21 and R22**. It is unclear if R24 was heated or not, but its position at the end of the heated circuit and the hypothetical presence of two lateral pools suggest it could have been the *caldarium*.¹² In phase II, R21 became the *caldarium* of the women's section (with a *labrum* and a heated pool R21a), preceded by R17 and now-*tepidarium* R16, both heated.

Paths:

- **I**, unique circuit, retrograde: entrance R1 – *apodyterium* R11 or R14? – *frigidarium* R9 (via R10/R12 or R13/R17) – *tepidarium* R20 – heated rooms R21 and R22 – *caldarium* R24 – back to *frigidarium* R9
- **II**, men's circuit, retrograde: entrance R1 – *apodyterium* R11 – *frigidarium* R9 (via R10 or R12) – *tepidarium* R20 – heated room R22 – *caldarium* R24 – back to *frigidarium* R9
- **II**, women's circuit, retrograde: entrance R7 – *apodyterium* R8 or R14 – *frigidarium* R15 – *tepidarium* R16 – heated room R17 – *caldarium* R21 – back to *frigidarium* R15

7 – Construction techniques and materials

7.1 – *Opus spicatum* in R26.

7.2 – The many restorations, which concerned as much as 90% of the surface of the walls, sometimes made with original materials, significantly altered the original aspect of the walls.

I: Reticulate facing. Preserved (original or correctly restored) in R11 (top of E wall), R12 (S wall), R13 (S wall), R15 (upper part and base of E wall), R15a (portions of E wall), R23 (upper part of E wall). The polychrome aspect of some reticulate panels (see BOTTICELLI 2016, fig. 13) is due to modern restorations: the greyish reticulate elements are original, the brown-reddish ones are restored.

¹¹ PAPI 2000, 128–129 suggested a function as *palaestra* for that space, comparing it to the *palaestra* of *Faesulae* [To.02], but BOTTICELLI 2016, 575–579 noted that the available space at *Ferentum* is much smaller than at *Faesulae* and would not have been suitable for physical exercises.

¹² This shape of *caldaria*, with two lateral pools and an axial apse (possibly with *labrum*) is known from other bath buildings, see chapter II.

II: Brick facing. TORELLI 1980, 222 suggested, for this phase, the use of a combination of brick courses and reticulate; BOTTICELLI 2016, 777 showed that the wall thus faced were either reticulate from phase I walls with phase II brick additions, or modern restorations.

Medieval modifications: large blocks of peperino or nenfro.

7.3 – The core of the upper part of the vault in R24 was made of concrete, with ochre-coloured aggregate (probably pieces of tuff) laid roughly horizontally, and black inclusions, possibly pozzolana nera. The increased thickness of the walls in R22 suggests it may have been covered by a groin vault.

8 – Heating devices

8.1 – The remains of three *praefurnia* (A-B-C) are now visible; *praefurnia* D-E are hypothetical. ***Praefurnium A***, heating R20, was a ca. 0.60 m high and wide opening, framed by jambs and a lintel made of large blocks of refractory stone; the blocks continued inside R22 to create a ca. 1.80 m long channel (outer dimensions: 0.70 m high, 1.20 m wide). The NE corner of R25 was occupied by a masonry block of undetermined function; the possible presence of a staircase to access it, not visible today but indicated in Rossi Danielli's plan, could be consistent with the presence of a boiler on top of that masonry block. There is however no hot-water pool in proximity of this hypothetical boiler. ***Praefurnium B***: operated from R23, heated R21. Ca. 1.30 m wide opening under brick arch, narrowed down to ca. 0.50 m by heavily damaged large blocks of refractory stone which extended into R23. Directly S of the *praefurnium* was a structure made of blocks of the same stone, arranged in an elongated U shape, possibly for the support of a boiler. ***Praefurnium C***: operated from R23, heated R22. Ca. 1.40 m wide opening narrowed down to ca. 0.60 m by jambs and a lintel made of large blocks of refractory stone (0.30–0.40 m wide). The stone blocks extended into the hypocaust of R22, possibly added later to the *praefurnium* according to Rossi Danielli. Probably restored.

8.2 – Hypocausts heavily restored. ***Areae***: mostly destroyed during restoration. Some *bipedales* still *in situ* in NW corner of R20. In the concrete poured in replacement of the *area*, restorers incised squares of the dimension of *bipedales*. ***Pilae*** 0.54–0.60 high, made of *bessales* (0.24 x 0.24 m) and monolithic blocks of stone (peperino, possibly a different stone for a single *pila* in R20) in R20 and R21, 0.51–0.64 m apart (interaxially). Stone *pilae* used especially under pool R21a. From archive picture (reproduced in BOTTICELLI 2016, fig. 10a), also *pilae* made of *bessales* in R16. ***Suspensura*** floor made of *bipedales*, single (archive picture in GARGANA 1935a) or double layer (under pool R21a). **Wall heating** made of *tubuli*, still *in situ* around pool R21a, and N wall and NW corner of R20, and mentioned by Rossi Danielli in R22. Galli mentioned *tegulae mammatae*, but there are no traces of such elements and Rossi Danielli mentioned *tubuli* instead ('tubature forate' – visible in an archive picture in GARGANA 1935a), so Galli might have been mistaken in the terms. **Communications between hypocausts** took the shape of rectangular openings (ca. 0.70 m high, 0.40 m wide): between R20–R21, R20–R22, R17–R21, R16–R21, R16–R17. Hypocaust passages between R21–R22 and R22–R24 certainly existed, but no traces remain. What seems like a smaller, blocked hypocaust passage in the E part of the S wall of

R21 could rather be a feature due to a restoration phase as it is in correspondence of the E wall of R22.

Restoring phases is difficult, but it is possible that the *pilae* made of stone monoliths belonged to a secondary phase and/or to punctual ancient restorations.

9 – Water management

9.1 – City supplied by an aqueduct, possibly already working in the Augustan period.

9.2 – Fountains in R1 supplied via lead *fistulae* from two small pilasters (Rossi Danielli), no longer visible today. Pool R9a supplied through a pipe coming from the N wall (hole visible at the centre of S wall of R12). GARBRECHT & MANDERSCHIED 1994, 21–22: total water requirements for building: 60 m³.

9.3 – A drain ran under the *frigidarium* R9, direction N–S, at ca. 1 m depth. Water from pool R9a evacuated via a pipe on SW corner.

10 – Decoration and material

10.1 – Decoration in marble: white Italian marble, polychrome ‘oriental’ marbles, and cipollino for the unfluted columns of the portico in R1.

Mosaic:

- Black background mosaic floor with white marble *crustae* in R11, R13, R14 and R19; the mosaic was framed by one (R13, R14, R19, made of *tesserae*) or two white bands (R11: inner one 12 cm wide, made of white *tesserae*; outer way 14 cm wide, 10 cm away, made of marble *crustae*).
- White background mosaic floor with black frame in R15.
- According to Rossi Danielli, R10 and R12 both had a white mosaic floor framed with a black band, but the limited remains of the mosaic floor in R10 suggest it was similar to the floor of R11, R13 and R14, a black background with white square *crustae*.
- Polychrome mosaic made of blue, red and green glass paste *tesserae* on floor and walls of R24.

Marble:

- White marble slabs on the floor and walls of R1, R20, R22 and pools R9a–R9b,¹³ R15a, R21a.
- Marble veneer on wall of R19
- Polychrome marble veneer on the benches in R12 (and possibly the other benches in R10, R11 and R13).

Red wallpainting on the upper part of the walls of R1, with some gilded elements. Fragments of frieze and cornices found in R1 and R9.

10.2 – Lamps; relief from sacrificial altar depicting an olive tree; fragments of lead *fistulae*, unstamped (found between the N road and R1 One of them has traces of an attachment of a

¹³ Remains of bronze clamps indicate that the marble veneer of pool 9a goes up to 1.20 m high.

tap); several statue fragments and architectonic elements in peperino; headless female statue, with left hand missing. 1.60 m high, made of white *Luni* marble.

Several brickstamps: unpublished. Mentioned by Rossi Danielli. FILIPPI & STANCO 2005, 164–165 stated that the production was municipal as the city was away from waterways.

Several inscriptions found in 1908, reused upside down on floor of R1 (MILANI 1908; GALLI 1911, 22–25; GARGANA 1935a, 37–42; ROSSI DANIELLI 1959, 98–99)

- **CIL XI.7417 = EDR072441:** *M(arco) Sal[vio] Othoni Aug(usto)], / tribu[nic(ia) potest(ate)], / municipes ---] / [-----?]*

0.36 x 0.27 m. Letters 6–7 cm. AD 69

- **CIL XI.7438 = EDR072442:** -----? / [---?] *Ferenti[---] / [---?] compara[---] / -----?*

Negative of inscription

- **CIL XI.7431 = EDR072443:** *Sex(tus) Hortensius A(uli) f(ilius) Stel(latina), / Sex(tus) Hortensius Clarus, / mag(ister) Lar(um) accensus / Germanici Caesaris co(n)s(ulis) forum et*
- *5 Augusteum cum statuīs LVII circa / porticus et lacus et cloacas solo privato / s(ua) p(ecunia) f(aciendum) c(uraverunt) idem dedic(averunt) crust[ulum et e]pul(um) ded(erunt).*

Marble *tabula*, H 0.45 x W 0.85 m, letters 2–6 cm.

Construction by *Sextus Hortensius* of a *lacus*, a *porticus* and a *cloaca* at his own expense AD 12/18–19. Gargana put it in connection with the second phase of the baths.

- **CIL XI.7444 = EDCS-21000393:** **A:** [---] IIII / [---] VIII / [---] XVI / [---]; **B:** [---]nus [---] / *p(eriit) C(aius) Pomponiu[s ---] / p(eriit) Herma sc(aeva) [---] / m(issus) C(aius) Sallustius [---] / m(issus) Bucolus [---] / Apelle[s ---] / vv(icit) Pieru[s ---] / m(issus) C(aius) Iu[---]; C:] XX / [---]us n(umero) VII / [---]us n(umero) II / [---]utus n(umero) I / [---]archia n(umero) [---] / [---] C(aius) Iuniu[s n(umero) ---] / [---] Vitali[---] / [---] Lyc[---]; **D:** [---] Mei[---] / *M(arcus) Ca[---] / v(icit) Ci[---]; E: [---] Socr(ates(?)) / [---] Flacc[us ---] / [---]s n(umero) [---] / [---]stu[---]; **F:** [---]irtu[---] / [---] Verus / [---]; **G:** [---] sc(aeva) n(umero) V[---] / [---] n(umero) [---] / [---] n(umero) V[---]**

Seven fragments of a list of gladiators' names. 0.27 x 0.12 m; 0.17 x 0.15 m; 0.13 x 0.10 m; 0.13 x 0.08 m; 0.10 x 0.08 m; 0.07 x 0.06 m; 0.11 x 0.06 m. 2nd half of 1st cent. AD

- **AE 1909.0058 = EDR072286:** *L(ucio) Pomponio L(uci) f(ilio) / Lupo, IIIIvir(o) i(ure) d(icundo) / quinq(uennali) iter(um), trib(un) milit(um) / leg(ionis) IIII Macedonic(ae), praef(ecto) coh(ortis) equitatae / Macedonum et coh(ortis) / Lusitanor(um) et Baliarium insularum, / ex s(enatus) c(onsulto) / ob munificentiam eius.*

Marble *tabula*, H 1.17, W 0.80 m, letters 4.5–7.5 cm. Honorific inscription of *Pomponius Lupus*, who assumed several civil and military positions. AD 1–69 (EDR)

- **AE 1909.0059 = EDR072287:** *Marti / Aug(usto). / T(itus) Rufilius Priscus, / IIIIvir aedil(is) ex d(ecreto) d(ecurionum) / pro ludis sua pecun(ia) posuit.*

Marble *tabula*. H 0.86 x W 0.60 m, letters 3.5–12.5 cm. Dedication to Mars Augustus by *Rufilius Priscus*

- **EDR072444=CIL XI.7423:** [---]+ Gallo [---] / [V]Iviro tur[m(arum) equit(um) Rom(anorum)], / [tri]b(un) milit(um) leg(ionis) X[---], / [quaest(ori)] provinc(iae) Sic[iliae], / [praet(ori)]

urb]ano, lega[to leg(ionis) ---], [---, p]raef(ecto) fru[m(enti) dandi], / [leg(ato) pr(o) pr(aetore)
provi]nc(iae) Asi[ae, ---] / -----

Marble *tabula*, H 0.47 x W 0.435 m, letters 5.5–6.5 cm. AD 102–117

Rossi Danielli mentioned three further inscriptions, of funerary nature, which instead came from a nearby *columbarium*

11 – Bibliography

MILANI 1908; GALLI 1911, 22–30; GARGANA 1935a; GARGANA 1935b (not consulted); ROSSI DANIELLI 1959, 97–114; MAETZKE 1960; BARBIERI, AIELLO & GALLAVOTTI 1991, 61, 63–67; PAPI 2000, 126–129; BOTTICELLI 2016

12 – Illustrations

Plans: ROSSI DANIELLI 1959, fig. 91; BARBIERI, AIELLO & GALLAVOTTI 1991, fig. 34; PAPI 2000, fig. 79; BOTTICELLI 2016, fig. 2

Pictures: GALLI 1911, fig. 1; GARGANA 1935a (3 pictures); ROSSI DANIELLI 1959, fig. 89–90, 96–97; BARBIERI, AIELLO & GALLAVOTTI 1991, fig. 38–39; PAPI 2000, fig. 80; BOTTICELLI 2016, fig. 4–13

Material: GARGANA 1935a (one picture); ROSSI DANIELLI 1959, fig. 88, 93–94

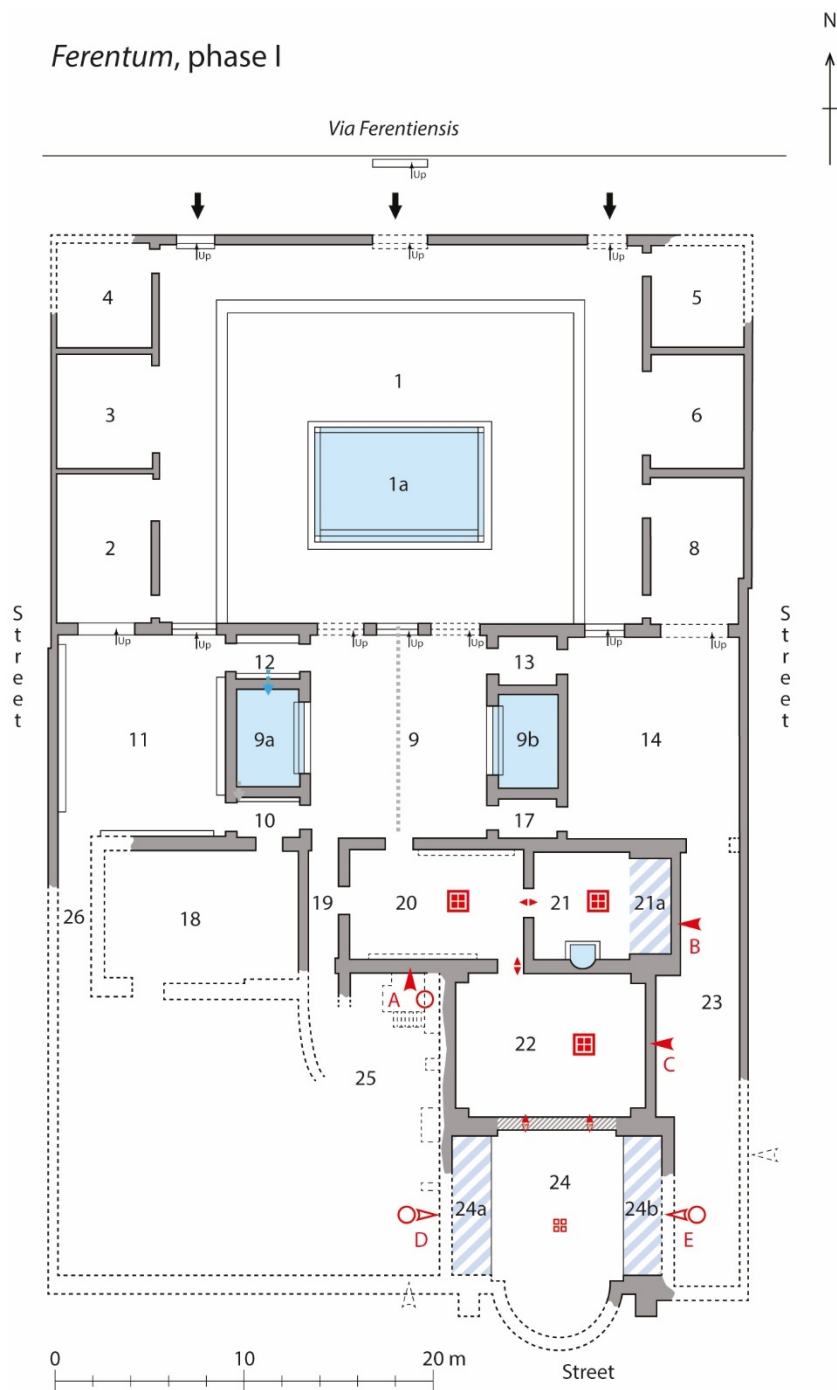


Figure 111: Plan of the baths of *Ferentum*, phase I (after ROSSI DANIELLI 1959, fig. 91; BOTTICELLI 2016, fig. 2).

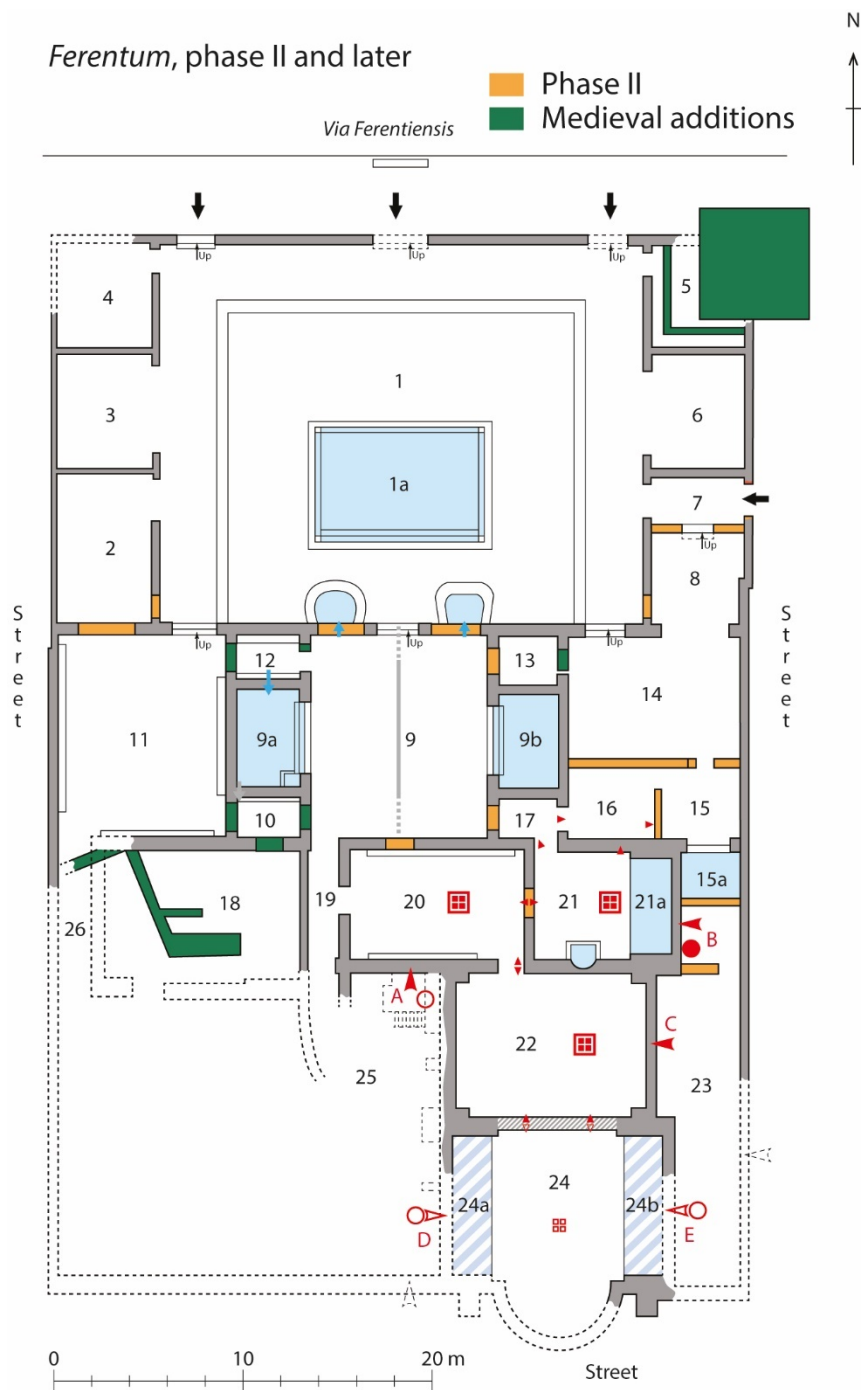


Figure 112: Plan of the baths of *Ferentum*, phase II and posterior alterations (after ROSSI DANIELLI 1959, fig. 91; BOTTICELLI 2016, fig. 2).

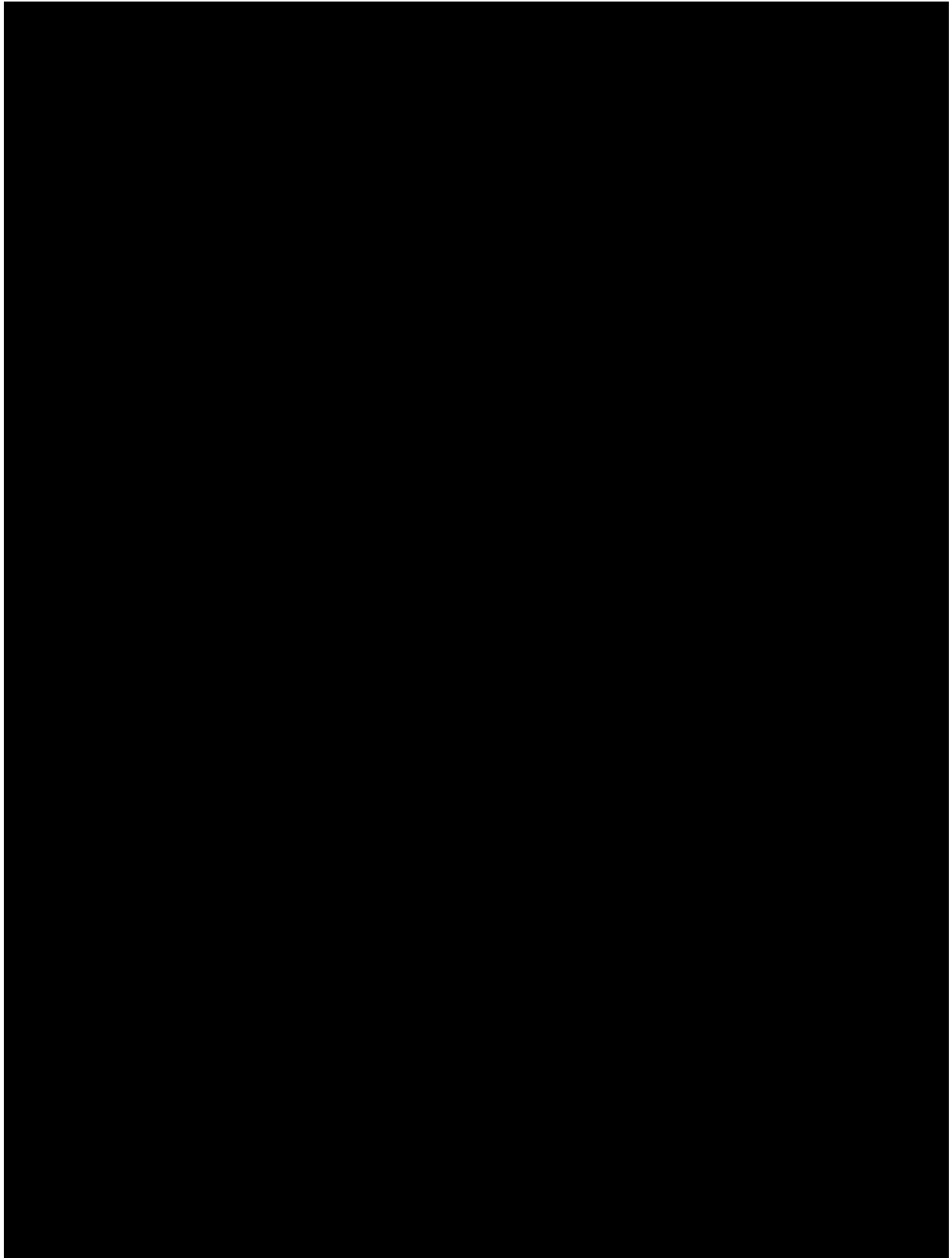


Figure 113A–E: Baths of *Ferentum*. **A:** panoramic view from NE. **B:** R1–R1b, from W. **C:** fountains in R1, from W. **D:** S wall of R1, from N. **E:** panoramic view of R9, from NW.

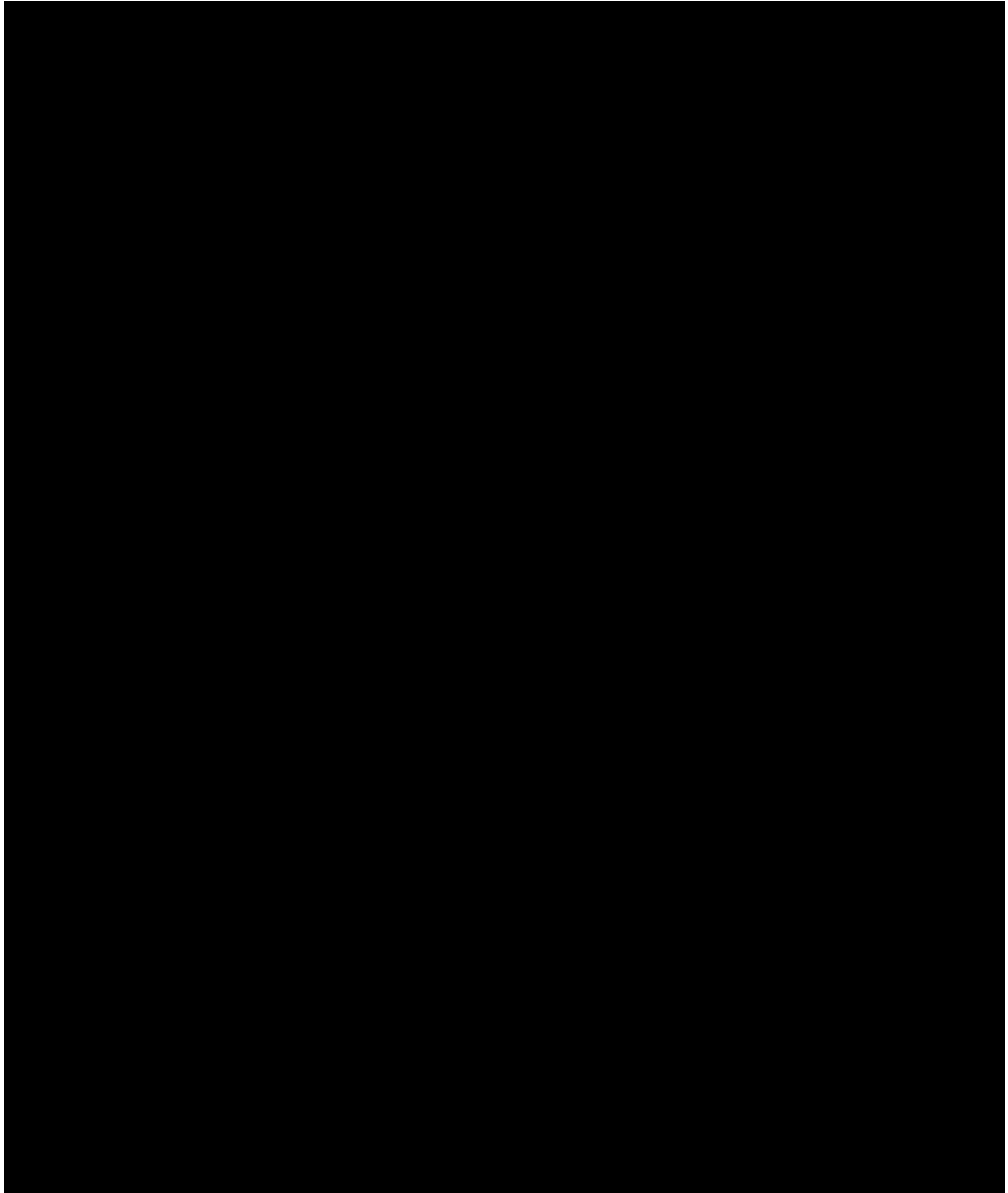


Figure 114A–K: Baths of *Ferentum*. **A:** R9a, from NE. **B:** panoramic view of R11, R3 and R2, from E. **C:** SE area of the baths, from E. **D:** R15–R15a, from N. **E–F:** R16, from W and E. **G:** R20, from NW. **H:** R21, from SW. **I:** niche in S wall of R21, from W. **J:** E part of R21 and pool R21a, from SW. **K:** R22, from SW.

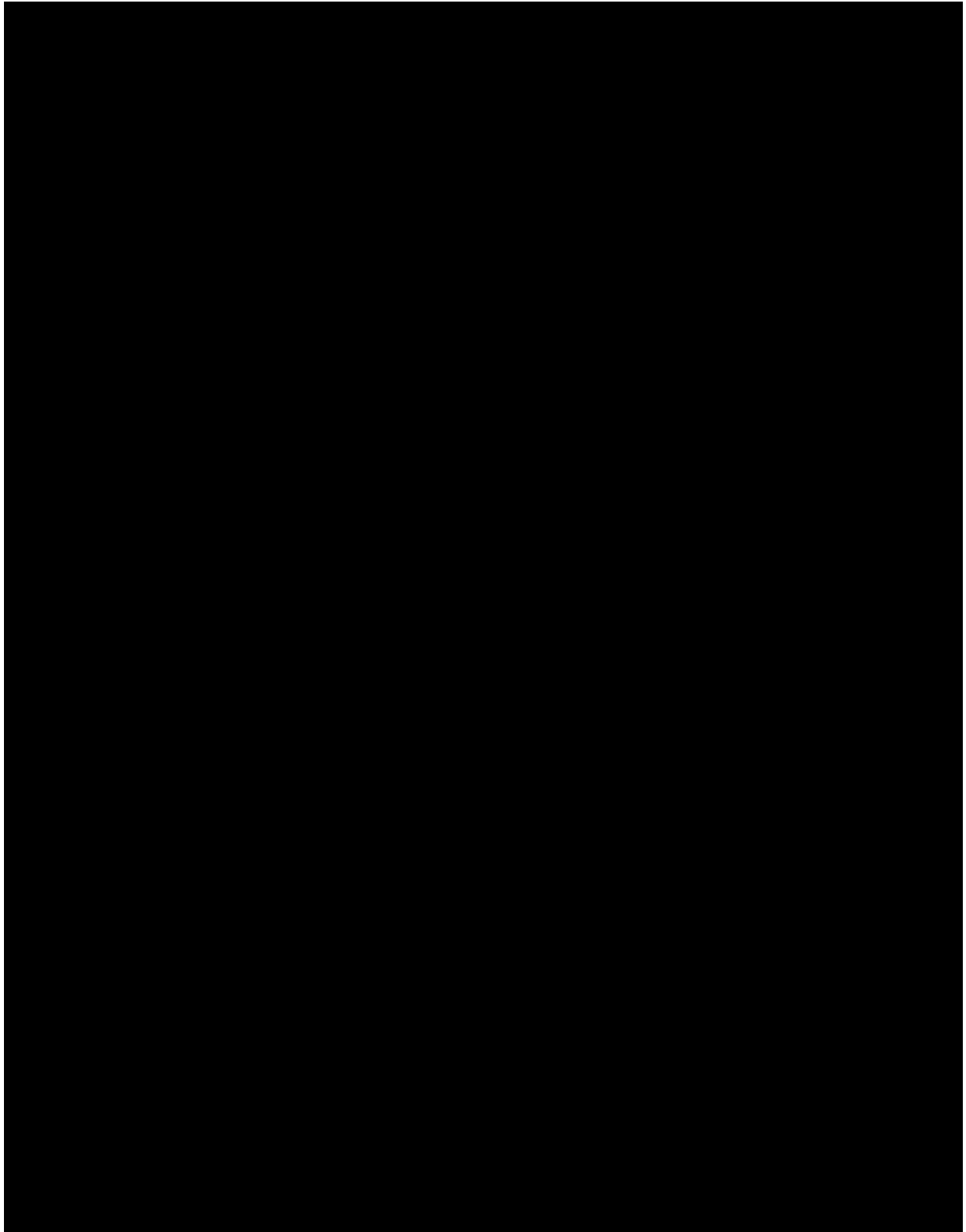


Figure 115A–K: Baths of *Ferentum*. **A:** R23, from S. **B:** remains of the elevation of R25, from NW. **C:** R25, from SW. Construction materials: **D:** brick facing in R20, E wall. **E:** reticulate facing in R25, E wall. The brick quoins and the yellow-brown coloured stone blocks are restored. **F:** detail of mortar joint, with possible pozzolana inclusions. Heating: **G:** *praefurnium* C, from N. **H:** *praefurnium* A, from NE. **I:** *praefurnium* B and boiler stand(?) in R23, from E. **J:** hypocaust in R20, from S. Decoration: **K:** detail of mosaic floor in R11.

1 – Location

1.1 – Province and *comune* of Frosinone

1.2 – 13.346596 E, 41.646364 N

1.3 – Away from the city centre, in an area at the crossroads of the *Via Latina* and the road leading from *Sora* to the NE to *Terracina* to the S. Ca. 500 m W of the amphitheatre.

2 – Preservation

2.1 – Well preserved in plan (continued further N and E), poorly preserved in elevation. A modern construction (1950s/1960s) obliterated the N part of the baths; a modern pipe also damaged some structures to the S, and the entire building suffered from ploughing.

2.2 – Backfilled

3 – Research

3.1 – Discovered 2007, partly excavated by the Soprintendenza per i Beni Archeologici del Lazio (dir. D. Raiano – S. Gatti).

3.2 – Not visited

4 – Dimensions

More than 500 m², estimated at 1500/1800 m² by Gatti–Raiano 2010.

5 – Chronology and phasing

5.1 – **Pre-baths:** Republican-period structures to the S (3rd-2nd cent. BC) and NW (2nd-1st cent. BC), obliterated by the construction of the baths but probably abandoned earlier (possibly 1st cent. AD)

I: 2nd half of 3rd cent. AD or before (CT, M)

Gatti-Raiano 2010 proposed a 3rd cent. AD dating for the construction, based on a coin of Diocletian found in ash layers in a hypocaust (see 10.2). If the coin indeed dates a phase of use of the baths, and potentially the last time that hypocaust was properly cleaned, it is mostly a *terminus ante quem* for the construction of the baths, which could just as well have been built in the 1st or 2nd cent. AD, hence their inclusion in the catalogue.

II+: undated modifications

- Addition of R3
- Later: N access to R3 blocked
- Blocking of R6?

6 – Description of the remains and identification of rooms

6.1 – The bath complex (fig. 116) extended E–W, with the bathing rooms to the W (heated and annexes: R1 to R7 (fig. 117A–B); cold: R8 to R10 (fig. 117A)) and a series of poorly understood rooms to the E (R11 to R14). **R1**: only partly excavated, square or rectangular room with curvilinear N side. Covered in *cocciopesto*. **R2** (fig. 117C): 40 m² heated room. Roughly square central part (ca. 5 x 4.60 m) with axial apse on W end (ca. 2.5 m opening) (possibly for a *labrum*) and two rectangular extensions to the S (**R2a**, ca. 2 x 2.80 m) and N (**R2b**, ca. 3.70 x 2.20 m), possibly for pools; possibly mosaic floor. **R3**: square room, preserved for ca. 0.90 m high, added in secondary phase by cutting part of the SW wall of R2. Accessible from the N via door (blocked at a later stage) and E–W oriented corridor. Contained *praefurnium* C to heat R2. **R4**: 32 m² heated room, ca. 4.70–4.90 m E–W, min. ca. 7 m N–S, preserved up to 0.30 m high. Rectangular niche on N side (ca. 3.20 m wide), possibly for a pool. **R5**: ca. 6 x 4.30 m heated room, heated from R6 to the S and R7 to the N (not contemporaneously). **R6** was a small room roughly square (ca. 1.30 x 1.60 m) accessible from the W and containing *praefurnium* B, possibly decommissioned in a secondary phase. **R7**, like R8 and R9, was only partly excavated; it contained *praefurnium* A. **R8** may have been a corridor, oriented E–W, floored with a mosaic, at a slightly higher level than R10, and **R9** was another room further N, also floored with a mosaic. **R10**: 4.50 m N–S, possibly 5 m E–W room (E boundary unclear), floored with a geometric mosaic apparently not centred. Equipped with pool **R10a** (ca. 3.5 x 3 m) to the S, also slightly offset to the W, accessible by a couple of steps and veneered in marble. **R11**, **R12**, **R13** and **R14** are poorly preserved, only partly excavated, and their connection with R10 is unclear. There was a possible water feature in R11 (basin or *labrum*), based on the presence of a water disposal channel on the floor.

6.2 – A traditional interpretation of rooms would be a *frigidarium* in R10 (with cold-water pool R11) and a *caldarium* in R2, with possibly two hot-water pools; the heated pools in between would be, based on the usual gradual heated circuit, *tepidarium* in R5 and sweat-room in R4; even though no connections between rooms are preserved (apart from a possible passage between R10 and R5), the disposition of the rooms calls for a retrograde path R10–R5–R4–R2 and back.

Gatti–Raiano 2010 proposed a series of reconstructions:

- They identified R1 as a hot-water pool based on its cover of *cocciopesto* and its position next to the *caldarium* R2. However, from the plan and description, the floor of R1 seems to be at the same level as the *area* of the hypocausts, with the consequence that it was probably not heated (unless we were to reconstruct another hypocaust at a lower level under R1, but this is highly unlikely). A cold-water pool would also be out of place next to the *caldarium*, all the more so since the cold area was located further E. A more mainstream interpretation for this room could be that it contained a *praefurnium* heating R2, which would have otherwise lacked direct heating in phase I. The

cocciopesto cover does not find an explanation in this context, but the presence of water in this room (in a possible boiler, in pool R2b, and possibly in a small water tank in a higher position from which to supply the boiler) could account for it.

- They also hypothesized that the baths continued further N beyond a modern construction, where a stretch of road and structures similar to that of the baths were found and interpreted as belonging to the bath building; they suggested that the entrance to the baths happened from the *Via Latina* via that stretch of road, possibly through a large courtyard.
- Based on the remains of a mosaic floor found in R9 and decorated the same way as that in R10, the authors suggested that R9 could have mirrored R10, possibly with another pool further N, mirroring R10a.

7 – Construction techniques and materials

7.1 – Mortar floor in R3.

7.2 – Brick faced concrete. Concrete with aggregates of river pebbles, stone chips and some terracotta fragments in a yellow mortar. R3: thinner walls, faced with alternating courses of tiles and bricks.

7.3 – No information available.

8 – Heating devices

8.1 – *Praefurnia* in R3 and R7, and probably in R1 and R6 too, as well as to the N of R4.

Praefurnium A in R7, heating R5, not entirely excavated. Ca. 2 m long, bound by 0.47–0.65 m high slabs of marlstone (*pietra marnosa arenaria*); large amounts of compacted ash were found in between the slabs. *Praefurnium B* (in R6): based on its planimetric similarity with R3, R6 too contained a *praefurnium*. It was probably blocked in a secondary phase, as would suggest the E–W oriented wall along its N side, inside R5, at the level of the hypocaust. The *praefurnia* in R6 and R7 (A–B) would therefore not have worked contemporaneously. *Praefurnium C* in R3, heating R2 and R2a, made with two stone slabs and floored with tiles which still bear the marks of strong heat and black soil mixed with ash and charcoal. Probably equipped with a boiler to heat the water of R2a (as suggested by presence of water disposal pipe discharging in channel A). *Praefurnium D* (in R1): since *praefurnium C* was added only in a secondary phase, a *praefurnium* (D) relative to phase I must be reconstructed to heat R2, in all likelihood in R1. *Praefurnium E* (in R4): based on the typical heat progression from one room to the next in the heated sector, R4 was probably heated directly too, logically from a *praefurnium* (E) to the N.

8.2 – R2, R4, R5 were heated (fig. 117A–B–C).

Area made of *bipedales* on bed of cocciopesto (under which were foundations made of pebbles and yellow mortar, at least in R4), 0.50 m high *pilae* made of *bessales* distant ca. 0.50–0.60 m interaxle. Wall heating made of *tubuli* (rectangular section *tubuli* found in backfill layers).

Gatti–Raiano 2010 indicated the wall heating was made of *tegulae* set with the flanges against the walls (found *in situ* in R2), but from pictures and an axonometric drawing, 1) R2 is not preserved high enough to have preserved traces of wall heating, and 2) the tiles appear to reach the *area*, which would have prevented hot air from even entering into the gap left between the tiles and the walls. Instead, this would suggest that they were used as protection for the walls of the hypocaust.

9 – Water management

9.1 – No evidence for any direct connection between the baths and a water supply system. Existence of an aqueduct supplying the city, of which remains were still visible mid–20th cent close to ‘Ponte della Fontana’.

9.2 – No direct evidence. R10a, as well as the hypothetical pools R2a and R2b and a possible basin in R11, had to be supplied with water.

9.3 – Drainages pipe in **R3** (0.125 m diam. tube in the S wall of the room), discharging into channel A to the S. Two drainage pipes in SE corner of **R10** discharging into channel B. A 0.30 m wide brick-faced water disposal channel in **R11**, flowing westwards and discharging into channel B. An Overflow pipe in **R10a** (0.12 m diam. tube in SE corner of room, at 0.70 m above the floor), discharging into a small channel to the S, which then directly flowed into channel A.

Channel A (fig. 117D): channel running along the W and S sides of the building. Started in R1, continued southwards for 13 m, turned east and continued in that direction (collecting wastewater from R3 and R10a on the way) until it discharged into a small rectangular collection tank (for settling?). The W stretch of the channel was floored with tiles (0.50 x 0.34 m) with flanges pointing upwards, faced in brick courses for a height of 0.35 m then covered by two brick a cappuccina topped by an *imbrex* then covered with a concrete vault (total height 0.70 m). S stretch covered by tiles and *sesquipedales* resting on the jambs, alternately placed in the length or the width, then covered in the same way as the W stretch of the channel (CBM a cappuccina and concrete vault). **Channel B**: N–S oriented, 0.30 m wide channel between R10a–R10 and R11–R12, receiving water from R10 and R11 and discharging into the same collection tank as channel A. **Channel C** started from the collection tank and brought wastewater further E, towards the river Cosa.

10 – Decoration and material

10.1 – Mosaic floors in R2, R8, R9, R10, marble slabs in R10a. **R2**: many fragments of mosaic floor, black and white *tesserae*. **R8** (fig. 117E): poorly preserved mosaic floor, black and white, motives of swastika. **R9**: fragment of a mosaic floor, probably with the same motives as R10. **R10** (fig. 117F): square mosaic floor (5 x 5 m), black and white, geometric, 1.2–1.5 cm *tesserae*, with insertions of smalls white marble elements. Framed by a wide white strip (0.50 m) and an inner double black frame (on the W, S and E sides), a series of N–S parallel lines (13

preserved, 17 reconstructed in total), alternatively 0.30 and 0.15 m. The strips are then subdivided in staggered squares or rectangles, which contained the marble elements arranged in a square (3/6 cm on the side). **R10a**: floor covered with slabs of white marble, on bed of *cocciopesto* with inclusions of marble fragments.

Found remains of mosaic floors, marble slabs, polychrome marbles.

10.2 – The filling layers in R3 were composed of black soil with inclusions of charcoal and numerous fragments of CBM, some ceramic sherds and occasional glass fragments. Some of the CBM covering the S stretch of channel A bear ‘*marchi di fabbrica*’ and figurative stamps, such as a palm tree branch. 36 illegible bronze coins in one of the water-disposal channels (probably channel B). Coin of Diocletian found in the layers of ash of a *praefurnium*, dated AD 297–298 (RIC VI, 79/86).

Several brickstamps (GATTI & RAIANO 2010, 425, fig. 6) (fig. 117G): *CF?* *CTF?* *OF?*

CBM used in the heating systems (*bipedales* and *bessales*), some of which still *in situ*.

Reading uncertain, undated, no Late Antique comparison

11 – Bibliography

GATTI 2009; GATTI & RAIANO 2010.

Mosaics: TESS8804, TESS8803, TESS8800, TESS8801, TESS8802.

12 – Illustrations

GATTI 2009, fig. 1 (picture), 2 (decoration); GATTI & RAIANO 2010, fig. 1 (city plan), 2, 7 (plans and drawings), 3, 5, 8, 12–13 (pictures), 6 (material), 10–11 (decoration)

Frusino

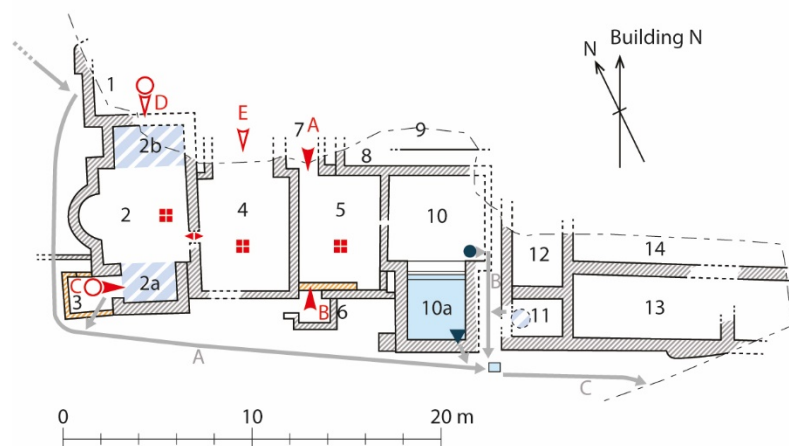


Figure 116: Plan of the baths of *Frusino* (after GATTI & RAIANO 2010, fig. 2).

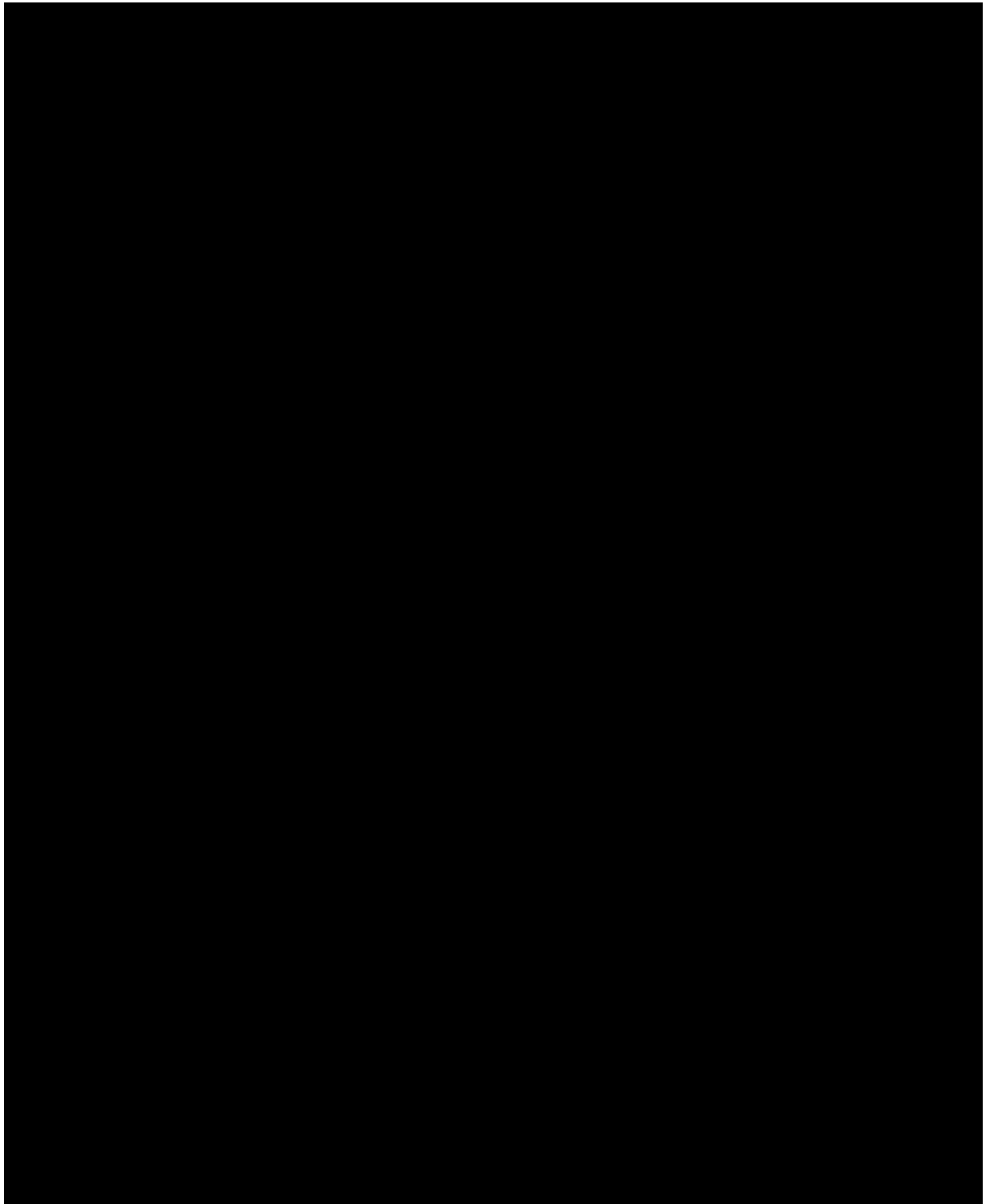


Figure 117A–G: Baths of *Frusino*. **A–B**: general views, from E and N. **C**: axonometric view of R2, from SE. **D**: S leg of channel A, from W. **E–F**: Mosaic floor decoration in R8 and R10. **G**: stamped *bessales* from a *pilae* of a hypocaust (GATTI 2009, fig. 1; GATTI & RAIANO 2010, fig. 6–7, 10–13).

1 – Location

1.1 – Città metropolitana di Roma Capitale

1.2 – 12.719406 E, 41.887040 N

1.3 – In the urban centre of *Gabii*, in *insula* II, at a crossroads between the *Via Praenestina* (E–W) and a road towards *Tibur* (N–S).

2 – Preservation

2.1 – Walls preserved up to 1.50 m high. Not fully excavated

2.2 – Part of the archaeological park of *Gabii*

3 – Research

3.1 – Possibly already discovered in 2nd half of 18th cent. AD (excavation Gavin Hamilton). Rediscovered in 1992, excavated since 2013 by the Soprintendenza Speciale per il Colosseo, il Museo Nazionale e l'Area Archeologica di Roma (dir. D'Agostini). Only the S part of the complex has been excavated and the S and E boundaries found.

3.2 – Not visited

4 – Dimensions

> 250 m²

5 – Chronology and phasing

5.1 – Chronology by D'AGOSTINI & MUSCO 2016, 342

I: Augustan-early 1st cent. AD (construction techniques: reticulate walls)

II: mid-2nd half of 2nd cent. AD (stylistic, brickstamps, construction techniques)

- Creation of room 5 by blocking the space between the pilasters of the portico. Mosaic floors of rooms 1, 3, 4. Walls faced in courses of small stone blocks, and walls at the level of the hypocausts faced in brick.

III: 3rd cent. AD

- Repairs to mosaic floors in room 3 and 4. Walls faced in alternating courses of brick and small stone blocks

5.2 – 4th cent. AD (ceramic material)

6 – Description of the remains and identification of rooms

6.1 – R1: entrance corridor connecting the *via Praenestina* to the bath building. Could have served as waiting room, or perhaps as *apodyterium*. Gave access to R8. From the street, passage on a *cocciopesto* pavement, a marble threshold (made of two marble slabs, each with one hinge socket) before entering the corridor. Two semi-columns on either side of the threshold. Masonry bench alongside the E wall (9.50 x 0.50 x 0.40 m), covered in *cocciopesto*. Some 6 m down the corridor, the W wall is cut, and its N part widens to the W, probably leading towards another, unexcavated, room. **R2:** heated room, 6 x 7.50 m (45 m²), accessed from R8, gave access to 3. Interpreted as *tepidarium* with possible *apodyterium* function (suggested by the presence of benches, but the walls are preserved only up to 1.50 m high so do not show any traces of niches above the benches). A bench went around the whole room; in the NW corner, the bench expanded to a square shape. **R3:** heated room, ca. 5.5 x 7 m (36 m²), accessed from R2, gave access to R4. **R4:** heated room, 10 x 6.3 m (63 m²). Accessed from 3. Interpreted as *caldarium* based on the position at the end of the heated circuit and the presence of two heated pools R4a–R4b. Pools R4a and R4b both measured 5.20 x 1.70 m. Remains of a reticulate wall under pool R4a, possibly belonging to earlier phase. **R5:** elongated room, 2.10 x 20 m, service area for the operation of the *praefurnia* A, B and C. Accessed from the street. Created in phase II by blocking the space between the pilasters of the portico of the street. **R7:** not fully excavated, interpreted as a secondary entrance, accessed from the street. **R8:** unexcavated. accessed from R1, gave access to R2.

6.2 – The rooms excavated so far are an entrance (R1, possibly a second entrance in R7), three heated rooms (*tepidarium* R2, R3, *caldarium* R4) and the pertaining service areas (R5 and R6). A cold-water immersion room is missing (possibly identifiable with R8), and a changing room might be missing too, although this function could be completed in R1 or R8.

The circuit so far is as follows: from entrance R1 into *frigidarium*(?) R8, then a retrograde path through heated rooms R2, R3, and R4.

7 – Construction techniques and materials

7.1 – Concrete in R5

7.2 – Four main wall facing techniques. The stone for the wall facing is probably local tuff (*Lapis Gabinus*)

- Reticulate: R1 W wall, R2 N wall, small sections in R4, and remains of wall under pool R4a.
- Brick courses: walls in R5, hypocaust facing, semi-columns framing the entrance (R1).
- Courses of small stone blocks (probably local tuff): R1 (E wall), R2 (E wall), R3, and R4
- Alternating courses of brick and small stone blocks: R2 (W wall), possibly R1 (N wall)

7.3 – No information available

8 – Heating devices

8.1 – Three *praefurnia* in R5, heating R2, R3, R4/pool R4b, and one *praefurnium* in R6 to heat room R/pool 4a. Several large slabs of *Lapis Gabinus* found in R5 (two for *praefurnium* A, several for *praefurnium* C). Boilers can be reconstructed for the supply of pools R4a–R4b.

The shape of the cut in the floor of pool R4b (visible on the plan in D'AGOSTINI & MUSCO 2016, fig. 2) suggests that the pool might also have been equipped with a *testudo*; pool R4a might also have been equipped this way.

8.2 – Area of *bipedales* (R3 and R4), *pilae* made of *bessales* (R3 and R4) supporting a *suspensura* floor made of two layers of *bipedales* (R3). Area of R3 slightly inclined towards *praefurnium* B. Total height 1 m (in R3): *bipedales* floor 0.02 m, *pilae* 0.64 m, double layer of *bipedales* (*suspensura*) bound with mortar 0.10 m, layer of *cocciopesto* 0.20 m, mortar preparation layer for mosaic 0.02 m.

Wall heating: *tubuli* (remains in R2 and R3, and to be restored in R4). Rectangular section *tubuli*, 12 x 7 cm.

9 – Water management

9.1 – Construction or restoration of an aqueduct for the city mentioned in a now lost inscription, first found in 1792 during the excavation of the city by Gavin Hamilton. Possibly Hadrianic period.

9.2 – R4a and R4b required heated water.

9.3 – Channel running E–W under R5, probably contemporary to the original portico (phase I)

10 – Decoration and material

10.1 – **R1**: mosaic floor, white motifs on black background. Panel with vegetal motif at entrance, rows of staggered rectangles in the room. Dated 1st–2nd cent. AD. Red wallpainting.

R2: floor and walls covered in white and grey marble slabs. Bench covered in marble slabs, mostly breccia corallina, Greco scritto, bigio venato. **R3**: traces of marble veneer (Greco antico, white Proconnesian). Mosaic floor depicting maritime scene (sea monsters, dolphins, human figures, waves), black *tesserae* on white background within a frame of black and white *tesserae*. Outer frame made of black and giallo antico *tesserae*. Mosaic repaired at the level of the *praefurnium*. Dated 2nd half of 2nd cent. AD. **R4**: pools veneered with marble slabs (remains of Greco scritto) and floor made of polychrome mosaic made of glass paste *tesserae*. Floor of room occupied by 4.80 x 3.70 m black and white mosaic. Figurative mosaic made of black *tesserae* on white background, with inner details made of white *tesserae* too. Human figures, ca. 1.80 m tall: four charioteers with respective horse, holding a *flagellum* and the reins. Next to them are the containers for the prizes (*brabeion*), of different dimensions and with figures on them (ranging from 1,400 to 8,400). Inscriptions above each group (see 10.2). Male *togatus* at the centre, with inscription above (see 10.2). Scene framed with black *tesserae*, with a white outer frame. Dated in the Severan period.

10.2 –

- Ceramic material dated from 1st to 4th cent. AD.
- Marble head of Diana, discovered during the 1778 excavations, in the ruins of a bath building, possibly this complex. Now in the British Museum (inv. no. not found, but see inv. no. 2010,5006.1857 for a study of the head by Gavin Hamilton(?) with mention of discovery “amongst ruins of ancient baths”)
- Several funerary inscriptions, reused to veneer the bench in R2

Inscriptions on the mosaic floor of R4 (see 10.1):

- **AE 2016.202 a-e = EDR158805** (D'AGOSTINI & MUSCO 2016):

A: ((:modius)) ((:auriga)) ((:equus)) / Alcides Arpas[t]o <certat>

B: ((:modius)) ((:auriga)) ((:equus)) / [---]LV[---] <certat>

C: ((:modius)) ((:auriga)) ((:equus)) / [---]+AN[---]TRO <certat>

D: ((:modius)) ((:auriga)) ((:equus)) / Hilaru[s ---] <certat>

E: ((:vir)) / Victor / custor / termaru(m)

Two names above each of the charioteer–horse couples, one in nominative form, probably the charioteer, the other in ablative form for the horse. Dated AD 180–230

Several brickstamps (D'AGOSTINI & MUSCO 2016, note 56)

- **CIL XV.1077:** in R4, *in situ* on the parapets of the pools. circular stamp dated AD 145–155
- **CIL XV.177:** in R4, *in situ* on the parapets of the pools. Dated between AD 147–180
- **Several unspecified references:** several different stamps found during the excavation of R1, R2 and R3. Dated Hadrianic-Severan

11 – Bibliography

D'AGOSTINI & MUSCO 2016

12 – Illustrations

D'AGOSTINI & MUSCO 2016, fig. 1 (city plan), 2, 5 (plans), 3–4, 6–7 (pictures), 8–10 (decoration)

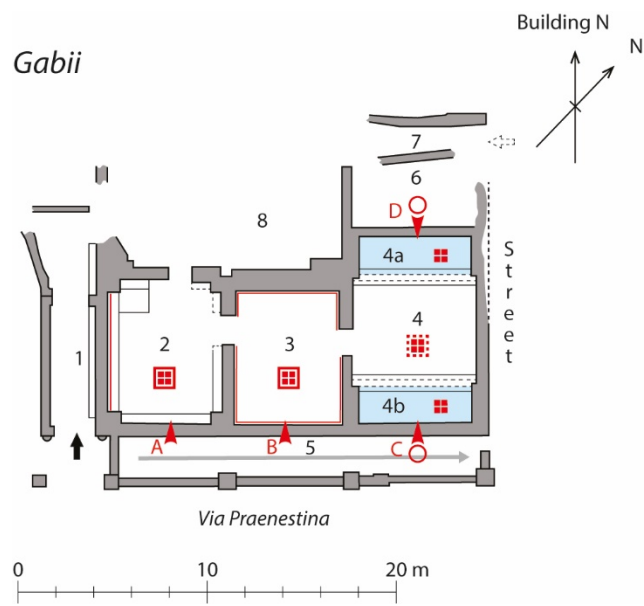


Figure 118: Plan of the baths of *Gabii* (after D'AGOSTINI & MUSCO 2016, fig. 2, 5).

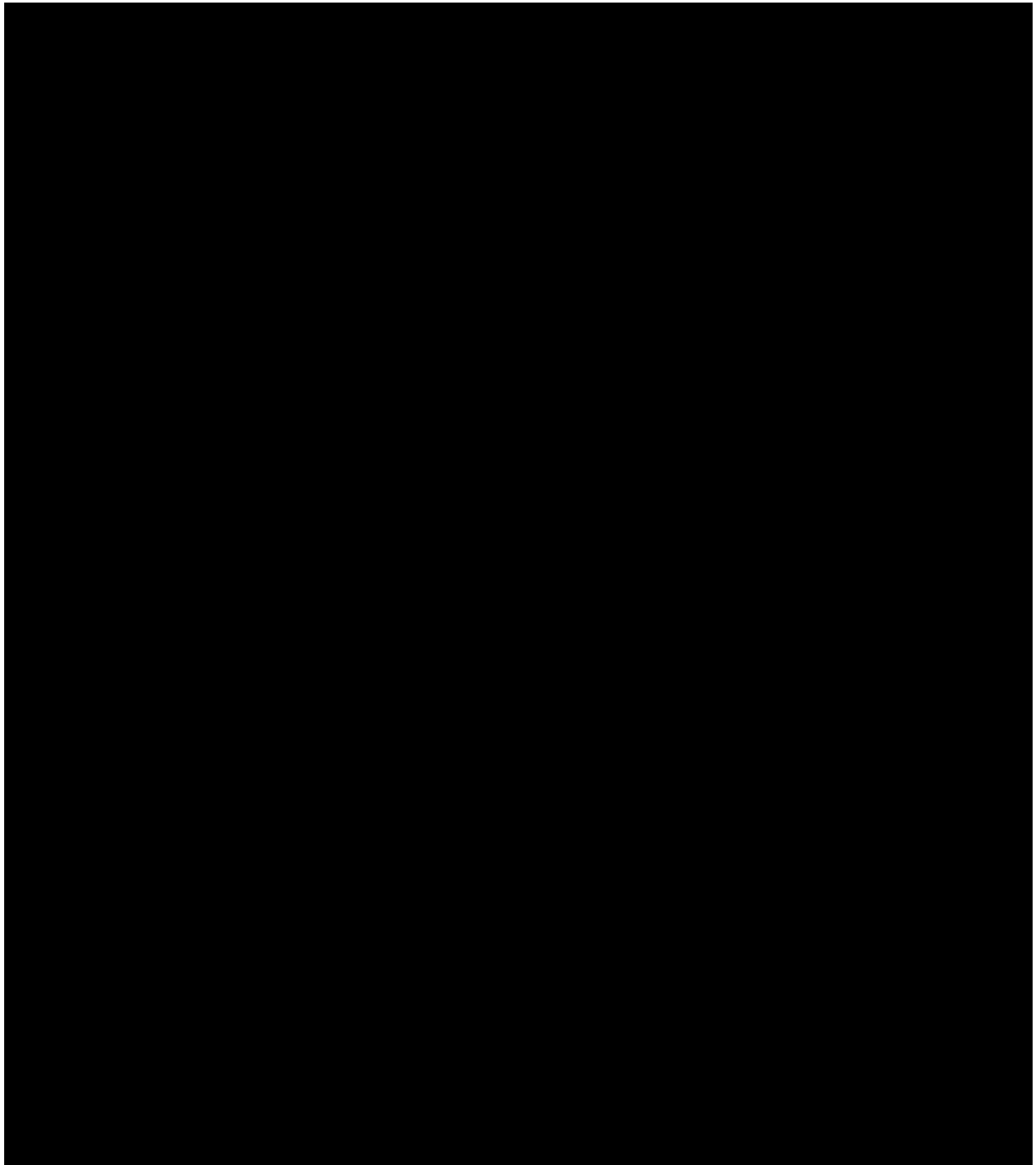


Figure 119A–E: Baths of *Gabii*. **A:** R2, from S. **B:** R1, from S. Decoration: **C:** marble floor in R2. **D–E:** reconstruction of the mosaic floor in R3 and R4, respectively (D'AGOSTINI & MUSCO 2016, fig. 4, 6–9).

1 – Location

1.1 – Province of Roma, comune of Capena

1.2 – 12.596977 E, 42.129290 N

1.3 – On the S side of the W portico of the forum

2 – Preservation

2.1 – Good in plan, hypocaust/first few courses in elevation. Heavily restored (possibly in 1976). Roofed in 1999.

2.2 – Part of the Area archeologica di *Lucus Feroniae*.

3 – Research

3.1 – Excavations in 1969–1970 (R1–R8) and in 1976 (R9–R12) by the Soprintendenza alle Antichità dell'Etruria Meridionale (dir. M. Moretti); small trenches in 1999 (R12). Not fully excavated (S end missing), and not studied comprehensively yet.

3.2 – Visited in March 2016

4 – Dimensions

>800 m² from plan

5 – Chronology and phasing

5.1 – Phasing according to Stanco, based on brickstamps, and Bianchi, based on mosaics:

- **Pre-bathing phases(s)**
 - *Bipedales* floor under *area* of R12, and stamp CIL XV.714 found in destruction layer between the two.
 - Below the two floors, a series of walls with different orientation, either *tabernae* (as in the rest of the *forum*) or an earlier bath building (tentatively connected with AE 1978.296 [E41] and with Julio-Claudian-period stamp on *bipedales* CIL XV 1121c)
- **I: Late Trajanic¹⁴/early Hadrianic (brickstamps)**
 - Included mosaic floors of R1 and R11 (white)
- **II: Antonine (140s)**
 - Limited interventions on R11 and R9
 - Mosaic floors in R3, R4, marble decoration in R3a

¹⁴ Dating connected with the Late Trajanic *restitutio coloniae*, and with the strengthening of the aqueduct.

- **III:** Late Antonine-Severan
 - Total refurbishment of R12
- **IV:** 3rd cent. AD
 - Mosaic in R10, 1st restoration of mosaic in R3; restoration of mosaic in R11
- **V:** 4th cent. AD
 - 2nd restoration of mosaic in R3

5.2 – 5th cent. AD at the latest.

- Later reused as a church and cemetery (late 5th-early 6th cent. AD)
- Tombs around R3, in R3a and in R16–R17
- Tomb in R3a with graffiti *Menander* on back of marble slab, which gave its name to the baths

6 – Description of the remains and identification of rooms

6.1 – The baths are organised in two sections, a main ('men's') one centred on R3, with the heated rooms lined up against the W side, and a smaller ('women's') section against the S wall (R16–R17), not fully excavated. The heavy restorations make it complicated to reconstruct the communications between rooms. All dimensions provided are measured from plan.

R1: entrance from the forum, mosaic floor, gave access to small latrine **R2** and to R3. **R3** (ca. 11.5 x 8.5 m) was the centre of the men's section of the baths, leading into R4, R5, R6, R9 and being equipped with pool R3a. Two wall stretches along the W wall may have been mirrored by two other stretches along the E wall, now lost (reconstructed based on the mosaic lacunas); these stretches could have been added in later periods (Late Antiquity for Bianchi). Benches along N and S sides. Mosaic floor, modified several times. **R3a** (ca. 4.5 x 3.5 m) was accessible via two steps, with semi-circular shape in their N half. Marble veneer on floor and walls (holes for metal clamps on the walls). **R4** (ca. 5.2 x 3.5) opened off R3 and had a mosaic floor. **R5:** ca. 8.5 x 5.5 m, accessible from R3, benches along N and W walls. *Opus spicatum* floor. Initially communicated with R8, blocked later. **R6:** long rectangular room (ca. 9.8 x 4.4 m) accessed from R3, with benches along W, N and E walls, and *opus spicatum* floor. Led into **R7** (ca. 4.4 x 2.4 m) and R8; may have had communicated in early phases with R12 and R13. **R8** (ca. 5.2 x 4.5 m): equipped with benches along N and W walls, gave access via three steps to pool (or tank) **R8a** (ca. 5.3 x 2.6 m), lined with a thick layer of cocciopesto. **R9**, accessible from R3, was the first heated room of the complex. Rectangular room (ca. 8.3 x 3.5 m) with segmental extension to the W (bringing total length to 11 m), probably added in later phase. Led into **R10** (ca. 6.7 x 3 m) via a passage narrowed into a later phase. R10 led into **R11** (ca. 7.3 x 5.2 m). Stanco's plan showed a connection between R11 and R3, not shown on other plans and not visible on site. Passage from R11 into **R12**, the largest of the heated rooms (ca. 9.4 x 6.2 m), with a rectangular recess R12a in the W wall, possibly for a pool (ca. 4.1 x 3.7 m). **R13** (ca. 6.3 x 3.6 m) may have been another recess opening off of R12 and equipped with a pool; possibly in a secondary phase, it seems to have been equipped with a *praeefurnium* heating R12. **R14** and **R15** (min. 18 m long) were service areas from which *praeefurnia* were operated. **R16**

was another heated to the S of the main complex, measured ca. 5.2 x 2.6 m, and it is unclear how it was accessed; it was heated from **R17**. Further rooms continued the complex to the S.

6.2 – The baths have an unusual plan and underwent many modifications, and the heavy restorations do not make it possible to reconstruct the circulation paths. The entrance was from R1. R2 was identified as a latrine on unclear grounds. R3 was the *frigidarium*, with its cold-water pool R3a. R9, being the first heated room in the path, could be a *tepidarium*; R12 was a *caldarium* with one (R12a) or two heated pools. Benches were present in R3, R5, R8 and R6; any of these could have had the function of *apodyterium*. Based on their floor in *opus spicatum*, R5 and R8 have been interpreted as service areas. Pool R8a has been interpreted as a water tank instead of a pool, based on the thick *cocciopesto* lining, the apparent absence of decoration, and the interpretation of R8 as not part of the main bathing path.

R9, R10, R11 and R12 formed the heated section, allowing for a retrograde path from the *frigidarium* R3.

The connection with the smaller bathing suite to the S ('women's section') is also unclear.

7 – Construction techniques and materials

7.1 – *Opus spicatum* in R5 and R8, possibly in R6.

7.2 – The walls have been heavily restored; they show facings in irregularly set stone blocks, reticulate, sub-horizontal and horizontal courses of stone blocks, CBM courses (bricks and tiles), alternance of courses of CBM and stone blocks. What seems to be yellow tuff has been used in restorations. Travertine was used for the thresholds between R1–R3 and R6–R3, and for the steps leading steps into R8a.

7.3 – Nothing preserved

8 – Heating devices

8.1 – *Praefurnia* operated from N–S corridor R15 running along heated rooms, from R14 and from R17. Most *praefurnia* are very damaged, and nothing is left of *praefurnia* C, D, and E beyond an opening in the wall. ***Praefurnia A and B***: remains of the start of an arch covering the opening. *Praefurnium* B seems to have been decommissioned in a later phase by placing a large stone slab across the opening. ***Praefurnium F***: most likely created in a secondary phase. Its W outer channel was made in a refractory(?) stone, heavily damaged. ***Praefurnium F***, operated from R17 and heating R16, was equipped with inner longitudinal extensions faced in brick courses.

8.2 – *Area* of tiles at least in R16. *Pilae* of *bessales* in R16 and R9, of squared stone blocks in R10 (with at least one *pila* in *bessales*) and R11 (most are restored). Most *suspensurae* are heavily restored, but were probably made of a single layer of *bipedales*. Hypocaust walls lined with tiles at least in R9, R10, R12 and R16. *Tubuli in situ* in R9 and R11, traces of *tubuli* in mortar in R10. Hypocaust connection between R9–R10, R10–R11, R11–R2, and R12–R13.

9 – Water management

9.1 – An Augustan-period aqueduct, the *Aqua Augusta*, supplied *Lucus Feroniae*; it was strengthened in the 2nd cent. AD (AE 1978.303) by creating a dam on the river from which the water was tapped. The modifications are variously dated in the 2nd cent. AD (late Trajanic (PAPI 2000, 141–143), Hadrianic (BARTOCCINI 1961, 255), or Antonine (BARTOCCINI 1963, 38), with a preference for the early part of the century. One storage tank E of the forum, not evidence of connection with the baths.

9.2 – No traces preserved. R3a required cold water, R12a (and possibly R13 in a first phase) required hot water. The capacity of R6a was ca. 16 m³ (4.5 x 3.5 m, depth 1 m), that of R9a, ca. 11 m³ (5.3 x 2.6 m, depth 0.80 m).

9.3 – Drainage pipe in steps of R3a, probably heading W. Grating at centre of R10 (mentioned by Gazzetti, no longer visible). A relieving arch in the S stretch of wall against the W wall of R3 could indicate the presence of a water disposal channel underneath, running N–S; this channel would be in the N continuation of another channel noticed W of R16, of unclear orientation.

10 – Decoration and material

10.1 – Mosaic floors in R1 (black and white, geometric), R3 (black and white, off-centre, many restorations with *tesserae* and marble fragments), R4 (black laurel wreath on white background), R10 (white frame, black central field), R11 (white, then redone in mixed black and white *tesserae*).

Marble slabs in R3a on floor and walls. White (*Luni*, Proconnesio) and grey marbles (Greco scritto, Bardiglio).

In R1, remains of previous wall decoration: one fragment of wallpainting and one fragment of *Luni* marble *in situ*. Under the plaster of the N wall and under the threshold leading to R3, many fragments of various marbles, white (*Luni*, Proconnesio, Greco scritto, Bardiglio) and coloured (Pavonazzetto, Africano, Portasanta, Giallo antico, Ardesia, Breccia rossa, Breccia gialla).

10.2 – 43 brickstamps of 24 different types (STANCO 2010, 69–71), found during 1976 and 1999 excavations.

Augustan/Julio-Claudian (4 ex.)

- **CIL XV.2361?** (s.n.): one anepigraphic stamp from R9, pentagram in square cartouche
- **CIL XV.1121c**: one stamp from R9, *bipedalis?*. *Figlinae* of L. Domitius (possibly L. Domitius Ahenobarbus, cos. 16 BC), production from surroundings of Rome or *Latium Vetus*. Augustan/proto-Tiberian
- **CIL XV S.204 var. 1**: 1 stamp from R9, tile. *Figlinae Vicianae*. Early Julio-Claudian
- **CIL XV.864**: C AS PR, 1 stamp from R3, tile cut to be used in wall. Augustan, but possibly used later

Late Trajanic/Hadrianic (I) (35 ex.)

- **CIL XV.714:** 1 stamp from R12, *bipedalis* from *suspensurae*. Figlina of (Rupilia) Faustina / Vallius L. Proc(u)lus (*praedia Quintanensia*?). Ca. AD 120
- **CIL XV.454 a–b:** one stamp from R12, *bessalis*. Figlinae Quintanensia of Annius Verus. AD 123
- **CIL XV.1026a:** one stamp from R10, *sesquipedales* in *suspensura*(?). Figlinae of Domitia P.f. Lucilla / Anicetus. Early Hadrianic
- **CIL XV.1027:** two stamps from R10: one from a *bipedalis* from *suspensura*, one from a *sesquipedales* cut and used as voussoirs in the arch of *praefurnium* B. Figlinae of Domitia Lucilla. Ca. AD 120
- **CIL XV.920:** one stamp from R10, *bessales* from *suspensura*(?). Figlinae Quintanensia of Annius Verus. AD 123
- **CIL XV.1111:** one stamp from R9, *sesquipedalis* in wall. Figlinae of Cn. Domitius Carpus. Late Trajanic/early Hadrianic
- **CIL XV.831:** one stamp from R9, *bipedalis*(?). A. Aristius Menander. AD 123
- **(N LF 6):** one stamp from R9. Figlinae of Eufates servus of Pompeius Florus. Possibly AD 120–125
- **CIL XV.1182:** one stamp from R3, *bipedalis*. Figlinae of M. H(erennius) P(olio) / Successus. Early 2nd cent. AD or earlier
- **CIL XV.920 (2 ex.), 449 (4 ex.), 454a–b (2 ex.), 1131 (1 ex.), 1196 (6 ex.), 1198 (1 ex.), 1450 (7 ex.):** 23 stamps from R16, *bessales*. Figlinae Quintanensia of Annius Verus. AD 123
- **CIL XV.273:** one stamp from R16, *bessalis*. Figlinae D(e) L(icini) of Dom(itia) Lucill(a). AD 123
- **CIL XV.1026a:** one stamp from sewers next to baths, *bipedalis*. Figlinae of Domitia P.f. Lucilla / Anicetus. Early Hadrianic

Early Antonine (II) (3 ex.)

- **CIL XV.171:** two stamps from R9 (cut CBM from wall) and R10 (*bipedalis* from *suspensura*). Figlinae Domit(ianae) minores of Domitia Lucilla / Aelius Alexander. Ca. AD 138
- **CIL XV.731b:** one stamp from R10, *bipedalis in situ* in *suspensura*. Figlinae of Um(m)i(dius) Quad(ratus) et An(nia) Faus(tina) / Sex Ap(ri) Silv(ani). Mid-2nd cent., after AD 136–138

Late Antonine/Severan (III) (1 ex.)

- **(s.n.):** one anepigraphic stamp from R12, on *bessalis* from *suspensura*.

2 inscriptions (SGUBINI MORETTI & BORDENACHE BATTAGLIA 1975, 104–106, no 14f, 15f):

- **AE 1983.401 = CIL I².3338b = EDR079093 (14f):** C(aius) Didius T(iti) f(ilius), M(arcus) Vettius M(arci) f(ilius), duomviri / quinq(uennales), statuas fornicesque d(ecreto) d(ecurionum) / faciundum coer(averunt) idemque prom(over)u[n]t] (sic)

L3: *promverunt* for *probaverunt*

Travertine block reused in a wall of the baths. Traces of red paint in the letters at the time of discovery. 1.12 x 0.19 x 0.275 m. Letters 6–3.5 cm.

Dating: under Sulla/Caesar (AE); 75–25 BC (EDR)

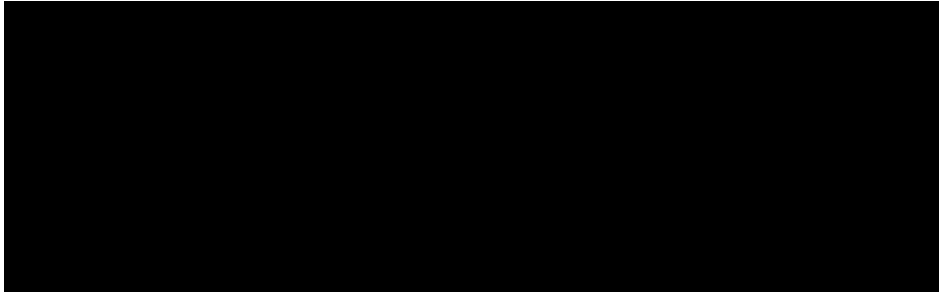


Figure 120: Inscription AE 1983.401 from the Forum Baths of *Lucus Feroniae* (© EDR).

- AE 1983.402 = EDR079094 (15f): *Hoc est palatium Minervae / imperatoris civitati(s?) / Menandri / C(---) D(---) VII*

L3: possibly *Menandro*

Slab of *Luni* marble from the veneer of pool R3a. The inscription is on the back. 0.43 x 0.295 x 0.035 m. Letters 3–1.7 cm.

5th–6th cent. AD

11 – Bibliography

SGUBINI MORETTI & BORDENACHE BATTAGLIA 1975 (inscriptions); GAZZETTI, GALLAVOTTI & AIELLO 1992, 30–31; STANCO 2010; BIANCHI & BRUNO 2014, 45–59 (mosaics; RUSSO, GHINI & CARETTA 2016, 105–107

Brief excavation reports: SGUBINI MORETTI 1973, 545–546; SGUBINI MORETTI 1973–1974, no 9983; SGUBINI MORETTI 1977, 449; BRUNETTI NARDI 1981, 48–49

Archival material: Giornali di scavo no 26 (14/07–12/11/1969), no 27.4 ‘nuovo edificio termale a sud/sud-ovest del Foro’ (17/10–05/11/1970), s.n. ‘prosecuzione scavo nel settore delle Terme dell’antica città romana di *Lucus Feroniae*’ (21/6–21/9/1976)

12 – Illustrations

Plans: GAZZETTI, GALLAVOTTI & AIELLO 1992, fig. 15; BIANCHI & BRUNO 2014, fig. 24–25

3D model: RUSSO, GHINI & CARETTA 2016, fig. 6

Decoration: BIANCHI & BRUNO 2014, fig. 26–38, pl. X–XV

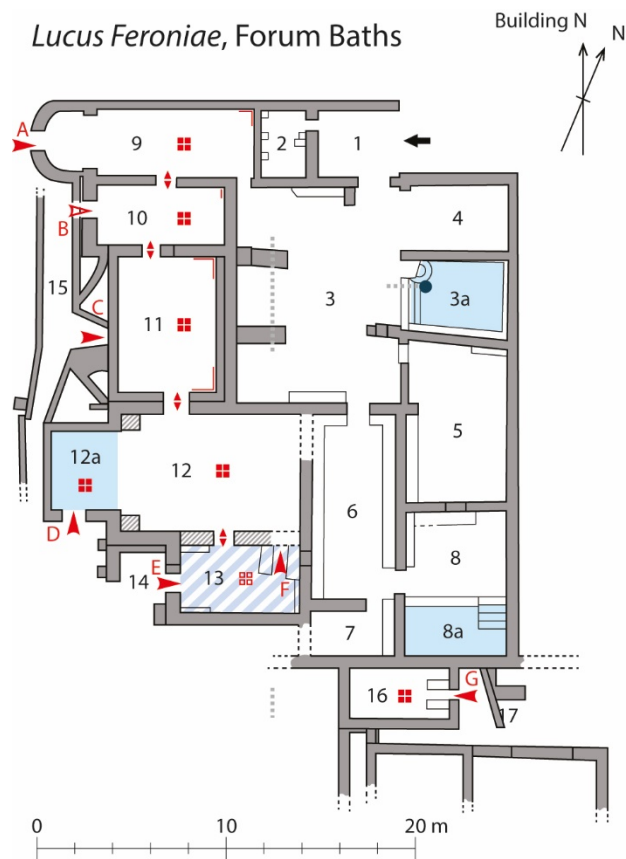


Figure 121: Plan of the Forum Baths of *Lucus Feroniae*. Phasing not indicated (after PAPI 2000, fig. 90; STANCO 2010, fig. 2; BIANCHI & BRUNO 2014, fig. 24).

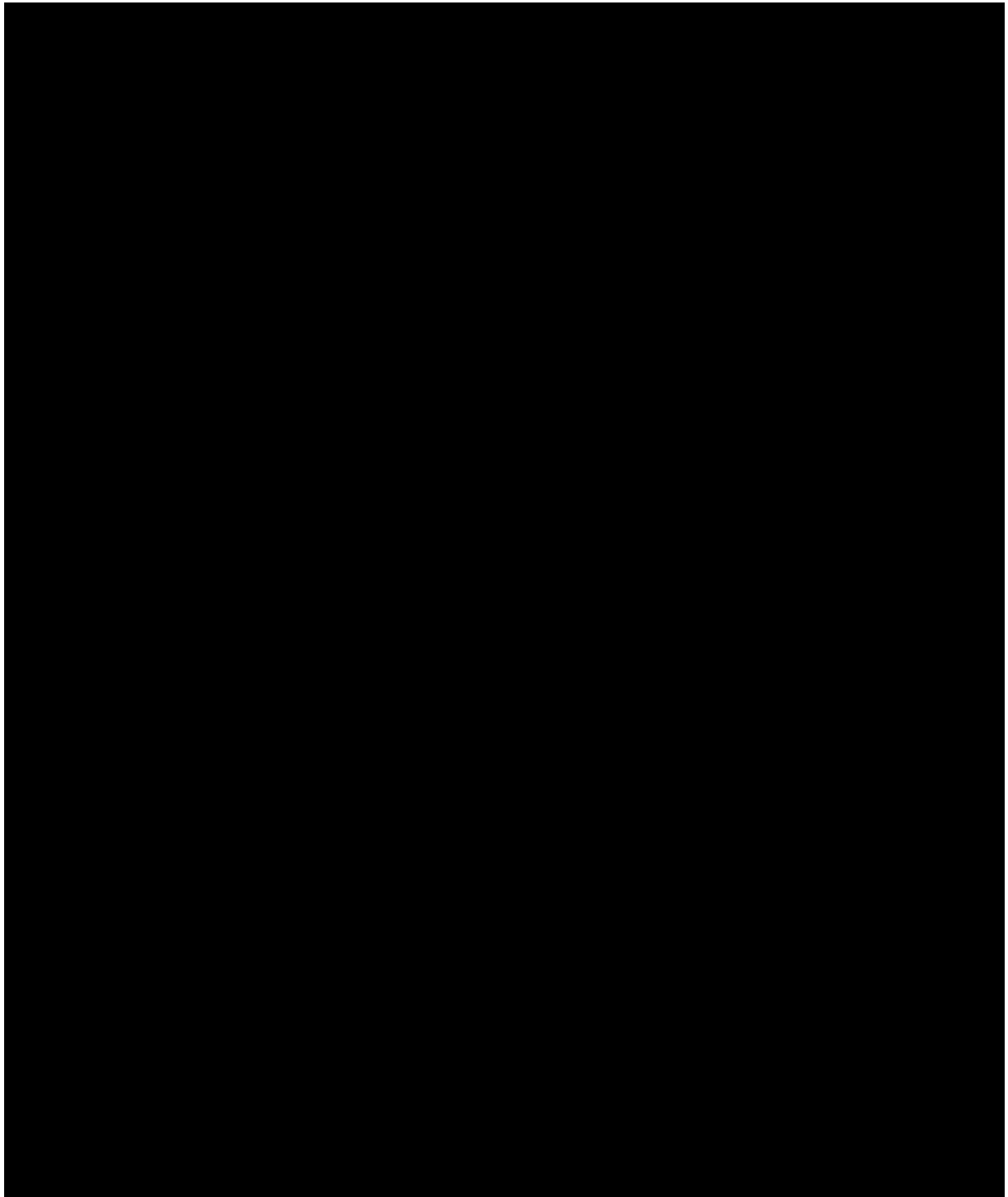


Figure 122A–H: Forum Baths of *Lucus Feroniae*. **A:** entrance R1, from E. **B:** R3, from SW. **C:** hypothetical 3D reconstruction (the reconstructed pool in R11 is unlikely). **D:** pool R6a, from W. **E:** N part of R6, from S. **F:** water tank R8a, from N. **G:** R9, from W. **H:** R15 and R11, from S (C: RUSSO, GHINI & CARETTA 2016, fig. 6).

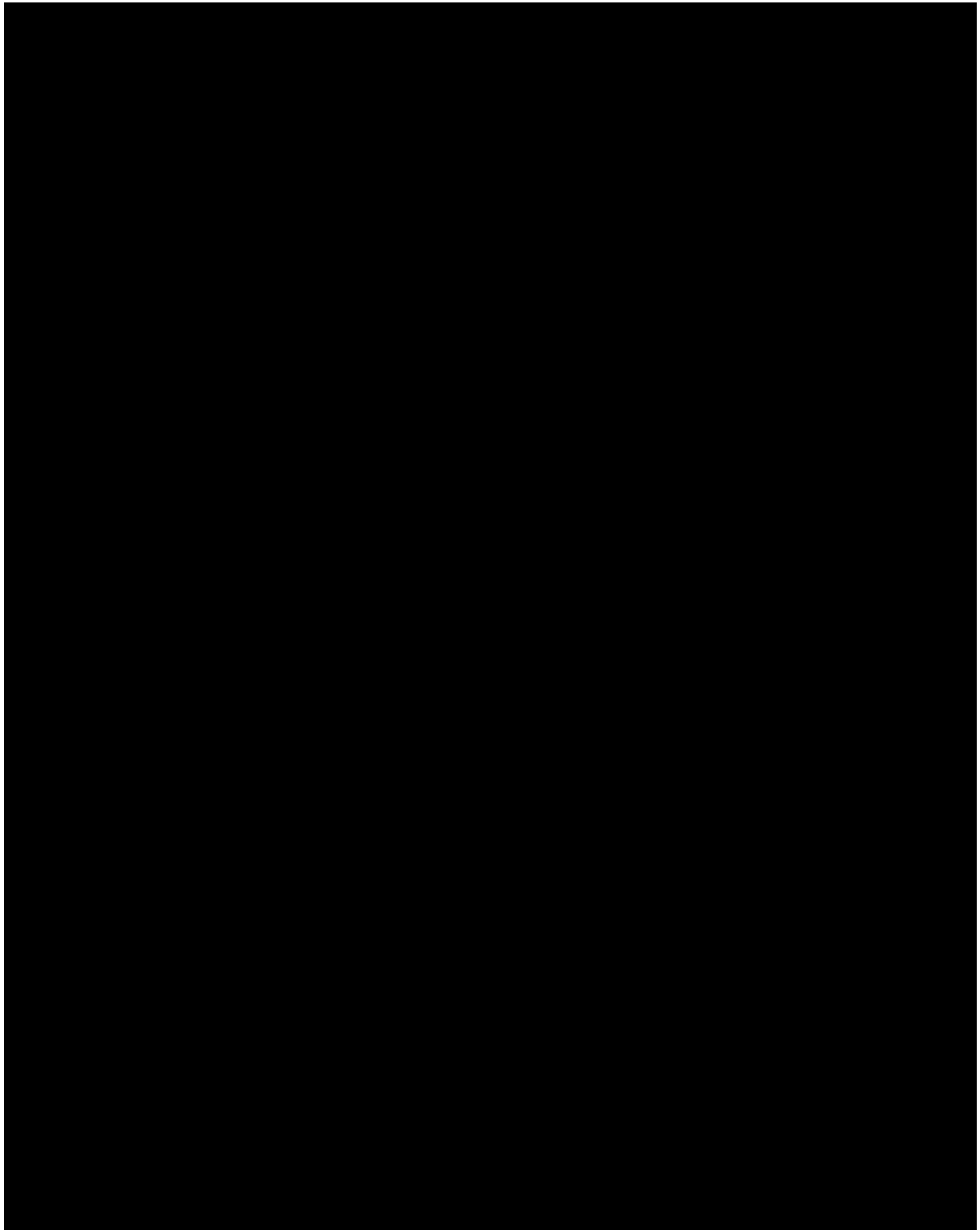


Figure 123A–G: Forum Baths of *Lucus Feroniae*. **A–B**: R12 and R13, from NW and SW. **C**: R16, from W. Heating systems: **D**: *praefurnium* F, from E. **E**: *praefurnium* B, from E, and hypocaust of R10, from E. **F**: hypocaust of R9, from W. **G**: *tubuli in situ* in SE corner of R11. Decoration: **H**: mosaic floor in R4, from W.

1 – Location

1.1 – Province of Latina, *comune* of Minturno

1.2 – 13.767100 E, 41.241582 N

1.3 – In the town centre, close to the presumed location of the forum, in close connection with the *macellum*.

2 – Preservation

2.1 – Only the W part has been excavated, the E one being under private land. Up to 2 m in elevation. Restoration in 1988

2.2 – Part of the Comprensorio archeologico di *Minturnae* (MiBACT/Direzione regionale Musei Lazio)

3 – Research

3.1 – Excavated 1950s (dir. Gullini), no documentation. Individual rooms studied in ‘tesi di laurea’, but no synthesis for the entire building.

3.2 – Visited in March 2016

4 – Dimensions

> 750 m² from plan

5 – Chronology and phasing

5.1 – Following Bianchini 2015

I: 1st–2nd cent. AD (CTM), preferably Hadrianic (U: period of economic recovery in town). Heated rooms

II: undated

- Addition (or complete overhaul) of cold section (R5 and R6)

The rooms of the baths were studied independently by different authors, leading to the creation of individual phases. They can be regrouped, tentatively, as follows:

I: construction of the heated rooms (R3 and R4), heated from the S

II: addition of R4a. Construction of the *frigidarium*’s pool R6a (only lower step) and *natatio* R5 (with only a lower step) against the S walls of R3 and R4, with decommissioning of the S *praefurnium* of R3 and construction of channel A. New *praefurnium* in R2 to heat R3. Opening of passage between R3 and R6.

III: Addition of two steps in R5, of two steps in R6a with colonnade. Blocking of passage between R3 and R6, and opening of passage between R3 and a room to the E. Modification of the shape of pool R6a, from rectangular to segmental, and creation of passage between R5 and R6. New marble decoration in R5 and R6.

IV: addition of segmental division wall in R5, with tower-like structure. Blocking of passage between R5 and R6. Addition of an upper step/wall on N side of R5. New marble floor in R5. Addition of structures in S part of pool R6a

V: mosaic floor in W part of pool R5

5.2 – Unknown

6 – Description of the remains and identification of rooms

6.1 – Only the W part of the baths is known, mainly the heated rooms and an open-air pool (R5). The heated rooms are separated in two blocks (R1 and R3–R4) by a service area (R2) and may have belonged to two separate bathing circuits, or R1 may not have been part of the baths at all (see 6.2). The entrances to the bath were probably located to the E, in the cold section, still unexcavated.

R1: built soon after the *macellum* to the N, following the same orientation. Single large room, subdivided at the level of the hypocaust by an E–W wall, which did not correspond to a wall in the elevation. It may have been initially heated from the S (R2), since a blocked opening is visible in the S wall, but there are no traces of *praefurnium* (see 6.2). Door (1.20 m wide) in NE corner, into a corridor leading towards the *macellum* and the *Via Appia*. Another access along the W side, towards R10, with stone threshold still in place. E wall restored, but was apparently not pierced by openings.

R2: service area, for operation of a *praefurnium* heating R3. Possibly a *praefurnium* heating R1 as well, but see 6.2.

R3: rectangular heated room, 7.40 × 14.70 m, with semi-circular apse on the E long side, 3.80 m wide and 1.85 m deep. Passages in the SE corner towards R6a (1.25 m wide, not original and later blocked), in the apse towards the E (1.26 m wide, not original, and blocked with modern blocks); 1.40 m wide passage to R4 towards the W. Directly heated from the S (later blocked) and the N.

R4: 10.30 × 9.80 m heated room, with semi-circular niche in N wall (7.90 m wide, 2.80 m deep) and rectangular recess in S wall, 6.65 × 2.20 m, equipped with a pool R4a accessible via at least one step. The S pool was possibly added in a later phase. Communicated with R3 via a 1.46 m wide opening in E wall. Two openings in N apse R4b: one towards the N, ca. 1.30 m wide, without proper quoins and therefore possibly made in a later phase; a second one towards the W, 1.20 m high and 0.60 m wide, probably for a *praefurnium*. R4b may have been a pool.

R5: pool, ca. 15.40/15.90 × 6.50/7.80 m. Three steps going all around pool: the lower two were 0.25/0.30 m high, 0.40/0.50 m wide; the top one had varying depth and height, compensating the difference in orientation between R5 and R3–R4. Subdivided in two in later phase by

central, segmental wall, with small water-related construction in the middle. A 1.55 m wide opening was created towards R6a in a later phase, in turn blocked in a posterior phase.

R6/R6a: cold-water pool of a larger room extending eastwards and still unexcavated; the segmental pool (5.75 m N–S, 2.45 m E–W) communicated with it via three marble veneered steps (0.25/0.35 m wide, 0.35/0.50 m high). A 0.55 x 0.50 x 0.50 m stone block was set in the upper step, probably supporting a column; a second block can be reconstructed in the same step. Two large piers preserved in height for several meters to the N and S of the pool. Modified several times, see 5.1.

R7 was an open-air courtyard to the S of the baths, not fully excavated. **R8:** corridor along the W side, connecting the *macellum* to the N to the pool R9–R10. **R9:** service area, for operation of *praefurnia*. **R10:** courtyard N of R6, leading into R2–R3 to the E. The W part of R10 has a paving of lava stone blocks, probably originally belonging to a road.

6.2 – R3, heated but without pools, was identified as a *tepidarium*. R4, heated, with pools and at the end of the heated circuit, was a *caldarium*. R6a, a cold-water pool belong to a larger room, could have been the pool of the *frigidarium*, and R5 a *natatio*. R1 is more problematic: it has been identified as the heated room of a second section of the baths, as a heated *apodyterium* of the baths because of its position at the entrance of the baths, or finally, according to Bianchini, as part of the *macellum*, either a heated room or a warehouse with hypocaust for insulation, possibly in connection at the level of the hypocaust with R4. This latter interpretation would solve the many open questions about the access and the heating of this room.

7 – Construction techniques and materials

7.1 – No information available

7.2 – Walls in concrete, faced in several techniques:

- Reticulate: R3 S and N walls, and S outer wall; R4 S and N outer walls
- brick courses with reticulate panels: hypocaust of R4, R3 W and E walls
- brick courses (*sesquipediales* and *bessales*): R3 and R4, R6a, R5

The stone for the reticulate is tuff from Roccamonfina.

7.3 – No information available

8 – Heating devices

8.1 – *Praefurnium* in S wall of R3, 0.65/0.70 m wide, covered by a brick arch. Short internal extensions. Decommissioned when channel A built. *Praefurnium* in N wall of R3, operated from R2, internal extensions made of refractory stone blocks. Possibly a *praefurnium* heating R1 from R2: there are no clear traces, but the wall between R1 and R2 shows a large gap, blocked up in a later phase. *Praefurnia* must be reconstructed to the W of R4.

8.2 – *Areae* in tiles (0.70 x 0.40 m), *pilae* in *bessales* (0.23 m on the side). Differences between the hypocausts of R1, and R3–R4: ca. 0.60 m high *pilae* supporting a ca. 0.20 m thick *suspensura*

floor in R1, vs ca. 0.80–0.90 m high *pilae* supporting a ca. 0.30–0.40 m thick *suspensura* floor in R3–R4). Wall heating with *tubuli* in R3 and R4. Walls of hypocaust in R1 and R3–R4 protected by vertically-set tiles.

Four hypocaust connections between R3 and R4, 0.50/0.55 m wide 0.95/1 m high, covered by brick arches. Four chimneys in the corners of R3: 0.75 m high, 0.30 m wide, 0.60 m deep, contained terracotta pipes (diam. 0.20 m).

9 – Water management

9.1 – Augustan aqueduct

9.2 – Hole in SW wall of R6a, possibly for passage of a supply pipe

9.3 – R4a: drainage lead pipe (diam. 0.10 m) in NW corner, discharging into R4. **R6a:** drainage channel along steps to the E (diam. 0.08–0.10 m), probably originally fitted with a lead *fistula*; headed SE for min. 3 m. Lead *fistula in situ* in E wall of **R3**, 1.14 m above *area* of hypocaust, which roughly corresponds to the circulation level.

Channel A: Channel starting W of the baths and heading E between R3–R4 to the N, R5 to the S. 17.2 m long, 0.60–0.65 m wide, floored with *bipedales*, covered by *bipedales* 0.55 x 0.62 m set a cappuccina, faced in brick courses in the E part, in irregular rubblework and reticulate in the W part. In the W part, the channel collected the water from the gutter of R7. On its way eastwards, it received water from the drainage channel of R5, from the overflow of R5, before continuing SE in a smaller channel (0.28 x 0.25 m at the entrance, followed for 5.50 m) that headed SSE, passing under R5. Several openings in the covering of channel A, ca. 0.25 m wide, in which pipes were fitted; one of which still contains a stamped lead *fistula*. A chimney made of terracotta tubes, diam. 0.15 m, connected with the channel. Channel A also connected with the original *S praefurnium* of R3.

R5: Water from R5 discharged in channel A via an opening in the NW corner of R5 (0.36 m wide, 0.06 m high). Overflow midway in the N wall of R5, at foot of third step, flowing into channel A. Channel in segmental central wall, W 0.23 x H 0.15 m, heading N and discharging into channel A. Another opening in the segmental wall (W 0.10 x H 0.12 m), at floor level, let water communicate between the two parts of the pool. A lead *fistula* is preserved *in situ* in the segmental wall, visible from the E side; it may have been related to the supply of water to the tower-like structure. The central, tower-like construction on the segmental wall was pierced by several communicating openings: a 0.17 x 0.30 m opening on the W side, going upwards inside the structure; a W 0.25 x H 0.35 m N–S channel opening on both N and S sides.

The main sewer channel of the city probably discharged into the river Liris (modern-day Garigliano).

10 – Decoration and material

10.1 – R5 floored and veneered in marble slabs, including the central steps and tower-like structure. Remains of mosaic floor in the W part of the pool, belonging to a later restoration. Marble on steps and floor of R6a. Marble slabs in R4a.

10.2 – In R6a: fragment of column shaft (1.95 m long, diam. 0.45 m); a pentagonal *pulvinus* with holes for metal clamps, originally set on top of a column to support the springing of arches; fragment of a column base. In R3: remains of smooth columns shafts and a column base.

Several brickstamps (TORROMEIO 2009–2010, 73–74; DI MONACO 2012–2013, 95–102)

- **CIL XV.2405:** *COETONICI / M*

Several examples on the tiles of the hypocaust of R3 and R4

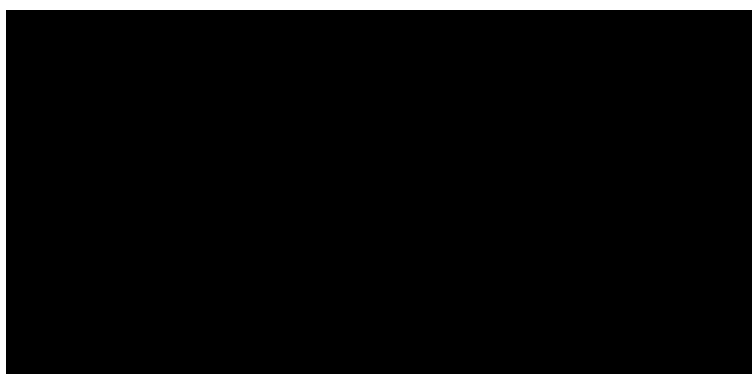


Figure 124: *CIL XV.2405* (BolliDoliari)

- *NC*

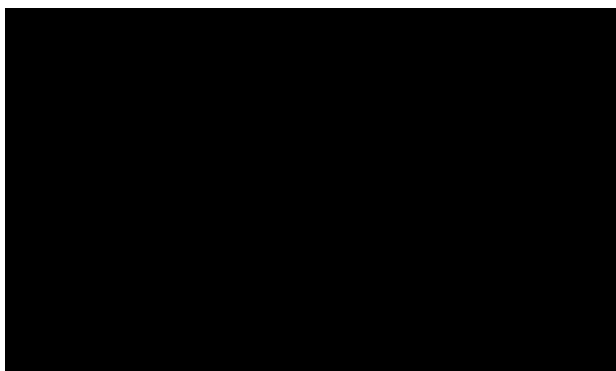


Figure 125: *NC* stamp.

Several examples on the tiles of the hypocaust of R3 and R4. One tile stamped with both this stamp and stamp *CIL XV.2405*

- Illegible brickstamps, rectangular field, on the tiles of the hypocaust of R3 and R4

11 – Bibliography

DE ROSSI 1980, 163–168; COARELLI 1982, 369, 377–378; GUIDOBALDI 1989, 60; BIANCHINI 2012, 474–474; 2015, 48–55; MANDERSCHIED 2015, 115–117 (water); NARDELLI 2015, 125–126 (water)

Individual rooms: CIRIELLO 2008–2009; TORROMEIO 2009–2010; DI MONACO 2012–2013; PROTTA 2012–2013

12 – Illustrations

BIANCHINI 2015, fig. 7–9 (plans and sections), 10–11 (pictures); MANDERSCHIED 2015, fig. 6 (plan), 7 (picture); NARDELLI 2015, fig. 11 (plan), 12–13 (pictures)

Many pictures in the studies of the individual rooms

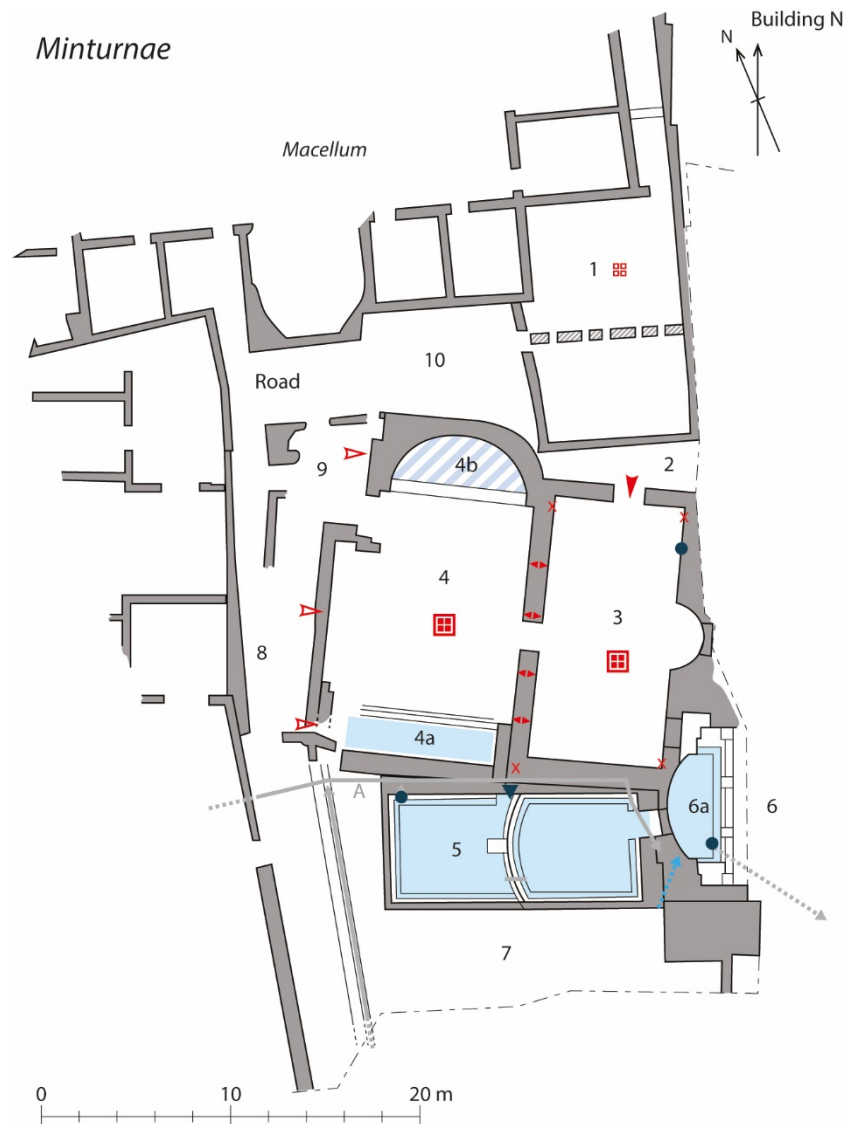


Figure 126: Plan of the baths of *Minturnae*, in their last phase (after CIRIELLO 2008–2009, fig. p. 117; DI MONACO 2012–2013, fig. p. 118; BIANCHINI 2015, fig. 8–9; MANDERSCHIED 2015, fig. 6).

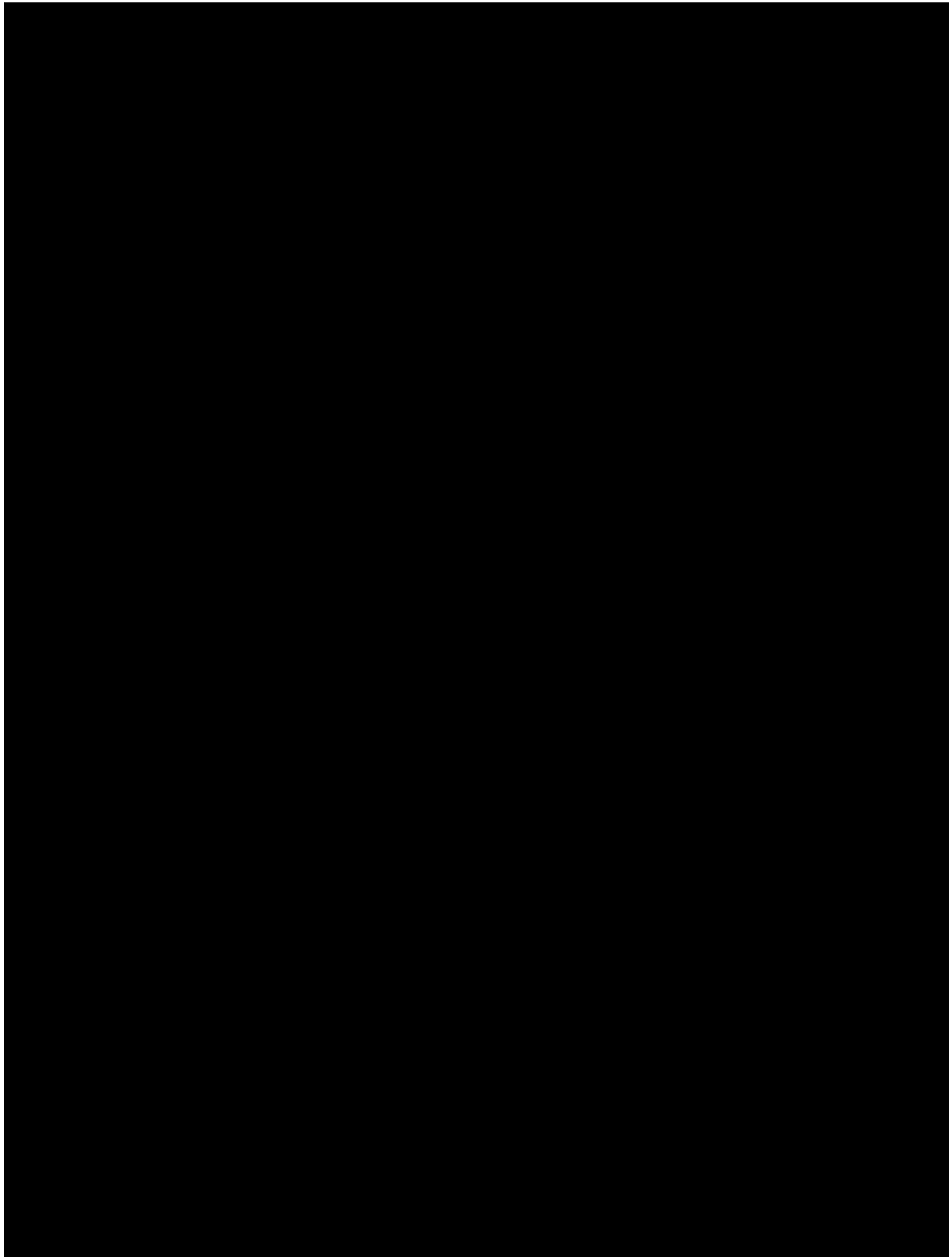


Figure 127A–E: Baths of *Minturnae*. **A–C**: general views, from E. **D**: R3, E apse, from W. **E**: R3, from S.

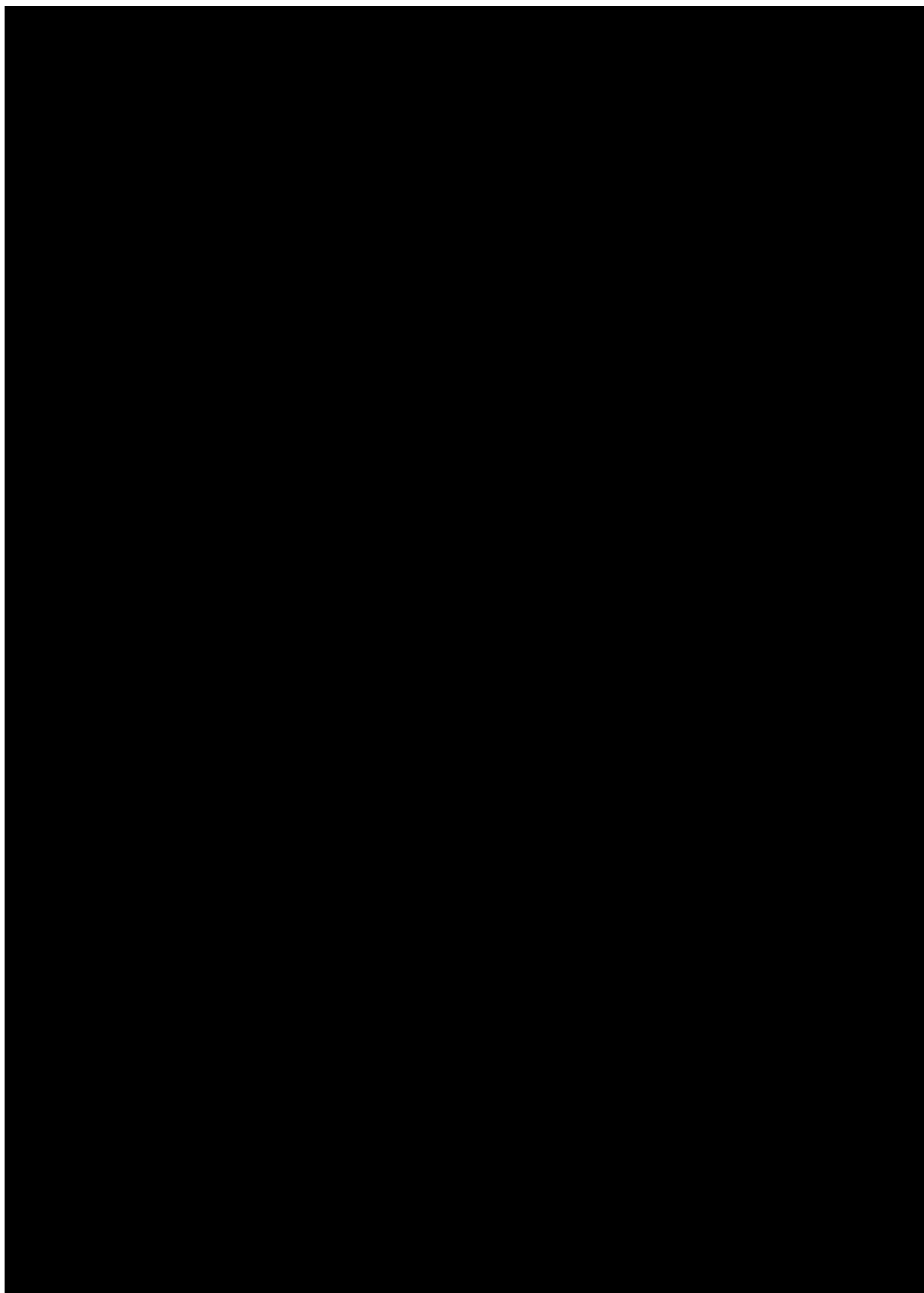


Figure 128A–G: Baths of *Minturnae*. **A:** R6a, from N. **B–C:** R4a, from N and E, respectively. **D:** R5, from W. **E–F:** R5, from NW. **G:** R5, E wall, from W (D–G: PROTTA 2012–2013, fig. 1, 22, 27, 29).

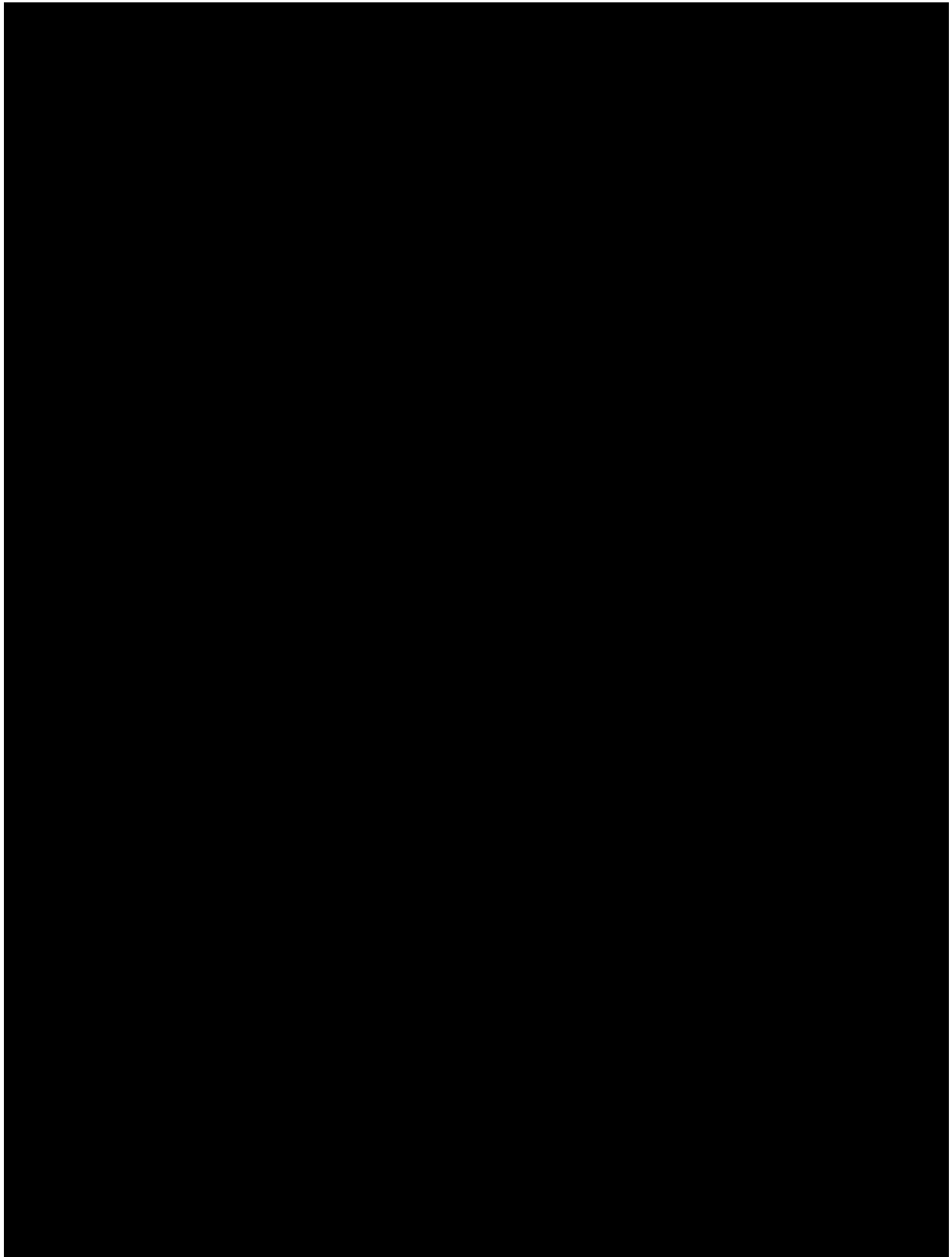


Figure 129A–I: Baths of *Minturnae*. **A:** R8, from SE. **B:** R7, from W. Heating systems: **C:** N *praefurnium* of R3, from S. **D:** S *praefurnium* of R3 and chimney in SE corner, from NE. Note the blocking of the SW door of R3 to the left. **E–F:** details of hypocaust in R1 (E) and R3 (F). Water management: **G:** tower-like structure in R5, from N **H:** channel A. **I:** drainage channel in NW corner of R5 (G–I: PROTTA 2012–2013, fig. 8, 30, 59).

1 – Location

1.1 – Province of Latina, Comune of Priverno

1.2 – 13.185125 E, 41.490747 N

1.3 – In the NE part of the city, close to the city walls, stretching over two *insulae*

2 – Preservation

2.1 – Restored soon after each excavation. Abandoned after both excavations, flooded and overgrown by vegetation. Recently restored.

2.2 – Part of the Area Archeologica di *Privernum*

3 – Research

3.1 – Excavated in 1957 by the Soprintendenza Archeologica di Roma I. Further excavations in the 1980s by the Soprintendenza per il Lazio, and in 1992 by the Università di Roma ‘La Sapienza’. Dedicated publication by Amici and Cancellieri.

3.2 – *Not* visited

4 – Dimensions

I: ca. 1,100 m² (of which ca. 65 m² of heated section). II–III: ca. 900 m².

5 – Chronology and phasing

5.1 – Tentative chronology by Amici & Cancellieri:

Pre-baths: two Republican *domus* (late 2nd–early 1st cent. BC)

I: 2nd cent. AD

Ib: modifications

- Addition R12a and extension of R11 towards the E

II:

- Creation of double portico in entrance and blocking of lateral passages of tripartite opening between entrance and R1
- Passage R3–R4 blocked, creation of passages R3–R6, and R4–R6
- Raising of floor level in peristyle R6, possibly following collapse of its N part
- Abandon of heated sector and creation of a new one:
 - Passage R7–R9 blocked
 - R9 to R12, and R15, decommissioned
 - R7b turned into a heated room; access from R7 narrowed, and creation of a new passage to R14

- R8 transformed: creation of two heated pools (R8a and R8b) along S wall, accessible from R7b, and of a *praefurnium* in between the pools, to heat R7b, R8a and R8b. Latrine decommissioned

III: 4th cent. AD

- Raising of floor level
- Reflooring of entrance, removal of portico
- Fountains R2a and R6a decommissioned and buried
- All structures in R6 removed; creation of a new fountain with four columns around
- New hypocaust in *caldarium* R7b on top of previous hypocaust
- Addition of pools R2b and R2c in NW part of R2, accessible from R7b and operated from R2
- *Praefurnium* heated R7b, R8a and R8b from the N decommissioned; status of R8a and R8b unclear

5.2 – Unknown. Two kilns built in the baths after their abandonment

6 – Description of the remains and identification of rooms

6.1 – Entrance from the SE via a rectangular room equipped by a Republican-period podium against the E wall; in phase II, the room was monumentalized by two rows of pilasters, removed in phase III. This entrance led into **R1** via a tripartite passage, reduced to a single passage in phase II. R1 led into a vestibule **R2** with a central fountain R2a veneered in marble; R2 was covered apart from the central part, in correspondence with the fountain, which remained open-air. R2 led into R3 to the N and into R14 and the other service areas to the E. **R3** was a large courtyard (ca. 11 x 12 m from plan), partly covered, reusing the *atrium* of one of the earlier *domus*. It led via a marble-veneered staircase into R7 and the bathing sector to the E, and into **R4** to the N, itself equipped with a small latrine **R5** in the SE corner. The passage from R3 to R4 was blocked in phase II and replaced by a passage on the S wall to R6, set in the same N–S axis as R2, R1 and the entrance hall. From R4, it was possible to access the peristyle **R6** of the Republican *domus* to the W, apparently reused as a garden with fountain R6a and several rooms along its E side, which may not have been functional to the baths; in phase III, all these rooms and the fountain were obliterated, and a small structure framed by columns was added. In phase II, the passage between R4 and R6 was blocked. **R7**, accessible from R3, was a roughly square room (ca. 7 x 6 m from plan), covered with a cross vault and equipped with a cold-water pool in a vaulted recess to the S (**R7b**), and with a cold-water fountain in an apsidal niche to the N (**R7a**), with a window opening in the back wall, overlooking R6. Marble veneer on walls of R7, R7a and R7b, plaster on the cross-vault of R7, polychrome mosaic on the vaults of R7a and R7b. **R7b** was heavily modified and turned into a heated room in the following phases. In phase II, a hypocaust was created on top of the marble floor, heated by a *praefurnium* to the E in R8; the access from R7 was reduced; its S wall was pierced, making R14 part of the bathing path; its E wall was pierced to access two newly created pools in R8 (R8a and R8b). In phase III, a new hypocaust heated from the W was created on top of the previous

one, which was filled up; the S passage was blocked; the E wall was pierced to create two passages towards two pools newly added in R2 (R2b and R2c). From R7, two passages in SE corner led towards a latrine **R8** (decommissioned in phase II and reused to build two small heated pools R8a and R8b, accessible from R7b, and a *praefurnium* heating them and R7b), and towards a small transition room R9. **R9** (ca. 2 x 2 m from plan) led towards R10 and the heated sector; in phase II, this passage was blocked and the entire heated block, abandoned. Three successive heated rooms, **R10** (ca. 4.20 x 3.30 m from plan), **R11** (rectangular, originally smaller and extended in phase Ib towards the E to reach ca. 6 x 3.20 m from plan) and **R12** (ca. 4.50 x 3 m from plan). R12 was equipped with two pools, one (**R12b**) in a rectangular recess on the S wall (ca. 3 x 2 m from plan), the other **R12a** in a semi-circular recess on the N wall (ca. 2.50 x 2 m, from plan), added at the same time as the E extension of R11, in phase Ib. R12 and both pools were veneered with marble. **R13** was the kitchen of the Republican *domus*, turned into a *thermopolium* when the baths were built, and accessible via R1. **R14** and **R15** were the service areas of the baths in phase I; the *praefurnia* heating R12a and R12b were operated from R15. In phase II, R15 was no longer used since the heated sector was decommissioned; - at the same time, R14 became part of the bathing circuit. In phase III, R14 was again isolated from the bathing circuit. A large water **tank** was located to the SE of the baths.

6.2 – I: entrance from the SW in R1 and R2; the latter was called a vestibule or *atrium*. R3 was the largest room of the baths, tentatively identified as a *palaestra* even though that function could also have been assumed by R6 if the colonnaded courtyard was part of the baths. R4, by its position close to the entrance of the bathing block, could have been an *apodyterium*. R7, equipped with a cold-water pool, was the *frigidarium*. R9 was a heat trap, R10 a *tepidarium* (heated but without wall heating). R12 was the *caldarium* equipped with hot-water pools, and R11, by its position between *tepidarium* and *caldarium*, could have been a sweat-bath.

Retrograde path in phase I: entrance R1 – vestibule R2 – *palaestra*(?) R3, with access to *apodyterium* R4 and courtyard R6 – *frigidarium* R7 (with access to pool R7b and latrine R8) – heat trap R9 – *tepidarium* R10 – sweat-bath R11 – *caldarium* R12 – back to *frigidarium* R7 via the other heated rooms

II: heated sector abandoned; surface area of baths reduced. The only heated room is R7b, which became a *caldarium* with heated pools R8a and R8b. It is unclear if there still was a cold-water immersion pool, but the presence of a wall separating R7 from the fountain R7a raises the question whether R7a was not usable as a cold-water pool. Path: entrance R1 – vestibule R2 – choice between R14 or R3: from R14, access to *caldarium* R7; from R3, access to courtyard R6 and *frigidarium*(?) R7, the latter leading to *caldarium* R7b. Possibility to follow a partly circular circuit.

III: the room functions remained the same. Retrograde path: entrance R1 – vestibule R2 – *palaestra*(?) R3, with access to courtyard R6 – *frigidarium*(?) R7 – *caldarium* R7b, then back

7 – Construction techniques and materials

7.1 – No information available

7.2 – Concrete walls, facing alternating courses of limestone blocks and bricks (ratio 1:1), or brick facing in the heated rooms of phase I. The tiles and limestone blocks were in large part reused from the structures and roofs of the Republican *domus*.

7.3 – Cross vault on R7, quarter of sphere on R7a, probably barrel-vaults above R7b, R10, R11 and R12.

8 – Heating devices

8.1 – Five *praefurnia* over the course of the life of the baths. **I–Ia:** one *praefurnium* heating R11 from the E in R16, equipped with inner extensions made of refractory stone blocks. Two further *praefurnia* heated R12a and R12b from R15. The former was equipped with outer extensions and therefore probably supported a boiler. Both decommissioned in phase II. **II:** only one *praefurnium* in R8 to heat R7b and pools R8a and R8b; stone slabs as jambs. Decommissioned in phase III. **III:** only one *praefurnium* in R2 to heat R7b and pools R2b and R2c; stone slabs as jambs.

8.2 – **I:** Area made of *bipedales* and tiles with knocked-off flanges. *Pilae* made of *bessales*. Wall heating in R11 and R12 only, with *tubuli*. **II:** area of R7b reused the marble slabs of the pool. **III:** area of the new hypocaust in R7b made of ‘*pietra di Monte*’.

9 – Water management

9.1 – Large water tank R17 to the SE of the baths, comprising two communicating square rooms, barrel-vaulted and lined with *cocciopesto*. The thickness of the walls and presence of several buttresses against the perimetral wall suggest there was an upper level, identical to the lower one.

9.2 – Bipartite distribution of water from R17:

- first network for heated water, supplying the small tank W1 containing water for the boiler(s).
- second network for cold water, supplying fountains R2a and R6a, probably pool R7b, and possibly the latrines in R8 and R5. The supply of the fountain in R7a is unclear, and was possibly done by hand

9.3 – Republican-period sewer kept in use, crossed area of baths from E to W. Because of this, the drainage channels did not need to regroup before leaving the building, and instead individual channels connect to the main sewer in several points.

Two Republican-period channels reused: a first one going from entrance through R1 and R2, where it received water from fountain R2a, and discharging into sewer; a second one, originally the channel of the kitchen of the *domus*, reused for the *thermopolium* R13, heading straight N into sewer.

Fountain R7a emptied westwards into latrine R5, which also received water from a drainpipe. The channel then crossed R3 and discharged into another channel starting under a grating at the centre of R3 and heading SE; just before discharging into the main sewer, it collected water

from the roofs via a drainpipe in the N wall of R2. *Frigidarium*'s pool R7b emptied directly in the sewer via lead *fistula* in SE corner; the *fistula* was set in a reused inscribed marble slab, and blocked by a plug. Water from *frigidarium* R7 emptied into channel via central grating, headed SE and flushed latrine R8.

Channels built in brick, lined with *cocciopesto*, covered with a layer of brick or tiles, or a *cappuccina* only for the channel going from R3 to the sewer.

10 – Decoration and material

10.1 – Floors: The mosaic floors of the Republican *domus* were reused as floors of the baths in several rooms. New marble floors in the heated rooms (R10, R11, R12). **Walls:** Marble veneer on the walls of R7, R7a, R7b, R12, R12a and R12b. **Vaults:** plaster on the cross-vault of R7, polychrome mosaic on the vaults of R7a and R7b (incl. shells).

Marble veneer on the fountains (R2a, R7a) and on the steps in R3

10.2 – One inscription (EVANGELISTI 2012, 327–328)

- **AE 2012.337 = EDCS-67400186:** *M(arcus) Sulpicius Eutyches / qui et Passaras / VIvir Aug(ustalis) et eorumdem / curat(or) q(uin)q(uennalis) dendrophorum / pavimentu[m a]reae templi / Matris deu[m et p]arieticulum / intransib[us] [par]te dextra / pecunia sua fecit item vella templi Matris deum et ad in/troitu[m] sancti dono dedit / praeterea castellum vetustat(e) / corruptum de suo restituit / dedicavitq(ue) XII Kalendas Octobres / [---]*

Inscribed marble plaque found in 1999, reused in the floor of the *frigidarium* pool R7b, pierced at the centre to fit a lead *fistula* for the drainage of the pool. 0.48 x 0.49 m, 0.055 m thick, letters 4.3–2 cm.

One brickstamp (AMICI & CANCELLIERI 2004, 26, fig. 9)

- *CIL XV.1097c: Cn. Domit(i) Amandi val(eat) qui fec(it)*
On a *bipedalis* set in the floor of R3 as support for columns. Production from the *figlinae* of Cn. Domitius Amandus, dating Late Domitianic.

11 – Bibliography

AMICI & CANCELLIERI 2004; 2019

Excavation reports: IACOPI 1957 RIGHI 1984, 178–180

Archival material: 1957 excavation documentation kept in the Archivio storico della Soprintendenza Archeologica del Lazio; pictures taken by photographer Ernest Nash in 1957 kept at the American Academy in Rome (Fototeca Unione, n. 3729-3736).

12 – Illustrations

Many pictures in AMICI & CANCELLIERI 2004; 2019

Privernum, phases I-Ib

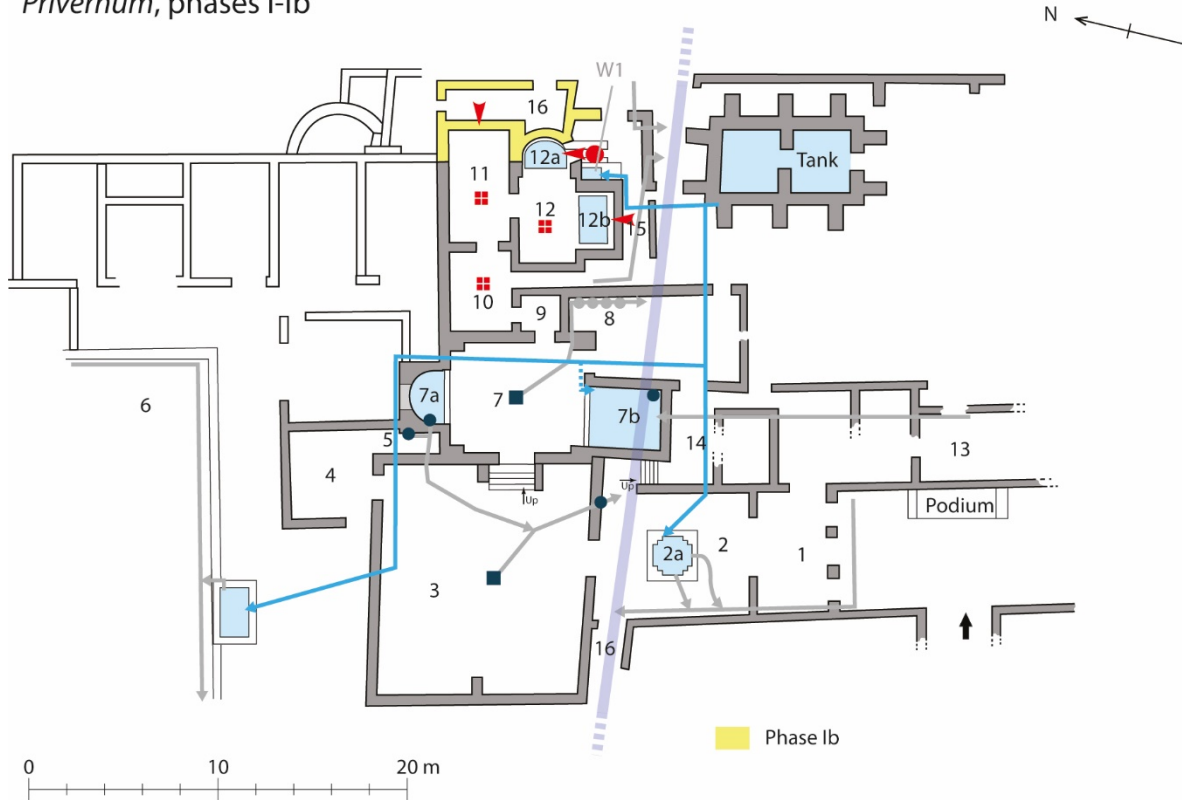


Figure 130: Plan of the baths of *Privernum*, phases I-Ia (after AMICI & CANCELLIERI 2019, fig. 1, 7, 10, 16).

Privernum, phase II



Figure 131: Plan of the baths of *Privernum*, phase II (after AMICI & CANCELLIERI 2019, fig. 1, 7, 10, 16).

Privernum, phase III



Figure 132: Plan of the baths of *Privernum*, phase III (after AMICI & CANCELLIERI 2019, fig. 1, 7, 10, 16).

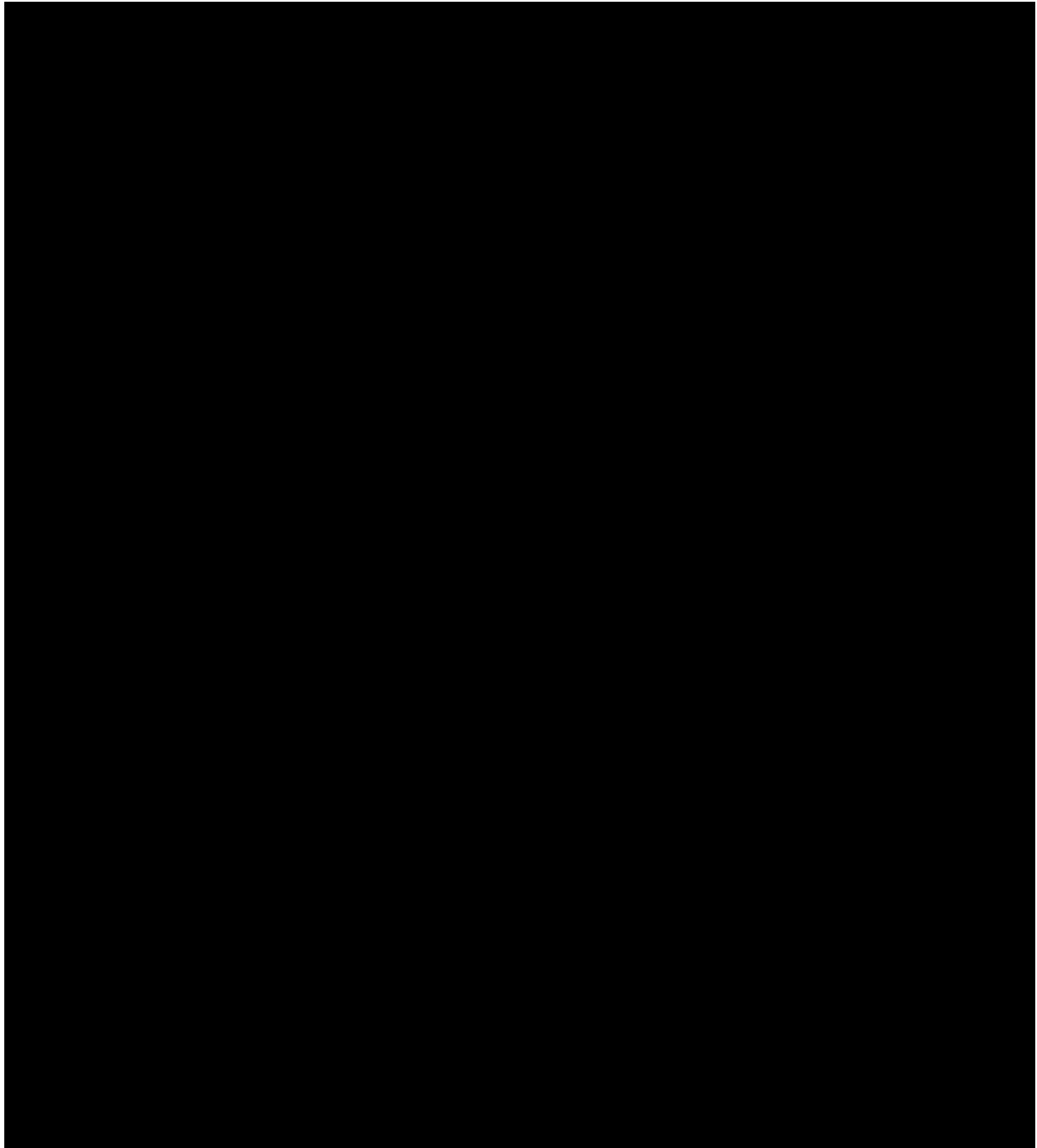


Figure 133A–E: Baths of *Privernum*. **A:** panoramic view from SW. **B:** aerial view, N on top. **C:** 3D model, view from SE. **D:** axonometric view, from SW. **E:** R3, from W (A–B: AMICI & CANCELLIERI 2019, fig. 4, 6; C–E: AMICI & CANCELLIERI 2004, fig. I. 12, II.1, II.12).

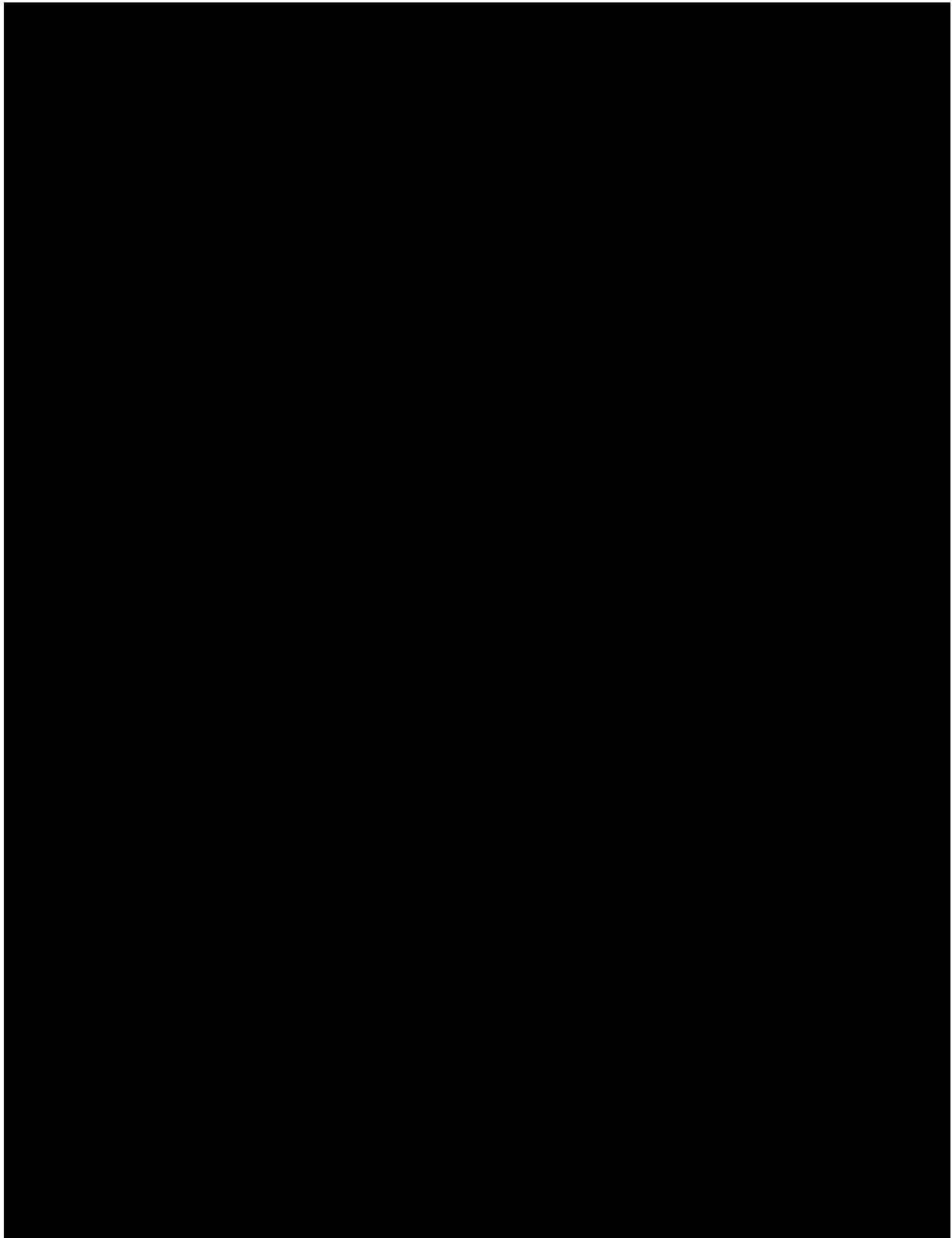


Figure 134A–F: Baths of *Privernum*. **A:** R7 and R7a, from S. **B:** R11, from E. **C:** R12a, from NE. Construction materials: **D:** wall facing in alternate courses of bricks and stone blocks. Heating systems: **E:** detail of the hypocaust in R11. Note the dog in the background for scale. Water management: **F:** water tank to the SE of the baths (A, E–F: AMICI & CANCELLIERI 2019, fig. 8–9, 17; B–D: AMICI & CANCELLIERI 2004, fig. , II.2, II.20, II.27).

Reliability: baths, probably public

1. 1.1 – Province of Viterbo, Comune di Orte
1.2 – 12.354153 E, 42.469871 N
1.3 – On the E bank of the Tiber river, next to where the *Via Amerina* crossed it; at the foot of a hill, in the SE *insula* of the harbour of Seripola, tentatively identified as the *Castellum Amerinum* of the *Tabula Peutingeriana*. The site has been occupied from the 2nd cent. BC to the 5th cent. AD.
2. 2.1 – Decent, with walls up to several meters high. Damaged in 2012 by flood of the Tiber, recently underwent restoration
2.2 – In the archaeological area of *Castellum Amerinum*
3. 3.1 – Discovered and excavated in the 1970s (1974–) by the Soprintendenza alle Antichità dell'Etruria Meridionale (dir. Begni Perina).
3.2 – Visited in March 2017
4. 100 m² for R1 and R2
5. 5.1 – Trajanic (brickstamps)
5.2 – Possibly early 3rd cent. AD
6. 6.1 – The baths were built in the SE corner of an *insula*, adapting to the already built rooms; they were accessible from the street via a corridor **R4** that opened on two small rooms to the S, and led into R5. In a first phase, the baths were also accessible from the N *decumanus* via **R3**; the passage between R3 and R5 was blocked in a later phase, and two staircases leading to an upper floor were later added in R5 against this blocked passage.
R1 was a rectangular heated room, ca. 5.50 x 2.80 m from plan; it was originally bounded to the W by a wall, destroyed during modern restorations. R1 led into a second heated room, **R2**, rectangular with a large semi-circular apse on its S wall, which contained a marble *labrum* found *in situ* during the excavations. Seven niches preserved on the N wall, three niches on the SE wall. The E part of R2 was subdivided by an E–W wall, creating a smaller space to which a new floor was added.
6.2 – The plan lacks the elaboration of the larger urban bath buildings. R2 may have been the *frigidarium*, but was not equipped with an immersion pool. R1 was the only heated room, but did not have an immersion pool either. The SW corner of R2, with niches in the walls, could have served as *apodyterium*.
7. *Opus spicatum* in R3.

Walls made of courses of travertine blocks alternating with brick, bound with a thin layer of mortar. In some walls, the travertine blocks are set at an angle of 45° in a herringbone pattern.

8. 8.1 – No *praefurnium* found.
8.2 – *Pilae* made of *bessales* supporting a layer of *bipedales*. *Tubuli* on the walls.
9. 9.1 – Small aqueduct identified E of the baths, running E-W in the direction of the baths and that could have supplied the three water tanks against the E side of the baths. The largest water was transformed into a kiln in the early 3rd cent. AD.
Lead *fistula* arriving in the larger tank still *in situ*, as well as another *fistula* allowing water to go from the larger tank to the smaller one.
9.2 – Vertical lead pipe in R1, of unclear function. Ca. 0.25 m high recess in the S wall of R1, lined with *cocciopesto*, at ca. 0.80 m above the ground; it contained a pipe that supplied the *labrum* in R2 with water from the tanks to the E.
9.3 – Disposal channel running along the N wall of R5. Channel with side walls in bricks, covered by slabs of local limestone
10. 10.1 – Black and white mosaic floor in R1 and R2. Chequered threshold between R1 and R2.
10.2 – At least nine stamped *bipedales* in the *suspensura* of R1 (STANCO 2006, 239 no 12, fig. VI.3.13)
 - **CIL XV.1100:** *Cn. Domiti Amoeni / valeat qui fecit*

Figlina owned by the *Domitii*, ‘in area statoniense’, toponym *De portus Licini*; *dominus/officinator* *Cn. Domitius Amoenus*. Dated early Trajanic. See also: STEINBY 1974–75, 34; FILIPPI & STANCO 2005, 176–180
11. AURELI, DE LUCIA BROLI & DEL LUNGO 2006, 139–142
BRUNETTI NARDI 1981, 134; BEGNI PERINA 1986, 184-185; DE LUCIA BROLI, AIELLO & GALLAVOTTI CAVALIERO 1991, 77-80; JOHNSON, KEAY & MILLETT 2004, 87; KEAY *et al.* 2004, 232
12. BEGNI PERINA 1986, fig. p. 184 (plan), 185 (picture); DE LUCIA BROLI, AIELLO & GALLAVOTTI CAVALIERO 1991, fig. 65 (plan), 68-69 (pictures)

Castellum Amerinum

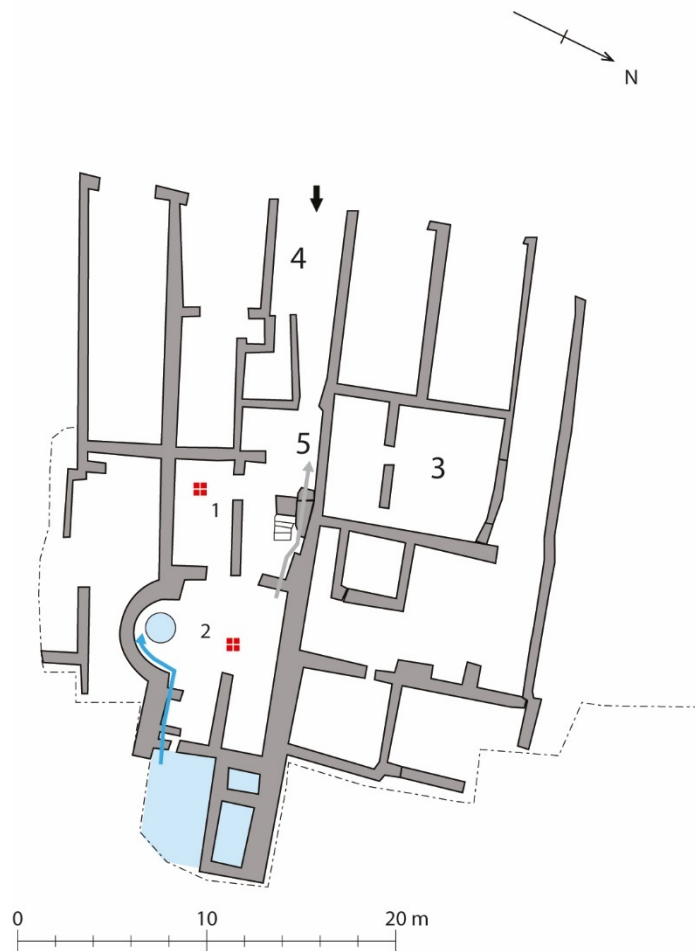


Figure 135: Plan of the baths of *Castellum Amerinum* (after AURELI, DE LUCIA BROLI & DEL LUNGO 2006, fig. V.33).

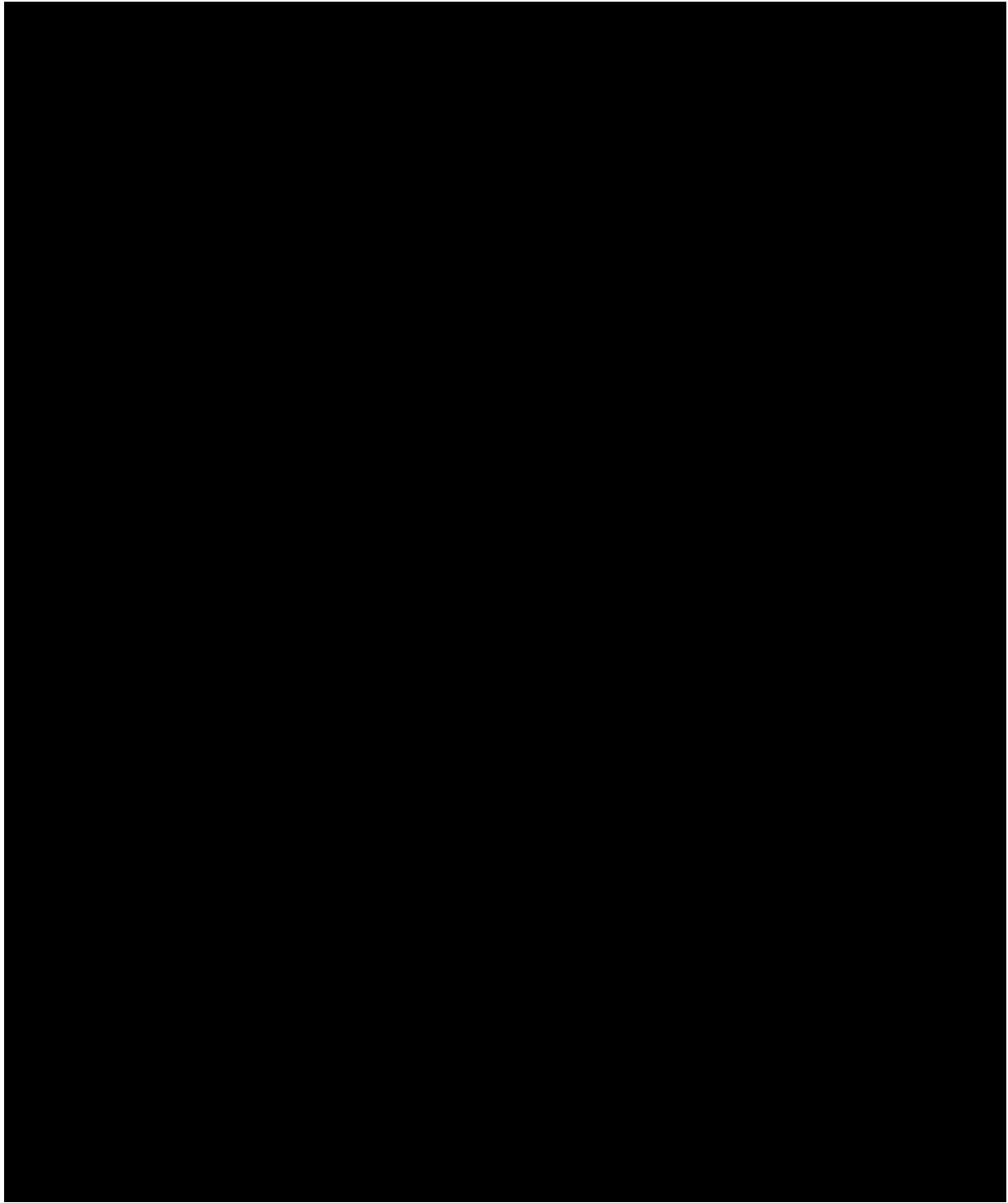


Figure 136A–F: Baths of *Castellum Amerinum*. **A:** panoramic view of R2, from W. **B:** R2, from E. **C:** R1, from W. **D:** R2 during excavations, from N. Note the wall blocking the apse. Water: **E:** water tanks to the E of R2, from N. Decoration: **F:** mosaic floor on threshold between R1 and R2. **G:** marble *labrum* found in the apse of R2 during excavations (AURELI, DE LUCIA BROLLI & DEL LUNGO 2006, fig. V.29, VI.1.41).

Reliability: probably baths (plan), probably public (location, multiplication of rooms, proximity to public latrine, scale)

Province of Rome, comune of Civitavecchia

11.791017 E, 42.092901 N

Excavations conducted after WWII next to the fortifications of Urban VIII, in the area of the harbour of *Centumcellae*, brought to light *horrea* and a bath building, the latter alternately dated to the 2nd (Nardi Combescure) or 4th cent. AD (Caruso). Caruso mentioned remains of mosaic floors, and a nearby public latrine.

The latrine might be the room to the NE on the plan, in between what may be two pools (a rectangular and a semi-circular one), opening off a larger central rectangular room, possibly a *frigidarium*. To the SW, two or three further rooms could form the heated section of the baths, the southernmost of which seems to have been equipped with two(?) pools, probably a *caldarium*.

Bibliography: CARUSO, AIELLO & GALLAVOTTI CAVALLERO 1991, 38–39; NARDI COMBESCURE 2002, 141

Illustrations: CARUSO, AIELLO & GALLAVOTTI CAVALLERO 1991, fig. 24 (plan)

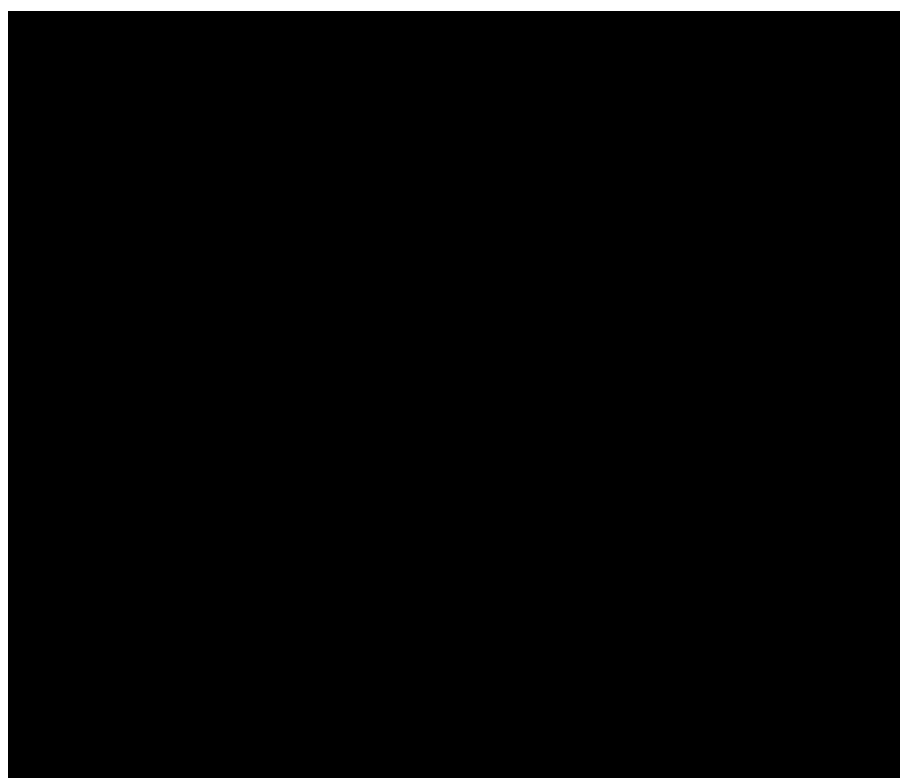


Figure 137: Plan of the baths of *Centumcellae*, Corso Umberto. Approximate scale (CARUSO, AIELLO & GALLAVOTTI CAVALLERO 1991, fig. 24, modified by author).

Reliability: baths, probably public (location, scale)

1. 1.1 – Province of Frosinone, Comune of Falvaterra
1.2 – 41.518936 N, 13.555862 E
1.3 – In the urban centre, to the E of a large porticoed courtyard, possibly the forum, and bound to the S by an E–W street
2. 2.1 – Plan only partly investigated. Up to 2 m in elevation.
2.2 – Backfilled
3. 3.1 – Partly excavated in 2008 by the Laboratorio di Topografia Antica e Fotogrammetria of the Università del Salento (dir. G. Ceraudo, A. Valchera, C. Martino)
3.2 – Not visited
4. R1 to R6 fit in a 40 x 13 m rectangle
5. 5.1 – 1st cent. AD (?)
5.2 – Unknown
6. 6.1 – A N–S wall, doubled by another wall, formed the E boundary of the baths. A passage in that wall led to an E–W corridor, itself opening to the N into a N–S corridor **R1**. R1 led into service area **R2**, itself opening into another service room **R3**; from R2 and R3 were operated *praefurnia* A and B. **R4** (ca. 4 m N–S from plan) and **R5** (ca. 5.5 m E–W from plan) were two rooms heated from the E, from R2 and R3, respectively. Ca. 30 m to the N, the S niche of a room **R6** was identified. The 0.50 m lower part of the wall was covered by a thick *cocciopesto* layer, and the walls had traces of the fixation of marble veneer. One opening in bottom of niche, unclear function. Interpreted as a pool.
6.2 – R4 and R5 were heated, R1, R2 and R3 were service areas. If R6 was indeed (part of a pool) and belonged to the baths, these baths could have been of significant dimensions.
7. Floor of tiles in R2 and R3.
Walls in concrete faced in brick courses, apart from the long E wall of the complex, faced with brick courses and quoins framing reticulate panels.
Stone: local travertine
8. 8.1 – *Praefurnium* A served to heat R4. Lined with volcanic stone blocks. The nearby structure, with a staircase, may have served for the maintenance of a boiler on the *praefurnium*. Two lead *fistulae* in
Praefurnium B served to heat R5. Set at a lower level than the floor of R3. Opening lined with volcanic stone slabs and covered by an arch in *bipediales*. Inner channel
8.2 – *Pilae* made of *bessales*. Tiles with knocked-off flanges as hypocaust lining

9. 9.1 – Possibly a water tank on the structure N of *praefurnium* A, supplying the boiler with water
9.2 – R6 may have been (part of) a pool.
9.3 – Two *fistulae* in the stretch of wall between *praefurnium* A and the flight of stairs to the N. The *fistulae* were set at different heights and were probably related with the drainage of a water tank and of a boiler.
10. 10.1 – Fragments of marble slabs found during excavations
10.2 – No information available
11. BETORI & VALCHERA 2009, 330–335 (=BESTE *et al.* 2010b, 11–12; 2010a, 464–466)
12. BETORI & VALCHERA 2009, fig. 10 (location), 11, 13–16 (pictures), 12 (plan); BESTE *et al.* 2010b, fig. 1 (city plan), 16 (plan), 17–20 (pictures)

Fabrateria Nova

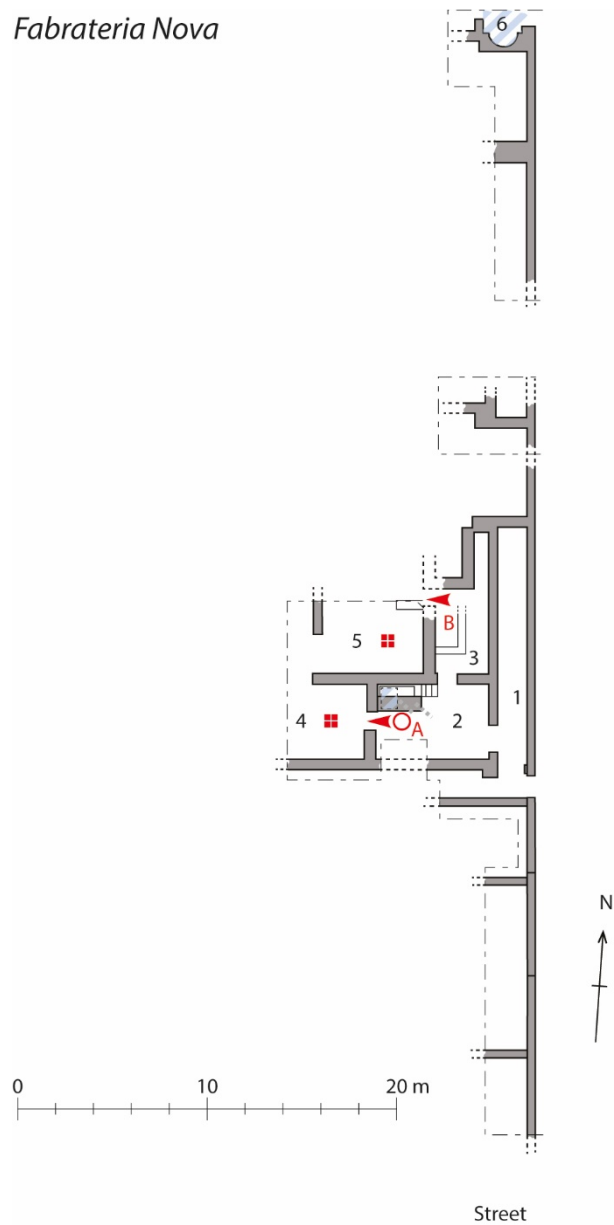


Figure 138: Plan of the baths of *Fabrateria Nova* (after CARUSO, AIELLO & GALLAVOTTI CAVALLERO 1991, fig. 24; BESTE *et al.* 2010b).

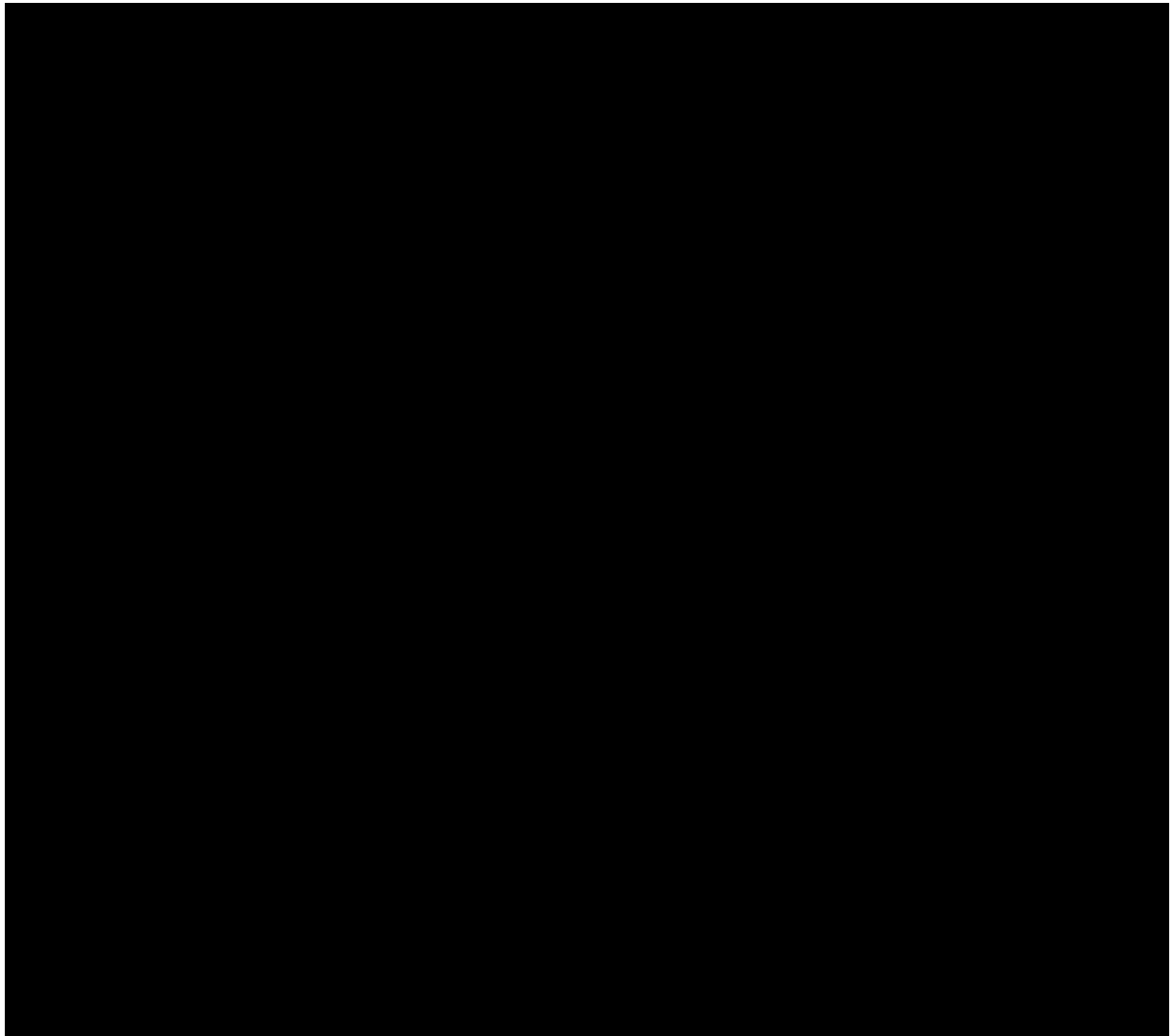


Figure 139A–F: Baths of *Fabrateria Nova*. **A:** R2, from SE. **B:** R5, from W. **C:** E boundary wall, from E? **D:** R5, from NW. **E:** E3, from E. **F:** R6, from NE (A–B, E–F: BESTE *et al.* 2010b, fig. 17–20; C–D: BETORI & VALCHERA 2009, fig. 11, 13).

Formiae (Formia), Piazza Santa Teresa

La.G.12

Reliability: probably baths (heated room with pool, room design typical of *caldarium*), probably public (dimensions)

Province of Latina, Comune of Formia
13.605079 E, 41.255581 N (approx.)

Archival documentation from an excavation conducted in 1928 along the *Via Appia* records the discovery of a rectangular room, 11.10 x 4.40 m, faced ‘in tufo e laterizio’, with a semi-circular apse (diam. 2.45 m) along one of the long sides and a small semi-circular niche on the opposite side. The room design is typical of a *caldarium* (see chapter II) and the short sides may have contained pools, as the mention of a quadrangular pool on brick *pilae* suggests. Mention of *tubuli* on the walls. From pictures, the *pilae* were unusually thick and set very close

to each other, possibly set this close to better support the extra weight of the pool above. A second, adjacent room was also discovered: rectangular, smaller, it was described as vaulted and with a 'cunicolo di immissione', but based on a section drawing reproduced in Cassieri 2000, does not look like a *praefurnium*. A statue of Venus was found during the same excavation. The building was destroyed after the excavation.

In 1932, excavations nearby led to the discovery of another pool 'rivestita da embrici in terracotta' on hypocaust. Further nearby excavations in 1950 in a nearby area found remains of (one or several room(s) with) marble veneer, a *cocciopesto* floor, architectonic decoration (cornices, pilaster strips, column bases and shafts, a statue of Ares, and a statue of a young boy; these remains are possibly connected to the same bath building.

Cassieri dated the complex to the mid-imperial period/well into 2nd cent. AD (facing technique, presence of *tubuli*), and suggested that the entire *insula* could have occupied by a bath building, located along *decumanus maximus*.

Bibliography: CASSIERI 2000, 14–16; TESS9510

Illustrations: CASSIERI 2000, fig. 2, 4–5 (pictures), 3 (plan)

Formia, Piazza Sta Teresa

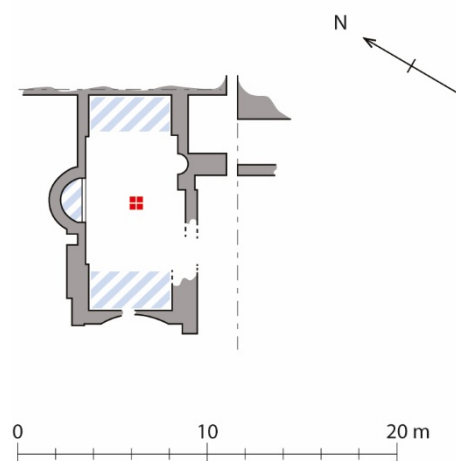


Figure 140: Plan of the baths of *Formia* in Piazza Santa Teresa (after CASSIERI 2000, fig. 3).

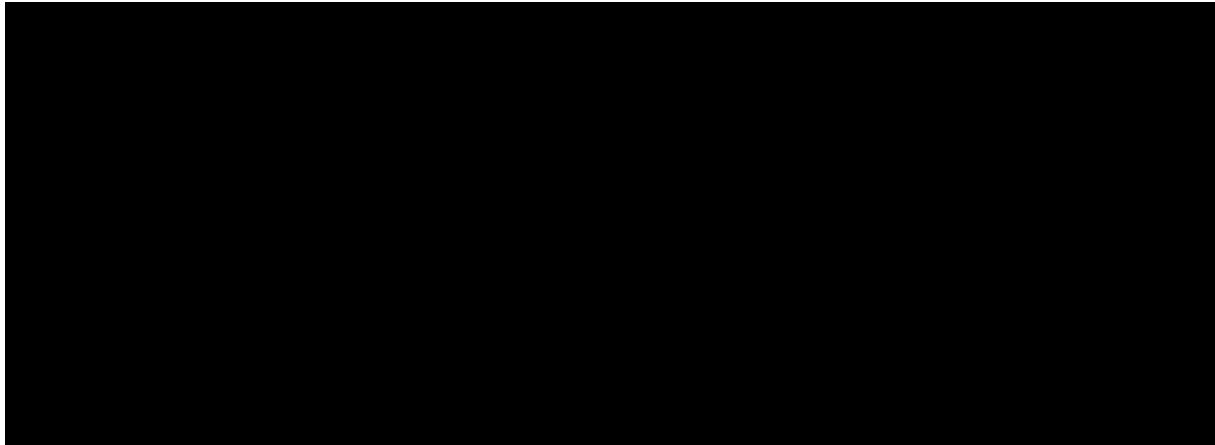


Figure 141: Baths of *Formia* in Piazza Santa Teresa. Heated pool and *pilae* supporting it (CASSIERI 2000, fig. 4–5).

Lavinium (Lavinio), Central Baths

La.G.13

Reliability: public baths (scale, multiplication of heated rooms)

Città metropolitana di Roma Capitale, Comune di Pomezia
12.478714 E, 41.660532 N

A large bath building in the SW part of the city, W of the forum, was excavated in the 1980s by the Università di Roma “La Sapienza”. Nothing of it is visible now. The baths may have already been noticed by Ashby and Tomassetti (1895).

From archival material (kept at the Università di Roma “La Sapienza”, resp. A. Jaia), the excavated parts (covering ca. 1,100 m²) comprise five parallel heated rooms set in a row in the S part of the building (R1 to R5), some of which with segmental walls (R1, R3) and equipped with pools (up to three pools in R1). They were heated from the S via a service corridor (R8) and from another service room to the W (R9, probably with a boiler on the *praefurnium*), both accessible from the S. The central part of the building was not excavated. The N part of the building comprises several rooms (R14 to R20) on different levels (staircase in R18), one of which is referred to as a latrine (R16). The entrance of the baths into the cold section, as well as a *frigidarium* with one or more cold-water pools, are missing, the latter probably to be reconstructed at the centre of the building. The building was damaged by a fire, and collapsed because of an earthquake.

From pictures, the walls were in concrete faced in brick courses, and some bricks were stamped. The hypocausts were composed of an *area* made of tiles and square bricks, and of *pilae* made of *bessales*. The *praefurnia* were all made of brick; one of them seems to have included metal bars, possibly a support for a boiler or *testudo*. The hypocaust of R1 seems to have been on two levels, with *area* of the hypocaust in the S apse set at a lower level than that of the rest of the room.

Dating: Trajanic (Tomassetti) or Severan (Fenelli & Guaitoli; Jaia).

Bibliography: TOMASSETTI 1895, 144; FENELLI & GUAITOLI 1990, 192; JAIA 2018, 44

Illustrations: FENELLI & GUAITOLI 1990, fig. 15

Lavinium, Central Baths

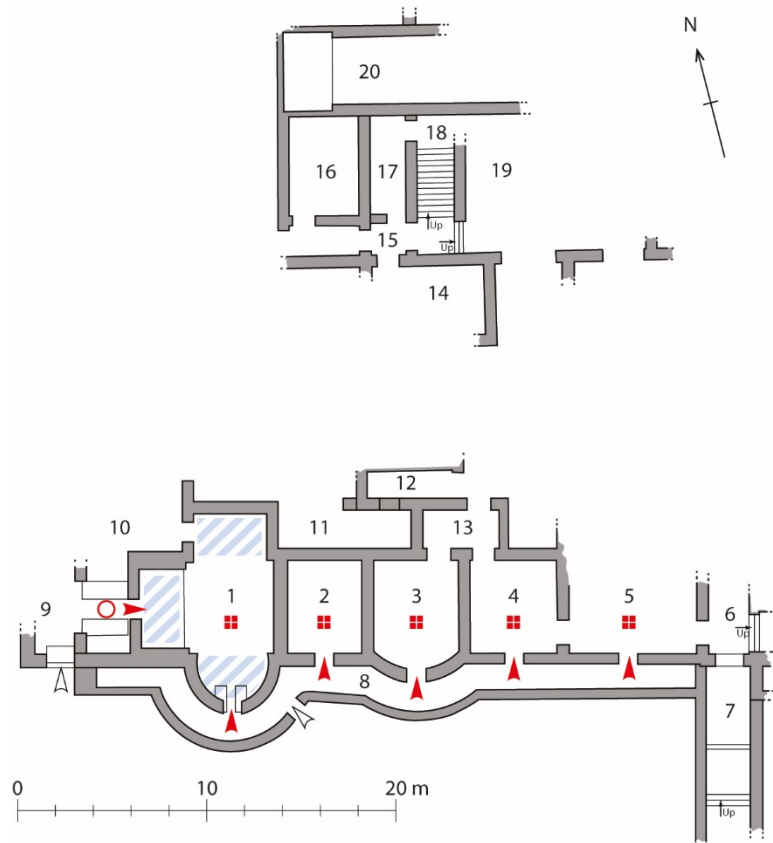


Figure 142: Plan of the Central Baths of *Lavinium* (after plan © Università di Rome “La Sapienza”/A. Jaia).

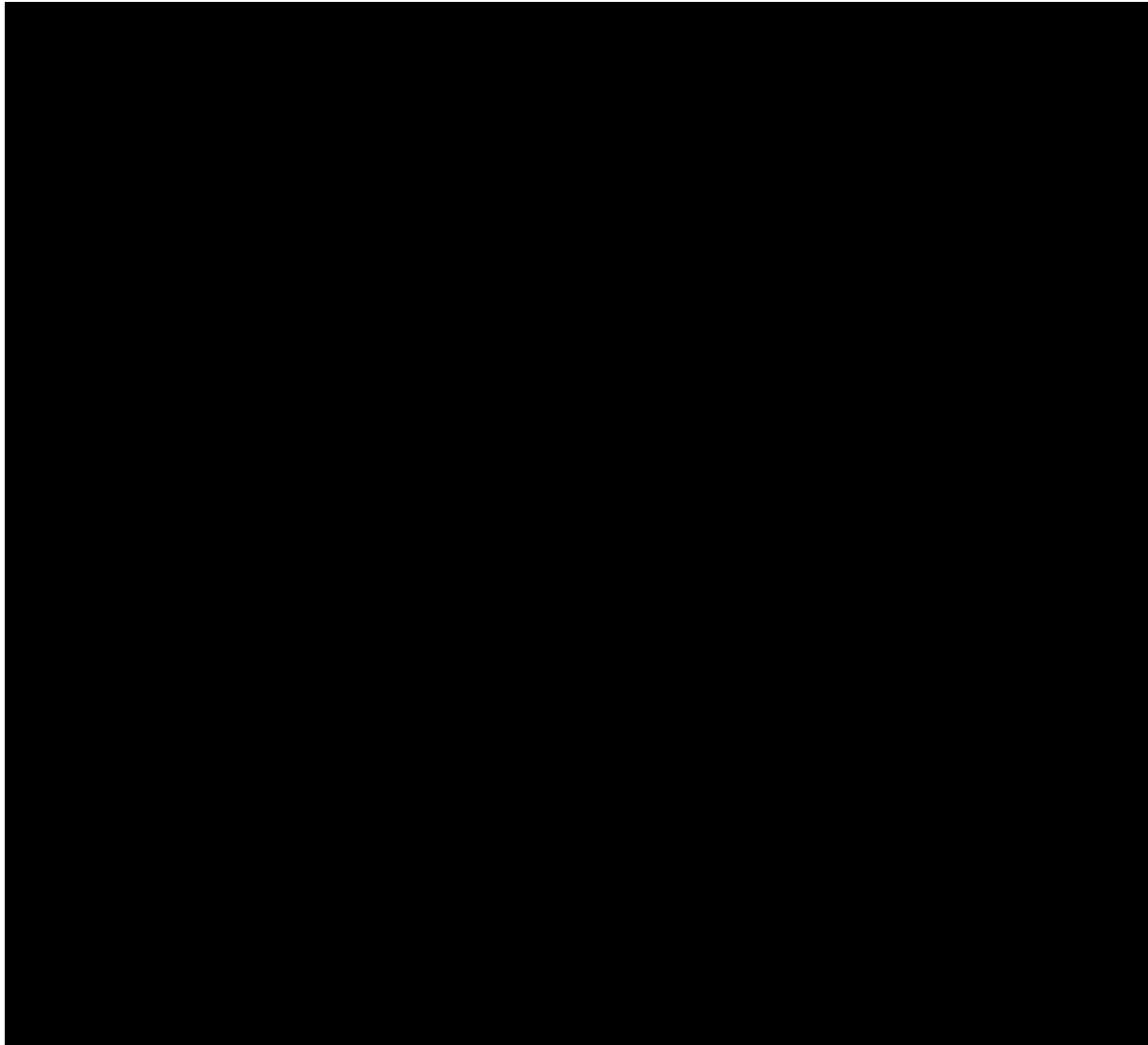


Figure 143: Central Baths of *Lavinium*. **A:** general view of S row of rooms, from SW. **B:** *praefurnium* in R9, from NE. **C:** hypocaust of R2(?), from NW (A: FENELLI 1990, fig. 15; B–C: © Università di Rome “La Sapienza”/A. Jaia).

Lavinium (Lavinio), Western Baths

La.G.14

Terme occidentali, terme Costantiniane

Reliability: public baths (inscription)

Città metropolitana di Roma Capitale, Comune di Pomezia

12.478138 E, 41.660935 N (approx.)

A second set of baths is known from *Lavinium*, located on several maps in the W part of the city. Excavated in 1962 by the Soprintendenza archeologica per il Lazio, unpublished. Sometimes referred to as ‘Constantinian baths’, for a connection with an inscription found in the baths:

- **AE 1984.151 = EDR079257:** *[Dd(omini) nn(ostri) Flavius Valerius Consta]ntinus Maximus et Valerius Licinianus Licinius, pii, felices, inv[i]cti semp[er] Augusti, / thermas mult[?]i temporis deformatas Laurentibus suis addito cultu restituerunt, curante Camilio Aspro, v(iro) c(larissimo), cu[r]atore rei p.? ---].*

Marble architrave, several adjoining fragments, topped by a frieze. H 0.50 x L 3.60 m, T 0.50 m. Found in the baths during the 1962 excavations. Commemorated the restoration of the baths in the first quarter of the 4th cent. AD.

Bibliography: CASTAGNOLI 1972, 28

Illustrations: JAIA 2018, fig. 4 (city plan)

Tarquini (Tarquinia), Tullian Baths

La.G.15

Reliability: public baths (inscriptions)

- 1.1 – Province of Viterbo, comune of Tarquinia
1.2 – 11.806734 E, 42.258853 N
1.3 – E of the temple of the Ara della Regina, flanked by a road along its W side
- 2.1 – At the time of excavation, some rooms were preserved up to $\frac{2}{3}$ of their original height
2.2 – Backfilled
- 3.1 – Discovered in 1829. Several plans were made, including by Valadier; two plans were published by Pallottino (1937) and Romanelli (1948), based on other plans. Geophysics survey in the area by the Fondazione Lerici in the 1980s
3.2 – /
- Unknown
- 5.1 – I?: mid-2nd cent. AD (inscription); II?: AD 230–250 (inscription)
Earlier occupation: a *dolium* containing bones found under R1
5.2 – Unknown
- 6.1 – The descriptions of the remains are unclear, but describe a large building ‘on three levels’, robbed and damaged by fire. Despite many differences, both plans of Pallottino and Romanelli showed a linear arrangement of rooms along a NW–SE axis, with a large room (R1) to the NW, and a series of many small rooms stemming from it towards the SW. R1 was a large rectangular room with segmental SW, with entrance from the W. Several honorific inscriptions set in the floor (see 10.2). Several rooms (R2 to R6) are known through the drawings of their mosaics (see 10.1). One known heated room (R7). Close to R7, a room with marble veneer on floor and steps (R8). Another room R9 with three steps in travertine leading to a marble floor 0.75 m lower, probably a pool. Mention of a three-sided portico R10.
6.2 – /

7. Walls faced in reticulate, some of it made with alternating rows of brown nenfro and light tuff. At least one brick wall. Papi mentioned walls in 'opera vittata composta di laterizi e blocchetti di nenfro'
8. 8.1–2 – Mention of 'condutture di cotto quadrate per il calore' in R7, probably *tubuli*
9. 9.1 – /
9.2 – Mention of a pool (R9)
9.3 – /
10. 10.1 – R1: probably a polychrome glass paste mosaic (lots of blue) in the vault of the apse. R8: marble veneer on floor and steps. R9: travertine steps, marble floor. R10: columns of portico in cipollino and bardiglio on Attic bases and with Corinthian capitals

Loose decoration: column in cipollino on Attic base; one fluted column in white marble; one column in 'marmo bigio', 6.25 m long, diam. 0.50 m.; 'intonaci'; fragments of wallpainting; green marble fragments.

Several mosaic floors (drawn by Valadier):

- R2: small mosaic depicting rinoceros
- R3: in a heated room: large mosaic with protomes of deer, bulls, winged creatures
- R4: in a rectangular room with central grating, flanked by smaller rectangular room: mosaic with Nereids on sea creatures
- R5: in room close to the one with the Nereids mosaic: mosaic with winged creatures, putti, female figures. Central grating (marble)
- R6: mosaic with Oceanus and sea creatures

10.2 – In R1, fragments of a small nude female statue, and one fragment of a horned head. In R2, marble curule seat, and fragments of an inscription in Etruscan. Without provenance: terracotta relief of Hercules on a base with religious official and pig; fragment of a statue of Neptune with dolphin.

Four inscriptions set in the centre of the floor of R1, slightly distant from each other, framed by a mosaic strip along the edge of the room. They were set to be read from the E, away from the entrance, for bathers leaving the room. The inscriptions were worn out, having been walked on by bathers for a prolonged period of time.

- *CIL* XI.3364 [E67]: inscription honouring *P. Tullius Varro*
- *CIL* XI.3365 [E68]: inscription honouring *L. Dasumius Tullius Tuscus*, adoptive son of *P. Tullius Varro*
- *CIL* XI.3367 [E66]: inscription honouring *Q. Petronius Melior*
- *CIL* XI.3368 [E70]: inscription honouring *Domitia Melpidi*, wife of *Q. Petronius Melior*

CIL XI.3367 and 3368 were carved on two slabs, on the back of which was carved the earlier inscription:

- *CIL* XI.3366 [E69], honouring *P. Tullius Varro*

The inscriptions revealed that the construction of the baths was started by *P. Tullius Varro* [E69] and completed by *L. Dasumius Tullius Tuscus* [E68] in the Antonine period. The baths were then restored in AD 230–250 by *Q. Petronius Melior* [E66]; it is uncertain if his wife [E70] played a part in the restoration.

11. TORELLI 1980, 150; PAPI 2000, 156–159; MARZULLO forthcoming
12. MARZULLO forthcoming (plans, decoration)

Lazio, uncertain identifications

Aletrium (Alatri)

La.G.16

Reliability: unknown (no information available)

Province of Frosinone, comune of Alatri

13.34396 E, 41.72482 N (approx.)

Online mention of the recent discovery (info. 2016) of a possibly Late Republican public bath building, decorated with wall paintings and mosaics (excavations by the *Soprintendenza*, dir. Gatti and Pietrafesa).

An inscription from *Aletrium*, dated to the late 2nd cent. BC, commemorated the construction of a *lucus balnearius* by *Lucius Betilienus*, amongst other structures he offered to the city (*CIL* X.5807 = EDR071507, see ENGFER 2017, cat. 6 with previous bibliography). There is no evidence of a connection between this inscription and the remains.

Bibliography: Alatri (Lazio) 2016

Anagnia (Anagni), Santa Chiara

La.G.17

Reliability: weak. Identified based on toponymy and inscriptions not necessarily *in situ*.

Province of Frosinone, comune of Anagni

13.158085 E, 41.742779 N

The name of *Piscina* given to one of the contrade of Anagni presumably records the existence of baths, of which nothing remains today. During excavations in a house in 1764 were found four inscribed bases, two corresponding statues (belonging to the bases *CIL* X.5917–5918, now lost), and several other non-identifiable fragments. Two of these inscriptions directly mention a bath building. A fifth inscription had been found earlier, in 1735, in excavations in the basement of the church of Sta Chiara, in the area of the baths.

CIL X.5917 = EDR032601 = [E07] and *CIL* X.5918 = EDR032597 = [E06]

See the corresponding entries in the catalogue of inscriptions.

CIL X.5923 = EDR032599 and *CIL* X.5924 = EDR032600

Two statue bases, stone, found in contrada Piscina in 1764

CIL X.5923: H 1.4 m, W 0.60 m, T 0.55 m; letters 3.8–4.5 cm

CIL X.5924: H 1.20 m, W 0.55 m, T 0.52 m; letters 4 cm

CIL X.5923: *T(ito) Flavio Karo, / s(enatus) p(opulus)q(ue) A(nagninus) / ex leg(at)is populi, / ob insignem / munificentiam / erga se et r(em) p(ublicam), / statuam ei / ponend(am) censuer(unt), / ob quarum dedicatione(m) / dedit decurionib(us) ((denarios)) III, item / sexvir(is) ((denarios)) II et populo ((denarium)) I*

*CIL X.5924: Flaviae Karae / Gentiae, flamin(icae), / s(enatus) p(opulus)q(ue) A(nagninus) / ex
legatis populi, / in honorem / Fl(avi) Kari patris / eius, statuam / ei ponendam / censuerunt*

Bases of statues erected in honour of *Flavius Karus* and *Flavia Kara* by the *senatus
populusque Anagninus*

Dating : late 1st–early 2nd cent. AD (EDR)

See also: ZAPPASODI 1907, 42–43, (not consulted); MAZZOLANI 1969, 84, fig. 101–102

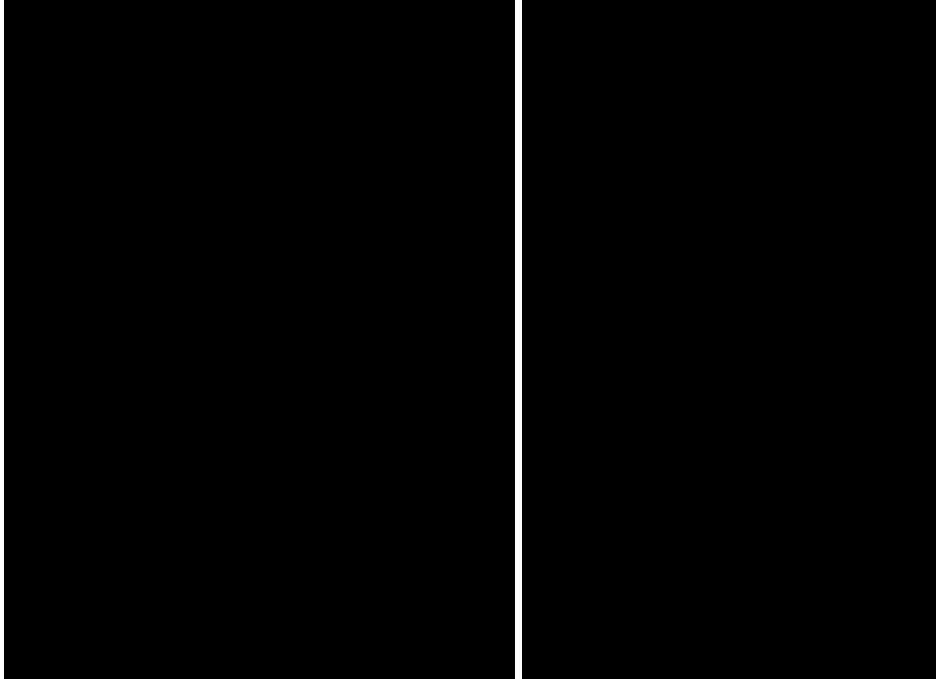


Figure 144: *CIL X.5923 (L)* and *CIL X.5924 (R)* (© EDR).

CIL X.5931 = EDR100008

Tabula (EDR) or lead *fistula* (Ambrosi de Magistris, quoted in Mazzolani). Found in 1735 in the foundations of the church of Santa Chiara, in the area of the presumed baths

*C(aio) R[---]TITO [-] f(ilio)
Vitale [p]raef[e]ct(o)
R'I' (---) V̄N̄(onas) Oct(obres)
Macrino et Celso co(n)s(ulibus).*

Dedicated to *Caius R. Titus Vitalis*

Dating: AD 164

See also: ZAPPASODI 1907, 37 (not consulted); MAZZOLANI 1969, 84–85

Bibliography: MAZZOLANI 1969, 83–85

Reliability: weak. Baths identified on the base of an 18th cent. drawing and associated with structures on the shore of Anzio, but there is no clear equivalence between drawing and remains. If the drawing possibly depicted a bath building, of unknown nature, there is no indication that the remains were part of a bath building.

Province of Rome, comune of Anzio

12.622211 E, 41.445017 N (hypothetical)

Two 18th cent. drawings (plan and elevation) of structures in the harbour of *Antium*, interpreted as belonging to a bath building on the basis of the typology and the identification of one room as a *caldarium*. The plan, without scale, depicts three parallel rows of rooms E-W oriented. A single room occupied the southernmost row and was equipped with an apse on its E end, and thickened NW and SW corners. Curved, lighter lines of unclear meaning subdivide the room. The central and N rows were further subdivided in two quadrangular rooms each, the NE of which had an apse on its E wall; it was possibly roofed with a barrel-vault. A barrel-vaulted corridor ran along the E side of the northern and central rooms.

Rooms with apses were common in bath buildings. The presence of a corridor running along the side of the structure and following the shape of the rooms is consistent with a service corridor from which *praeefurnia* were operated (cf. the baths of *Cumae*, *Neapolis* Fuorigrotta or *Lavinium*), and the openings from the corridor into the adjacent rooms could be *praeefurnia*. The openings in the walls could represent passages between rooms and/or hypocaust passages.

Brandizzi Vittucci identified the structures on the plan to the remains on the W mole of the harbour of *Antium*, but remains and drawing do not match perfectly (the orientation is slightly off; four rows of rooms are visible now when only three appear on the drawings; no N-S wall subdividing the N and central rows is visible on site; the E corridor is not visible and there seems to be a quadrangular room instead), and the location must therefore remain hypothetical. Brandizzi Vittucci further suggested to associate the remains on the harbour to a vignette labelled *balineum faustines* on 17th–18th cent. copies of the *pictura antiqua* (a Roman painting possibly from *Antium* reproduced several times by different artists, see BRANDIZZI VITTUCCI 2007).

Bibliography: BRANDIZZI VITTUCCI 2000, 23, 103–104

Illustrations: BRANDIZZI VITTUCCI 2000, fig. 10, pl. III.3

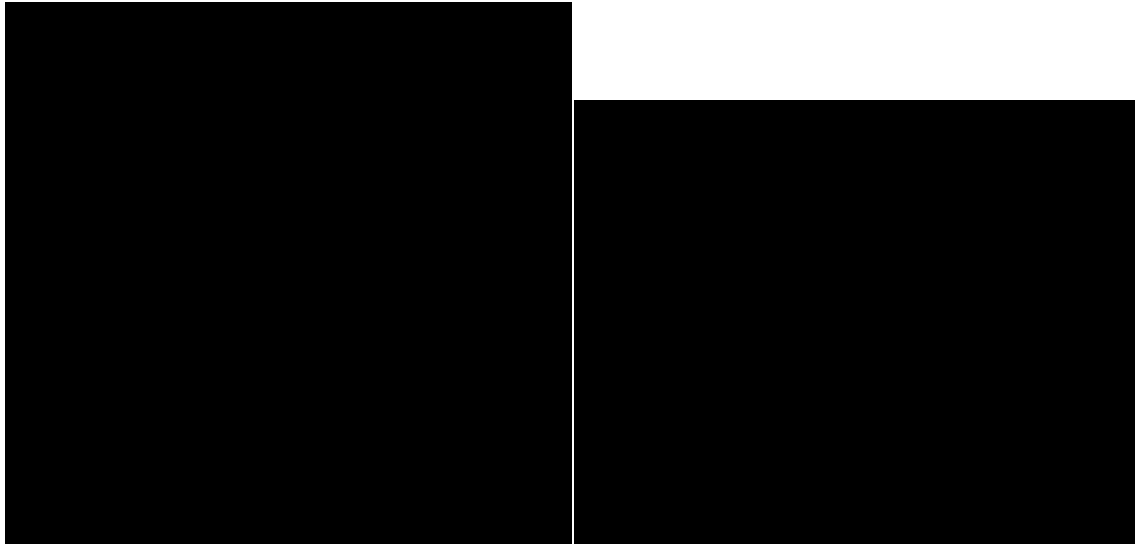


Figure 145: 18th cent. drawings of structures close to the W mole of the harbour of *Antium*. Scale unknown (BRANDIZZI VITTUCCI 2000, fig. 10).

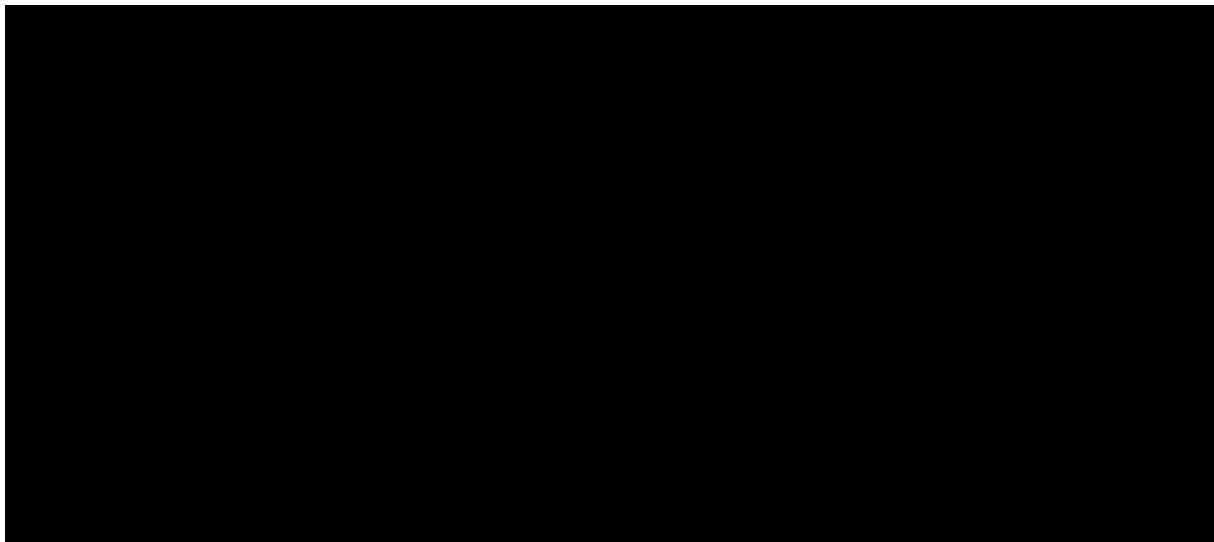


Figure 146: Structures on the W mole of the harbour of *Antium* (BRANDIZZI VITTUCCI 2000, pl. III.3).

Antium (Anzio), Villa Adele

La.G.19

Reliability: the structures identified by Lanciani were probably baths (several heated rooms), of unknown status. The 18th cent. plan associated to the structures by Brandizzi Vittu is unlikely to have been of a plan of baths.

Province of Rome, comune of Anzio

12.631556 E, 41.44985 N

Lanciani recorded the discovery, in two trenches in the area of villa Adele (formerly villa Pamphilj), of 1) A first heated room, with hypocaust (*area* in *opus signinum/cocciopesto?*, *suspensura* floor in mosaic), channels for water distribution and disposal, channels for heat circulation, fragments of painted plaster, fragments of Arretine ware. 2) A 6 x 4.25 m heated

room. *Area* made of a 0.20 m thick ‘*massiccio*’ (concrete? *cocciopesto*?), 0.55 m high *pilae* made of *bessales* (side 0.25 m) supporting a *suspensura* made of a layer of *bipedales* (side 0.595 m, 0.10 m thick) and a 0.36 m thick layer of *cocciopesto*. 0.40 m long rectangular-section *tubuli*. Marble veneer on walls. 3) Three inscribed lead pipes and 4) two marble herms behind the second room.

Some of those remains had been seen in the 1820s–1830s by Nibby. The remains still existed in 1926, when walls faced with reticulate and brick courses, and mosaic floors were recorded.

Dating: Republican, with imperial-period restoration/refurbishment (Chiarucci: CT, S)

Three inscribed lead pipes:

- **CIL XV.7806 = EDR171525:** *T(itus) Vinicius Mamilianus fec(it)*
2nd–3rd cent. AD
- **CIL XV.7799a = EDR170931** *Quintiliorum*; other side: *Q(uintus) Athena[e]us Aug(usti) lib(ertus) fec(it)*
Lead pipe with two inscriptions. Mid-2nd–mid-3rd cent. AD
- **CIL XV.7802 = EDR170899:** *[-] Auruncleius Chresimus f[ec(it)]*
2nd–3rd cent. AD

Brandizzi Vittucci suggested the remains could be those depicted in an 18th cent. plan by Volpi, showing a building with three exedras seen in the area of Villa Pamphilj. The same author further suggested to associate this structure to a vignette labelled *aquae pensiles* on 17th–18th cent. copies of the *pictura antiqua* (a Roman painting possibly from *Antium* reproduced several times by different artists, see BRANDIZZI VITTUCCI 2007).

Bibliography: LANCIANI 1888; CHIARUCCI 1989, 92–93; BRANDIZZI VITTUCCI 2000, 46–47, 108–109

Illustrations: BRANDIZZI VITTUCCI 2000, fig. 6 no 16 (location), 22 (plan)



Figure 147: 18th cent. plan of structures associated with the baths found close to Villa Adele in Antium. Scale unknown (BRANDIZZI VITTUCCI 2000, fig. 22).

Antium (Anzio), Villa Sarsina

La.G.20

Reliability: probably baths (heated room, pipes and possibly pools), status unknown

Province of Rome, comune of Anzio

12.625650 E, 41.447857 N (approx.)

Next to structures identified as a stadium/*xystus* and a *cryptoporticus* between via Aldobrandini and via Ambrosini were found, in the 18th cent., remains identified as a bath building. Lanciani (quoted in Chiarucci) saw the corner of a bathing room, with 1.74 m thick walls lined with *tubuli*, for a surface area he calculated could reach 250 m². Outside the room, to the W, was a 'ballatoio' (ledge? gallery?) supported by a vault and accessed via steps veneered in marble. Material found: polychrome marble slabs, bronze nails, lead sheets. In same area, discovery in 1846 of 22 marble columns with base and capitals, bearing traces of fire. Lombardi (quoted in Chiarucci) mentioned in the same area two bathing rooms with walls covered in *opus signinum* and accessed via descending steps (pools?), other rooms with the same wall covering, a larger room floored in *opus spicatum*; one of these rooms, roofed by a vault resting on four brick pillars (cross-vault?), had walls veneered in marble. Presence of lead *fistulae* of all dimensions. It is unclear if the descriptions of Lombardi and Lanciani refer to the same building.

Bibliography: CHIARUCCI 1989, 92–93

*Aquinum (Castrocielo), Baths alongside *cardo maximus** La.G.21

Reliability: possibly baths (*tubuli*), status unknown

Province of Frosinone, comune of Castrocielo

13.689555 E, 41.499478 N

Surface finds of *tubuli* along the W side of the *cardo maximus* of the city, at the crossroads with the third *decumanus* N of the *via Latina*, could indicate the presence of a bath building in the area.

Bibliography: CERAUDO 2019, 104

Illustrations: CERAUDO 2019, fig. 1, B (location)

Aquinum (Castrocielo), Baths in Via dell'anfiteatro La.G.22

Reliability: possibly baths (*tubuli*), status unknown

Province of Frosinone, comune of Castrocielo

13.690163 E, 41.495952 N

Surface finds of *tubuli* in the W *insula* created by the *cardo maximus* and the 2nd or 3rd *decumanus* south of the *via Latina*, could indicate the presence of a bath building in the area. An early 1980s aerial picture of the area show remains of structures around a large porticoed courtyard in the N part of the *insula*, of undetermined structures in its S part; the structures could belong to a bath building or a large *domus* with peristyle.

Bibliography: CERAUDO 2019, 104–105

Illustrations: CERAUDO 2019, fig. 1, C (location), 16 (aerial photography)

Ardea (Ardea), Località Casarinaccio La.G.23

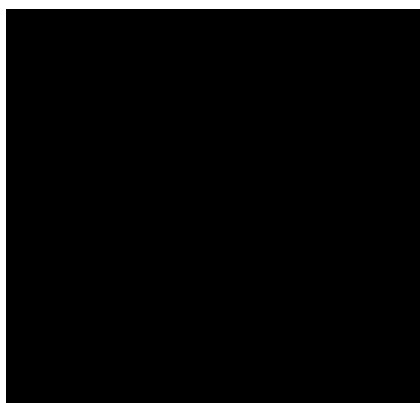
Reliability: baths (heated rooms, pools), status unknown (proximity to public buildings could suggest public, small size would go against)

1. 1.1 – Province of Rome, comune of Ardea
1.2 – 12.549736 E, 41.611624 N
1.3 – In an area outside the centre of *Ardea*, resulting of an *extra-muros* expansion of the city; ca. 10–15 m N of a basilica and a temple.
2. 2.1 – Limited: part of 5 rooms, for 1–2 m elevation. Restored.
2.2 – Part of the archaeological area of *Ardea*–Casarinaccio
3. 3.1 – Area excavated in 1998–2000 by the Soprintendenza Archeologica per il Lazio (baths in 2000)
3.2 – Not visited

4. Visible structures: ca. 85 m²
5. 5.1 – 2nd–3rd cent. (probably CT), several phases
5.2 – No information available
6. 6.1 – The plan shows the S end of 4 or 5 rooms, all with curvilinear apses. From pictures, R1a, R2a and R3a were pools (thick layer of *opus signinum* on walls). At least R1a and R4 were heated; the SW orientation of the rooms could indicate they were part of the heated sector of the baths.
6.2 – /
7. From pictures, walls in concrete faced in brick courses. It is unclear if the outer facing of the S wall of R3a was faced with the same technique or with alternating courses of stone blocks and bricks.
8. 8.1 – From plan, R4 heated, *area* of tiles, *pilae* made with circular bricks (remains along W wall)
8.2 – *Praefurnium* in R5 to heat R1a, probably equipped with a *testudo* (intrados of *praefurnium* arch being higher than pool floor)
9. 9.1 – A small water tank was located 10–15 m SW of the baths, against the N wall of the basilica; its height is unknown, and no mention is made of any connection with the bath building.
9.2–3 – No information available
10. 10.1 – Remains of marble veneer along walls of R1a
10.2 – One inscription:

Inscription DI MARIO 2007, 46

Marble *tabula*, found in 2000, reused in the floor of one of the pools
H 0.57 x W 0.475 x T 0.045. Ca. 5 cm cut from the right side of the slab, presumably to fit it in the floor



Funerary inscription. The inscription was being studied by Solin and Ulisse (info. 2007).

11. DI MARIO 2003, 184; 2007, 46–47

12. DI MARIO 2003, fig. 3 (plan); GREENGO 2012

Ardea, Località Casarinaccio

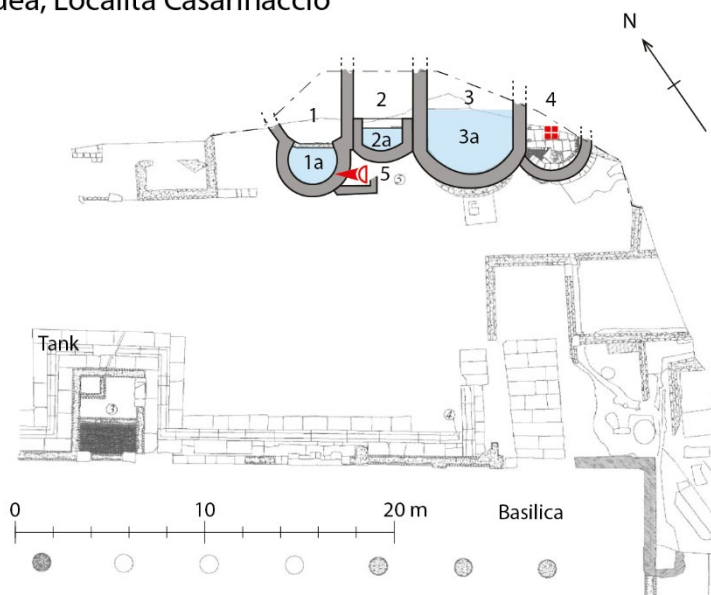


Figure 148: Plan of the baths of *Ardea* in località Casarinaccio (DI MARIO 2003, fig. 3, modified by author).



Figure 149: Baths of *Ardea* in località Casarinaccio. L: view of R2, R3, R4, from W. R: R1a, from N (GREENGO 2012).

Aricia (Ariccia)

La.G.24

Reliability: unknown (not enough evidence)

Province of Rome, comune of Ariccia

12.667758 E, 41.717987 N (approx.)

Indication of remains of baths in *Aricia*, in the lower part of the city, along the *Via Appia*.

Bibliography: COARELLI 1985, 330

Illustrations: COARELLI 1985, fig. p. 330 (location)

Casinum (Cassino), so-called Villa di Varrone

La.G.25

Reliability: weak (erudite tradition, unrelated inscription)

Province of Frosinone, comune of Cassino

13.830721 E, 41.482795 N (approx.)

In the località Terme di Varrone were visible before WWII the remains of a square room with semi-circular niches in the corners, built in *opus mixtum*. The structures were partly incorporated in a medieval chapel and a casale.

Renaissance erudite tradition located Varro's villa (1st half of 1st cent. BC) in that area, but the construction technique indicates an imperial date. A bathing function was proposed for the structures, tentatively identified with the *thermae Noviani* mentioned in a 4th cent. AD inscription from *Casinum* (CIL X, 5200 = EDR162991), found in the amphitheatre. There is no clear connection between the structures and the inscription.

Bibliography: GHINI & VALENTI 1995, 117–120

Illustrations: GHINI & VALENTI 1995, pl. III no 17 (location), fig. 66 (plan)

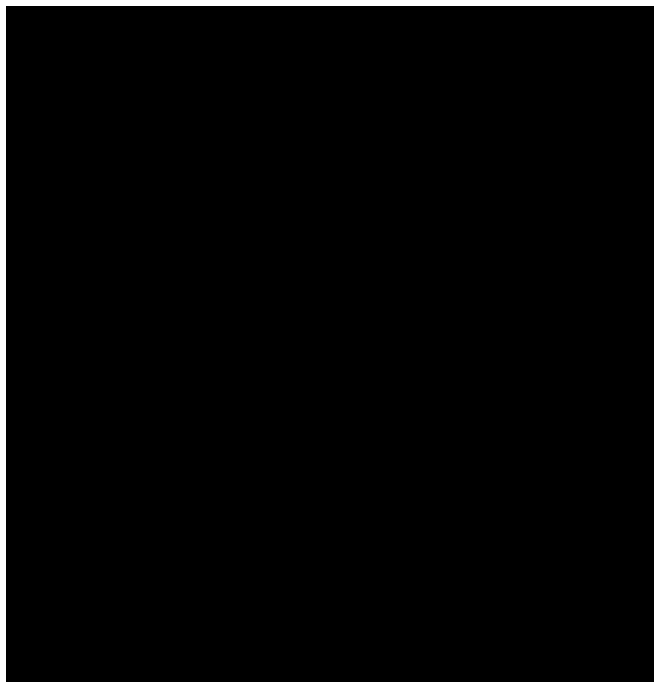


Figure 150: Plan of the structures of the so-called Villa di Varrone at *Casinum* (GHINI & VALENTI 1995, fig. 66, modified by author).

Reliability: baths, probably public, possibly *mansio* or sanctuary

Città Metropolitana di Roma Capitale, Comune di Ardea

12.510701 E, 41.579917 N

A public bath building occupied the S part of an *insula*. The site was excavated in the 2000s but the baths have not been fully published. From the brief descriptions available, the baths went through at least four phases, and cover at least 450 m²: **I**: pre-Flavian (with walls in reticulate); **II**: Flavian; **III**: Severan; **IV**: later.

The entrance to the baths was from the W, with **R51** as a first main room, a large rectangular room with an apse on its N side. In Flavian period (**II**), room turned into a heated pool, lined with cocciopesto, white mosaic floor with black frame. A passage in the SE corner led into **R60**, a rectangular room, modified in Flavian phase to become a heated room. The *praefurnium* of the room was later blocked up. Further E, two other heated rooms **R61** and **R62** were also added during the Flavian period modifications; R62 was probably heated from the W, where the remains of a *praefurnium* have been found.

In a third phase (**III**) dated to the Severan period by brickstamps, the baths were again modified and extended: **R47** served as a water tank, lined with cocciopesto and set at a higher level than the other rooms. It stored water for the baths; from there, water transited into a smaller room **R46** and was then channelled by lead pipes to pool R51. R46 could have also supplied a fountain in the nearby street. The room was equipped with had a disposal channel covered a cappuccina with stamped *bipedales* (stamps illegible). In the same phase, the heating systems were strengthened.

In a fourth phase (**IV**), possibly Severan as well (on stylistic grounds), pool R51 was backfilled and was fitted with a floor in cocciopesto; two corresponding pillars were set against its W and E walls. A narrow passage **R52** was created before the pool. A well-preserved graffito of a ship was found in R52. In this latter phase, the entrance to the baths was possible from the seaside through R53, floor with mosaic (white floral motifs on black background), a small basin was later added placed in its N corner; water-disposal channel preserved. apparently, a semi-circular heated room was created inside pool R51.

The *frigidarium* (**R56**, marble floor) comprised two pools, a rectangular one with steps (**R55**) and a semi-circular one **R57**; there was also a small rectangular pool **R58**.

Heating: from pictures, the *pilae* were made of *bessales*, apart from one heated room where hollow tubes were used.

Bibliography: DI MARIO 2007, 125–127

Illustrations: DI MARIO 2007, fig. 24 (plan), pl. 26–29.

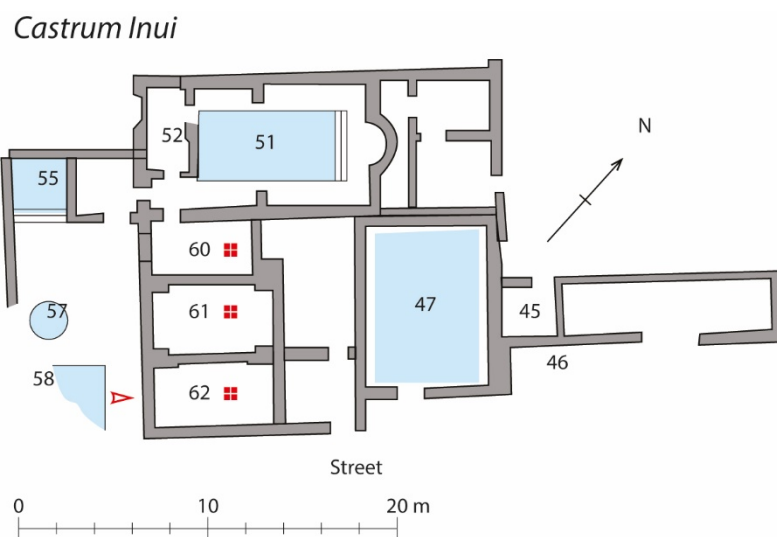


Figure 151: Plan of the Baths of *Castrum Inui* (after DI MARIO 2007, fig. 24).

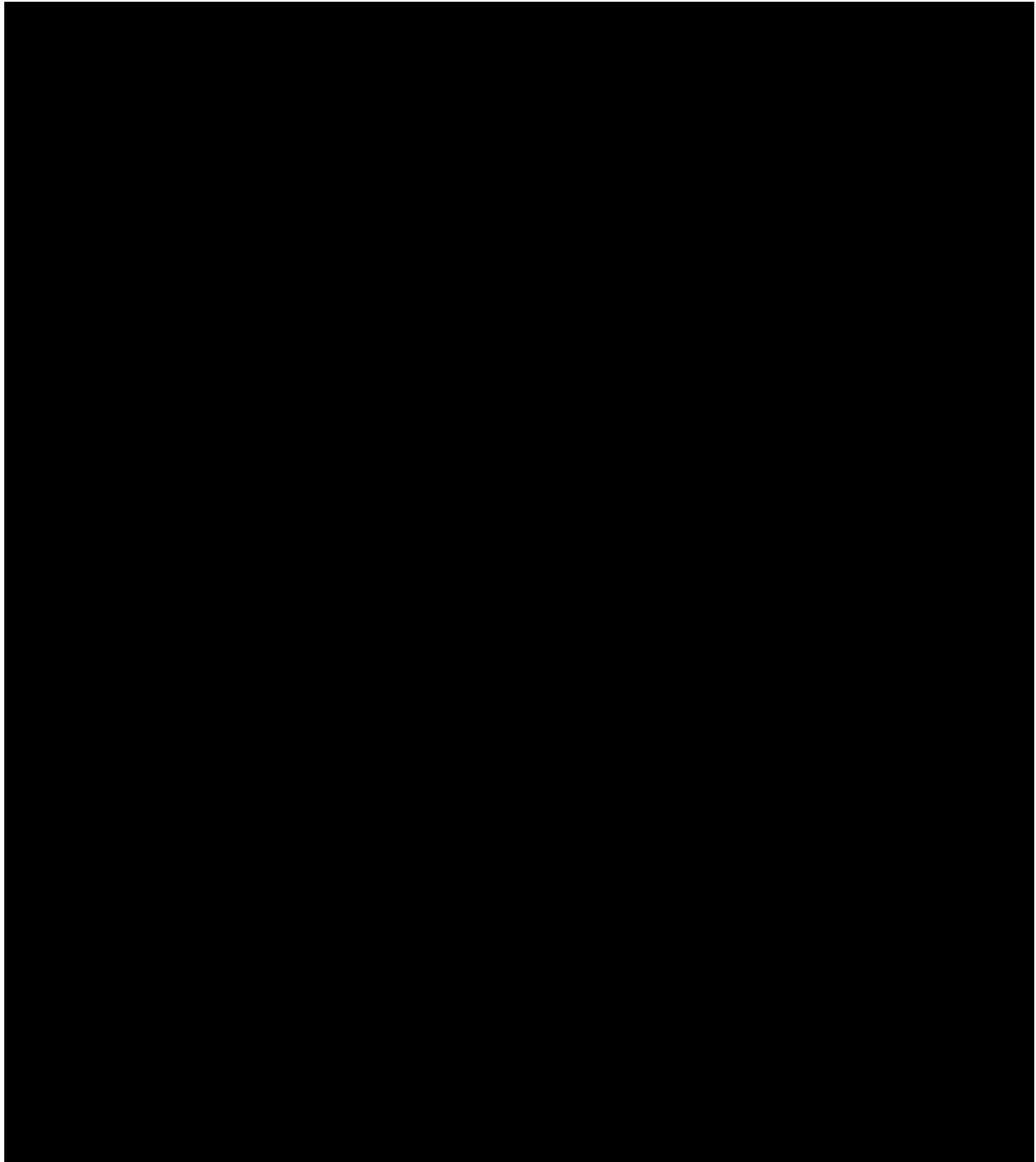


Figure 152: Baths of *Castrum Inui*. **A–B**: general views, from SE and S, respectively. **C**: pool R51, from SW. Heating: **D–E**: detail of hypocausts, in R60(?) from NE and R51 from N. Note the use of *bessales* and hollow tubes for the *pilae*. Decoration: **F**: decoration of an unspecified heated room. Note the *tubuli* on the back wall (A–C, E: *Castrum Inui* 2019; D, F: DI MARIO 2007, pl. 29a–b).

Reliability: possibly baths (water disposal, possible traces of heating system), function unknown

Province of Rome, comune of Santa Marinella

11.831237 E, 42.038454 N (approx.)

The remains of a possible *balneum* were identified along the modern shoreline, close to a maritime villa. They were partly investigated in 1970s (dir. Gianfrotta), and partly excavated in 2010, revealing:

- One large room with segmental short end (7.50 m diam. from plan), preserved up to 1.50 m high. A service corridor, 0.75 m wide and preserved up to 3 m high, ran around (at least) the curvilinear part of the room; it was floored in *bessales*, originally vaulted, and contained a water disposal channel. The walls in concrete are faced either with a combination of reticulate and brick courses, or exclusively with brick courses, belonging to different phases. Poccardi mentioned that traces of a *testudo alvei* were found, suggesting the corridor was a service area containing a *praeefurnium* heating the apsidal room. Dating: around AD 100 (CT).
- Further S, remains of another corridor, straight, at the same level as the previous one, and further remains in a 7.40 m x 3 m area: a pool made of a dark mortar covered with a layer of waterproof pink mortar; under the pool, a channel (a hypocaust connection or a 'canale di aerazione'), and the remains of a sewer line hypothetically dated to the Severan period.

Bibliography: ENEI 2011, 13; POCCARDI 2011

Illustrations: ENEI 2011, fig. 27 (pictures); POCCARDI 2011, fig. 47 (location), 56, 58, 62, 66 (plans, sections), 61, 63–65 (pictures)

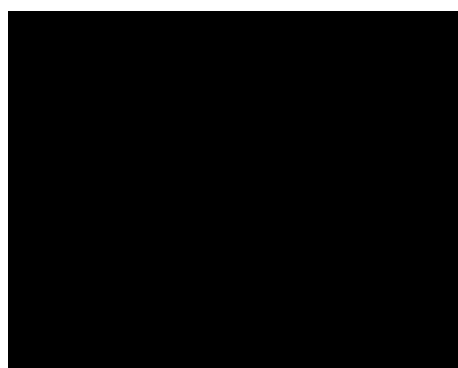


Figure 153: Plan of the baths in zona B at *Castrum Novum*. Brick facing in green, mixed facing in yellow, water disposal channels in blue (POCCARDI 2011, fig. 62, modified by author).



Figure 154: Possible *balneum* of *Castrum Novum*, zona B. L: view of the remains, from SW. R: detail of the wall facing (L: ENEI 2011, fig. 27, R: POCCARDI 2011, fig. 65).

Cures Sabini (Santa Maria in Arci)

La.G.28

Reliability: Baths, status unknown

1. 1.1 – Province of Rieti, comune of Fara in Sabina
1.2 – 12.681139 E, 42.183177 N
1.3 – Unknown
2. 2.1 – Only three rooms are known; a pool is also known from late 19th cent. AD description but was destroyed in the meantime. There is a series of walls to the NW of the baths, probably not connected to them. Baths restored in the 1980s.
2.2 – Unknown. Possibly covered by vegetation
3. 3.1 – Seen by Lanciani late 19th cent. Excavated by the Direzione Generale Antichità e Belle Arti (dir. G. Gagliardi) in 1874–1875, on behalf of the prince Alessandro Torlonia. Excavations in 1979–1980 by the Soprintendenza per i Beni Archeologici del Lazio. Further investigated in 2013–2014 by the Université Catholique de Louvain-la-Neuve (dir. M. Cavalieri)
3.2 – Not visited
4. Including the wall to the NW, the structures fit into a 25 x 15 m rectangle. R1 to R4 occupy ca. 200 m², of which 50 m² by R2.
5. 5.1 – two main phases identified by Cavalieri
I: Late 1st cent. BC–early 1st cent. AD (CTM, material)
II: 2nd cent. AD/Hadrianic (CTM, brickstamps)

Modifications:

- addition of pilasters in corners of R1
- Raising of floor of R1, obliterating apse in S wall; new mosaic floor

5.2 – Unknown

6. 6.1 – Only three rooms are known, organised around a heated room with pool. An isolated wall to the NW of the area, aligned with the W wall of R2, probably marked the N boundary of the complex.

R1: rectangular room occupying the N part of the remaining structures. Communicated with **R4** to the E via a 1 m wide marble threshold. In several later phases, brick-faced piers were added in E part of room, the floor was raised, and a new mosaic fitted. Gagliardi, in a report dated 30(?) March 1874, described a rectangular room, accessible via three steps on the long side, ca. 1.20 m deep, with mosaic floor, *Luni* marble slabs on the walls and plaster on upper parts; this room was probably a cold-water pool, possibly located W of R1. **R2:** heated room, 7 x 3.50 m. Four corner pilasters added in secondary phase. equipped with semi-circular pool **R2a** on its S side, 4.50 m diam. To the E was **R3**, possibly a service area with *praefurnium*. The room contained two later structures in rubblework against S and SW walls. Channel in N wall, with opening covered by an arch made of *sesquipedales*; possibly reused as lime kiln in late phase. Flight of stairs in SW wall, brick steps covered in marble.

6.2 – R1 has been interpreted as an *apodyterium* for the decoration and the absence of heating. R4 could have been an open-air courtyard, as suggested by the *opus spicatum* floor. R3 could have been a service room with *praefurnium*, but the fact that the flight of stairs was veneered with marble casts doubt on this identification.

7. *Opus spicatum* floor in R4 (*spicatum* bricks 11 x 2 cm).

Opus mixtum facing on three walls of R1 ('opera mista di tufo con ammorsature angolari in tufelli e ricorsi in laterizio'). Brick facing in S apse of R1, on all walls of R2, R2a and R3, and on pilasters in R1.

8. 8.1 – R3 has been interpreted as a service room from which a *praefurnium* heating R2 was operated. An arched opening in the W wall of R3, towards R2, could be consistent with a *praefurnium* opening; its height also suggest that the intrados arrived at a higher point than the *suspensura*, suggesting the presence of both a pool in the E recess of R2 (of which there are no traces) and a *testudo* on the *praefurnium*. A blocked round arch visible in the back wall of R2a also points in the direction of a *praefurnium* to the SE of R2a, possibly equipped with a *testudo*.

8.2 – R2 and R2a were heated. Area in *sesquipedales*. Rectangular section *tubuli*, some still *in situ* in R2 and R2a. A wall separated the hypocausts of R2 and R2a; is it unclear to which phase it belonged.

9. 9.1 – Oral tradition has it that a nearby spring supplied the baths with water. A well faced in irregular reticulate and located S of the baths has been associated to this supply.

9.2 – From pictures, there seems to be a hole above the arch in the SE part of the wall of R2a, whose function was possibly related to the supply of water to the pool.

9.2–3 – Mention of lead *fistulae* by Gagliardi, of unspecified function

10. 10.1 – R1: three decoration phases: 1) wall veneer in alternating slabs of pink and white marble; 2) white marble plinth, going over the pilasters added in Hadrianic period; 3) raising of circulation level; black and white mosaic floor ('tessere bianche e nere in ordine sparso'). R2a: marble slabs on floor, marble veneer on walls. R3: steps of stairs veneered in marble; slabs of cipollino found in collapse layers.

Many marble fragments found in collapse layers: white marbles; local marbles (breccia rosa possibly identified as marmo di Cottanello); imported coloured marbles from Greece (cipollino, porfido verde antico, verde antico from Thessaly), Turkey (pavonazzetto, africano), Algeria (greco scritto), Tunisia (giallo antico) and Egypt (granito del Foro).

10.2 – Elements of marble and terracotta architectonic decoration, in R1 and R4, during 1979–80 and 2013–14 excavations.

Two inscriptions discovered by the same person on the same day in 1835 could have come from this bath building (CAVALIERI *et al.* 2015, 29–30):

- **CIL IX.4968 = ILS 5543 = EDCS-15300017 = ENGFER 2017, no 231:** *L(ucius) Tuccius P(ubli) f(ilius) Col(lina) Maxim[us] / trib(unus) mil(itum) leg(ionis) XV Apollina[ris] / praef(ectus) fabr(um) IIIIvir praef(ectus) / Neronis Caesaris Aug(usti) Curibus Sabinis / has porticus sua pec(unia) restituit*

Stone *tabula*, H 37.4 x W 14.8 cm. Found in 1835 'agli Arci [...] incrostata nella parete di un bagno edificato in tempi posteriori [...]'] (CIL)

Dating: Neronian (Engfer)

- **CIL IX.4978 = EDCS-15300027:** see [E21]

Found in 1835 'agli Arci' (CIL); Cavalieri 2015, 30 further quotes 'trovata non intera nel suo marmo, ma tagliata dallo scalpello per adattarla al gradino della scala, per cui si discendeva in un bagno'

One inscription found in the pool described by Gagliardi

- **CIL IX.4971 = ILS 6560 = EDCS-15300020:** *Cocceia L(uci) f(ilia) Vera [---] / ita ut ex usura eius summa[e ---] / III Non(as) Mar(tias) die natali eiu[s] decuriones / in publico decem trichilini[s ---] / et sevirales duobus trichili[nis] epularentur*

One inscription found during the cleaning of R1 in 1979–80

- *Dis [Man]nib[us]*

Several brickstamps:

- Several brickstamps found in 19th cent. excavations (REGGIANI 1985, note 7): *CIL XV.1, 93* (AD 134), *CIL XV.708a* (AD 138), *CIL XV.849* (AD 134), *CIL XV.2393* (AD 123), *CIL XV.1, 1660* (1st cent. AD)
- One brickstamp found in 1979–1980 (REGGIANI 1985, note 8): *CIL XV.1, suppl. 59*
- Two brickstamps found in 2013–2014:
 - *CIL XV.1155* (CAVALIERI *et al.* 2015, 33, fig. 22): [T. Fl]avi Rh[odonis / I S L M R]. One example found during cleaning of area SW of the baths, not *in situ*. Could have come from the baths. Dated late 1st–early 2nd cent. AD.
 - *CIL XV.1036* (CAVALIERI & LENZI 2015, 242 note 22): Myrtili Domiti[ae P. f. Luc] / Dolia[r] V[eru]. One example found in R2a
- 11. MUZZIOLI 1980, 58; REGGIANI & GUIDI 1981, 78–79; REGGIANI 1985, 87–89; CAVALIERI *et al.* 2015, 16–23; CAVALIERI & LENZI 2015; CAVALIERI 2017
- 12. CAVALIERI *et al.* 2015, fig. 3, 8, 10–16 (pictures), 7, 9 (plan) CAVALIERI & LENZI 2015, fig. 2–7 (pictures) REGGIANI & GUIDI 1981, fig. 3–5 (plan and section)

Cures Sabini

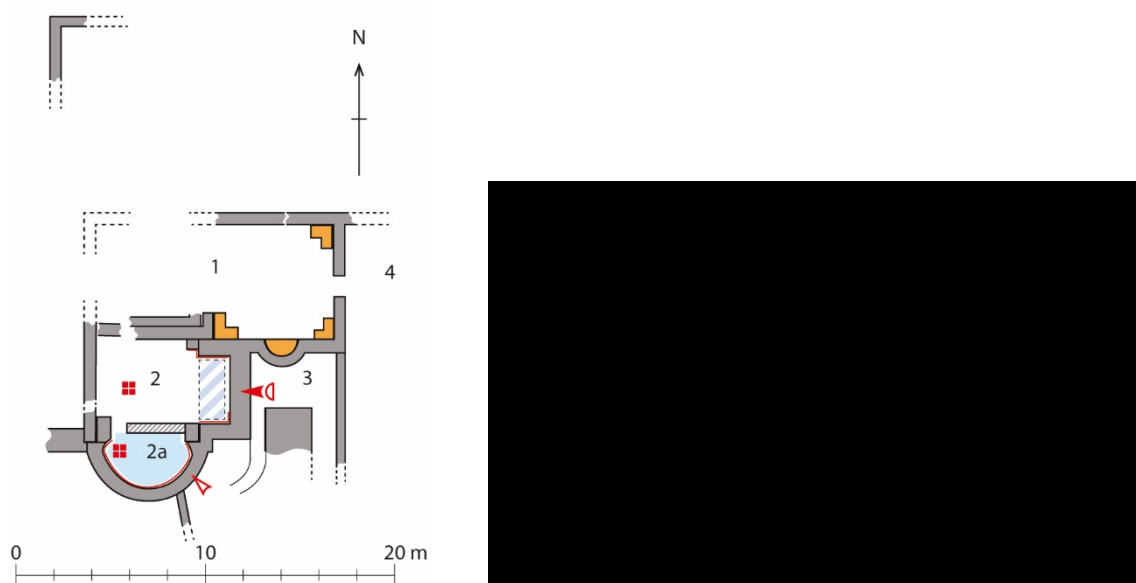


Figure 155: L: plan of the baths of *Cures Sabini*. R: baths of *Cures Sabini*, from S. The structures to the NW are visible in the background (L: after REGGIANI 1985, fig. 2; CAVALIERI *et al.* 2015, fig. 9; R: CAVALIERI *et al.* 2015, fig. 3).

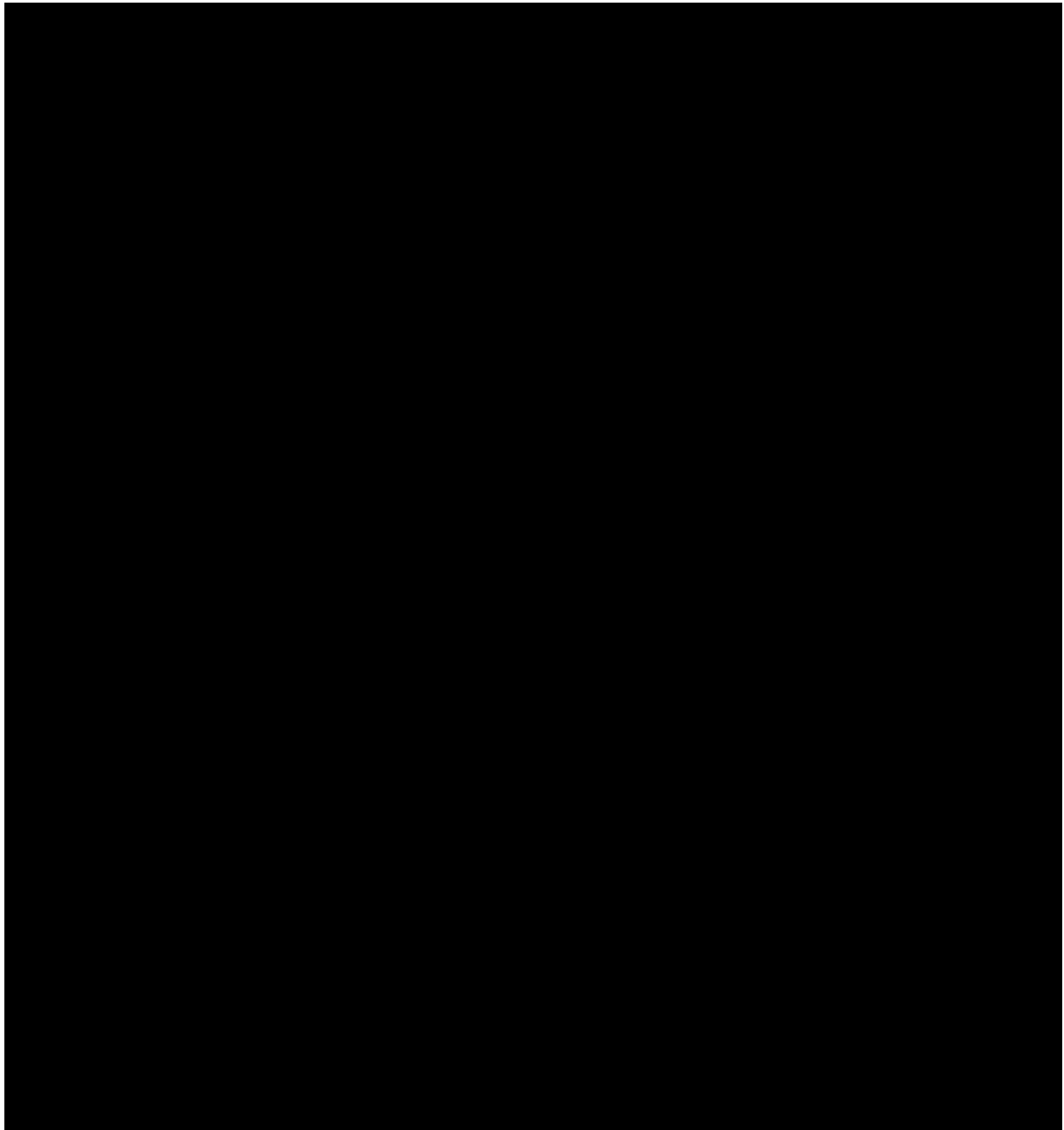


Figure 156A–D: Baths of *Cures Sabini*. **A–B**: photogrammetric model of the remains after the cleaning of 2013–14, from N and NE. **C**: R2 and R2a, from W. **D**: channel in S wall of R3, from N (A–C: CAVALIERI *et al.* 2015, fig. 8, 13, 15; D: CAVALIERI & LENZI 2015, fig. 7).

Fabrateria Vetus (Ceccano)

La.G.29

Reliability: weak (association of a mosaic floor and integration of a fragmentary inscription)

Province of Frosinone, Comune of Ceccano

13.338502 E, 41.569512 N (approx.: church of S Maria a Fiume)

An inscribed mosaic was found in 1924–1926 in the area of S Maria a Fiume, in proximity to the church of the same name; it depicted, in a black frame, a male nude figure, with feline skin

on the shoulder, and to the left, a female figure, with short tunic. Inscription above and between the two figures:

- *AE 1979.144 = AE 1993.436 = EDR077310: [R?]omana / Vetusculanorum / amor*
2.40 x 3.16 m, letters 10–10.5 cm

Variously dated: 2nd-3rd cent. AD (EDR), 3rd cent. AD? (AE), 4th cent. AD (De Rossi)

The mosaic has been interpreted as coming from a bath building. From the same building are also said to come two other mosaic floor: a white monochrome floor and a black and white floor, 4.65 x 1.87 m, depicting a biga with the charioteer falling off the cart, interpreted as a chariot race or a scene of the Iliad (Achilles dragging the body of Hector under the walls of Troy).

The origin of the connection between the mosaic and a bath building is unclear. Some authors refer to the inscription *CIL X.5649 = EDR094042*, found in the same area and commemorating the restoration by Hadrian of one or several buildings, the detail of which is lost. It has been proposed that the object of the restoration was a bath building. Even so, the iconography of the mosaics would be unusual for a bath building, and no archaeological evidence of the existence of a bath building are provided.

Bibliography: DE ROSSI 1980, 236; ANTONINI 1988; SERAFINI 1993; BRANCATO 1994; TESS8513; TESS9974; TESS8492

Illustrations: ANTONINI 1988, pl. XXIa–b; TESS9974; EDR077310

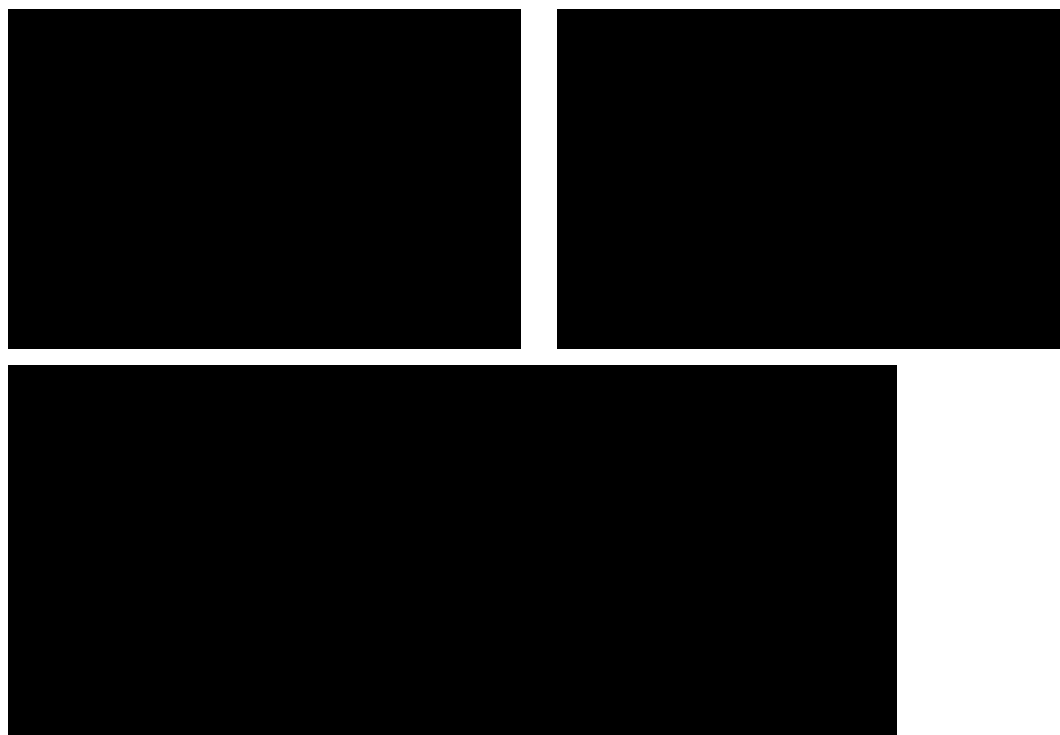


Figure 157: Mosaic floors from *Fabrateria Vetus*, possibly from a bath building (TL, TR: © EDR; B: © TESS).

Reliability: weak (19th cent. mention of a 'bagno')

Province of Viterbo, comune of Fabrica di Roma

12.35953 E, 42.29972 N (approx.)

In 1821–1823, excavations (dir. G. Castellani) unearthed, in the centre of the city not far from the church of SM di Falleri, “un gran pavimento riquadrato coperto di grandi lastre di marmo con molte iscrizioni ne’ suoi muri laterali ancora in piedi” (GERHARD). Di Stefano Manzella suggested it could be the same room that was excavated in the 1860s by Sebastiani, who described it as a “bagno d’epoca tarda” and said it was floored with the inscriptions *CIL* XI.3086 = EDR077374, 3089–3090 I and III = EDR077371, 3096 = EDR161335, 3137 = EDR160515. *CIL* XI.3089–3090 I and III were dedications to Gallienus, providing a *terminus post quem* for the construction of that room’s floor.

Bibliography: DI STEFANO MANZELLA 1979, 36 note 30, 84–85

Reliability: possibly baths (layout, orientation, location, scale), possibly public (id.)

Province of Viterbo, comune of Fabrica di Roma

12.359269 E, 42.298141 N

Geophysical surveys (magnetometry) conducted in 1997–98 as part of the British School at Rome Tiber Valley Project, with the collaboration of Southampton University, revealed the plan of a complex potentially identifiable as baths.

The complex is located in the S part of the town, close to the city walls, SW of the theatre and W of the theatre’s *porticus*; it is part of *insula* LX (ca. 65 x 58 m). “The *insula* is occupied heavily, with the exception of a courtyard midway along its northern side. The northern street frontage is defined by a continuous colonnade that encroaches slightly on to the street. There is a major range of rooms along the southern side of the *insula*, with a single wing projecting northwards from the centre into the courtyard. This is flanked to the east and west by lesser ranges of rooms, both of which arguably faced on to the courtyard. The wing projecting northwards and the area east of the southern range show major magnetic anomalies which may suggest hypocausts. Despite the plough damage which has masked detail, this structure may perhaps be identified as the public baths. The principal suite lies to the south, facing a *palaestra* to the north, into which intrudes the main suite of heated rooms. This general layout is familiar from those of major baths elsewhere, as is its location adjacent to the theatre complex” (KEAY *et al.* 2000, 55). The entrance to the baths was from the E, around the midpoint of the *insula*. “A lead water-pipe runs from the northwest corner of the *insula*, down the street to the west, entering the *insula* about midway along its frontage” (KEAY *et al.* 2000, 55).

Bibliography: KEAY *et al.* 2000, 55; KEAY *et al.* 2004, 231 (mention)

Illustrations: KEAY *et al.* 2000, fig. 7 (city plan), 37–38 (GPR)

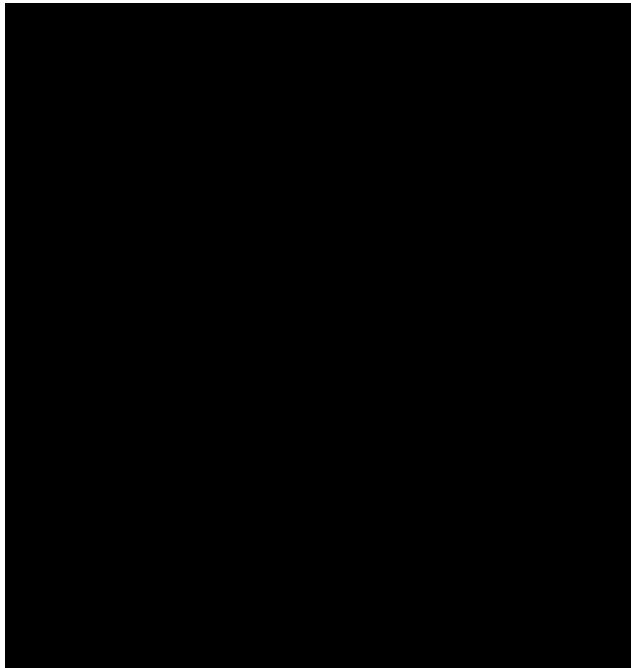


Figure 158: Interpretative plan of the magnetometer image of *insula* LX of *Falerii Novi*, possibly occupied by a set of baths (KEAY *et al.* 2000, fig. 38).

Falerii Novi (Santa Maria di Falleri), 3rd baths

La.G.32

Reliability: not enough information

Province of Viterbo, comune of Fabrica di Roma

12.35953 E, 42.29972 N (approx.)

Several bath buildings were recently identified in the results of a ground-penetrating radar survey conducted in 2015-2017 by the University of Cambridge, Ghent University, the British School at Rome and the Soprintendenza Archeologia, Belle Arti e Paesaggio per l'Area Metropolitana di Roma, la Provincia di Viterbo e l'Etruria Meridionale. The detailed results of the GPR surveys are in the process of publication (info. 2019).

One of these sets of baths is described as having an octagonal central hall; it is also listed in a series of monumental buildings, suggesting a public nature.

Bibliography: LAUNARO *et al.* 2018, 302; MILLETT 2018, 27

Reliability: weak (erudite tradition)

Province of Viterbo, comune of Ferentino

13.25361 E, 41.690777 N (approx.: church of S. Lucia)

Local erudite tradition hypothesized the presence of a bath building in the Rione S. Lucia, behind the theatre, based on 19th cent. onomastic tradition (they were associated with the name of *Flavia Domitilla* based on a passage in Suetonius), and a series of remains under the church of S. Lucia (including a fragmentary mosaic floor) as well as and in neighbouring basements. Ramieri rejected the association of *Flavia Domitilla* with *Ferentinum* and the baths, and insisted that no conclusive evidence supports the existence of baths in that area.

Bibliography: RAMIERI 1995, 114–119

Reliability: not enough information

Province of Latina, Comune of Formia

13.613949 E, 41.258909 N

Mention of a bath building under the Torre di Mola, parts of which are visible under the tower and were restored in 1995. The descriptions hint at one heated room and one unheated room, as well as water disposal channels. Dated 2nd cent. AD (Cassieri).

The remains of three rooms, a sewer channel and a mosaic floor (polychrome, geometric) were discovered nearby (in Via delle Terme) in 1932, and have been connected by Cassieri to this bath building. The mosaic, polychrome and with geometric motifs, measured 8.50 x 7.20 m.

One inscription, reused:

- *AE 1980.211 = EDR077652* (CASSIERI 2000, 21): *D(is) M(anibus et) m(emoriae) sacrum. / Pompeie Maxi/me; vixit an/nis XXX, mensi/bus VII, Nemo/nius Irenio / coiugi bene / merenti fecit.*

Marble *tabula*, 0.38 x 0.24 m, funerary inscription

Bibliography: CASSIERI 2000, 19–21; TESS5850

Illustrations: CASSIERI 2000, fig. 11 (mosaic floor), 12 (plan?)

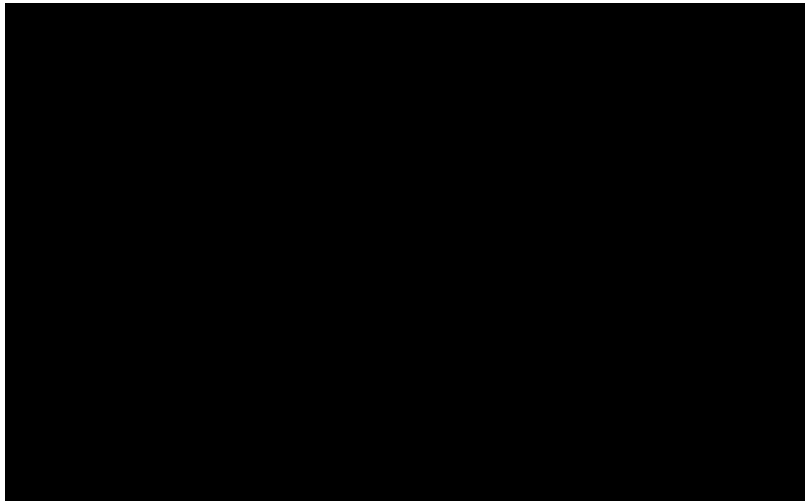


Figure 159: Mosaic found in 1932 in Via delle Terme (CASSIERI 2000, fig. 11).

Interamna Lirenas (Pignataro Maggiore), Vecchia Dogana La.G.35

Reliability: possibly baths (shape of room), possibly public (dimensions)

1. 1.1 – Province of Frosinone, Comune of Pignataro Interamna
1.2 – 13.759191 E, 41.420747 N
1.3 – Outside the main settlement, close to the river Liri
2. 2.1 – No longer extant (destroyed, apparently during the battle of Montecassino)
3. 3.1 – Never excavated. Mention of two sets of baths in Bellini 2018 identified through geophysical prospections, one of which may be this one.

4. > 75 m²

5. 5.1 – I: Late Antiquity (CT); II: AD 408 (CT; Inscr *CIL* X.5349)

Two inscriptions (*CIL* X.5348–5349) from *Interamna Lirenas* mentioned the restoration of ‘summer baths’, identified with this structure by Cagiano de Azevedo. See [E30] for *CIL* X.5348, dated as early as the 3rd cent. AD.

6. 6.1. Cagiano de Azevedo described the remains of a square room, 7.80 x 7.75 m, vaulted. Two openings towards the S (4.30 m) and the W (2.90 m), a semi-circular apse to the N and a corridor (3.35 m long, 2.70 m wide) finished by a semi-circular apse to the E.

6.2. Cagiano de Azevedo suggested the room was a service area, excluding the functions of *caldarium* (no traces of any heating system) and *frigidarium* (too small dimensions), but he admitted that the shape was consistent with that of a *frigidarium*. The room is too architecturally elaborate to be a service area, and the interpretation as *frigidarium* is more likely, especially if the apses contained pools (of which there is no indication).

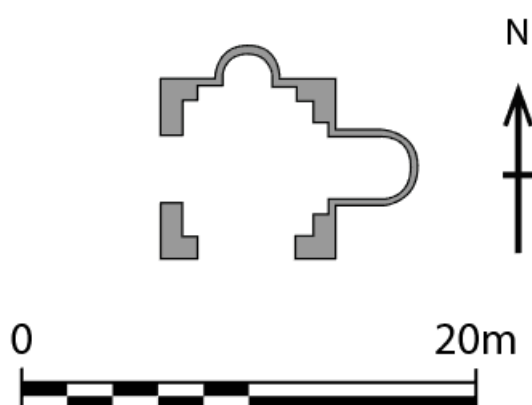
Using *CIL* X.5349, which mentioned both the restoration of summer baths and the construction of a *porticus circumcingentes colimbum*, Cagiano de Azevedo postulated the

presence of a pool (*colymbus*) in the vicinity of the structure and connected to it by porticoes built in AD 408.

7. Courses of small blocks of travertine alternating with courses of brick; occasionally a levelling course of *bipedales*.

R1 was covered with a groin vault made of concrete with ribs of brick the semi-circular apses were covered by semi-domes with brick ring on the extrados.

8. Traces of *sesquipedales* on the floor, slightly lower than the circulation level, could be part of the *area* of a hypocaust.
9. 9.1 – No direct evidence. The city is located between two rivers and received an aqueduct in the 1st cent. AD (*CIL* X 5411)
10. Remains of pavement in travertine and mosaic E of R1.
11. CAGIANO DE AZEVEDO 1947, 22, 24-29, 50; COARELLI 1982, 215-217; BELLINI *et al.* 2018
12. CAGIANO DE AZEVEDO 1947, fig. 2 (plan), pl. 1 (picture)



Tarracina (Terracina), Via Roma

La.G.36

Reliability: baths (pools, heated room), possibly public (location, dimensions)

1. 1.1 – Province of Latina, comune of Terracina
 1.2 – 13.248985 E, 41.290627 N
 1.3 – Close to a stretch of the *Via Appia* crossing the lower part of the city
2. 2.1 – Only parts of three rooms are known. Up to 2–3 m high
 2.2 – Backfilled
3. 3.1 – One room (R1) discovered in 2000 by the Soprintendenza per i Beni Archeologici del Lazio (dir. Cassieri, Innico). Another trench slightly further N in 2017 by the SABAP per le Province di Latina, Rieti e Frosinone (dir. Cassieri, Innico) brought to light R2 and R3.
 3.2 – Not visited

4. Unknown
5. 5.1 – I: unknown
 II+?: 3rd–4th cent. AD (marble reuse, CT)
 - Blocking of niches on E wall of R1, and redecoration
 - Addition of column on access steps to R1
 - Blocking of passage between column and N wall of R1**Earlier phase** (reticulate wall E of E wall of R1), unknown if part of a bathing complex.
- 5.2 – Unknown. Later wall blocked S part of R1. A church reused part of the structures.
6. 6.1 – **R1**: rectangular cold-water pool, of which only the N part was unearthed. 3.90 m E–W, N–S length reconstructed at 7.50 m. Accessible via two steps on the W side; the upper step supported a masonry column, possibly belonging to a later phase. Later, space between column and N wall blocked by wall in concrete. Two rectangular niches in E wall, 2 m wide and separated by a 1 m wide pilaster, later blocked. E wall built against earlier wall. **R2**: heated room, adjacent to R3. **R3**: immersion pool (only NE corner brought to light) accessible via three steps.
 6.2 – /
7. R1, N wall: alternance of courses of bricks and small stone blocks. E wall: brick(?) facing. Niches blocked by alternating courses of small tuff blocks and irregular CBM, bound by thick mortar joints. Behind E wall, earlier wall in limestone reticulate.
8. R2 was heated.
9. 9.1 – Two aqueducts are known to have supplied the city, a Republican-period one, and an Imperial-period one. The latter supplied the lower part of the city; it has been dated under Domitian and more recently to the 2nd cent. AD, preferably the Hadrianic period.
 9.2 – In R1, 2 holes in N wall and 1 in E wall (ca. 1.70 m high), possibly for *fistulae*.
 9.3 – /
10. 10.1 – R1: white marble slabs on floor, steps and wall, up to 1.30 m. Niches in E wall veneered in marble, and blocking up of niches as well. The column on the W step had no base and was covered in small marble slabs imitating fluting with reeding. R2: marble slabs on *suspensura* floor. Polychrome marble on the steps of R3.
 10.2 – In R1, statue of a young male in heroic nudity. In R1 too, headless marble statue of a seated youthful divinity (1.20 m high). Tentatively identified as Jupiter Anxur. Dated late 1st–2nd cent. AD. In R2, headless marble statue of Diane, dated 1st–2nd cent. AD.
11. DE ROSA 2008 (water); CASSIERI & INNICO 2009, 375–380; Terracina (LT)-Rinvenimento terme romane presso un distributore di benzina 2017

12. CASSIERI & INNICO 2009, fig. 8, 10 (pictures), 9 (section), 11 (location), 12–13 (material); Terracina (LT)-Rinvenimento terme romane presso un distributore di benzina 2017 (picture)



Figure 160: Baths of *Tarracina*, Via Roma. **L:** R3. **R:** R1, from S (L: Terracina (LT)-Rinvenimento terme romane presso un distributore di benzina 2017; R: CASSIERI & INNICO 2009, fig. 8a).

Volsinii (Bolsena), Terme ‘di Seio Strabone’

La.G.37

Reliability: probably baths (room design, mention of heating systems and pools), possibly public (scale, location)

1. 1.1 – Province of Viterbo, Comune of Bolsena
1.2 – 11.986105 E, 42.647724 N
1.3 – In the S part of the city, one *insula* E of the forum
2. 2.1 – No information available
2.2 – In the archaeological park of Volsinii
3. 3.1 – Only the western part excavated, southern part under the modern Via Orvieto. The baths are traditionally called ‘terme di Seio Strabone’ by connection with inscription *CIL* XI.7285 = EDR079090 = [E80], which mentioned that a *balneum* was offered at *Volsinii* by a *Praefectus Aegypti*, his wife *Cosconia Gallitta* and his mother *Terentia*. There is no formal connection between this inscription and this set of baths.
3.2 – Not visited
4. R1: 250 m² with service area (from plan)
5. 5.1 – I: 1st cent. AD, ca. 60-70 AD (Gros: CT)

The cryptoporticus may belong to a previous phase (CT)

5.2 – Unknown

6. 6.1 – Only brief descriptions are available, which mention a bath building organized on two levels, the lower one being a cryptoporticus. Presumably on the upper level, the best-preserved room (R1) was rectangular (13 x 8 m), vaulted and one of its short sides was apsidal. There is also a service area.
6.2 – R1 has been identified as a *caldarium*
7. The walls of R1 were faced with brick courses and reticulate. The *cryptoporticus* walls were faced in *opus incertum*. The walls of the cistern contained basalt stone *caementa* and were faced in irregular reticulate ('*quasi-reticulatum*')
8. 8.1 – Mention of a service area with boiler and *praefurnium*
8.2 – No information available
9. 9.1 – The city was supplied by an aqueduct, possibly built in the 1st half of the 1st cent. AD. A monumental cistern (14 m deep, 2300 m³ capacity) is located NW of the building, separated from it by a *decumanus*.
9.2–3 – No information available
10. 10.1 – The remains of the vault of R1 were decorated with paintings and stucco. The ceiling was stuccoed with intersecting circles and acanthus elements(?) at the intersections. Not much is left of the decoration of the lunette, but a 1838 drawing showed an imaginary architectural setting of thin columns supporting an animated architrave, defining frames that contain figures (including a couple at the centre of the frame, possibly Venus and Mars) and vegetal elements
10.2 – No information available
11. GROS 1981, 28, 34; TIMPERI & BERLINGÒ 1994, 47-49 TORELLI 1980, 219
12. MIELSCH 1975, pl. 70-71 (decoration); HALLIER, HUMBERT & POMEY 1982, fig. 1 (plan); TIMPERI & BERLINGÒ 1994, fig. 27 (structures)

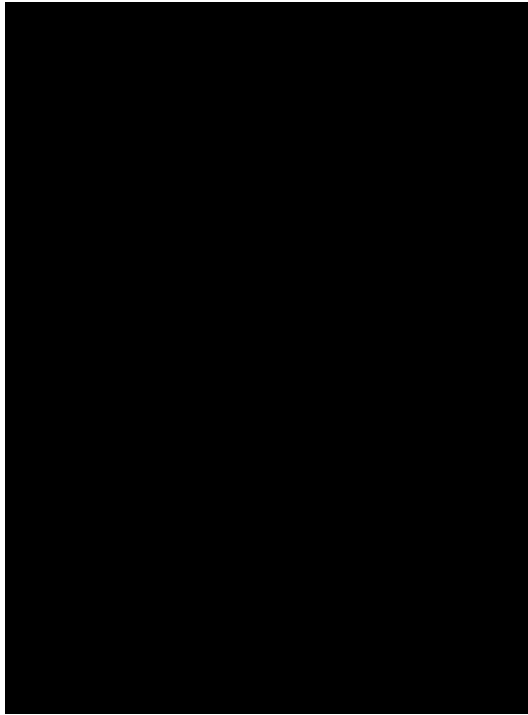


Figure 161: Plan of the baths of 'Seio Stabo' at *Volsinii* (HALLIER, HUMBERT & POMEY 1982, fig. 1).

Marche

Marche, Catalogue

Ancona (Ancona), Amphitheatre Baths

Ma.01

Terme dell'Anfiteatro

1 – Location

1.1 – Marche, province and Comune of Ancona

1.2 – 13.511358 E, 43.624486 N

1.3 – In the centre/NE part of the city, ca. 50 m from the possible forum area, against the NW outer wall of the amphitheatre.

2 – Preservation

2.1 – The SW part of the complex, containing the heated rooms, has not been excavated or is lost. Preserved in parts up to 3 m in elevation.

2.2 – Protected under a modern roof.

3 – Research

3.1 – Discovered and excavated in 1960, during excavations conducted on the amphitheatre. A few trenches conducted by R. Virzi between 1978 and 1983, and two small trenches in R7 under the mosaic floor in 1983. The inscription in R7 was studied by Paci (DALL'AGLIO, FRAPICINI & PACI 1992–1993) and the complex studied more in depth by CIUCCARELLI *et al.* 2012. Some restoration in the late 1970s, in particular of the mosaic of R7.

3.2 – Not visited.

4 – Dimensions

Ca. 540 m² considering the complex extended to the SW.

5 – Chronology and phasing

5.1 – Pre-thermal, Republican period

- Remains of a paved street 1 m below the mosaic floor of R7

I: between mid-1st cent. BC and early Augustan period (stratigraphy, T of pavements, CT, I)

- R1 to R9, with inscription in R7; selection of floor type based on importance of room: mosaic in major and representation rooms (R6–R7), CBM in functional, service, outdoors rooms (R1, R3–R5, R8–R9)).

II: 2nd half of 1st cent. AD – 2nd cent. AD

- Addition of a radial buttress in R3–R4–R5 (and N wall in R1?), abandon of R3 and R5, R2 is heated and creation of pool R2a, subdivision of R7. Modification of floors in R2, pool R2a. Removal of *labrum* in R7.

III: undated

- Minor modifications on floors: spoliation of pipe in R7 and subsequent repairs.

5.2 – 5th cent. AD (?)

- Spoliation, digging of graves in R1.

6 – Description of the remains and identification of rooms

6.1 – The bath building is composed of ca. 10 rooms (fig. 162–163); it is bound to the N by the curvilinear outer wall of the amphitheatre, to the E by a radial buttressing wall flanking a monumental entrance to the amphitheatre, to the S by a paved road and to the W by a retaining wall separating it from the staircase of a *vomitorium* of the amphitheatre. **R1**: roughly rectangular room (ca. 12 to 17 m long, ca. 9 m wide), equipped with a portico supported by eight columns of which the limestones bases remain (1.70 m interaxle), arranged on two rows 2 m away from each other. *Opus spicatum* floor modified in later phases. The room was probably open-air, as suggested by the columns and the fact that some channels on the floor seemed to conduct water to its centre. Communicated with R4 and R8 in phase I; in phase II, communicated with R4 through a passage under a newly constructed buttress. **R2** (fig. 165TL): Not fully excavated, ca. 5.5 m wide. Cold room in phase I, with *opus spicatum* pavement; became heated in phase II (with mosaic floor). Communication with other rooms undetermined, but communicated in all likelihood with R6. **Pool R2a** (fig. 165TR): created in phase II by taking space from R3. Heated 4 x 1.55 m pool, floored in cocciopesto 17.5 cm thick then veneered with marble slabs. **R3, R5**: two rooms forming a L-shape space; E limit of that space is unclear. R3: ca. 4.2 m wide; R5: ca. 4 m wide; total length N–S: ca. 10 m. **R4**: irregular shaped room, 6 x 2.90 m, allowed communication between R1 and R7. *Opus spicatum* floor. In phase II, **R3–R4–R5** (fig. 165BR) were altered by the construction of a large radial buttress to support the outer wall of the amphitheatre; the two rooms R3 and R5 were no longer accessible to the bathers, but it is still possible they were used as service areas: R3 lost its S end to create a pool connected with R2 (pool R2a), which might have been heated from the former R3. The bath building remained in use, as indicated by the opening in the buttress, which allowed users to go from R1 to R7 via R4. **R6** (fig. 165ML): not fully excavated, ca. 5.5 m wide. Mosaic floor. Communication with other rooms undetermined, but in all likelihood it communicated with R2 and R7. **R7** (fig. 164): room of irregular shape, in phase I ca. 13.50 m N–S (incl. 7a) and from 7.5 to 10.5 m E–W. The room was subdivided in spaces with dedicated functions, marked also by different flooring types. Accessible by two doors, one leading to the E towards R4, the other one in the opposed wall, probably the main entrance to the baths accessed via a small stair of which six steps remain. On the opposite side of the room, on the floor, a 0.52 m–wide circular frame made of stone slabs, open to the E, delimitates a circular space (ca. 3 m diam.) that probably contained a *labrum*; the circular frame acted as anti-slippery surface. In NE

corner of room, between the outer wall of the amphitheatre and pool R7a, there is a triangular space paved in limestone slabs and raised ca. 0.35 m compared to the main floor of the room, floored with a mosaic. In phase II, the *labrum* was removed and a *pseudo-emblema* created to fill the gap. An E–W oriented wall was built to the S of R7 to create an additional space between R7 and R6; the wall did not cover the inscription but prevented it from being seen by someone entering R7. In phase III, a spoliation trench was dug to take out the lead *fistula* passing under the *labrum* damaged the mosaic; the asportation was fixed with stone slabs, indicating that the complex was still in use. **Pool R7a:** along the N wall of R7 is a rectangular cold-water pool (7a), 5.30 x 2.70 m, 1.20 m deep in the W part and 1.60 m deep in the E part. Accessible via a small stairway made of four steps in the SW corner. **R8:** triangular space (max 10 m x max. 2 m) along the E side of R1, same floor type. A large circular structure is visible on the plan in CIUCCARELLI *et al.* 2012, but it is unclear if it belonged to the bath complex or was later since it encroached over R1. On doubtful identification, see 6.2 below. **R9** (fig. 165BL): triangular space, S limit unknown (max. 2.5 m E–W). Floor made of hexagonal TC elements. A channel ran along the N (and W?) side of the rooms, possibly connected to a channel coming from R8. Apparently no communication with the bath complex, the access was instead possible from the E–W road running S of the baths. Identified as public latrines, with traces of the stone seats in the NE corner.

6.2 – R1 could have been a *palaestra*, or at least was an open-air courtyard; the pavement was suitable for physical exercise. R2 was a heated room with heated pool R2a, possibly the *caldarium*. The function of R3 and R5 could not be determined in phase I, and they were abandoned in phase II; R4 was a transit room during the entire lifetime of the building. The function of R6 is unclear, but with a mosaic pavement it was amongst the most decorated rooms of the complex, eliminating the possibility that it had a service function; it is not said if it was heated at all. R7 is identified as the *frigidarium* thanks to its larger dimensions, its wealthier decoration, and the presence of the mosaic inscription and a cold-water pool. R8 is referred to as a pool by CIUCCARELLI *et al.* 2012, but the unusual shape of the room, the absence of steps and the large circular structure visible on the plan make it difficult to confirm.

Therefore, the entrance was from the W, via a staircase leading into *frigidarium* R7. From there, the bathers could either go in the direction of *palaestra* R1 via R4, or head into the heated sector through R6.

7 – Construction techniques and materials

7.1 – CBM in R1–R2, pool R2a, R4, R8–R9, mosaic in R6–R7, stone slabs in part of R7 and 7a, and unknown in R3 and R5. **R1:** *opus spicatum* floor made of small terracotta elements, 13 x 5.5–6 x 2.5 cm. The later modifications in R1 used the same elements but placed them horizontally. **R2, R4:** in phase I, *opus spicatum* floor, with elements measuring 11 x 5.5–6 x 1.5 cm (in phase II, mosaic floor in R2, *opus sectile* floor in pool R2a). **R7:** The circular frame around the foot of the *labrum* was made of grey-black volcanic stone slabs, inserted inside a white monochrome mosaic. The triangular space to the NE is paved with rectangular slabs of white

and grey-blue limestone. **Pool R7a:** floor made of limestone slabs on a bed of waterproof mortar. **R8:** *opus spicatum*, same as R1. **R9** (fig. 165BL): hexagonal terracotta elements.

7.2 – Limited information available, but from pictures in CIUCCARELLI *et al.* 2012, it seems that the walls were faced either in horizontal courses of brick or of small stone blocks. The buttress in phase II was faced mostly in horizontal courses of brick with reticulate panels (fig. 163). Pool R7a: walls in pinkish *cocciopesto*.

7.3 – No information available.

8 – Heating devices

8.1 – Phase II: a picture of heated pool R2a (CIUCCARELLI *et al.* 2012, fig. 11) seems to depict the *praefurnium* used to heat pool R2a; the semi-circular cut visible in the picture could be due to the removal of a *testudo*.

8.2 – Phase II: in R2 (fig. 165TL), when the room became heated alongside pool R2a: reuse of *opus spicatum* floor as *area, pilae* made of *bessales*, 18 cm on the side and 6 cm thick (in stacks of 12 for a height of 72 cm). Remains of *tubuli* found in R7; no remains of *tubuli* to heat pool R2a are visible in the picture mentioned above.

9 – Water management

9.1 – An undated aqueduct, of which several stretches have been discovered in town, is known to have supplied the city.

9.2 – *Labrum* in E part of R7, delimited by circular disposition of stone slabs (fig. 164); supplied by lead pipe running underneath, direction NE–SW or vice-versa. According to CIUCCARELLI *et al.* 2012, R8 was originally supplied by TC pipes coming out of the back wall and most likely linked to the water system of the amphitheatre; it further communicated by a channel with room 9. **II:** pool R2a (fig. 165TR), no evidence for supply.

9.3 – Pool R7a was emptied via a drain in the S corner. The water in the *labrum* in R7 overflowed. The disposal channel(s) of latrine R9 (fig. 165BL) was connected to the urban sewer network that ran under the paved road to the S (CIUCCARELLI *et al.* 2012); the same author also mentions the presence of a disposal pipe in the NE corner of the room, i.e. to the opposite of the road; it is therefore not clear in which direction the water was actually evacuated.

10 – Decoration and material

10.1 – **R6:** mosaic floor, white background, black frame (fig. 165ML).

R7, mosaic floor around the *labrum* area (fig. 164) (phase I): chequered black and white pattern with squares of the dimensions of a *tessera*. After the removal of the *labrum* (phase II), the gap thus left was repaired with a square *pseudo-emblema*, 76 cm on the side, composed of an white external frame (3 cm), a wide white knots frame on black background (11 cm), a 3 cm wide white frame, and at the centre a black panel with an inscribed white octagon, 15 cm on the

side. The pseudo-*emblema* was inserted in a 2.05 m side square white mosaic with small black crosses.

R7, main mosaic floor (fig. 164) (phase I): chequered pattern, black and white, framed by a double row of black *tesserae* which follow the curve of the circular frame in the E of the room. The mosaic extended for ca. 40 m², the squares inside measured ca. 28 cm on the side and the contour of the chequerboard was marked by a dashed line (two white dashes, two black ones); in the SE part, the mosaic extended for two square further than on the NE part. In the frame of the mosaic, on either side of the circular pattern delimiting the *labrum* area, two mirrored dolphins were depicted, 1.35 x 0.68 m, facing away from the entrance. At the centre of the mosaic floor, an inscription [E08] occupied the space of 12 x 2 squares, spreading on two lines and legible from the entrance to the room.

R7, wall decoration R7 (phase II): 4th style wallpainting, with division of space between a lower *dado* imitating yellow-ochre and grey marbles, a central part with large white panels framed in red, and an upper part, lost. The panels contained some human figures (deities?); on the wall behind pool R7a, depiction of a maritime scene with fishing putti.

10.2 – One of the blocks of the stone circular frame of the *labrum* in R7 was turned into a chessboard. In R2 (phase II), the layer just above the *area* was rich in ash and charcoal, identified as the produce of the combustion that took place in the *praefurnia*. Ceramic material, including a terracotta lamp with a heart-shaped beak, decorated with a swan in the centre and equipped with a stand depicting a standing Eros, naked and winged, with the attributes of Hercules (*leonte*, club), dated to the 2nd half of the 1st cent. AD.

11 – Bibliography

DALL'AGLIO, FRAPICINI & PACI 1992–1993; CIUCCARELLI *et al.* 2012.

Brief notices: ANNIBALDI 1960, 4337; GAGGIOTTI *et al.* 1980, 321; VIRZÌ 1987, 349; LUNI 2003, 319; SEBASTIANI 2004, no 9–10–11; SISANI 2006, 321; DE ROSA 2008, 75–76 (water supply); PICCARDI 2013, 336–337; TESS6547 (floor R1); TESS6546 (floor R7)

12 – Illustrations

Plan(s): CIUCCARELLI *et al.* 2012, fig. 2.

Picture(s): DALL'AGLIO, FRAPICINI & PACI 1992–1993, fig. 1, fig. 2–3 (inscription); LUNI 2003, 320 fig. 2; SEBASTIANI 2004, fig. 42; CIUCCARELLI *et al.* 2012, fig. 3–12; Ancient Roman architecture in Ancona: Amphitheatre and Amphitheatre Baths 2019

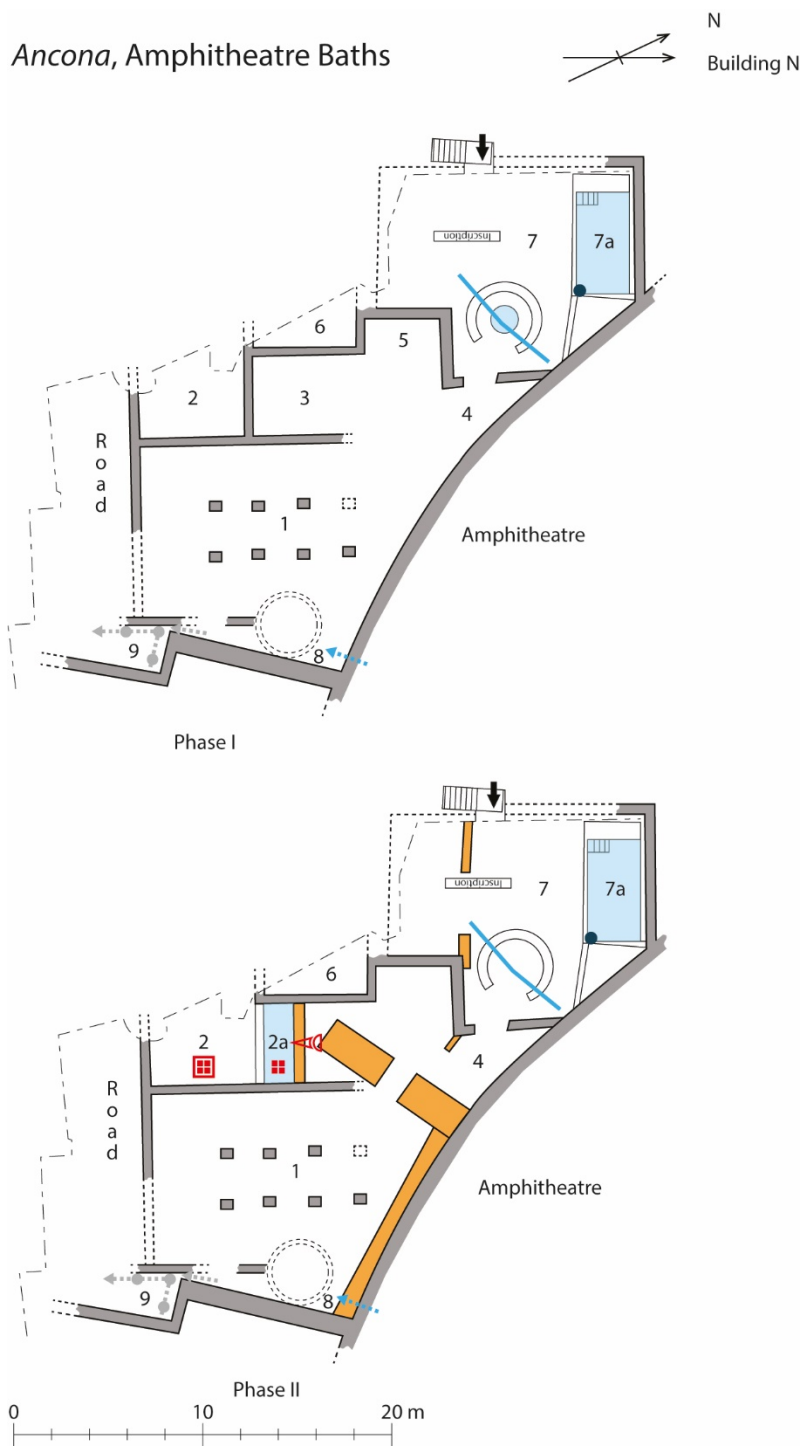


Figure 162: Plan of the Amphitheatre Baths of *Ancona* (after CIUCCARELLI *et al.* 2012, fig. 2).

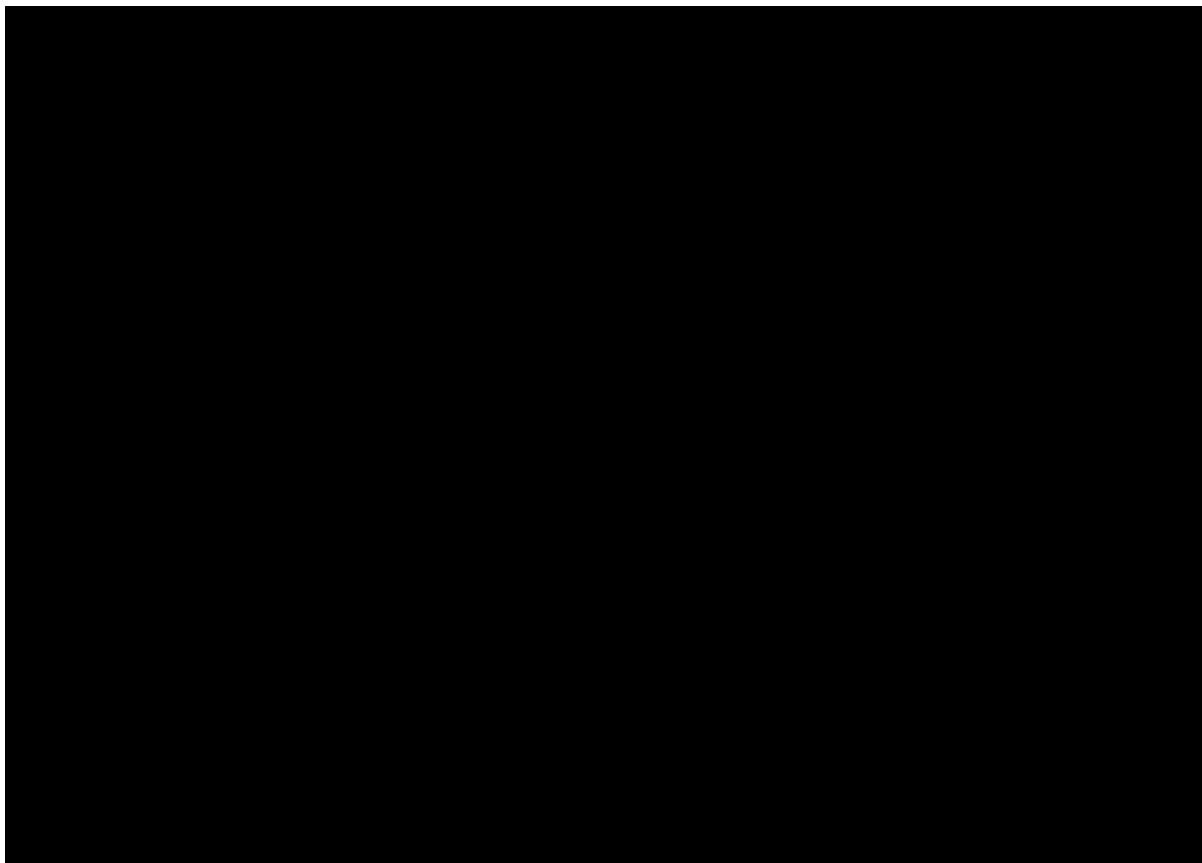


Figure 163: Amphitheatre Baths of *Ancona*, general view of remains in 2014, from E (BETA16 2014, amended by author, CC BY-SA 4.0).

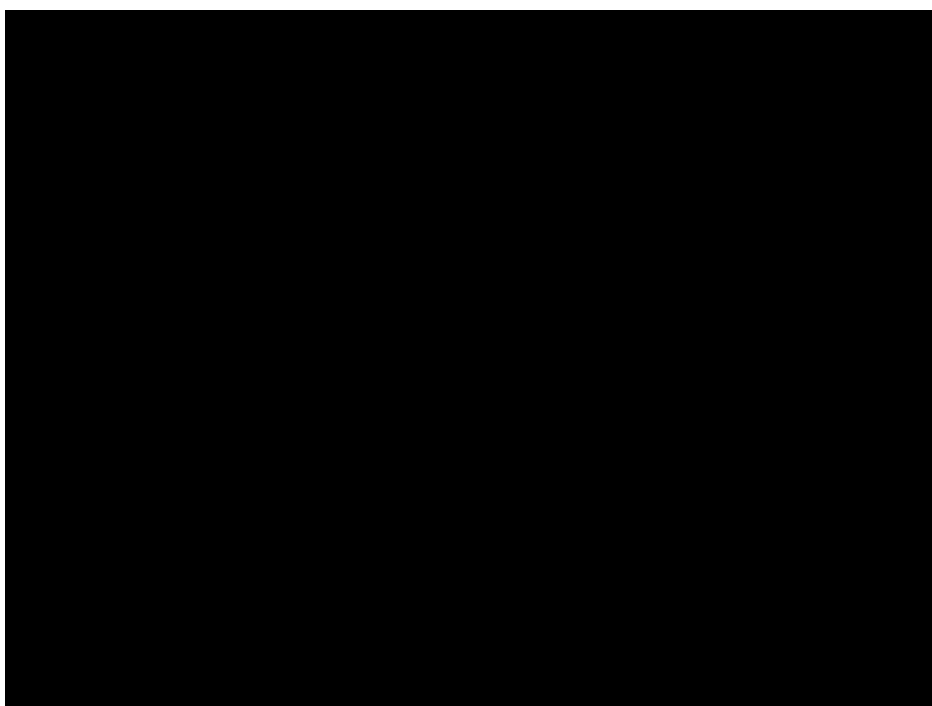


Figure 164: Amphitheatre Baths of *Ancona*, view of R7 from W (GEP 2017A).

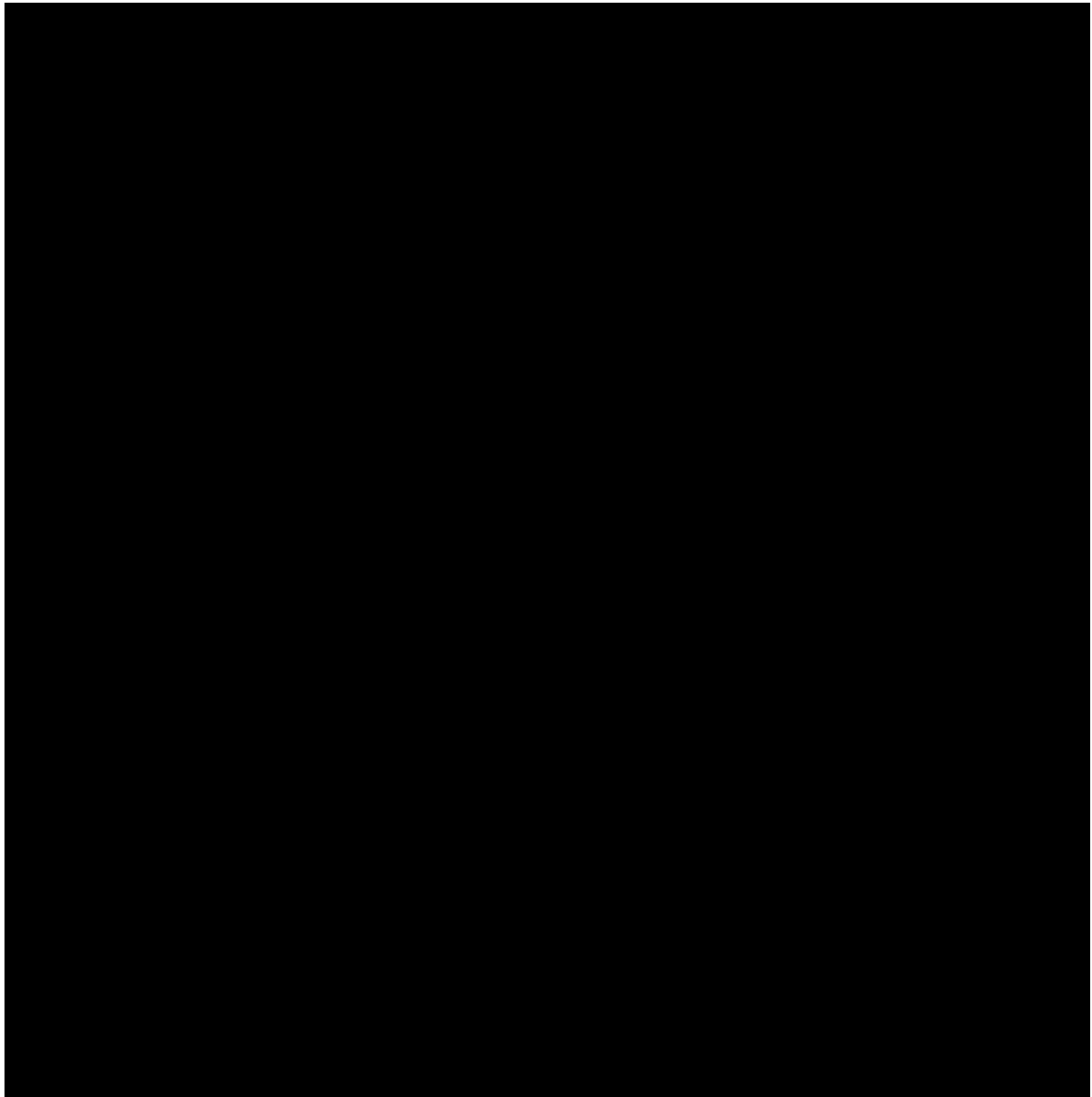


Figure 165: Amphitheatre Baths of *Ancona*. **TL**: R2 from W. **ML**: R6 from W. **BL**: R9 from W. **TR**: pool R2a from W. **BR**: phase II pier in R3–R4–R5, from W, with R4 on the left (CIUCCARELLI *et al.* 2012, fig. 6, 8–11).

Ancona (Ancona), Piazza Stracca

Ma.02

1 – Location

1.1 – Marche, province and Comune of Ancona

1.2 – 13.511499 E, 43.623026 N

1.3 – S of the amphitheatre, SE of the presumed location of the *forum*. Now behind the Archaeological museum of Ancona, in a cross street from Piazza Stracca – Via Ferretti.

2 – Preservation

2.1 – Only part of the plan is known; preserved mostly at level of hypocaust.

2.2 – Possibly managed by the comune. The structure is covered by a permanent roof and a raised walkway grants views of it (fig. 167R).

3 – Research

3.1 – *Discovered in 1956 and excavated that year. Small trench between 1997–2004, probably in R2.*

3.2 – Not visited

4 – Dimensions

At least 200 m² (block R1 to R6)

5 – Chronology and phasing

5.1 – I: Late-Republican – 2nd cent. AD (?)

5.2 – No information available

6 – Description of the remains and identification of rooms

6.1 – The complex is articulated on two levels, the upper one with three heated rooms (R1, R3–R4) and a possible service room (R2), and the lower one of which only two pools (R5, R6) are known. The baths are bound to the E by a N–S wall, whose thickness and limits are unknown; N, W and S limits unknown (fig. 166).

R1 (fig. 167): heated room, rectangular (ca. 6.5 x 4.3 m) with a curvilinear apse to the E (ca. 1.10 m deep) and a rectangular recess to the S (ca. 2.7 x 1.5 m). Small pool against the N wall (ca. 3 x 1.80 m), accessible via one step, mosaic floor. The recess in the S wall strongly suggests the presence of a pool. Hypocaust connection with R3 to the W, suggesting original communication. **R2**: 4.3 x min 4.3 m room, N and W boundary unknown. **R3**: heated room, not entirely excavated, ca. 5.4 m wide. Probably accessible from R1. **R4**: heated room, not entirely excavated, ca. 3.70 m wide. **R5–R6**: two pools or basins at a lower level than the hot rooms R3–R4. R5: ca. 2.70 x 1.50 m. R6: ca. 3.30 x 3.10 m. **W of the complex**: ca. 23 m W of the wall forming the E boundary, a 12 m long, E–W oriented wall was found, to which a N–S oriented wall is attached ca. 29 m away from the E boundary wall. These walls are 3 m below the *area* of the heated rooms. It is not clear if they are related to the bathing complex.

6.2 – The shape of R1, the fact that it was heated and the presence of a niche and at least one hot-water pool suggest an identification as *caldarium*. Room 2, located just behind a heated pool, is probably a service area containing the *praefurnium* heating pool 1a. R3 and R4 are further heated rooms. The absence of clear communication between the spaces containing pools 5 and 6 does not allow us to identify any as part of a *frigidarium*.

7 – Construction techniques and materials

7.1 – Cocciopesto floor in R1, R4, R6. A patch of *opus spicatum* is preserved against the outside of the S wall of R1.

7.2 – The wall to the E of the baths was faced in reticulate, with blocks made of sandstone as well as red and white Conero limestone, arranged so as to form a zig-zag pattern. ANDREAE 1959 mentioned the presence of levelling courses of tiles or bricks. In R1–R4, walls in concrete (limestone aggregates bound with mortar) and faced with horizontal courses of bricks. Facing in reticulate in R5–R6. The walls to the W of the complex were made of sandstone ashlar and preserved for two courses.

7.3 – No information available.

8 – Heating devices

8.1 – There is a brief mention of the excavation of structures related to a *praefurnium* in the ‘N part of the baths’, possibly localisable in R2. Considering the presence of hot-water pool 1a, it is possible that the *praefurnium* also heated a boiler.

8.2 – R1 (fig. 167L), R3–R4: *area* made of tiles and possibly *bipedales* (*bipedales* mentioned in SEBASTIANI 2004, 48–49, but SEBASTIANI 2004, fig. 45 shows tiles), *pilae* made of *bessales*. The circulation floor reaches a height of 0.90 m above the *area* in R1. *Tubuli* for heating walls at least in R1 and R3.

9 – Water management

9.1 – See [Ma.02].

9.2 – No information available.

9.3 – Between R2–R1 and the wall to the E of the baths runs a N–S channel made of tiles, which turns after the SE corner of R1 towards the W. Considering the fact that the baths are on two different levels, the channel probably conveyed water from the N to the SW.

10 – Decoration and material

10.1 – White mosaic floor in pool R1a, marble slabs floor in R1. Walls veneered in marble in R1 and R6 (on two layers of mortar for R6).

10.2 – No information available.

11 – Bibliography

SEBASTIANI 2004–51, 84–85 and appendice ch. 1, 2.

Brief notices: ANNIBALDI 1956 [1958]; ANDREAE 1959, 173; GAGGIOTTI *et al.* 1980, 231; SISANI 2006, 321–322.

12 – Illustrations

GAGGIOTTI *et al.* 1980, fig p. 228 (location); SEBASTIANI 2004, fig. 45 (picture), 46 (plan); ANCONDORICANET 2012 (video); LUCIOBOCCHI 2019 (picture)

Ancona, Baths on Piazza Stracca

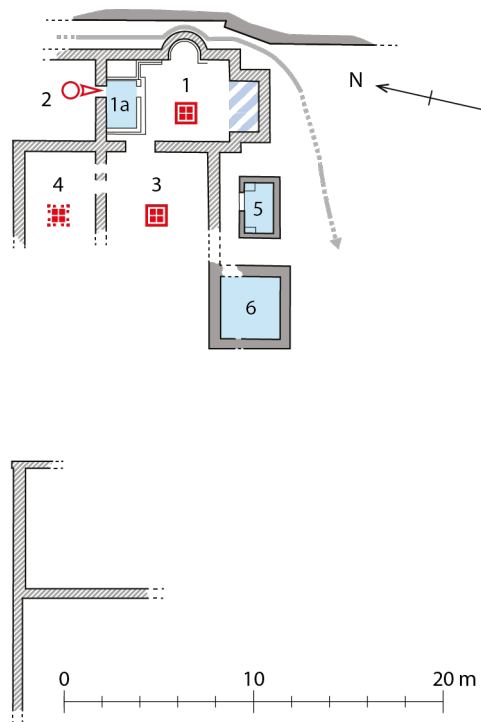


Figure 166: Plan of the baths of *Ancona*, Piazza Stracca (after SEBASTIANI 2004, fig. 46).

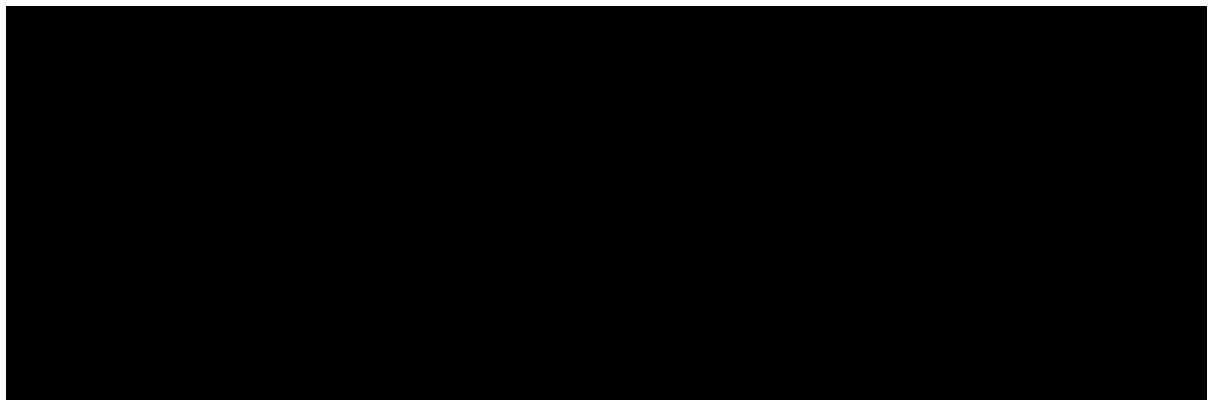


Figure 167: Baths of *Ancona*, Piazza Stracca. Views of R1, hypocaust (L) and from NW (R) (SEBASTIANI 2004, fig. 45 (L); ANCONDORICANET 2012, time 0:35 (R)).

1 – Location

1.1 – Province of Ancona, Comune of Fabriano

1.2 – 12.925261 E, 43.308077 N

1.3 – Next to a local stream, on a terrain sloping from N to S. No other known monuments in town.

2 – Preservation

2.1 – Plan: well preserved; elevation: foundation level

2.2 – Ongoing excavation site?

3 – Research

3.1 – Possibly discovered in 1822. Excavated 1989 and 1993 by the Soprintendenza ai Beni Archeologici per le Marche. Most recent publication is by Pandolfi (2007), but research is ongoing since

3.2 – Visited in April 2018

4 – Dimensions

> 300 m²

5 – Chronology and phasing

5.1 – 2nd cent. AD (Virzi, based on style of mosaics in R2 and R4)

- Several phases, later modifications including, amongst other, an extension of R4 to the N, the addition of *fistula* B to supply R2a(?)

5.2 – Unknown

6 – Description of the remains and identification of rooms

6.1 – Only what seems to be the central part of the baths is known; the corridor R6 may form its western boundary. The only available plan (2007) did not include a series of structures recently excavated and seen during a site visit; all the structures beyond the trench boundary on the plan have not been precisely measured.

R1: rectangular heated room with segmental apse on W side. Ca. 3 x 6 m. **R2:** largest room of complex, ca. 6 x 5.50 m from plan, mosaic floor. Accessible from R7, from the N via a passage between R4 and R2b; connection with R4 unclear as the wall separating them is razed to the ground, but the motifs of the mosaic floors distinguish them. R2 was equipped with two segmental pools, R2a and R2b. **R3:** small square room fitted with a bench on three sides; small

recesses in the bench framed by two tiles set a cappuccina. **R4**: elongated room (probably >10 m from plan), with N extension created in secondary phase as indicated by the difference in the mosaic floors. Series of small extensions/piers along E and W walls of N extension of the room. **R5**: poorly preserved room in SW part of complex, floored in cocciopesto. **R6**: N-S corridor running along W side of the baths. Wallpainting. Led into **R7**, a continuation of the corridor fitted with a bench along its W side, and leading into the baths in R2. R7 may originally have been accessible from the NW, but the passage was blocked in a later phase. Fistula set on the floor of R7 and covered by concrete structure.

Further rooms to the N, one of which was floored with tiles.

6.2 – R2, with two cold-water pools, could have been the *frigidarium* of the baths. R3, with a bench and recesses in it, could have been an *apodyterium*. R7, also with a bench, could have served as *apodyterium*/vestibule.

Pandolfi proposed in 2007 a private function for the building based on the surface area excavated (175 m² at the time), but the following excavations significantly increased it, making a public function more possible.

7 – Construction techniques and materials

7.1 – Cocciopesto floor in R5

7.2 – Walls in concrete, various facing:

- brick courses R1 (hypocaust), R2a, R2b, R3 E wall, bench along W wall of R7
- courses of small stone blocks (local pinkish limestone): R3 W and S walls, R6 W wall
- one course of small stone blocks alternating with one course of brick: R7 W and N wall

7.3 – /

8 – Heating devices

8.1 – Small stretch of wall, brick-faced, entering hypocaust of R1 from E wall, probably the longitudinal extension of a *praefurnium*. The area E of the baths would therefore be the service area.

8.2 – **R1**: *area* of tiles, *pilae* made of *bessales*, walls lined with tiles.

9 – Water management

9.1 – The baths are located next to a small stream, but there is no evidence that it took water from it. Remains of a rock-cut aqueduct were seen in 1922.

9.2 – R2a and R2b required cold water. **R2b** was probably supplied by channel A (CBM floor, brick facing) coming from the N and directed at the centre of its N wall. A lead *fistula* was set in the floor of R7 in a secondary phase and led in the direction of R2a, probably for its supply in that phase.

9.3 – Drainage channel C, starting in SE corner of R2b and heading S across R2 and R5. 1.10 m deep, brick faced, roofed a cappuccina. R2a probably discharged via its SE corner, where the wall is damaged; a small channel made of *imbrices* is visible leading S/SW in the corresponding wall to the S. Two channels (D) under R6, made of tiles and *imbrices*. A cut along the W wall of R5 may be due to the removal of a led *fistula*.

10 – Decoration and material

10.1 – Mosaic floors: figurative in R2 (black on white background, sea creatures in black and pink frames, restored in ancient times), geometric in R3 and S part of R4 (squares and rectangles, pink on white background), monochrome white in R2a, R7 and in the N part of R4. Mosaics in R2 and R4 dated to the 2nd cent. AD (Virzi).

Walls: wallpainting in R6 (motif of ‘fences’?), marble veneer in R2a.

10.2 – One brickstamp seen on site; its provenance from the baths is not confirmed: *L. Attidi* (last letter uncertain)

11 – Bibliography

Main brief reports: VIRZÌ 1991, 47–48; PANDOLFI 2007, 43–45

Others: PIGNOCCHI & SABBATINI 2001, 231–232; LUNI 2003, 179–180; SISANI 2006, 276; PETRACCIA LUCERNONI 2009, 46–49

12 – Illustrations

LUNI 2003, fig. 57–58; PANDOLFI 2007, fig. 4 (plan); CENTRO I.A.T. FABRIANO 2010 (pictures)

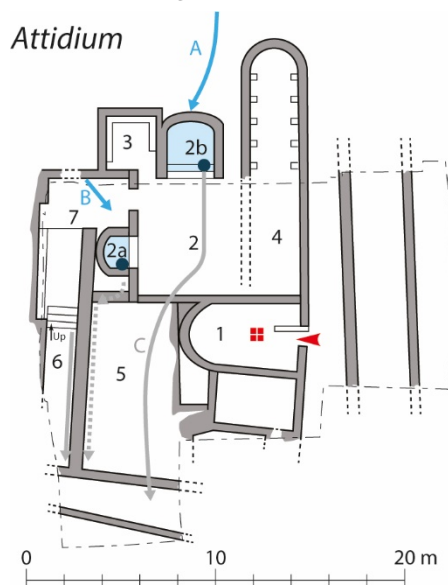


Figure 168: Plan of the baths of *Attidium*. Approximate scale, north roughly at the top (after PANDOLFI 2007, fig. 4).

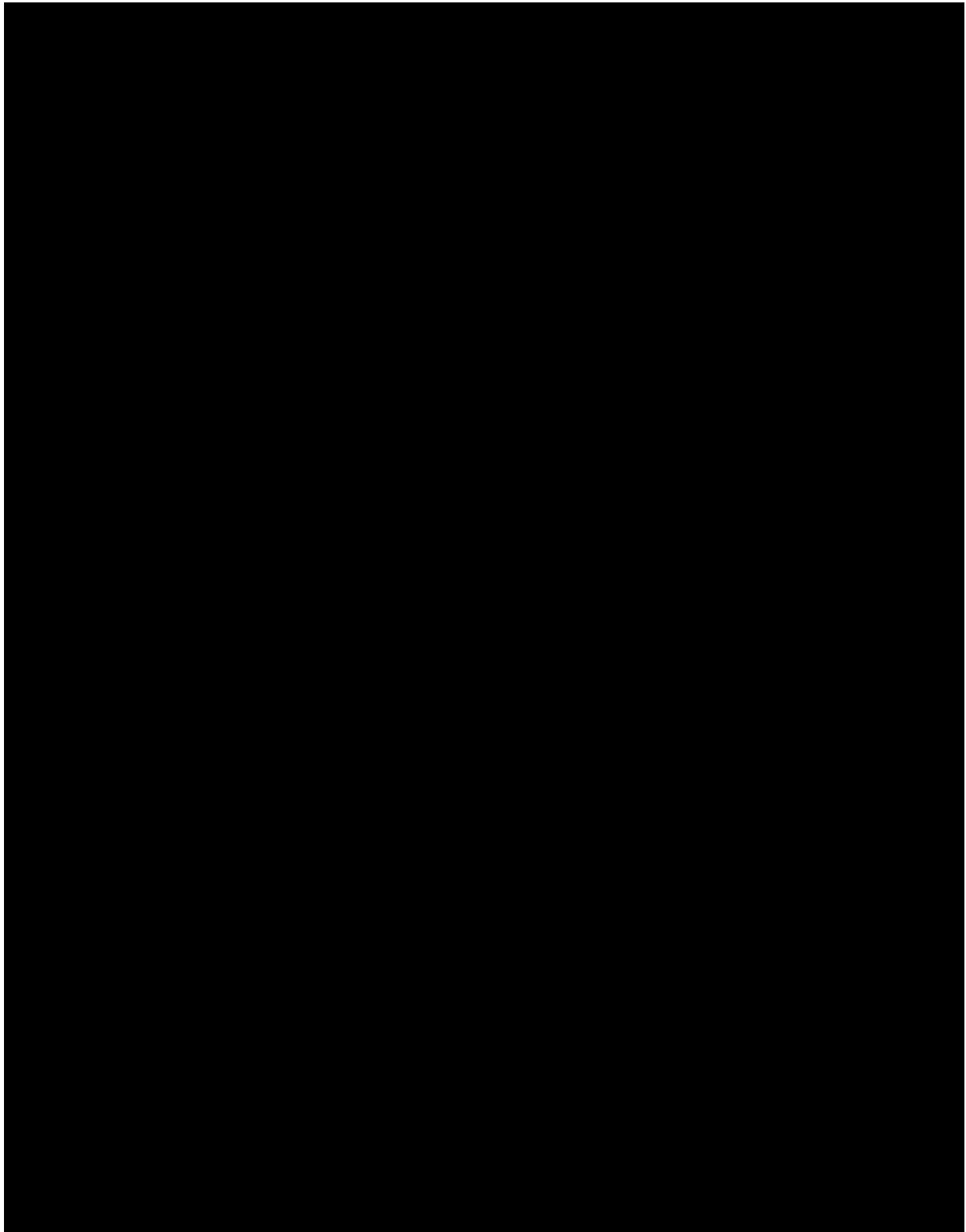


Figure 169A–G: Baths of *Attidium*. **A–B**: panoramic views from SW and W. **C**: R1, from NE. **D**: R2, from W. **E**: R4, from N. **F**: R5, from S. **G**: R6, from S.

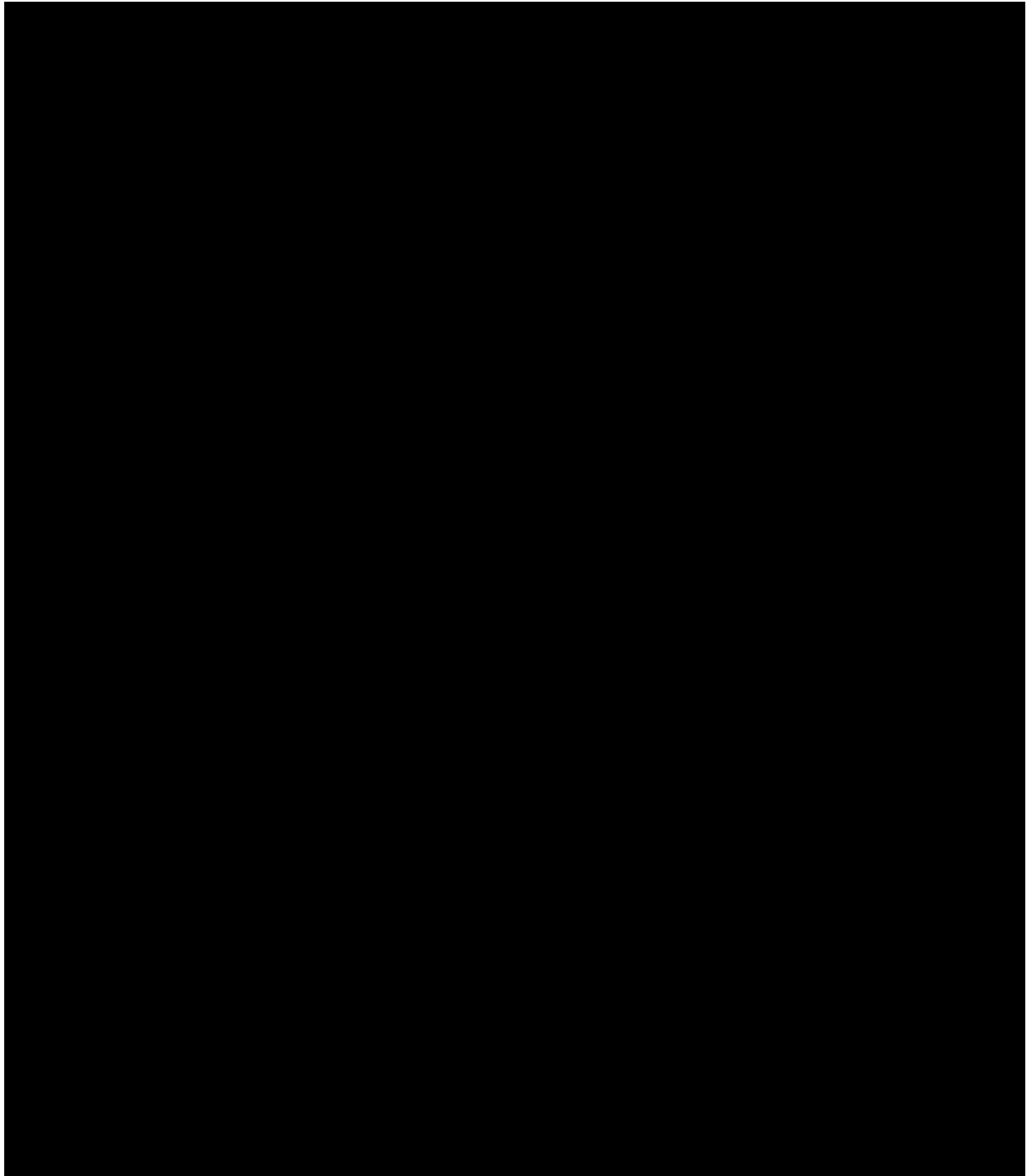


Figure 170A–G: Baths of *Attidium*. **A:** R2a, from SE. The white arrow points at the removed water disposal pipe. **B:** R2b, from S. The arrow follows the path of the water supply channel. **C:** R7, from E. **D:** R3, from S. Water: **E:** *fistula* in R7 (indicated by the white arrows), from SW. Decoration: **F:** detail of the mosaic floor in R4. Material: **G:** Brickstamp *L. Attidi* from the area of the baths (F–G: CENTRO I.A.T. FABRIANO 2010).

1 – Location

1.1 – Marche, province of Pesaro e Urbino, Comune of Fossombrone

1.2 – 12.828006 E, 43.696952 N

1.3 – Part of an *insula* at the crossroads between the *decumanus maximus* (the *Via Flaminia*) and the *cardo maximus*. Directly S of the forum.

2 – Preservation

2.1 – Only partly excavated. Preserved in elevation at the level of foundations/hypocausts. Restored during the 1990s excavations.

2.2 – Part of the archaeological park of *Forum Sempronii*.

3 – Research

3.1 – Discovered and partly excavated in two trenches in 1996–1997, currently under investigation (Università di Urbino, dir. O. Mei)

3.2 – Not visited

4 – Dimensions

At least 1,150 m². The excavated structures fit in a 35 x 35 m square; Mei *et al.* hypothesized the baths could have occupied the entire N–S length of the *insula* (ca. 70 m) and a width of 24 or 35 m, for a surface area of 1,700 to 2,500 m².

5 – Chronology and phasing

5.1 – **Pre-bathing phases:** Mid- (133–90 BC) and Late (90–49 BC) Republican, and Augustan periods

Several structures not related to the bath building:

- a 6.6 x min 12 m structure in the SW corner of the *insula* (mid-Republican period)
- a second structure on top of the previous one, open towards the S *decumanus*, possibly extending up to R3 and R11 (late Republican period)
- construction of a portico (of which the stylobate is preserved) along the S *decumanus*, separated by a pavement; associated to the portico was another structure found in R2, R11 and R3, and possibly two water disposal channels. These structures may have been part of an earlier bath building (M: Augustan period)

I: 2nd cent. AD

- Construction of the bath building (rooms R1, R4 to R12) and raising of circulation levels, leading to the obliteration of the earlier structures, including the portico

- Part of urbanistic project that also saw the pavement of the roads

II+: 3rd–4th cent. AD (CT, M)

- Construction of R2–R3; extension of the E *praefurnium* of R1 towards the E; water channel in R3; some wall repairs; second(?) threshold in R4

5.2 – 5th cent. AD

- Later reuse of corridor R11 (post holes)

6 – Description of the remains and identification of rooms

6.1 – 12 rooms at least partly brought to light so far (fig. 171–172A) in the SW part of the *insula*. **R1:** 13.2 x 6.8 m heated room (fig. 172B), with thickening of the walls in the corners. Heated from W and E. **R2:** 3.20 m wide, 4.50 m deep. Built in secondary phase (II+), requiring the *praefurnium* heating R1 to be extended. **R3:** 2.90 x 4.50 m room (fig. 172C), plaster floor, opened onto R11. Belonged possibly to a secondary phase (II+). **R4,** 1.80 x 4.50 m corridor (fig. 172C) opening onto the street to the S via a stone threshold (40 cm width, 30 cm thick). Connections with R3 and R5 are unclear, and it apparently did not communicate with R12. **R5:** 3 x 4.50 m latrine (fig. 172C), with channel going around the room (N, E, S sides, with 0.30 m thick wall against the inner side of the same walls). **R6:** 7.10 m E–W room (fig. 2D), heated from the W. Possibly mosaic floor. **R7:** 9.10 m E–W room (fig. 172E). *Opus sectile* floor. **R8:** ca. 11 m E–W from plan. **R9:** corridor (fig. 172F) running along the N wall of R6–R7–R8 and R10. Mosaic floor. **R10:** 2.68 m wide room (fig. 172E), *opus sectile* floor. **R11:** Corridor (fig. 172B–C) running along the W (3.10 m wide) and S (2.30 m wide) sides of the bathing block, and at least along part of the E side (2 m wide). **R12:** 8.90 m E–W, min 5.60 m N–S.

6.2 – R1 and R6 were heated; R1 is called a *caldarium* by Mei *et al.*, which is probable considering its location and shape: located in the SW corner of the bathing block, it was probably accessible only from the N, and could therefore have been the final room of the heated circuit. Its shape, with lateral recesses that could have contained pools (the inner longitudinal extensions of the *praefurnia* could have helped support the weight of the water), is also consistent with a function as *caldarium*. R11 was a service area from which several *praefurnia* were operated. R5 was a latrine, possibly accessed from R4; R4 was apparently not the entrance to the baths, which Mei *et al.* suggest seeking in the N part of the baths. R3 and R12 could have been further service rooms according to the same authors.

No circuit can be reconstructed.

7 – Construction techniques and materials

7.1 – R3: plastered floor bounded by a stripe of stone blocks. R11: floor in *cocciopesto* and beaten earth.

7.2 – Concrete walls, faced with horizontal courses of small stone blocks (fig. 172C). Local white and pink stone. Brick-facing used only in R1. Outer walls 0.70 m thick, inner walls 0.60–0.75 m thick. In R1, walls 0.60 m (N, E) or 0.75 m thick (S, W).

7.3 – No information available

8 – Heating devices

8.1 – Two *praefurnia* heated R1 (W and E), operated from R11. From the plans, they were equipped with longitudinal extensions, both inner and outer; this suggests they supported water boilers, especially if R1 was equipped with hot water pools (see 6.2). The outer longitudinal of the E *praefurnium* heating R1 were extended in phase II+, when R2 was built. A third *praefurnium* heated R6 from the W was reconstructed by symmetry with R1.

8.2 – R1 and R6 were heated. In R1 (fig. 172B): *area* of *cocciopesto*, *pilae* made of circular bricks (21 cm diam.) and *bessales*, set 0.60 m apart interaxle. *Pilae* preserved for a height of 0.28 m max, original height hypothesized at 0.60 m. Remains of *tubuli* found in collapse layers.

9 – Water management

9.1 – Mei *et al.* mention an aqueduct supplying the city, probably tapping water from the hills to the N.

9.2 – There is no direct evidence of a supply of water to the building. Water-consuming facilities may have included one or two hypothetical pools in R1.

9.3 – Several channels found in the S part of the baths, 0.30–0.35 m W, 0.35–0.40 m deep, made in concrete faced with small stone blocks, floored by juxtaposed tiles and covered by stone slabs laid flat. The channels ran directly against the walls. Channel **A** coming from the direction of R1, heading E through R11 (where it was joined by channel **B** coming from the N) and R12 (where it is larger and better built), flushing latrine R5 (fig. 172C) (1.20 m deep, 0.43 m wide), exiting it under R4 then turning S and leaving the building before discharging into a main E–W sewer line. Another channel **C** starting in R3 (NW corner), heading SW, combined with channel **D** coming from W wing of R11 into a single channel **E** in S wing of R11; channel **E** then crossed S perimeter wall, turned E and discharged into channel **A** coming from latrine R5.

Two brick relieving arches above channels on the perimeter wall of the baths: one under the threshold of R4, the other on the W side, at 11.50 m from the SW corner.

10 – Decoration and material

10.1 – Floors: *opus sectile* floor in R7 and R10, made of 60 x 40 cm marble slabs (preserved in negative in R7) on bed of *cocciopesto*. White mosaic floor in R9 (fig. 172F) (large *tesserae*) and possibly in R6 (many *tesserae* found in room). **Walls:** in R9, walls decorated with 3.5 cm long white limestone *tesserae*, with visible face 1.5 x 1.5 cm. In R6, possibly wallpainting and marble veneer on walls. Remains of coloured wall painting in collapse layers.

10.2 – Layers of burnt in R1, R2 and R11, from combustion operations; especially thick in R11 (0.30–0.50 m of ash).

Fragment of a marble inscription and two fragments of a marble *labrum* in R3; fragments of two latrine seats in R5. Fragments of window glass in collapse layers. From the area but outside of archaeological context: headless marble statue of *Spes*, dated to the 2nd cent. AD. Coins of Trajan and Hadrian in the backfill layer created to raise the level during the construction of the bath building (used to date phase I).

11 – Bibliography

MEI *et al.* 2019.

12 – Illustrations

MEI *et al.* 2019, fig. 1, 13 (plans), 3 (city plan), 6–12 (pictures).

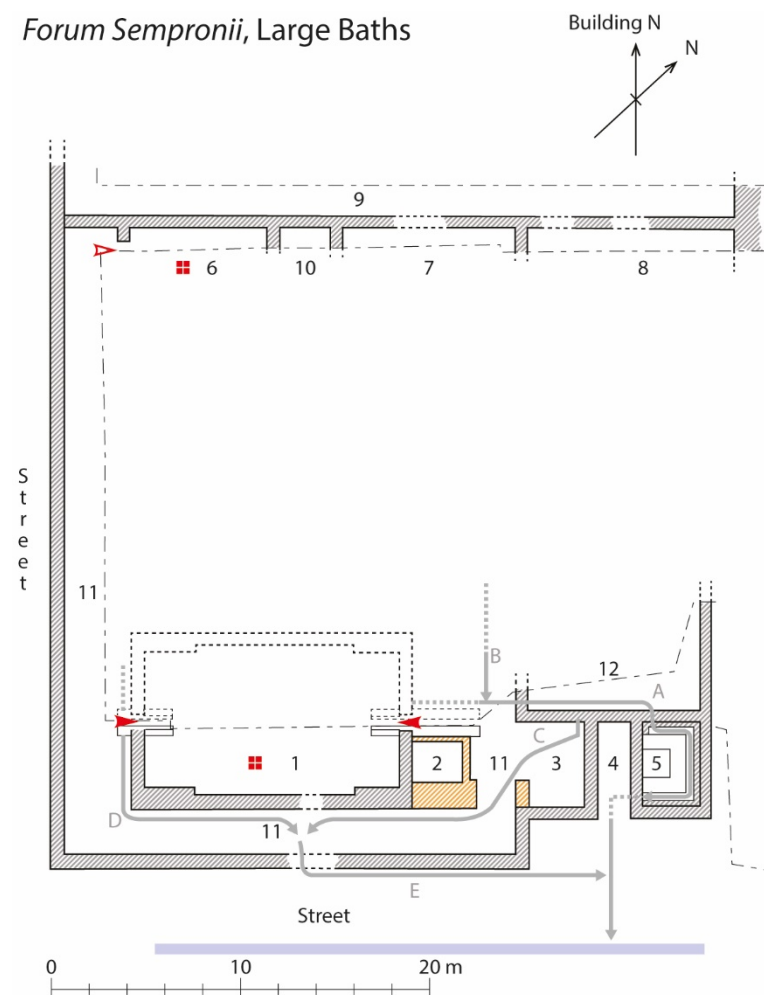


Figure 171: Plan of the Large Baths of *Forum Sempronii* (after MEI *et al.* 2019, fig. 1, 13).

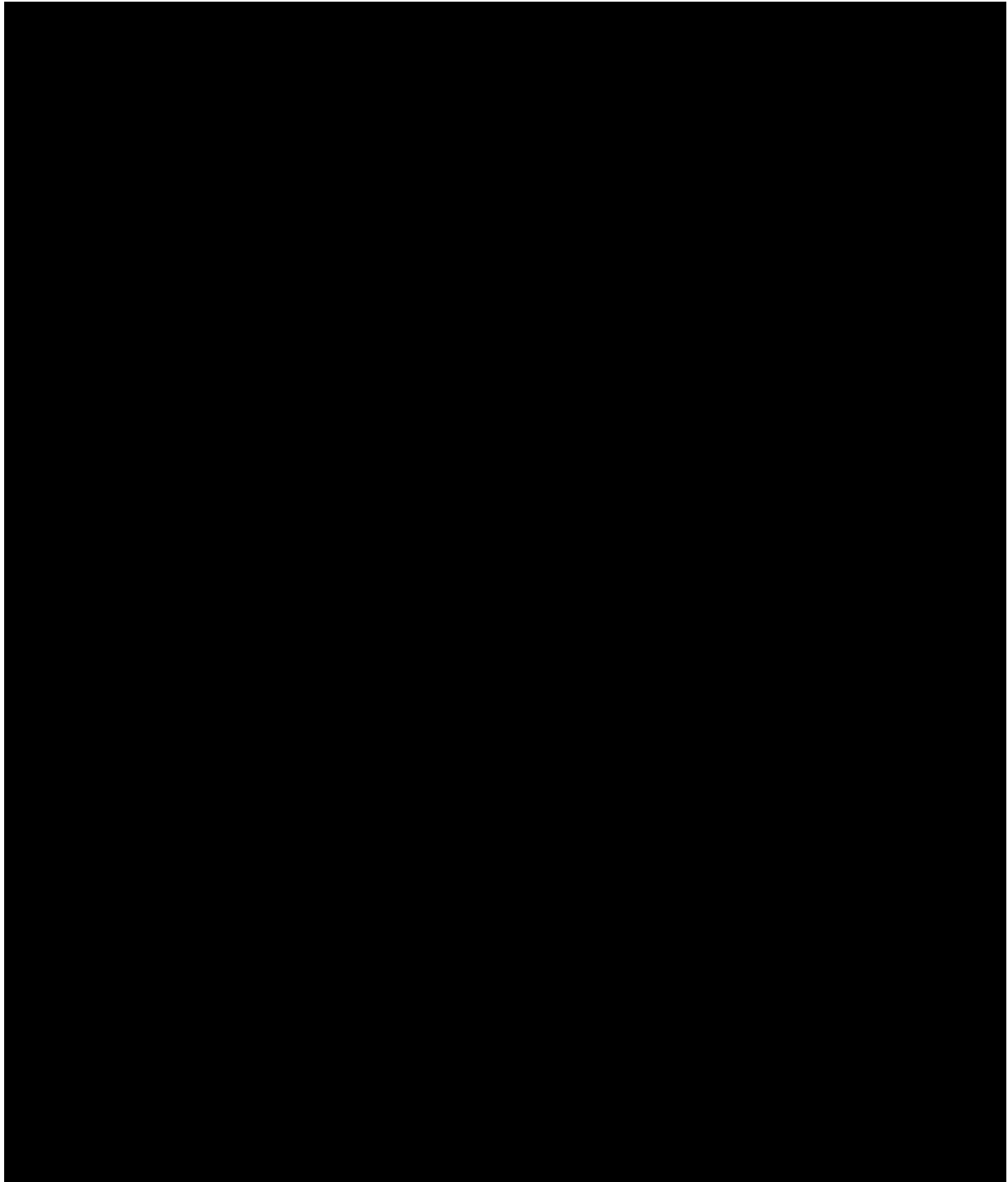


Figure 172A–F: Large Baths of *Forum Sempronii*, views from 1996–1997 excavations. **A:** aerial view, from NW. **B:** R1 and R11, from W. **C:** R5–R4–R3, from E, with latrine channel in foreground. **D:** R6, from W. **E:** R10 and R7, from W. **F:** R9, mosaic floor, from E (MEI *et al.* 2019, fig. 6–11, amended by author).

1 – Location

1.1 – Marche, province of Pesaro e Urbino, Comune of Fossombrone

1.2 – 12.831018 E, 43.696983 N, ca. 100 m asl

1.3 – in the S periphery of the city, within the city walls. Not linked to any other building. Follows the same orientation as the roads of the city.

2 – Preservation

2.1 – Preserved only in foundations/at hypocaust level. Some damage is due to the plantation of rows of vines. Restored before 1991, the wall facings have been restored with a stone similar to the original one. The mosaic in R3 was restored too.

2.2 – Part of the archaeological park of *Forum Sempronii*.

3 – Research

3.1 – Discovered in 1974 and excavated between 1974 and 1982 by the Soprintendenza Archeologica delle Marche, the Scuola di Perfezionamento in Discipline Archeologiche dell'Università di Urbino and the Comune di Fossombrone (dir. M. Luni, fig. 174C). Parts of some rooms (R2, R4, R10, R17, R18) and the area to the SE of the baths were not excavated. Never fully published, only reported about in preliminary reports.

3.2 – Visited in April 2016

4 – Dimensions

Ca. 900 m², of which ca. 500 m² for the bathing block (reported as having a surface area of ca. 1500 m² in GORI & QUIRI 1991, 70, but its longest dimensions are ca. 41 x 25 m).

5 – Chronology and phasing

5.1 – At least **4 phases** have been identified, dated between the 1st and the 5th century AD when the baths were abandoned. The phasing follows GORI & LUNI 1978b, 25–26, updated in Gori 1982.

I: Augustan/ 1st half of 1st cent. AD (CT, M)

- Original building composed of R2, R3, R4, R5, R6, R8, R9, R10, pool R10a, R12, R13, R14, R18, R21, R22, with the heated rooms in the S, some heated rooms and the cold rooms in the N, at least two pools and a considerable network of water channels. Wall facing of horizontal courses of small stones blocks, or brick for the heated rooms. *Pilae* made of circular bricks.

II: mid–2nd century AD (?)

- Extension of R12, R13, R14 towards E, R8 towards W (and S?); addition of R19 and R20, possibly of R10b and R11; R2 and R3 no longer heated. Same wall facing technique of lesser quality, with larger stone blocks. *Pilae* made of *bessales*.

III–IV: 3rd–4th cent. AD (M)

- III: addition of R23, R24, R25.
- IV: construction of partition wall dividing R3 in two.
- Change of use of the baths towards housing, as indicated by the significant amount of food remains, ware with traces of combustion, table ware. Walls made of large pebbles set in herringbone pattern, or reused materials.

5.2 – 5th cent. AD (material).

- No traces of destruction or fire. Building later used as a source of building material and as burial ground (two tombs dug in the pavement of two rooms).

6 – Description of the remains and identification of rooms

6.1 – Ca. 21 rooms distributed around a central open courtyard (R10) and organized along a NW–SE axis, with the heated rooms in two rows in the W–SW part of the complex (fig. 173, 174A–B). A 26 m long, 0.60 m thick wall crossed almost the entire length of the building. The entrance is said to have been from the E, without further indication.

R1: L-shaped room (ca. 5 m N–S, ca. 2.70 m W–E). In phase I, occupied by the *praefurnium* to heat R2 (and probably R3), with floor lower than the circulation floor of the non-heated rooms; in a later, undated phase, the floor of the room was raised to the same level as the non-heated rooms, and a threshold was placed in the NW part of the room. It is unclear if this room then served as a secondary entrance to the baths, or as a separate facility. **R2:** square room (5 x 5 m), heated only in phase I. Communicated with R9 via 0.89 m wide passage (traces of threshold), and with R4. **R3:** large room (9 x 4.80 m) with curvilinear apse on W side. Heated only in phase I. Mosaic floor, belonging to phase II. In phase IV, N–S wall blocked off the curvilinear part. Access to/from R4. The water disposal channel visible in R4 possibly started in R3, suggesting the existence of a pool/basin in R3 in phase I. **R4:** small rectangular room, 4.80 x 1.70 m. Transition room between R2, R3 and R10, the latter via a 0.89 m wide passage with threshold. **R5** (fig. 174D, 175A): heated room, 4.50 x 3.80 m, preserved at hypocaust level. A brick platform in the SE corner of the hypocaust, in correspondence with an opening in the wall connected to a water-disposal channel heading eastward (in R10), indicates the presence of a small pool or a basin. **R6** (fig. 174D): heated room, 4.50 x 3.80 m, preserved at hypocaust level. No communication preserved, but probably accessible from R5 and allowing access to R8. Marble veneer on walls. **R7:** area from which the *praefurnia* heating R5 and R6 were located. **R8** (fig. 174B): heated room, originally 4.50 x 5.15 m, modified several times, preserved at hypocaust level. A trench in the W extension revealed a curvilinear structure relative to phase I; the apse was later obliterated (phase II) and replaced by a 1.25 m wide rectangular extension. Gori-Luni mention the room was also extended towards the S, possibly in phase II;

this modification is not represented on the plan as the nature of the extension is not clarified and nothing is currently visible in the structures. Probably accessible from R6. **R9**: rectangular room (8.25 x 5 m). Accessible from R2, other communications unknown. **R10**: largest room of the baths (9.10 x 8.25 m), located at the centre of the building. Access to R4 and pool R10, other accesses unknown. **Pool R10a** (fig. 175G): pool (4.40 x 2.70 m) accessed from R10. Entered via three steps in NW and SW corners. Floor slightly concave, white mosaic, marble veneer on walls, possibly wallpainting above. **Pool R10b** (fig. 175H): pool (2.10 x 1 m) probably added in phase II, at the same time as R11. The pool was delimited by a 0.20 m thick wall added against the pre-existing walls, and on top of which the waterproof *opus signinum* decorated with marble veneer was applied. **R11**: room possibly inexistent in phase I; in phase II, rectangular room (3.10 x 2.50 m) with curvilinear S wall. It is unclear how it was accessed, possibly from R13. **R12**: small heated room (ca. 2.10 x 2.30 m). A brick platform in the NE corner of the hypocaust, 0.90 x 0.80 m, in correspondence with a northwards-heading water disposal channel in R10, supported a small pool or a basin. **R13** (fig. 174B, 175B–175C): small heated room. 2.70 x 2.20 m in phase I, enlarged towards the E in phase II (fig. 175F) (extension 2 x 1.40 m). **R14** (fig. 174B): rectangular room in phase I (3.50 x 2.20 m); in phase II, the N half of the room was extended towards the E (fig. 175F), to reach 3.75 x 3.50 m. A trench revealed the foundation of the E wall of phase I, thicker in its S part (1.48 x 1.04 m) in a similar way to the thicker walls in the SW corner of the same room and in the SE corner of R8. **R15** (fig. 174A, 175D): rectangular room (8.50 x 5.90 m) containing the *praefurnia* heating R8 and R14. S wall probably marked S limit of bathing complex. **R16, R17**: two rooms not entirely excavated, ca. 7.20 m wide (R16) and ca. 4.5 x 2.5 m (R17). **R18**: rectangular room (ca. 5.70–6 x 7.50 m), not entirely excavated. A 0.50 m long pier is placed against the W and E walls, in the prolongation of the wall separating R9 and R10. **R19**: rectangular room (6.30 x 3.30 m) added in phase II, created by adding a wall against the N wall of R2. Walls 0.55 m thick. Mosaic floor. **R20**: rectangular room, 7.60 x 3.30 m according to the excavators, measured as 8.80 x 3.80 on plans. The width could be of 3.30 m if a 0.50 m wall was added to the S, against the N wall of R9, but there are no traces of such wall on plan or on site. Cocciopesto floor. **R21**: small room (3.80 x 2.70 m) probably giving access to the latrine R22, and accessed from the W via R20. Mosaic floor (from plan). **R22** (fig. 175E): Latrine. Square room (ca. 3.80 m on the side), accessible from the W (R22). Water disposal channel runs along its N and E walls, above which the seats of the latrine were positioned. **R23, R24, R25**: three rooms added in phase III, 3 m wide, of various lengths (R23: 4.20 m; R24 and R25: ca. 8.80 m). R23 and R25 were accessed from the N from outside of the building, and R23 communicated with R24 via a passage in the E wall. No apparent communication with the bathing rooms.

6.2 – Few of the rooms have a clearly identifiable function. The uneven pattern of the collapse in the layers excavated in R10 suggest that it might have been an open-air courtyard, when the presence of the largest cold-water pool of the baths, R10a, as well as the large size and central position of the room would indicate it was the *frigidarium*; an open-air *frigidarium* would be uncommon. R9, by its position towards the entrance and before the largest room of

the baths (R10), could be a vestibule. R2, R3, R5, R6, R8, R12, R13, R14 were all heated rooms at some point; the sheer number of rooms would suggest there was a men's and a women's section. R8 and R14, by their position towards the end of the path in the heated rooms, could be—at least in phase II—the respective *caldaria*, with pools located in their rectangular niches (thickening the walls is a common solution to accommodate pools in heated rooms). R3, by its dimensions and more elaborate shape, could also have been a *caldarium* in a first phase, but it is not clear how it would have fitted in the bathing path. R11 is called a *caldarium* by the excavators and was therefore presumably heated, even if no traces of hypocaust remain; they associate pool R10b with it, but the fact that the floor of pool R10b is roughly at the same level as that of the hypocausts of the nearby heated rooms (R12, R13) suggests it was not raised on *pilae* and therefore not heated (there are also no visible traces of a boiler); an identification as an additional pool to the *frigidarium* R10, and accessible from the latter, seems more likely, and would be consistent with the encroaching of pool R10b on R10. R1 and R15 are service area for the operation of the *praefurnia*; the latter was reconstructed as being open-air because of the inconsistency of the collapse layer. R16, R17 and R18 have no clear function, but the latter could have served as entrance if, as the excavators say, the entrance was from the E: it could not have been any of the heated rooms, or pool R10a, or latrine R22 for obvious reasons, and R25 belong to the later phases of the baths, leaving only R18 as potential candidate; its position close to the main, largest rooms of the baths, would be consistent with such identification. R22 is a latrine, clearly identifiable by the channels passing through it. A changing room/*apodyterium* is missing and could possibly have been found in R18 and/or R9, and/or R2 in phase II; these rooms may have cumulated several functions.

The limited state of preservation, often limited to the foundations of the walls or the few lower courses of the walls, prevents the reconstruction of the circulation within the baths. The most likely circulation pattern for the heated rooms in phase II is that of a double circuit, retrograde in both cases: R5–R6–R8 and back, R12–R13–R14 and back, with an alternative route to R11, probably from R13.

Some questions remain open and some aspects of the chronology are problematic. For instance, determining which rooms were heated in the first phase is not easy. Assuming *bessales* were used in phase II (as visible in the E extension of R13), and circular bricks in phase I (as seen in R2), there must have been a significant remodelling of the hypocausts in phase II to explain the current distribution of *pilae*. R6 has a second *area* floor 0.23 m under the currently visible *area* floor, with the implication that the current *area* floor belongs to phase II, whereas circular *pilae* are used in the room; the logical conclusion is that the circular *pilae* of phase I were reused in phase II, not necessarily in the same place where they had initially been used. R5 has *pilae* made of *bessales* in the whole room apart from three *pilae* in correspondence to *praefurnium* C, possibly connected to modifications brought to this *praefurnium* after the room had been equipped with *pilae* made of *bessales*.

Another problematic aspect regards the wastewater network: if pool R10b is added only in phase II, the main collector could not have started in the N wall of pool R10b. Similarly, if R5

and R12 were not heated in phase I, the small brick pedestals in the SE and NE corners, respectively, belong to phase II, with the implication that the basins they supported also belong to phase II, and the water disposal network had no reason to have channels reaching those rooms.

7 – Construction techniques and materials

7.1 – R5, R6, R7: under *area* in *cocciopesto*, preparation layer of stone chips. In R5, the preparation layer rests directly on the original soil; in R6, another *cocciopesto* layer, probably connected with an earlier phase, is located under the thick preparation layer, at ca. 0.23 m from the second *cocciopesto* layer. R9: conglomerate of mortar and pebbles ('ghiaia') on top of a 0.15 m thick preparation layer of stone chips. R10: Floor made of a conglomerate of lime and gravel above a 0.15 m thick preparation layer of stone splinters. R11: *cocciopesto* floor on top of preparation layer of stone chips. R20: *cocciopesto* floor.

7.2 – Walls in concrete (stone aggregates, whitish mortar) faced, in **phase I**, with horizontal courses of small stone blocks for the unheated rooms, of brick for the inner facings in the heated rooms (fig. 176R). The visible faces of the stone blocks measure 18–22 x 9 cm, the mortar joints 1–1.5 cm (measured in R9, W wall); the bricks are ca. 26 cm long, 5–7 cm thick. The stone is local, from the Monti delle Cesane (fig. 176L, damaged by exposition to fire). The facing in **phase II** is less regular and the stone blocks are larger (fig. 176L), 23–25 x 9–11 cm, mortar joints 1.5–2 cm (used in R19, W and N walls, R20 N wall, E extensions of R13 and R14, and W extension of R8). In **phase III**, the walls in R23 and R24 are built in large pebbles set in a herringbone pattern, bound with mortar, 0.35 to 0.52 m thick; in **phase IV**, the wall in R3 is made of reused materials, tiles, bricks, stone chips. Most walls are 0.60 m thick (R14, S wall: 0.50 m thick; R15, 0.45 m (W), 0.53 m (E), 0.75 m (S)).

7.3 – No direct evidence of roofing or upper floors.

8 – Heating devices

8.1 – I: probably six *praefurnia* (A to F) in R1, R7, R15. *Praefurnium A*, heating R2 in phase I: made with two stone slabs set on the edge, similar to *praefurnia C–D*. *Praefurnium B*, heating R3 in phase I: no information available, nothing visible today. *Praefurnia C–D* (fig. 177MR–BR), respectively heating R5 and R6: made with two large stone blocks placed on the edge, extending towards the exterior. The opening of the *praefurnia* are 0.83 m wide, 0.43 m between the blocks. *Praefurnium E* (fig. 177T–BL), heating R8: also made with two blocks of grey stone placed on the edge. Opening 0.96 m wide, 0.48 m wide between blocks, more than 2 m long. Probably supported a boiler to heat water for pools in R8. *Praefurnium F*, heating R14: 0.32 m wide, bound to the E by a limestone slab placed on the edge. In the *praefurnium*, found thick layer of ash and reddish fire-hardened soil. *Praefurnium* belongs to phase I as it is located ca. 0.25 m below the level of the *area*, probably the same phase to which the lower *opus signinum* floor found in rooms 6 and 8 belong. II: *praefurnia A–B* in R1 were decommissioned. It is

unlikely that *praefurnium* F was decommissioned too since it was apparently the only source of heating for R11, R12, R13, and R14.

8.2 – Area in cocciopesto, at least in R5, R6, R8 and R12. Several types of *pilae* (fig. 174B): *bessales* (4–6.5 cm thick) in R5, R12, R13 (E extension phase II), R14; circular bricks (18–19 cm diam., 7–8 cm thick) in R2 (phase I), R5 (a few along W wall, one single *pila* in E part of room), R6, R8, R12 (phase I), R13 (phase I); rectangular bricks (22–24 × 15 × 6.5 cm) in R5 at least. *Pilae* 0.89 m high (in R5), distant ca. 0.60 m interaxle, capped by 6 cm thick *bipedales*, a 10 cm thick bed of cocciopesto, then decorative floor. The circular bricks for the *pilae* belong to phase I, the *bessales* to phase II—this is most visible in R13. R5 and R6 communicated at the level of the hypocaust by a ca 0.30 m wide opening, as tall as the *pilae*. Discarded *tubuli* were found under the phase II floor of R2–R3; traces of *tubuli* on the E wall of R3, connected with phase I.

The *areae* of R5, R6, R8, R12, R13, and R14 were covered in ash.

9 – Water management

9.1 – MEI *et al.* 2019 mention an aqueduct supplying the city, probably tapping water from the hills to the N.

9.2 – No evidence preserved. Cold-water had to be supplied to pool R10a (fig. 175G) and probably R10b (fig. 175H), warm water to the probable pools in R8 and R14, water (either cold or warm) to the small basins in R5 and R12.

9.3 – The drainage network was composed of a long central collector into which smaller water channels flowed (fig. 178M). The main collector started from pool R10b (traces of a lead *fistula* to empty water from the pool, fig. 175H), continued straight towards the N for 17.5 m through R10, R9 and R20; it then bifurcated E and continued for a further 10.5 m, passing under R20, R21 and flushing latrine R22 (fig. 175E, 178BR), before turning towards the south, flushing the other leg of the latrine and continuing for the whole length of the building and beyond. Other channels connected to the main collector: in R10, a channel from R12 flowed into another channel from R5 (fig. 178BL), itself connecting to the main collector at 2.20 m from pool R10b; then, a channel from pool R10a and another channel from the W, probably from R3 (which probably contained a pool in phase I), connected with the main one in the N part of R10. At the first turn in R20, a channel coming from the NW discharged into it. A last channel coming from R15 (fig. 178T) went straight E for ca. 17.50 m and joined the main collector outside the building; a very short channel joined this E–W channel in R15. The latter two channels probably served for the disposal of the hot water of the boilers in R15 and pools in R8 and R14.

The main collector was ca. 0.40–0.47 m wide, 0.50 m deep at the beginning and up to 1.20 m deep under R21 (and went possibly deeper as it left the building). It was made of a bed of tiles and ca. 0.23 m thick lateral walls in *opus caementicium* (with traces of the formwork still visible), apart from the first 1.80 m from pool R10b, whose walls were faced in the same way as the walls of the baths, using small stone blocks, possibly connected to the construction of pool R10b in phase II. The S–N portion of the channel (in R10, R9, R20) was covered with unworked

slabs of stone from the Monti delle Cesane and the W–E portion (in R20, R21, R22) with tiles set in a cappuccina covered with a conglomerate of whitish mortar, stone chips and brick fragments.

10 – Decoration and material

10.1 – Floors: mosaic floors in R3 (white field framed by two yellow stripes with black borders, phase II), R19 (white, phase II, preserved along the W wall for 2 x 1.30 m), pool R10a (fig. 175G, 179BL) and R21 (from plan). Floor of marble slabs in pool R10b (phase II, fig. 175H). *Suspensura* floor of R5 made of square slabs of white marble and black slate, 0.27 m on the side, 2.5 cm thick, arranged in a chequered pattern (fig. 179R).

Walls veneered with various marbles in R5, R6, pools R10a (fig. 179TL–BL) and R10b (the latter in phase II, fig. 175H). Many fragments of marble for pavement and wall veneer found in ‘most of the rooms’. Fragments of green and red-coloured plaster, possibly some with stylized vegetal motifs, as well as red-coloured stucco from a moulded cornice found in the collapse layers of pool R10a.

10.2 – Architectonic decoration: Mostly from the bathing rooms in the S part of the complex (R5, R6, R8). Cornices; small column bases; many fragments (949) of thin marble slabs (cipollino, brecciato, Luni), smooth or with simple mouldings, probably for wall veneer; fragments of two marble basins, one circular with strigil motives on the outside, the other possibly rectangular with decorated rim.

- **Inscription GORI & LUNI 1982, 127**

One stone slab, 1.48 x 0.87 m, found in 1978 in reuse position in the pavement of pool R10b. Text erased in ancient times, now illegible. Dating: 2nd cent. AD (palaeography)

- **Inscription GORI & LUNI 1982, 127, fig. 8**

One fragment of a monumental inscription. Stone support, letters 17 cm tall, found in R2. Only one letter and a diacritic sign preserved. Undated

Other material: Ceramic (1st cent. BC—5th cent. AD), Arretine ceramic associated with phase I. 253 coins, mostly 2nd half of 4th cent. AD, found on the floors of the service areas, under the destruction layers. Metallic items: small objects like fibulas, nails, appliques; several bronze and iron keys; remains of a bronze basin; 4.2 cm tall statuette of Herakles sitting with club and an Apple of the Hesperides, possibly the handle of the lid of a recipient (see in particular the entry by A. Carletti in Gori & Luni 1978b, 24–25, fig. 14). Bone hairpins and glass paste beads from necklaces found inside pool R10b and in the water disposal pipe. A deposit of more than 100 early imperial period amphorae was found in a (nearby?) well, with a possible drainage function.

11 – Bibliography

Preliminary excavation reports: GORI & LUNI 1978a; 1978b; 1982

Brief reports: GAGGIOTTI *et al.* 1980, 205–206; GORI & QUIRI 1991, 69–70; LUNI 2003, 252–253; SISANI 2006, 254–255

Material and decoration: GORI & LUNI 1978b, 17–25; 1978a, 19–20; 1982, 124–129; VENTURINI 2007, 60–61; TESS5852; TESS5855

12 – Illustrations

City plan: GORI & LUNI 1978b, fig. 2–3.

Plans: GORI & LUNI 1978a, fig. 4; GORI & LUNI 1978b, fig. 5; LUNI 2003, fig. 82.

Pictures: GORI & LUNI 1978a, fig. 3, 5–10; GORI & LUNI 1978b, fig. 4, 6–9; GORI & LUNI 1982, fig. 4–6; GORI & QUIRI 1991, fig. 41; LUNI 2003, fig. 80.

Material and decoration: GORI & LUNI 1978b, fig. 10–14; GORI & LUNI 1982, fig. 7–8; VENTURINI 2007, fig. 7–9.

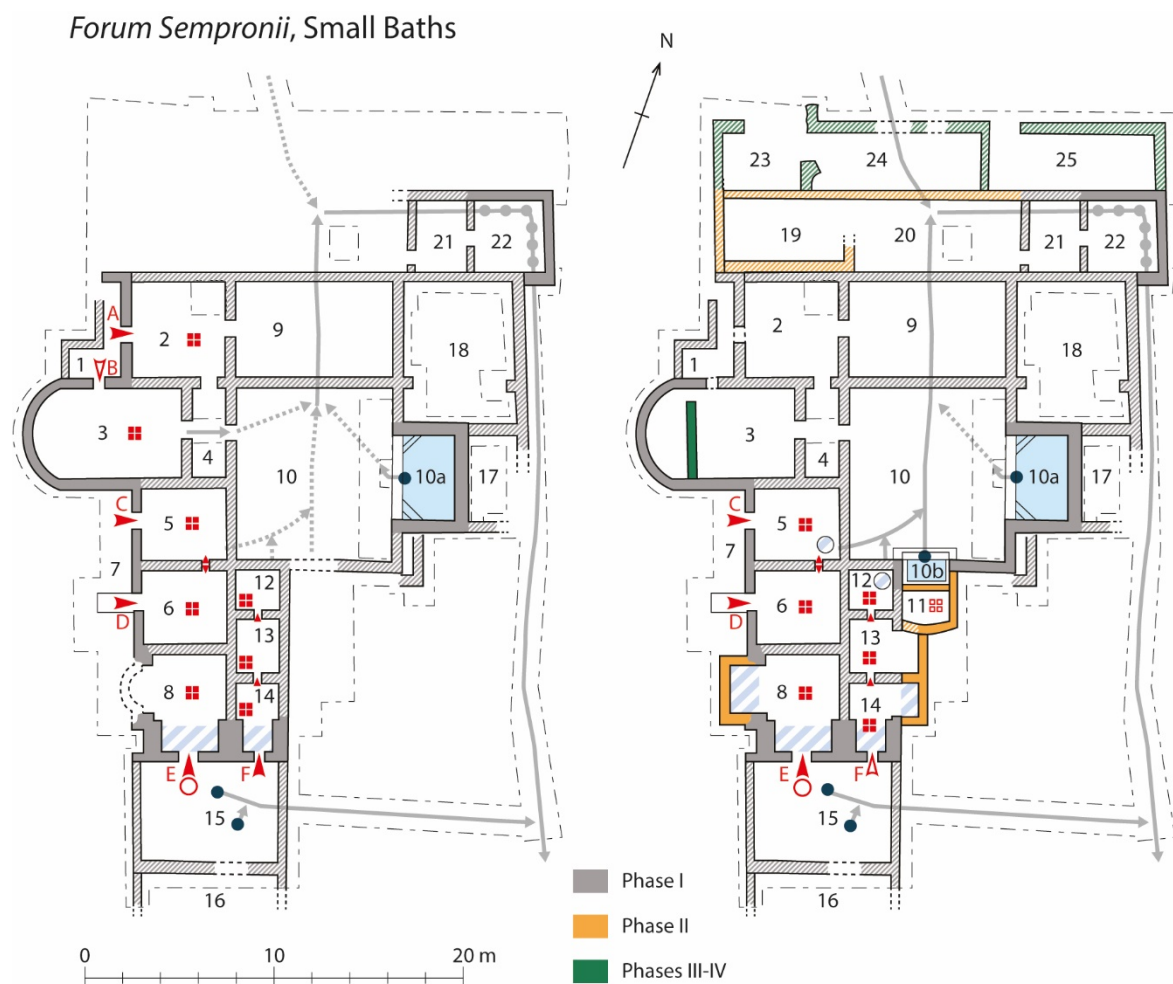


Figure 173: Plan of the Small Baths of *Forum Sempronii* (after GORI & LUNI 1978b, fig. 5; LUNI 2003, fig. 82).

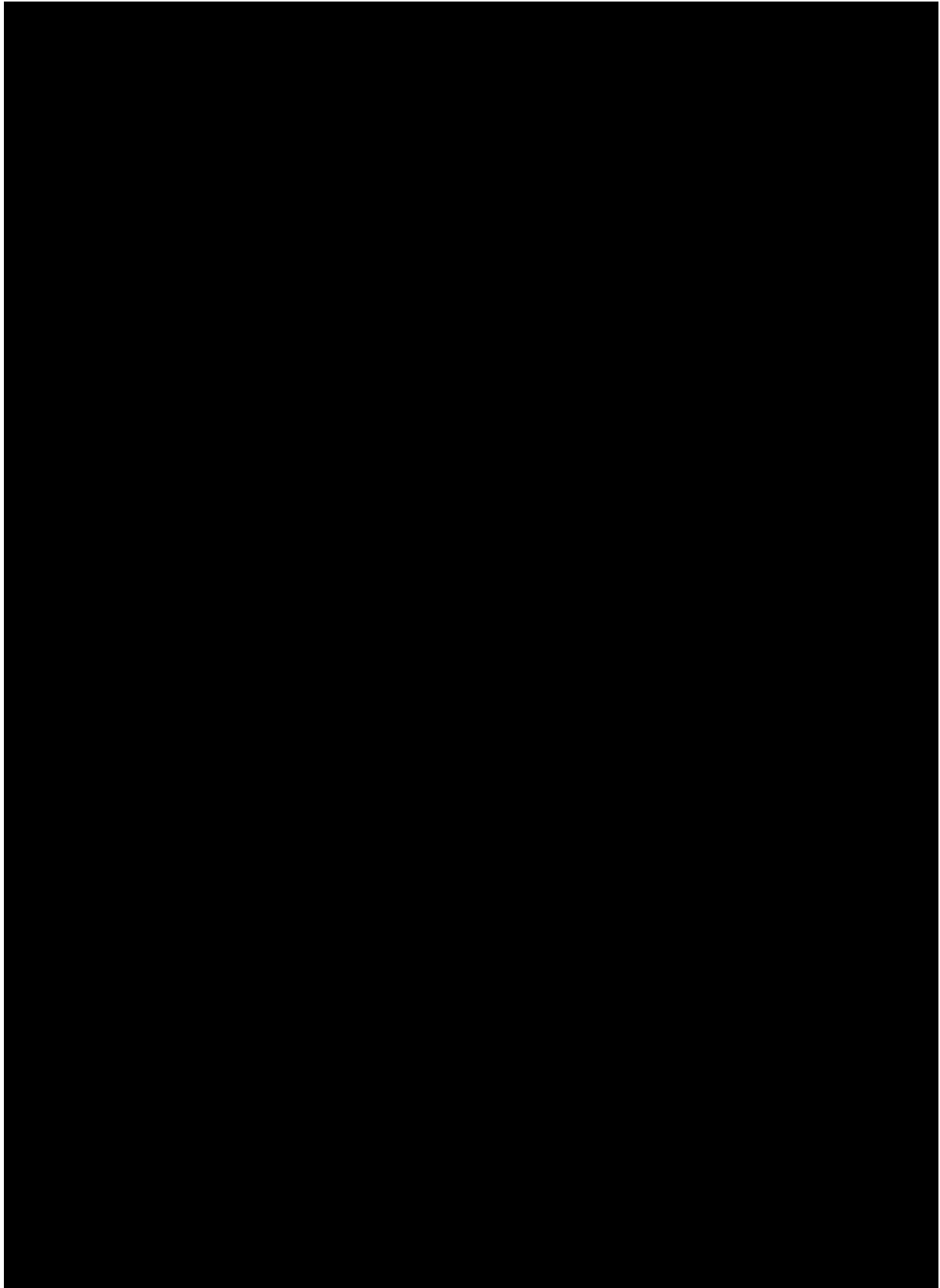


Figure 174A–D: Small Baths of *Forum Sempronii*, general views. **A:** service area and heated sector, from S. **B:** heated sector, from NE. **C:** view during excavations (from S), highlighting state of preservation before restoration. **D:** heated sector, from N (B: LUNI 2003, fig. 82; C: GORI & LUNI 1978a, fig. 3; D: GORI & LUNI 1978b, fig. 6).

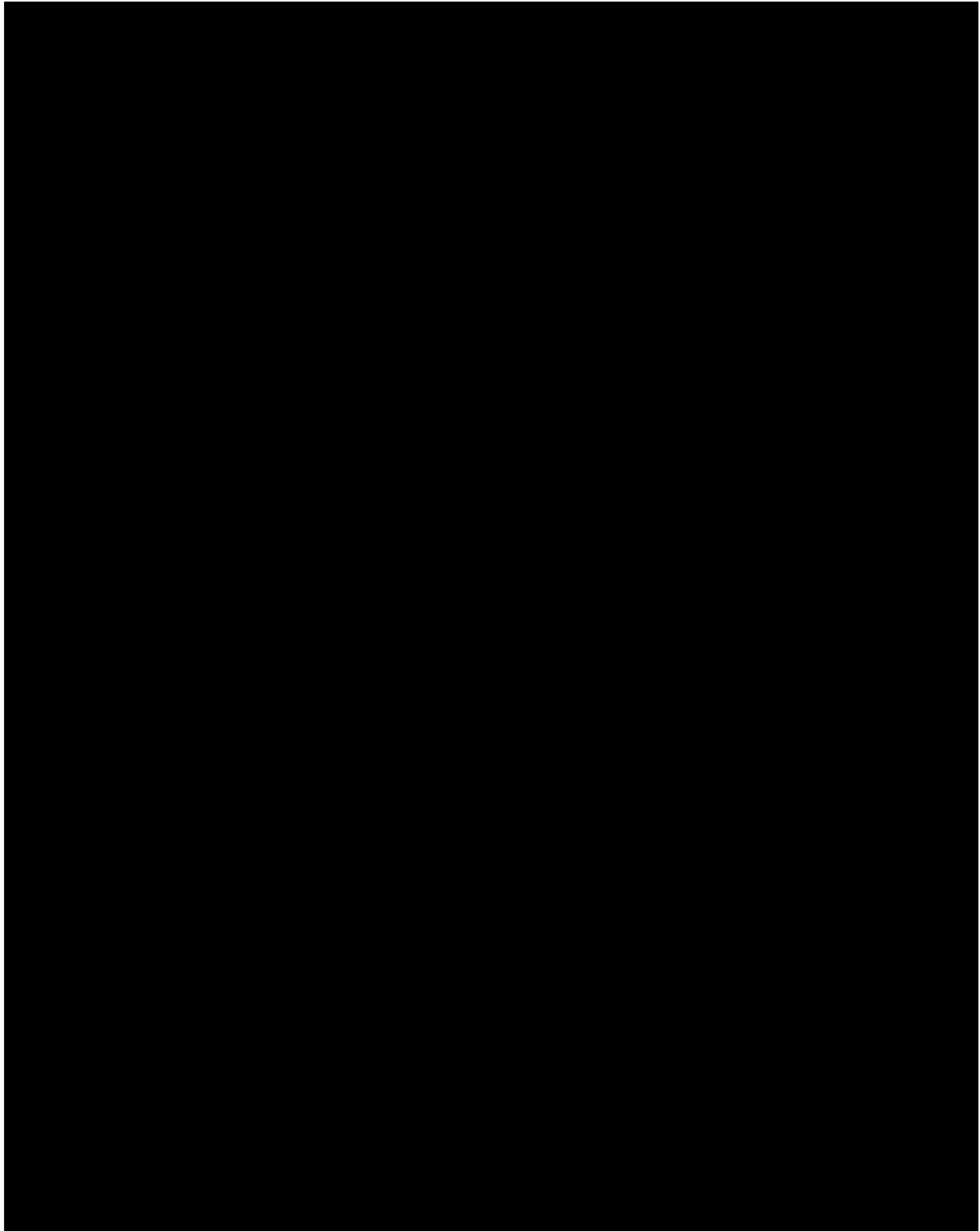


Figure 175A–H: Small Baths of *Forum Sempronii*, views of specific rooms. **A:** R5, from W. **B:** R13 during excavations, from N. **C:** R13 after restoration, from N. **D:** R15, from NE. **E:** R22, from SW. **F:** E extension of R13–R14 (phase II), from SW. **G:** pool R10a, from S. **H:** pool R10b, from N (A–B: GORI & LUNI 1978a, fig. 5–6).



Figure 176: Small Baths of *Forum Sempronii*, construction materials. **L**: stone facing from R14, E wall, extension phase II. **R**: brick facing from R12, E wall.

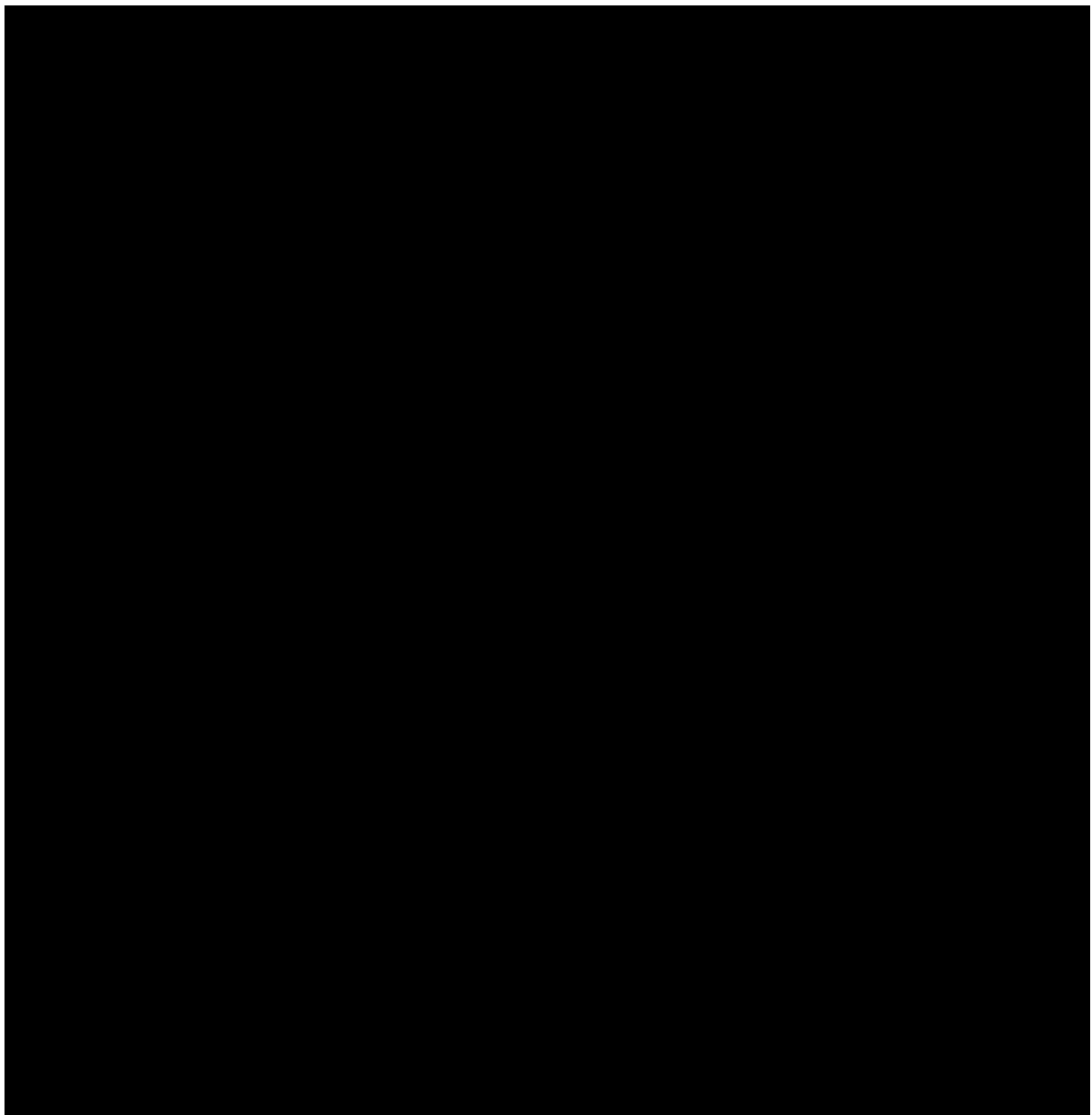


Figure 177: Small Baths of *Forum Sempronii*, *praefurnia*. **TL**, **BL**: *praefurnium* E in R15, from E and N. **MR**, **BR**: *praefurnium* D in R7, from N and E.

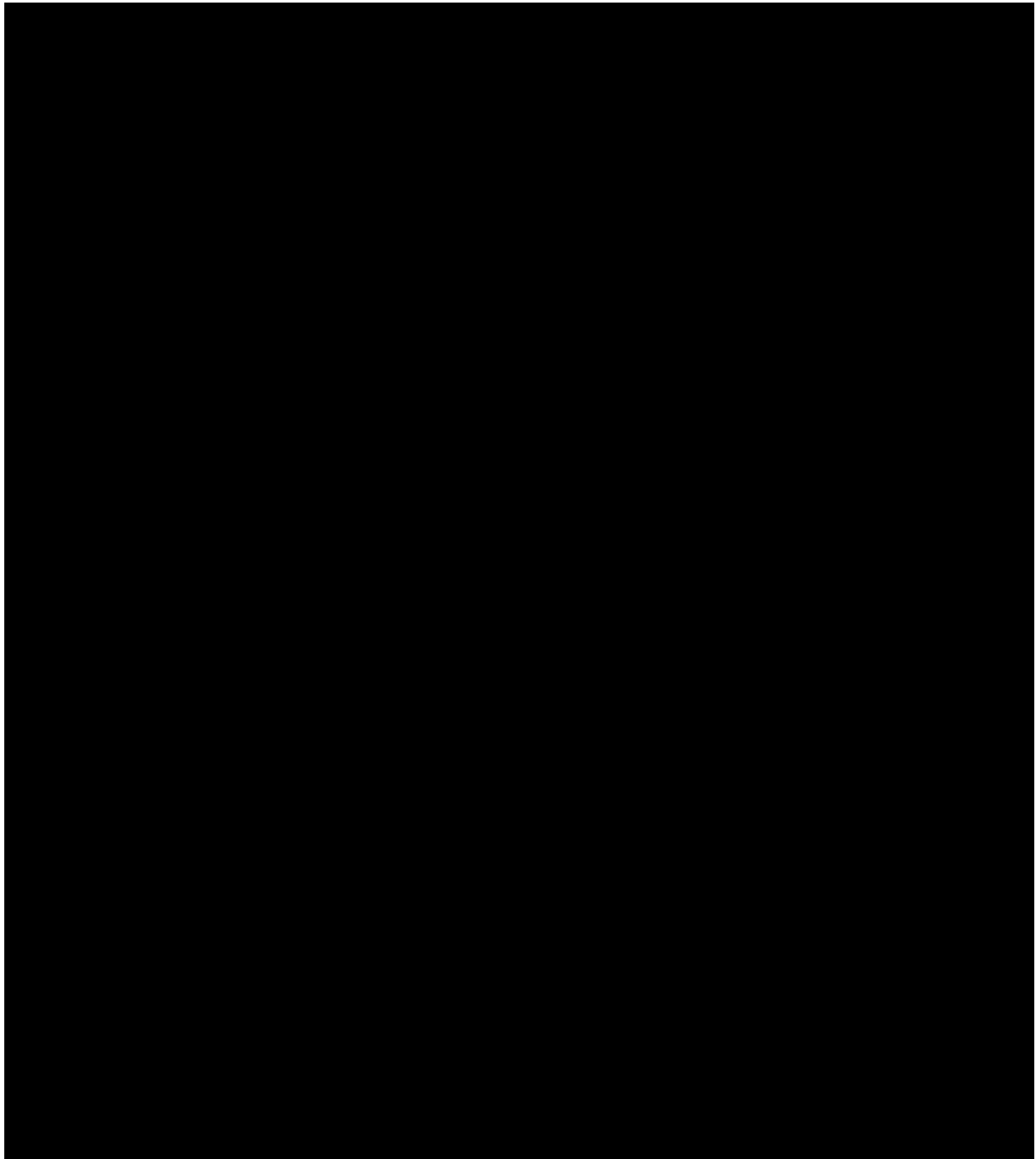


Figure 178: Small Baths of *Forum Sempronii*, views of the water system. **T**: R15, water disposal channel, from S. **M**: R10, water disposal channels, from N. **BL**: R5, structure in SE corner and corresponding cut in the wall for water disposal, from W. **BR**: R22, E–W water disposal channel of the latrine, from E.

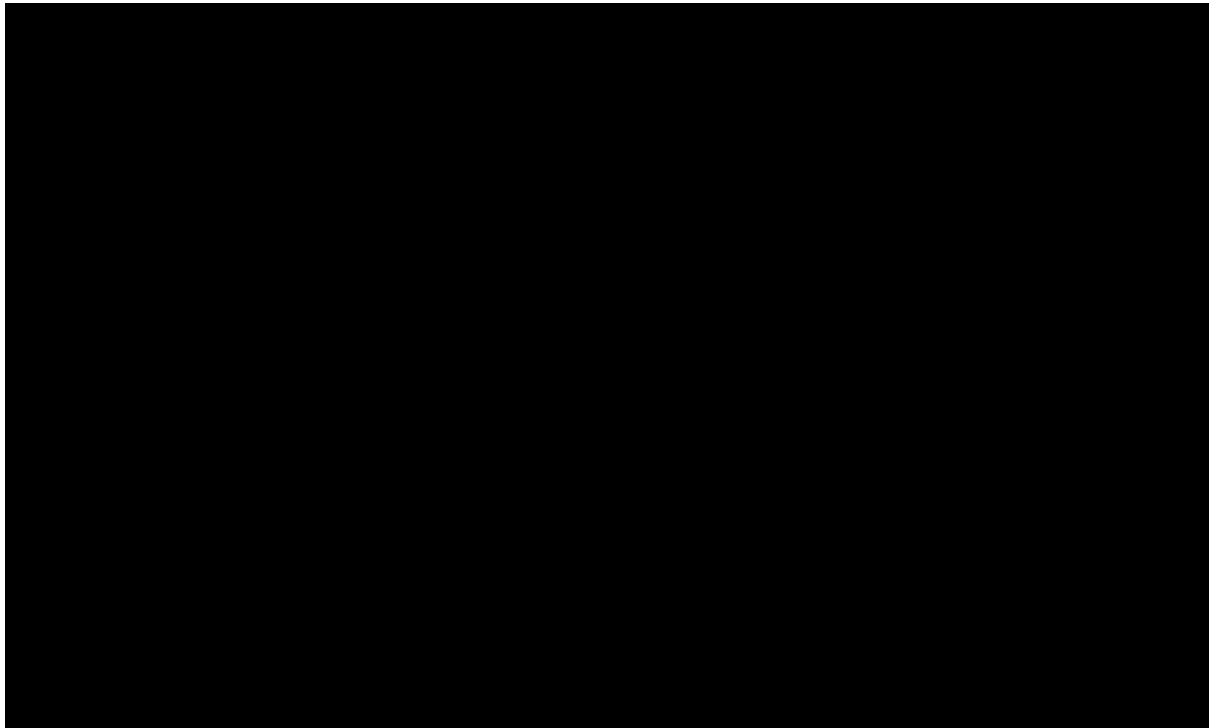


Figure 179: Small Baths of *Forum Sempronii*, decoration. **TL–BL**: R10a, wall marble veneer and mosaic floor in NW and SW corners. **R**: R5, *suspensura* floor decorated with marble slabs.

Matilica (Matelica), Baths under the teatro comunale

Ma.06

1 – Location

1.1 – Marche, province of Macerata, Comune of Matelica

1.2 – 13.008015 E, 43.255660 N

1.3 – Along the *decumanus maximus*, ca. 100 m SW of the forum. Now under the communal theatre.

2 – Preservation

2.1 – Limited: only some of the heated rooms and one cold room are known. Preserved at the level of the hypocaust/foundations.

2.2 – Under the teatro comunale of Matelica, accessible upon request.

3 – Research

3.1 – Discovered during restoration works on the modern theatre in 1983.

3.2 – Visited in April 2018.

4 – Dimensions

Ca. 170 m² (block R1–R2–R3–R4–R5), ca. 400 m² (including R6–R7).

5 – Chronology and phasing

5.1 – I: Early imperial (Sisani)

The differences between the levels of the heated rooms (R4–R5 on the one hand, possibly R1 on the other), and the fact that the facing of the wall in R5 goes noticeably deeper than the currently visible *area* of the room, suggest there might have been several phases to the building, with a previous, lower *area* in R5 and possibly R4.

5.2 – Unknown.

6 – Description of the remains and identification of rooms

6.1 – (Fig. 180–181A). **R1** (fig. 181E): 4 x 3.60 room, possibly heated. Preserved at level of hypocaust. **R2**: dimensions unknown. **R3** (fig. 181B): ca. 6.60 x 4 m, mosaic floor, 3–4 cm thick mortar on walls. Floor at same level as *area* of R4–R5. W wall doubled by a two other walls (steps? Benches?), 0.45 and 0.20 m thick. Several *pilae* scattered around (but probably not heated). **R4–R5**: two rectangular heated rooms (R4: ca. 8.80 x 3.80 m; R5: ca. 8.80 x min 4.20 m). 0.60 m thick walls. A trench in the NE corner of R5 reveals that the brick facing of the wall continued below the *area* visible on the rest of the room. **R6–R7**: two rooms, ca. 9.50 m E–W (R6), ca. 8.50 m N–S (R7), walls 0.60 m thick. Full extent and connection to heated rooms unknown, but the fact that they have the same orientation as the walls in R3–R4–R5 indicates they could belong to the same building. In SE corner of R6, W of R5, remains of: a white mosaic pavement connected to brick walls; limestone slabs N of the mosaic, at the same level; a 1.40 m diam. circular hole cut in that same floor. Mosaic later covered by *cocciopesto* pool, preserved for 2.50 x 1.70 m. A **later wall** crosses R3–R4–R5 from SE to NW and seems to continue further N.

6.2 – Circuit unknown. **R1**, floored in tiles, could have been a heated room or a service area; **R2** was probably a service area from which a *praefurnium* heating R4 was operated. **R3** has been identified as a pool (mosaic floor, mortar on walls); it was probably accessible from the W, as the doubling of the W wall suggests. The pool is presumably not heated (its floor is at the same level as the *area* of the heated rooms). **R4** and **R5** are two large heated rooms. If R3 is indeed a pool accessible from the W, it could be connected to **R6**, which could very hypothetically be a *frigidarium*. The function of the structures in the SE corner of R6 is unknown, as is the function of **R7**.

7 – Construction techniques and materials

7.1 – No information available.

7.2 – All the walls from the initial phase are faced with horizontal courses of brick (fig. 181D). The later wall crossing R3–R4–R5 SE–NW is faced with horizontal courses of stone and brick, thicker than those of the walls of the rooms.

7.3 – No information available.

8 – Heating devices

8.1 – *Praefurnia* presumably operated from **R2** (remains of blocks of 'breccia cementata', traces of combustion and rests of charcoal on the floor). Probably a *praefurnium* to heat **R4** (large gap in W wall), possibly another one to heat **R1** (0.55 m wide gap in wall). If the stone blocks are relevant to the heating systems, then the *praefurnia* were equipped with lateral lining/extensions made of stone blocks.

8.2 – **R1**, with *area* of tiles, was possibly heated. *Area* slightly lower than *areae* of **R4**–**R5**. Gap in the S wall in the SE corner of the room (opening of a *praefurnium*?). Small connection with **R4** in the SW corner of the room, blocked at a later stage (fig. 181E) (hypocaust passage?). **R4**–**R5** were heated (fig. 181C): *area* of tiles (0.62 x 0.45 m) (not *bipedales*, unlike what is indicated in publications), *pilae* of *bessales* (0.22 x 0.22 m). The *tiles* of the *area* are not all set in the same direction, instead they change orientation without following any regular alternance. In **R5**, remains of hypocaust wall protection made of tiles (0.47 m wide) set vertically against the wall. In the W part of **R5**, a ca. 2.30(?) m long, 0.80 m thick, N–S oriented brick structure is placed against the N wall, directly on top of the *area*; it is probable that the structure is part of the heating system (former *praefurnium* extension? Support for heated pool above?), and that the opening in the wall next to it is a hypocaust passage towards **R4**.

9 – Water management

9.1 – A 1st cent. AD aqueduct, known through archaeological remains and an inscription (*CIL* XI.5650 = EDR015706), supplied the city.

9.2 – Pool in **R3**, no traces of supply.

9.3 – Water-disposal channel N of **R3** (fig. 181B), covered a cappuccina, 0.90–1.20 m high, 0.55 m wide, brick facing and *bipedales* floor. Two further stretches of same channel further W. The later structure crossing rooms **R5**–**R4**–**R3** with SE–NW orientation may have been connected (hypothetically) to the water disposal channel running N of the baths.

10 – Decoration and material

10.1 – White mosaic in **R3** (fig. 181B) and in SE corner of **R6**.

10.2 – No information available.

11 – Bibliography

BIOCCO 2000, 44–46, 60–61; SISANI 2006, 296–297; DE ROSA 2008, 73–74 (water supply).

Archival material (not consulted): *ANS ZA/146/19*, Matelica, teatro comunale e via Umberto I (rel. F. Forconi del 9-2-1987); *ANS ZA/146/19*, Matelica, teatro comunale e via Umberto I (rel. E. Percossi del 12-4-1983).

12 – Illustrations

BIOCCO 2000, fig. 31 (plan), 32 (picture), 33 (section), 53–54 (city plan); LUNI 2003, fig. 45 (incorrect caption).

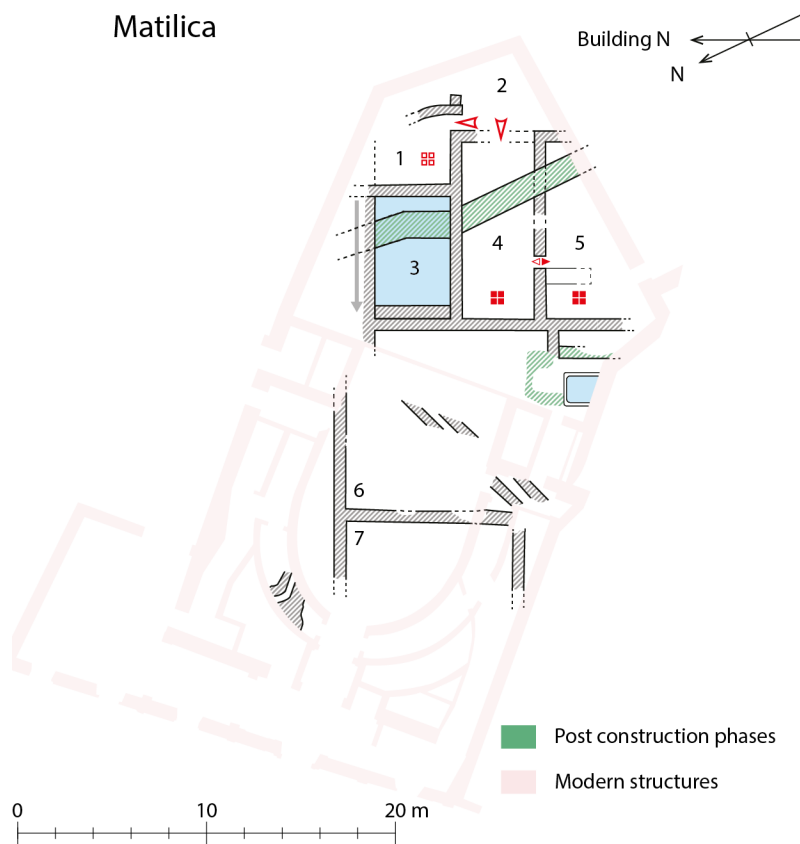


Figure 180: Plan of the baths of *Matilica* (after BIOCCO 2000, fig. 31).

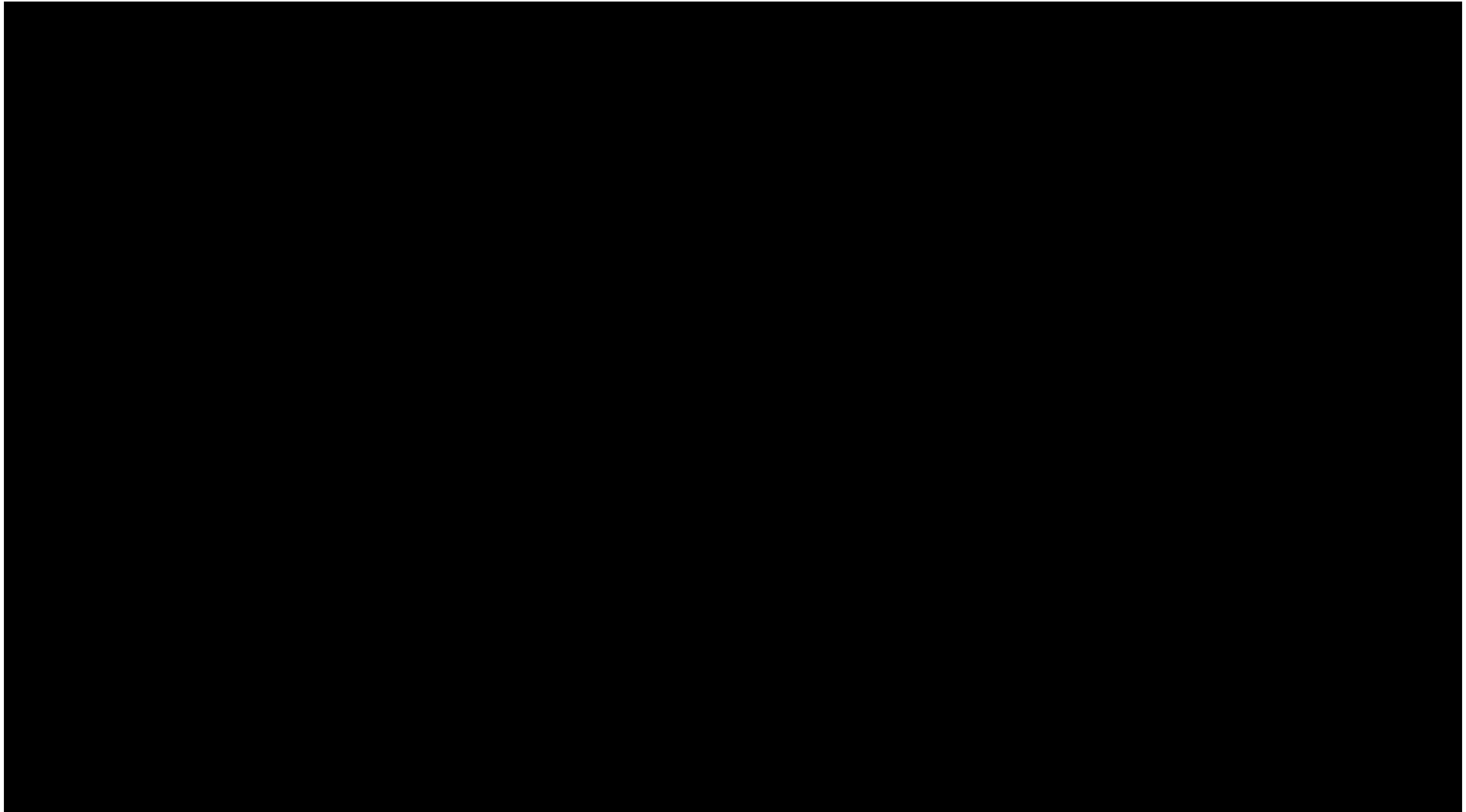


Figure 181: Baths of *Matilica*. **A:** general view from R5, from S. **B:** pool R3, from S. A water drainage channel oriented E-W is indicated in the background. **C:** Hypocaust of R4, from E. *Area, pilae* and tiles for wall protection visible (with an arrow pointing at the latter). **D:** Construction materials, brick facing, R6 E wall. **E:** R1, from NW. The arrow points at the blocked connection with R4 (A: LUNI 2003, fig. 45).

Terme di Santa Lucia, Terme extra-urbane; occasionally called 'edificio fuori le mura' or 'villa suburbana'

1 – Location

1.1 – Marche, province of Ancona, comune of Sassoferrato

1.2 – 12.852309 E, 43.418232 N

1.3 – The baths are located south of the city walls, along the *cardo maximus*, on a small terrace between the river Sentino to the west and the river Marena to the east, with a slight slope towards the latter.

2 – Preservation

2.1 – Well preserved in plan, apart from the E part of the baths and the E and N parts of the *palaestra*. Preserved in elevation at the level of the base of the walls, or at the level of the first few courses above the *suspensura* in the heated rooms.

2.2 – In the archaeological park of Sentinum. R3-R4-R5 are covered with a permanent roof, the heated rooms (R8-R9, R14-R15-R16) and R23-R24-R25 are covered with a temporary one, the floors not protected by a roof have been covered.

3 – Research

3.1 – Excavations in 1952–1953 (Soprintendenza, 'Cantieri Scuola', dir. G. Annibaldi?), 1954–1960 (Soprintendenza alla Antichità delle Marche, dir. L. Fabbrini), 1973–1978 (Soprintendenza, dir. L. Brecciaroli Tadorelli), 2000–2002 (Cooperativa Archeologia di Firenze and Soprintendenza, dir. G. de Marinis and M. Silvestrini); further studied by M. Medri. Identified during the 1970s excavations as a suburban villa. The southernmost part (R19) has not been excavated, and there might be a missing N part under the medieval church of Santa Lucia. Restoration of the wall facings, mosaic floors, mortars in the 1970s and during the 2000s seasons.

3.2 – Visited in April 2016

4 – Dimensions

Baths: 3000 m²; *palaestra*: 2275 m² (E–W length is hypothetical). A missing N part was hypothesised by De Marinis et al., for a total surface area of 7000 m².

From plan: reconstructed dimensions 5,700 m², of which bathing block (R1–R19) 2,000 m², *palaestra* (R26–R27) 2,250 m², remaining structures (R20–R25, R28–R32) 1,300 m².

5 – Chronology and phasing

5.1 – The baths were built in a single phase and underwent little modifications over the course of their lifetime. In secondary, not necessarily contemporary phase(s), several hypocaust connections were blocked up, the passage between R9 and R15 was blocked, floor and wall decoration was modified, and the function of R8 changed. Two chronologies have been proposed:

1) for De Marinis *et al.* (2008, 210)

I: Neronian-Flavian (T, CT, U, Stratigraphy)

II: 2nd–3rd cent. AD? at least a Hadrianic phase (S)

2) for Medri (2014, 793, 796)

I: 1st half of 2nd cent. AD (T, I)

Both authors used the typology of the baths ('semi-symmetrical' type) as the main argument for the dating, seeing in the imperial baths of Rome the first representative of the type, and the baths of *Sentinum* finding inspiration in this initial model; De Marinis *et al.* considered the baths of Nero as being the first example of this type, whereas Medri emphasised that the original plan of neither the Baths of Nero nor those of Titus are known to an extent that they can be considered of the semi-symmetrical type, with the consequence that the baths of Trajan must be considered the first established bath building of the type. The latter proposition is favoured here.

5.2 – 4th century AD. Spoliated late 4th–early 5th cent. AD and later; some material reused for construction of medieval church of Santa Lucia.

6 – Description of the remains and identification of rooms

6.1 – The baths are part of a larger complex comprising a residential(?) unit (Rooms R20–R25, R28–R31) and a large central colonnaded courtyard (R26–R27). The bath building proper (Rooms R1 to R19) occupied the S part of the complex. It was composed of two rows of rooms, cold to the N and heated to the S, arranged along an E–W axis; the cold rooms developed symmetrically on either side of R4 (fig. 185, 186, 187A–B).

Access to the baths was possible through the *cardo* running to the W, and required crossing several non-bathing rooms: first two elongated rectangular rooms (**R20–R21**), then, via a set of steps, a larger room (**R22**, fig. 188G) along the N and S walls of which were set three masonry blocks, either pilasters or supports for decorative elements (e.g. statue bases). R22 was flanked by three small rooms **R23**, **R24** and **R25** (fig. 188F–G); it also opened eastwards, via a passage framed by two columns, into the portico (**R26**) of a large open-air courtyard (**R27**); the dimensions of the courtyard, portico included, have been reconstructed as being 35 x 65 m. The E wing of the portico had a position allowing one to overlook the valley underneath. The S wing of the portico R26 led into the baths via R1, R4 and possibly R7. From the SW corner of the portico R26, an access led into a latrine (**R29**, fig. 188E) paved with marble slabs and equipped with a sewer channel along all four walls.

The baths were entered by **R4** (fig. 187C) via a door equipped by two columns, as indicated by the two stone blocks set in the N wall of R4 and presenting a dowel hole and a pour channel on their upper surface. At the centre of R4 stood a fountain or a basin, of which negative traces of the pipes have been found. Two pools **R4a** and **R4b** (fig. 187D, E–F), ca. 0.80 m deep, were located on either side of R4; two large stone blocks were embedded in the E wall of R4a and supported columns, as indicated by the dowel hole and the pour channel visible on their upper surface. No such blocks are visible in R4b, but a flat mortar patch in the W boundary of that pool could have supported a column too. R4b was accessible from R4 via two steps of the whole length of the pool, and a similar step is visible in R4a, too low to offer access to the pool on its own but its original height is not preserved. Both pools were also accessible by a small staircase leading to R2 (from R4a) and R6 (from R4b). From R4, one could also access R10 via a simple opening, and probably R12 (passage reconstructed by symmetry). There was also a passage from R4 towards R11 to the S; the two stone blocks in the S wall of R4 (fig. 188A), also marked with dowel and pour channel, supported two columns, possibly offering a tripartite passage towards R11. The other two entrances to the bathing sector from the portico R26 were from corridors **R1** (fig. 187H) to the W and **R7** to the E, each leading into a large room (R2 and R6) and a first heated room R9 and R13. **R2** (fig. 187G) and **R6** were amongst the largest rooms of the bath complex; they could be entered from R1–R9–R10 (for R2) or R7–R13–R12 (for R6), and each led to a small room, R3 and R5 respectively. Traces of repairs in the floor of R2 suggest that a *labrum* was inserted in it in (phase II). The last two non-heated rooms were **R10** and **R12**, sort of T-shaped distribution rooms connecting R4 and R11 to R2 and R9 to the W, to R6 and R13 to the E.

Unlike the cold sector, the heated sector was not symmetrical, notably because of a large circular room (**R8**, fig. 188D), accessible from R9; heated in phase I and equipped with a central pool, it was later (phase II) turned into a non-heated space (the *suspensura* and *pilae* were removed, the hypocaust space was backfilled and a new floor was created on top of the backfill, finished with a layer of *opus signinum* and possibly a floor of marble slabs). The E sector is not preserved, but the presence of a symmetrical circular room is deemed unlikely because of the limited space to the E due to the terrain sloping into the valley. **R9** (fig. 188C) and **R13** were two symmetrical elongated rooms, the first heated rooms in the bathing circuit, with a main difference in the accesses they granted: R9 allowed bathers to go from R1, R2 and R10 to R8, R14 and R15 (the latter passage blocked in phase II), whereas R13 granted passage only between R6, R7 and R12, even though the E half of the room is lost and the accesses are therefore hypothetical. Of the other heated rooms, only **R11** (fig. 188A, see 6.2) and **R14** are entirely preserved. R14 was accessed from R9, led into R15, and was heated from the S. The S part of **R15**, **R16** and **R17** (fig. 188B) is lost.

6.2 – There are several alternative interpretations as to the circulation and the function of the rooms.

1) Reconstruction of R4, R4a, R4b

- For Medri, there were tripartite passages towards pools R4a–R4b, and doors framed by columns to the N and S. The pools R4a–R4b were accessible from R4 by 1–2 steps, as well as from R2 and R6 via a small flight of stairs.
- For De Marinis *et al.* (fig. 187B), the N passage was framed by columns and there were no other passages towards pools R4a–R4b or R11, instead the W, S and E walls were animated by a small niche framed by two columns. The long steps in pools R4a–R4b were benches instead of steps, the main access to the pools being the small staircase from R2 and R6.
- In the reconstruction preferred here, R4 was open on all four sides by tripartite passages, and pools R4a–R4b accessible from R4 via one or two steps, as well as from R2 and R6 via a small flight of steps. In R4, the size of the blocks supporting the columns (fig. 187F, 188A) (seen in the N, W and S walls and crossing the whole thickness of the walls), the fact that such blocks were deemed necessary, and that the connection between block and columns was strengthened by a dowel, argues for columns of a significant size, consistent with columns having a structural role and therefore tripartite openings, more consistent with the large dimensions of the room. The N entrance was also reconstructed as tripartite since a 2 m wide door framed by two columns seems rather narrow for the size of the baths and the expected flow of people. Tripartite passages are found in other large scale or elaborate bath buildings such as *Teate Marrucinorum, Cumae, Velia* [Ca.10]. Against this interpretation could stand the fact that such a large opening towards a heated room (R11) would lead to warming up the atmosphere in R4.

2) Passages in R11

- For De Marinis *et al.*, R11 was accessible by R15 and R17.
- For Medri, R11 was accessible by R4, R10, R12, R15 and R17.
- In this reconstruction, a passage from R4 was accepted (see above), whereas passages towards R10 and R12 were discarded as there were no visible traces on site or on the published excavation plans.

3) Passages in R14

- For De Marinis *et al.*, R14 was accessed from R9 but led nowhere.
- For Medri, R14 was accessed from R9 and led to R15.
- In this reconstruction, a passage between R14 and R15 is thinkable but not confirmed. The E wall of R14 is restored and there are no traces of such passage, but it seems unlikely that a room at the entrance of the heated sector would not be incorporated into the circuit of heated rooms, and the published excavation plans render the N portion of that wall in a different manner than the rest of the wall, either because it was a passageway or because it was damaged.

4) Nature of R18

- For De Marinis *et al.*, R18 was a heated room, with *praefurnium* in the S wall.
- For Medri, R18 was a service room, containing a *praefurnium* to heat R17.
- In this reconstruction, Medri's proposition is followed. From what can be seen on site and on the published plans, the E wall of R17 stopped abruptly ca. 3 m away from the NE corner of the room, and a large stone block set next to the opening could be part of the longitudinal extensions of a *praefurnium*.

5) Shape of R17 (fig. 188B) and facilities

- There are no doubts about the N wall and the W and E boundaries of the room.
- For De Marinis *et al.*, R17 has a straight S wall, and no facilities are reconstructed in the room (no pools are indicated in their reconstruction).
- For Medri, there was a recess in the E part of the room, hinted at by the right angle made by the E part of the N wall. She restores a similar pattern for the S wall, with a deeper recess in the S wall as well to fit two hot water pools, one in the E recess, one in the S recess.
- In this reconstruction, Medri's proposition is followed. The recess in the E wall (if the S wall mirrors the N wall) is typical for the inclusion of a pool, which would be heated by the *praefurnium* to the E. Even though there is no evidence whatsoever to reconstruct a pool along the S wall, a single hot water pool seems insufficient for baths of this size, and a second one in a recess on the S wall is plausible.

6) Shape of R19

- Apart from the W part of R19, nothing of it is excavated, its shape is therefore hypothetical.
- De Marinis *et al.* restore it as a straight corridor, keeping the same width as what is visible in its W, excavated portion.
- Medri makes it change width to follow the shape of R17 as she reconstructed it. She also hypothesises entrances to that corridor from the S and the W.
- In this reconstruction, Medri's proposition is followed to keep in line with her proposition as to the shape of R17. One or two entrances from the S are possible and likely; on the other hand, the entrance she reconstructs to the W is not kept as there is no evidence of it, neither on site or on the published excavation plans.

The functions of the rooms are also debated between both authors, with implications for the circuits that could be followed by the bathers.

- For De Marinis, R3, R5, R10 and R12 were *apodyteria*, R2 and R6 were *frigidaria* with their respective pools R4a and R4b, the heated rooms were called *caldaria* (R14, R15,

R16, R17) or *tepidaria* (R9, R11, R13), including R8, considered as the *tepidarium* of the W wing in phase I.

- The circuit(s) available to the bathers are not clearly defined, but De Marinis tends to support the identification of a double circuit: to the W, entrance from R1, *frigidarium* R2 (with pool R4a), *apodyterium* R3, then heated rooms R9, R8, R14 and R15; to the E, entrance from R7, *frigidarium* R6 (with pool R4b), *apodyterium* R5, then heated rooms R18, R17, R16. R11 and R4 are deemed common to both circuits.
- For Medri, R4 was the *frigidarium* with its pools R4a–R4b, R1 and R7 were probably *apodyteria*, R2 and R6 could be *basilicae thermarum* with adjoining possible *unctoria* (respectively R3 and R5). R10 and R12 served as heat traps, and in phase I R8 was a *piscina calida* (based on a comparison with the *Heliocaminus* baths of Hadrian's Villa). As for the heated rooms, R14 was an entrance *tepidarium*, the function of R15 is not specified, R16 was a *sudatio*, R17 the *caldarium* and R11 an exit *tepidarium*. R28, R30 and R31, located along the *cardo*, may have been *tabernae*.
- Medri reconstructs a circular circuit, with a main entrance from *frigidarium* R4 (with pools R4a–R4b) and side entrances from the *apodyteria* R1 and R7. From there, there were multiple ways to benefit from the cold sector, using the *basilicae thermarum* R2 and R6 and the *unctoria* R3 and R5. The heated sector started in R9, the entrance *tepidarium*, and bathers would progress through the heated rooms in a linear fashion, through R14–R15–R16–R17, with the option to use the *piscina calida* R8 straight after having warmed up in R9. After reaching the *caldarium* R17, the bathers would cross an exit *tepidarium* R11 and return to the *frigidarium* R4.
- Medri's proposition is more convincing on all aspects and is mostly followed here. This shape of *frigidarium* is well known from other sites (*Ferentum*, in the Forum baths of *Ostia*, and also outside of Central Italy in a series of baths in North Africa—see section VII.4). The only elements that could be added are the possibility, in phase I, to skip the lukewarm rooms by heading directly into R15 from R9 (or to just use the lukewarm rooms R8 and R14, then avoid the hottest rooms by using R9 as an exit *tepidarium* from R15). The blocking of some hypocaust connections and passages between heated rooms in a secondary phase certainly modified the circuit(s), but they unfortunately cannot be reconstructed in the current state of knowledge.

7 – Construction techniques and materials

7.1 – The water-disposal channel running around courtyard R27 was made of blocks of local white limestone. The small flights of steps in R4a–R4b were made of large stone (limestone?) ashlar.

7.2 – Concrete, either brick-faced (fig. 189B) or faced with courses of small stone (white-grey local limestone) blocks (fig. C). Bricks were used for the inner walls of the bathing block, stone courses for the other walls (R20–R25, R28–R31). The inner wall of R8 is faced with three courses of brick, a dozen irregular courses of roughly squared stone blocks, then at least seven

brick courses (restored) (fig. 189A). The opening towards R9 had brick quoining and the blocking up between both rooms was entirely faced in brick. The walls in the heated rooms were 0.90 m thick.

7.3 – Nothing preserved. The large thickness of the walls (0.90 m) in some (unspecified) rooms could suggest complex vault types, such as groin vaults.

8 – Heating devices

8.1 – No information provided, mostly because the service areas in the S part of the baths (R19) were not entirely excavated; only the S *praefurnium* of R14 was excavated. From picture (fig. 189E), the *praefurnium* was equipped with longitudinal extension entering the hypocaust and made of stone slabs, possibly a (local) limestone considering the pattern of the degradation of the stone, similar to those seen in the *praefurnia* of the Small Baths of *Forum Sempronii* [Ma.05].

De Marinis *et al.* restored a straight corridor R19 with 5 *praefurnia*, whereas Medri proposed a less regularly shaped corridor also with 4 *praefurnia*, and two additional *praefurnia* in R18. If R8 was heated in phase I, a *praefurnium* must be reconstructed somewhere around its perimeter but no traces of it are visible.

8.2 – R9, R11, R14–R17 were heated rooms, R13 was possibly heated (Medri), R18 was possibly heated too (De Marinis, not followed here). *Area* made in *cocciopesto* (fig. 189G), on which a thin layer of ash and charcoal was found during the 2000s excavations and interpreted as traces of the last combustion operations. *Pilae* made of circular bricks (fig. 189D), height unknown (possibly ca. 0.80 m high based on a measurement on a restored *pila*). Walls of hypocausts covered in thin layer of *cocciopesto* (at least in R9, fig. 189F). From picture (fig. 189D), the *pilae* supported a double layer of *bipedales*. *Tubuli* found in collapse layers.

In R9, on the *cocciopesto* layer covering the walls of the hypocausts, lines painted in ochre were noticed; according to De Marinis *et al.*, these marked the level of the *suspensura* floor.

In a secondary phase (phase II?), several hypocaust passages were blocked up (R8–R9, R9–R15, perhaps R15–R16 and R11–R15).

9 – Water management

9.1 – Remains of an aqueduct were found in località Berbentina, S of the baths. The aqueduct possibly tapped into the nearby torrent Marena; if so, a *noria* would have been necessary to lift the water to a usable height.

9.2 – Negative of pipes supplying water to a fountain at the centre of R4 and possibly the pools R4a–R4b. There probably was a *labrum* in R2, as suggested by later modifications in the floor decoration. Several portions of lead *fistulae* were found *in situ* in the thickness of the floors of some rooms.

9.3 – Drainage channel under latrine R29. Drainage channel going around courtyard R27. A spoliation trench in R2 (fig. 187G) indicates the presence of a lead pipe, E–W oriented,

probably for emptying pool R4a towards the W. In the E wall of R4b, two terracotta elements set a cappuccina probably covered a drainage pipe heading E (fig. 189H); the evacuation was blocked up with brick. There was probably a similar drain in the W wall of pool R4a, but a modern pillar for supporting the roof now hides part of that wall. Under the blocked-up passage between R8 and R9, two terracotta elements set a cappuccina could belong to a drainage channel. A relieving arch in the N wall of R9 may cover an underground channel; the same is true of a relieving arch in the N wall of R11. There are further mentions of a ‘regolare e perfetto sistema di fognatura lungo la fronte occidentale del complesso’ (BRECCIAROLI TABORELLI 1976, 53, note 22), and of ‘nella stessa direzione [verso E] è impostato il sistema fognario con un collettore centrale nel quale si raccoglievano numerosi condotti minori’ (DE MARINIS, SILVESTRINI & PALERMO 2008, 206), without further precision as to their location.

10 – Decoration and material

10.1 – Floors: either mosaic (fig. 189J, R1–R3, R6–R7, R10–R12, R21, R26) or marble slabs (fig. 189K, R4–R4a–R4b, R9, R16, R22, R29) on a layer of *cocciopesto* (R4a–R4b, R9); only R27 had an *opus spicatum* floor. The mosaics were either monochrome white (R21), white with some black *tesserae* without visible pattern (R3) or white with a black frame (R2, R6, R10, R12). The marble was light grey (R16, R22). In R4, the visible marble slabs are light grey, dark grey, and one smaller element in giallo antico may be evidence of ancient restorations. The mosaic floor in R2 was restored several times, including with reused marble slabs. De Marinis *et al.* suggested that all the heated rooms but R11 were floored with slabs of light grey marble, as found in R16. Two unspecified decorated thresholds are mentioned, one covered by an *opus sectile* of grey marble *crustae*, the second with a white mosaic with a black frame (they are not visible today). In phase II, R8 was possibly floored with marble slabs (based on the numerous fragments found in the room).

Walls: the bases and lower part of the walls in R22 were veneered with slabs of grey marble. Based on the marble fragments found in the room, the upper part of the walls was veneered with pavonazzetto, africano, giallo antico, and cornices of rosso antico. Painted stucco fragments were found in the collapse layers of R2.

The columns of portico R26 were made of pink breccia di Verona, with Corinthian capitals in marble from Asia Minor; only one of the nowadays standing columns was originally from the portico, the others probably came from elsewhere in the city.

10.2 – A bronze mask representing Jupiter, possibly an applique, dated to the 2nd quarter of the 2nd century AD, found in 1919 in the area of Santa Lucia. Found during the 2000s excavations:

- fragments of marble architectonic decoration: leaves from ‘Corinthian-Asiatic type’ capitals in Proconnesian marble and moulded cornices, dated to the 2nd cent. AD (Hadrianic–Antonine); many fragments of marble veneer (especially in the heated rooms);

- polychrome glass paste *tesserae* in collapse layers;
- ceramic material; two terracotta *ex-voto*;
- 3 inscriptions:

▪ **PACI 1981, cat. 13 = EDR016261:** [---]ctum [---]

Fragmentary monumental inscription on a white marble slab (4 fragments), found in R22 in 1955. Now in the Museo civico archeologico of Sassoferrato. H 21 cm, L 51.7 cm, T 2.8 cm. Letters H 11.5 cm.

The fragment is from the end of the first line of the inscription, as indicated by the moulding of the upper part. Only the last four letters are preserved. Paci associates this fragment to an inscription ([---]ductum[---]) mentioned several times by Fabbrini. The inscription possibly recorded the benefaction of an aqueduct or water pipes ([---aqua?]ductum[---]).

Dating: 2nd cent. AD (EDR). See also: FABBRINI 1961, 321

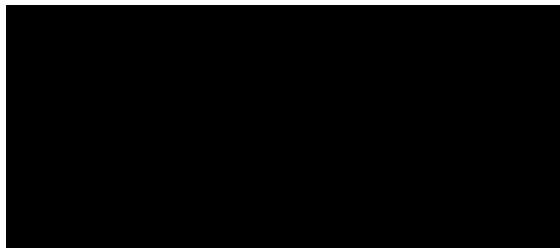


Figure 182: Inscription PACI 1981, cat. 13 (© EDR)

▪ **Inscription DE MARINIS, SILVESTRINI & PALERMO 2008, 210, note 10**

1 fragment, stone (marble?), found in collapse layers in R2, discovery date unknown. W 11.5 cm x H 13 cm. Possibly hadrianic.

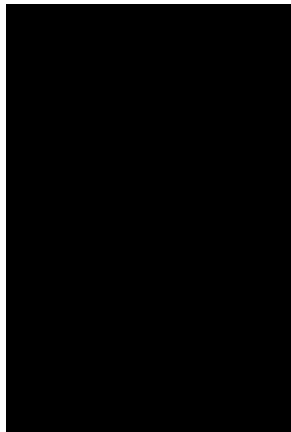


Figure 183: Inscription DE MARINIS, SILVESTRINI & PALERMO 2008, pl. 66.2.

▪ **Inscription PACI 1981, cat. 12 = EDR016263:**

a: ---]HEI[---] / [---]VS [---] / [---]ITCV[---] / [---] / [---]m s[---].

b: ---]RVN[---] / [---]ve eai[---] / [---]VN[---].

c: ---]N[---] / [---]fe[---] / [---]la filia [---] / [---] / [---]nta milia num[---] / [---]t.

d: ---]R[---].

e: 2 round letters, non identifiable

f: ---]PRA[---].

10 fragments, seven of which combine to form three fragments (a–b–c), the remaining three staying isolated (d–e–f). Marble slab. Found during the 1950s excavations on the steps of R22 (fragm. a, c and f) and in 1980 in R21 (fragm. b and d). The actual order of the fragments is unknown.

Moulded cornice at bottom of slab (visible on fragment c). The inscription spread on two marble slabs (visible on fragment a, neatly cut to the left through several letters). One line was erased (visible on fragment c, also appears on fragm. a, e, f). Dimensions (H x W x T, in cm): a: 54.5 x 23.5 x 5.2; b: 19.5 x 23 x 5; c: 65 x 66 x 5.8–9.2 (corniche); d: 10 x 5 x 3.4; e: 11.4 x 15 x 4.7; f: 35 x 30 x 5. Dimensions of letters (in cm): 11.5/7.5/5.8/[5.7]/5.7/5

The text on fragment c could indicate that a considerable sum of money was spent for a benefaction(?), to which the benefactor associated their daughter. If fragm. a and c are associated, a reading could be ---sestertiu]m s[exagi? eptuagi?]nta milia num[mum---. Fragm. a, l. 1 may record the benefactor [---] Hel[dius?] OR Hel[venatius?], two gentes known from *Sentinum*; alternatively, it may refer to a building, e.g. ---t]her[mas---, with the name of the benefactor on l. 2

Dating: 2nd cent. AD?

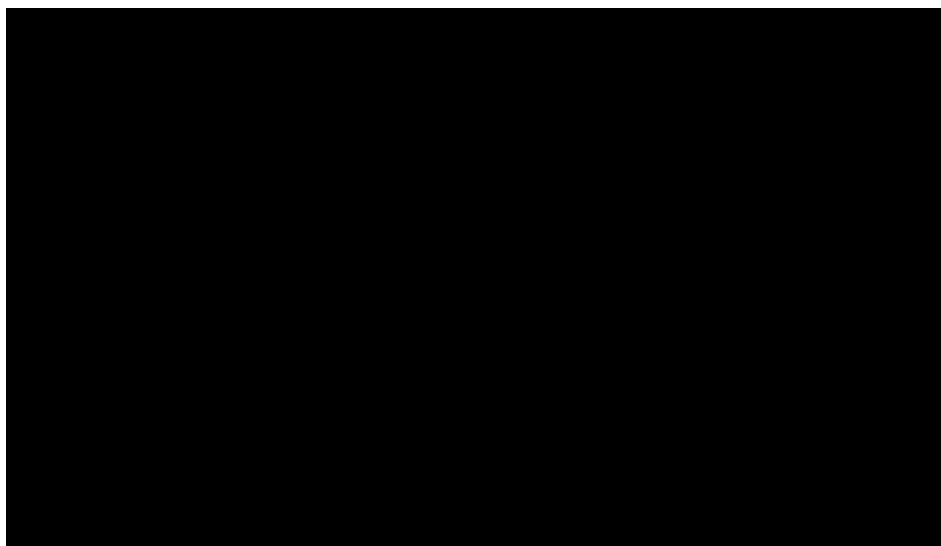


Figure 184: Inscription PACI 1981, cat. 12 (© EDR).

11 – Bibliography

Descriptions, interpretation: DE MARINIS, SILVESTRINI & PALERMO 2008; MEDRI 2008, 310–314; 2014

Mentions, brief descriptions, excavation reports: ANNIBALDI 1952; 1953; FABBRINI 1961, 321; BRECCIAROLI TABORELLI 1976, 52–56; 1978, 26–27; CAVALLO & SIVORI 2008, 192 (construction materials)

12 – Illustrations

City plans: MEDRI 2014, fig. 2

Plans: BRECCIAROLI TABORELLI 1976, fig. 5; BRECCIAROLI TABORELLI 1978, pl. 7; DE MARINIS, SILVESTRINI & PALERMO 2008, pl. 55–56; MEDRI 2014, fig. 1, 4

Pictures: BRECCIAROLI TABORELLI 1976, fig. 9–13; BRECCIAROLI TABORELLI 1978, pl. 8; DE MARINIS, SILVESTRINI & PALERMO 2008, pl. 57–59.1, 62–66.1

Decoration and material: DE MARINIS, SILVESTRINI & PALERMO 2008, pl. 59.2–61, 66.2

3D reconstructions: DE MARINIS, SILVESTRINI & PALERMO 2008, pl. 66.3

Sentinum, Extraurban Baths

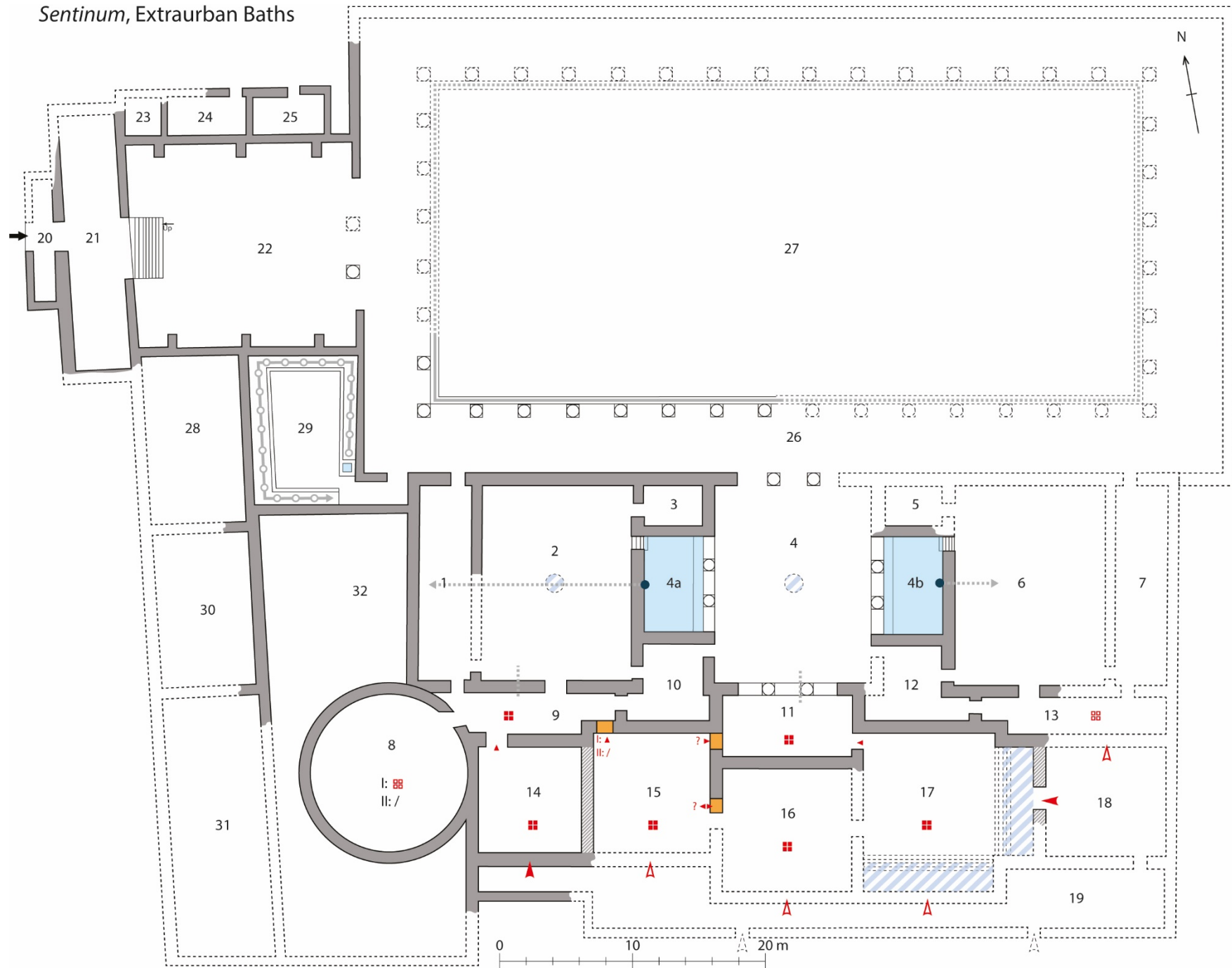


Figure 185: Plan of the Extraurban Baths of *Sentinum* (after MEDRI 2014, fig. 1, 4).

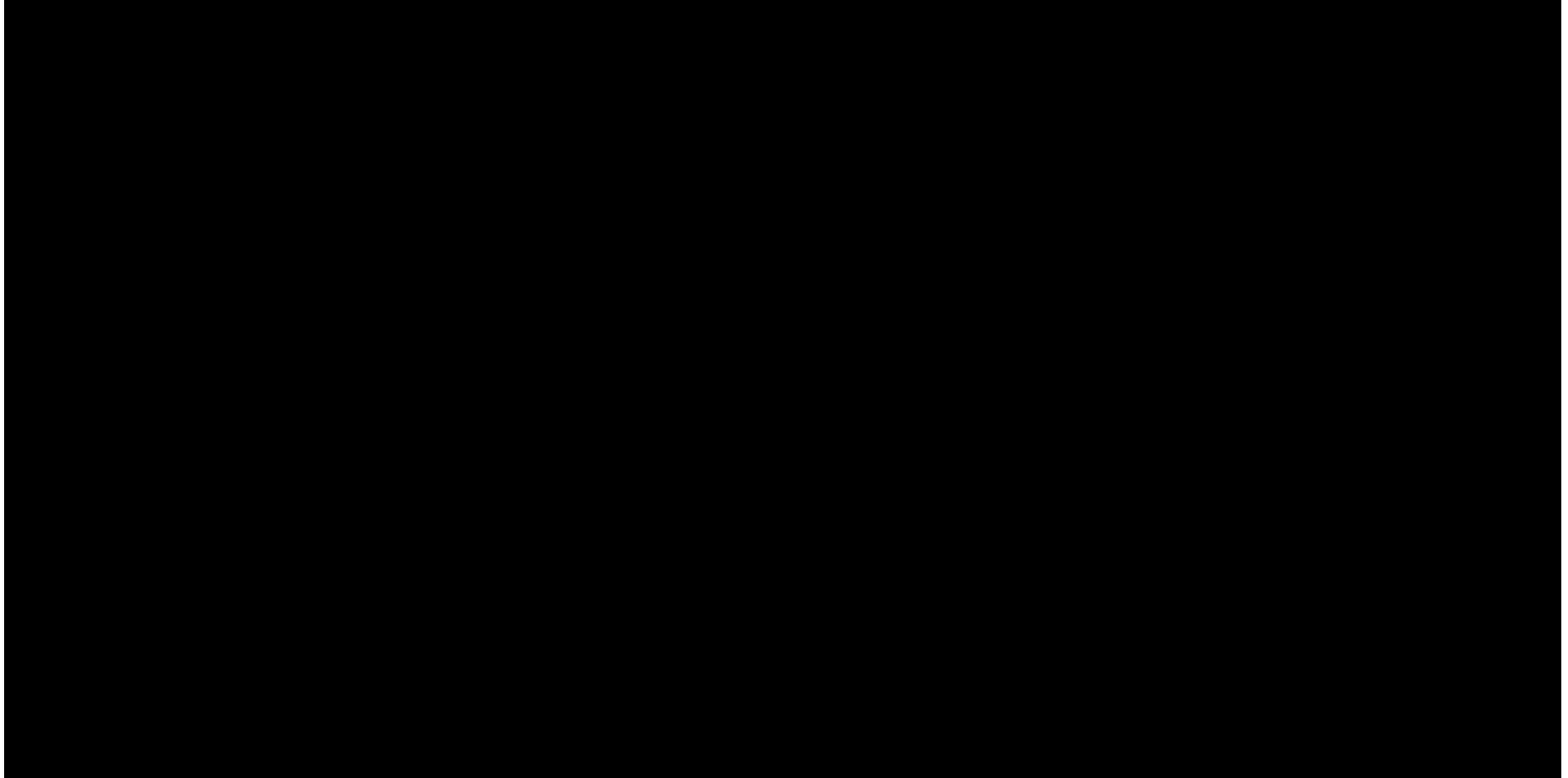


Figure 186: Extraurban Baths of *Sentinum*. Panoramic view from R27, from N (T) and E (B).

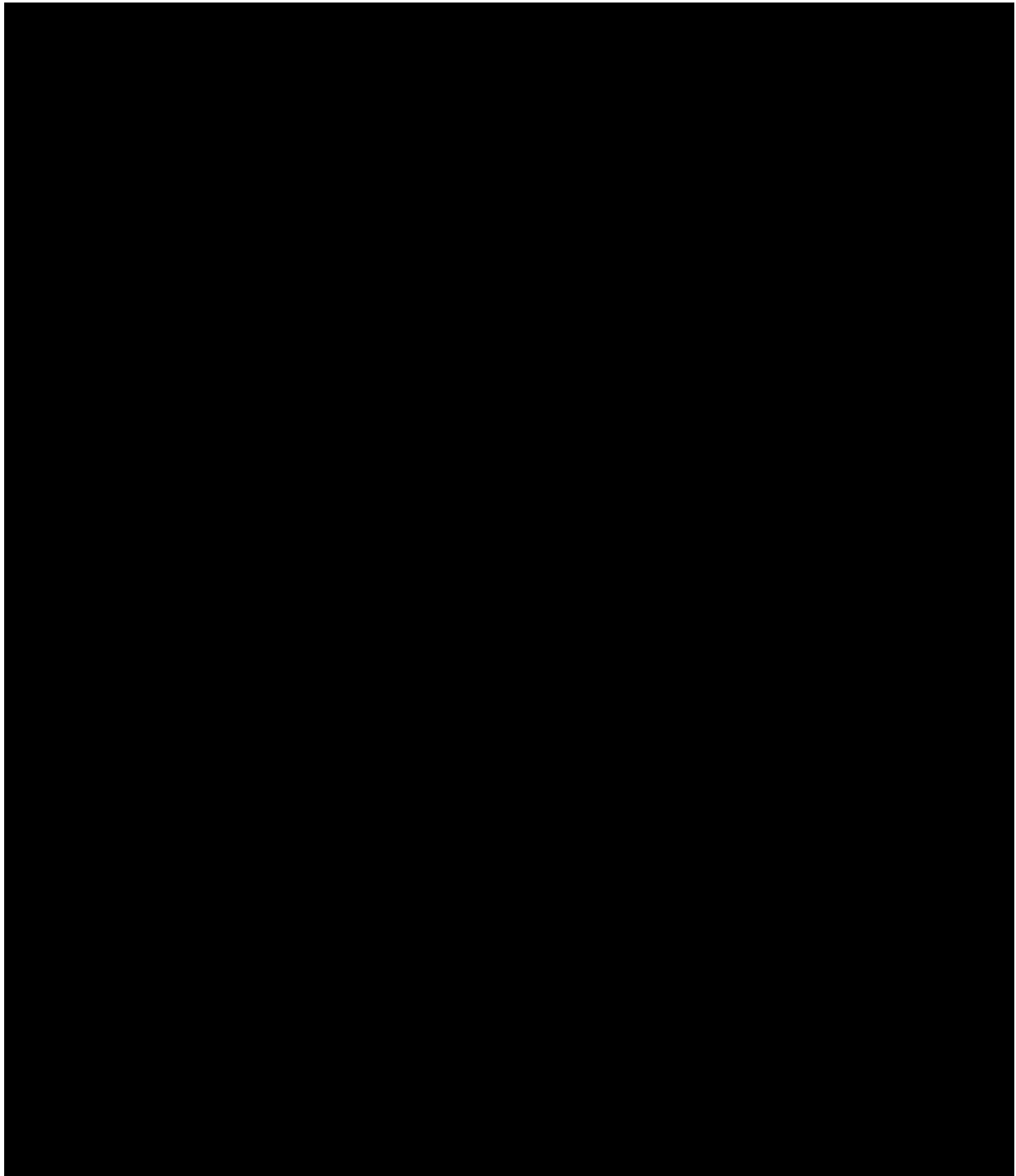


Figure 187A–H: Extraurban Baths of *Sentinum*: **A:** view from R22, from W. **B:** 3D model of W part of bathing block, according to De Marinis *et al.* **C:** R4, from NE. **D:** R4b, from N. **E–F:** details of R4a: stone blocks supporting columns, from E; access staircase, from SE. **G:** panoramic view of R2, from W; the central white strip indicates the position of a water disposal channel. **H:** R1, from N (B: DE MARINIS, SILVESTRINI & PALERMO 2008, pl. LXVII.2).

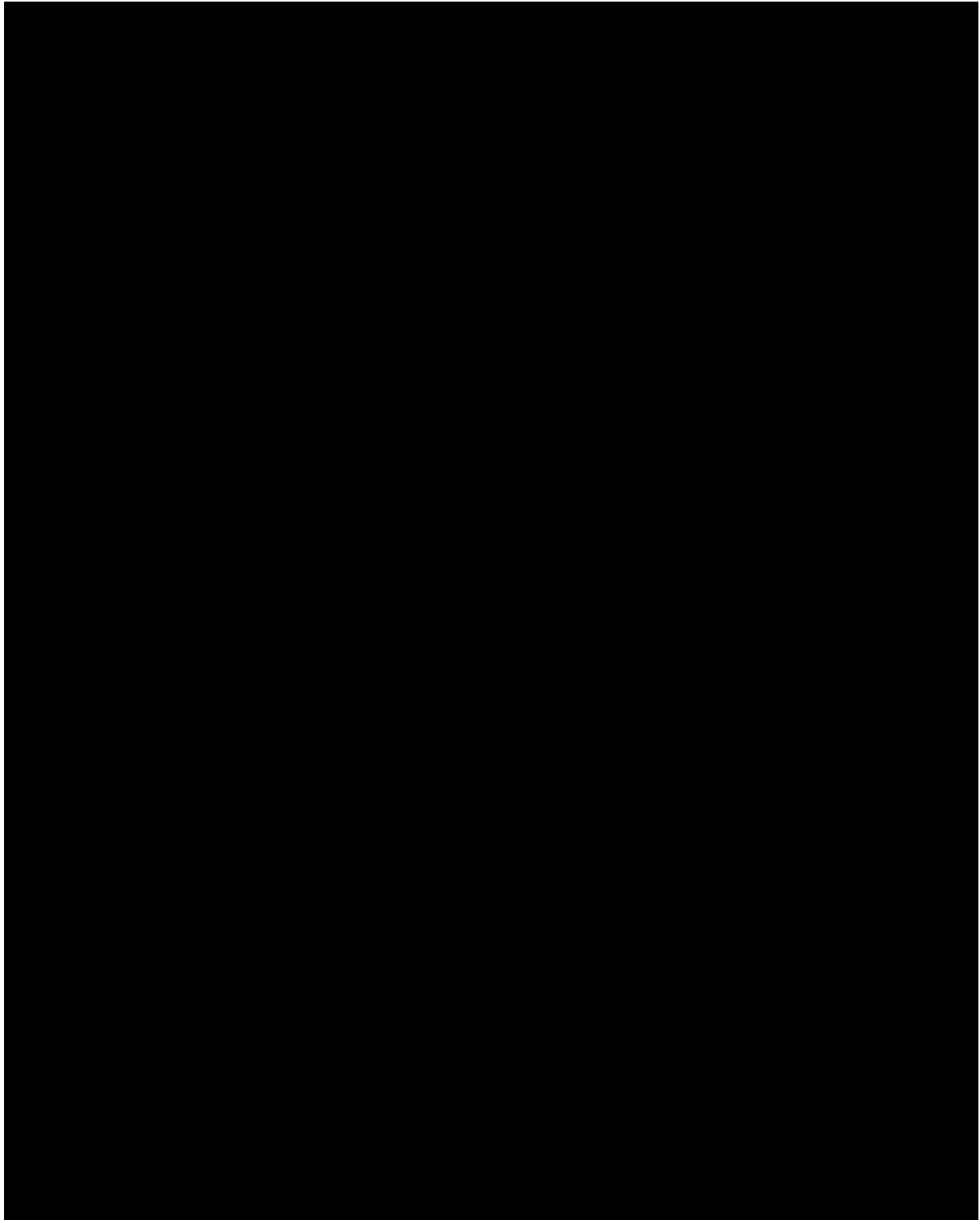


Figure 188A–H: Extraurban Baths of *Sentinum*. Heated block: **A:** R11, from S. **B:** R17, from E. **C:** R9, from W. **D:** R8, from SW. NW block: **E:** latrine R29, from S. **F:** R24–R25, from S. **G:** R22 and marble floor of corridor in front of R23, R24 and R25, from NE (C: DE MARINIS, SILVESTRI & PALERMO 2008, pl. LXII.2, D: LUNI 2003, fig. 63).

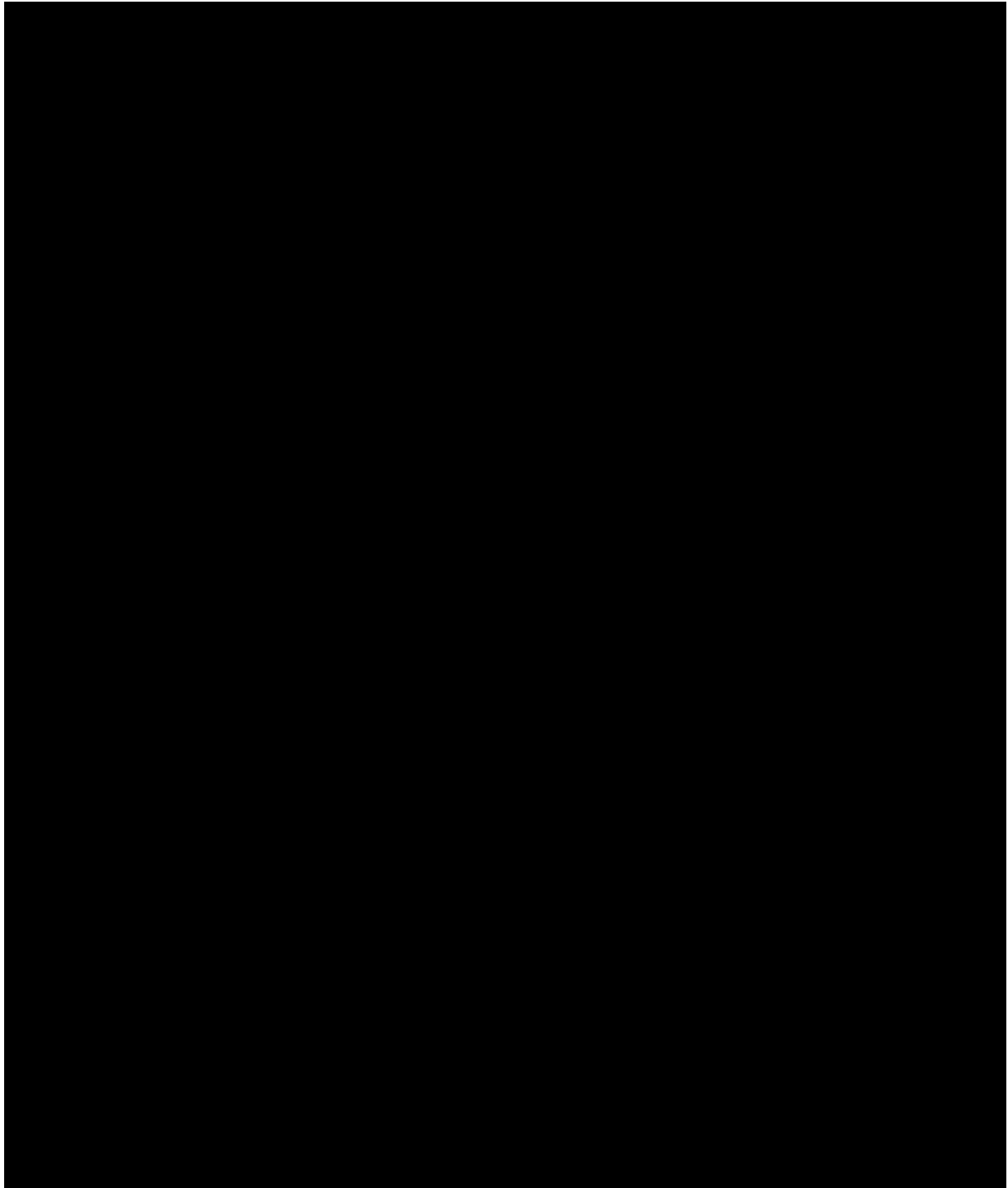


Figure 189A–H: Extraurban Baths of *Sentinum*. Constructional aspects: **A**: facing alternating courses of brick and irregular pieces of stone (R8). **B**: brick facing (R11, S wall). **C**: facing of horizontal courses of stone blocks (R22, S wall). Heating: **D**: detail of hypocaust (R9). **E**: *praefurnium* heating R14. **F**: *cocciopesto* lining of hypocaust (SE corner of R9). **G**: remains of the *suspensura* floor (lined with marble slabs) collapsed on the *cocciopesto area* in R16. Water: **H**: blocked-up water disposal channel in the E wall of R4b. Decoration: **I**: mosaic floor of R12, from E. **J**: mosaic floor of R2. **K**: marble floor of R4 (D–E, G, I–J: DE MARINIS, SILVESTRINI & PALERMO 2008, pl. LX.1, LXI.2, LXII.3, LXIV.2, LXV.1–2).

1 – Location

1.1 – Marche, province of Ancona, Comune of Sassoferrato

1.2 – 12.85297 E, 43.42179 N

1.3 – Within the city walls, in the NE part of the city, next to the forum, between a residential ('*Insula del Pozzo*') and a productive area (fonderia). The area of the baths is bound to the W, S and E by roads (*decumanus* 1 North to the S, *cardo* I East to the E, *cardo* V East to the W), and to the N by a wall.

2 – Preservation

2.1 – The E and S sections of the baths were damaged by the construction of a provincial road, a parking lot, and an access road. The rest of the baths is poorly preserved: the walls are preserved only in foundations or at the level of the hypocaust. The building has been heavily restored and pool 6a backfilled.

2.2 Part of the archaeological park of *Sentinum*.

3 – Research

3.1 – Discovery mid-20th cent., partly excavated (R6) in 1954–1957 by the Soprintendenza alla Antichità delle Marche (dir. L. Fabbrini). Completely excavated 1974–ca. 1978 (dir. L. Brecciaroli Taborelli), with a deeper trench along the N wall of R6 which revealed pre-thermal phases. New plan in 2003 by Cavallo, in the framework of the project *Sentinum*. Geomagnetometric survey conducted in 2003–2004 in the area of the baths (S. Hay and M. Botacchi). The building has been only summarily studied.

3.2 – Visited in April 2016.

4 – Dimensions

Ca. 1700 m² excavated surface. Ca. 3850 m² estimated total surface area.

5 – Chronology and phasing

5.1 – Dating from BRECCIAROLI TABORELLI 1976, 46–52; 1978, 240. The **visible remains** are dated to the end of the 2nd–beginning of the 3rd cent. AD (M: ceramic, coin of Julia Mamaea dated AD 222–235). In the trench along the N wall of R6, two earlier phases were identified (Late Republican (M); Julio-Claudian/beginning of 1st cent. AD (M)). The apse in R2–R3 is later than the rest of the structures.

5.2 – Unknown.

6 – Description of the remains and identification of rooms

6.1 – Very limited information available. R6 is the largest room of the baths, with a central pool, and the other rooms are arranged around it to the N, E and S, with the heated sector mostly spreading E and S (fig. 190, 192T). **R1–R2–R3–R4–R5** are not fully excavated; they probably formed the N part of the bath building, and they communicated with each other. Between R2 and R3, an apsidal wall was added at a later stage. **R6** (fig. 192BL) was the largest room in the building; roughly square (22.50 m on the side), it was equipped with an open-air central rectangular pool (**R6a**, ca. 10.50 x 8.20 m, accessible via steps in the SW corner) surrounded by a 4.60 m wide peristyle; it had a mosaic floor. Its SE corner was occupied by R7. **R8–R9** (fig. 192BR) formed a long rectangular room, ca. 16 x 7.50 m, possibly heated (see 6.2), floored with mosaic; the plan published by Fabbrini shows an E–W wall, suggesting the room might have been divided in two separate spaces at some point. **R10** (ca. 7.50 x 6 m), **R13** (fig. 192A, 193A, ca. 11 x 9 m) and **R19** (fig. 193B, ca. 12.30 x 7.50 m) were heated rooms, with **R7** (subdivided in two smaller spaces according to Cavallo's plan), **R12** (accessible from R5) and **R18** containing their respective furnaces. Little is known about **R11** (fig. 193A, ca. 5.30 x 3.30 m), **R14** (2 m wide, E part lost), **R17** (4.70 m wide, E part missing). **R15** and **R16** communicated with each other; the latter was equipped with a small pool **R16a** (fig. 193G), decorated with marble slabs.

6.2 – The limited state of excavation and preservation, along with the heavy restoration that followed, make reconstructing the circulation within the baths difficult. The main room seemed to be the large atrium with pool R6. The distribution of the heated rooms (R13, R10, R19, possibly R9) is unusual, and it would be surprising if the heated rooms R13 and R10 were not connected by another heated room – R9 in this case (see 8.1). R20 could indeed be a latrine, as an E–W water channel coming from R16 is visible along its N wall.

Cavallo proposed a reconstruction of the circuits and functions of the rooms (fig. 191); he however did not present the evidence he used. He reconstructed two circuits:

- the first one starting in R1 – *apodyterium* R2 – atrium with pool R6 – *frigidarium* R8/R9 with pool R3 – *tepidarium* R10 – *sudatorium* R19 – *caldarium* with pools R28;
- the second one starting from the E *cardo*, with *apodyterium* R26, several rooms with unidentified function (R17–R16–R15) equipped with small pools (R14, R16a), and a *caldarium* in R13, with heated pools R11 and R22.

If the reconstruction of the first circuit is mostly plausible, the second one is more problematic. Based on what is visible today, the following observations can be made about the functions of the rooms:

- Most of the proposed communication between rooms are hypothetical. If hypocaust connection were usually in correspondence with communication between the rooms themselves, this was not necessarily always the case.
- There is no evidence that R8/R9 was a *frigidarium*. R3 is also wider than R8/R9, which would be unusual for a *frigidarium*'s pool. R6 would actually be a better candidate as *frigidarium*.

- There is no evidence for restoring a pool in R22. R11 might not have been a pool either, as it is bound by a wall to the S at the level of the hypocaust, whereas *pilae* would be expected to allow hot air to flow under the possible pool.
- There is no visible evidence on site to determine if R14 was indeed a pool.

7 – Construction techniques and materials

7.1 – /

7.2 – Most facings have been heavily restored. The walls of the phases pre-dating the visible remains (in the trench along the N wall of R6) were faced with horizontal courses of small blocks of local pinkish limestone. The walls of the visible remains are faced with the same technique, with thinner, less regular blocks, and a core of pebbles and stone chips bound with a sandy mortar.

Horizontal courses of brick (fig. 193C–D) are also used as facing for the following walls: wall between R9–R10, R12 W wall, walls between R15–R16–R17 and all walls of R16a (inner and outer facing).

7.3 – /

8 – Heating devices

8.1 – Three preserved *praeefurnia* in R7 (B, fig. 193F), R12 (C), R18 (A, fig. 193B, 193E), heating R10, R13, and R19, respectively; they were made of outwards projecting channels, in a different stone than the one used for facing. One, maybe two different types of stone were used for those channels, and some bear the traces of heavy calcination. If R8/R9 was heated directly, a *praeefurnium* could have been located in R3, R5 or even R11, but no signs of a furnace are nowadays visible in any of these rooms.

8.2 – *Pilae* made of *bessales* in R13 (fig. 193A) and R19 (fig. 193B), of circular brick (diam. 21 cm, thick. 5 cm) in R10 (fig. 193C–D). The following connections between hypocausts are visible on site: R10–R19, R19–R28 (two connections). There seems to be connections between the hypocaust of R13 and R9, and between that of R10 and R9, suggesting that R9 was heated too.

9 – Water management

9.1 – No direct information. Many wells are scattered in the urban area, and at some point the city was also supplied by an aqueduct, remains of which have been found 2 km south of the city.

9.2 – Pools R6a and R16a required cold water; according to Cavallo's reconstruction, pools R11, R14, R22, R28a and R28b also required water, warm for all but R14.

9.3 – On Brecciaroli Taborelli 1978 plan, a drain goes from the S wall of R15 and SE, possibly joining latrine R20. Pool R16a (fig. 193G–H) also probably emptied in a channel flowing eastwards, flushing latrine R20.

10 – Decoration and material

10.1 – Mention of mosaic floors in several rooms: monochrome white, sometimes with small black crosses (e.g. R8/R9) or with a thin black(?) frame. Some restorations with terracotta elements and small marble slabs. R6 was floored with a white mosaic, under which remains of previous floor in *opus spicatum* were found. In R2–R3, when an apse was added in a later phase, the floor was paved with rectangular slabs of grey marble framed by a thin strip of giallo antico and pink marble. The imprint of marble slabs was preserved in the *cocciopesto* of R16a.

10.2 – No information available.

11 – Bibliography

FABBRINI 1961, 321 (mention); BRECCIAROLI TABORELLI 1976, 42–52 (excavation report of trench in room 2–7); BRECCIAROLI TABORELLI 1978, 23–24 (brief report); GAGGIOTTI *et al.* 1980, 219 (mention); CAVALLO 2008 (brief report); CAVALLO & SIVORI 2008, 192 (construction materials) FABBRINI 1961, 321, note 15 mentions a report of earlier excavations by Maiuri (NSc 1951, 116-) but the reference is erroneous.

12 – Illustrations

Plans: BRECCIAROLI TABORELLI 1976, fig. 2; BRECCIAROLI TABORELLI 1978, tav. 3; CAVALLO 2008, pl. 106 fig. 2, pl. 107–108

Pictures: FABBRINI 1961, fig. 10; BRECCIAROLI TABORELLI 1976, fig. 6–8

3D model: CAVALLO 2008, pl. 108 fig. 2

Sentinum, Urban Baths

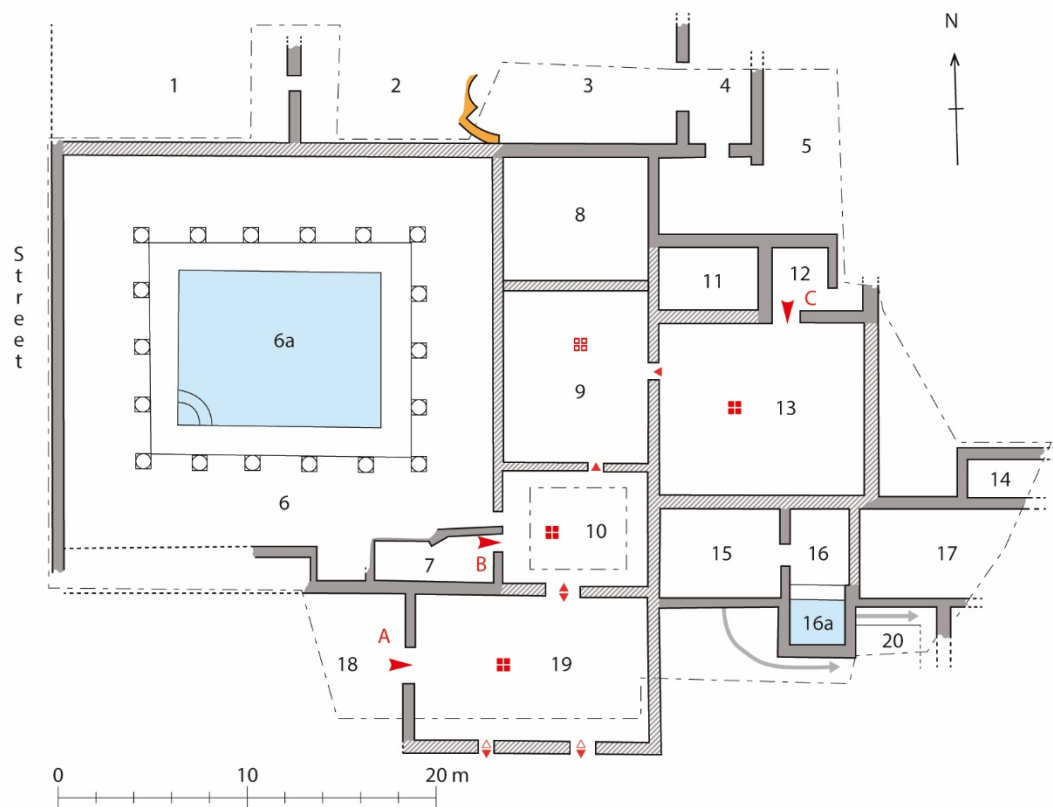


Figure 190: Plan of the Urban Baths of *Sentinum* (after BRECCIAROLI TABORELLI 1978, pl. 3; CAVALLO 2008, pl. 106 fig. 2).

Sentinum, Urban Baths

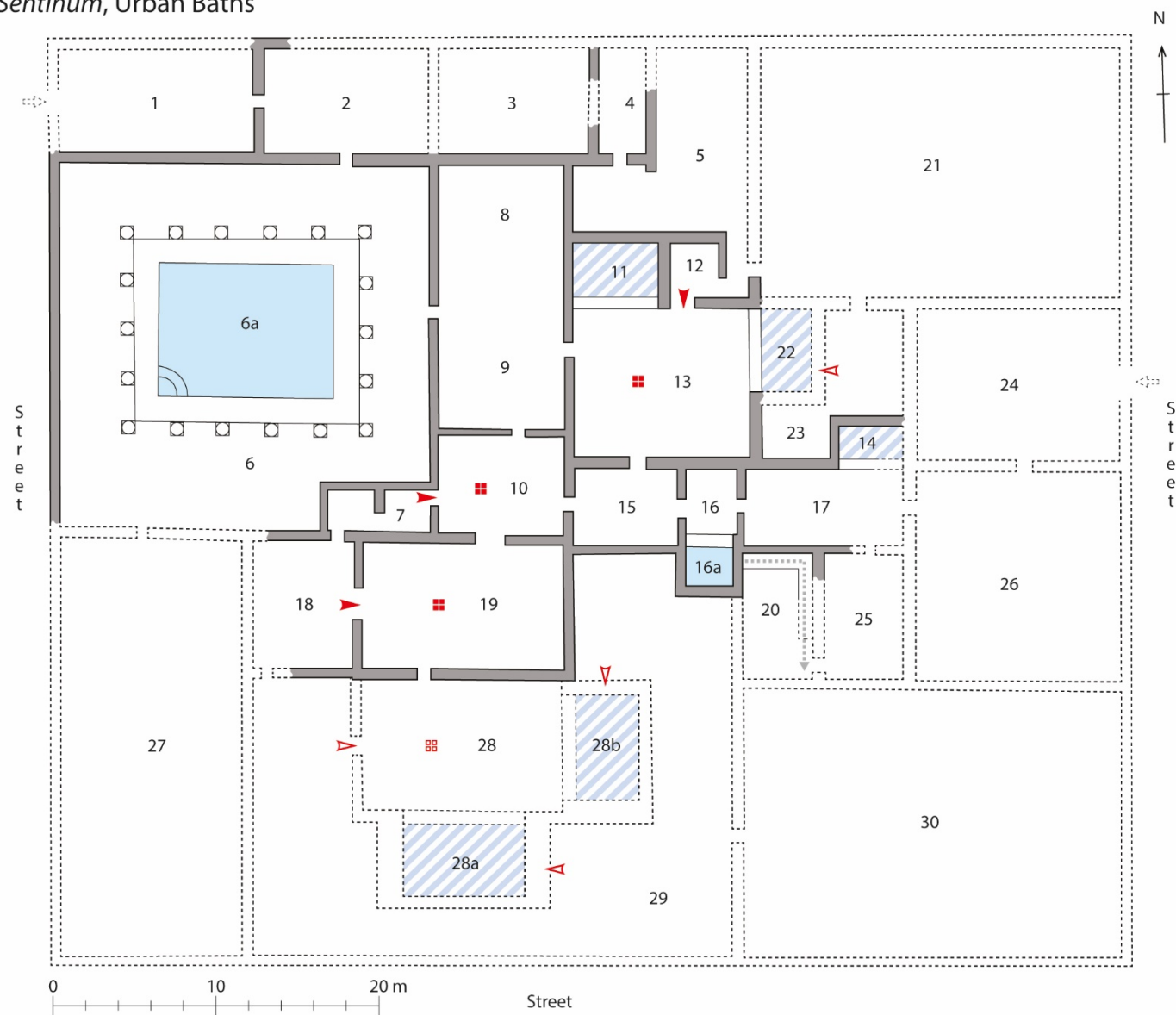


Figure 191: Hypothetical reconstruction of the plan of the Urban Baths of *Sentinum*, according to Cavallo (after CAVALLO 2008, pl. 106 fig. 2).

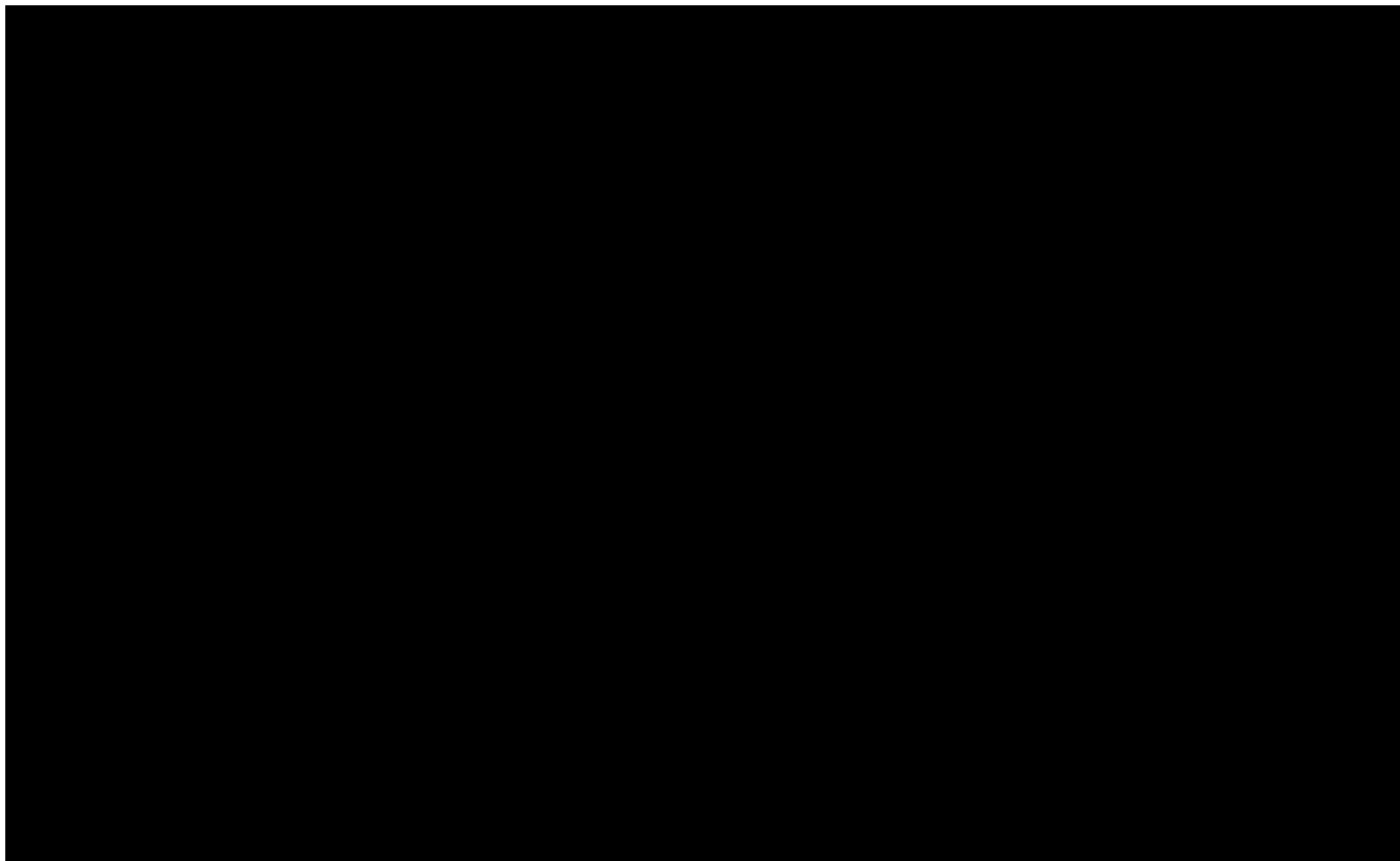


Figure 192: Urban Baths of *Sentinum*. **T**: general view of the baths from R17, from E. **BL**: R6–R6a, from N. **BR**: R8/R9, from S.

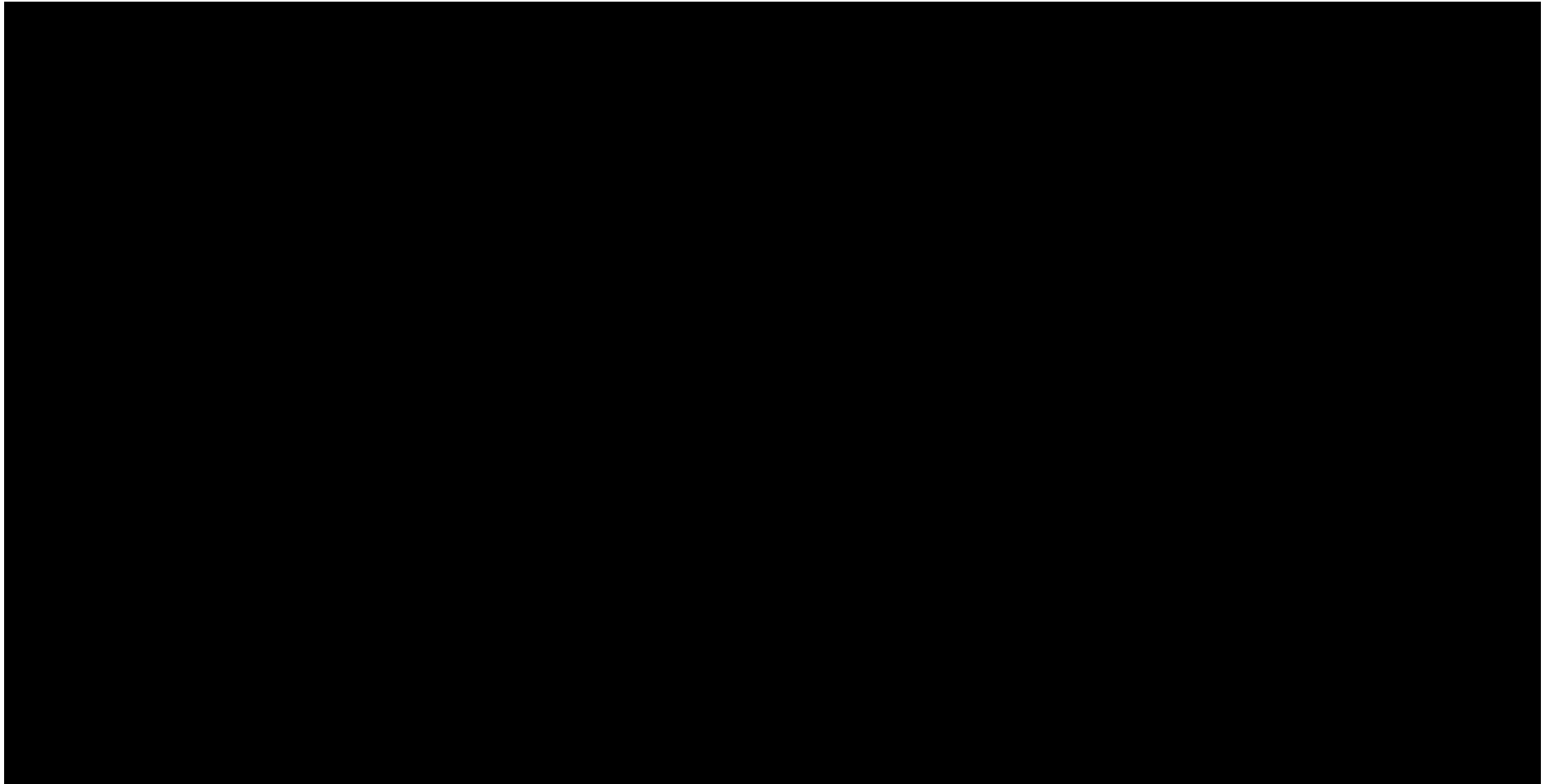


Figure 193A-H: Urban Baths of *Sentinum*. **A**: R13 and adjoining rooms, from SE. **B**: R19, from W. **C–D**: Construction materials in R10, to N. **E–F**: Heating systems. *Praefurnium* A (from S, also visible in picture **B**) and *praefurnium* B (from W). **G–H**: Water system. Pool R16a and disposal channel heading eastwards under latrine R20, from S and W.

1 – Location

1.1 – Province of Macerata, Comune of San Severino Marche

1.2 – 13.196260 E, 43.236298 N

1.3 – Inside the city walls, at the centre of the urban area, close to the crossroads of the *cardo* and *decumanus maximi*, in an area occupied since the Late Republican period. Possibly W of the forum. Nowadays in front of the church of SM della Pieve.

2 – Preservation

2.1 – Very good in plan, foundation/hypocaust level in elevation. Floors and elevations heavily restored. The N half of the building (R2 to R10) as well as R1a and the S half of R12 are covered by a roof, the supports of which are encased in the masonry of the walls.

2.2 – Part of the Parco archeologico di Septempeda.

3 – Research

3.1 – Excavated 1971–1974 by the Soprintendenza alle [REDACTED] delle Marche (dir. R. Vighi, then L. Mercado). R9, R10, R11 and R12 were not fully excavated.

3.2 – Visited in April 2018

4 – Dimensions

Ca. 1,100 m² (roughly inscribed in a rectangle, ca. 37.50–39.50 x 29.50 m). *Palaestra* R1: 530 m². Bathing block (R2 to R8): 275 m², of which 150 m² for the heated sector (R6 to R8).

5 – Chronology and phasing

5.1 – Pre-bathing phase: 3rd–1st cent. BC (M)

Republican-period temple, kiln

I: early imperial / Early 1st cent. AD (?)

5.2 – 4th / 5th cent. AD (?)

6 – Description of the remains and identification of rooms

6.1 – The baths (fig. 194) occupied a roughly square plot of land (ca. 32 x 29 m) bound on three sides by streets (N, E, W); it was organised in two blocks, a large open-air courtyard (R1) to the S and the bathing block to the N. The main entrance was through **R1** (fig. 195A), a roughly rectangular courtyard (ca. 18.50–18.90 x 28–28.50 m) with a colonnade of pilasters running on three sides (W, S, E), delimiting a ca. 2.80–3.10 m wide ambulatory. The E part of the open-air area was occupied by a N–S oriented pool (**R1a**, 8.2 x 3.8 m inner dimensions, 0.90 m deep)

accessible by two steps made of large stone blocks on each short end (fig. 195B).¹⁵ R1 led towards R2 (N), R12 (NW) and R14 (W). **R2** (fig. 195D) was a trapezoidal room (ca. 3.20–3.70 x 5.90 m), accessible from R1 and leading to R3 through a 2.80 m long threshold and to R6 into the heated section. Mosaic floor. **R3** (fig. 195C), accessible from R2, measured 8.20 x 4.70 m. Mosaic floor with some stone slabs, probably later restorations. Maréchal reconstructs a pool/basin along the W wall, of which there are no traces visible today (see discussion 6.2). From R3, access was possible to **R4** (4.20 x 5.20 m, mosaic floor, 1.90 x 0.75 m bench-like structure in NE corner) and possibly to **R5** (5.30 x 3.60 m, mosaic floor with stone slabs patches); R4 and R5 (fig. 195C) communicated with each other. **R6** (fig. 195E) was a roughly square heated room (6.70 x 5.90 m), heated indirectly or from the S (R1), leading to **R7**, a second heated room, 6.50 x 5.90 m, heated from the W (R12). R7 led into **R8** (maximum dimensions 9.40 m E–W, 8.30 m N–S), a rectangular heated room (fig. 195F–G) with a semi-circular apse in the N part and thickening of the walls in the SW and SE parts, creating two rectangular lateral recesses, probably to accommodate pools **R8a** and **R8b** (both 4.50 x 2.10 m). Mosaic floor. **R9** was a rectangular room (ca. 5.8 x 2.4 m) accessed from the N and/or from **R10**, a room of unclear dimensions, possibly ca. 6.30 m E–W; the *praefurnia* to heat R8 were operated from R9 and R10. The W boundary of the N half of the building are unclear: nothing is known of **R11**, and from **R12** (ca. 12.30 m long), accessible from R1, was operated a *praefurnium* for the heating of R7. Virtually nothing is nowadays visible of R13–R14–R15–R16–R17–R18–R19, and apart from R13 and R14 they may not have been part of the bath building. From a plan on a board at the entrance of the site, **R13** and **R14** may have had benches along some walls; R14 was accessible from R1.

6.2 – The rooms have traditionally been identified as *palaestra* R1 with *natatio* R1a, *apodyterium* R2, *tepidarium* R6, *sudatorium* R7, *caldarium* R8 with two heated pools R8a–R8b (and hypothetical *labrum* in the apse, as reconstructed by Maréchal), and possible *frigidarium* R3 according to an information board on site and to Maréchal, who restored a ca. 2.50 x 1.70 m pool/basin along the W wall (no traces of such basin are visible today, and it does not appear on the plan on the board at the entrance of the site). R9–R10 and R12 were service areas from where the *praefurnia* were operated.

Retrograde path, starting with the *palaestra* + *natatio* R1–R1a, R2, possible passage in rooms R3–R4–R5 and retrograde path in heated rooms R6–R7–R8.

The identification of R3 as *frigidarium* is problematic, not only because of the issue of the presence/absence of a pool, but also because of its position off from the main path to the heated rooms. Alternatively, this could be an example of a bath building where the function of *frigidarium* was assumed by the *natatio* in the *palaestra*.

¹⁵ N stairs, bottom step, rise 0.38 m, tread 0.27 m; upper step, rise 0.42 m, tread 0.40 m. S stairs, bottom step, rise 0.48 m, tread 0.27 m; upper step, rise 0.42 m, tread 0.43 m.

7 – Construction techniques and materials

7.1 – *Opus spicatum* in R1 and R1a (fig. 196A), apart from a ca. 2 x 4 m patch in R1, against N wall, at the level of R7, made of CBM.

7.2 – The wall facings were heavily restored. Brick-faced concrete in all rooms (fig. 196A) apart from R6, where the brick-facing was restricted to the N wall, and the W, N and E walls were made with pebbles sunk mortar—the differences are probably due to modern restorations. A Corinthian capital was reused in the foundations of the N wall of R4 (fig. 197B). In R8, in NE part of apse, some brick courses were replaced by a facing in *opus spicatum* (fig. 196B). The outer side of the W wall was faced with irregular courses of stone blocks (probably modern restoration), the walls of R13–R14 were also faced in horizontal courses of stone blocks, and the walls of R16–R17 were apparently made of architectonic blocks (column drums? Large squared ashlar?).

7.3 – No evidence.

8 – Heating devices

8.1 – A now visible gap in S wall of **R6** and the presence of a refractory stone slab against one of the sides of the gap (fig. 196E–F) strongly suggests R6 was directly heated from the S, indicating the presence of a *praefurnium* (A) in the *palaestra* area R1. **R7** was heated from the W (R12); a worn-out refractory stone of the *praefurnium* is still in place. Three *praefurnia* heating **R8**: *praefurnium* C (fig. 196G–H) in NW corner, with longitudinal extensions made of refractory stone slabs (ca. 0.20 m thick) entering the room (outer part not excavated; ca. 0.35 m between slabs). Second *praefurnium* (D, fig. 196D) in the main axis, in N apse, made with inner longitudinal extensions covered by a lintel (ca. 0.88 m long, ca. 0.40 m thick), all made of large blocks of probably refractory stone; the *praefurnium* was covered by a brick arch. Height under lintel: ca. 0.65 m. Between *praefurnia* C and D was a narrow opening in the wall of the hypocaust (fig. 196C), with the sides covered by tiles and roofed a cappuccina by two tile fragments (ca. 70 cm max height, ca. 35 cm width); a similar passage was restored in modern times between *praefurnia* D and E. Probably a third *praefurnium* (E) in the NE corner, under pool R8b. *Praefurnium* C and/or E must have been equipped with a boiler.

8.2 – R6, R7 and R8 were heated. Ca. 0.70 m high *pilae* (as restored in R7) made of square bricks (*bessales*?) on area of tiles with broken-off flanges (fig. 195E and G). The tiles in R6 did not follow a regular disposition and were smaller than usual, closer to ca. 40 x 25 cm (exact dimensions unknown), whereas the tiles in R7–R8 resembled the usual 60 x 40 cm tiles. *Suspensura* made of one layer of *bipedales* (7 cm thick) covered by a thick (>23 cm) layer of *cocciopesto*. Vertically-set tiles against the walls of the hypocausts for protection, preserved in the apse of R8 (fig. 196C) and against the W and E walls of R6. Remains of *tubuli* in R8. Connection between hypocausts: one between R6–R7, three (ca. 0.50 m wide) between R7–R8 (fig. 195G).

9 – Water management

9.1 – No information available. A well in R18 suggests groundwater was available, but there is no evidence an association of the well with the bath building.

9.2 – The pools R8a, R8b and R1a (fig. 195B) had to be supplied with water, as well as a possible *labrum* in R8 and a hypothetical pool in R3.

9.3 – In R1a, remains of a lead *fistula* for drainage in E wall, close to SE corner (fig. 197C). Series of water disposal channels running under R1.

10 – Decoration and material

10.1 – Remains of mosaic floors in R2, R3 (fig. 197A), R4, R5, R8, monochrome white. In R3 and R5, further presence of patches of stone slabs as floor, possibly restorations post-construction (fig. 197A). Mention of marble veneer for lower parts of walls and possible wallpainting on upper parts; mention of travertine decorative elements.

10.2 – No information available

11 – Bibliography

MARECHAL 2017. Brief mentions: SGUBINI MORETTI 1973–1974; GAGGIOTTI *et al.* 1980, 254; LANDOLFI 2003, 58–59; SISANI 2006, 329; VERMEULEN 2012, 337–338.

12 – Illustrations

MARECHAL 2017, fig. p. 73 (picture), p. 74 (plan), p. 75 (3D model). Information board at the entrance of the site (city plan, plan).

Septempeda

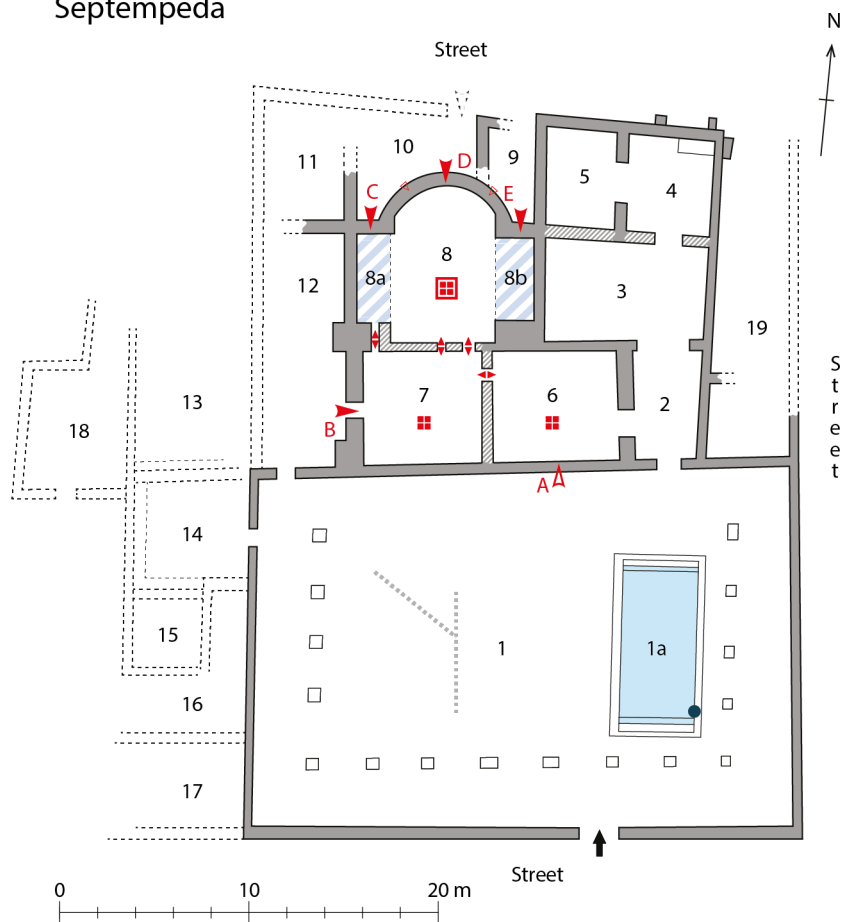


Figure 194: Plan of the baths of *Septempeda* (after MARECHAL 2017 and an information board on site).

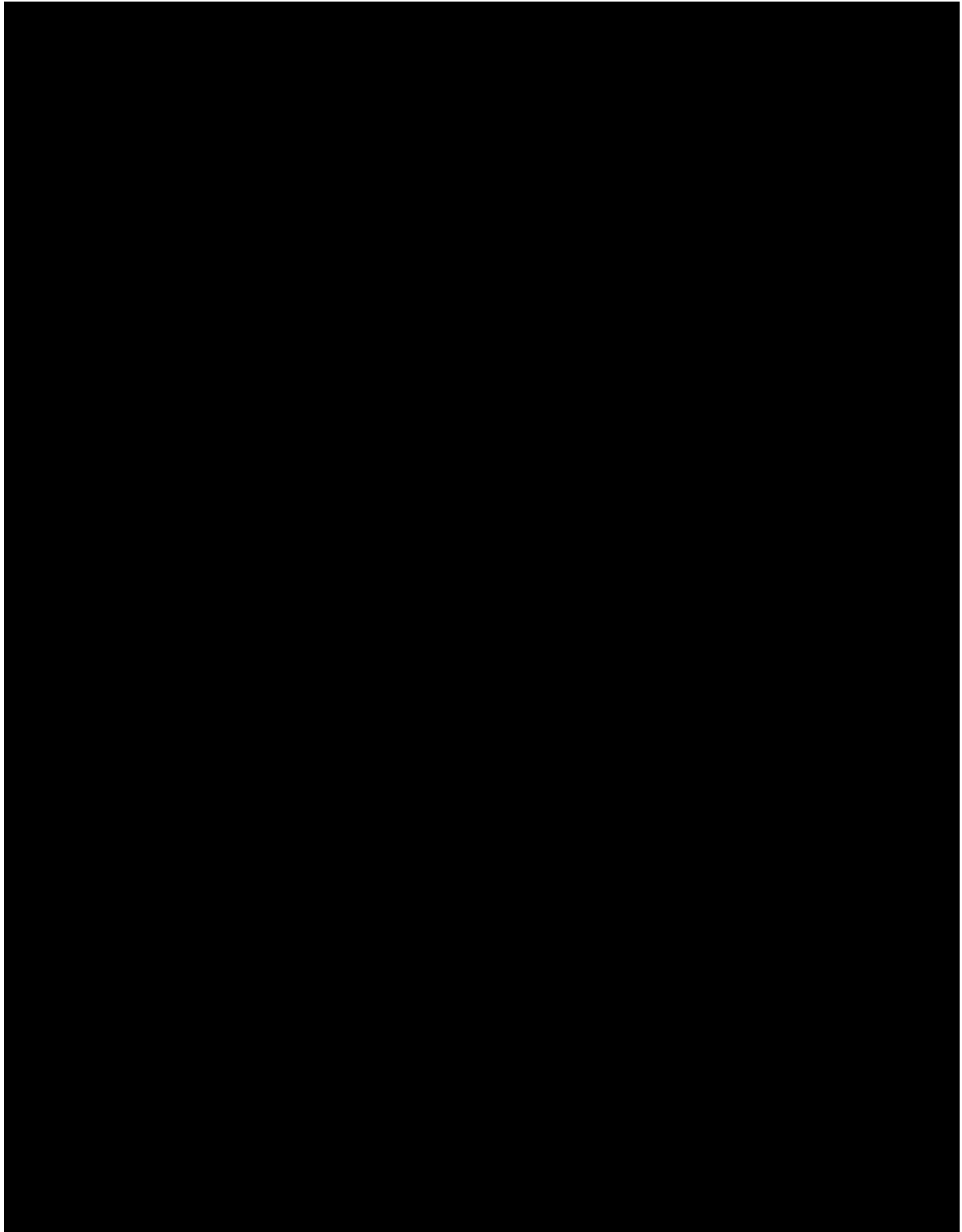


Figure 195A–G: Baths of *Septempeda*, views of individual rooms. **A:** R1, from NW. **B:** R1a, from N. **C:** R3–R4–R5, from SE. **D:** R2, from S. **E:** R6 (and R7 in background), from NE. **H:** R8, from SE. **G:** R8 (and R7 in background), from N (A: © Rendina S.).

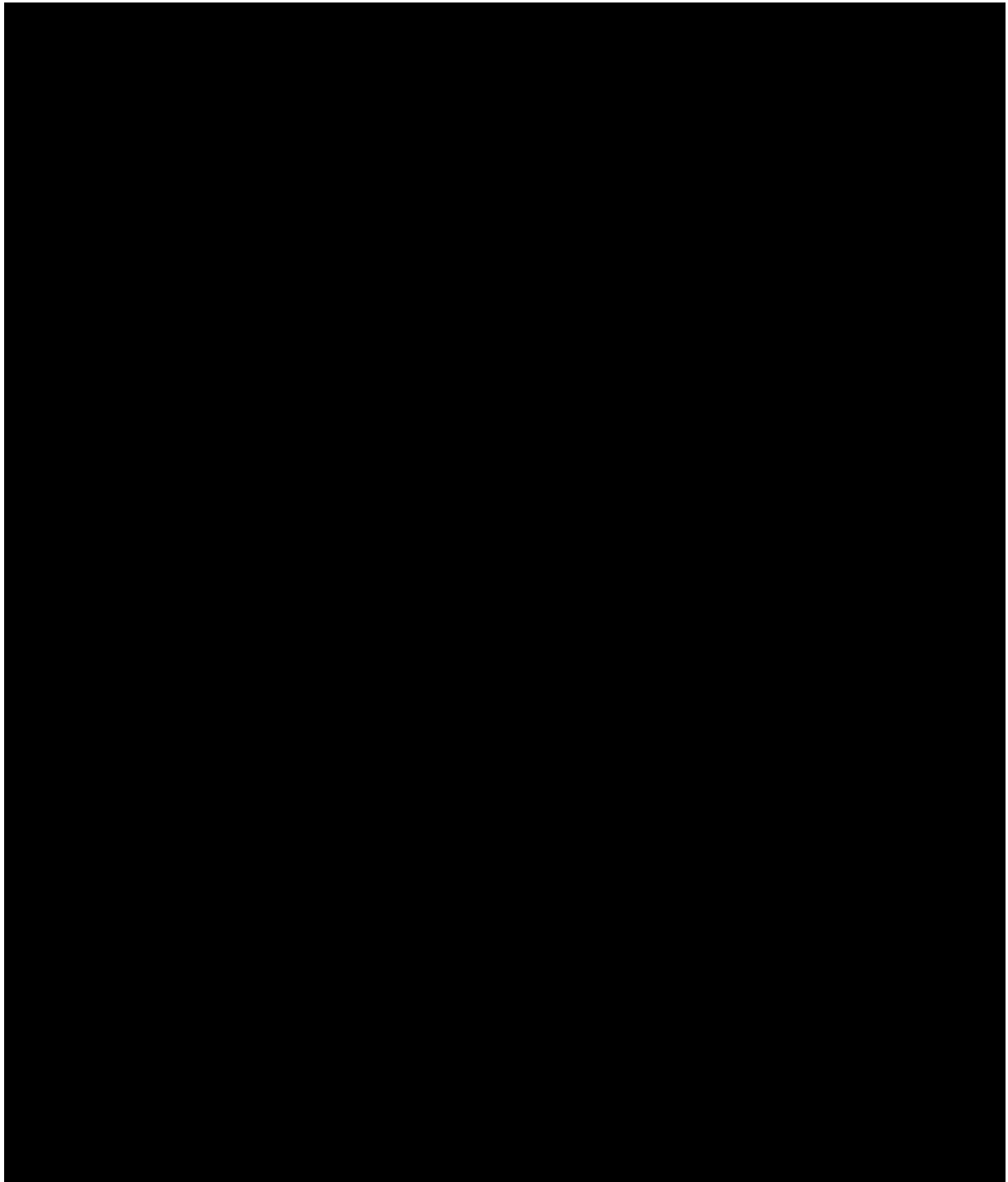


Figure 196A–G: Baths of *Septempeda*, construction materials and heating systems. **A:** brick facing and *opus spicatum* floor in R1a. **B:** Brick and *opus spicatum* facing in R8, N wall. **C:** R8, N apse, detail of the lining of tiles in the hypocaust and opening between *praefurnia* C and D. **D:** *praefurnium* D, from SW. **E–F:** E jamb of *praefurnium* A, and close-up of the stone. **G–H:** *praefurnium* C, and close-up of the stone.

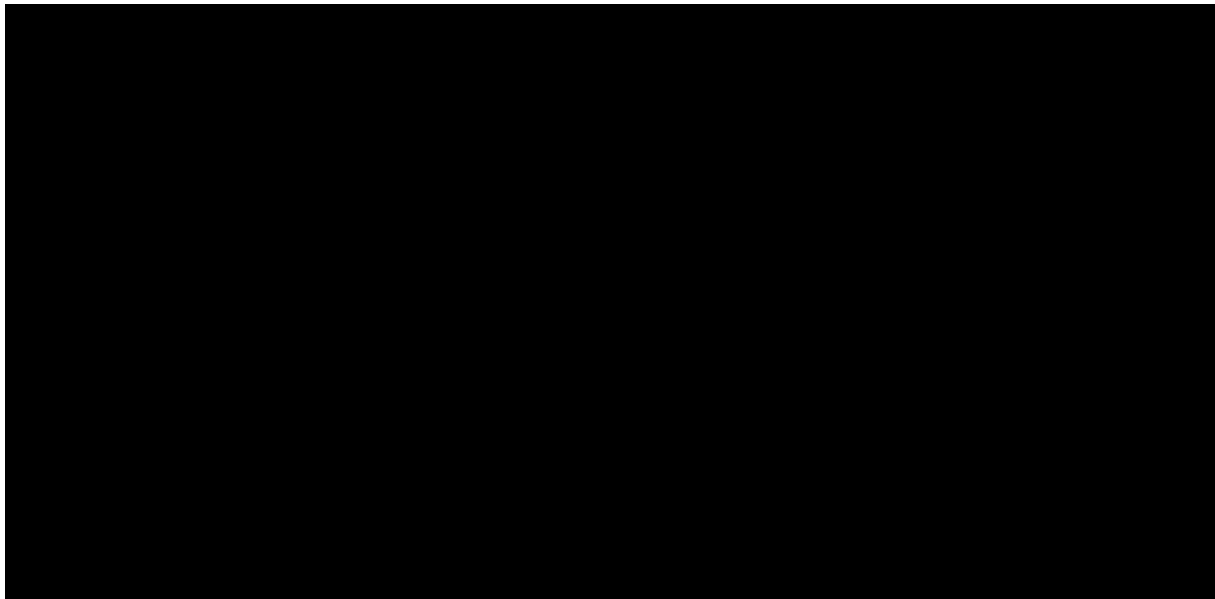


Figure 197A–C: Baths of *Septempeda*, decoration, water management, material. **A:** detail of the mosaic and stone slabs floor in R3, W part of the room. **B:** capital reused in the foundation of the N wall of R4. **C:** drainage lead *fistula* in R1a.

Tifernum Mataurense (Sant'Angelo in Vado)

Ma.10

1 – Location

1.1 – Marche, province of Pesaro e Urbino, Comune of Sant'Angelo in Vado

1.2 – 12.410030 E, 43.663834 N, 360 m asl

1.3 – To the E of the *cardo maximus*, close and to the S of the forum, occupying part of an *insula*.

2 – Preservation

2.1 – Strongly damaged by post-Roman robbing and by modern agriculture and constructions. Decently preserved in plan (NW part obliterated by a 1960s construction), poorly in elevation (foundation level). Walls and floors restored after post-2000 excavations.

2.2 – Currently being excavated. A modern steel roof protects R6–R7.

3 – Research

3.1 – First excavations in the area in 1908 and 1926. Baths identified and their N part (R3–R4, R6 to R14, R22) excavated in 1957 and 1959 (dir. D. Blasi), for which little documentation is left. Backfilled in 1968. New excavations in the area, incl. the N part of the baths, between 2003–2009 by the University of Macerata (dir. E. Catani) along with the Soprintendenza Archeologica (dir. G. de Marinis) and the communal administration, then from 2013 (dir. E. Stortoni) for the S part of the baths; investigations are ongoing.

3.2 – Not visited

4 – Dimensions

Ca. 800 m² brought to light, possibly 1,600 m² overall.

5 – Chronology and phasing

5.1 – Phasing according to STORTONI 2019, which varies slightly from previous publications by the same author

I: Late-Republican period/1st cent. BC (T, CT, M), during urbanization phase of city

- Cold (R6–R7) and hot rooms (R3–R4) on simple axis. Possibly *palaestra* R2 with *natatio* R5. Service rooms to the N (R7 to R14).

II: Augustan period/late 1st cent. BC–early 1st cent. AD (T, CT, M)

- Addition of apse R3a on S side of caldarium R3, and of small room R15 next to the W side of *natatio* R5

III: 1st–early 2nd cent. AD (CT, M, I)

- Enlargement of the bathing complex: construction of heated rooms R17 and R19, with pools R18 and R20 and service rooms for *praefurnia* R16 and R21, by encroaching upon *palaestra* R2; *natatio* R5 and apse R3a no longer in use
- Refurbishment of *caldarium* R3 and *tepidarium* R4 of phase I (hypocaust, floors), with stamped *bipedales* (*Pla. C. F. Proculae; Act. Attico*), circular and square *pilae*, polychrome figurative mosaic pavement with inscription [E73].
- Palaestra R2 possibly extended further S.
- Multiplicity of heated rooms could suggest existence of separate circuits for men and women.

IV: 2nd half 2nd–3rd cent. AD (M)

- Phase of refurbishment and restoration: raising of floor on W part of complex after an alluvial deposit; restoration of wall facings with brick; reduction of width of SW entrance; obliteration of pool R18; reflooring of cold rooms R6–R7.
- Addition of R22, heated, accessible from R3.

5.2 – The city centre is abandoned and destroyed sometime between the late 3rd–5th cent. AD. Construction of a well between R3–R3a after the baths are abandoned. Extensive robbing in Late Antiquity and Middle Ages.

6 – Description of the remains and identification of rooms

6.1 – (Fig. 198–202). Only the W perimetral wall is known, ca. 0.60 m wide, with buttresses (0.90 x 0.29 m) set 3 m apart from each other; there were two entrances from the W *cardo* (fig. 203C), one into R12–R13, the other into the W portico R1 of the *palaestra* R2 (fig. 204).

One access to the baths was from the SW into a short portico **R1** (fig. 204) made of a pair of columns (0.58 m diam.) framed by two semi-columns, 2.70 m apart. It gave access to **R2** (fig. 204), a large space not entirely excavated (S and E limits unknown) occupying the S part

of the baths. Mostly rectangular (estimated length ca. 30 m), it had a small rectangular niche in the N wall, and was encroached upon by R5 in phase I; in later phases, further rooms encroached upon its space (R3a and R15 in phase II, R16–R21 in phase III). **R3** (fig. 203E) and **R4** were two heated rooms, probably communicating with each other. R4 is not fully excavated but its surface area was estimated at ca. 30 m². R3, whose northern part is now under modern constructions, measured 12 x 11 m with a 7.5 x 3.5 m rectangular niche in N wall. In phase II, the S part of room is transformed by the addition of a 3 m deep curvilinear niche (**R3a**). The walls of the niche are doubled by a second wall, covered in *opus signinum*. **R5** is very damaged and was heavily transformed in later phases. In phase I, it measured 12 x 6 m and was possibly accessed from R2; in phase III, the room was defunctionalized to make space for R17–R18. **R6** and **R7** are two non-heated rooms and probably communicated with each other. R6 is almost square (ca. 12 m on the side), mosaic floor in phase II redone in phase IV. R7 is very damaged and its plan is not certain; its mosaic floor was also redone in phase IV. **R8, R9, R10, R11, R12** now lay under modern constructions and are known only through the plans of the 1950s excavations. R8 and R11 contained *praefurnia*; R12 seems to have been a secondary entrance from the street, leading to R11 and probably further to R8. **R13** was modified in phase IV to accommodate R22. Nothing is known of **R14**. **R15** is a square room (4 m on the side) added in phase II by occupying space from R2; it was probably accessed from it. **R16** (fig. 204) was a 6.5 x 5.5 m room added in phase III by destroying the apse R3a; accessible from the W (from R2), it contained a *praefurnium* to heat **R17** (fig. 203A–204, 11.50 x 10.50 m), also built in phase III by destroying R15 and the W part of R5. **R18** (fig. 203A–B) was a 7x6 m pool covered in *cocciopesto*, added in phase III. Against the S wall was set a 0.95 x 0.60 m slab, its short side against the wall, possibly for a decorative element (fountain, statue, column?). Access unclear, but in all likelihood from the N (R6), as the location of the slab for a decorative element suggests. Obliterated in phase IV, filled with reused material and refloored up to the same level as R6. **R19** (fig. 203A–B) was a heated room (8.50 m E–W) added in phase III, not fully excavated; it was heated from R21 to the E. **R20** (fig. 203B, D), not entirely excavated, was a pool (walls covered in waterproof mortar) added in phase III. In phase IV, the waterproof floor is damaged(?) by the addition of two courses of large sandstone blocks along the W wall, possibly forming a step, possibly covered in *opus sectile*. The excavators mentioned that the pool was heated. **R21** was a small room added in phase III and which contained a *praefurnium* to heat R19. **R22** was a rectangular heated room added along the W side of R3 in phase IV, possibly a pool.

6.2 – According to the excavators, in phase I the baths were organized along an axis *frigidarium* (R6)–*tepidarium* (R4)–*caldarium* (R3), with a *palaestra* in R2 and a possible *natatio* in R5 accessible from the *palaestra*. R6 was identified as a *frigidarium* primarily based on the presence of the sea-themed mosaic and its position before the heated rooms, but it should be noted that no water features was found in connection with it, unless the pool R5 was accessible from it or if a pool was located in its E half, unexcavated. *Tepidarium* and *caldarium* were identified based on their position in the circuit. One entrance to the baths was from the SW through R1, and the service areas were in the NW corner in rooms R8 to R14, accessible from the street and R12. Based on

the presence of *opus signinum* on its walls, apse R3a could have been a pool added to the *caldarium* in phase II, along with a small room R15 (possibly a *destrictarium* according to the excavators) accessible from the *palaestra* R2. In phase III, the *palaestra* lost half of its surface area (unless it was extended further south) when two heated rooms R17 and R19 were built, possibly a *caldarium* and a *tepidarium*, respectively, based on their relative sizes; the communication between the two is unclear. Two pools R18 and R20 were added at the same time, R18 possibly accessible from R6. Phase IV saw the transformation of R13–R14 into a heated room (R22), possibly a pool accessible from R3.

The circuit(s) are difficult to restore due to the limited state of preservation of the elevation. At least in phases I–II, there was one access via the SW and portico R1 into the *palaestra* R2, from which pool R5 was presumably accessed. Considering that the cold rooms were in the NE part of the baths, another entrance from the E–NE is expectable, with a linear retrograde circuit R7–R6–R4–R3 and back. The multiplicity of heated rooms in phase III suggests that there may have been a double circuit, for men and women.

7 – Construction techniques and materials

7.1 – The stylobate of the W colonnade (R1) of the *palaestra* (R2) is made of large blocks of yellowish friable sandstone. The new floor of R18 in phase IV is made of pebbles and a thin layer of mortar, possibly to fit a mosaic on top. *Opus spicatum* in R20 (fig. 203D).

7.2 – Most walls are 0.60 m thick and made of concrete faced with courses of small stone blocks. **II**: N wall of apse R3a faced with horizontal courses of stone, with a lower course of brick.

7.3 – No information available.

8 – Heating devices

8.1 – **I**: two *praeefurnia* in R8 and R11, heating R4 and R3, respectively. **III**: two additional *praeefurnia* built in R16 (fig. 203F) and R21 to heat R17 and R19, respectively. Some of them have outer longitudinal extensions made of large sandstone slabs covered by a lintel, with a 0.70 m wide channel.

8.2 – **I**: R3–R4 (fig. 203E): *area* of tiles with broken flanges, *pilae* made of *bessales* (0.23 m on the side), *suspensura* floor made of large CBM and cocciopesto. Preparation layer of hypocaust of R4: upper preparation layer of medium–small river pebbles and sandstone chips bound in abundant mortar with many terracotta fragments; lower preparation layer of large stone chips (flat river pebbles and sandstone chips) with little mortar. **III**: hypocaust of R3–R4 redone, *suspensura*(?) of stamped *bipedales*, *pilae* made of circular and square CBM. Tiles for protection of hypocausts walls. R17 and R19: *area* in cocciopesto, *pilae* made of circular bricks (ca. 0.20 m diam., ca. 0.60 m apart interaxle). A grid of squares, ca. 0.60 m on the side, was engraved on the cocciopesto of the *area*, and the *pilae* were set at the intersections of the lines. Same *suspensura* floor as R3–R4. **IV**: R22: *area* of tiles(?), *pilae* made of circular bricks. **Unphased**: *Tubuli* were found in collapse layers and cannot be connected to any particular phase.

9 – Water management

9.1 – No direct evidence. The Roman town was established at the confluence of the river Metauro and the torrent Morsina. The phreatic table, now ca. 6.40 m below the level of the baths, was close to the surface level in ancient times as well, as indicated by the later well dug in R3.

9.2 – **I–II**: R5 may have been a pool, with R3a, possibly another pool added in phase II. **III**: R5 decommissioned, subdivided into R18 (pool) and R20 (possible pool). **IV**: possible addition of pool R22. No available information as to the supply of any of those.

9.3 – Drain in R7, 0.45 m diam. Mention of a channel running N–S under the E part of R6, not indicated on plans. There is a large collector, oriented N–S under the W part of the *cardo* to the W of the baths, to which two smaller channels coming from the E and the baths connect; dating phase I. The collector runs N towards the river Metauro. There is another collector under the *cardo* to the E of the baths, heading towards the torrent Morsina. Two smaller channels coming from the W (probably from the baths) connect to it; these are interpreted as linked to phase III of the baths, which required the upgrade of the water disposal system. The exact location of the junction between these E–W and the larger N–S channel is hypothetical on the plan.

10 – Decoration and material

10.1 – Floors: many loose *tesserae* found during the excavations suggest the presence of several mosaic floors, now lost. Remains of mosaic floors are known from R3, R6, R7. **I**: R7, white background mosaic floor of small *tesserae* with black stripe around (TESS5472). **III**: R3, original floor redone with a polychrome figurative mosaic with inscription [E73], the latter oriented towards the E. **IV**: R6, polychrome white background mosaic floor made of large *tesserae*, with large black stripe around and emblema with marine *thiasos* (rowing triton, hippocamp with Nereid, hippopotamus, octopus and other sea creatures). Dating (late 1st–middle imperial) based on phasing, context, style. R7, central part of floor of phase I modified with addition of small crosses made of larger *tesserae* of pink stone. The use of *opus sectile* is perhaps recorded on the sandstone slabs of R20, in phase IV.

Walls: many fragments of *opus sectile* polychrome marbles, of different provenances, incl. white Proconnesian, giallo antico, cipollino, serpentine; also wallpainting fragments, monochrome red, yellow, white, black, blue, and polychrome, mostly vegetal motifs. The one column *in situ* in the W portico (R1) of the *palaestra* is plastered and painted red. There is a preference for warmer colours in heated rooms, of cold colours in the non-heated rooms.

10.2 – Many fragments of lead *fistulae* and terracotta water pipes. A carnelian gem with military scene. In the filling of R18: limestone slabs, sandstone semi-columns, ceramic and Firmalampen, dated to the middle-imperial period. In the layers below the raised floor of phase IV: ceramic material, Firmalampen (2nd half 2nd–3rd cent. AD), and *Montanus* inscription.

- **Inscription *Montanus*** (STORTONI 2019, 425, fig. 21) (fig. 203G): [---] *Montan[us ---]* / [---] *Im pil(us) leg(ionis) II[---]* / [---] *quattuor]vir quin[quennalis ---]* / [---] *D [D---*].

One fragment, stone, found in 2018 in a collapse layer towards R1. Possibly a commemorative inscription. Dated 2nd half 2nd–3rd cent. AD (palaeography)

- **Inscription on mosaic floor of R3:** see [E73] in catalogue of inscriptions

- **Brickstamp** (STORTONI 2019, 424): *Pla. C. F. Proculae*

Unknown number of examples, found in 2018(?) on *bipedales* of hypocaust of R3–R4 in phase III. Dated 1st–early 2nd cent. AD

- **Brickstamp** (STORTONI 2019, 424): *Act. Attico*

Unknown number of examples, found in 2018(?) on *bipedales* of hypocaust of R3–R4 in phase III. Dated 1st–early 2nd cent. AD

11 – Bibliography

Preliminary reports: STORTONI 2019

Archaeological reports: STORTONI 2000–2018; CATANI 2009, 83–84, 90; STORTONI 2010; 2013; 2014b, 109–112

Decoration: STORTONI 2014a

12 – Illustrations

Photographs: CATANI 2009, fig. 19–22 (site); STORTONI 2010, (site), fig. 3–4; STORTONI 2013, fig. 1–2, 5 (site); STORTONI 2014b, fig. 7–9 (site); STORTONI 2014a, fig. 2–3 (site), 4–6 (decoration); STORTONI 2019, fig. 7, 9–13, 15 (site), 18–19 (decoration), 20–21 (material)

Plans: STORTONI 2019, fig. 1, 5, 8, 14, 16–17.

City plan: STORTONI 2019, fig. 6.

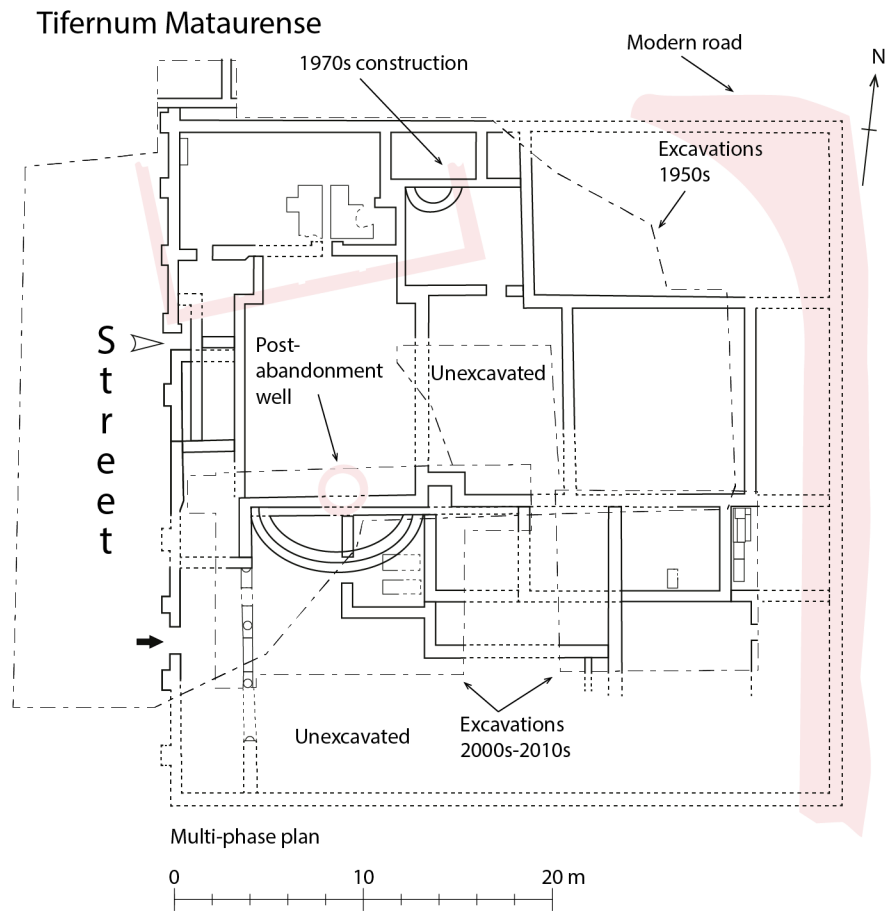


Figure 198: Plan of the structures and excavations seasons of the baths of *Tifernum Mataurense* (after STORTONI 2019, fig. 1).

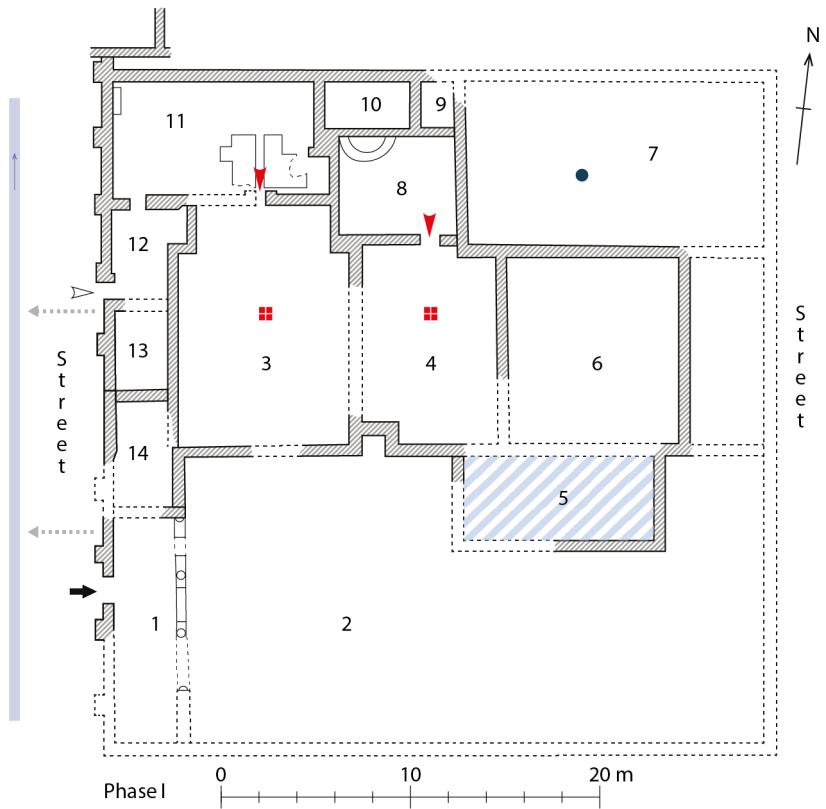


Figure 199: Plan of phase I of the baths of *Tifernum Mataurense* (after STORTONI 2019, fig. 8).

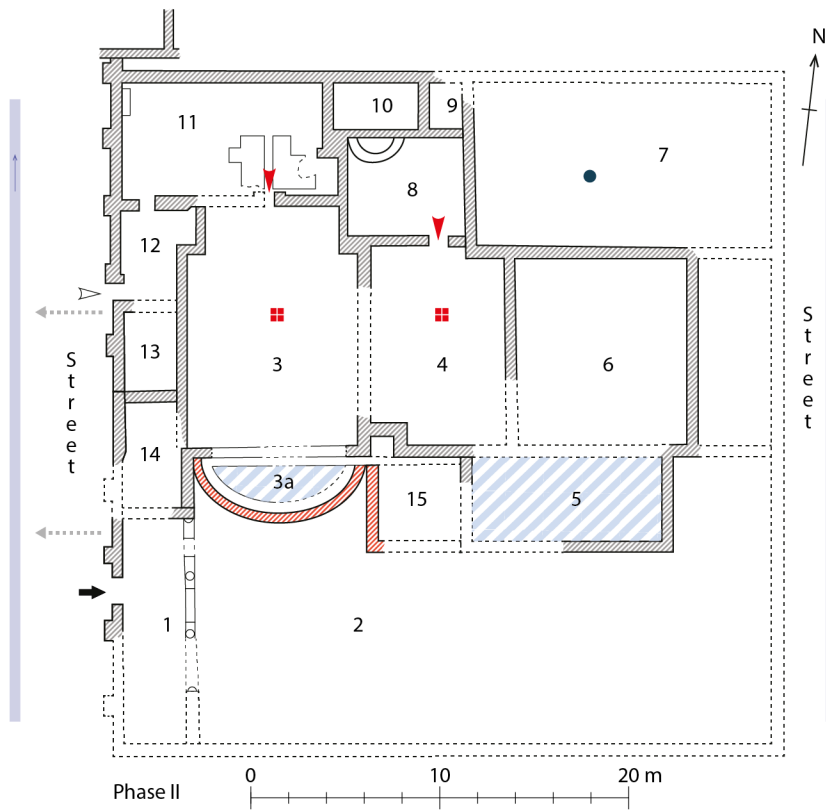


Figure 200: Plan of phase II of the baths of *Tifernum Mataurense* (after STORTONI 2019, fig. 14).

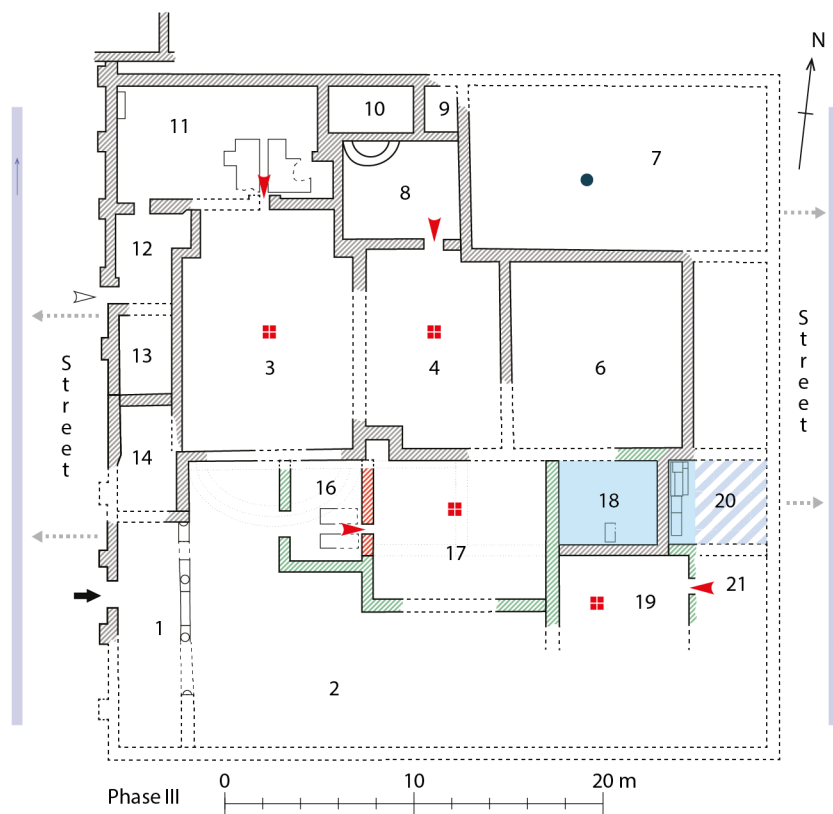


Figure 201: Plan of phase III of the baths of *Tifernum Mataurense* (after STORTONI 2019, fig. 16).

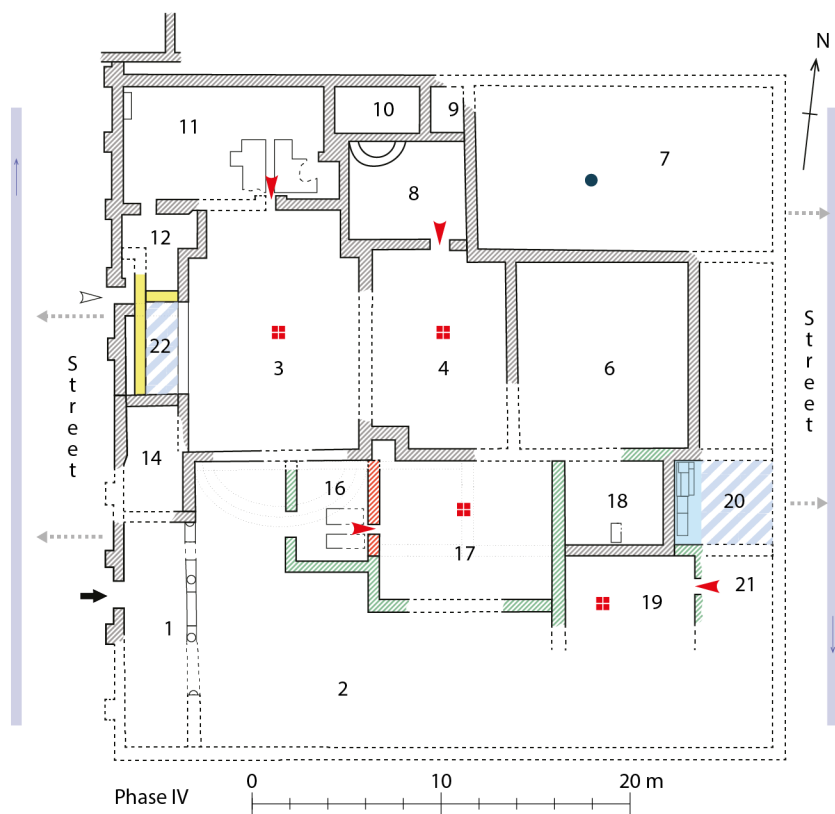


Figure 202: Plan of phase IV of the baths of *Tifernum Mataurense* (after STORTONI 2019, fig. 17).

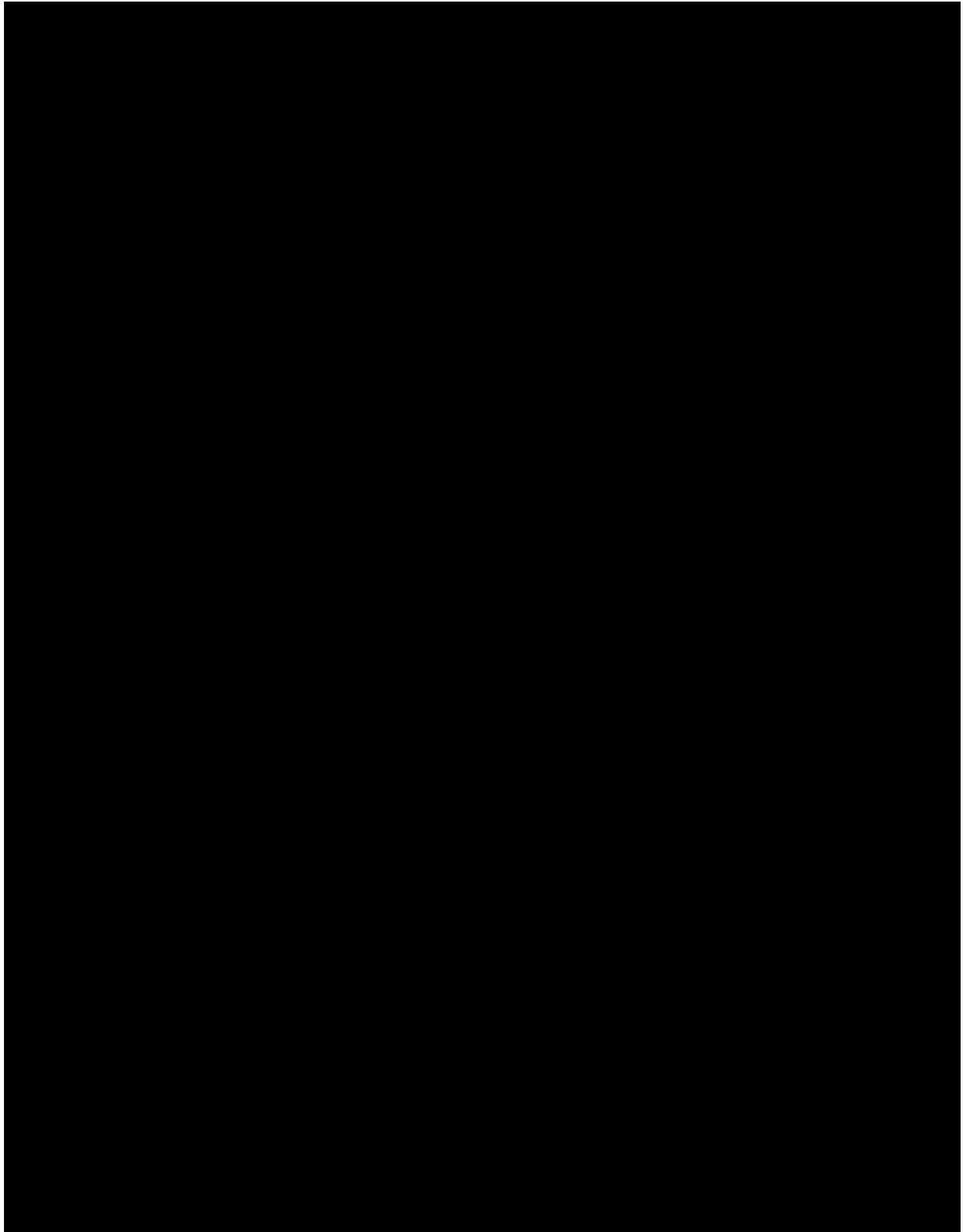


Figure 203, A-G: Baths of *Tifernum Mataurense*. **A:** View of R17–R18–R19, from S. **B:** View of R18–R19–R20, from S. **C:** General view of W part of the baths, from W. The W road oriented N–S is visible in the foreground. **D:** Detail of pool R20, from S. **E:** View of hypocaust in R3, from E. **F:** View of *praefurnium* in R16, from E. **G:** *Montanus* inscription (A–B, D, F–G: STORTONI 2000–2018, season 2015 fig. 1–3, season 2017 fig. 3, season 2018 fig. 5; C: STORTONI 2010, fig. 2; E: STORTONI 2010, fig. 3).

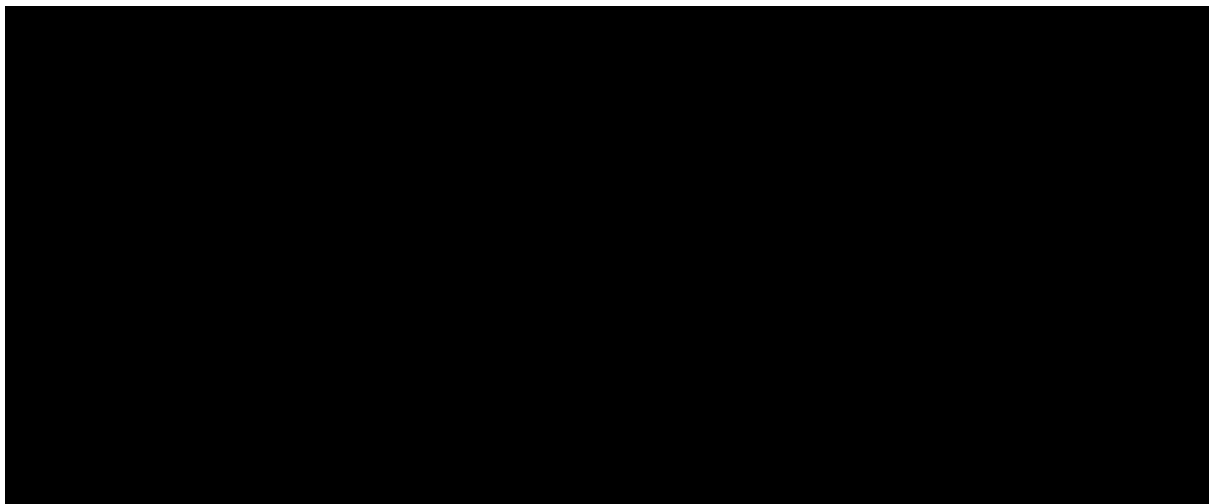


Figure 204: Baths of *Tifernum Mataurense*, general view of S part, from S (panorama, from STORTONI 2000–2018, season 2017 fig. 1–2).

Reliability: probably bath building (iconography of mosaic, sewer, plan showing furnaces and heated room with *labrum*), possibly public (size, double boiler)

1. 1.1 – Province of Fermo, Comune of Falerone
1.2 – 13.497357 E, 43.101996 N
1.3 – Halfway between the theatre and the amphitheatre
2. 2.1 – Based on the plan produced during the 1960s excavation, the building seemed to have been well preserved in plan; it continued to the N. Current state of preservation unknown.
2.2 – Part of the Parco Archeologico di *Falerio Picenus*.
3. 3.1 – Neptune mosaic known since 19th cent., reported by Moretti in 1925. Excavations in 1952, 1964–65, 1967 by Bonvicini, for which he produced a plan.
3.2 – Not visited
4. > 300 m²
5. 5.1 – 2nd half of 2nd cent. AD (mosaic), but could be construction as well as restructuration.
5.2 – Unknown
6. 6.1 – Based on the plan produced by Bonvicini, the building is composed of min. 6 rooms organized around a central room (R2, 8.2 x 6.7 m) with semi-circular apse to the N which hosts a large circular basin (*labrum*); that room was decorated with the Neptune mosaic. N of this room is a large rectangular room (R1), 14 m long, with a width preserved for 3–4 m, not fully excavated. Three further rectangular rooms (R4: 3.5 x 3.2 m; R6: 6.7 x 5.3 m; R7: 6.3 x 3.2 m), with entrance possibly from R6. R5 (4.7 x 6–9.1 m). Communication between rooms unknown.

Gaggiotti mentions another room (5 x 4 m) belonging to the same building. There is no room of these dimensions on the plan, so either the plan is not at the right scale, or that room is not represented on the plan.

6.2 – Bonvicini identified the function of the rooms as follows: R1 *palaestra*, R2 *caldarium*, R3 entrance to *palaestra*, R4 *frigidarium*, R5 service area for the operation of the boilers, R6 *apodyterium*, R7 *tepidarium*.

These identifications are not fully convincing, especially R4 and R7: the small dimensions (compared to the other rooms) and the lack of a cold-water pool make it difficult to identify R4 as *frigidarium*. R7 as *tepidarium* is also problematic, as it would be distant from the other heated room and the service area, respectively R2 and R5, and separated from R2 by R4 and R6.

The (hypothetical?) presence of a *labrum* in R2, on the other hand, could support its identification as *caldarium* (same room shape as *caldaria* of Pompeian baths), even if this type of mosaic is more common in *frigidaria*.

7. Gaggiotti mentioned a room faced in brick.
8. 8.1 – Bonvicini's plan shows a structure for what seems to be two boilers, in R8.
8.2 – R5 was probably heated, but it is unclear from where.
9. 9.1 – A large rectangular cistern (17.10 x 10.50 m, 2 naves) is located ca. 100 m NW of the baths; there is no evidence of a direct connection between the cistern and the baths
9.2 – /
9.3 – To the SW, starting in R8, is a sewer channel oriented NE–SW, 0.45 m wide and 0.60 m high, with entrance and exit holes 0.30 m wide. It served to empty the water of the service room R5 (emptying of boilers?)
10. 10.1 – Black, white and red figurative mosaic (8.30 x 4.60 m according to Moretti, 6 x 4.20 m according to Bonvicini; TESS7978) depicting Neptune on a *biga* of seahorses, surrounded by marine creatures and red fish, framed by a border of red triangles. Coarse *tesserae* (1.3–2 cm). Dated to the 2nd cent. AD (LANDOLFI 2000), 2nd half of the 2nd cent. AD (MARALDI 2002, 48), or 2nd–3rd cent. AD (BLAKE 1936, 152). Unknown provenance for Moretti, connected to the baths by Maraldi. Now in the Museo Archeologico Nazionale di Ancona.

Mosaic fragments seen by Bonvicini, which he connected to the Neptune mosaic. Made of white *tesserae* with thin limestone frame, ca. 0.30 m wide along the wall, which was veneered in slabs of verde antico.

Large polychrome mosaic (8 x 5.60 m, TESS7984) with geometric decoration and inscription of *Herennius Repentinus Senior* (EDR115969), found in 1912. Moved in 1921 to the Museo Archeologico Nazionale di Ancona, destroyed in 1944 bombings. Provenance from the baths is hypothetical, proposed in De Marinis–Paci; no room on Bonvicini's plan could accommodate it, and the date proposed for it, 3rd–4th cent., is distant from the date proposed for the Neptune mosaic. Attributed to a 'public building' on TESS7984.
10.2 – /
11. MORETTI 1925a, 127–129; BLAKE 1936, 152; BONVICINI 1971, 393–394; GAGGIOTTI *et al.* 1980, 279–280; BONVICINI 1991, 117, no 30A (not consulted); MORETTI 1995 (reprint from Moretti 1925); MARALDI 2002, 48–50, 96–97; TESS7978
12. Mosaics: MORETTI 1925a, fig. 1; BLAKE 1936, pl. 37.1; 2000, fig. 361; MARALDI 2002, fig. 38

Others: MARALDI 2002, fig. 39, 41 (pictures), 40 (plan), 108 (city plan)

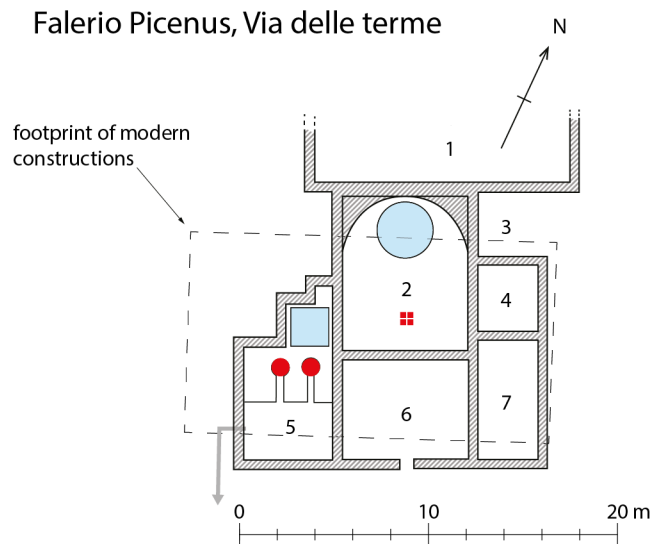


Figure 205: Plan of the baths of *Falerio Picenus* in Via delle Terme (after MARALDI 2002, fig. 40).

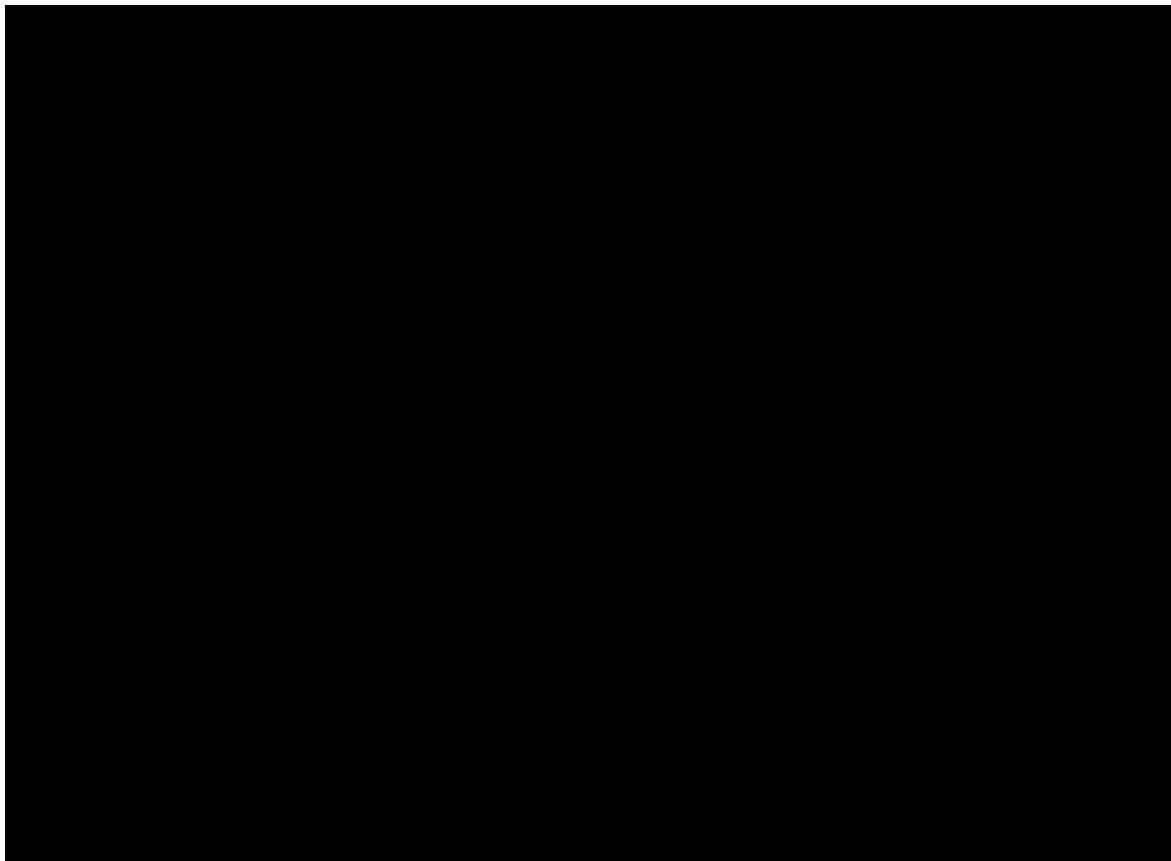


Figure 206: Mosaic floor of the baths of *Falerio Picenus* in Via delle Terme (DE MARINIS & PACI 2000, fig. 361).

Reliability: probably baths (rooms layout, 'fornaci'), probably public (dimensions)

1. 1.1 – Province of Pesaro e Urbino, Comune di Ostra Vetere
 1.2 – 13.085021 E, 43.583603 N, 75 m asl
 1.3 – On a terrace next to the river Misa, behind the *cavea* of the theatre and separated from it by a NW–SE road. The forum is on the other side of the theatre.
2. 2.1 – Unclear, but possibly well preserved in plan, and preserved only in foundations/hypocaust level
 2.2 – In the Area archeologica Le Muracce di Ostra Vetere, visitable upon request. From late 2018 Google Earth satellite pictures, most of the building is still underground, with only R3–R4–R5 and R17 visible under two roofs.
3. 3.1 – Excavated in 1903–1904 alongside the theatre by the Cavalier Giuseppe Baldoni di Montalto. The building was then backfilled for almost a century. Restorations in 2000–2001 by the Soprintendenza per i Beni Archeologici delle Marche (dir. Maurizio Landolfi) and the Cooperative Archeologia di Firenze (dir. Luigi Palermo), probably focused on R3–R4–R5.
 3.2 – Not visited.
4. Ca. 4400 m² for the entire complex.
 Ca. 2150 m² for the W section (of which ca. 1700 m² for R1 incl. porticoes) and ca. 1800 m² for the E section.
5. 5.1 – I: Late 1st–early 2nd cent. AD (stylistic).
 Construction on top of a previous building (baths or residential structure) dated to the Republican/Augustan period (stylistic).
 5.2 – /
6. 6.1 – It is unclear which rooms are part of the bath building; Annibaldi mentioned 12 rooms when Dall'Aglia mentioned 25 rooms. From the plan reproduced in Mercado, the building is composed of a series of rooms arranged on the S and SE sides of a large open space R1 (max dimensions of whole complex: ca. 87 x 58 m).¹⁶ Access was from a road to the N into either the large open space R1 via five passages, or into a large hall R9. The whole complex seems to be divided in two parts: the wide-open space R1 with rooms opening on its S side (R2 to R7), and to the E a series of rooms arranged along a N–S axis (R8 to R24). There seems to be limited communication between the two sections, perhaps in R2. The W group is composed of the aforementioned large open-air space R1 (ca. 44 x 39 m), to the S of which three roughly square rooms open widely (R3 and R5: ca. 9.5 x 9 m; R4: ca. 9.5 x 8 m), the central one with a curvilinear apse in the back wall and the lateral ones with a rectangular platform(?); these are the only visible rooms nowadays (along with R17) and the ones from which the mosaic floors come. The E section starts with a large rectangular hall (ca. 30 x 14 m), to the S of which

¹⁶ The dimensions provided here have been roughly measured from the plan in MERCANDO 1982; that same plan is annotated with dimensions, but they are difficultly legible.

are arranged a series of square, rectangular and circular rooms for a total length of ca. 87 m. The only circular room, R17, has a diameter of ca. 7 m. R19 (ca. 13 x 11 m) has a S back wall animated by a semi-circular niche flanked by two rectangular ones. The last room of the row, R24 (ca. 11 x 10 m incl. apse) has a curvilinear apse in the S wall. The area of R25 appears largely unexplored.

6.2 – The early 20th cent. excavations reports mentioned a *caldarium* and a *frigidarium*, as well as a large water tank, possibly a reservoir. Without further information, any attempt at attributing functions to the spaces is hazardous, but the following hypothesis can be proposed: in the E section, R24, being the furthest away from the entrance, could be a *caldarium*; its shape is typical of *caldaria*, and the hole in the W wall could be that of a *praefurnium*; a *caldarium* would be preceded by another heated room, R22 in this case, also with a possible *praefurnium* opening in the E wall. R23 was probably heated too. The areas to the W and E of those two rooms could be service areas. The circular room R17 could be heated, as seen in other baths like the Extraurban Baths of *Sentinum* [Ma.08] or the baths of Fuorigrotta in *Neapolis* [Ca.04]. The placement of the heated rooms to the S/SE of the complex is also common. R19 could be a cold room with two lateral pools, possibly a *frigidarium*; its shape is close to the *frigidaria* of the baths of Fuorigrotta in *Neapolis*, the baths of *Ferentum* [La.03] or the Extraurban Baths of *Sentinum*. It is not certain whether the W section was part of the bath building too, but if it was, the wide-open space R1 would be a *palaestra*, possibly colonnaded on three sides. The three rooms to the S (R3–R4–R5) do not have a clear function.

7. From online pictures, the walls of rooms R3–R4–R5 and R17 appear faced in horizontal courses of brick or tile.

8. **8.1** – Two furnaces mentioned in the early 20th cent. excavations reports. The plan reproduced in Mercado mentions a '*forno [...]calorifero*' to the S of R23. If the interpretation proposed in 6.2 is valid, the areas on either side of R22 and R24 would have contained the *praefurnia*.

8.2 – No information available. If the interpretation proposed in 6.2 is valid, R17 and R22–R23–R24 were heated.

9. **9.1** – No information available.

9.2 – No information available. If the interpretation proposed in 6.2 is valid, the rooms on either side of R19 were cold-water pools and would have needed a water supply, and R24 would have contained hot-water pools.

9.3 – No information directly relevant to the baths. The main drainage channel of the city discharged in the nearby river Misa.

10. **10.1** – The early 20th cent. plan indicates that all(?) rooms were floored with mosaics, white or '*color incarnato*', and the reports mentioned mosaic floors and marble veneer on walls.

R3. Geometric mosaic floor, black on white background, occasional red rectangles.

Framed by three white stripes, pattern of stars made of eight diamonds, inscribed squares, and rectangles. Known through watercolour, originally preserved for 4.22 x 3.30 m.

TESS6971; MERCANDO 1982, cat. 1.

R4. Geometric mosaic floor, black on white background.

A central square flanked by two rectangles, all framed by three white stripes. The square is decorated by a circular motive made of black triangles on concentric circles, framed by a stripe of waves and a stripe of guilloches. The only preserved rectangle is decorated by black pelte shields on white background. Known through watercolour, originally preserved for 4 x 2.96 m.

TESS6972; MERCANDO 1982, cat. 2.

10.2 – Material found during the early 20th cent. excavations (could come from either the theatre or the baths). In bronze: thick foils, keys, nails, needles; in iron: three double headed axes, nails, handles, knives; in glass: bottles fragments; in terracotta: antefixes, human figurines, lamps; in stone: fragments of statue (torsos, arms) and of architectonical decoration.

- 11.** CIAVARINI & BALDONI 1908 (not consulted); *Guida illustrata del Museo nazionale di Ancona* 1915, 387–388 (material); MERCANDO 1982 (mostly on decoration); LANDOLFI 2006, 632–634 (mostly on decoration); DALL'AGLIO *et al.* 2014, 833–834; DALL'AGLIO *et al.* 2017; TESS6971; TESS6972; TESS9910; TESS9911.

Mentions: ANNIBALDI 1965, 80; GAGGIOTTI *et al.* 1980, 215; SISANI 2006, 286–287.

- 12.** City plan: MERCANDO 1982, fig. 2–3; DALL'AGLIO *et al.* 2014, fig. 6.

Plan: MERCANDO 1982, fig. 4, LANDOLFI 2006, fig. 3–4.

Decoration (R3–R4–R5): MERCANDO 1982, fig. 5, 7; LANDOLFI 2006, fig. 2.

Pictures: I LUOGHI DEL SILENZIO 2016 [online] (R3–R4–R5, R17).

Ostra

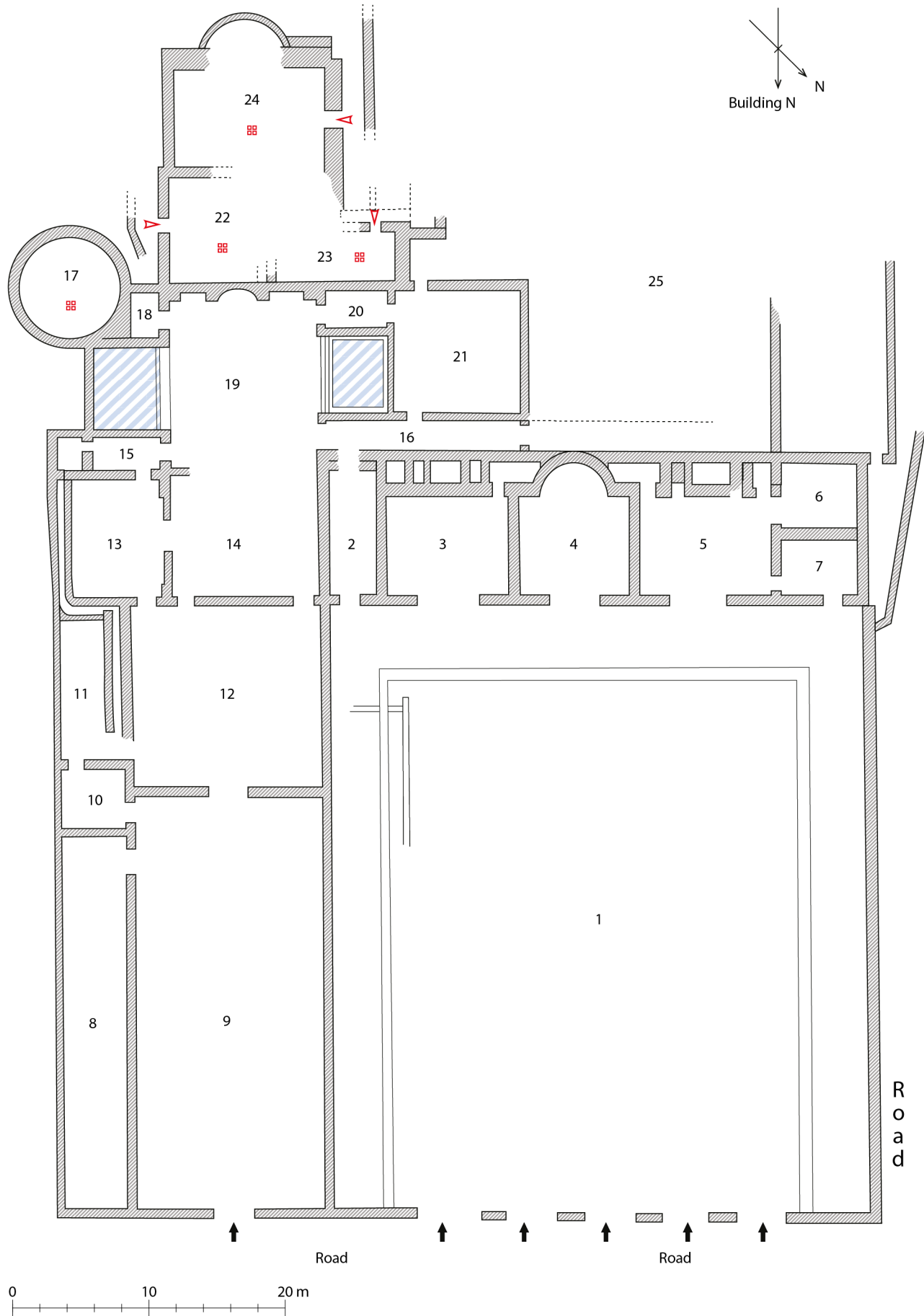


Figure 207: Plan of the baths of *Ostra* (after MERCANDO 1982, fig. 4).

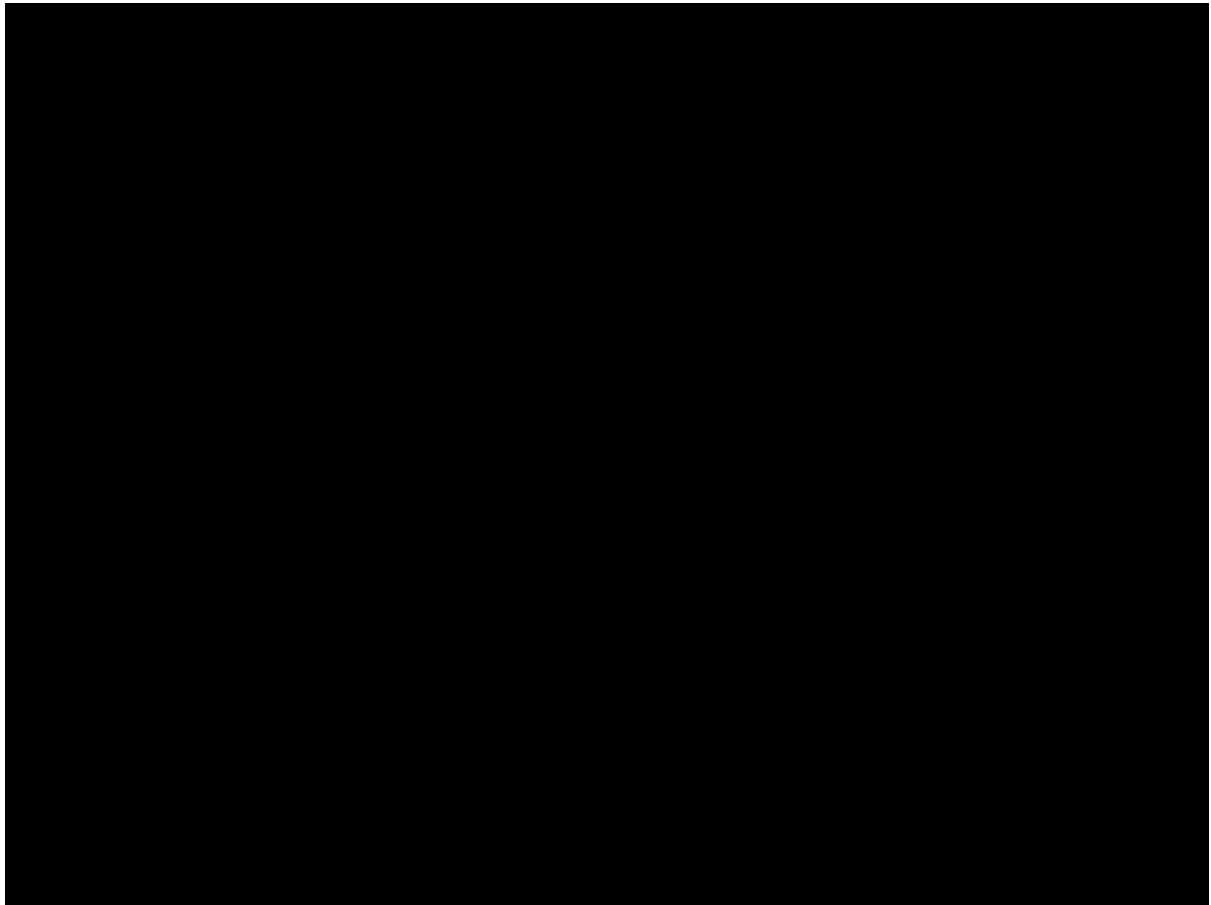


Figure 208: Baths of *Ostra*, R17 (I LUOGHI DEL SILENZIO 2016).

Urbs Salvia (Urbisaglia), Baths W of forum

Ma.G.13

Reliability: public bath building (inscription)

Province of Macerata, Comune of Urbisaglia

13.383904 E, 43.198718 N (approx.)

In an area between the forum and the upper cryptoporticus (W of the forum) was discovered, in 1965 during agricultural works, a black and white geometric mosaic floor with an inscription mentioning a '*balneum muliebre*' (see catalogue of inscriptions [E75]). Dated to the early imperial period on palaeographic criteria. The structure was promptly covered, its precise location is unknown and no further information is available.

It is not inconceivable that the inscription belonged to the structure tentatively identifiable as bath building to the N of the forum, but further excavations are necessary to confirm or deny this hypothesis.

Bibliography: DELPLACE 1993, 290–291; SISANI 2006, 351. See catalogue of inscriptions [E75].

Marche, uncertain identifications

Aesis (Jesi), Piazza Federico II

Ma.G.14

Reliability: weak (tradition)

Province of Ancona, Comune of Jesi

13.245541 E, 43.524419 N (Piazza Federico Secondo)

The 'local tradition' records the existence of a bath building in connection with a circular cistern (7.50 m diam.) located in the vicinity of the forum, identified in correspondence with the modern piazza Federico II.

Bibliography: SISANI 2006, 300.

Ancona (Ancona), Area del SS Sacramento

Ma.G.15

Reliability: weak (material, toponymy)

Province and Comune of Ancona

13.509723 E, 43.618678 N (Parrocchia del Sacramento)

'Local tradition' records the presence of a monumental bath building in the area of the SS Sacramento, based on the discovery in 1652 of marbles, bronzes and columns fragments, along with an inscription dedicated to the *nymphae Augustae* (CIL IX.5891 = EDR015481) by a *T. Flavius Optatus, pro salute sua et suorum et collegarum*. the name of a nearby street called '*via del bagno*' in the 19th cent. may support the identification. A 1.80 m long, 2 m high(?) and 1.50 m thick wall found nearby in 1863 was attributed to the bath building; it is faced in a bichrome reticulate, a fair and a dark limestone, similar in colour and technique to the facing of the amphitheatre. Nothing of it is visible today.

Bibliography: RINALDINI 1865, 13–14; ALFIERI 1938, 196; MORETTI 1945, 70–71; SEBASTIANI 2004, 85.

Asculum (Ascoli Piceno), Forte Malatesta

Ma.G.16

Reliability: weak (tradition)

Province and Comune of Ascoli Piceno

13.585141 E, 42.852866 N (Forte Malatesta)

18th cent. local erudite tradition identified a large room surrounded with pools in the area of the Forte Malatesta as part of a bath building. No traces remain of these structures; the only evidence of Roman remains in the area are a travertine architrave block and five moulded blocks in travertine, from the cornice of a large building. These blocks are dated to the early imperial period, on stylistic grounds.

Bibliography: LAFFI & PASQUINUCCI 1975, 63–64; SISANI 2006, 402–403

Auximum (Osimo), Via S. Francesco

Ma.G.17

Reliability: weak (one room floored in CBM)

Province of Ancona, Comune of Osimo

13.482928 E, 43.486386 N (Via S. Francesco)

Along via S. Francesco (no 16), in the ancient urban centre, slightly E of the forum, remains of a circular room (diam. 10 m) built in concrete (walls 0.57 m thick), with walls and floor covered in mortar (*'calcestruzzo'*). The walls were originally preserved up to 2 m and the floor made of CBM. The CBM that may have floored the room are rectangular elements 11.5 x 7 cm, 2.5 cm thick, and hexagonal elements (some of which with a central white *tessera*) measuring 8 x 6 cm, 5 x 4 cm, or 4 x 3.5 cm. A minimal quantity of material was found (fragments of a patera and of glass recipients). The structure is dated to the early imperial period based on the material (1st cent. AD for Gentili) and interpreted as belonging to a bath building.

Bibliography: GENTILI 1955, 72–73; GENTILI 1990, 102–103 (material); DESTRO 1997, 111 and note 26; SISANI 2006, 313

Auximum (Osimo), Piazza Don Minzoni

Ma.G.18

Reliability: weak (two barrel-vaulted rooms)

Province of Ancona, Comune of Osimo

13.482418 E, 43.485769 N (Piazza Don Minzoni)

In the basement of Palazzo Mariani (close to Piazza Don Minzoni), in the ancient urban centre and slightly SE of the forum, two rooms built in concrete and covered with barrel-vaults have been identified as having a bathing function. Oriented E–W, the rooms are preserved for a length of ca. 9 m, and are 3.80 (S) and 3.40 m (N) wide for a height of more than 2 m. The walls are made of concrete with aggregates of pieces of tuff; the vault is made of *'scaglie di tufo oblunghe disposte a raggiera con scaglie orizzontali al vertice che ne formano la chiave di volta'*; the walls (and possibly vaults) were covered with a waterproof mortar. Destro suggests that another nearby pool under Palazzo Cavallini, with walls plastered in waterproof mortar, could be connected to the baths.

Elongated parallel barrel-vaulted rooms with walls covered in waterproof mortar are more consistent with an identification as reservoir/cistern.

Bibliography: GENTILI 1955, 73–74; DESTRO 1997, 112, and note 35; SISANI 2006, 313

Illustrations: GENTILI 1955, fig. 5



Figure 209: Plan of the structures under Piazza Don Minzoni at *Auximum*, scale 1:400 (GENTILI 1955, fig. 5, modified by author, scale corrected to correspond to the dimensions given in the text).

Camerinum (Camerino), Località Vallicelle

Ma.G.19

Reliability: unknown

1. 1.1 – Province of Macerata, Comune of Camerino
1.2 – 13.072674 E, 43.125152 N (field nearby)
1.3 – South of the urban centre in località Vallicelle, close or along the road leading from *Camerinum* to Colfiorito.
2. 2.1 – Unknown.
2.2 – Nothing visible today.
3. 3.1 – Trenches in 1966 by Radke.
3.2 – /
4. /
5. 5.1 – Between Hadrian and the Severans? (Lilli) (U: based on the fact that during that period, several cities in the area start expanding beyond the limits defined by their walls).
5.2 – /
6. The structures were composed of a wall made of squared blocks, presumably 0.90 m thick, against which ‘quattro archi della larghezza di 200 (?) cm alla base’ were leaning.
7. One wall made of squared stone blocks.
8. 8.1 – /
8.2 – Mercado *et al.* mention the presence of *suspensurae*.
9. 9.1 – An undated aqueduct is known for the city, coming from the NE. A large reservoir is also known in the urban centre (43.137472 E, 13.071138 N).
9.2–3 – /
10. /
11. MERCANDO, BRECCIAROLI TABORELLI & PACI 1981, 340, note 355; LILLI 2001, 135–136; SISANI 2006, 293
12. LILLI 2001, fig. 10 (location of remains).

Reliability: heated room in a *vicus*. Status unknown

1. 1.1 – Province of Pesaro e Urbino, Comune of Canavaccio
1.2 – 12.705763 E, 43.696386 N
1.3 – In the *vicus* of Canavaccio
2. 2.1 – No remains
2.2 – Destroyed/backfilled
3. 3.1 – One heated room identified during agricultural works in the early 19th cent. AD. Small excavation (2.40 x 4.70 m, 2.25 m deep trench) conducted and reported upon in 1825 by the Luogotenente of Urbino Filippo Tomellini. The archival document was studied by Lilli.
3.2 – /
4. /
5. 5.1 – 1st cent. AD or later (CT: brick facing of walls)
5.2 – /
6. 6.1 – Two walls of a room: a 2.33 m thick curvilinear one preserved for a length of 2 m, and another one with two 0.34 m wide windows.
6.2 – /
7. Horizontal courses of triangular-cut bricks set in a core of concrete for the curvilinear wall; ‘different bricks’ for the other wall
8. 8.1 – /
8.2 – *Area* made of stone slabs, 0.63 m tall *pilae* made of circular bricks (0.21 m diam.), *suspensura* of stone slabs (1 x 0.59 m, 0.06 m thick) topped by a 0.22 m thick layer of ‘calcestruzzo’, presumably *cocciopesto*. Remains of *tubuli* (0.36 and 0.48 m x 0.17 x 0.08 m) pierced by two lateral openings.
Earlier discoveries also included further *tubuli*, further *pilae* made of *bessales* (side 0.35 m) and circular bricks (diam. 0.35 m), supporting a *suspensura* of Cesena stone covered by *cocciopesto*.
9. /
10. 10.1 – slabs of Carrara marble veneered the entire height of the straight wall.
10.2 – /
11. LILLI 1997–1998.
12. LILLI 1997–1998, fig. 3 (hypothetical reconstruction of the remains).

Several elements of this description pose question, for instance the unusual thickness (2.33 m) of the curvilinear wall, the unusual dimensions of the *pilae* (0.35 m), and the *area* and *suspensura* floor made of large stone slabs.

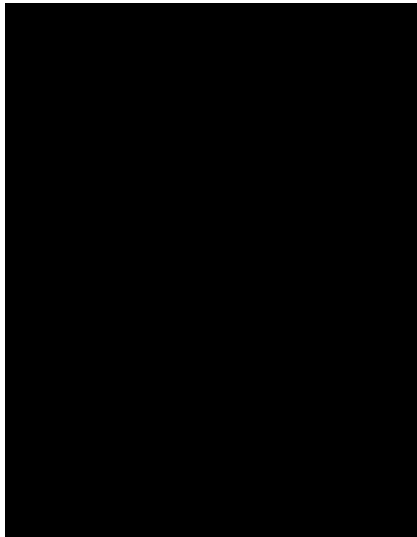


Figure 210: Hypothetical reconstruction of the remains of a bath building at Canavaccio (LILLI 1997–1998, fig. 3).

Cupra Maritima (Cupra Marittima)

Ma.G.21

Reliability: bath building. Status unknown. Possibly late antique

Province of Ascoli Piceno, Comune of Cupra Marittima

13.85729 E, 43.02928 N

Excavations led by the Soprintendenza Archeologica delle Marche in the southern periphery of the town, probably in the late 1970s–early 1980s, brought to light the remains of a bathing suite arranged on several levels, composed of a room with polychrome mosaic with two pools (identified as the *frigidarium* based on its dimensions), and two heated rooms directly to the W, one of which still preserves the *suspensura* floor made of a polychrome mosaic with geometric motives inscribed in squares. The *pilae* were made of *bessales* and *tubuli* were used to heat the walls. Based on online pictures, the walls were faced with horizontal courses of small stone blocks. There was a *praefurnium* along the N–NE wall.

Further excavations in 1987 revealed the existence of a Republican-period production unit (a room with a press, a room floored in *opus signinum*) under the bath building, connected to a 1st-cent. BC villa. A *nymphaeum* next to the bathing suite was connected to the villa.

A large cistern with two naves, known as the Bagni di Nerone, built in 7 BC (*CIL* IX.5308 = EDR116399), served to collect the water from the neighbouring hill, from which it was then distributed to the town. There is no evidence of a direct connection between the cistern and the baths.

The bathing suite was established over the *pars fructuaria* of the 1st cent. BC villa, possibly in the late 3rd–4th cent. AD; the baths were either part of the villa (Paci) or were a publicly accessible complex.

Bibliography: PERCOSSI 1991, 46–47; PACI 1993, 292–293; PERCOSSI SERENELLI 2000, 107, 109; SISANI 2006, 386.

Illustrations: PERCOSSI 1991, fig. 26 (mosaic floor); PACI 1993, fig. 26 (city plan); ILPICENOINVIDEO 2012, time 0:56.

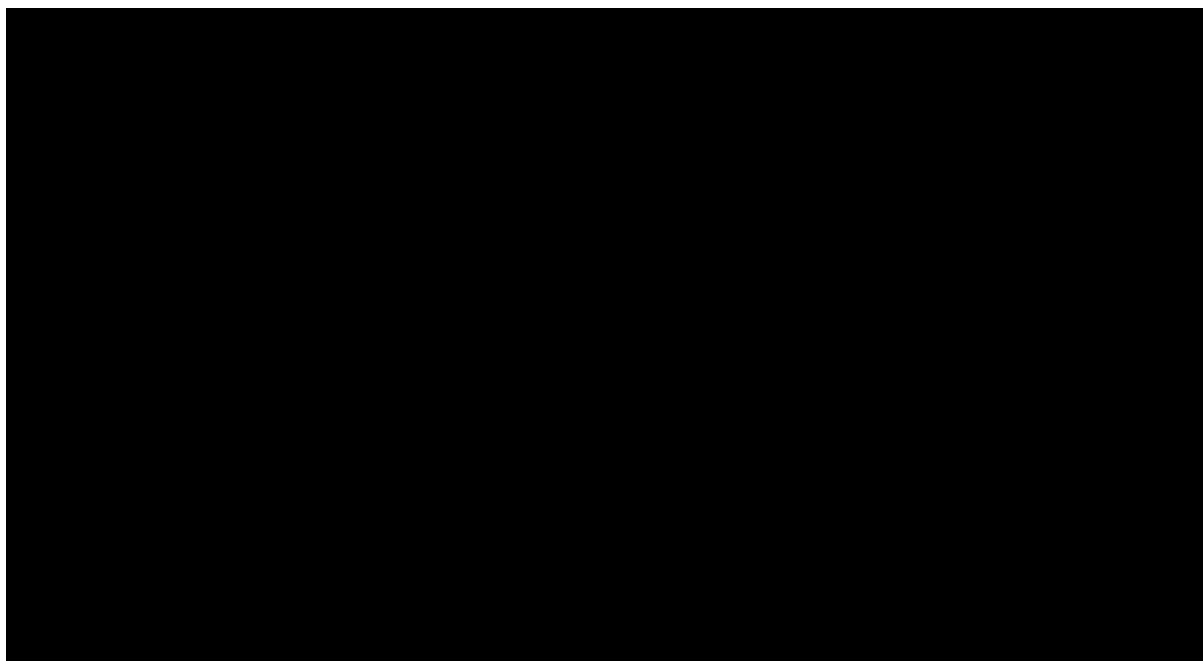


Figure 211: Baths of *Cupra Maritima* (ILPICENOINVIDEO).

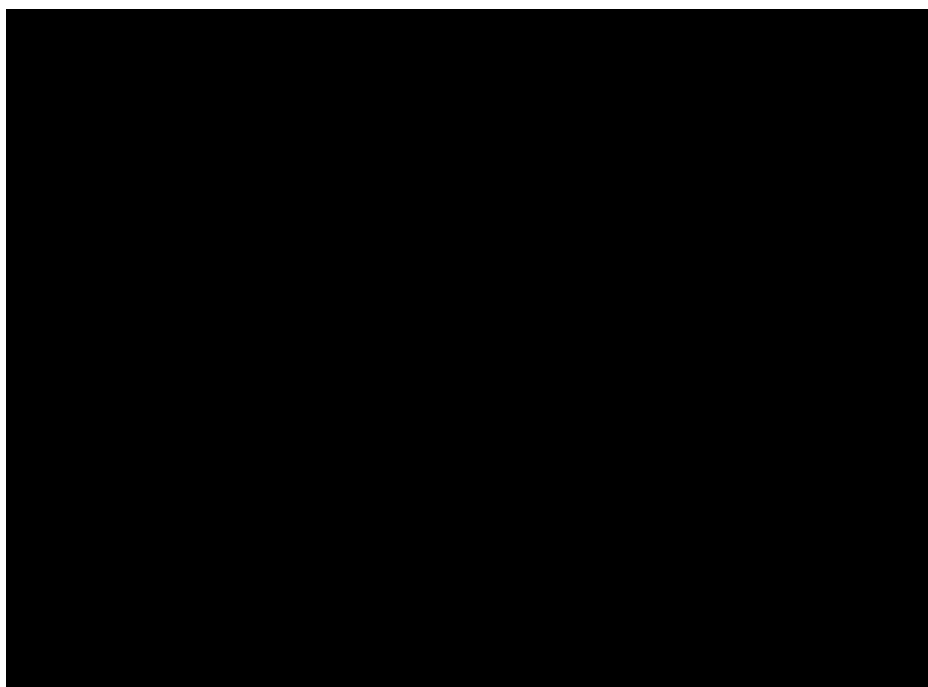


Figure 212: Mosaic from the baths of *Cupra Maritima* (Percossi 1991, fig. 26).

Reliability: probably a bath building (apsidal walls connected to water disposal system), probably public (dimensions)

1. 1.1 – Province of Ancona, Comune of Cupramontana
1.2 – 13.119023 E, 43.453128 N (via Palazzi n°2)
1.3 – /
2. 2.1 – Unknown
2.2 – Nothing visible today
3. 3.1 – Excavated in 1781, 1783, 1787 and 1892.
3.2 – /
4. Preserved for no more than 2 *palmi* in height, for a length of 168 *palmi* and a width of 136 *palmi*, for a surface area of ca. 1400 m².¹⁷
5. 5.1 – Dating: 2nd half of 1st cent. BC or later (Lilli, hypothetical, based on the ‘*adeguamento funzionale*’ of the city at the time, probably to understand as the moment in which the city got equipped with large public buildings).
5.2 – /
6. 6.1–2 – A plan is known but difficult to interpret; it shows a roughly rectangular building composed of min. 8 rooms. Three curvilinear walls are visible on the plan, two of which define semi-circular rooms connected to what is probably a water disposal channel and can be interpreted as apsidal pools.
7. 19th century descriptions mention an *opus spicatum* pavement and brick-faced walls.
8. /
9. 9.1 – A 19 x 10 m, 5 m tall reservoir, interpreted as a *castellum aquae* connected to the two aqueducts, is located at the highest point of the city; there is no known connection between it and the baths.
9.2 – The two rooms with semi-circular walls are probably pools.
9.3 – From the plan, the lines connecting the two semi-circular pools(?) are probably water disposal channels.
10. 10.1 – 19th century descriptions mention several polychrome mosaics.
10.2 – /
11. LILLI 2000, 217–218; SISANI 2006, 308–309.
12. GAGGIOTTI *et al.* 1980, 223 (plan); LILLI 2000, fig. 17 (picture).

¹⁷ The authors did not use the metric system at the time of writing, in the late 19th cent. AD; if they were using the system in effect in Rome and the Papal States until the 2nd half of the 19th cent. AD, of which the province of Ancona was then part, the *palmi* would then be equivalent to ca. 0.22 m (GUIDI 1855, pl. VI and p. 46, using the *canna architettonica* di palmi 10 to measure buildings). In this case, the building would have a surface area of ca. 1080 m². The figure of ca. 1400 m² is from Sisani.

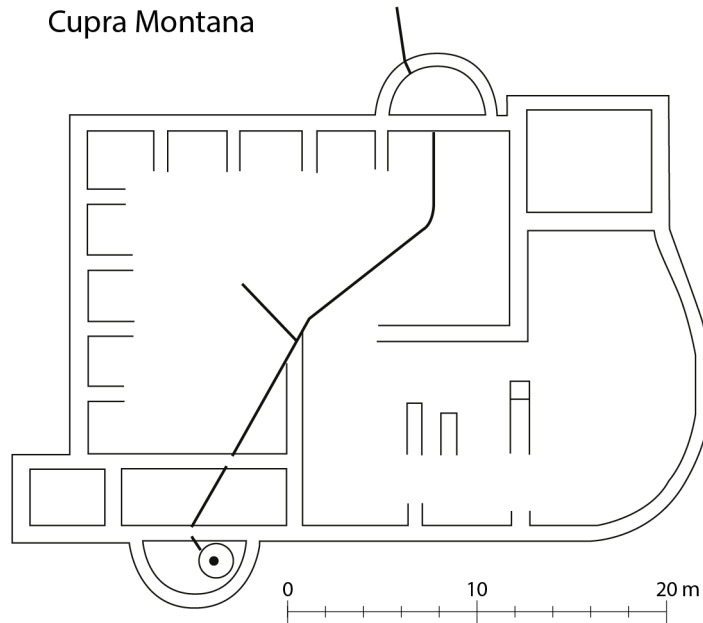


Figure 213: Plan of the baths of *Cupra Montana*. Scale approximative (1:400), direction of North unknown (GAGGIOTTI *et al.* 1980, fig. p. 223, redrawn by author).

Falerio Picenus (Falerone), Theatre baths

Ma.G.23

'Ambienti dietro il teatro'

Reliability: possibly bath building (heated pools), status unknown (proximity with theatre could indicate public function)

1. 1.1 – Province of Fermo, Comune of Falerone
1.2 – 13.499786 E, 43.102130 N
1.3 – Located behind the *frons scaena* of the theatre, towards the W
2. 2.1 – Only two rooms with pools known through excavations. Unclear if that is the preserved state of remains or the stage at which the excavations stopped.
2.2 – Part of the Parco Archeologico di *Falerio Picenus*
3. 3.1 – Excavated at the same time as the theatre during papal excavations conducted in 1774 and 1777, known through several descriptions by G. Colucci, Gaspare Desantis, Barnaba Agabiti, G. De Minicis. Trenches in the area in 1912–13, but it is not sure that they concerned the bath building. Re-excavated by P. Bonvicini in 1957.
3.2 – Not visited
4. The four rooms are preserved for a total length of 7.95–10.05 m and a width of 7.80 m.
5. 5.1 – Late antique? (CT)
5.2 – Unknown
6. 6.1 – Two rooms, each equipped with one pool. Dimensions: R1: 2.40 x 3.10 m; Pool 1a: 2.30 x 3.45; R2: 3.20 x 5.85; Pool 2a: 2.50 x 2.55 m. Pools 1a and 2a have a semi-circular

apse in their W wall (diam. 1.30 m) and were connected to their respective room by two steps.

6.2 – /

7. From pictures, the walls seem to be faced in very mixed material: horizontal courses of small stone blocks, horizontal brick courses, an alternance of the latter two, or roughly horizontal courses of different heights made of larger stone blocks.
8. 8.1 – /
8.2 – Some or all the rooms were heated. Found *tubuli*.
9. 9.1 – /
9.2 – Holes for water supply in the niches of pools 1a–2a.
9.3 – /
10. 10.1 – In pools 1a–2a, mosaic floor (monochrome?) and marble veneer on walls and steps.
10.2 – In room 2, discovery of two metal statuettes of Priapus and Jupiter Ammon.
A fragment of a column in giallo antico, found during the 1912–13 excavations (connection to the baths hypothetical).
11. DE MINICIS 1839, 21; BONVICINI 1971, 392–393; LANDOLFI 2000, 112; MARALDI 2002, 41–42, 96–97
12. MARALDI 2002, fig. 30, 32–33 (pictures), 31 (plan)

Falerio Picenus, Theatre baths

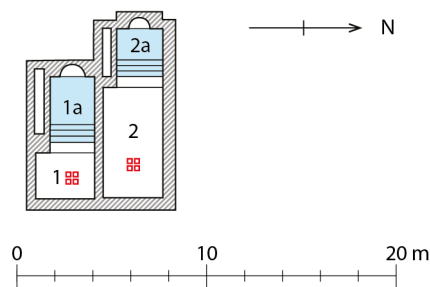


Figure 214: Plan of the theatre baths of *Falerio Picenus* (after MARALDI 2002, fig. 31).

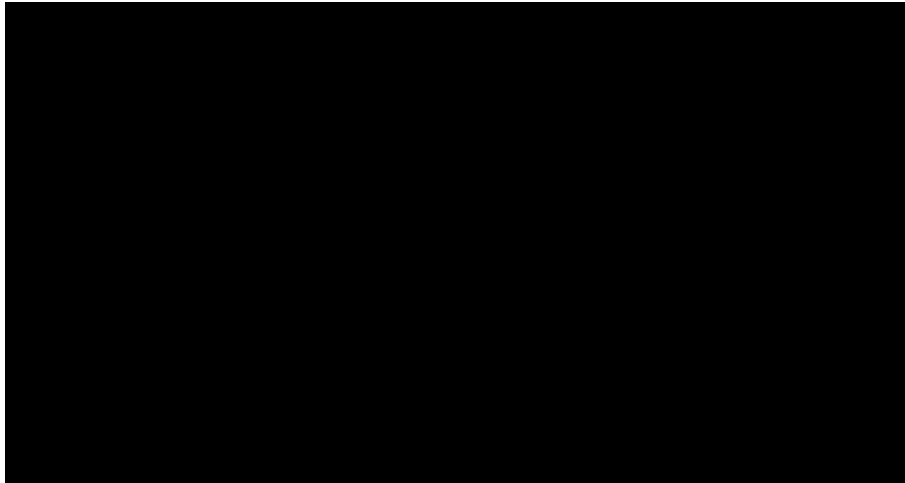


Figure 215: Theatre baths of *Falerio Picenus*, from E (MARALDI 2002, fig. 30, amended by author).

Firmum Picenum (Fermo), Palazzo Falconi

Ma.G.24

Reliability: weak (pools)

Province and Comune of Fermo

13.718794 E, 43.160732 N (approx.: area between the two cisterns)

In the area of palazzo Falconi, between two large Roman cisterns (one of which served as terracing for the forum), early 18th cent. excavations brought to light structures, equipped with niches and pools, which were identified as part of a bath building. Four marble statues (now in the Palazzo Erioni) representing members of the Julio-Claudian family were found in the area.

Two cisterns were located in the vicinity of those structures: a 60.20 x 29 m cistern (volume > 10,000 m³) in brick-faced concrete covered in *cocciopesto* divided in 30 connecting rooms, built in the late 1st cent. BC and restored in the 1st cent. AD and in the 2nd–3rd cent. AD. A second cistern below the archaeological museum measured 28 x 12.60 m and was built in brick-faced concrete, divided in six connecting rooms; it is dated to the late 1st cent. BC. The city was also equipped with an aqueduct (*CIL* IX.5369 = EDR015592), probably at the same time.

Bibliography: DE MARINIS & PACI 2000, 123–125; SISANI 2006, 373–375; DE ROSA 2008, 168 (on water management).

Helvia Ricina (Villa Potenza), Theatre Baths

Ma.G.25

Reliability: weak (tradition, discovery of pipes in the surroundings)

1. 1.1 – Province and Comune of Macerata
- 1.2 – 13.423454 E, 43.327929 N
- 1.3 – Some 50 m behind the *cavea* of the theatre

2. 2.1 – Unknown
2.2 – Backfilled
3. 3.1 – Discovered in 1873, excavated at the end of the 19th cent. AD by Severino Servanzi Collio, who reported on the baths to the Istituto di Corrispondenza Archeologica di Roma. A note from former Soprintendente delle Marche E. Galli indicates that the mosaic from R1 was known already in the 18th cent. AD, that it was protected by the Soprintendenza in 1918, uncovered in 1946, damaged by the passage of military troops and buried back again afterwards.
3.2 – Not visited
4. Unknown
5. 5.1 – 1st half of 2nd cent. AD (S: mosaics)
5.2 – /
6. 6.1 – Four rooms, three of which with mosaic floors. **R1**: 13.50 x 7 m. Mosaic floor. **R2**: 9.15 x 3.95 m, located against to the previous one. On side opposite to R1, threshold 1 x 0.80 m. Mosaic floor. Under mosaic floor, earlier floor of terracotta elements. **R3**: circular room, 4.30 m diam., walls 0.73 m thick. Pavement not reached. **R4**: dimensions not known, identified based on the presence of a fragment of a mosaic floor close to R3.
Inglieri mentions a large room with curvilinear wall supported by buttresses, but which rooms he refers to cannot be ascertained.
6.2 – Impossible to reconstruct.
7. Earlier floor of 42 made in hexagonal terracotta elements, 5 cm side, 3.5 cm thick. Walls of R3 in concrete, faced in brick courses on both sides.
8. No evidence.
9. 9.1 – Two aqueducts supplied the town, and a large cistern was discovered W of the forum area. No evidence of a direct connection with the baths.
9.2–3 – No evidence
10. 10.1 – **R1**: Geometric mosaic floor, black & white *tesserae* (1 cm side); the black meandering motifs are 4.7 cm wide. Field framed by three 6 cm wide stripes alternatively white and black, and final strip of white *tesserae* 56 cm wide (38 cm wide for Inglieri). Walls veneered with marble slabs. **R2**: White mosaic floor with white-red-black frame, 0.61 m wide. **R3**: Walls veneered with marble slabs. **R4**: Mosaic fragment, 0.80 x 0.75 m, geometric motive, black on white background.
10.2 – In the same area were found: ceramic fragments, ceramic building material, architectonic elements in marble (some of which decorated), water pipes. An inscription from *Helvia Ricina* [E29] mentions the restoration of a bath building under Trajan. Servanzi Collio associated it with this building, but there is no evidence to support this.
11. INGLIERI 1939, 108; PERCOSSI SERENELLI 1989, 67–72; CAPODAGLIO, CIPOLLETTA & TRUBBIANI 1996, 22–23; PERCOSSI *et al.* 2006, 218–220; SISANI 2006, 336; VERMEULEN 2012, 336.

12. INGLIERI 1939, fig. 5 (mosaic); PERCOSSI SERENELLI 1989, fig. 6 (mosaic); CAPODAGLIO, CIPOLLETTA & TRUBBIANI 1996, figs. p 22 (city plan; mosaic)

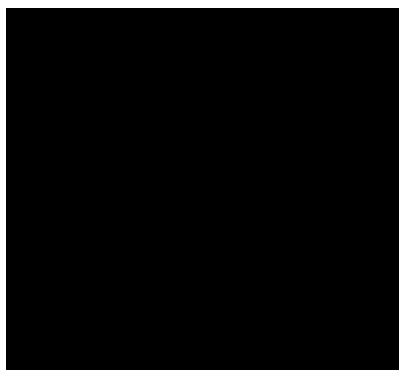


Figure 216: Mosaic from the structures behind the theatre at *Helvia Ricina* (INGLIERI 1939, fig. 5).

Helvia Ricina (Villa Potenza), 2nd bath building

Ma.G.26

Reliability: weak (connection to cistern)

Province and Comune of Macerata

13.422272 E, 43.328568 N (approx.)

Brick-faced structures close to a large cistern, to the W of the forum area, have been tentatively identified as a bath building. See [Ma.G.25] for the water supply to the town (point 9.1) and for an inscription mentioning baths (point 10.2)

Bibliography: PERCOSSI *et al.* 2006, 94; SISANI 2006, 334

Pisaurum (Pesaro), Via Tortora

Ma.G.27

Reliability: weak (iconography of mosaic)

Province of Pesaro e Urbino, Comune of Pesaro

12.909719 E, 43.912006 N (approx.: Via Tortora)

A black and white mosaic depicting a maritime scene (Neptune riding a sea horse, a dolphin) was found in Via Tortora at the end of the 19th cent. AD, in an area outside of the Roman city walls. Nothing is known of the surrounding room. The mosaic is dated to the 2nd half of the 2nd cent. AD on stylistic grounds. Interpreted as belonging to an extraurban bath building.

Bibliography: MERCANDO 1984, 222–224; DI COCCO 2004a, 109; 2004b, 58–60; TESS6982

Pictures: MERCANDO 1984, fig. 59 (plan), 60 (mosaic)

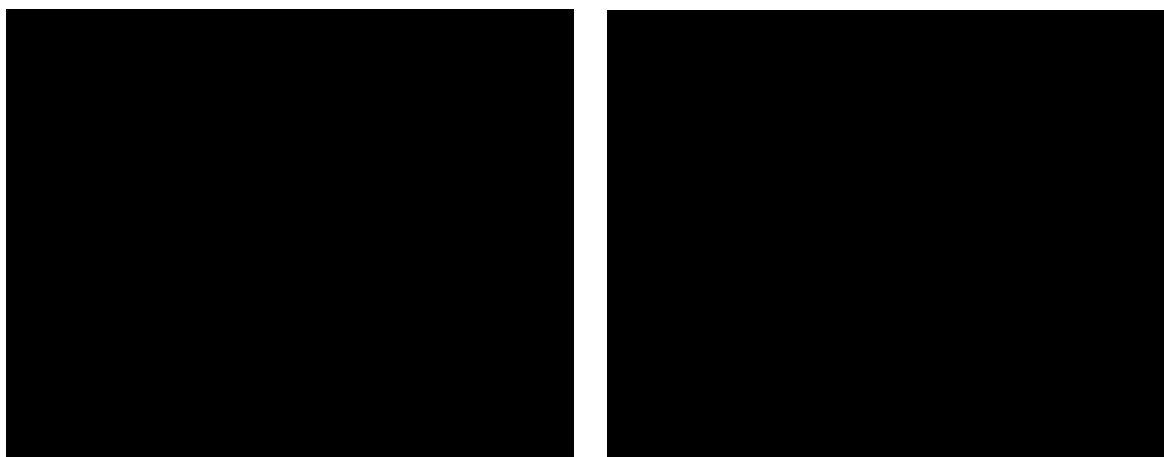


Figure 217: Remains at *Pisaurum*, via Tortora. L: Section and plan (scale unknown). R: drawing of mosaic (MERCANDO 1984, fig. 59–60).

Pisaurum (Pesaro), Via Gramsci

Ma.G.28

Reliability: weak (iconography of mosaic)

Province of Pesaro e Urbino, Comune of Pesaro

12.91396 E, 43.907907 N (approx.: via Gramsci)

A large black and white mosaic floor was found in 1928 in Via Palestro, now Via Gramsci. The floor is divided in several panels, one depicting a maritime scene (two facing tritons, dolphins, fish etc.), the other ones being black and white geometric or monochrome white. In later times, the centre figurative mosaic was damaged by the integration of a stone slab covering a well; a grave *a capuccina* was later set on the mosaic. The mosaic, dated to the 2nd half of the 2nd cent. AD, has been interpreted as belonging to a bath building, identification further supported by the discovery of structures, materials and hydraulic installations during 16th cent. AD works. The mosaics were removed and transported to the Museo Oliveriano of Pesaro, where only small fragments are still visible.

Bibliography: MERCANDO 1984, 217–224; DI COCCO 2004a, 104; 2004b, 58–60; TESS6812

Pictures: MERCANDO 1984, fig. 54–58

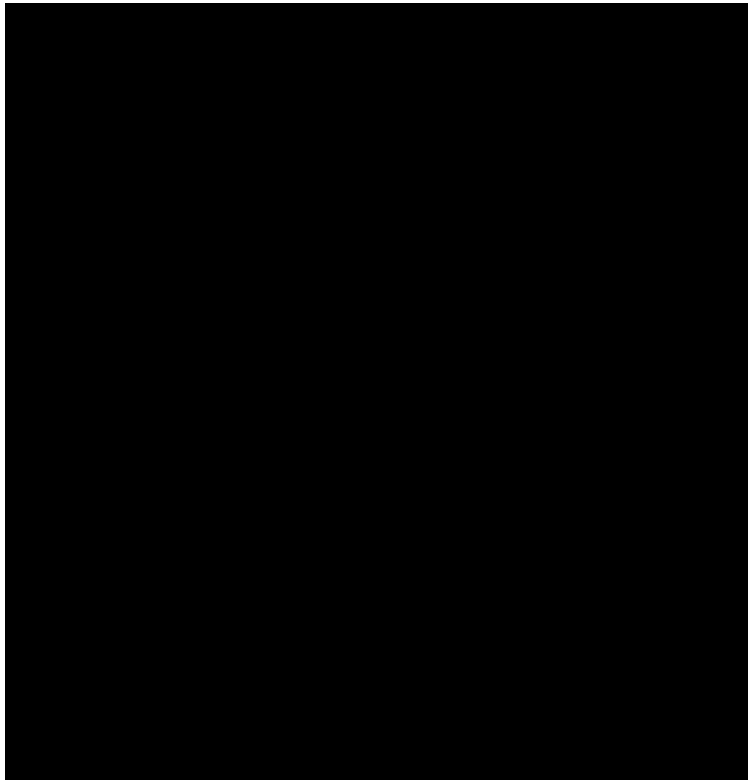


Figure 218: Drawing of the mosaic found at *Pisaurum*, via Gramsci (MERCANDO 1984, fig. 58).

Pitinum Pisaurense (Macerata Feltria), Località Pieve Ma.G.29

Reliability: probably bath building (heated room, water disposal), status unknown

1. 1.1 – Province of Pesaro e Urbino, Comune of Macerata Feltria
1.2 – 12.431104 E, 43.801426 N, ca. 320 m asl
1.3 – In the S part of the city, close to the city walls
2. 2.1 – Poor (foundation level). Only 3 rooms known.
2.2 – On an area archaeologica.
3. 3.1 – Excavated by the Soprintendenza Archeologica delle Marche in 1970 and 1973, roofed in 1994. Currently (2017) being restudied by the University of Urbino (dir. O. Mei). Only partly excavated.
3.2 – Not visited
4. 65 m² excavated.
5. 5.1 – **Pre-baths phase:** 2nd–1st cent. BC (E–W city wall and channel A). **I:** 1st–2nd cent. AD (R1–R2, channel B, repair to E–W city wall). **II:** 3rd–5th cent. AD (R3, channels C–D, buttressing of E–W city wall).
5.2 – Unknown
6. 6.1 – Only three rooms are known of the building, which was limited to the south by a long, buttressed wall (uncovered for 24 m), possibly the city wall considering its position next to the torrent Apsa. The wall predated the bath building, was repaired in phase I of the baths and buttressed in phase II.

R1: small room, partly excavated. In phase I, the room was subdivided by a wall (not represented on the plan). Its construction required the destruction of the brick vault of water channel A. *Cocciopesto* floor, possibly covered in marble. In phase II, became heated by the construction of a hypocaust, raised ca. 1.08 m above the original floor. The new floor was covered with a mosaic. **R2:** another room to the E of R1, not fully excavated. **R3:** small room added in phase II to the S of R1, partly on top of channels A and B. Small stone step in the S part of the room. The room has been tentatively identified as a latrine. **R4:** is an open space, not entirely excavated but apparently free of structures.

6.2 – Cannot be reconstructed. Monacchi 1999 postulates the existence of a second floor above R1 based on the thickness of the walls.

7. Several types of facings used in the building: brick facing, course of stone blocks, and a combination of both. The **E–W city wall** is made of courses of large river pebbles roughly squared, alternating with courses of CBM (56 x 30 cm). **R1:** brick-faced concrete. S wall 1.20 m thick, N wall 0.60 m. **R2:** wall faced in horizontal courses of brick alternating with courses of stone blocks **R3:** floor in stone chips, possibly originally covered. Walls made of small stone blocks bound with mortar.

8. **8.1** – No remains found.

8.2 – R1: 0.60 m tall *pilae* made of circular and square bricks supporting a *suspensura* made of *bipedales* and *cocciopesto*. Found remains of *tubuli*, square or rectangular section.

9. **9.1–2** – No information.

9.3 – Water was probably disposed of in the nearby torrent Apsa. Four channels in the area, three of which (A–B–C) drained water through the area towards the SE, and a fourth one (D) located outside the city, emptying water to the W. Channels A, B, C came from further N, and probably drained water from other buildings and areas in the centre of the city. Channels A, B, D are made faced with small stone blocks and the floor is tiled; channel C is made of brick-faced concrete and floored with stone slabs. All channels have an inner width of 0.45 m, a depth of 1–1.50 m, and are covered at least in part by stone slabs (apart from channel A, see below).

Pre-baths: channel A, running N–S, covered by brick vault. **I:** addition of channel B, running NW–SE, flowing into channel A before the city wall. Modification to cover of channel A because of construction of R1 (from brick vault to stone slabs). **II:** construction of channel C, running NE–SW outside of the building and flowing into channel A at the level of the city wall. Construction of channel D, S of the city wall, running E–W; that channel could evacuate an overflow of the previous channels, bringing the water further W.

10. **10.1** – **I:** R1, floor in *cocciopesto* (possibly covered with marble slabs). **II:** R1: mosaic floor, black and white

10.2 – Mention of T-shaped CBM under the floor of R1, phase I. Monacchi 1999 described CBM of unusual shape, found in collapse layers: 30 cm x possibly 60 cm, with a lateral cavity for the insertion of a clamp, scratches in a herringbone pattern on

one side and a 9 cm thick 'cordolo' on the other side, perhaps used as decorative element. An inscription from *Pitinum Pisaurense* [E55] mentioned a bath building, but nothing allows us to associate it with this complex.

11. MONACCHI 1995, 111, 116; 1999, 77–80; MEI, CARIDDI & VENTURINI 2018, 664–665

Information from a board inside the archaeological area was also used: it contained plans and a phasing based on more recent interpretations than those proposed by Monacchi.

12. Pictures: MONACCHI 1995, fig. 15–16; MONACCHI 1999, fig. 56–75; MEI, CARIDDI & VENTURINI 2018, fig. 4–5

Plans: MEI, CARIDDI & VENTURINI 2018, fig. 3

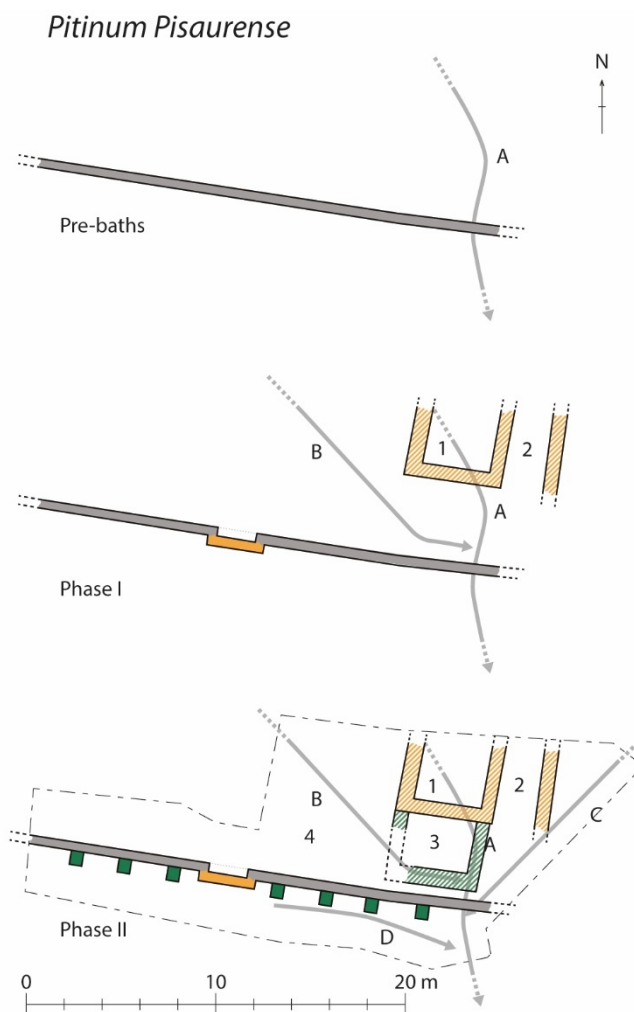


Figure 219: Plan of the baths of *Pitinum Pisaurense* (after an information board inside the archaeological area).

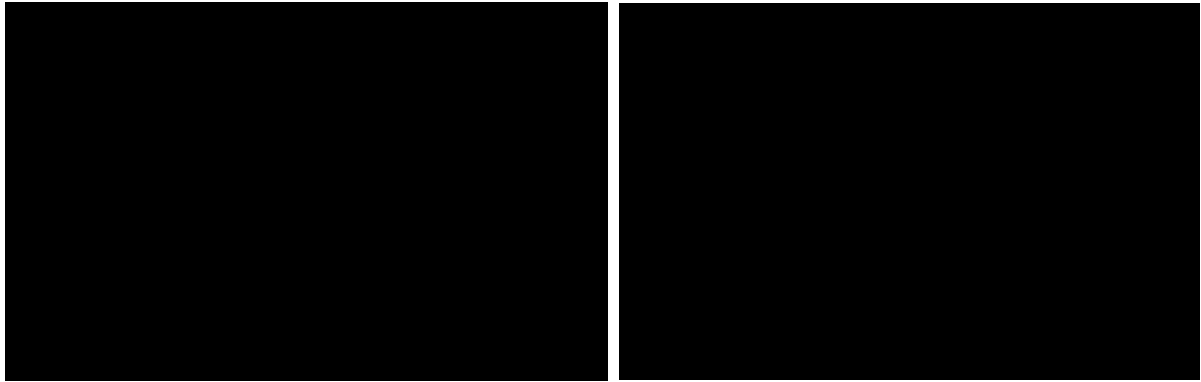


Figure 220: Baths of *Pitinum Pisaurense*, view of S boundary wall from SW (L) and of R1, R2 (foreground) and R3, from NE (R) (MONACCHI 1995, fig. 15–16).

Potentia (Porto Recanati)

Ma.G.30

Reliability: weak (tradition, small pool)

Province of Macerata, Comune of Porto Recanati

13.671353 E, 43.414111 N (approx.: forum)

Several rooms along the E portico of the forum have been tentatively identified as belonging to a bath building. The walls are painted and the floors are either in *cocciopesto* or made of a geometric black and white mosaic and marble fragments; one of the rooms is a small pool. The complex is dated to the Augustan period (urbanistic phase?), when previous structures relative to the nearby temple, incl. a *favissa* that contained 2nd cent. BC pottery, were defunctionalized. VERMEULEN 2012, tab. 1 does not record the existence of a bath building in *Potentia*.

Bibliography: SISANI 2006, 341.

Pictures: LUNI 2003, fig. 26.

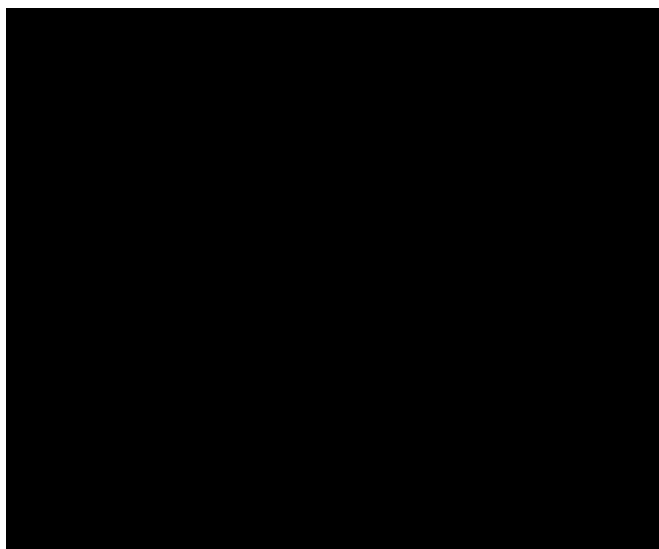


Figure 221: Mosaic floor from the rooms along the E side of the forum of *Potentia* (LUNI 2003, fig. 26).

Reliability: weak (iconography of mosaic, presence of water). If baths, possibly spa baths (proximity of a spring sanctuary)

Province of Macerata, Comune of Cingoli

13.243084 E, 43.438412 N (approx., frazione of San Vittore)

In the frazione of San Vittore, where a little-known Roman centre (*pagus*?) stood, archaeological remains were discovered and excavated in 1845–46 and briefly described in an 1863 report from Servanzi Collio to the Istituto archeologico in Roma. The remains were then backfilled.

Several rooms were brought to light, of which the following could be relevant to a bath building: two waterproofed pools with pavement in *opus spicatum*, two further rooms with the same pavement and one or two water channels, a large stretch of a mosaic representing sea animals, with ‘*canali di comunicazione*’ towards two neighbouring rooms (doors? hypocaust passages?), and a room with a pavement made of tiles, possibly the *area* of a heated room.

Further discoveries, possibly relevant to the same building, include an ‘aqueduct’ bringing water to different rooms and ending (or starting) in the nearby river Musone, two rooms with mosaic floor, a large 2 m deep room with floor in *battuto* with *pozzolana*, described as waterproof (a cistern?), two square wells.

Bibliography: SERVANZI COLLIO 1863; MERCANDO 1979, 32–33; SISANI 2006, 307.

Illustrations: MERCANDO 1979, pl. I (reproduction of a 1920 plan). The picture in LUNI 2003, fig. 45 shows the baths of *Matilica*, not *Cingulum*.

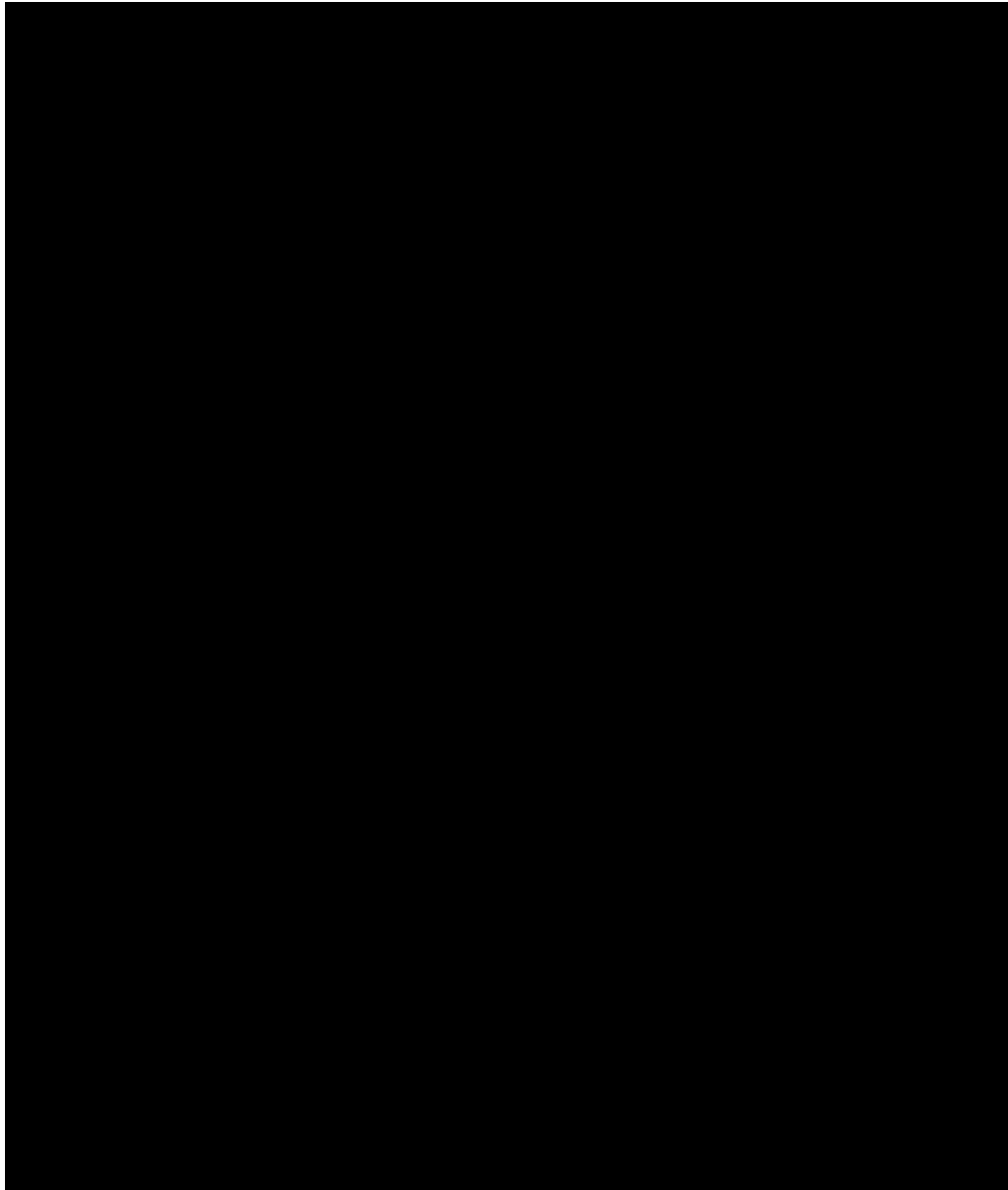


Figure 222: Plan of the structures at San Vittore di Cingoli, scale 1:400 (MERCANDO 1979, pl. I).

Sentinum (Sassoferrato), 3rd bath building

Ma.G.32

Reliability: weak (iconography of mosaic)

Province of Ancona, Comune of Sassoferrato

12.850043 E, 43.418008 N (hypothetical)

A 14 x 9.80 m mosaic discovered in 1922 (possibly in località Vigna Ippoliti), depicting 22 sea monsters and animals in black *tesserae* on white background, was interpreted as belonging to a bath building. Stylistically dated to the mid-2nd cent. AD.

Bibliography: MORETTI 1925b; MANCINI 2008; 2014, 785.

Illustrations: MORETTI 1925b, fig. 1–2; MANCINI 2008, pl. XX–XXI, XXIV.1.

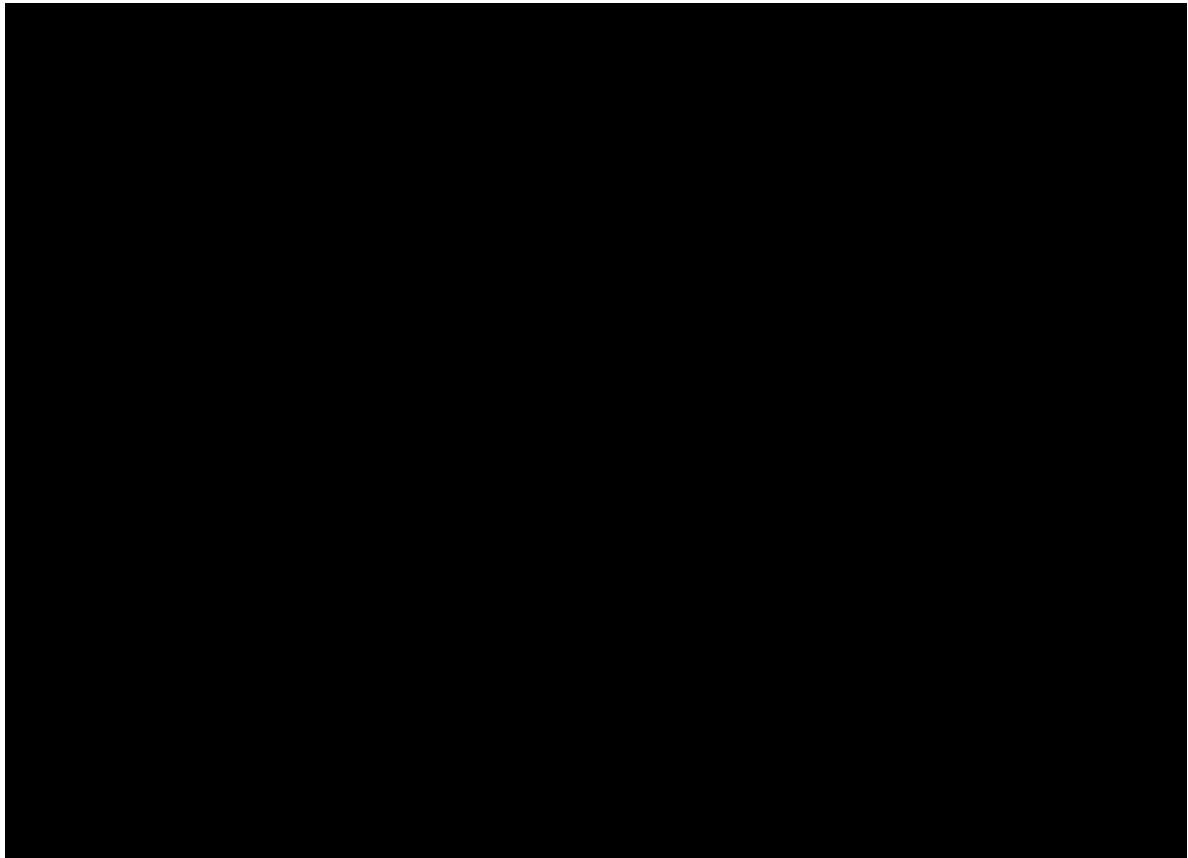


Figure 223: Mosaic from a possible 3rd bath building at *Sentinum* (MORETTI 1925b, fig. 1).

Tuficum (Borgo Tufico), Loc. Case Bagno

Ma.G.33

Reliability: weak (tradition, toponymy)

Province of Ancona, Comune of Fabriano

13.001859 E, 43.318308 N (approx.: chiesa S Leopardo)

Archaeological remains (mosaics, bronze *pulvi*(?), lead pipes) seen in the 16th cent. by Durante Scacchi on a terrace on the right bank of the river Esino, in località Case Bagno, were at the time interpreted as belonging to a bath building; the toponym also informed that suggestion. Wall remains and concentrations of terracotta elements (tiles, bricks for *opus spicatum*) and mosaic *tesserae* were recently still visible in the area. From the same area comes a fragmentary inscription (*CIL* XI.5719 = EDR110131).

Bibliography: VENANZONI 2005, 38–40 (no. 3).

Reliability: weak (presence of circular bricks for *pilae*)

Province of Ancona, Comune of Fabriano

13.000328 E, 43.354415 N (approximate)

Remains of circular bricks, often used for the construction of hypocausts, may indicate the presence of a bath building in the surroundings. The bricks were found alongside lamp fragments and remains of *cocciopesto* floors, and in the same area several columns as well as two fragmentary inscriptions (*CIL* XI.5716 = EDR110111, *CIL* XI.5729 = EDR110186) had been found previously.

Bibliography: VENANZONI 2005, 45–46 (no. 7m).

Reliability: possibly baths (series of cold-water pools). If baths, status unknown; it has been suggested they could be part of a *domus*, but the location next to the forum could suggest a more public nature.

1. 1.1 – Province of Macerata, Comune of Urbisaglia
1.2 – 13.384987 E, 43.198702 N
1.3 – Inside the city walls, directly to the N of the forum
2. 2.1 – Preserved at foundations level
2.2 – Part of the Parco Archeologico di *Urbisaglia*
3. 3.1 – Discovered and partly excavated (between 2003 and 2006) by the Università di Macerata, dir. Giovanni Maria Fabrini. The complex probably extends further N.
3.2 – Not visited
4. At least 120 m² (R1–R2–R3–R4).
5. 5.1 – I: 2nd half of 1st cent. AD (material).
5.2 – /
6. 6.1 – The complex is organized around a central room **R1**, 3.80 m wide and ca. 5.90 m long, with a curvilinear S wall; the room was extended further S (**R2**) (9.30 total length) in a secondary(?) phase, together with the S wall of R4 (they appear to have been built together on the plan in Fabrini–Perna). Marble floor in R1. On each side of this room are located two roughly square rooms (**R3**, 3.40 x 3.20 m, and **R4**, 3.20 x min. 3 m). From the plan in Fabrini–Perna, the N wall of R4 leans against the E wall of R1, suggesting it belongs to a later phase, probably contemporary with construction of R2 to create a square room R4. Several (all?) rooms are covered in waterproof *cocciopesto*.
6.2 – All rooms are interpreted as pools. Another possibility is that R3 and R4 are two pools set symmetrically on either side of a larger room (R1, *frigidarium*?) which provided access to them. The latter possibility is followed on the plan below.
7. Brick-faced concrete, aggregate of river pebbles

8. No traces of heating systems
9. 9.1 – No direct evidence. An aqueduct (dated to the 1st cent. AD) is known to have supplied the town, discharging into a reservoir located at the top of the San Biagio hill behind the theatre. The reservoir is made of two parallel naves ca. 50 m long and 4 m high.
9.2–3 – No evidence
10. 10.1 – In R1, traces of a floor made of slabs of marble from Skyros.
10.2 – One large lead *fistula*.
11. FABRINI 2009, 229; FABRINI & PERNA 2015, 10.
On the water supply of the town: LUNI 2003, 261–263; DE ROSA 2008, 76–77.
12. FABRINI & PERNA 2015, fig. 1 (city plan), 4 (plan), 11 (picture).

Urbs Salvia

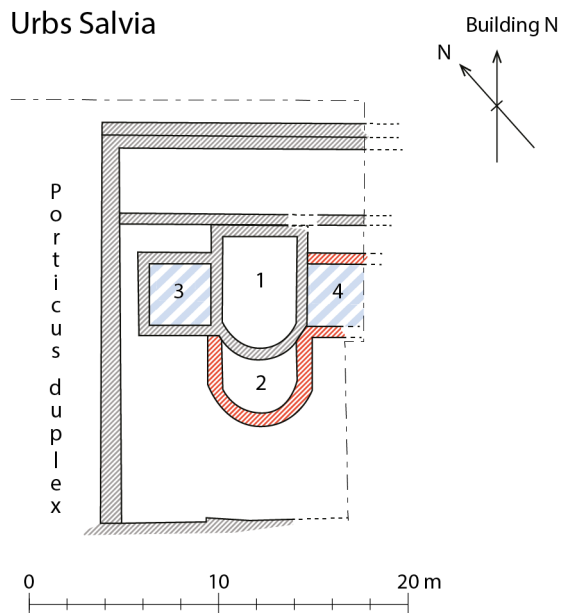


Figure 224: Plan of the structures N of the forum of *Urbs Salvia* (after FABRINI & PERNA 2015, fig. 4).

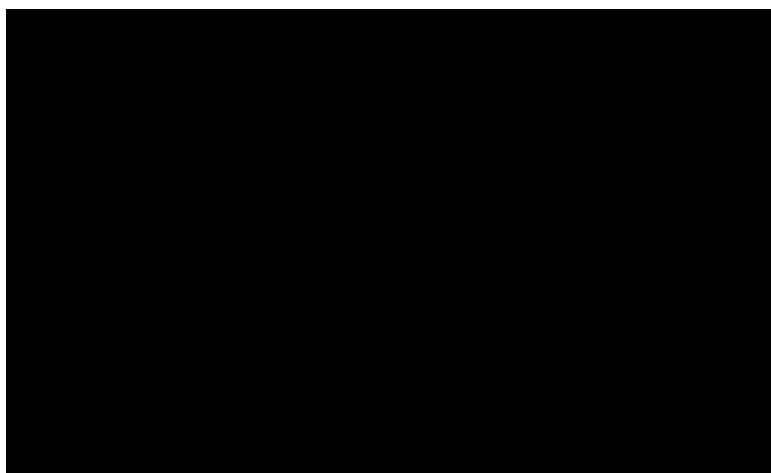


Figure 225: Structures N of the forum of *Urbs Salvia*, from S (FABRINI & PERNA 2015, fig. 11).

Reliability: Weak (water disposal elements)

1. 1.1 – Province of Pesaro e Urbino, Comune of Urbino
1.2 –12.637390 E, 43.723847 N (Palazzo ducale), ca. 450 m asl.
1.3 – Location inside the city walls. Now next to the Palazzo ducale, under the Seminario of the church of S. Domenico.
2. 2.1 – Only two rooms known, preserved up to 0.40 m above ground.
2.2 – Backfilled.
3. 3.1 – Discovered in 1873 during the construction of the seminario of the church of S. Domenico, excavated the same year by the Ispettore Ciccolini.
3.2 – Not visited
4. Max dimensions: 18 x 12.8 m.
5. No information available. The building was destroyed by a fire.
6. 6.1 – Two rooms were brought to light, preserved for max. 0.40 m above ground; they are separated by a 1.80 m thick wall and do not connect. **R1**: almost square room (ca. 10.80 x 9.70 m); location of entrance unclear. Floor made of marble slabs, all walls covered by a layer of *calcestruzzo* then a marble veneer. Later modifications: a circular medieval kiln cut a wall, and a modern wall cut the room in two. **R2**: rectangular room (ca. 7.30 x 4.70 m) divided in two by a low wall (0.20 m high) next to which is a well. The *puteal* of the well is made of four large stones. The wall on one of the short sides is more than 2 m thick and broken in the middle for its entire thickness. On the short side opposite to the well, two large stone blocks frame what could be an entrance. Floor made of marble slabs, all walls covered by a layer of *calcestruzzo* then a marble veneer. **Outside** of these two rooms is a deep well.
6.2 – The function of the rooms is unclear. The wealth of decoration, large dimensions and absence of heating of R1 point to an important room, e.g. a *frigidarium*.
7. The walls are made of brick-faced concrete. Some small *opus spicatum* bricks and many large tiles were found, not *in situ*. The large, roughly worked stone blocks in R2 are made of Furlo stone.
8. Apparently no heated room.
9. 9.1 – Next to the building (under the hotel San Domenico), and without evidence of a direct connection with it, is located a large cistern (30 x 27 m) dated to the 2nd cent. AD, with waterproofed walls and floor in *opus spicatum*. The cistern collected rainwater and possibly water from local springs. There is another nearby large cistern (35 x 20 m) under the church of S. Sergio, in via Raffaello, which seems however to be located further downhill. The town had at least one aqueduct (*CIL* XI.6068), dated to the Augustan period and supplying the area *extra-muros* (and therefore not the baths); the inscription refers to the aqueduct as *aqua nova*, suggesting that there might have been a second, earlier aqueduct.

9.2 – Two wells in or near the building (one in R2, the other outside of R1–R2); it is unclear what they supplied.

9.3 – A pipe is connected to the well in R2 and is headed towards the entrance(?) to the room.

10. 10.1 – The floor of R2 is made of slabs of white veined marble. The walls in R1 and R2 are veneered by marble slabs of different colours: bardiglio, giallo di Siena, pavonazzetto, Carystian, serpentine, porphyry, and by listels of black schist.

10.2 – Lead pipes and many fragments of marble found in both rooms. In **R1**, fragments of statues (a naked male body, another body, a dressed woman), of architectonic decoration (a white marble frieze with eggs coloured in red; several cornices with dentils), of metallic elements (a bronze key, a copper cup(?)) and of inscriptions (one with the letters A R(?), the other with the letter H). In **R2**, several cornices, two column fragments (one in granite, the other in a blue veined marble, 0.36 m diam.).

11. Voce dell'Appennino 1873 (not consulted); FIORELLI 1883, 255–257; LUNI 1982, 402; 1993, 42; SISANI 2006, 239–240.

On the water supply of the town: LUNI 1993; DE ROSA 2008, 25, 171.

12. FIORELLI 1877, fig. p. 256 (plan).

Urvinum Mataurense

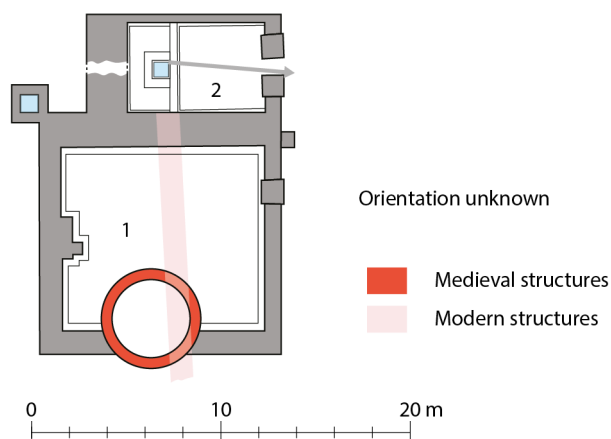


Figure 226: Plan of the structures identified as baths at *Urvinum Mataurense* (after FIORELLI 1877, fig. p. 256).

Molise

Terme dell'Anfiteatro, Villa Zappone

1 – Location

1.1 – Province of Campobasso, Comune of Larino

1.2 – 14.917365 E, 41.804894 N

1.3 – SW of the amphitheatre

2 – Preservation

2.1 – Only part of the plan known; preserved in elevation for a few courses.

2.2 – Unknown. From online maps, part of the structures (R1 to R3) seem to have been covered by a permanent roof.

3 – Research

3.1 – Already known in 2nd half of 19th cent. (Magliano). Some excavations in the area at the beginning of the 20th cent. (V. Levante, regio ispettore onorario alle Antichità). Then forgotten and partly obliterated by early 20th cent. constructions. The mosaics were brought to light in 2006–2007 during construction works on the Villa Zappone.

3.2 – Not visited

4 – Dimensions

R1, R2 and R3 cover ca. 350 m²; all the structures fit into a ca. 900 m² rectangle.

5 – Chronology and phasing

5.1 – I: Antonine–Severan periods (S). Modified several times.

5.2 – Unknown

6 – Description of the remains and identification of rooms

6.1 – Several rooms were found, divided in two groups to the W (R1, R2, R3) (fig. 145, 228A) and E (R4, R5, R6, along with a tall pier); the area between the two groups was not excavated. Magliano (1895) mentioned a 15 m diam. circular room with two rectangular extensions (possibly R4?), and another circular room forming the W end of the baths, with a diam. of more than 20 m.

R1 (fig. 228B): a 10 x 8 m room with mosaic floor and marble veneer on wall. Communicated with **R2** (fig. 228C), a 17 x 7.50 m room partly covered by early 20th cent. building. Mosaic

floor. **R3** was a pool to the N of R1, with a curvilinear E wall. Accessible from the W via steps. To the E are located three further rooms, **R4**, a large heated room with apse, heated from **R5**, and one or several small heated rooms (**R6**). Next to R6 is a tall pier, ca. 2 x 2.80 m, ca. 8 m high.

6.2 – Not enough evidence to reconstruct functions or paths.

The large dimensions would indicate a public function.

7 – Construction techniques and materials

What little is preserved of the wall of R1 was faced in reticulate and brick courses. The pier was in brick-faced concrete.

8 – Heating devices

8.1–2 – No direct evidence. Several heated rooms in the E part of the baths (R4, R6), the former heated by a *praefurnium* in R5.

9 – Water management

9.1 – Levante mentioned the discovery, in the area, of underground channels of an ‘aqueduct’.

9.2–3 – No direct evidence. Water had to be supplied to and evacuated from R3.

10 – Decoration and material

10.1 – Floors: **R1** (fig. 228B, D–F): polychrome mosaic with geometric central motif (red and green on white background) and a procession of sea animal and monsters around it (bull, horse, goat, dragon, dolphins). The bull and the horse were made of red tesserae with the details in white and green, the goat and the dragon were made in green with details in red and white. *Tesserae* in terracotta (red) or limestone (green, white). Restored in ancient times. **R2** (fig. 228C): red and green *tesserae* on white background, same materials as mosaic floor in R1. Procession of sea animals (fish, dolphins) and monsters in a triple frame (two red stripes and a polychrome plait on red background). **R3** may have been floored with marble slabs (from drawing).

Levante (early 20th cent.) mentioned polychrome marbles and mosaics, as well as wallpainting remains. De Felice (1994) reported the information that a geometric black and white mosaic was supposedly located nearby (in via G. Cesare, against the city wall) and covered.

Walls: possibly marble veneer on wall of R1. Levante (early 20th cent.) mentioned wallpainting remains.

10.2 – Magliano (1895) mentioned the discovery of lead pipes; Levante (early 20th cent.) mentioned lead too, as well as a ‘chiave idraulica’ (perhaps a tap?). De Felice (1994) reported elements laying in the park: a fragment of column in cipollino (4.50 m high, diam. 0.43 m) and a limestone slab (1.45 x 0.75 x 0.35 m).

11 – Bibliography

MAGLIANO & MAGLIANO 1895, 84 (not consulted); DE FELICE 1994, 60 (no 55–57); CILIBERTO & DI NIRO 2015; CECCARELLI & FRATIANNI 2017, 264–265; TESS13788; TESS13789

Archival material: Manoscritto del Canonico V. Levante, Archivio della Curia Vescovile di Larino.

12 – Illustrations

DE FELICE 1994, fig. 1 (location); CILIBERTO & DI NIRO 2015, fig. 1 (plan), 2–6 (decoration); CECCARELLI & FRATIANNI 2017, fig. 5.75; TESS13788 (plan).

Larinum, Amphitheatre baths

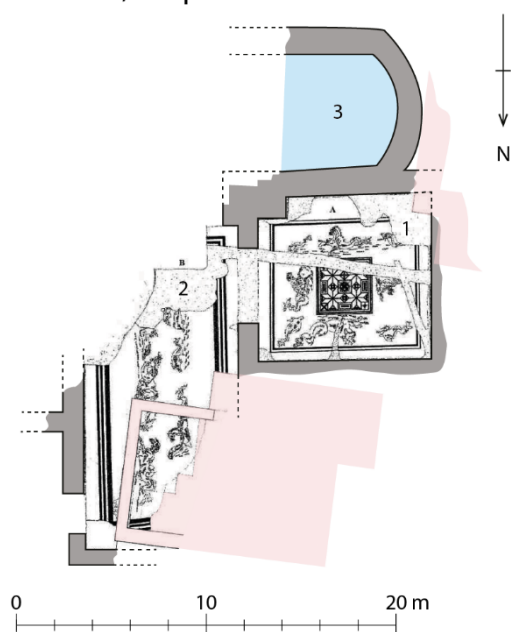


Figure 227: Plan of the Amphitheatre Baths of *Larinum* (after CILIBERTO & DI NIRO 2015, fig. 1).

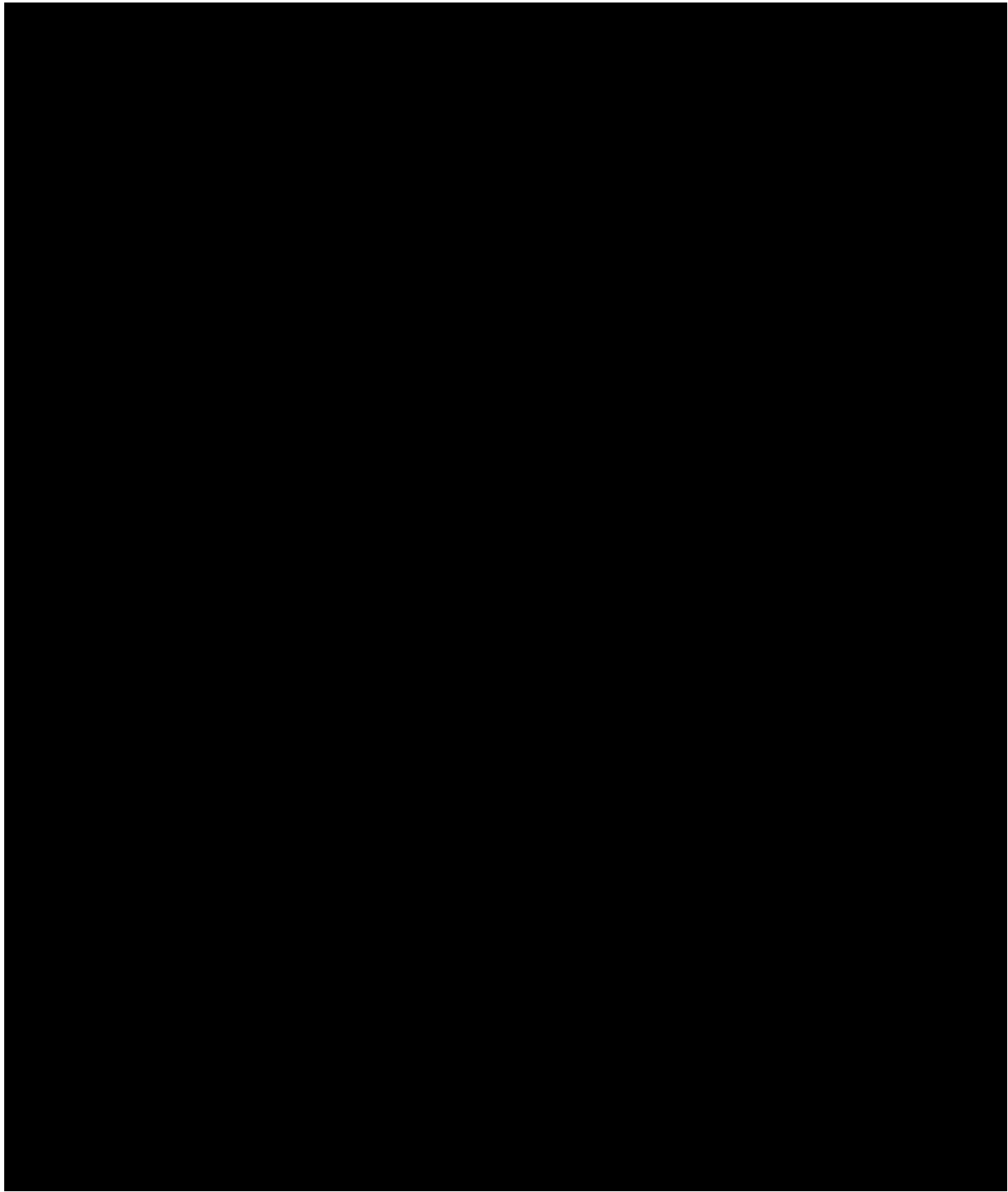


Figure 228A-F: Amphitheatre Baths of *Larinum*. **A:** general view, from NE. **B:** R1, from S. **C:** R2, from S. **D–F:** details of mosaic floor of R1. Central geometric motive, bull along N wall, fish in NE corner (A: CECCARELLI & FRATIANNI 2017, fig. 5.75; B–C: CILIBERTO & DI NIRO 2015, fig. 3–4; D–F: GARDNER 2009).

1 – Location

1.1 – Province of Campobasso, Comune of Sepino

1.2 – 14.616441 E, 41.434000 N

1.3 – Against the inner side of the NW stretch of the city wall, between Porta Boiano and the theatre.

2 – Preservation

2.1 – Plan only partly known; preserved in elevation for a few courses. Heavily restored.

2.2 – Part of the Area archeologica di Altilia-Saepinum, managed by the Soprintendenza Archeologia, Belle arti e Paesaggio del Molise.

3 – Research

3.1 – Partly excavated in 1955 (dir. V. Cianfarani)

3.2 – Visited in April 2016

4 – Dimensions

>550 m²

5 – Chronology and phasing

5.1 – 2nd cent. AD (CT)

5.2 – Unknown

6 – Description of the remains and identification of rooms

6.1 – Only the range of rooms (R1 to R5) closest to the city wall is known. Ca. 65 m further N of R2, behind the *cavea* of theatre, another series of rooms (R12 to R14) was possibly connected to the same building; they are separated by large, probably open spaces (R7, R11) (fig. 229, 230A).

R1 (fig. 231F) contained a *praefurnium* heating **R2** (fig. 230B), a roughly square heated room with a S square and a W apsidal extension, possibly hosting pools. It probably communicated with R3 but the wall is restored and no traces of a passage are visible. **R3** (fig. 230C) was a square heated room with an apse on its W wall and connected to **R4** (fig. 230D), another heated room. **R5** (fig. 230E) was not heated and instead was equipped with a pool **R5a** (fig. 230F) whose bottom was at a lower level (ca. 1.30 m); it was accessible from R6 and led to R4. **R6** is unexcavated, as are R7, R8 and R10. **R7** was probably open, as it measured more than 18 m

N-S, and the same was probably true for **R8** with a length of more than 10 m. **R9** was a small squarish room opening off **R8**. **R10**, at the back of the building, was not entirely useless as it could be closed off, as indicated by a threshold in the NW corner of **R9**. More than 20 m separated **R8** from **R12** and **R13** (fig. 231A), two spaces with more complex plans; **R12** may have been heated and based on its plan and the shape of the possible *praefurnium* in **R13**, the N part of **R12** may have contained a pool (see 8.1). Behind the curvilinear N wall of **R13** was **R14** (fig. 231B), accessible only by exiting **R13** first.

6.2 – The succession of rooms in the S (part of the) building is traditional of bath buildings, with a *frigidarium* **R5** with its pool **R5a** and a retrograde circuit in the heated rooms **R4** (*tepidarium*), **R3**, **R2** (*caldarium* with two *alvei*). Despite the wall separating **R2** from **R3**, it is unlikely that **R2** was decommissioned as the only *praefurnium* for this row of heated rooms seems to have been in **R1**, directly heating **R2**; it would have been wasteful not to use **R2** when the *praefurnium* in **R1** was active. The large open spaces may have offered space for physical exercise (*palaestrae*); alternatively, since a large portion of the walled surface of the city was not built up to allow for shepherds and their flocks to be stationed, these large open areas may have also filled a similar function. **R12** and **R13** may have been part of the same bath building, or a second small bathing complex, with **R13** a *praefurnium* (possibly the one mentioned by Cianfarani for these structures) to heat **R12**, of which all the heating system would have disappeared. **R14** was a latrine, as made clear by the stone slabs on the floor going around the room and dug with the typical gutter channel. A stone at about 40 cm above ground in the SW corner could have supported seats.

7 – Construction techniques and materials

7.1 – No information available

7.2 – Walls in concrete faced in several ways (fig. 231C–E); it is not always possible to tell the restored parts from the original ones. The stone used for the walls was a local limestone, the same that was used for the city walls.

- Irregular rubblework: **R2** N wall, **R5a** S wall
- Irregular reticulate with quoins of brick courses: **R5** N and E walls, **R6** W wall,
- Full CBM facing (brick, tiles, reused CBM): **R3** (but S part of E wall), **R4**, **R5** S wall, **R5a** N wall, **R12**
- Alternate courses of small stone blocks and bricks: **R1** E wall, **R2**, **R5a** W wall, **R11** N wall, **R13** N, W and E walls (inner and outer sides)
- Loosely horizontal course of stone blocks: **R5** E wall, **R7** W wall, **R9**, **R14** (inner and outer sides)
- Stone orthostates: **R5a** E wall

7.3 – No information available.

8 – Heating devices

8.1 – Restored *praefurnium* in R1 (fig. 231F) heating R2, opening covered by relieving arch made of *sesquipedales*. 0.80 m opening, narrowed down to ca. 0.50 m by small brick piers. Large stone blocks around the mouth of the *praefurnium* may have been part of longitudinal extension supporting a boiler to heat water for R2a.

Possible second *praefurnium* in R13 to heat R12, possibly equipped with external longitudinal extensions (at least to the E). May have supported a boiler, in which case the N part of R12 may have contained a pool.

8.2 – R2, R3, R4 and possibly R12 were heated. In R3 (fig. 231G): *pilae* made with circular bricks (0.21 m diam.), ca. 0.70 m high. Rectangular section *tubuli* (0.11 x 0.14 m, fig. H), length unknown. Hypocaust connections between R2–R3 and R3–R4.

9 – Water management

9.1 – Remains of an aqueduct tapping water from S of town were identified, and a possible redistribution tank was recognized in the S tower of Porta Benevento (SE entrance of town). Another small redistribution tank was located behind the N tower of Porta Boiano, close to the baths, with remains of a *fistula* leading water outside the tank.

9.2 – No information available. R5a required water.

9.3 – No information available

10 – Decoration and material

10.1 – Threshold between R5 and R4 or R6 decorated with mosaic depicting the instruments for bathing: small *unguentarium*, strigils. Mosaic floor in R3 (fig. 231H).

10.2 – No information available

11 – Bibliography

Sepino : *archeologia e continuità* 1979, 71–72

Brief mentions: ANDREAE 1959, 229; COARELLI & LA REGINA 1984, 219; COARELLI 1985, 486; CECCARELLI & FRATIANNI 2017, 245

12 – Illustrations

Sepino : *archeologia e continuità* 1979, fig. p. 71 (picture); COARELLI & LA REGINA 1984, fig. p. 210–211 (city plan), 218–219 (plan); GAGGIOTTI 1991, pl. 21 (picture); CECCARELLI & FRATIANNI 2017, fig. 5.49 (picture)

Saepinum, *Decumanus* baths

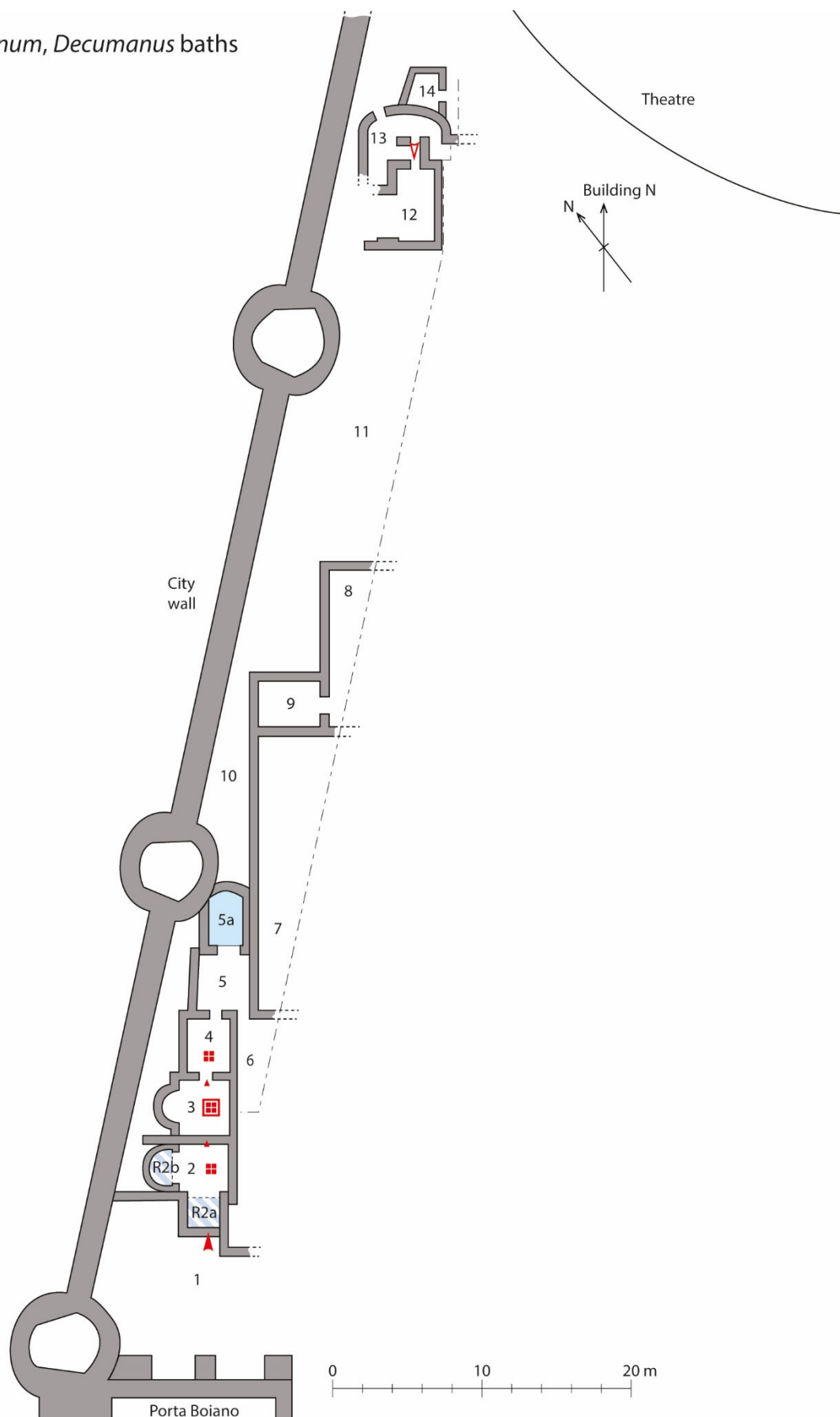


Figure 229: Plan of the *Decumanus* Baths of *Saepinum* (after COARELLI & LA REGINA 1984, fig. p. 218–219).

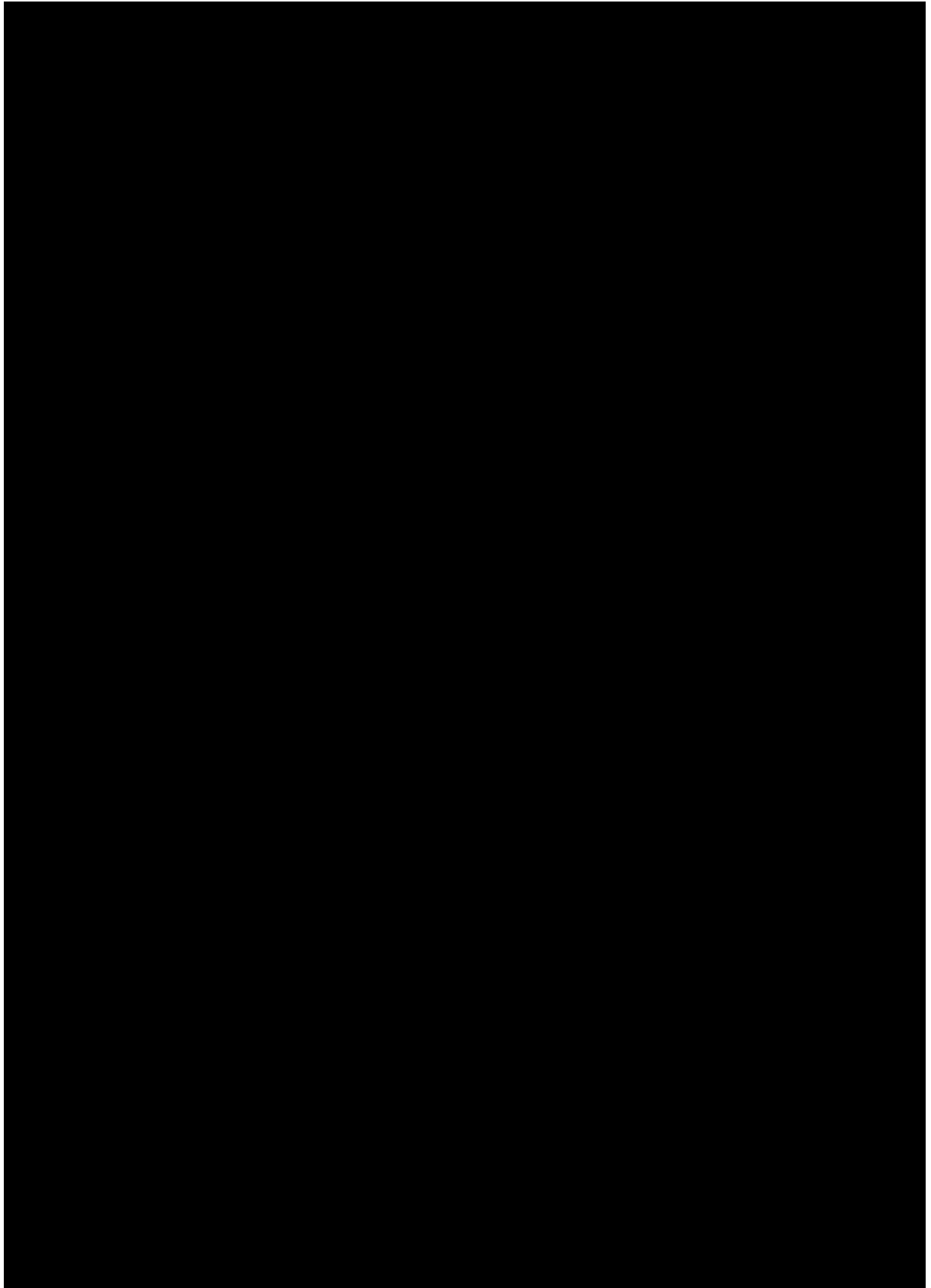


Figure 230A–F: *Decumanus* Baths of *Saepinum*. General views. **A:** view of baths, from SW. City wall to the L. **B:** R2, from W. **C:** R3, from SE. **D:** R4, from SW. **E:** R5, from SE. **F:** R5a, from SE.

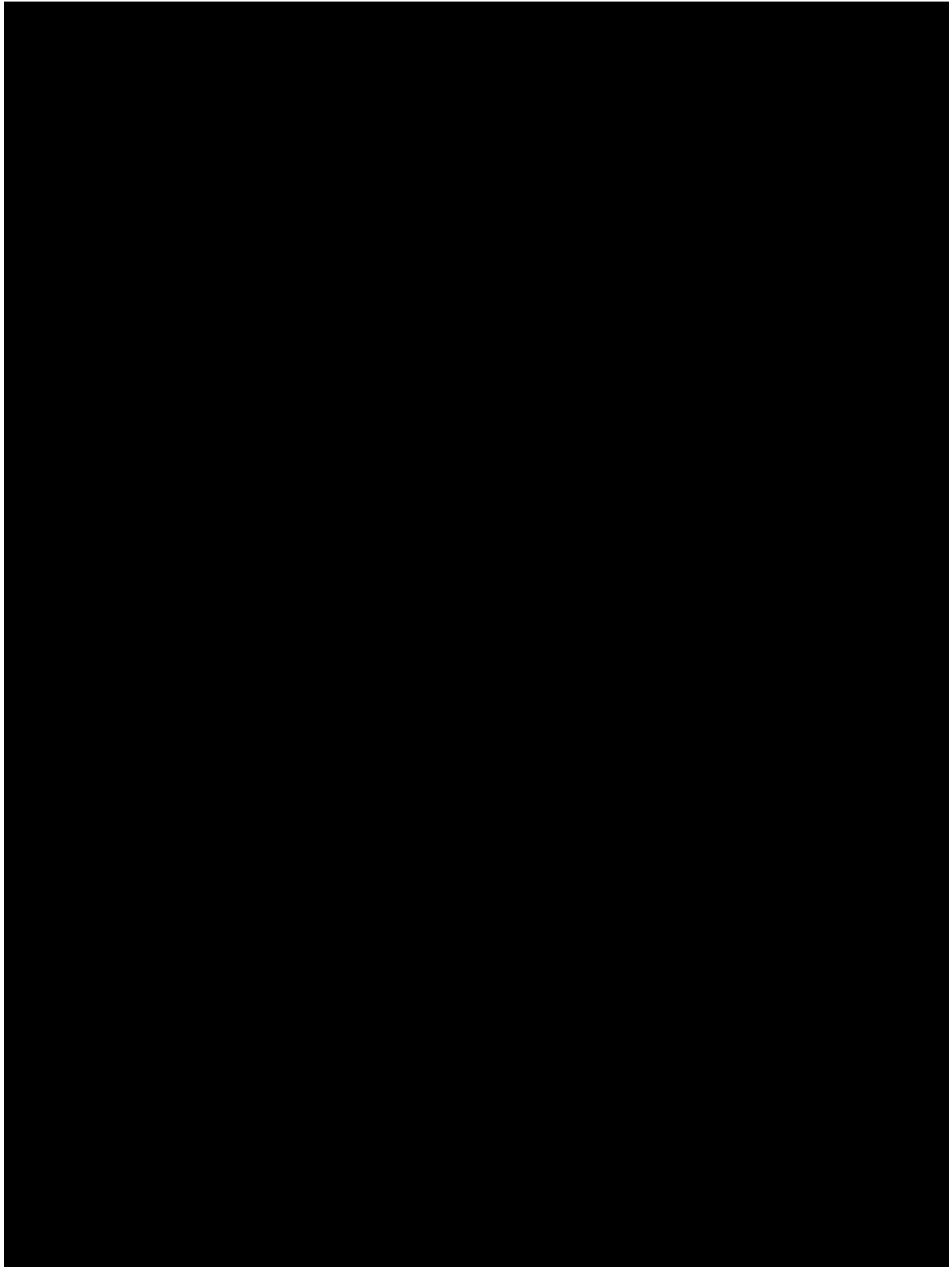


Figure 231A–H: **A:** R12–R13, from E. **B:** latrine R14, from E. Construction materials: **C:** ‘irregular reticulate’ with brick quoins (R5, from SE). **D:** sub-horizontal courses of stone blocks alternating with brick courses (E13, N wall). **E:** CBM facing (R4, W wall). Heating, decoration: **F:** *prae-furnium* (R1), from S. **G:** hypocaust (R3), from SW. **H:** *tubuli* and mosaic floor (R3, NE corner).

Molise, uncertain identifications

Aesernia (Isernia), Via S. Ippolito

Mo.G.03

Reliability: probably baths (presence of pool and hypocaust), possibly public (dimensions of pool). Alternatively identified as the *pars urbana* of a large villa.

1. 1.1 – Province and Comune of Isernia
1.2 – 14.221077 E, 41.582740 N
1.3 – Outside the city walls, in an area occupied at least from the Late Republican period
2. 2.1 – Unknown; from Google Street View pictures, the building is still visible and is covered by a solid roof.
2.2 – Unknown
3. 3.1 – Discovered in 1984 during the construction of the hospital of Isernia.
3.2 – Not visited
4. Too poorly preserved. One pool, ca. 57 m²
5. 5.1 – **Pre-baths:** Late Republican, a couple of walls made of large ashlar, obliterated by the bath building. I: Flavian (CT); II: several modifications, undated.
5.2 – Undated.
Several rooms later reused as cemetery
6. 6.1 – Several quadrangular rooms (fig. 232), one of which contained a long pool, ca. 20 x 2.80–2.90 m, built partly on the bedrock, with walls covered in hydraulic mortar, connected to another, smaller and higher pool. Another large room, heated, equipped with an apse on its back wall and benches along the lateral walls. A conduct attached to the walls, and small cut out basins on the pavement.
Further to the NE, on the other side of the modern road, were a series of small quadrangular rooms, with irregular walls of concrete.
6.2 – Cannot be reconstructed.
7. Concrete walls, either unfaced or faced in reticulate and brick courses.
8. 8.1 – No information available.
8.2 – One heated room (mention of brick *pilae*).
9. 9.1 – City supplied by an aqueduct (undated), tapping into a spring (currently in the Comune of Miranda) and transporting water for 4.4 km to a *castellum aquae* on the N edge of the ancient city. Several reservoirs are also known in the city. There is no visible connection between those structures and the possible bath building.
9.2 – No information available.
9.3 – In the S part of the complex, a NW-SE narrow channel, covered with large tiles placed horizontally and preserved discontinuously for ca. 15 m.
10. 10.1 – No information available.

10.2 – One inscription mentioning baths is known from the city [E01] but nothing indicates its association with this building.

11. TERZANI 1989, 99-101; DE ROSA 2008, 62–63 (aqueduct); CEFALOGGI 2014, 162-163, 174, 176; CECCARELLI & FRATIANNI 2017, 218-219
12. TERZANI 1989, fig. p. 101 (pictures; CEFALOGGI 2014, fig. 16–17 (pictures), 26 (city plan)

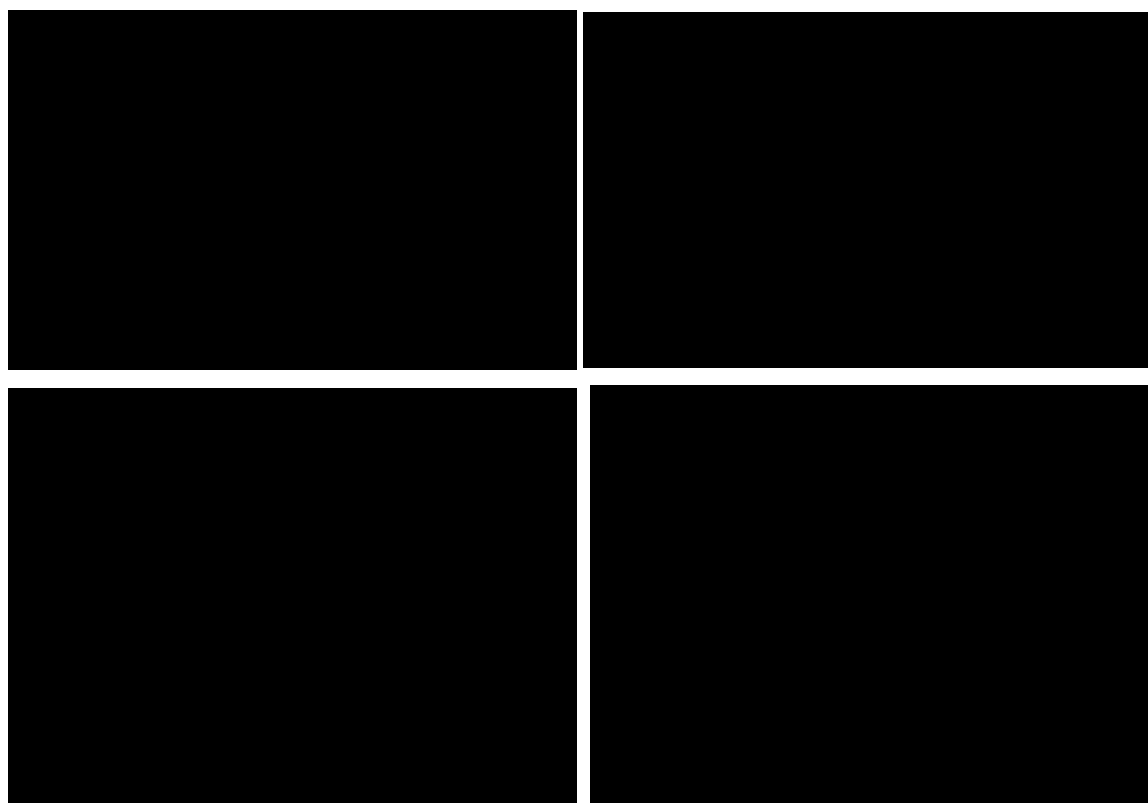


Figure 232: Structures in Via Ippolito at *Aesernia*, during the excavations. Orientation unknown (T: TERZANI 1989, fig. p. 101. B: CEFALOGGI 2014, fig. 16-17).

Larinum (Larino), Campo sportivo

Mo.G.04

Reliability: probably baths (hypocausts), status unknown

Province of Campobasso, Comune of Larino

14.915956 E, 41.807572 N

Archival documentation from the Soprintendenza dated from 1951 mention the discovery of a complex (ca. 100 m long, preserved for 1 m height) of several rooms, with floors in *opus spicatum*, terracotta elements, and mosaic; remains of hypocausts led to identify the complex as a bath building. The letters also mention that the remains were destroyed apart from the mosaic floors, which were covered. One of the mosaic floors, belonging to a heated room, is known through a drawing (fig. 233): 4.80 x 2.80 m, geometric, black and white, on 0.30 m high(?) *pilae*.

Bibliography: DE FELICE 1994, 87 (no 98); TESS13796; TESS13794; TESS13795

Archive: two letters with attached drawings and notes, sent to the Soprintendente V. Cianfarani. The first one was sent by the Ispettore Onorario of Larino, don Giuseppe Lattanzio (dated 3-7-1951), the second by the Sig. Romano (dated 7-7-1951). Now in the Archivio della Soprintendenza del Molise, Larino, I, Sc/5

Illustrations: DE FELICE 1994, fig. 1 (location), 87 (decoration)

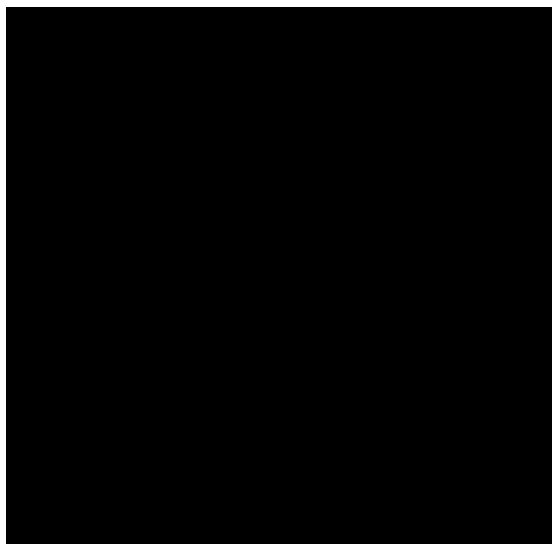


Figure 233: Structures of the Campo Sportivo at *Larinum*. Drawing of the mosaic floor of a heated room (DE FELICE 1994, fig. 87).

Larinum (Larino), Mura vecchie

Mo.G.05

Reliability: weak (plan)

Province of Campobasso, Comune of Larino

14.914729 E, 41.806178 N

Two contiguous rooms with apses and a third, rectangular room (fig. 234L) were discovered in 1973 W of the amphitheatre and partly excavated by the Soprintendenza Archeologica del Molise. **R1** (fig. 234M): min. 5 m wide, length preserved for 11 m, separated in several spaces by N–S oriented walls. Brick facing, plaster on walls, polychrome mosaic floor ('a' on plan, fig. 234R). **R2**: min. 8.5 m wide, wall facing in courses of tiles alternating with limestone blocks. **R3**: rectangular room (ca. 8.4 x 4.3 m) leaning against the back wall of the apse of R2, subdivided in two square spaces. Walls in concrete with tuff and limestone aggregates. All the foundations were in *opera a sacco* of small limestone blocks.

De Felice suggests the structures could belong to a bath building, with two parallel bathing rooms with apses (R1–R2) and adjoining cistern (R3).

Bibliography: DE FELICE 1994, 45, 79–80 (no 83); TESS13791

Illustrations: DE FELICE 1994, fig. 1 (location), 72 (picture), 73 (plan), 74 (decoration)



Figure 234: Structures of Mura Vecchie at *Larinum*. **L**: plan. **M**: R1, from E; the mosaic ('a' on plan) is visible in the foreground. **R**: mosaic floor of R1 ('a' on plan) (DE FELICE 1994, fig. 73 (A) (amended by author), 72 (M), 74 (R)).

Larinum (Larino), Via Fara

Mo.G.06

Reliability: weak (no evidence). Alternatively identified as remains belonging to a theatre (DE FELICE 1994, 93).

1. 1.1 – Province of Campobasso, Comune of Larino
1.2 – 14.913970 E, 41.808188 N
1.3 – Directly W of the area identified as the forum
2. 2.1 – Poor
2.2 – Unknown
3. 3.1 – Already mentioned by Magliano in 1895 (called 'Tempio di Apollo'). Further excavations in R2 in 1974 (Soprintendenza Archeologica del Molise, dir. De Felice)
3.2 – Not visited
4. The complex extends over a length of ca. 12 m.
5. 5.1 – Late Republican–Augustan? (CT?)
5.2 – No information available
6. 6.1 – Two contiguous rooms (R1, ca. 3 m wide, and R2, 8 m long) (fig. 235L), rectangular, partially excavated and not exactly aligned, next to which a large mound of collapsed remains (18 x 8 m, 4 m high) under which were visible the walls of two further rooms (R3–R4). Mosaic floor in R2.
6.2 – No information available.
7. Floors: **R1** floored with square terracotta elements.
Walls: **R1**: facing of horizontal courses of small limestone blocks, with thick mortar joints (fig. 235R). **R2**: concrete walls, limestone chips aggregates, reticulate facing

(limestone), remains of plaster. Further walls found in R2 in 1974 were made of tuff ashlar. The wall between **R3 and R4** was made of tuff ashlar.

Roofing: **R3 and R4** were probably vaulted (remains of the concrete vaults visible in the collapse).

8. 8.1–2 – No information available
9. 9.1–3 – No information available
10. 10.1 – **R2**: remains of a polychrome mosaic floor made with large limestone *tesserae* (found in 1974, too poorly preserved to reconstruct motifs).
10.2 – Terracotta (common ware, vernice near) found in R2 in 1974.
11. MAGLIANO & MAGLIANO 1895, tav. I, n. 7; DE FELICE 1994, 91–93 (no 109); TESS13838; TESS13839
12. DE FELICE 1994, fig. 1 (location), 98 (plan), 99 (picture)

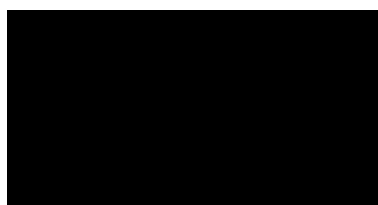
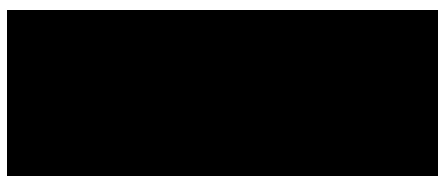


Figure 235: Structures in Via Fara at *Larinum*. L: Plan. R: Wall facing in R1 (DE FELICE 1994, fig. 98 amended by author, 99).

Larinum (Larino), Via S. Michele

Mo.G.07

Reliability: weak

Province of Campobasso, Comune of Larino

14.914524 E, 41.805458 N

A structure (fig. 236L) in the terreno Maringelli, close to Via San Michele and to the structures under the Villino Maringelli [Mo.G.08], of which three rooms and two mosaic floors remained, has been interpreted as a bath building. The structure was brought to light in 1970–1973 and is probably lost now. R1, exposed for 3 x 5 m, was floored with a black and white geometric mosaic, R2 (exposed for 8 x 6 m) with a white mosaic floor with small polychrome inserts (fig. 236R), R3 (exposed for 6 x 1 m) with a *cocciopesto*(?) floor. A TESS entry mentions the existence of another mosaic fragment from the same floor, depicting the profile of a bearded young man and the veiled head of a young girl.

Dated to the Augustan period (S).

Bibliography: STELLUTI 1988, 221–228; MORRICONE MATINI 1991, 271; DE FELICE 1994, 78–79 (no 82); TESS9719; TESS9721; TESS11822

Illustrations: STELLUTI 1988, fig. 198 (location), 199–202 (pictures and drawings); DE FELICE 1994, fig. 1 (location), 70 (plan), 71 (decoration)

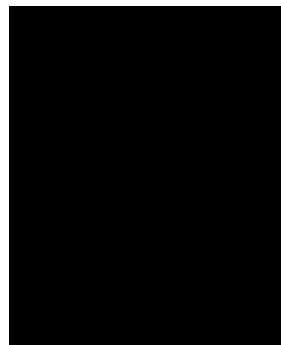
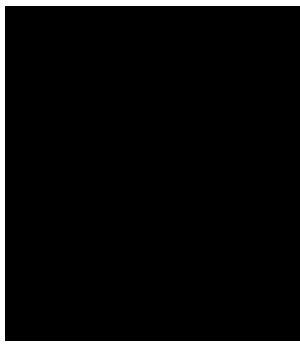


Figure 236: Structures in Via S Michele at *Larinum*. **L**: plan of the structures. **R**: drawing of the mosaic floor found in R2 (STELLUTI 1988, fig. 199; DE FELICE 1994, fig. 70, amended by author).

Larinum (Larino), Villino Maringelli

Mo.G.08

Reliability: weak (water channels)

Province of Campobasso, Comune of Larino

14.915442 E, 41.806222 N

A series of structures (fig. 237) standing next to the villa Maringelli reused as an olive oil mill at the beginning of the 20th cent. AD were identified as part of a bath building. Possibly already identified as such in the 18th–19th cent. AD by Tria (“verso l’anfiteatro, propriamente attaccate alla chiesa, e spedale de’ suddetti Canonici Regolari di Sant’Antonio Abate, distinte in diverse stanze, quattro delle quali sono quasi intere, e tra esse varie cellule, come piccioli ritiri, e per dentro sporgono vari condotti, e canali, per i quali si dava l’acqua, e l’edificio è di fabbrica di terracotta, e di pietra...”) and Magliano.

One rectangular room (**R1**) (fig. 238TL) with apse (11.60 x 8.15 m, diam. apse 5.90 m), with rectangular opening in its centre. In NE corner, a short barrel-vaulted corridor, in the thickness of the wall (not indicated on the plan), led into a small rectangular space, part of **R2**, also equipped with an apse and which probably continued further NW. In the space between these two large rooms, De Felice hypothetically restores three rectangular rooms: **R3**, ca. 9 x 9 m, defined by three large piers preserved up to the springing of the vault (possibly a groin vault), and **R4–R5**, of unknown dimensions, separated by a 9.60 m long wall, 0.90 m thick, in which the putlog holes are still visible. The preserved walls were faced with brick (fig. 238TR, BL).

According to Magliano, a sundial (fig. 238BR) now inserted in the walls of the Palazzo Ducale originally came from the baths (0.50 m high, 0.70 m wide). The base of a column and a fragment of the shaft of a column lay in the garden of the villa Maringelli and could have come from the baths.

Bibliography: TRIA 1744, 53-54; MAGLIANO & MAGLIANO 1895, 79, 81 (not consulted); DE FELICE 1994, 80-82 (no 85-86)

Illustrations: DE FELICE 1994, fig. 1 (location), 75-76, 78 (pictures), 77 (plan), 79 (material). A picture of R1 before its reuse as part of the *frantoio* is kept in the archive of the DAI, Inst. neg. 79-459.

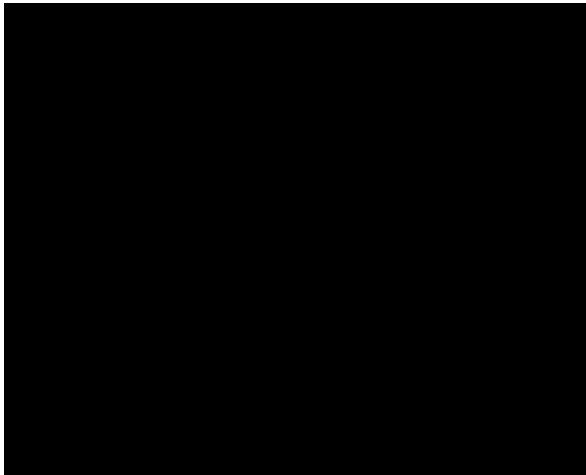


Figure 237: Plan of the structures next to the Villino Maringello (DE FELICE 1994, fig. 77, amended by author).

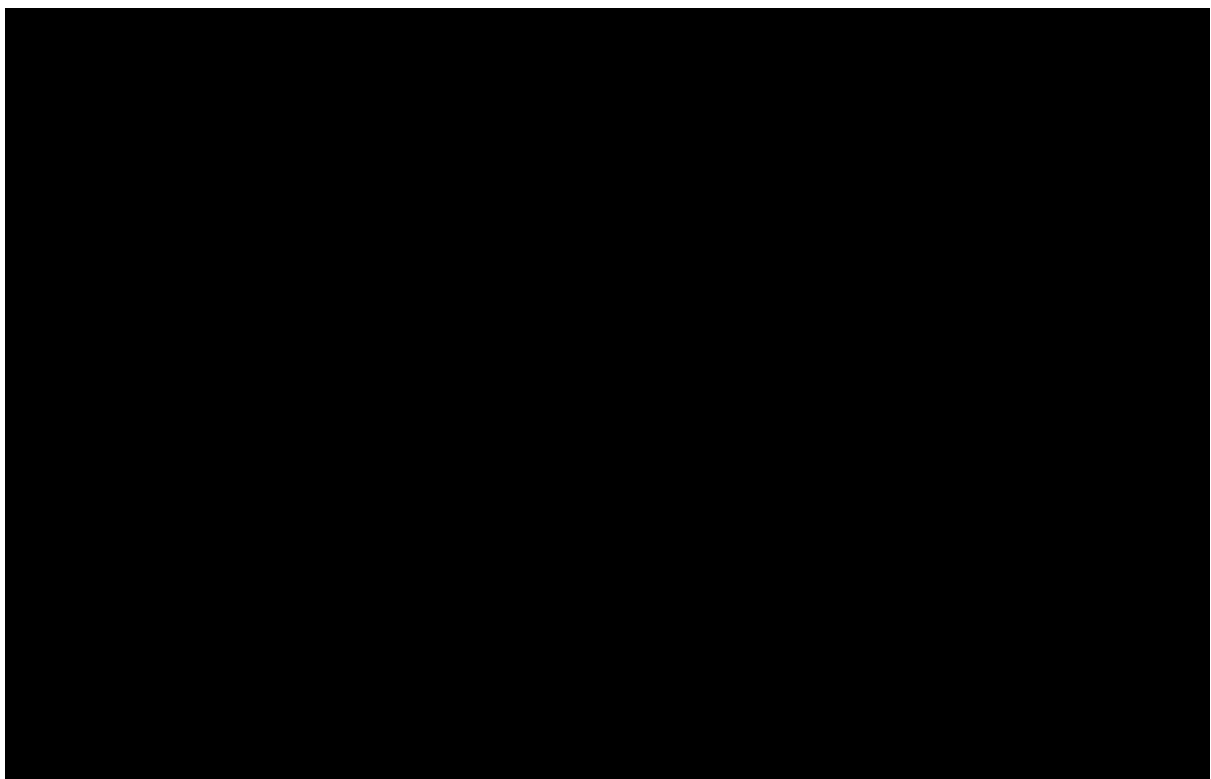


Figure 238: Structures next to the Villino Maringello. **TL:** R1, from W. **TR:** remains of brick facing from the back wall of the apse of R1-R2, from E. **BL:** remains of brick facing from R3, from E. **BR:** sundial (DE FELICE 1994, fig. 75-76, 78-79).

Terme del Foro, Thermae Silvani(?)

Reliability: weak (typology, water disposal network); if baths, possibly public (dimensions, location on forum)

Two inscriptions from *Saepinum* refer to bath buildings and have been tentatively connected with the 'Forum Baths':

- CIL IX.2447 = EDR132946, dated AD 352/357, commemorating the restoration of the *Thermae Silvani* by *Fabius Maximus, rector provinciae*, and *Neratius Constantius, patronus*; the baths had collapsed, according to the inscription, because of old age (*vestustate conlapsas*). *Fabius Maximus* is known to have restored bath buildings at *Alifae* (CIL IX.2338 = EDR105474) and *Telesia* (CIL IX.2212 = EDR075275), damaged by an earthquake in AD 346, but *Saepinum* was apparently not significantly affected by the earthquake.
- CIL IX.6583 = EDR0133724, also dated AD 352/357, commemorating the restoration of the porticus of the baths (*porticus thermarum*), which had also collapsed because of old age (*vestustate conlapsas*), by the same two people. The inscription was found in the forum area. Another inscription (CIL IX.6307 = EDR133559) was found in the forum area in 1880, reportedly in correspondence with the hall to the SW of the baths, commemorating the restoration of an unrecorded building by *Fabius Maximus* (dating also AD 352/357).

The two inscriptions mention a bath building, damaged for the same reason (*vestustate*) and restored by the same people; for these reasons, they have been interpreted as referring to the restoration of two parts of the same baths building, the *thermae Silvani* and its portico; the discovery of CIL IX.6583 on the forum and the mention of a portico in CIL IX.2447 encouraged some scholars to identify the 'Forum Baths', which were preceded by a portico, with the *thermae Silvani* mentioned in the first inscription.

Alternatively, the first inscription has been connected to a building ca. 60 m S of the theatre in which a now lost mosaic representing *Silvanus* was found.

Both propositions shall remain hypothetical, as is the identification of the structure behind the portico as a bath building.

1. 1.1 – Province of Campobasso, Comune of Sepino

1.2 – 14.618071 E, 41.432823 N

1.3 – At one end of the forum, between a temple (possibly to Jupiter) and a square hall to the W (possibly a temple to the imperial cult; dated to the 3rd-4th cent. AD and under which were found remains of *tabernae* dated to the Augustan period) and a fountain (Fontana del Grifo) and the *domus* dell'impluvio sannitico to the E. It opened on the forum and *decumanus* via a portico.

2. 2.1 – Plan only partly known; preserved in elevation for a few courses (max 0.90 m high). Walls restored. R7 is covered by a modern structure.
2.2 – Part of the Area archeologica di Altilia-*Saepinum*, managed by the Soprintendenza Archeologia, Belle arti e Paesaggio del Molise.
3. 3.1 – Excavated 1880 (dir. L. Fulvio, Ministero), 1952–1955, further trench in R3 in 1977.
3.2 – Visited in April 2016
4. More than 550 m²
5. 5.1 – I: Augustan? 1st–early 2nd cent. AD? (U)
II+: undated (possibly a mid-4th cent. AD restoration phase if *CIL* IX.2447 and 6583 (see above at beginning of entry) referred to this building).
Not necessarily contemporarily: addition (or restoration) of portico R1, addition of apse in R4, blocking of passages between rooms.
5.2 – Unknown
6. 6.1 – Only partly excavated, 28.30 m E–W and more than 19 m N–S (fig. 239, 240A–B). What is visible was arranged roughly symmetrically on either side of a N–S axis going through R3 and R10. The rooms opening on the forum (R2 to R5) are not mirrored to the W of R3.
R1: portico (18.50 m long, 3.40 m deep) connecting the baths to the forum and *decumanus*. It contained five limestone bases (square, 1 m on the side) supporting 0.75 m diam. columns, set in correspondence of the walls of the building (except for one in front of the apse in R4). **R2** was a rectangular corridor (6 x 2.75 m) accessible from the portico R1 and leading N into R9. **R3** was a larger, 6.50/6.90 m deep corridor on the axis of symmetry of the building; accessible from portico R1 via a 3.50/3.70 m wide threshold, it led into R10 via a second, 3.25/3.40 m wide threshold. **R4** was a roughly square room (7.40 x 6.50 m), opening onto the portico R1 and initially with a passage to the N into R11. In a later phase, a curvilinear apse (5.50 m diam.) opening towards the portico R1 was added. **R5** measured 6 x 4 m and was accessed from portico R1. **R6** was a narrow corridor to the W of the baths (fig. 240C), between the hall and the temple, connecting the forum area directly to R7 (via a 1.25 m wide threshold) and continuing further N. **R7** (and the mirrored room R12) were two rectangular rooms. R7 (8.25 x 2.65 m) was accessible from R6 and initially led to R8 via three openings blocked at a later stage. **R8** (and the mirrored room R13) were 8.25 m wide and not entirely excavated. R8 was accessed from R7 (initially, then blocked) and R10. **R9** (and the mirrored room R11) were small square rooms against the extrados of the curved S wall of R10, roughly square (2.75/2.85 m on the side) apart from the corner cut by the extrados. R9 connected R2 to **R10**, a 10 m wide room not fully excavated. Located on the main axis of the building, it was accessible from R3; at the level of the connection with the latter, the walls curved quarter-circle to the sides to create a 6 m diam. semicircle with orthogonal extensions, opening towards the centre of the room wide. Four passages on either side of this semi-circular wall led to R8, R9, R11 (later blocked) and R13. **R11** (see R9) initially connected R4 to R10, but was probably made redundant when the apse in R4 was created, and the connection with R10 was blocked (not

necessarily at the same time). R11 also communicated with R12. **R12** (fig. 240D), symmetrical to R7 and 3.10 m wide, was subdivided in two spaces probably at a later date by means of a partition wall, 5.90 and 2.20 m long. Both parts of the room originally communicated with R13, but all the passages were blocked at a later date, replaced in R12 by a larger, 2.90 m wide opening. **R13**, 8.25 m wide and not fully excavated like R8, was accessible from R10 and R12, and the connections with the latter were later modified.

6.2 – R3 functioned as an entrance corridor. R7 and R12 were tentatively identified as *apodyteria*. No room has a clear bathing function.

7. **Floors:** only a 1.25 x 0.90 m portion of floor is preserved in R12 (W of the partition wall) and was made of terracotta elements (fig. 240E).

Walls: 0.50/0.60 m thick, apart from that of the exedra in R4, 0.90 m thick. Faced with an irregular arrangement of stone blocks (*opus incertum*) bound with mortar (fig. 240A) (common technique in *Saepinum*). The partition wall separating R12 in two parts (0.20 m thick) was made in *opus craticium* (fig. 240D) (now restored; the bricks in the walls may also be due to the restoration). The quoins were made in slightly larger squared stone blocks, apart from the quoining of the larger passage between R12 and R13, which used brick courses (fig. 240D).

8. **8.1–2** – No information available, nothing visible on site
9. **9.1** – 0.60 m diam. well in R10. Remains of an aqueduct tapping water from S of town were identified, and a possible *castellum aquae* was recognized in the S tower of Porta Benevento (SE entrance of town).

9.2–3 – Ceccarelli mentioned ‘vasche e condutture con rete fognaria’ found in the area. Fulvio mentioned a water disposal channel under the hall to the W of the complex probably coming from the N, in part made with reused materials, and three large channels discharging in the main sewer branch under the *decumanus*.

10. **10.1** – No information available.

10.2 – A fragment of a column with smooth shaft, 0.75 m diam., in R1. A *fistula* in R2(?), 7.40 m long, diam. 0.07 m.

11. FULVIO 1880, 440–441; GAGGIOTTI 1979, 85–91 (=GAGGIOTTI 1982, 106–110); DE BENEDITTIS, GAGGIOTTI & MATTEINI CHIARI 1984, 114–118

Brief mentions: CIANFARANI 1958, 42; *Sepino : archeologia e continuità* 1979, 94–96; COARELLI & LA REGINA 1984, 221; COARELLI 1985, 487; GAGGIOTTI 1991; CECCARELLI & FRATIANNI 2017, 240

12. CIANFARANI 1958, 42, fig. p. 44 (picture); GAGGIOTTI 1979, fig. 1 (plan), pl. Ia (picture); GAGGIOTTI 1982, fig. 79 (plan); COARELLI & LA REGINA 1984, fig. p. 209–211 (city plan), p. 218–219 (forum plan); COARELLI 1985, fig. p. 484–485 (city plan); CECCARELLI & FRATIANNI 2017, fig. 5.39–40 (axonometric and aerial views of forum)

Saepinum, Forum baths

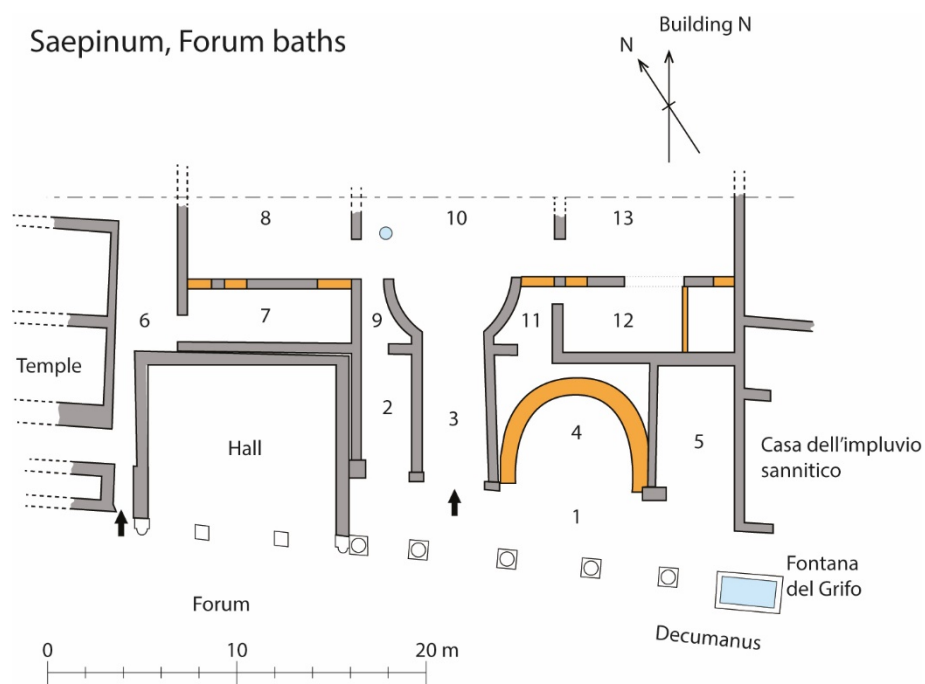


Figure 239: Plan of the 'Forum Baths' of *Saepinum* (after GAGGIOTTI 1979, fig. 1; GAGGIOTTI 1982, fig. 79).

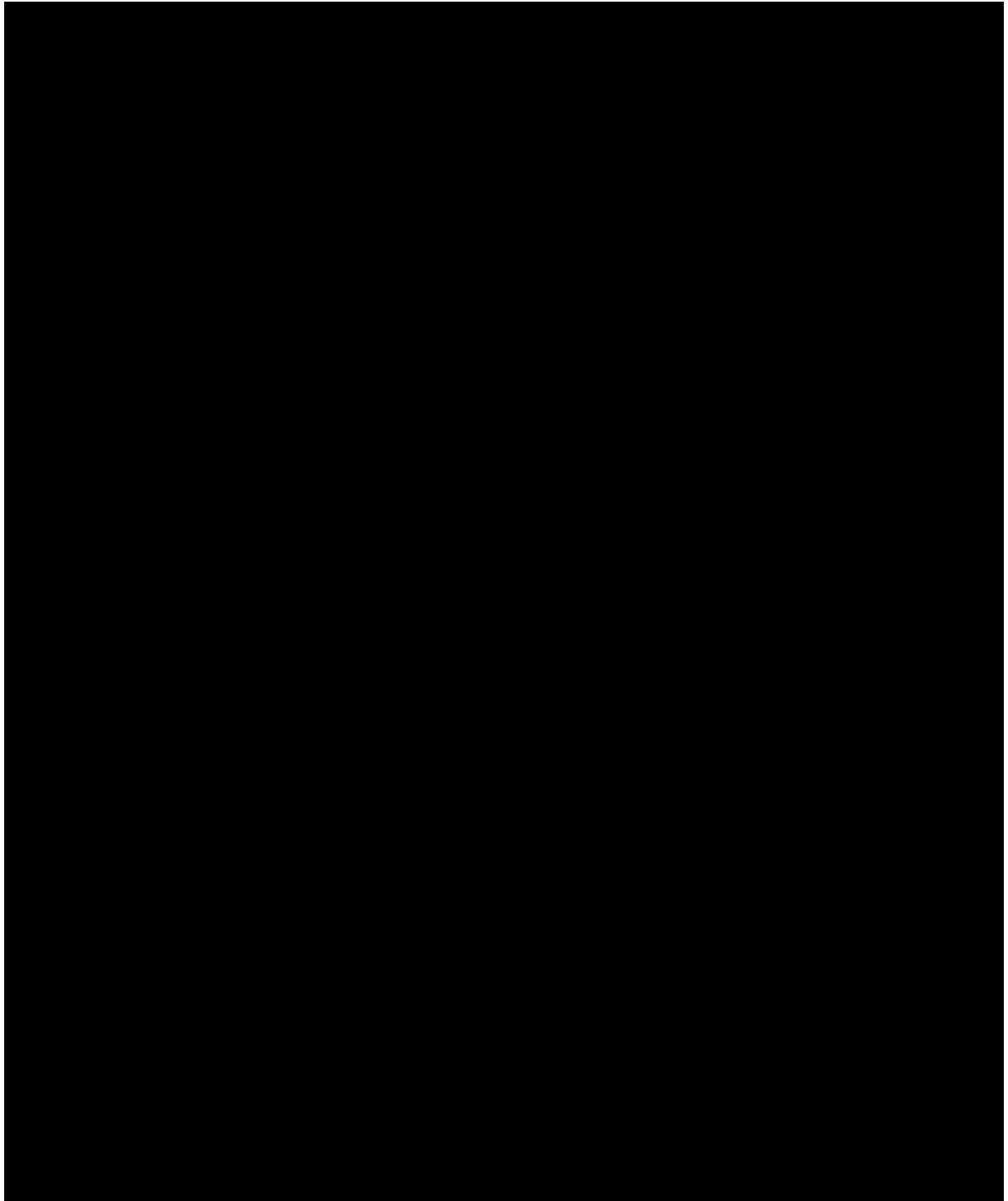


Figure 240A-E: 'Forum Baths' of *Saepinum*. **A–B**: general views, from NW and NE. Forum in the background. **C**: secondary entrance R6, from S. **D**: R12, *opus craticium* wall and use of brick for the jamb to the L, from W. **E**: R12, floor made of CBM.

Reliability: probably bath building (heated room), status unknown

Province of Campobasso, Comune of Sepino

14.617575 E, 41.433679 N (approximative: between theatre and basilica)

A report in the *Notizie degli Scavi di Antichità* (1877) mentioned the excavation, in 1876, of the remains of two rooms with mosaic floor in the centre of the city, one of which '*avente accesso dall'esterno*'. The remains were identified as belonging to a bath building '*trovandosi il pavimento della prima delle indicate stanze sospeso sopra columellae [i.e. pilae] di terracotta, ed essendosi nelle vicinanze disotterrati per lo addietro grandiosi resti architettionici, il lodato ispettore [Chiovitti] reputa tali fabbriche parte di una pubblica Terma*'.

Chiovitti mentioned two rooms with mosaic floors. The first one (TESS10965) depicted, in a circle inscribed in a square, a vase with two handles and above it, a male nude figure, wearing shoes, with cloak around the left arm, attribute (possibly trident) in the right hand and snake in the left one. The second one (TESS11414) was decorated with geometric motives of intersecting circles (the TESS entry understands Chiovitti's description as 6-petals flowers, similar to TESS6162, but it could also be understood as similar to TESS16421). Chiovitti mentioned the discovery of two hairpins of '*avorio*' (ivory? bone?) and a small bronze key.

This bath building was identified either as the *thermae Silvani* (instead of the 'Forum Baths' [Mo.G.09]), based on the interpretation of the central figure of the mosaic floor as *Silvanus*, or as a private complex.

Bibliography: CHIOVITTI 1877; GAGGIOTTI 1982, 110

Reliability: possibly bath building (heated room), status unknown

Province of Campobasso, Comune of Sepino

14.617606 E, 41.431915 N (Casale along the S stretch of the city wall)

Mention online of a bath building along the S stretch of the city wall, between porta Terravecchia and Porta Benevento, of which *suspensurae* are still visible. Nowadays incorporated in a casale.

Bibliography: Saepinum – Altilia–Sepino (Molise) 2010

Reliability: weak (decorated pools)

Province of Isernia, Comune of Venafro

14.042498 E, 41.483369 N (approximate)

Discovery in 1881 by Pietro Lucenteforte, where the 'Fontana della Grotta' now stands, of a section of the aqueduct, along with lead pipes and two pools, each of a surface area of ca. 4 m², connected with each other via steps, and with floors and walls veneered in marble slabs.

Within and nearby the aqueduct were found three inscribed fragments (see inscriptions 2–3 below), decorated marble pieces, corniches, columns, mosaic tesserae, a female statue head, a headless bust (all those elements are now preserved at the Museo Civico di Venafro).

The city was supplied in water by an aqueduct, dated under Caesar and restored by Augustus (17–11 BC), arriving in town in a *castellum aquae* in località Madonna di Giambarbara (via Croce di Pozzilli).

Lucenteforte suggested that these elements belonged to a bath building located in the vicinity, and supplied by the aqueduct. One of the inscriptions, dated to 'later than the Augustan period', mentioned a Gavinius who, according to Lucenteforte, might have restored the aqueduct or the baths. Morra further connects this bath building with inscription [E79] mentioning the construction of a bath building by *Publius Lucanius Quadratus, duumvir*, augur and twice questor, with his own money for the benefit of the city. There is no conclusive evidence to support either hypothesis.

Three inscriptions, found together (CAPINI 1999, no 46, 74a–b)

- **CIL X.8380 = EDR123048** (CAPINI 1999, no 46): -----? / [---] *Gavinius A[---] / [--- ex] marmor[e] de publ[ico ---] / [--- faciendum cura]vit.*

Single marble fragment, found at the 'Fontana della Grotta' during excavations between 1876–1882

2nd cent.–1st half of 3rd cent. AD (EDR)

- **CIL X.8381 = EDR123047** (CAPINI 1999, no 74a–b):

Two marble(?) fragments, not connecting

Fragment a: -----? / [---]IV[---] / -----

Fragment b: ----- / [---]L[---] / [---]RVM[---] / -----

1st half of 1st cent. AD (EDR)

Bibliography: LUCENTEFORTE 1882, 117-118; MORRA 2000, 145; DE ROSA 2008, 175 (water)

Tuscany

1 – Location

1.1 – Province of Grosseto, Comune of Orbetello

1.2 – 11.287124 E, 42.412708 N

1.3 – W of the forum, close to a pre-existing cistern SW of the forum. Occupied the S half of an *insula*, bound to the W, S and E by streets.

2 – Preservation

2.1 – good in plan, up to several metres in elevation.

2.2 – Part of the Area Archeologica di Cosa, open to visits

3 – Research

3.1 – Identified in 1948 (American Academy in Rome, dir. Brown). Plan of the remains completed by the Cooperativa Archeologia in 1989 in the framework of a documentation campaign conducted by the Soprintendenza Archeologica per la Toscana. Briefly considered by Oleson in the context of water-lifting technology, and by Ciampoltrini. In-depth Investigations from 2013 by the Cosa Excavations project (dir. De Giorgi, Florida State University); investigations ongoing as of 2020.

3.2 – Not visited

4 – Dimensions

Ca. 750 m²

5 – Chronology and phasing

5.1 – Phasing according to De Giorgi:

I: Early Augustan (C, CTM)

- E part of complex with structures in stone rubblework bound with mortar, and water system (R6, R7, R9–R13, R15)

II: Antonine period (M: brickstamps)

- Porticoed structure in R11
- Brick-faced structures to NW (R1, R2, R3, R4, R8)
- Modifications to cistern R16 and connection to baths

III: 3rd–4th cent. AD (smaller interventions)

Earlier authors suggested, for **I**: 1st cent. AD (Brown: plan of R8), contra Ciampoltrini; early 1st–early 2nd cent. AD (Ciampoltrini: CTM, S)

5.2 – Late 5th cent. AD at the earliest. Medieval kiln in R5

6 – Description of the remains and identification of rooms

6.1 – The baths occupied the S end of an *insula* with the heated rooms to the N, possibly to benefit from the natural S–N slope of the terrain to supply water to the bathing rooms (fig. 241, 242A). Few rooms have been completely excavated. **R1**: 10 x 2.50 m (from plan) corridor along W side of baths. **R2**: ca. 4.50 x 4.20 m room (from plan). **R3**: heated room, square (ca. 4.50 m on the side, from plan), equipped with pool **R3a** (fig. 242C) on its S side. The W wall of R3 was unusually thick. **R3a**: semi-circular heated pool, waterproofed with *cocciopesto*. **R4**: heated square room, ca. 4.25 m on the side (from plan). **R5**: heavily modified in Middle Ages, turned into lime kiln. No information on **R6**, ca. 5 x 3.50 m from plan. **R7** were four small raised basins, lined with *cocciopesto* (see 9.1). **R8** (fig. 242B): circular heated room, diam. 3.5 m, covered by a dome. Regularly spaced vertical grooves on the walls, probably linked to the heating system. **R9**: trapezoidal well covered in *cocciopesto* (see 9.1). **R10**: up to 7.50 m E–W (from plan). Accessed from R11 via staircase, and led into R12. Concrete bench (0.40 x 0.40 m, fig. 242D) along N and E walls, waterproofed with *cocciopesto*. **R11**: street access into the baths, marked by travertine threshold (1.18 x 0.51 m) that conserves the mark of the door hinge. At a lower level than street and R10. Leads into R10 via three steps in travertine, 1.90 m long, inserted in a ‘small porticoed structure’; around the steps, two parapets in travertine. **R12**: large room, ca. 6.50 x 11 m from plan. **R13**: not fully excavated; several *cocciopesto* and *opus spicatum* floors, possibly a basin. **R14**, **R15** and **R16** (fig. 242E–F) were underground cisterns and channels connected with each other, see 9.1. **R17** measured ca. 6.7 x 4.50 m.

6.2 – Entrance in R11, possibly *apodyterium* in R10 (benches). R8, initially interpreted as a *frigidarium* by Brown, was reinterpreted as a *laconicum* based on its circular shape and since it was heated. R3 could have been a *caldarium* with heated pool R3a.

The partial knowledge of the plan does not allow for a reconstruction of the circulation in the building, and several questions relative to its working are pending. There is no clear communication between the E and W part of the complex, and a *frigidarium* with cold-water pools is missing.

7 – Construction techniques and materials

7.1 – R13: superimposed *cocciopesto* floors with occasional *tesserae* and *opus spicatum*. R17: floor made of broken tiles with flanges knocked off (ca. 0.50 x 0.45 m).

7.2 – **I**: limestone rubblework bound with mortar in R6, R7, R9–R13, R15 (apparently typical of 2nd cent. BC public monuments in *Cosa*); **II**: concrete faced with horizontal courses of stone blocks in R6, with CBM courses in R1–R4 and R8 (both bricks and reused CBM).

7.3 – Several sections of vaults in collapsed position, one of them belonging to a groin vault. Aggregate included fragments of tiles and wedges of volcanic tuff. R8 covered by a dome.

8 – Heating devices

8.1 – Position of R1 suggests it could have been service corridor from which (hypothetical) *praefurnia* could have heated R3 and R4. Floor of pool R3a has semi-circular cut consistent with removal of a *testudo*. *Praefurnium* in N part of R5 to heat R3.

8.2 – R3, R3a, R4 and R8 were heated. *Area* made of CBM; square elements are visible on the plan, probably *bipedales* (ca. 0.60 m on the side). The floor of R17 could have been an *area*, in which case the room would have been heated. Grooves on the walls of R8 (fig. 242B) have served for wall heating and/or as chimneys. Some *tubuli* preserved *in situ* in R3a (fig. 242C). Fragments of window glass and *tubuli* found in collapse layers around R8.

9 – Water management

9.1 – *Cosa* was located on a hill with no water resources, and no aqueduct is known. The only possible water supply was rainwater, stored in numerous cisterns on the site.

Large cistern SE of the baths (**R16**, fig. 242E), built in the Republican period and equipped, in the 2nd cent. AD, with a roof supported by four brick and masonry piers, to prevent excessive evaporation; the floor was also raised by 1 m with a slope towards the SW to direct water towards R14. Two conduits channelled surface water from the SE and E sectors of the city into the cistern (17.20 x 13.30 m), which stored water for the baths (volume 700–750 m³). Connected via channel **R14** (fig. 242F, 10 m long, 1.90 m high, lined with waterproof mortar) to smaller cistern **R15** (15.18 x 3.80 m, volume 230 m³), under R12. W extension at S end of R15, ending in a well (**R9**, fig. 242A) from which water was lifted, via bucket-and-chain lifting device, into four raised basins (1.90 x 1.40 m) with *cocciopesto* floors and walls (**R7**). The basins were arranged in a square in communicating pairs, with the floor of those in the S part higher than those in N part. From there, water reached the facilities via pipes or channels, not preserved. The water distribution benefitted from the topography of the area, as the site slopes from S to N.

There was another underground cistern under R13, accessible via *puteal* (see 10.2), probably unrelated to the baths.

9.2 – R3 required hot water.

9.3 – Water disposal channel made in R11, made in *cocciopesto*, 0.25 m wide and preserved for 2.05 m, passing under entrance steps and possibly leading into underground tunnel R14. Water disposal channel in *cocciopesto* in R12, 0.20 m wide, exact position unknown; possibly discharged in underground cistern R15.

Sewer/storm drain along outer side of N wall, 1 m wide, vaulted, sloping from E to W.

10 – Decoration and material

10.1 – Fragments of marble slabs and mosaic floors in R3, R4, and R8. From picture, mosaic floor in R3. Plaster in rooms in NW part of baths.

10.2 – Travertine *puteal* found in R13, 0.80 m high, with three square recesses containing lead remains on lower side. For De Giorgi, the *puteal* was reused and suggests the existence of another water-lifting device unrelated to the baths. White limestone *labrum* (fig. 242G) found along S wall of R5, not *in situ*, possibly placed there to be burnt in lime kiln created in R15 in medieval times. Ceramic material (see SCOTT, DE GIORGI & CRAWFORD-BROWN 2015, 20). Nine **brickstamps** and three **inscriptions** (see below).

Nine brickstamps (SCOTT, DE GIORGI & CRAWFORD-BROWN 2015, 15, 17–18).

- **CIL XV.368** (cat. C13.6–C13.7): *Ex fic(linis) Ocea(nis) mai(oribus) Caes(aris) n(ostri) op(us) do(liare) Q. Perusi Pude(ntis)*, 2 fragmentary stamps found in 2013 in collapse layers of R8. CBM from the *figlinae Oceanae Maiores*. *Officinator: Q. Perusius Pudens*. Dated ‘somewhere in decade following [AD] 138’
- **CIL XV.1071 a/b** (cat. C13.8, C13.25, C13.28): *O(pus) d(oliare) ex pr(aedis) Dom(itiae) Luc(illae) Ver(i) Cl(audius) Qu(inquatrinalis) Ant(onino) IIII et Vero II cos.*, 3 fragmentary stamps found in 2013 in collapse layers of R8. CBM from the *figlinae* of the *Domitia Lucilla*. Dated AD 145
- **No reference** (cat. C13.26): *IMP CAE TRO AVG / EX FLIGI MARC DOLI / C CAL FAVORIS*, 1 fragmentary stamp found in 2013 in collapse layers of R8. CBM from the *figlinae Marciana*. Dated under Trajan.
- **No reference** (uncategorised): *IMP CAE TRO AVG / EX FLIGI MARC DOLI / C CAL FAVORIS*, 1 fragmentary stamp found in 2013 *in situ* in R8. CBM from the *figlinae Macedoniana*. Dating: late Hadrianic/early Antonine period
- **No reference** (uncategorised): one stamp found in 2013 in a fragment of fallen vaulting. Dated to the late Julio-Claudian period
- **No reference** (uncategorised): one stamp, dated to the 2nd cent. AD

Three inscriptions (SCOTT, DE GIORGI & CRAWFORD-BROWN 2015, 18, cat. 5.2.1–5.2.3)

- **No reference** (cat. 5.2.1): *AVG[ustus?]*
One fragment of a *Luni* marble *tabula*, found in 2013 around R11. *Tabula* 2.4 cm thick, letters 4 cm high
- **No reference** (cat. 5.2.2): *IMP M AVR / ANTONIN / FEL / IMP I*
Seven joining fragments of a *Luni* marble *tabula*. Found in 2013. Mortar for attachment on back. 0.40 x 0.37 m, 1.7–1.9 cm thick, letters 6 cm high.
The inscription may refer to Caracalla
- **No reference** (cat. 5.2.3): *SA*
One fragment of a *Luni* marble *tabula*(?). Mortar on back. Letters 6 cm high.

11 – Bibliography

CIAMPOLTRINI 1993b, 442-443; SCOTT, DE GIORGI & CRAWFORD-BROWN 2015; DE GIORGI 2018; 2019

Mentions: COARELLI *et al.* 1975, 126; BROWN 1980, 54; OLESON 1984, 201

12 – Illustrations

DE GIORGI 2019, fig. 1 (plan), 3 (city plan), 4-5 (pictures), 6 (material)

DE GIORGI 2018, fig. 4, 9 (water), 6-7 (pictures)

SCOTT, DE GIORGI & CRAWFORD-BROWN 2015, fig. 3-6 (pictures), 8-9, 12 (material), 10 (water)

BROWN 1980, fig. 54 (pictures)

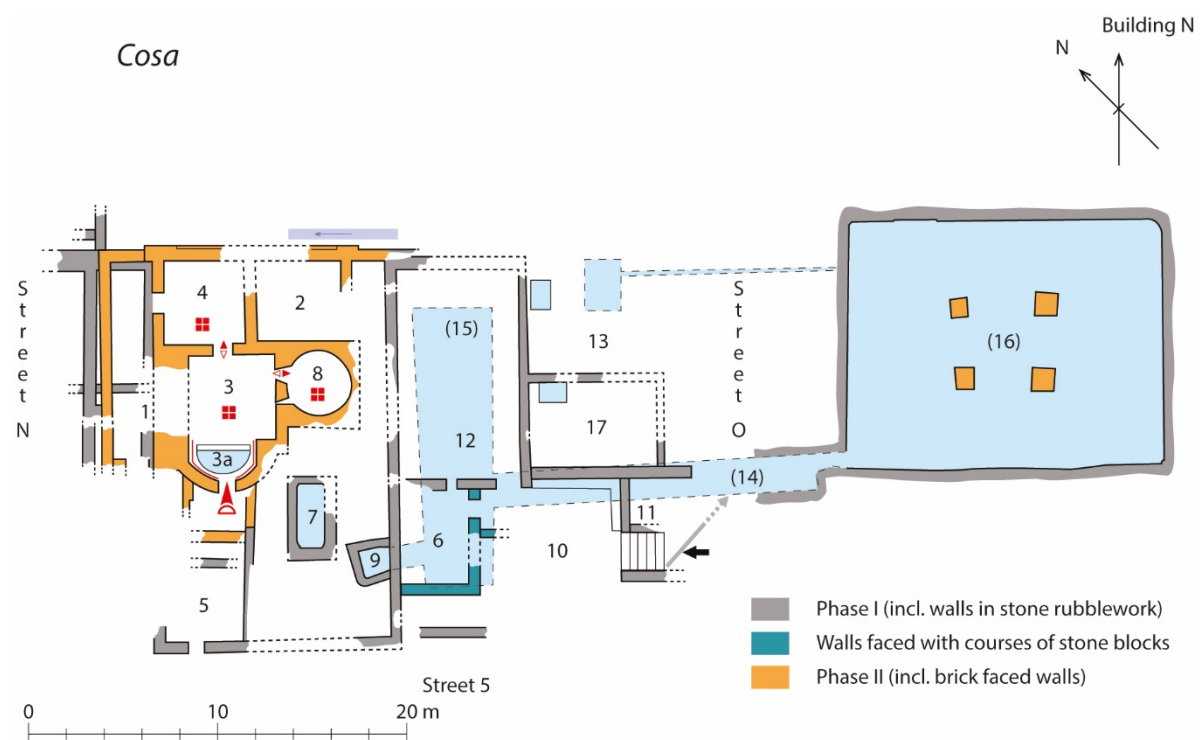


Figure 241: Plan of the baths of *Cosa* (after DE GIORGI 2019, fig. 1).

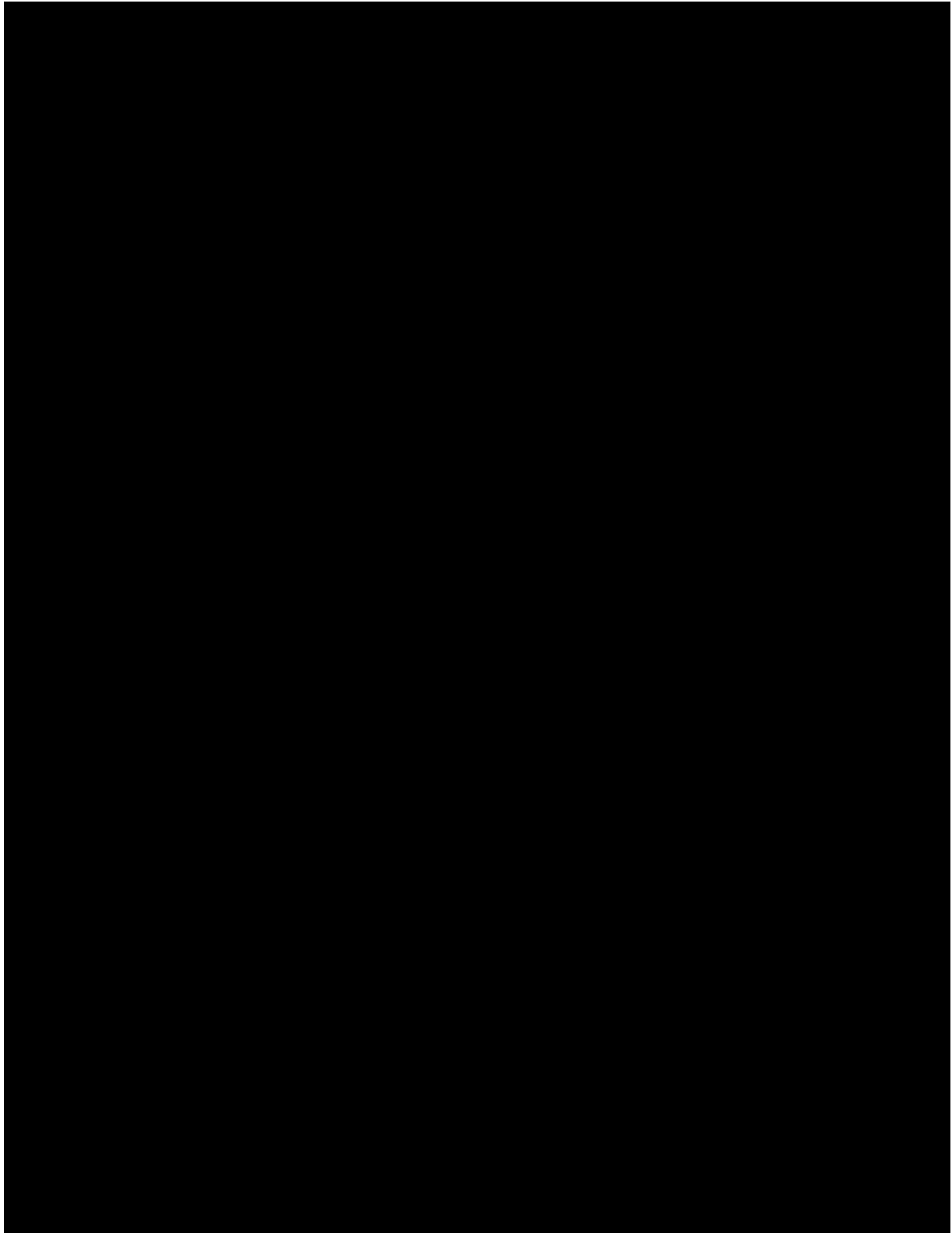


Figure 242A–C: Baths of *Cosa*. **A:** view of central part of complex, from S to R7 and R9. **B:** R8, from E(?). **C:** R3a, from E. **D:** bench in R10, from SW. **E:** cistern R16, from E. **F:** tunnel R14. **G:** fragment of *labrum* found in R5 (A–B, E–F: DE GIORGI 2018, fig. 4, 6–7, 9; C, G: DE GIORGI 2019, fig. 5–6; D: SCOTT, DE GIORGI & CRAWFORD-BROWN 2015, fig. 4).

1 – Location

1.1 – Province of Firenze, Comune of Fiesole

1.2 – 11.294812 E, 43.808100 N

1.3 – On a series of terraces (artificially-cut for the construction of the baths) against a hillside, directly S of the Etruscan city walls, directly NE of the theatre, E of a temple.

2 – Preservation

2.1 – Walls preserved in foundations/up to 1.5 m average, with the walls around the arches of R6–R6a preserved up to 4 m. Most of the visible preservation degree is due to heavy restorations, which took place during the initial excavation and later, in 1932, 1945, 1947, 1960–1962, 1966–1970 (Soprintendenza alle Antichità dell'Etruria). The three arches between R6–R6a were restored by anastylosis, but the blocks were recarved before being put in back place. Other restored elements include the walls, *praefurnia*, latrine, back wall of pool R8a. Further restorations in 2004–2006 (Comune di Fiesole), and since 2016/2017 onwards (dir. Cuniglio *et al.*). Scientific analysis conducted on mortars and cocciopesto from several areas of baths (FRANCHI & PALLECCHI 1989; MIGGIANO & VANNUCCI 1995).

2.2 – In the area archeologica of Fiesole, part of the Musei di Fiesole managed by the town council of Fiesole

3 – Research

3.1 – Possibly the building mentioned in Medieval literature as 'bagno reale di Catilina' or 'bagno caldo' (Libro Fiesolano, late 13th–early 14th cent. AD). Excavated 1891–1898 by the Commissione Archeologica Comunale (dir. Demostene Macciò). Limited trenches in the 1950s (foundations of N portico of courtyard/palaestra, staircase leading from portico to corridor R14). Further excavations in 1984 by the Soprintendenza Archeologica della Toscana, dir. G. de Marinis. Further restorations and further study projects in the 2010s, and ongoing project for a new plan of the structure (info. 2020).

3.2 – Visited in March 2016

4 – Dimensions

From plan: 3,500 m², of which 550 m² for the bathing block and 1,050 m² for the *palaestra*/courtyard (1,400 m² with porticoes)

5 – Chronology and phasing

5.1 – I: Various datings: Sullan (De Agostino, CT), last quarter of 1st cent. BC (Lugli, CT), Augustan (Nielsen, CT?), late 1st–early 2nd cent. AD (Ciampoltrini, T, S).

II+: Hadrianic (Galli) or 3rd cent. AD (De Marco)

Not necessarily contemporarily:

- Addition of R1, R9–R10, W extension of R6
- Division of R3–R4 by wall
- Redecoration

Bouet suggested that *prae-furnium* B was added in phase II+: the baths of *Faesulae* belonged to his 1a1b category (retrograde path with intermediary *laconicum*, i.e. directly heated room), whose appearance he dated in the mid-1st cent. AD. Since he accepted an Augustan dating for the bath, R7, being heated directly, was problematic, and he reconciled the evidence with his typology by suggesting that the *prae-furnium* was added in phase II. There is however no evidence to support this phasing.

5.2 – 4th cent. AD?

Late antique tombs alla cappuccina build within bathing rooms; also 7th cent. AD Lombard tombs. Part of the complex possibly used as a church during Early Middle Ages (Ciampoltrini).

6 – Description of the remains and identification of rooms

6.1 – The baths were built on three terraces descending from E to W, with the bathing block and annexes (R6–R8, R10–R13) on the upper terrace, a porticoed area (*palaestra*?) with cistern(?) (R2–R5, R9, R14) on the intermediary terrace, and a *natatio* on the lower one (R1) (fig. 243–244).

R1 (fig. 245A) was a rectangular, elongated, N–S oriented pool, 18.70/19.80 x 5.65/6.40 m, 1.15 m deep, possibly added in phase II+. The walls were covered in *cocciopesto*, covered in recent times by a layer of plaster. Access to the pool from short sides, via H 0.50 x W 0.40 steps. From the lower terrace, two flights of stone stairs, to the N and S, led to the intermediary terrace, 1.60 m higher, possibly porticoed on three sides (N, W, S). Only two parallel walls remain of **R2** (fig. 245B), 40 m long and 0.50 m high. R3 and R4, on the same terrace as R2, were two parts of a same pool(?) dug into the hill, separated by a wall. **R3** (fig. 245C) measured 20.80/21.30 x 12.80/14.60 m, with a max. depth of ca. 2.50 m (from plan). Its S side was a slowly descending northwards slope, indicated as modern by Bellini delle Stelle (1984). **R4** (fig. 245C) measured 10.4 x 14.60 m with a depth of 2 m and was built above a quarry. A channel ran along its W and N side (see 9.3). S of R3 was a 5.80 m wide corridor **R5**, accessible from the W via a set of steps (fig. 245D), probably porticoed to the N as indicated by traces of column bases. The N counterpart of R5 was R14, described below. **R6** (fig. 245E–F) was the largest room of the bathing complex, measuring 15.30 x 12 m; it was equipped with a protruding structure to the W, and pool **R6a** (fig. 245G) to the E, accessible through a triple arched opening (piers 0.45 m wide, distant 2.50/2.80 m, H 4.40 m on extrados) and two steps (L 10 m, H 0.50 m, W 0.40 m). R6a had curved S and N ends and measured L 12.50/10.25 m max, L 8.25 m min, W 5.50/5.70 m. A 0.42 m wide, 0.35 m high step ran around the basin, and a structure

protruded eastward from the back wall. **R7** (fig. 246A) was a 12.30 x 9.40 m room heated from the E (*praefurnium* B), probably accessed from R6. There were apparently three pilasters set centrally along an E–W axis, of uncertain function. Marble floor. **R8** (fig. 246B) was the second and last heated room, measuring 9.40 m N–S and, from plan, ca. 11.50 m E–W. It was heated from the E (*praefurnium* A) and S (*praefurnium* C), and was equipped with a semi-circular pool **R8a** (fig. 246C) to the S (diam. 3.30 m from plan, accessible via a 0.37 m high step) and a rectangular pool **R8b** (fig. 246D) to the E (ca. 6.50 x 1.80 m from plan); its W end ended by slightly curved wall. De Agostino mentioned traces of a *labrum* in the W part of the room (or in R10), but did not present evidence. **R9** (fig. 246F) was a narrow rectangular room (ca. 7.50 x 1.50/2 m from plan) against the W wall of R7, possibly added in a secondary phase (II+), and was accessible from the S (a threshold is still *in situ*). From maps and archival pictures, a staircase (fig. 246H) led from R9 into R7 (removed prior to 1984). There is also a wall preventing any connection with R10, but the wall seems to have been destroyed at some point. **R10** (fig. 246E) (ca. 6.30 x 2.20 m from plan) was another narrow room, with a curvilinear W wall, added against the W wall of R8 in a later phase (II+) and encroaching on the intermediary terrace. De Agostino mentioned that the room was heated. **R11** was an irregular space accessible from the E end of R5 and from which to operate *praefurnium* C. **R12** (fig. 247A) was a service area from which to operate *praefurnia* A and B; it measured ca. 20 x 8 m (from plan) and was accessible from a staircase in its NE corner and from a 1.50 m wide ramp with a landing along the E wall. That the hillside was cut to accommodate the structure of the baths is clear from the E and S limits of R11–R12. **R13** (fig. 246G) was a 6.60/6.90 x 4.30 m latrine against the back wall of R6a, equipped with a small basin in its SW corner (Pfretzschner described the basin as ‘new’). A channel ran along the N, E and S sides of the room, and the wall bear marks of the supports for the marble seats. **R14**, finally, was a long corridor running from R13 to the staircase N of R1; its N limit used the walls of the Etruscan city. In correspondence to R4, a series of pilasters to the N of the wall may have supported a floor, creating a room projecting from the limit defined by the city wall.

6.2 – The function of the main bathing rooms is relatively straightforward: R6, with its cold-water pool, was a *frigidarium*; R8 was the *caldarium* equipped with two pools (R8a–R8b), and R7 was probably a *tepidarium* (or a *laconicum* for Bouet). R11 and R12 were service areas for the operation of the furnaces, R13 a latrine. R9 and R10 seems to have been added in a later phase (II+) against the W wall of R7–R8, but their function is unclear. R9 contained a staircase towards R7, changing the circulation patterns in the baths (see below). R10 could have extended R8 towards the W (see below).

The intermediary terrace, bound to the W by R2, to the E by the bathing block, to the N and S by R14 and R5, has been called a *palaestra* and could have been porticoed on three sides (remains of columns were found in R2, traces of column bases in R5). R2 is problematic, and has been interpreted as a covered room (Pfretzschner) or a *cryptoporticus* (Sabelli). R3–R4 have usually been interpreted as *natatio* and cistern, respectively. The separation between the two may also belong to a secondary phase (II+), leaving the original function unclear. If R4 was a

cistern, a water-lifting device should be expected, of which there are no traces. The long corridors (porticoes?) R5 and R14 have been variously called *gymnasia*, *ephebea*, *apodyteria* or *cryptoportici*, without evidence to support any of those.

On the lower terrace, R1 was probably a *natatio*.

R7 and the centrally-set piers: The remains of three piers were found in the room, set centrally along an E–W axis; it was suggested they divided the room in two along that axis (De Agostino), or that they acted as supports to the roof (Lombardi). Both suggestions are rather unlikely: R7 was a heated room and therefore equipped with a *suspensura*, on which such heavy piers would probably not have been placed (for structural reasons). The stone blocks on which the initial hypothesis was based were found rested at the level of the hypocaust floor, and were therefore either not in place (and belonged to another structure, possibly another arch of the type seen between R6–R6a since one of them seems to be cut to be a voussoir), or, less likely, belonged to a previous phase and were not removed when the hypocaust was installed.

Circulation, and circulation levels, in the baths: Entrance into the bath complex happened from the W and R1; from there, the two staircase to the N and S of R1 led to the intermediary terrace, R2, R14, and R5 via a second set of stairs. From R5, one could go down to the intermediary terrace via steps close to the SE corner of R3, or enter the service area R11 via a threshold in the E wall. The entrance to the bathing block proper was probably in R6 via R14, but no traces of that passage remain; the traditional path in the bathing block would be from R6 (*frigidarium*) to R7 (*tepidarium*) then to R8 (*caldarium*) and back, but the passages between the rooms are not preserved. A hypocaust must be reconstructed in R7, bringing its circulation level to the same as that of the *caldarium* R8; the circulation level of *tepidarium* R7 would therefore be slightly higher than that of *frigidarium* R6, and probably accessible from it via one or more steps (no traces preserved). The presence of a staircase in R9, apparently leading from the intermediary terrace to R7, has led to speculation about the circulation patterns. The connection between the walls of R9 and R7 make it clear that the former, and therefore the staircase, did not belong to the original construction phase. From archival pictures, the staircase arrived at the level of the *area* of R7; considering R7 was a heated room and must therefore have been equipped with a hypocaust, the following scenario are possible:

- 1) the staircase continued further up to allow access into R7, and the hypocaust was built around it (highly unlikely from the point of view of both the construction of the hypocaust and the traditional bathing circuits, but see (THÉBERT 1991 on alternative paths in bath buildings),
- 2) the staircase indeed stopped at the level of the *area*, suggesting that the hypocaust had disappeared when the staircase was added.
- 3) the staircase was added in modern times to provide a short path for visitors into the ruins of the *tepidarium* R7.

Options 2 and 3 are the most likely. Option 2 would explain why no traces of hypocaust were found in R7; option 3 would work better with the hypothesis of a third pool, or at least a third *praefurnium*, in *caldarium* R8 (see below).

R10 and the possibility of a third pool in the *caldarium*: R10 extended R8 towards the W. It has been suggested it supported a pool, or a *labrum*, or that *pilae* were found in it (De Agostino). The W wall of R8 was pierced in its centre by a later opening (ca. 0.40 m, no proper jambs but restorations may have modified its original aspect), with remains of CBM on the floor of this opening; this could be consistent with an opening to allow hot air to circulate in it. Following the hypothesis that R10 was heated, the N opening of R10, at the level of the hypocaust, has to be understood as a *praefurnium*, operated from R9, which was built as a service area (and therefore not necessarily built to connect the intermediary terrace to R7). Pfretzschner suggested that the *praefurnium* was in R10 and heated R8 directly via a 0.90 m opening in the W wall of R8, but this would go against De Agostino's observation that R10 contained *pilae*, and such arrangement would not have required the construction of a curvilinear wall in R10. The extension of *caldarium* R8 by R10 and the possible addition of a *praefurnium* in R9 could have been accompanied by the addition of a pool above R10, of which there is no evidence left. There are no traces of an installation for a boiler either, but it is not impossible that the double boiler installation around *praefurnium* A served the needs of all three pools.

7 – Construction techniques and materials

7.1 – R5 had a floor of 'calcina e scheggie di marmo'.

7.2 – The walls (0.60 m thick, apart from R6 N, 0.70 m) were predominantly made in concrete faced with horizontal courses of small stone blocks (fig. 246I) (0.30 x 0.20 m, 0.10 m thick), or very occasionally with brick (0.03 m thick *bessales*, used only in connection with the heating system), all bound with a lime-based mortar. The stone employed was the pietra serena, a local sandstone from the Macigno formation (CECCHI 2014 on local geology); part of it was quarried directly from the hill to create the terracing for the baths (the quarry face is visible in R11–R12), part of it from the digging of R3–R4.

Several facings were used in R6a: brick courses, stone block courses, courses alternating bricks and stone blocks, and finally rectangular bricks set as stretchers on edge. Several of these were due to restorations, possibly both ancient and modern.

Scientific analysis determined that two different types of bricks were used, but one could have been used for modern restorations.

7.3 – Five iron bars (see 10.2) have been interpreted as elements of the support of a suspended vault covering R8 (SHEPHERD & SABELLI 1989). The three piers identified in R7 were interpreted by Lombardi as a support for the trusses of a roof, but this interpretation is unlikely, see section 6.2.

8 – Heating devices

8.1 – Three, possibly four *praefurnia*, operated from R12 (fig. 247A) (A, B), R11 (fig. 247E) (C), possibly R9 (D). *Praefurnium A* heated *caldarium* R8 and pool R8a from the E, and opened on the latter via an arch made of stone voussoirs. On either side of a 0.70 m wide channel, two brick structures (heavily restored) acted as stands for boilers (one each), set above a circular gap (ca. 1.10 m diam. from plan) and channel (ca. 0.40 m from plan) in which the fire was lit. The boilers were encased in a masonry block, possibly made of concrete and faced with courses of stone blocks (ca. 1.70 m diam. from plan). *Praefurnium B* heated R7 from the E. It was made of two outer longitudinal extensions faced with stone courses on the inside and brick on the outside; this arrangement making little sense (refractory bricks would be expected inside the channel), it is probable that the facing was modified during restorations. The unusually large width of the heat channel (ca. 0.75 m) may also be due to restorations. *Praefurnium C* (fig. 247E) heated R8 from the S, next to R8a; the opening in the wall of the hypocaust had brick jambs and was topped by an arch made of stone voussoirs. Possible *praefurnium D* heated R10 from the N; no traces of it remain.

The boilers on *praefurnium A* (fig. 247A, C) had a diameter between 1.10 and 1.70 m. The keystone of the arch between *praefurnium A* and pool R8a was higher than the floor of the pool, suggesting the pool was equipped with a *testudo*; the damage to the pool's floor, visible in an archival photo, is consistent with the removal of a *testudo*. Early plans (Pfretzschner, Maiorfi, less clearly in Caputo–Maetzke) gave the extensions of *praefurnium B* a circular shape, indicative of the presence of a boiler. No traces of that circular arrangement are visible nowadays, and no hot water pool has been reconstructed in R7.

8.2 – *Caldarium* R8 and *tepidarium* R7 were heated, possibly R10 too (no traces of heating system in R7 or R10). In R8 (fig. 247B): area of *bipedales* (T 0.04 m), 0.60 m distant *pilae* (interaxle) made of 10 octagonal bricks (0.20 m medium diagonal, 0.08 m side, 0.04 m thick) with one *bessalis* as base and top for a height of ca. 0.70 m. Against the walls, *pilae* made with rectangular bricks (0.40 x 0.20 m). Under pools R8a and R8b, *pilae* replaced by masonry blocks of various dimensions. The *pilae* supported a *suspensura* floor made of two layers of *bipedales* and a *cocciopesto* layer, for a total thickness of ca. 0.90–1 m (but restored). Bricks bound with lime-based mortar.

The hypocausts of R7–R8 communicated via 0.50 x 0.43 m square openings (fig. 247D), two of which are preserved and a third one (at least) may be reconstructed by symmetry.

Rectangular-section *tubuli* (14.5 x 12 cm, 45 cm height, 1.2 cm thick), some of which restored; bound to wall with lime-based mortar and T-shaped clamps.

9 – Water management

9.1 – Maetzke–Caputo and De Agostino suggested water came from Monterecci, ca. 5 km from *Faesulae*, arriving in the baths from the S after having passed through the city. Traces of a channel/aqueduct have been found at the spring and along a road leading from Monterecci to Fiesole.

R4 has been interpreted as a cistern. The protruding structure at the back of R6a (fig. 247F) was interpreted as supporting a water tank.

9.2 – Pools R6a (cold) and R8a–R8b (hot) required water, as well as a possible *labrum* in the W part of R8. There is no evidence as to their supply.

9.3 – Pool R8a was drained via a pipe in its NW corner, and pool R6a via drain in its S wall.

Several 2nd–3rd order drainage channels are known:

- R12 (fig. 247A), N–S oriented;
- R11, known for a short stretch from the back of R8a, heading E then turning S (presumed direction);
- R14: three N–S oriented channels, known only on short distances, two in correspondence of the S part of R6 and one close to the stair N of R1–R2 (with E–W bifurcation);
- R4: a 1.20 m deep channel along the N and W walls possibly served to drain the water from R3 (it was set on the floor of R4 but apparently did not connect with the room). The channel was covered with stone slabs, ca 0.30–0.40 m thick. In NW and SW corners, slabs (1.40 x 1.50 m, 0.30 m thick) pierced by a central hole (0.57 m), were covering two 1.90 m deep shafts. The channel apparently flowed from the NW corner towards the NW.

10 – Decoration and material

10.1 – The floor of R7 was made of small marble elements geometrically arranged (fig. 248G). Pools R8a and R8b were floored and veneered with white marble slabs (some still *in situ*), and the pilasters separating R6–R6a were originally veneered in marble, as indicated by the marks of the attachments on the pilasters.

10.2 – Various material: a fragmentary inscription (see below **inscription CIL XI.7027**), remains of columns in *pietra serena* (in R2), a fragmentary statue of Hercules (fig. 248D) (found in 1892 in *caldarium* R8 or in *frigidarium's* pool R6. *Luni* marble. Inv. 113), marble Corinthian pilaster capitals (fig. 248E–F),¹⁸ a brickstamp (unpublished, fig. 248B), iron bars (fig. 248C, see below), a bronze fragment of a boiler (fig. 248A) and pipes. In the site museum are also exposed as coming from the baths: a mirror handle; a bronze nail with inscription *ANNIA*; a bronze ring; a bronze fibula; three fragments of three inscribed bronze tablets (inv. 592, 592a, s.n.); a fragmentary Arretine cup with stamp *CRISPINI*, 1st cent. AD; a lamp Dressel 20 with stamp *CATILVEST* (*Caius Atilius Vestalis*), 1st–2nd cent. AD (inv. 1240); the aforementioned marble Corinthian pilaster capitals (inv. 195), 1st cent. AD; decorative fragments in *pietra Serena*; a pickaxe for quarrying, found in R3–R4, of unprecise dating.

Five fragments of iron bars with hook, found during the 1984 excavations and interpreted as belonging to the supports of a suspended vault (SHEPHERD & SABELLI 1989, 429).

- Bar with two holes, inv. 9210, L 24 cm, T 2.5 cm

¹⁸ CIAMPOLTRINI 1993b, 432 note 425 with bibliography on the type.

- Bar with three holes, inv. 397, L pres. 26.5 cm, T 3.5 cm
- Two bars with hook, inv. 698, 699.
- Bar, L pres. 17 cm, W hook 12.7 cm, T 1.6 cm

Inscription CIL XI.7027 = EDR126901

11 fragments of a monumental inscription, two of which adjoining, marble *tabula*, found in the baths during the 1890–92 excavations

Monumental inscription, dimensions (W x H): I.1 0.10 x 0.20; I.2 0.25 x 0.20; I.3 0.24 x 0.23; I.4 0.20 x 0.11; II.1 0.165 x 0.235; II.2 0.165 x 0.20; II.3 0.15 x 0.245; II.4 0.13 x 0.11; II.5 0.14 x 0.17; III.1 0.31 x 0.21. T : 0.025, letters 5.3–7.7 cm

<:frg. I.1>
[---]BI[---] / [---]+[---] / -----

<:frg. I.2>
[---]rtis v[---] / [---]+[---] / -----

<:frg. I.3>
[---]+tri[---] / [---]+RV+[---] / -----

<:frg. I.4>
[---]+[---] / -----

<:frg. II.1>
----- / [---]A[---] / [---]m a+[---] / [---]VIN+[---]
] / -----

<:frg. II.2>
----- / [---]+[---] / [---]ORTIS[---] / [---]us
equ[o?---] / -----

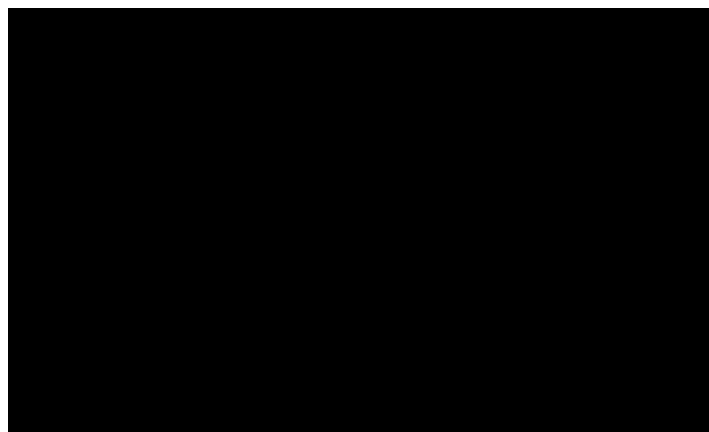
<:frg. II.3>
----- / [---]OR[---] / [---]TER[---] / [---]+[---] /

<:frg. II.4>
----- / [---]s c[---] / [---]+[---] / -----

<:frg. II.5>
----- / [---]+[---] / [---]EO[---] / [---]ae a+[---] /

<:frg. III.1>
----- / [---]s a[e]dific[---]

Ciampoltrini tentatively identified elements of a *cursus* (frag. I 3, *trib---*) and of an equestrian titlature (frag. II 2, *equ---*). Frag. III.1 could indicate, very hypothetically, that a benefactor built (*aedifl---*) the baths. CIAMPOLTRINI 1993b, 433 and note 28



11 – Bibliography

PETERSEN 1891, 372–373; PFRETZSCHNER 1909, 47–50; KRENCKER *et al.* 1929, 257; LOMBARDI 1941, 65–69; DE AGOSTINO 1949, 15–19; CAPUTO & MAETZKE 1959, 61–63; BELLINI DELLE STELLE, MANNARI & SABELLI 1984; 1989; SHEPHERD & SABELLI 1989, 429; CIAMPOLTRINI 1993b, 431–433;

NIELSEN 1993, cat. 58; SABELLI 1995, 63–66; BOUET 2003, 168, note 9; DE MARCO 2013, 22–23; SABELLI & BALLERINI 2014, 84–88, 132–133, 141–144

Brief mentions: MAIORFI 1912, 12; COARELLI *et al.* 1975, 34; TORELLI 1980, 295–296

Not consulted: DE AGOSTINO 1966; DE MARCO & ZURI 1981; HEINZ 1983

Archival material: Report and plan of 1892 excavations are conserved (info. 1993) at the Archivio della Soprintendenza Archeologica per la Toscana (Pos. F 13, anno 1892) (published in CIAMPOLTRINI 1993b, pl. XI. 1); correspondence for the years 1932, 1945, 1947 between the Comune of Fiesole and the Soprintendenza on restoration and maintenance works (some with pictures), are conserved at the Archivio Storico della Soprintendenza alle Antichità dell'Etruria (info. 1984). Photos for the years 1960–1970 are conserved (info. 1984) at the Gabinetto fotografico della Soprintendenza alle Antichità dell'Etruria (foto n. 1533–1534, 13248, 17210/1, 18080/11, 19770/7, 21053/3, 21053/10, 21053/7, 20885/5, 22591/5, 22628/7, 22591/7).

12 – Illustrations

Plans and sections: PFRETZSCHNER 1909, pl. X.6; MAIORFI 1912, pl. VII; KRENCKER *et al.* 1929, fig. 387; LOMBARDI 1941, fig. 3; DE AGOSTINO 1949, fig. 9; CAPUTO & MAETZKE 1959, pl. I; CIAMPOLTRINI 1993b, pl. XI.1; NIELSEN 1993, fig. 86; SABELLI 1995, fig. 28, 91–97; SABELLI 2014, pl. 10–15 (best reproductions)

Pictures: WIKIMEDIA COMMONS (Vv.AA.) ; LOMBARDI 1941, pl. XI–XII; DE AGOSTINO 1949, fig. 10–11; NIELSEN 1993, fig. 17; DE MARCO 2013, fig. p. 22; SABELLI 2014, fig. 3, 7, 11–14, 49–69; BRÜGGE 2019a; 2019b

Material: BELLINI DELLE STELLE, MANNARI & SABELLI 1984, fig. 23; SHEPHERD & SABELLI 1989, fig. 2E

Decoration: BELLINI DELLE STELLE, MANNARI & SABELLI 1984, fig. 22; CIAMPOLTRINI 1993b, pl. XI.2A

Others: SABELLI 2014, fig. C (archaeological area, water circulation)

Faesulae

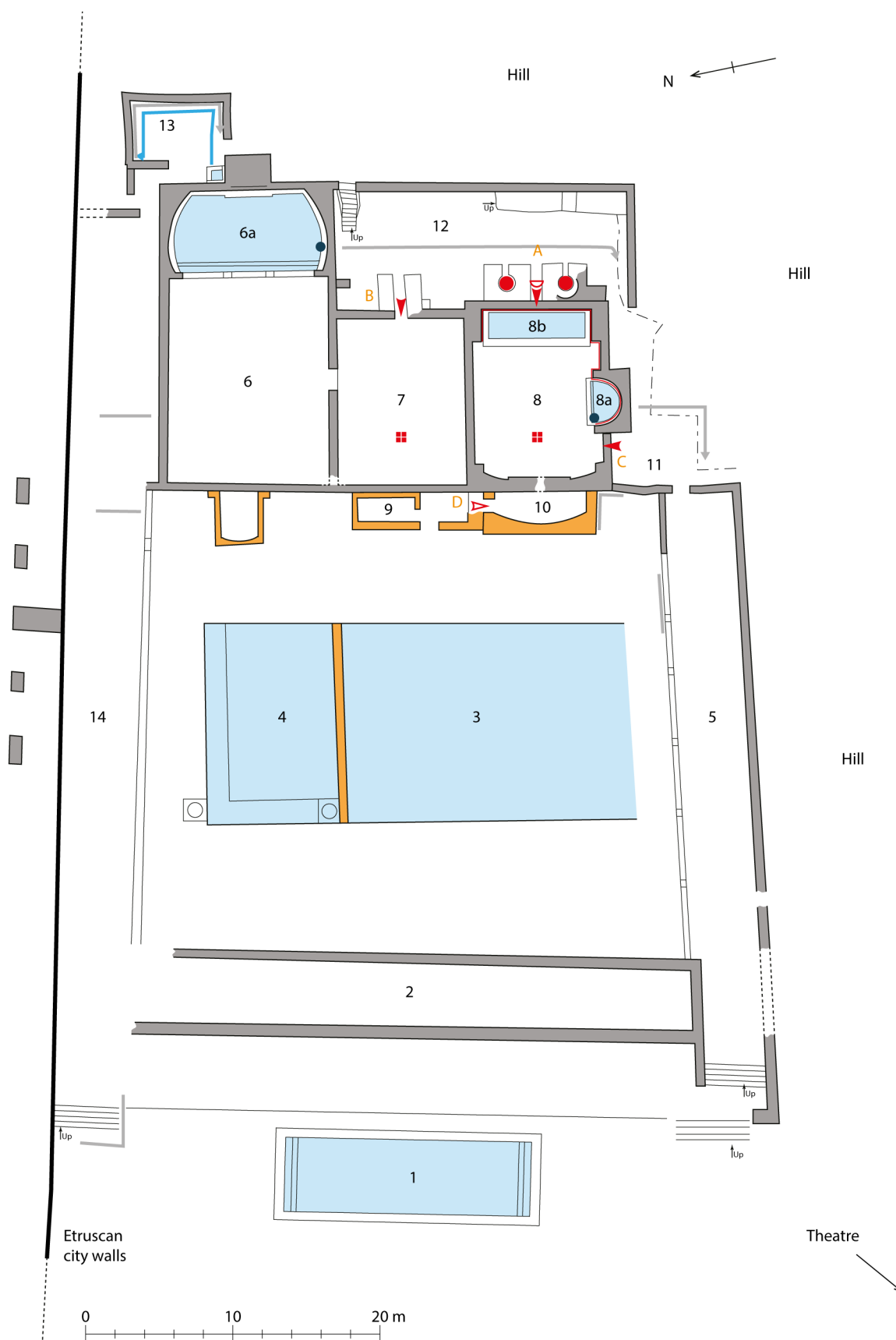


Figure 243: Plan of the baths of *Faesulae* (after SABELLI & BALLERINI 2014, pl. 10–13 CUNIGLIO, GESSANI & SARTI [2018?], background plan).

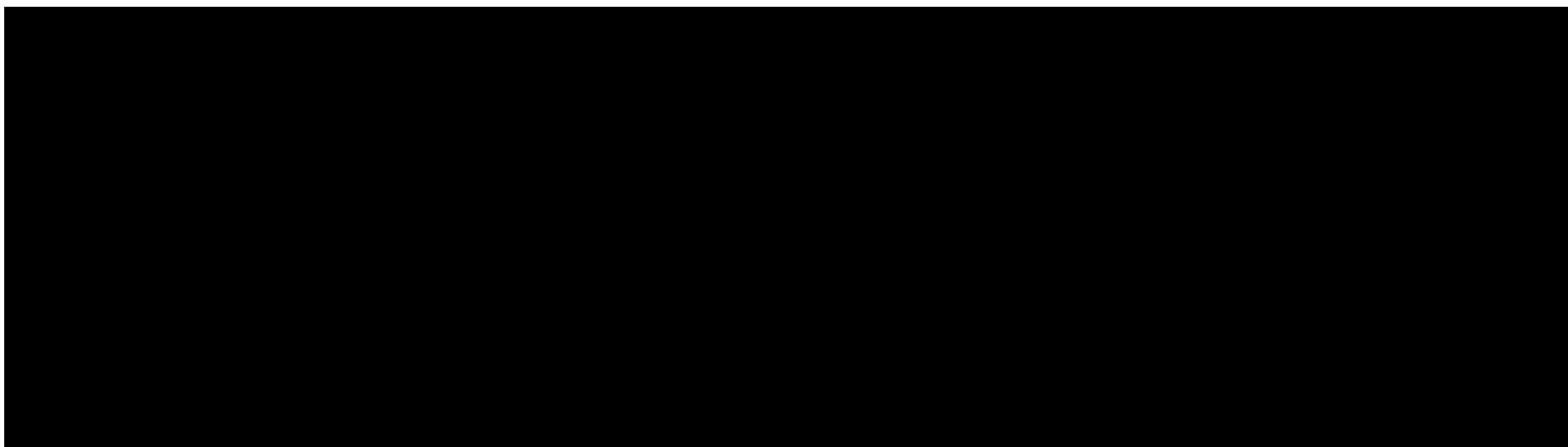


Figure 244: Panoramic view of the baths of *Faesulae*, from S.

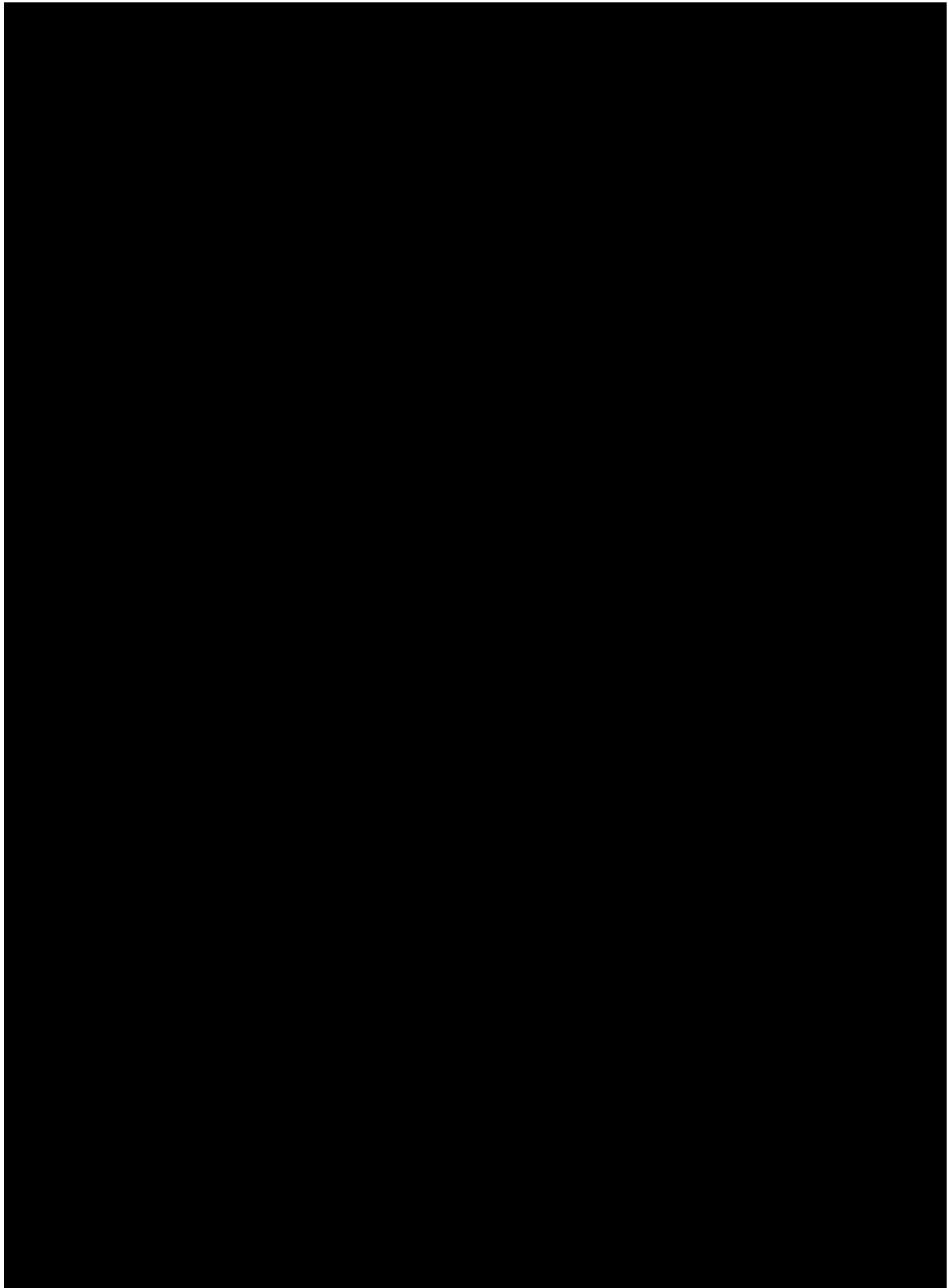


Figure 245A–G: Baths of *Faesulae*. Views of individual rooms. **A:** R1, from S. **B:** R2, from S. **C:** R3–R4, from E. **D:** Steps leading from R1 to R5, from W. *Frigidarium* R6: **E:** restored arches leading to pool R6a, from W. **F:** structure against the S wall of R6, from SE. R6a, from NE.

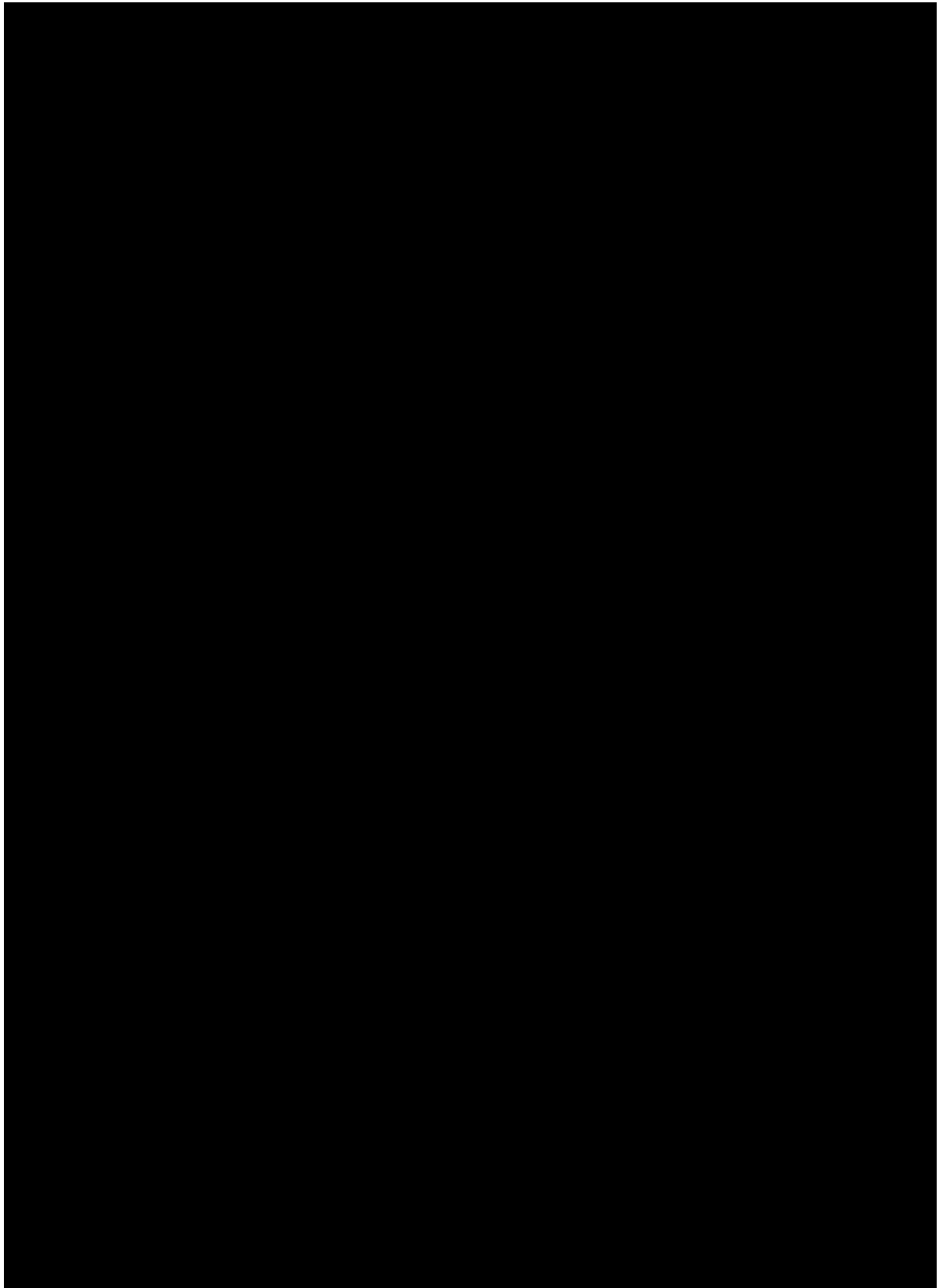


Figure 246A–I: Baths of *Faesulae*. **A:** R7, from N. **B:** R8, from W. **C:** pool R8a, from E. **D:** pool R8b, from S. **E–F:** R9–R10, from N. **G:** latrine R13, from SW. **H:** later staircase leading through R9 into R7, from W. Construction materials: **I:** facing of horizontal course of small stone blocks, N side of S extension of R6, from N (H: CUNIGLIO, GESSANI & SARTI [2018?]).

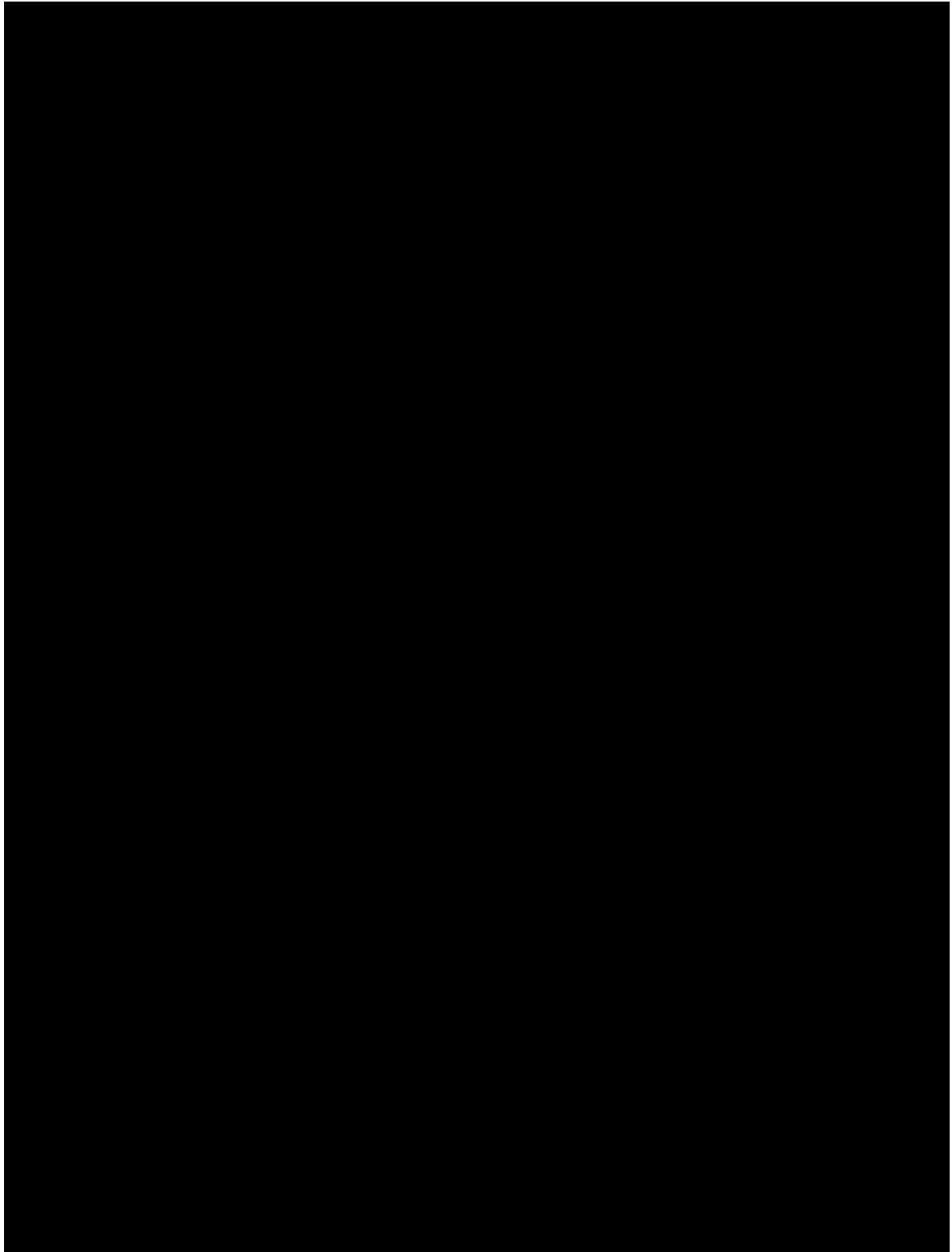


Figure 247A–F: Baths of *Faesulae*. Heating and water elements: **A:** R12, with *praefurnia* A (left) and B (right), from NE. **B:** hypocaust in R8. **C:** boiler stand against *praefurnium* A, from W. **D:** hypocaust connection between R7 and R8, from NW. **E:** *praefurnium* C, from S. **F:** Water stand and basin at the back of pool R6a, from NE.

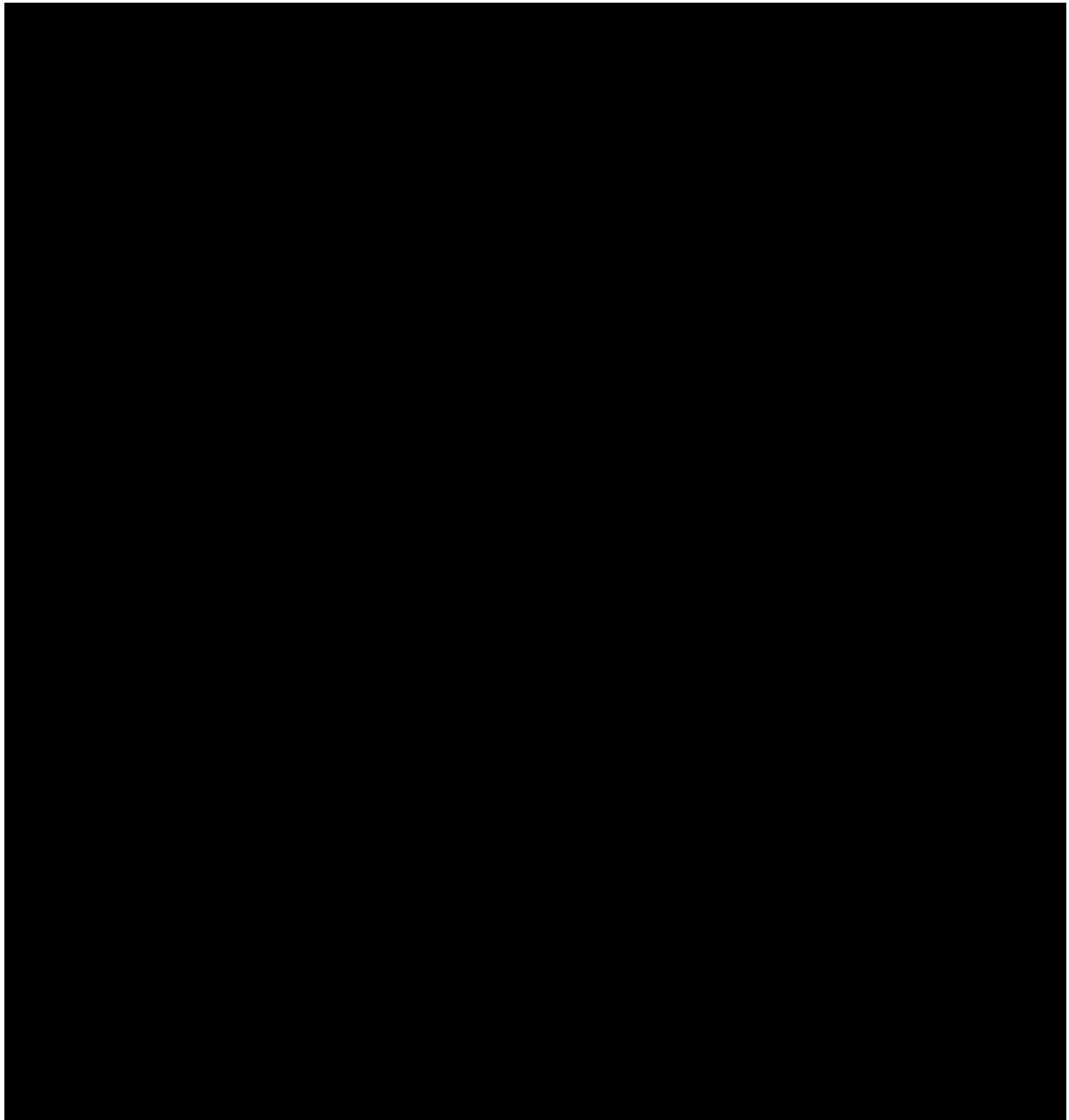


Figure 248A–G: Baths of *Faesulae*. Material: **A**: bronze sheet with rivets, possibly from a boiler. **B**: brickstamp from the baths. **C**: Metal bar with three holes, probably relevant to the roofing system of R8. Decoration: **D**: foot of statue of Herakles. **E–F**: capitals of pilasters slips. **G**: pattern of the mosaic floor in R7 (B: CUNIGLIO, GESSANI & SARTI [2018?]; C: SHEPHERD & SABELLI 1989, fig. 2; G: BELLINI DELLE STELLE, MANNARI & SABELLI 1984, fig. 22).

Terme Capitoline, Terme del Campidoglio, Terme a tergo del Campidoglio, Terme di S. Donato dei Vecchietti

1 – Location

1.1 – Province and Comune of Firenze

1.2 – 11.252499 E, 43.771722 N

1.3 – In the city centre, occupying the S part of an *insula* on the N side of the *decumanus maximus*. The *insula* to the E was occupied by the *Capitolium*, and the *forum* occupied the following one.

2 – Preservation

2.1 – Partial in plan, poor in elevation (hypocaust level)

2.2 – Possibly destroyed

3 – Research

3.1 – Discovered during demolitions in the centre of Florence in 1892 and following years; the remains were measured and drawn by the architect Corinto Corinti, who produced the only plan of the baths, extrapolating a significant part of the layout. Some of the remains were rebuilt in the courtyard of the archaeological museum of Florence (one of the pools around R3)

3.2 – Not visited

4 – Dimensions

From plan, bathing block ca. 1,150 m² (R1 to R10), max. 3,000 m² if occupied the entire *insula*

Nielsen: 1160 m², 2480 m² with *palaestra*; Maetzke: 2400 m²; Lopes Pegna: >3000 m²

5 – Chronology and phasing

5.1 – I: 1st cent. AD (Maetzke, Lopes Pegna, Nielsen) or late 1st–early 2nd cent. AD (Ciampoltrini: T, S)

II: 2nd cent. AD and later (Nielsen), early 2nd cent. AD/Hadrianic (Maetzke, Lopes Pegna)

- Changes in the heating system: floor of R9 and/or R10 raised by 0.48 m, E pool of R10 decommissioned
- Redecoration of R3 and R9 and/or R10

Pre-baths: the baths obliterated several layers of earlier buildings (Augustan–early Imperial), possibly of private nature (found remains of *cocciopesto* and *opus spicatum* floors)

5.2 – Unknown. On the ruins of the baths were created the church of S Donato dei Vecchietti as well as private dwellings.

6 – Description of the remains and identification of rooms

6.1 – From Corinti's plan, the complex, possibly surrounded by a precinct with a monumental entrance to the NW, was arranged along a N–S axis, with the heated rooms in the N part of the baths. R3 and parts of R6 and R9–R10 being symmetrical on either side of this axis, Corinti extrapolated the plan of several rooms to respect this symmetry; the details of the plan are therefore quite hypothetical (fig. 249).

R1: possibly a large entrance courtyard/vestibule. The occupation of this space (15 x 16 m) is unclear: Corinti reconstructed a pool/*natatio* in it, in turn doubted by Ciampoltrini. Access from the *decumanus* to the S probably via an intermediary room. Led into R2 to the W and R3 to the N, the latter via a 0.20 m upward step. **R2**: ca. 5.40 x 4.10 m, mosaic floor. **R3**: large rectangular room (11 x 8.50 m) flanked by two opposite square pools **R3a–R3b** (fig. 250B–C) (ca. 3 m on the side). The back wall of both pools was largely open to the outside via a round arch (Lopes Pegna mentioned that the windows were equipped with 'sportelli girevoli a vetri opachi'). From R3, access to the N to **R5** (4.20 x 2 m), **R6** (6 x 6 m) and possibly **R7** (reconstructed by symmetry). The original accesses are lost; Corinti reconstructed a passage from R3 to R7, Ciampoltrini a passage from R3 to R6, then from R6 into R5. W of R5 was a small service room **R4**, ca. 2.70 x 1.80 m, possibly containing *praefurnia*; it was accessed from outside the building to the S. **R8** measured 6.50 x 6 m (from plan) and was probably accessible from R7. Marble decoration. To the N were **R9** (fig. 250A) and **R10** (both ca. 10 x 8 m), two large heated rooms, possibly symmetrical and communicating with each other. The access to these rooms is unclear; Lopes Pegna mentioned a connection from R6 with a small door with arch, but this description would be consistent with a hypocaust passage too. The rooms were equipped with rectangular niches on the S and N sides (all four 5.50 x 2.20 m), and semi-circular niches on the W and E sides (6.50 m diam.). According to Corinti, R10b contained a heated pool, whereas R9b contained a non-heated pool, decommissioned in a posterior phase. A visible difference between the two rooms was the treatment of the wall they had in common, equipped with semi-circular niches in R9.

Milani described another room (4.50 x 2 m) with two small pools further N of the baths, not visibly connected to the main structure.

Lopes Pegna described a *piscina frigida* NW of R9 (fig. 250D), not visibly connected to the main structure.

6.2 – All functions are quite hypothetical besides R3, a *frigidarium* with cold-water pools. R2 could have been an *apodyterium* for Maetzke (position close to the entrance). Ciampoltrini tentatively called R5 a *laconicum*. R6, by its position between R3 and R9–R10, may have been a *tepidarium*. Either R9 or R10 was a *caldarium*, the function of the other is unclear.

The bather's path cannot be precisely reconstructed, but could have been partly circular, with a loop in R6–R9–R10–R6.

7 – Construction techniques and materials

7.1 – No information available.

7.2 – From pictures (fig. 250A, G), horizontal courses of small stone blocks

7.3 – No information available.

8 – Heating devices

8.1 – The outer openings of heated rooms on Corinti's plan are probably *praefurnia*, which can therefore be tentatively reconstructed in R4 (possibly two, heating R5 and R9), and N of R9. The large dimensions of R9–R10 would probably have required further *praefurnia*.

Two circular structures against the W wall of R4 could be boilers stands.

8.2 – *Area* possibly made of square CBM. *Pilae* made of *bessales* (fig. 250E–F) and circular bricks (the latter in the reconstructed portion of hypocaust in the Archaeological museum of Florence). *Tegulae mammatae* are mentioned several times, but from pictures and from the degree of preservation of the remains, it seems more likely that they are tiles lining the hypocaust walls (fig. 250F).

The passages between the R9–R10 and R6–R10 on Corinti's plan are probably hypocaust connections.

9 – Water management

9.1 – Unknown. The dating of the aqueduct supplying the city was traditionally dated to the Claudian period, but recently redated to the late 1st–early 2nd cent. AD.

9.2 – No information available

9.3 – Dashed lines in R3 on Corinti's plan are consistent with water drainage channels. From picture, drainage pipe in the steps of one of the pools (R3a or R3b).

10 – Decoration and material

10.1 – Mosaic floor in R2 (fig. 250G) (geometric, black on white background, dated late 1st–early 2nd cent. AD) and R11, marble decoration in R1 (at least floor), R3 (polychrome), R3a–R3b (*Luni*), R6 and R8 (floor, polychrome wall veneer), stucco in R3.

10.2 – No information available

11 – Bibliography

Main notices: MAETZKE 1941, 65–68; LOPES PEGNA 1962, 136–147; CIAMPOLTRINI 1993b, 434–436

Brief notices, mentions, republications: MILANI 1893, 494–495; MILANI 1896, col. 18; TORELLI 1980, 289; NIELSEN 1993, 48, 69, cat. 60; SHEPHERD 2006, 189, 192, 197; PAGNI 2010, 166–168; CIANFERONI 2015, 57

Water: DE ROSA 2008, 185; Decoration: TESS3518

12 – Illustrations

Plans: MAETZKE 1941, fig. 8; LOPES PEGNA 1962, fig. 51 (Corinti's cartolina 86; CIAMPOLTRINI 1993b, pl. X.2; NIELSEN 1993, fig. 88

Pictures: MAETZKE 1941, pl. IXb, Xa–b, XIa; LOPES PEGNA 1962, fig. 52–58; SHEPHERD 2006, fig. 178–179

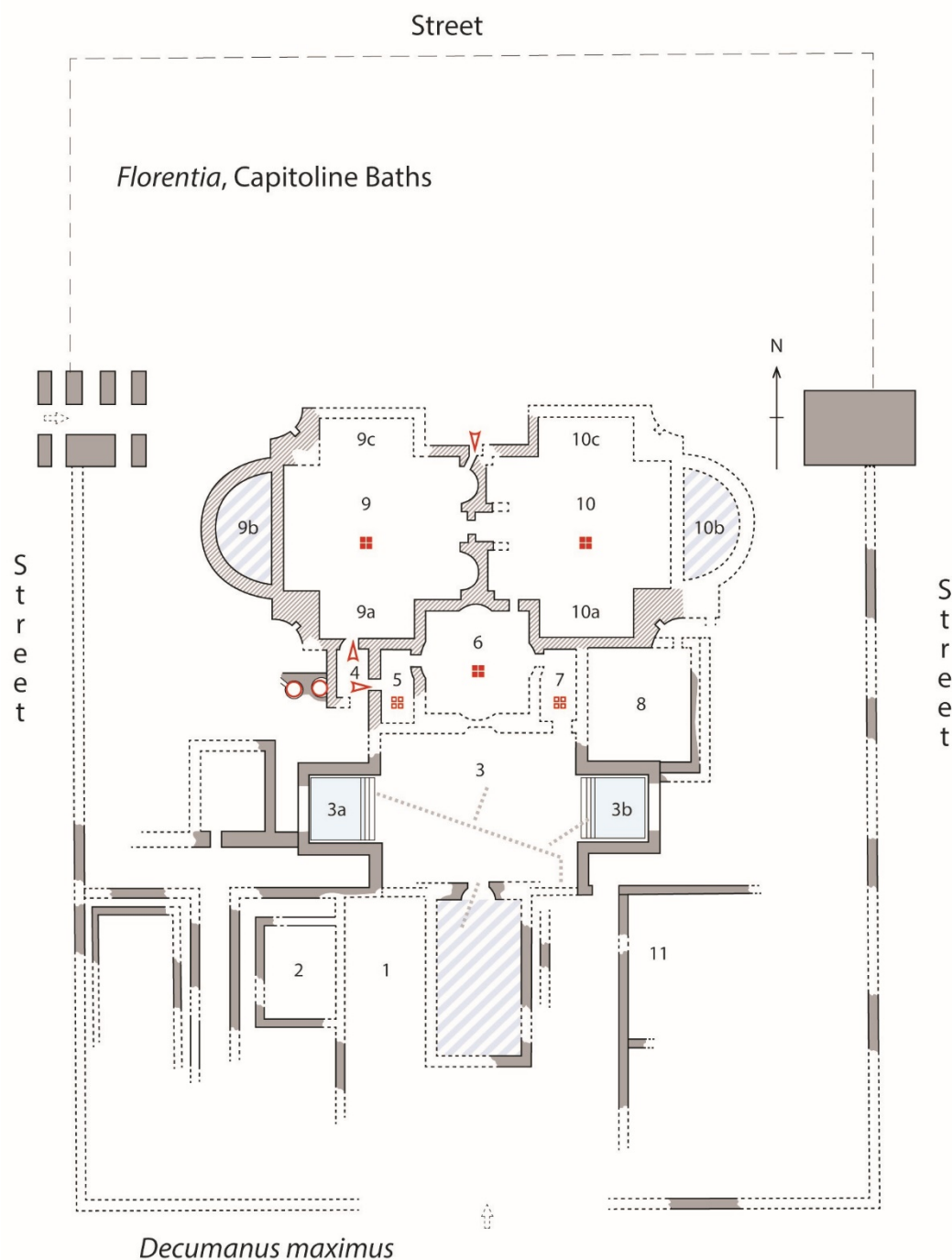


Figure 249: Plan of the Capitoline Baths of *Florentia* (after MAETZKE 1941, fig. 8).

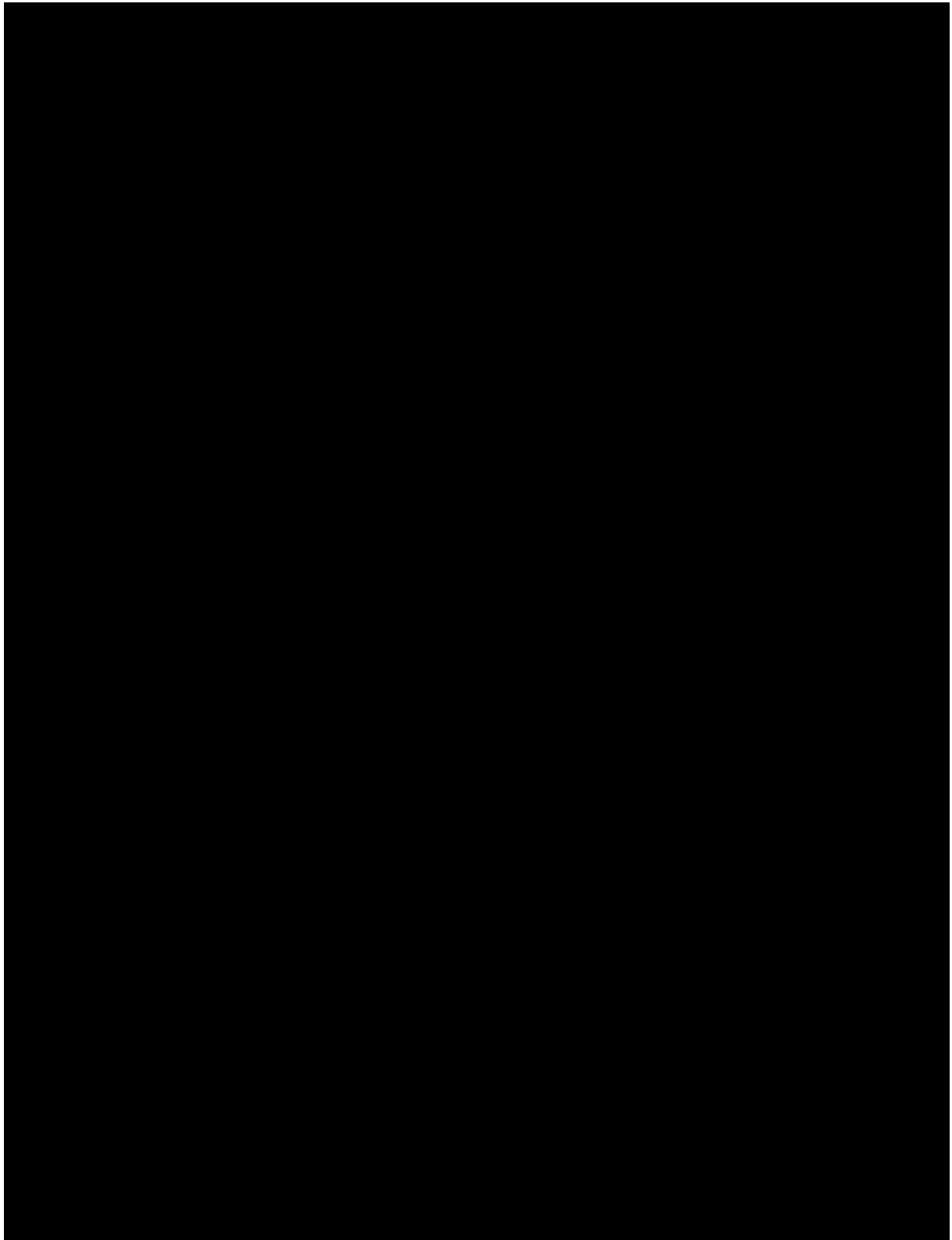


Figure 250A–G: Capitoline Baths at *Florentia*. **A:** view of passage from R9 to R10, from SW. **B–C:** reconstructed pool and pool’s arch (R3a or R3b) in the Archaeological Museum of Florence. **D:** ‘*piscina frigida*’ NW of the baths. **E–F:** hypocausts, unspecified rooms. **G:** mosaic floor in R2, direction unknown (MAETZKE 1941, pl. 9b, 10A, 11A; LOPES PEGNA 1962, fig. 53–54, 57–58).

1 – Location

1.1 – Province and *comune* of Firenze

1.2 – 11.255726 E, 43.769645 N

1.3 – SE part of *Florentia*, next to the city walls (30 BC) to the S and E, directly W of the theatre (late 1st cent. BC). Built at the same time as the amphitheatre further E. Now under Piazza della Signoria.

2 – Preservation

2.1 – N and W part of plan well preserved, SE part mostly destroyed. Up to 2–3 m in elevation.

2.2 – Nothing visible.

3 – Research

3.1 – Possibly seen by Corinti in the 1920s. First excavations by the Soprintendenza alla Antichità d'Etruria (dir. Maetzke) in 1974–1975, then several excavations in 1983–1984, 1987–1989. An *opus sectile* floor found in 1875 has tentatively been connected to the baths (RONCAGLIA & BUENO 2014).

3.2 – Not visited.

4 – Dimensions

Bathing block: 1,700 m² excavated, 2,400 m² if mirrored

Porticoed area: 1,000 m² excavated, 2,000 m² if mirrored

Possibly 6,500 m² for the whole complex (baths, *fullonica*, portico, service areas, all mirrored)

5 – Chronology and phasing

5.1 – **Pre-bathing:** several *domus*, a road under R2, expropriated to make space for baths and complex

I: 2nd cent. AD, possibly Hadrianic

Later repairs:

- replacement of floor in R2, R2b
- repairs in vault of service gallery R11 and in mouth of *praefurnium* under R5

5.2 – 2nd half 4th cent. AD. After abandonment:

- Pools R2a–R2b–R2c used as garbage dumps
- R7 and R10 reused as crafting areas (for glass, metal) or habitation; post holes in floor of R2 attest to the construction of huts
- Several Late antique tombs cut in pavement of R2, covered by *imbrices* and reused material

- Small residential unit in portico R13
- Small furnace or kiln in NW part of porticoed area R12
- W part of R12 and R13 reused for a church (27 m large, 3-naved basilica)
- Construction of houses, towers, and roads.

Baths obliterated in 13–14th cent. AD. when area turned into a public square. Structures further damaged by construction of Neptune fountain in 1563, statue of Cosimo I in 1594, large sewer channel in S part of area.

6 – Description of the remains and identification of rooms

6.1 – The baths occupied the central position of a large multi-functional complex (fig. 251, fig. 252A–B). They were surrounded by an open-air porticoed area, of which the NW (12 m), W (ca. 50 m from map) and SW wings (ca. 38 m from map) are preserved. The portico was possibly accessed via R14, and along its W and S outer sides were located a series of rooms not directly connected with the bath building: a latrine (R15), a *fullonica* with well and attached storerooms to the SE. A fountain was located at the point where the W wing of the portico bent to continue to the SE.

The baths were organized along a N–S axis on which the main rooms were arranged, probably symmetrically. From the plan, they measured ca. 57 m N–S (R2 to R10), ca. 43 m E–W (R5 to R6) up to ca. 56 m in façade (R1 to mirrored room E of R2). Including the porticoed area R12 and portico R13, the area measured ca. 80 m N–S and possibly ca. 80 m E–W. **R1** was a rectangular room, ca. 9.50 x min. 4.50 m (from plan). Possibly mirrored by symmetry to the E of R2. Accessible from porticoed area R12. **R2** was the largest room of the baths, measuring ca. 34 x 16 m from plan and equipped with two rectangular pools **R2b–R2c** (ca. 7 x 3.20 m) to the W and E, accessible via three steps. In the S wall of R2 opened a large curvilinear pool **R2a** (ca. 11–12 m diam.), also accessible via three steps (fig. 252C). A step ran along the sides of the pools, animated with five niches, alternately square and semi-circular. R2 was accessible from the N and led into R3, R4, R5 and R6. **R3** was a small room, some 3 x 3.50 m from plan, mirrored to the E by **R4**; the outer wall was either straight (R3 on plan) or curved (R4 on plan). **R5** and **R6** were two mirrored square (ca. 7/7.50 m on the side) rooms on either side of pool R2a. R5 led into R7; R6 led into a room to the S that probably mirrored R7. **R7** was a heated room, ca. 12.80/13.50 x 11/12 m; it was roofed with a suspended ceiling (see 7.3). **R8** was an elevated water tank (fig. 252F), waterproofed with *cocciopesto* and roofed with vaulting tubes (see 7.3); it was excavated for 3.90 x 2.10 m. **R9** was a semi-annular heated corridor, poorly preserved, apparently framing a larger room to the E with a semi-circular W wall (possibly a fully circular room of ca. 12–15 m diam. from plan). The E part of the corridor was fitted with upwards-leading steps, possibly forming the low wall of a heated pool. It is unclear from which room R9 was accessed; it led into **R10**, the southernmost room of the baths, a rectangular heated room with an apse on its S side, possibly mirrored to the E. Dimensions 7.50 m N–S, min. 6.50 m E–W. The room apparently communicated directly with the porticoed area R12 (fig. 252D; see 6.2). **R11** was a network of service galleries running under R5 and R7 (fig. 253A–B). An E–

W oriented leg ran under R5, in the S side of which apparently opened a *praefurnium*; it connected with a N–S oriented gallery running W of R5 and R7, at a lower level than these rooms, before turning E and entering R7 (at which level is unclear). A similar gallery mirrored this one E of R6.

6.2 – Access to the baths probably from N (N of R2). A second entrance was possible via the porticoed area R12 into R1, which may have been an *apodyterium*. R2, with its large size and cold-water pools, was a *frigidarium*; R2a was a cold-water pool. R5 and R6, the first heated room after the *frigidarium*, were probably *tepidaria*. R7, R9 and R10 were all heated, but the unusual shape of the rooms and their probable duplication complicates the identification of their function. No immersion pool was noticed in R7 or R10, and the possible pool in R9 apparently occupied most of the surface area of the room, possibly making it a *piscina calida*, even though this would be surprising considering its dimensions. R10 was interpreted as a *laconicum*, but this seems unlikely if the room indeed communicated directly with the outside. It is possible that what was interpreted as a connection with the porticoed courtyard was instead a *praefurnium*, but this cannot be confirmed. The porticoed courtyard R12 may have acted as a *palaestra*.

The most likely path was therefore: *apodyterium* R1 – *frigidarium* R2 – *tepidaria* R5–R6 – heated rooms R7 and counterpart – hot swimming pool R9 – *laconica/caldaria* R10 and counterpart – back, possibly taking the path not used yet. The alternative path that saw bathers use the *apodyterium* R1, *palaestra* R12 and enter the baths in R10 remains doubtful.

7 – Construction techniques and materials

7.1 – Upside down tiles in R8.

7.2 – Walls built in concrete and faced with horizontal courses of small stone blocks, bound with mortar (fig. 252C–D, 253B). A series of bricks from the baths bore prints of animals (dog, fox, sheep, roe deer) and leaves (oak); Shepherd suggested the *figlina* producing them was close to woods, possibly on the hills around the city. Bricks in the shape of a quarter of a circle, usually for columns, were found; some were recut from *sesquipedales* (side 11.5–22 cm, T 7–8 cm), other had been created on purpose (side >10.5 cm, T 7–8 cm). One brick typically used for the lining of wells was found reused in a column (T 6.5 cm).

7.3 – Several interesting roofing solutions:

- In the collapse layers of R7 were found the remains a roofing system made of wooden beams, bricks and iron bars, identified as part of a suspended ceiling in CBM and iron hanging from wooden trusses supporting roof (ca. 11–12 m span; fig. 253C, E–F; SHEPHERD & SABELLI 1989). The following elements were recovered:
 - Bricks, two dimensions: 0.56 x 0.38 m and 0.54 x 0.33 m, both 3–3.5 cm thick.
 - 33 iron bars and strips, of three types:
 - Bar: square section, 2 cm on the side, flat J hook at one end and hook at the other. Two different lengths: 1.74 m (2 ex.), 1.21 m (3 ex.). One fragmentary bar with two holes for the insertion of nails.

- Long strip: 1.77 m L, 0.06 m wide, 1.5 cm thick (1 ex.).
 - Short strip: 0.58 m L, 0.06 m wide, 1.5 cm thick (8 ex.), with ends folded at right angle.
- R8 was covered by a vault made of vaulting tubes (SHEPHERD 2014). 138 fragments found, of different shapes (truncated cone or cylinder-shaped) and dimensions (H 17.9–23 cm; D: 6.2–8.8 cm).
 - The N leg of gallery R11 had a barrel vault of concrete on a layer of radially-set bricks; the W leg of R11 and its counterpart to the E of R6 had concrete vaults, in which traces of the centring are still visible (fig. 253A–B).

Maetzke suggested that R2 was open-air, probably because of its large dimensions (ca. 34 x 16 m). An unroofed *frigidarium* seems unlikely, and 16 m spaces could be roofed either with barrel-vaults of concrete (2nd cent. AD examples up to 18 m are known, see LANCASTER 2005, webcatalogue 1), with three cross-vaults (e.g. imperial *thermae* of Rome) or with wooden trusses. Cross vaults are less likely since there seems to be no thickening of the walls at the spots where the jambs could be located (i.e. on either side of pool R2a or in the corners of the room).

8 – Heating devices

8.1 – A *praefurnium* is indicated as being located under R5, operated from the E–W leg of gallery R11 (fig. 253A). It is unclear how this worked, since the gallery was located underneath R5; unless the *praefurnium* was sloping upwards, the structure must be understood differently. It would make more sense if the *praefurnia* were located in the N–S leg of gallery R11, heating R5 and R7, but this cannot be confirmed. The connection of R10 to the outside could also be better interpreted as a *praefurnium*.

8.2 – R5, R6, R7, R9, R10 were heated, as well as the probable counterparts of R7 and R10. In R7: *area* of large rectangular CBM (tiles?), *pilae* made of *bessales* (side 18.5–21 cm, 4.5–6 cm thick) supporting a single layer of *bipedales* and a layer of *cocciopesto*. Wall heating: rectangular section *tubuli* (fig. 253C).

9 – Water management

9.1 – An aqueduct is known to have supplied the town; starting from a spring in *località* La Chiusa, *comune* of Calenzano (18 km away from city), in the valley of the Marina river, it reached the NW corner of the city walls, crossed it N to S, then headed E along the S walls until it discharged in the *caput aquae* at the level of the S gate. Remains of the aqueduct were visible in the 18th cent. AD. Initially dated under Claudius; dating revised to late 1st–early 2nd cent. AD based on putative connection with the baths in Piazza della Signoria.

Rectangular well in *fullonica*, 3 x 1.80 m, apparently later turned into a cistern; traces of a *noria*. Possibly predated bath building, and continued being used after the end of the lifetime of the *fullonica* and baths. The well certainly served for the *fullonica*; it has been suggested that considering its dimensions, it could have been part of the water supply system to the baths.

Well in NE part of open-air area (E of R2c), in correspondence with possible start of portico.
Elevated rectangular tank R8, waterproofed with *cocciopesto*. Barrel vault made of vaulting tubes (see 7.3).

9.2 – Water was needed for pools R2a, R2b, R2c (cold), and for the pools in the heated section (R9?). Water for (at least) pool R2a was supplied from tank R8, possibly entering the pool via the niches in its back wall.

9.3 – The pre-baths drainage system kept on being used.

10 – Decoration and material

10.1 – R1: white mosaic floor with central black frame. Mosaic in latrine R15. White marble slabs on floor and *dado* in R2, R2a–R2b–R2c, R7 (fig. 253C–D); W part of R2 floor repaired in *opus sectile*. Wallpainting and stucco on upper part of elevation and vaults (fragments found in collapse layers).

10.2 – Inscribed slabs reused in floors. 5th cent. AD material in filling layers of *frigidarium*. Several iron nails in collapse layers. One T-shaped brick typically used for vaulting (armchair voussoirs), in reuse position.

11 – Bibliography

MAETZKE 1975, 64–66; CAPECCHI 1996, 51; DE ROSA 2008, 97–98, 185 (water); PAGNI 2010, 172–175, 350–353; CIANFERONI 2015, 57; SALVINI, BIANCHI & BUENO 2019

Construction materials and techniques: SHEPHERD & SABELLI 1989; SHEPHERD 2006, 176, 189, 193, 197; 2014

Brief mentions: SCAMPOLI 2007b, 75–76; SALVINI, BIANCHI & DE MARCO 2014, 250–251; SALVINI 2015, 397

Decoration: TESS17165, TESS17164

12 – Illustrations

City plans and drawings: CAPECCHI 1996, fig. p 227; SALVINI, BIANCHI & BUENO 2019, fig. 3.

Plans: SCAMPOLI 2007b, fig. 31; PAGNI 2010, fig. p. 174; BUENO 2014; SALVINI, BIANCHI & BUENO 2019, fig. 1, 4–5.

Reconstructions (models, 3D models, drawings): SHEPHERD & SABELLI 1989, fig. 3 (vaulting); CAPECCHI 1996, fig. p 228; PAGNI 2010, fig. p. 172, 175, 420.

Pictures: SHEPHERD & SABELLI 1989, pl. 112; CAPECCHI 1996, fig. 17–18; SCAMPOLI 2007b, fig. 29–30; SCAMPOLI 2007a, fig. 9–11; PAGNI 2010, fig. p. 351; SHEPHERD 2014, fig. 8; SALVINI, BIANCHI & BUENO 2019, fig. 6–15.

Material (construction, vaulting): SHEPHERD & SABELLI 1989, fig. 2; SHEPHERD 2006, fig. 180, 188; SHEPHERD 2014, fig. 6–7; SHEPHERD 2015, 185

Florentia, Piazza della Signoria

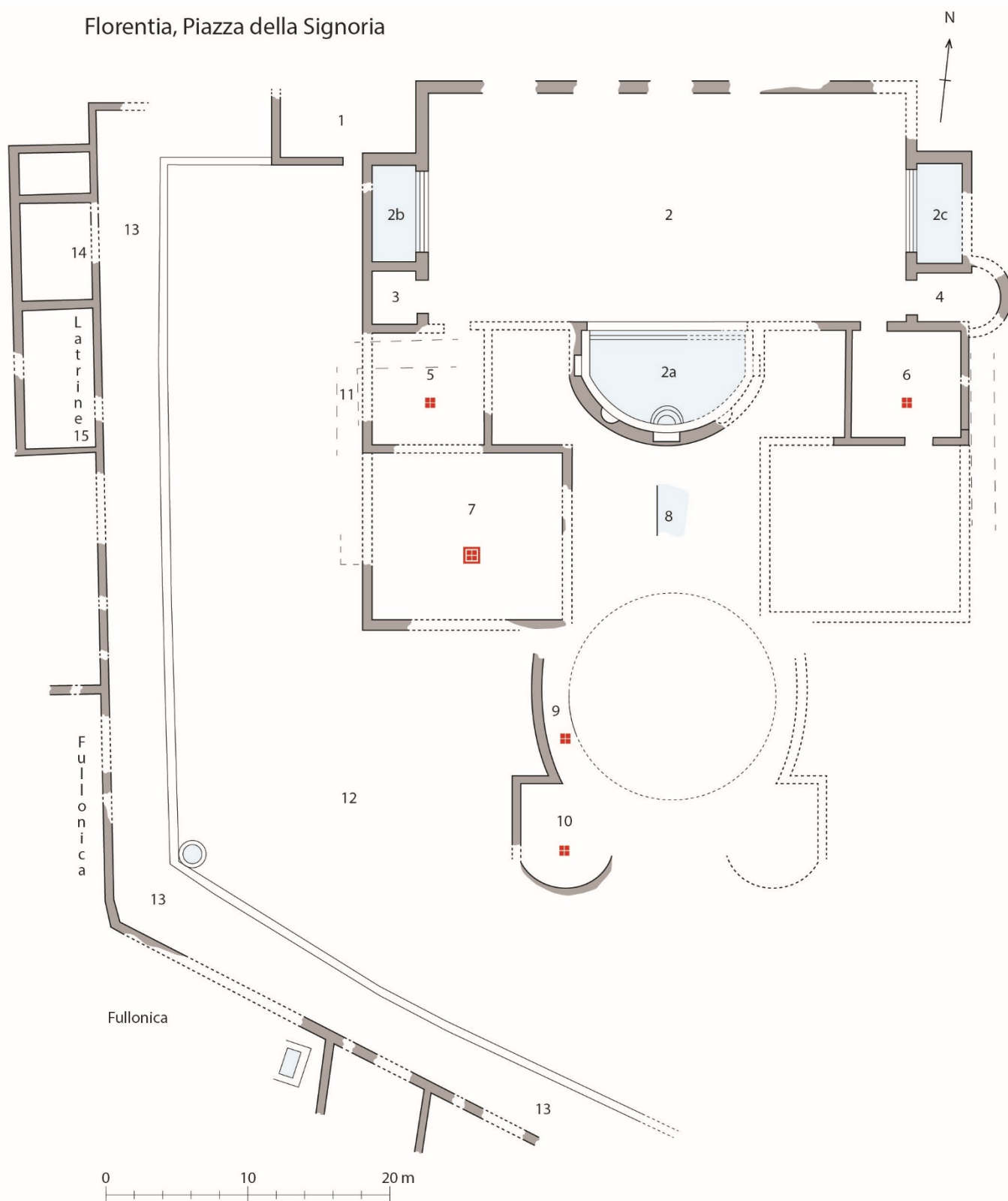


Figure 251: Plan of the baths of Piazza Signoria in *Florentia* (after SCAMPOLI 2007b, fig. 31; SALVINI, BIANCHI & BUENO 2019, fig. 1).

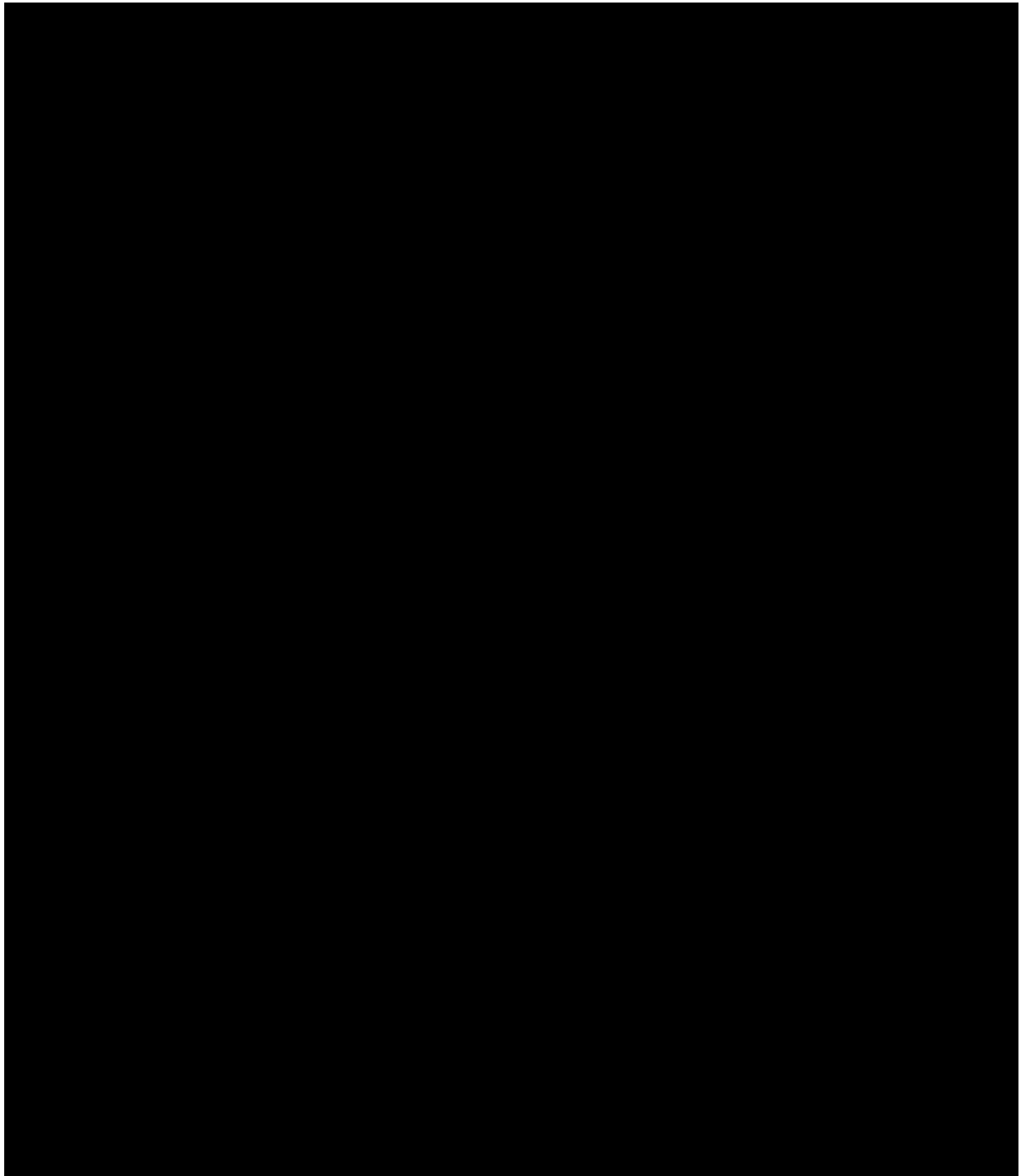


Figure 252A–F: Baths of Piazza della Signoria in *Florentia*. **A:** general view of the excavations in 1987. **B:** axonometric view of the 1974 excavation, from S. **C:** pool R2a, from SE. **D:** communication between R10 and R12, from NW. **E:** R7, from W. **F:** Tank R8 (A, D: SALVINI, BIANCHI & BUENO 2019, fig. 6, 9; B–C: SCAMPOLI 2007b, fig. 29, 31; E: SHEPHERD & SABELLI 1989, pl. 112.2; F: SHEPHERD 2014, fig. 8).

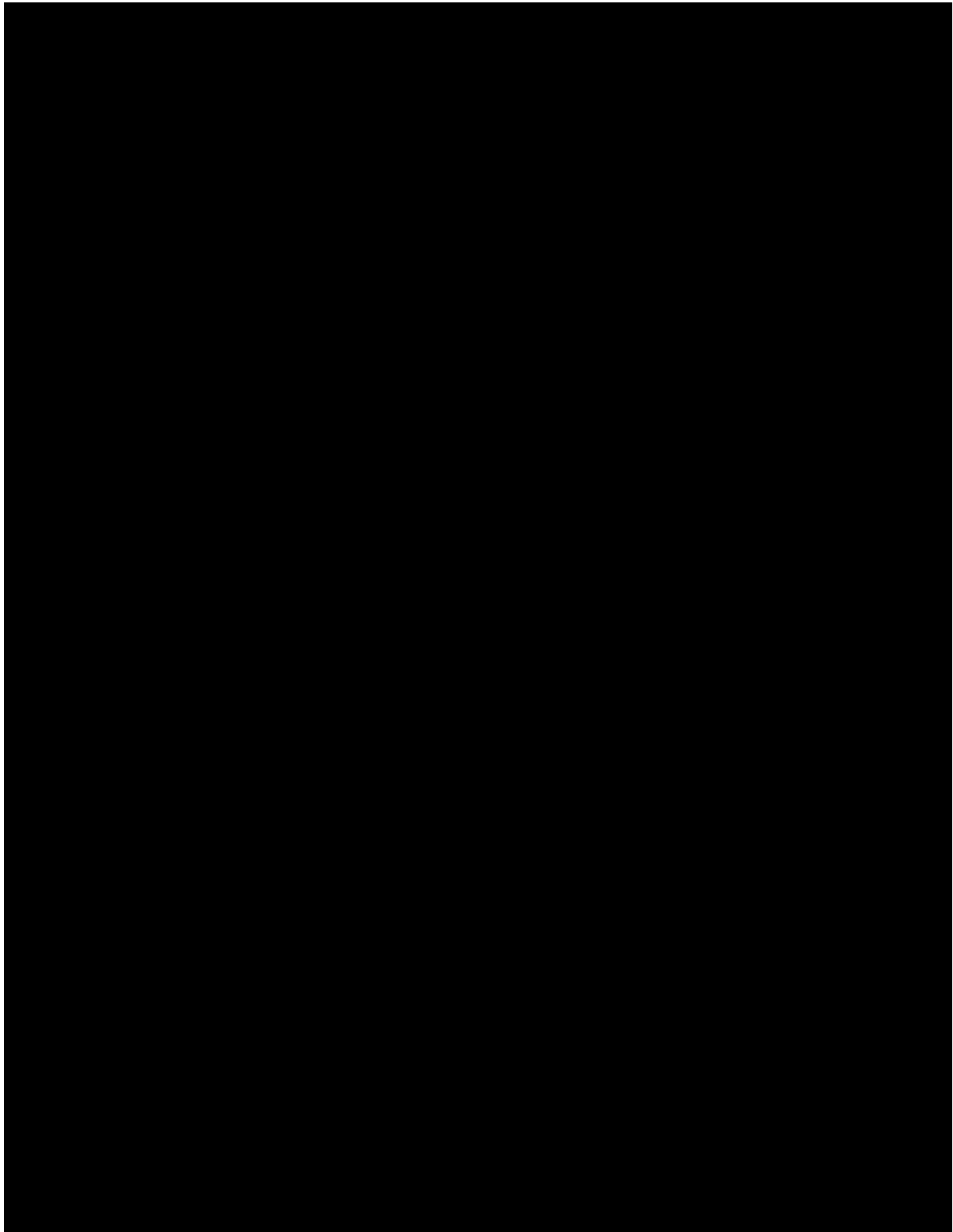


Figure 253A–F: Baths of Piazza della Signoria in *Florentia*. **A:** service gallery under R5, from W. **B:** service gallery R11, from S. **C:** NE corner of R7 during excavations, from N. The wall heating system, marble decoration, and remains of the roofing system are visible. **D:** Marble floor in R7. **E:** Elements of the vaulting system of R7. **F:** Artist’s reconstruction of the roofing system in R7 (A, C–D: SALVINI, BIANCHI & BUENO 2019, fig. 10–11, 14; B: CAPECCHI 1996, fig. 18; E–F: SHEPHERD & SABELLI 1989, fig. 2–3).

1 – Location

1.1 – Province and Comune of Pisa

1.2 – 10.401947 E, 43.722304 N

1.3 – In the NE part of the city, in a meander of the river *Auser*, in a residential area mid-way between the possible forum ca. 400 m to the W (now Piazza Duomo) and a probable amphitheatre ca. 200 m to the E. Now in Largo del Parlascio, next to the Porta a Lucca, one of the gates in the medieval city walls.

2 – Preservation

2.1 – Variable. R3, R6, R8–R10, R11–R18 are in large part under modern roads. Only the S limit of the baths is known. In elevation, vaulting preserved in R1, walls preserved up to the springing of vault in R2, for min. 1 m in R4–R5, R7 (some of it restored). Restored following the 1940s excavations.

2.2 – Part of an archaeological area

3 – Research

3.1 – Remains long known, associated without grounds with the name of Nero since the 13th cent., and identified as a bath building in 16th cent. when first excavations took place (Robortelli), focusing on the octagonal room R1. Further excavations in 1881–1883 by Lupi (R6, R8 to R11, R17–R18), small trenches in 1906 (along via Maffi, possibly part of R8–R10 or further W) and 1913 (part of heated room, possibly R6 or R8–R10; dir. Minto), then excavations in the 1940s by the Soprintendenza di Pisa. A small trench W of R1 in 1988, and excavations focusing on the N part of R4, R12–R13 from 2017 onwards (dir. Gualandi, Università di Pisa, Comune di Pisa, Soprintendenza SABAP Pisa–Livorno).

3.2 – Visited in March 2016

4 – Dimensions

More than 1,600 m², probably up to 2,500 m².

5 – Chronology and phasing

5.1 – I: Various dates between 2nd half of 1st cent. AD and 2nd cent. AD, based on CT, T, S. State of the question in CAMPUS 2016, 224–231. All rooms were part of this single architectural project.

?: early 2nd half of 2nd cent. AD expansion/restoration (Inscription no 1)

?: either at same time as construction phase I, or at a later stage (same CT as I)

- Blocking of two niches in R3
- Door between R4–R5 blocked
- Two non-contemporary walls in R11 (mentioned by Lupi)
- Narrowing of passages in R5
- Blocking of hypocaust passage R6–R4
- Redecoration, at least of R4 and R5

Public baths are mentioned in the *decreta pisana*, dated AD 2–4 (CIL XI.01421 = EDR142467; SEGNNI 2011), but cannot refer to these baths for chronological reasons.

5.2 – Not precisely dated, but before 6th cent. AD when baths were used as graveyard, before being incorporated into city walls in same century. Later, baths reused as houses, stables, kiln, garage, barn, warehouse etc. during the Middle-Ages and Modern period.

6 – Description of the remains and identification of rooms

6.1 – Out of some 18 rooms, the full plan of only 6 is known, and only the S boundary of the baths is known. The excavated rooms are arranged to the S and W of a large room (R4), with the heated sector located to the SW and W (fig. 254–255A).

R1 (fig. 255B–E, 256A–E): octagonal heated room (6.80 m inner medium diagonal) inscribed in a square, four niches in the corners (2.40 m wide). Covered by a dome. Two passages, to N and S. Heavily restored, including the blocking of two passages, to the W and E, respectively opened in the 16th and 19th cent and visible on archival plans. Marble veneer on walls. **R2** (fig. 256A–B): ca. 4.50 x 3.70 m, transition room between R1, R11 and R4. Covered by a cross-vault. Window to R4 in E wall, 1.50 m high, 0.70 m wide (possibly pierced in post-baths phase?). Marble slabs on walls and floor. **R3**: Only partly visible nowadays, 10 x 7 m with a 1.50 m opening on W wall (from 1940s plans). Originally closed to the W (wall lost) and N, but the W wall did not appear on plans after 1942. Niches on E wall, one rectangular and one semi-circular, blocked up at later stage. Walls originally veneered with marble slabs. **R4** (fig. 255B–C, 256B, G): largest known room of the baths, 25 x 15 m. Large pilasters in corners and along E and W walls, probably to support tripartite vault. Niches on W wall, alternately rectangular and semi-circular, ca. 5 m above floor and 2.80 m distant; possibly mirrored on E wall. The N niche, set above the passage into R2, was topped by a relieving arch. W wall restored, including blocking of door into R1 pierced in 18th cent. Accessible from R5, led into R16, R6, R7, R2, and, to the N, to R12, R13 and R14 via a 4.40 m wide central opening and two 1.90 m wide lateral openings. Marble slabs on floor and walls. **R5** (fig. 256F): 12 x 6.6 m, accessed from R17 via ca. 4 m passage, led to R4 via 2.56 m passage (threshold, limestone jambs *in situ*), later narrowed by 0.26 m addition. Passage towards R16 narrowed by 0.75 m; passage to R6, 2 m, blocked later. Marble slabs on floor and walls. **R6**: 16 x 12 m, heated room. S wall equipped with four large pilasters, probably to support the vault. Communicated with R4 and R7, and initially with R5 (blocked later, fig. 258F). **R7** (fig. 255D): square heated room, 6.50 m on the side, communicated with R1 (1.50 m wide, ca. 4.50 m high door), R4, R6, probably with R8 (1.90 m door). Heavily restored. Limestone slabs on floor and walls. **R8–R9–R10**: three rooms,

known only from Lupi's description. R8 was probably heated, based on the proximity to the service corridor R18; R9 as well, considering its position next to R1 and R8; and R10 too, based on its location and orientation to the SW, separated from the cold rooms by other heated rooms. Lupi mentioned a communication between R8 and R9 based on the remains of an arch made of *bipedales* in collapse position against the dividing wall. A trench dug in 1988 uncovered a 5 m long stretch of wall, E–W oriented, preserved 1.80 m high, brick-faced concrete, which could be one of the walls of R8–R9–R10. **R11**: room to the NW of the complex and accessed from R2; mostly unknown. Large SW and SE corners. Ca. 17 m E–W from plan. **R12–R13–R14**: three rooms along the N side of R4, of which little is known. R12 (ca. 2.50 m E–W from plan) excavated since 2017. Virtually nothing is known of **R15** and **R16**, located in the E part of the baths and accessible from R4. **R17**: entrance corridor, not visible anymore, possibly added at a later stage as W wall was said to lean against S wall of R5. Arch made of *bipedales* in W wall, possibly a relieving arch for a channel passing underneath. **R18**: service corridor running along SW side of baths, along R6 and R8, at a lower level than the rest of the rooms. Ca. 1.60 m wide. Probably contained the *praefurnia* to heat these rooms. Fully preserved (including vault) when excavated, height to keystone 2.65/2.95 m.

6.2 – Functions: R1 has been interpreted as a *laconicum/sudatio* for its shape and because it was heated (see below). R2 was a transition space. R4 could be a *frigidarium*, possibly with a pool in R13 (see below). R5, preceded by R17, was the entrance to the baths, and perhaps served as *apodyterium*. R6, as a first heated room initially accessible directly from the entrance R5, was a *tepidarium* and could possibly have acted as *apodyterium* (the pilasters against the S wall could have contained shelves as in the baths of *Aquinum*, or windows were pierced in between them). R7, by its small dimensions and four accesses, served as a heat trap; it was suggested it could act as *destrictarium*. The functions of R8–R9–R10 are unclear; it has been tentatively suggested R8 was the *caldarium*, but based on the limited knowledge of the heated sector, R10 would be a better candidate (more architecturally elaborate, larger dimensions). R11 is too poorly known, but the corner piers suggest the room had a cross-vault and some degree of architectural elaboration, and could hypothetically be a candidate for *frigidarium* should R4 not be a *frigidarium*. R17 was an entrance corridor, and R18 a service corridor from which the *praefurnia* were operated. Unknown function for R3, R12 to R16, and R19.

Paths: Several paths were possible, but the limited knowledge on the heated sector and on the position of the *frigidarium* prevents conclusive reconstruction. A traditional path would be entrance/*apodyterium* R5 – *frigidarium/palaestra* R4 – *apodyterium/tepidarium* R6 – heat trap R7 – either *laconicum/sudatio* R1 or heated rooms R8–R10 – back to *frigidarium* (R4 or other). A shorter route to the *laconicum/sudatio* R1 was possible, from R4, with entry via R7 and exit via R2.

Function and heating of R1, and E–W channel from R1 into R4: from the earliest studies on the monument, R1 was interpreted as a *laconicum/sudatio*, on the argument of its shape and by comparison with examples from *Pompeii*. The main issue with that identification, however, is the apparent absence of *praefurnium* in a room that would in theory have required direct

heating to reach a high temperature. In lower part of E wall of R1 was a relieving arch, connected to a channel going E, crossing R4. Interpreted alternately as a heating channel or as water disposal channel, for water collected from the roofs. Campus insisted on the fact that there was no evidence of a connection with the drainpipes from the roof, but that the channel did open in the hypocaust, so it was more likely that it was connected to the heating system. An arrangement with a *praefurnium* to the E of R4 heating R1 via a 15 m channel is highly unlikely, as most of the heat would have been lost along that channel. An alternative interpretation for the function of this channel could be that it was connected to water disposal: since the water table was high and the river very close, it could have served to dispose of large quantities of water in case of high water. There is no evidence to support this hypothesis beyond the fact that the area, in a meander of the river *Auser*, was prone to inundations (FABIANI *et al.* 2018, 53). Back to the heating of R1, a *praefurnium* in R4 would be more sensible in terms of location, but unlikely considering the function of R4 (even though a *praefurnium* in a large courtyard used by the baths is known from *Septempeda* [Ma.09]). More sensible would be to reconstruct a *praefurnium* heating R1 from the W, in R9, but no traces of such installation are visible (the W wall was heavily restored) or recorded in the archival documentation (a door had been created in the W wall in the 16th cent., erasing possible traces of a *praefurnium*). A hypocaust passage between R4 and R6 seems to have been planned but blocked immediately during the construction (fig. 258A). Perhaps R4 initially played a role in the heating system?

Function of R4: long understood as an unroofed room and interpreted as *palaestra*. Campus proposed a different reconstruction in which the room was roofed with a central cross-vault and two lateral barrel-vaults (see 7.3), based on evidence from the thickening of the long walls in specific points, the decoration (see 10.1), and typological comparisons; he interpreted it as a *frigidarium*. The marble floor decoration certainly pushes the interpretation away from *palaestra*. The main issue with that interpretation is the absence of a cold-water pool; Campus suggested it could have been located in R13, and ongoing excavation in this area may eventually answer that question.

7 – Construction techniques and materials

7.1 – No information available.

7.2 – Ca. 0.60 m thick walls (1.05 m for R6 S wall) in concrete faced with alternating courses of bricks and stone blocks (ratio 2:3, fig. 257B–C). The lower part of the walls and the quoins were faced entirely in brick courses; in R2, S wall faced in brick up to 4 m, then alternance brick/stone (fig. 257B–C). Levelling courses of *bipedales* going through wall (fig. 257B), either whole or cut (measured: 0.20 x 0.59 m; 0.35 x 0.58 m), ca. 2.70 m apart.

Bricks from local workshops, not further than northern Etruria (use of a silty clay characteristic of the ceramic production of the Arno valley (MENCHELLI 1986)). Brick thickness 3.8–4.8 cm. Visible length in facing between 13 and 31 cm (grouped in several clusters, most commonly 20–22 cm and 25–27 cm), indicating they were cut from *bessales*, *sesquipedales* and *bipedales*.

Bipedales used for a series of relieving arches above openings (segmental arch and semi-circular arch above passage from R1 to R7; passage R2 to R4, channel R1–R4).

Blocks made of *panchina*, a whitish sandy local calcarenite (fig. 257D). Carefully squared, L 13.5–30 cm, T 7 cm (most commonly 20 x 5/7 cm).

Whitish, hard lime-based **concrete** with reddish and grey inclusions, including *pozzolana* from *Latium* (fig. 257D) and sand from the Arno and *Auser* rivers. Three types of stone used as *caementa*, from nut to fist size, on top of occasional terracotta fragments: mainly grey calcilutite (probably from local quarries); white-pink and grey-pink limestone from the Monte Pisano; *panchina*. Thickness of joints 0.8–2.2 cm (stone courses: 1.5–3 cm-, vertical joints 1.2 cm thick (stone courses: 0.5–1.5 cm); joint either scored or left flush.

Putlog holes in NW, NE and SE niches of R1, and in W wall of R4 (4 preserved), 9 x 9 cm.

7.3 – R1: concrete segmental umbrella dome (fig. 257F), 0.41 m thick at crown, with eight rectangular openings (ca. 0.95 x 0.73 m) framed with bricks around a central oculus (ca. 2.20 m diam.). Springing of the vault at 6 m above floor. **R2:** cross-vault (remains of springing, fig. 257C), ca. 5.10 m above floor. **R18:** segmental vault, made of tuff and lime (concrete?), 0.35 m thick.

Campus proposed a model of the vaulting solutions of the different rooms (fig. 257A). In **R4**, corner pilasters supported a central cross vault and two lateral barrel vaults. **R5**, probably barrel-vault. In **R6**, barrel vault, with S wall reinforced with four large pilasters. **R7:** probably cross-vault. **R8–R9:** probably barrel-vaults. **R10**, probably cross vault (thickening of corners).

8 – Heating devices

8.1 – No direct evidence. *Praefurnia* heating R6, R8 and R10 were probably operated from R18. Mention of two 0.80 m openings in the W wall of R6, interpreted as *praefurnia*. Two openings seem much for a *tepidarium*, and are too large for a normal *praefurnium*; it is possible that stone slabs reduced the width of the openings.

8.2 – R1, R6 and R7 were heated (fig. 258A–C), R8, R9 and R10 were probably heated too.

Area of *bipedales* (R7) or tiles (R6, measured at 0.60 x 0.48 m, 2.5 cm thick), the latter on a layer of mortar and a lower layer of rough stones (total thickness 0.42 m). 0.60 m high *pilae* made of *bessales*, 0.60 m distant interaxle,¹⁹ supporting *suspensura* of *bipedales* covered by 18 cm layer of *cocciopesto* (fig. 257E) with inclusions of *pozzolana* and 12–15 cm layer of mortar, then decoration. Brick-faced walls in the hypocausts, protected probably by *bipedales* (R6, from archival pictures, and R7, from 1942 excavation notebook) set vertically against them. In the hypocaust of R6, the stretch of wall in correspondence of the NE passage towards R4 seems to have been added at a later stage.

¹⁹ The notebook from the 1942 excavations indicated the *pilae* were distant 0.40 N–S (i.e. 0.60 m interaxle) and 0.20 m E–W, which is unlikely. If that was the case, the *pilae* should have supported 0.40 x 0.60 m tiles, whereas the remains of the *suspensura* visible in R1 are clearly *bipedales*.

Wall heating: rectangular-section *tubuli* (2 measures: 9 x 13 cm and 16 x 10 cm, 1 cm thick, possibly 40 cm long) covered by 3–4 cm thick *opus signinum* layer, 8–9 cm thick mortar layer, then decoration. Preserved against E wall of R7 and in NW, SW and SE niches of R1. No *tegulae mammatae*, unlike what was indicated in Pasquinucci–Menchelli 1989, who mistook the hypocaust wall protection for *tegulae mammatae*.

9 – Water management

9.1 – Water could have been supplied to the baths via the aqueduct coming from Monte Pisano, N of *Pisae*, of which some arches were preserved near Caldacoli (N of Pisa) and next to *Porta a Lucca*. The construction technique of the aqueduct was similar to that of the baths, and brickstamps from its walls connect it with the *Venuleii Aproniani* family (PASQUINUCCI & MENCHELLI 1989). It has also been suggested that water could have been tapped from the river *Auser*.

9.2 – No evidence of pools or water-consuming facilities.

9.3 – Several drainpipes (fig. 258D–E) in recesses in the perimetral walls of R1: in NW corner of R7 (no traces left); in SW corner of central part of R4 (recess 0.35 m wide, 0.32 m deep); in SE and SW corners of R2. Pipes 0.18–0.22 m diam. Further drainpipes in NW corner of R4 (semi-circular recess 0.19 m wide, 0.11 m deep, probably dug in secondary phase), SE corner of R4, NW corner of R5 (square section recess, 0.30 m on the side). Recesses covered by mortar and (fragments of) large CBM. In R2, the pipes flowed into two underground channels roofed with tiles *a cappuccina* running westwards under R11.

It is probable that the water was eventually disposed of in the *Auser* river that passed next to the baths.

10 – Decoration and material

10.1 – Only marble or limestone slabs recorded as decoration (fig. 258F–G), on floors and walls of R2, R4, R5, R7, and on walls of R1 and R3. Traces of iron/bronze clamps on the walls of R2, R3, R4, R5, R7.

R1: wall veneer made of slabs of non-Italian marble, 0.37 m on the side. **R4** (fig. 258G): floor divided in three zones: a central square (side 15 m) floored with square slabs (side 0.90 m) framed by listels. To N and S, two 4.5/5 m wide sections floored with rectangular slabs (ca. 0.75 x 0.65 m) framed by listels. Slabs of pinkish limestone from Monte Pisano, listels of whitish calcareous breccia from the Apuan Alps. **R5** (fig. 258F): from pictures, floor covered with square slabs (side 0.40/0.50 m) of *breccia* from Monte Pisano, framed by listels of marble (possibly verde antico); limestone moulded cornices framing opening to R4. Marble veneer on walls, including on blocked passage to R6. **R7**: floor covered with slabs of red limestone from Monte Pisano (based on a fragment found in the room) or of ‘marmo brecciato di Filettole o Vecchiano’ (Aussant notebook). Wall veneer of pink limestone slabs.

10.2 – Mention of marble slabs, *unguentaria*, coins, lead *fistulae* found during 1883 excavations, and of fragments of fluted columns and statues, found during early 20th cent. excavations. In

2017, found plaques with vegetal motives, breccia corallina and Greco scritto (fig. 258H). In R6, two large squared blocks of limestone from Monte Pisano (0.90 x 0.76 x 0.39; 0.79 x 0.45 x 0.28). Two inscriptions:

Inscription no 1 = inscription [E52] in catalogue

CIL XI.1433 = *InscrIt* VII, 1, 17 = EDCS-20402903

Two fragments (one now lost), marble *tabula*, found in 1882 and 1883 in the area of the baths, along S wall of R6?

H 0.80 m, W 0.83 m; letters: l1: 5.5 cm; l2–4, 8: 5 cm; l5: 6.3 cm; l6–7: 4.5 cm.

[L(ucius) Venuleius L(uci) f(ilius) Apronianus /
 IIIvir a(ere) a(rgento) a(uro) f(lando) f(eriundo) praef(ecto) ur(bis) feriar(um) Lat(inarum)] /
 [au]g(ur) q[uaestor praetor leg(atus) leg(ionis) primae] /
 Italicae [co(n)s(ul) sodalis comes Augustalis?] /
 Hadriana[lis leg(atus) Aug(usti) pr(o) pr(aetore) prov(inciae) Hispaniae] /
 Citeriori[s praetor Etruriae? ---] /
 cum Venu[leiis, vel -leia ---] /
 et propriis et redemp[tis finitimis agris? ---] /
 et opere usque in alv[eum Auseris producto? ---] /
 thermas p(ecuniae) s(ua) [amplavit? ---]

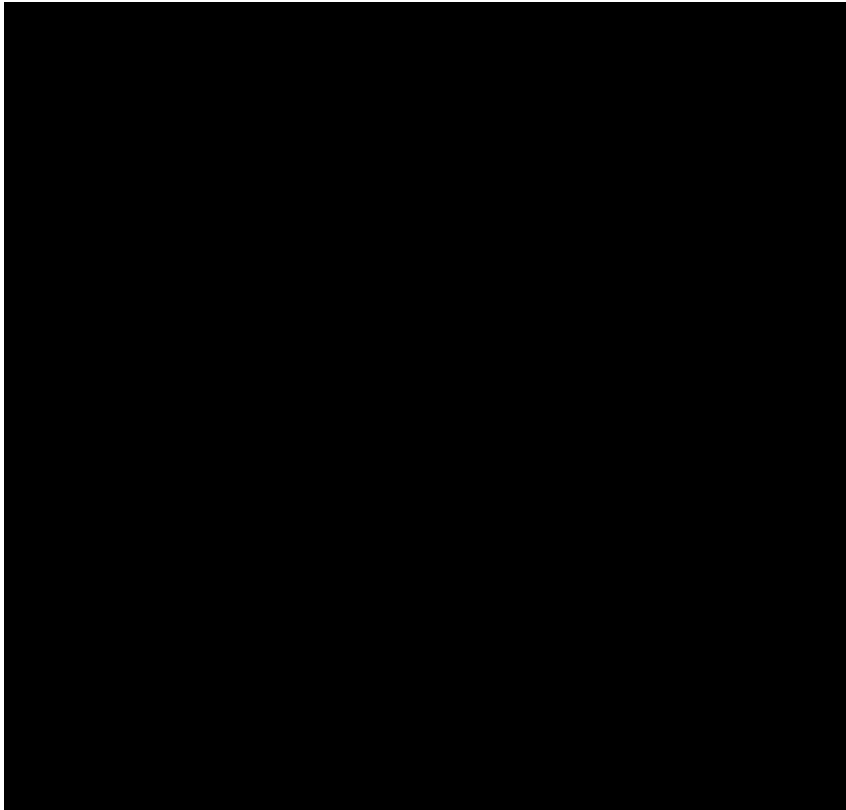
The inscription commemorated the enlargement or the refurbishment of the baths by a member of the *Venuleii* family, identified as L. *Venuleius Apronianus Octavius [Priscus]*, with his own money, and presumably with another family member. The main benefactor is known from CIL XI.1432 and had been *legatus Augusti pro praetore* in *Hispania Citerior* (AD 149/152-168), *consul* for the 2nd time in AD 168, *sodalis Hadrianalis* and *sodalis Antoninianus Verianus*.

The *Venuleii* were the most important family in *Pisae* from the mid-1st cent. AD until end of Antonine period. Members of the family appear together on a lead *fistula* in the baths of the villa of Massaciuccoli (CIL XI.1433a) and on an inscription in Valdegola (CIL XI.1735).

The nature of the benefaction cannot be clearly determined, but seems to have involved the donation of some of the benefactor's land. The expression *usque in alv[eum---]* has been understood as 'until the basin', referring to modifications to the water adduction system. Alternatively, it could have meant 'until the river (bed)'; since the baths were in a meander of the river *Auser*, this could have indicated an extension in the direction of the river (i.e. from N/NW to NE/E)

Dating: Between AD 149/152 and AD 168 (Vallebona); AD 161-180 (EDCS, Engfer)

See also: VALLEBONA 1989; ENGFER 2017, 380 (with further bibliography)



Inscription no 2

InscrIt VII, 1, 17

One fragment, *Luni* marble, found in the area of the baths during the 1940s excavations

[---] R A A [---] /

[---] AETO [---] /

[---] V [---]

Possibly referred to the positions of *triumvir aere argento auro flando feriundo* and *praetor*. The inscriptions could refer to the benefactor of inscription no. 1 (*consul* II AD 168), but could also apply to the consul of AD 123.

2nd cent. AD

See also: LIOU 1969, 25; TORELLI 1971, 492; VALLEBONA 1989, 22

Picture if available (or at the end of catalogue entry)

Inscription no 3

CIL XI.1439 = *InscrIt* VII, 1, 21 = EDR158063 = EDCS-20402911

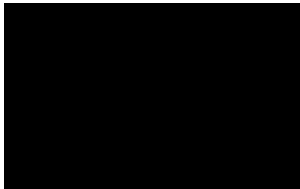
One fragment, marble *tabula*, found during 1880s excavations along S wall of R6

H 23.5 cm, W 30 cm, T 4.5 cm; letters 4.5–3.5 cm

[- - - Re]stituto [- - -]
[- - - a]diutori p[- - -]
[- - - patr]ono et qu[- - -]

2nd cent. AD

See also: LUPI 1885, 47

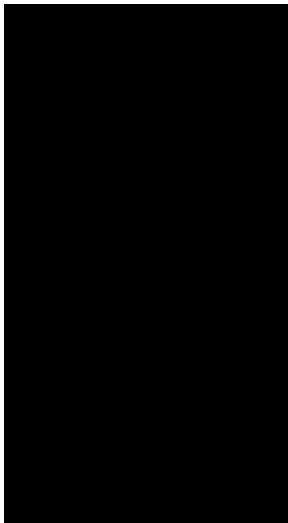


Inscription no 4

LUPI 1885, 46

One fragment, stone, found during 1880s excavations along W wall of R17

Fragment of a *cippus*



Inscription no 5

LUPI 1885, 46

One fragment, stone, found during 1880s excavations in the 'strato asciutto del corridoio'



11 – Bibliography

Monograph on baths: PASQUINUCCI & MENCHELLI 1989

REDI & ROSSETTI PEPE 1991, 26–27, 98; YEGÜL 1992, 387–389; CIAMPOLTRINI 1993b, 430–431; FABIANI, GHIZZANI MARCÍA & GUALANDI 2013, 173–174; CAMPUS 2015; 2016; FABIANI *et al.* 2018; FABIANI, GUALANDI & CAMPUS 2019

Not consulted: FIORELLI 1883; LUPI 1885; ROCCATELLI 1938; BANTI 1947 (quoted in Redi 1991, note 9); NEPPI MODONA 1953; PASQUINUCCI 2008 (quoted in Campus 2016, note 68); BUENO 2011; MAPPAGIS dataset, entries 312–313, 315–318, 404, possibly also 9, 276, 314, 403.

12 – Illustrations

PASQUINUCCI & MENCHELLI 1989 (84 figures of all types); REDI & ROSSETTI PEPE 1991, fig. 15–18 (pictures); YEGÜL 1992, fig. 479 (plan, section); CAMPUS 2015, fig. 1 (picture), 2 (plan), 3–7 (reconstructions); CAMPUS 2016, fig. 1–2, 12 (plans), 3–5 (pictures), 6 (reconstruction); FABIANI *et al.* 2018, fig. 5 (city plan), 7 (picture), 8, 10–14 (plans), 9 (3D model), 15 (decoration); FABIANI, GUALANDI & CAMPUS 2019, fig. 1, 6 (plan), 3, 5, 7–9, 13 (pictures), 4, 11 (city plan), 10 (material), 12 (3D model)

Archival material: SBA TOSCANA 1940; SBA TOSCANA & AUSSANT 1942a; 1942b; SBA TOSCANA 1947; SBA TOSCANA & MAGGIANI 1988

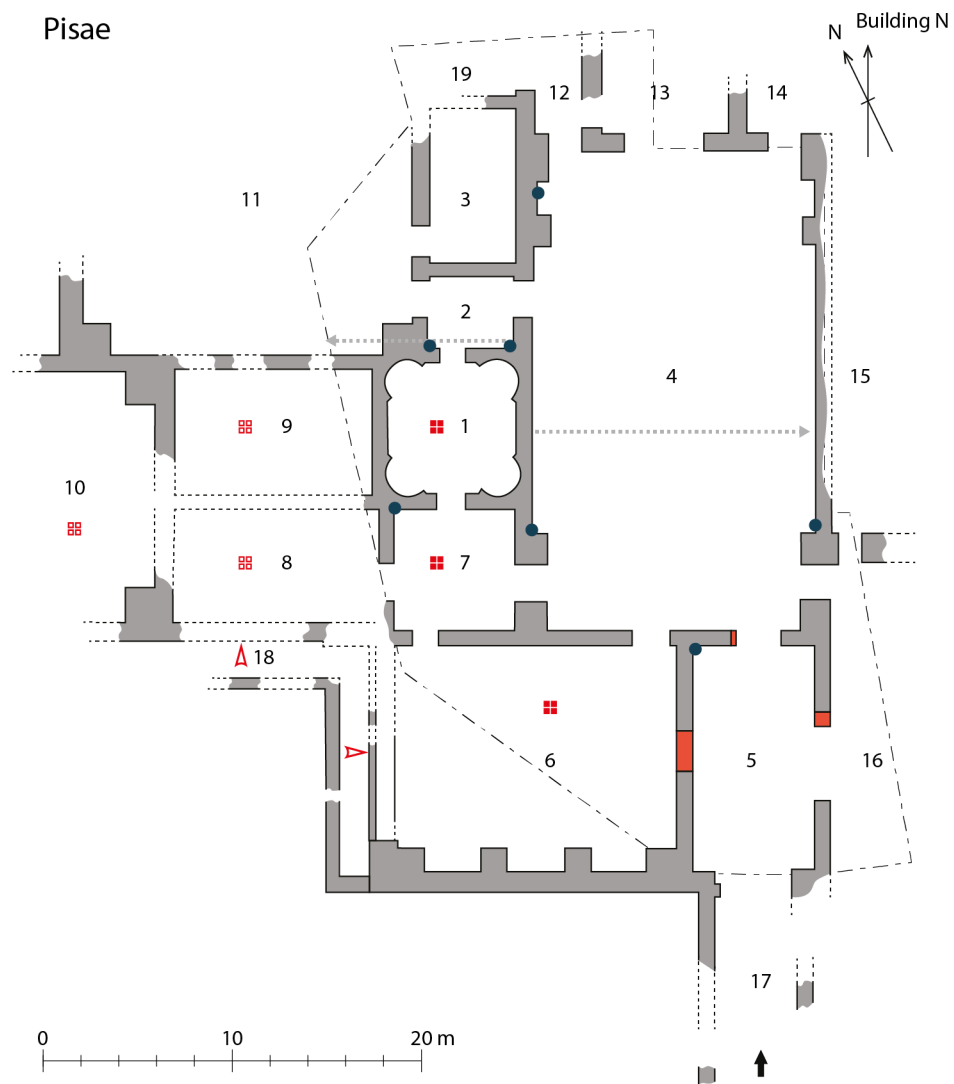


Figure 254: Plan of the baths of *Pisae* (after PASQUINUCCI & MENCHELLI 1989, fig. 18; FABIANI, GUALANDI & CAMPUS 2019, fig. 6).

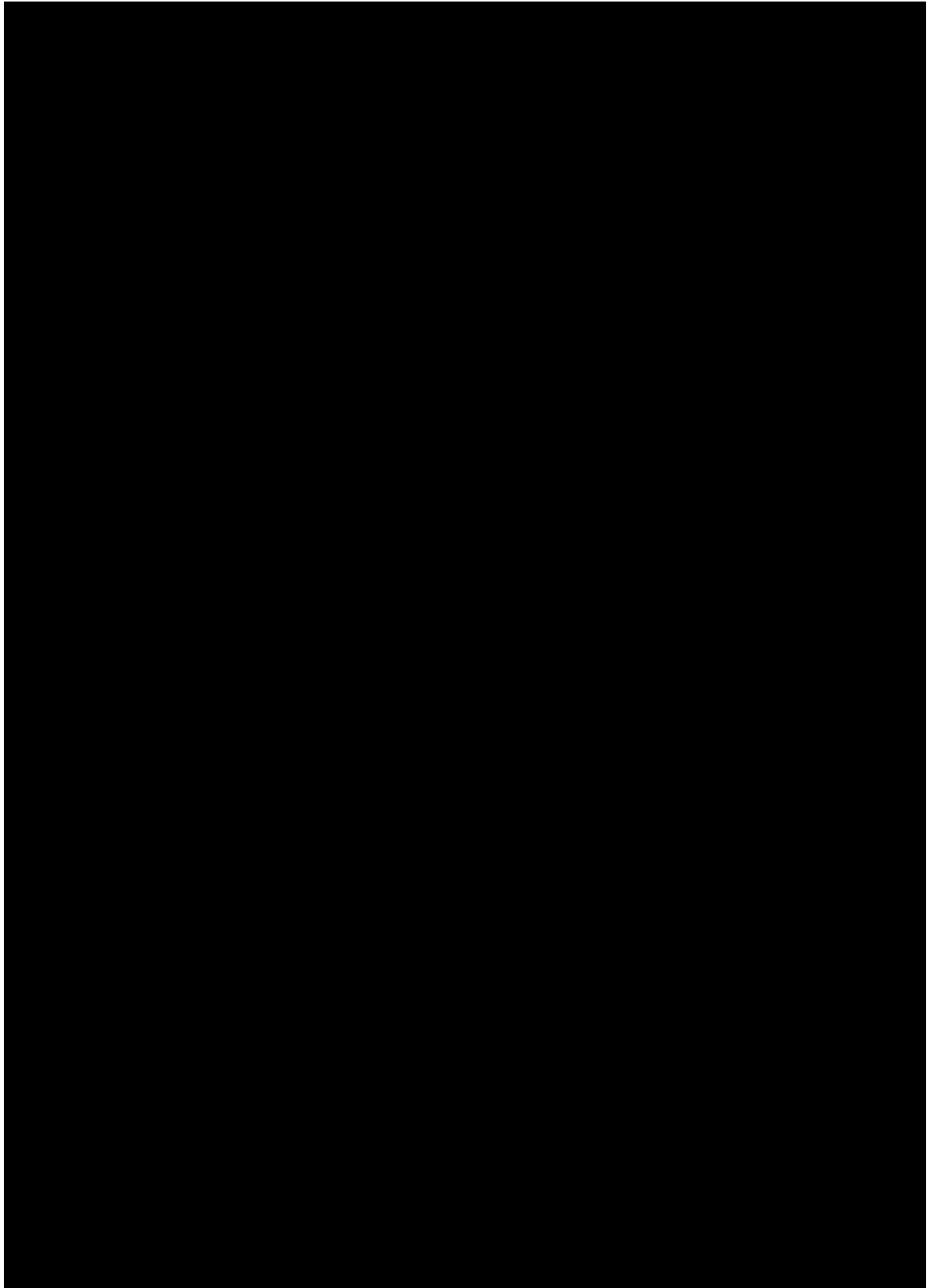


Figure 255A–E: Baths of *Pisae*. **A:** aerial view. **B:** R1, E outer side, from E. **C:** proposition of reconstruction of the original aspect of the outer E side of R1. **D:** R1, S outer side, from S. **E:** R1, W outer side, from W. The 16th opening, blocked during the 1940s restoration, is visible (A: Google Maps, data 2020; C: CAMPUS 2016, fig. 6).

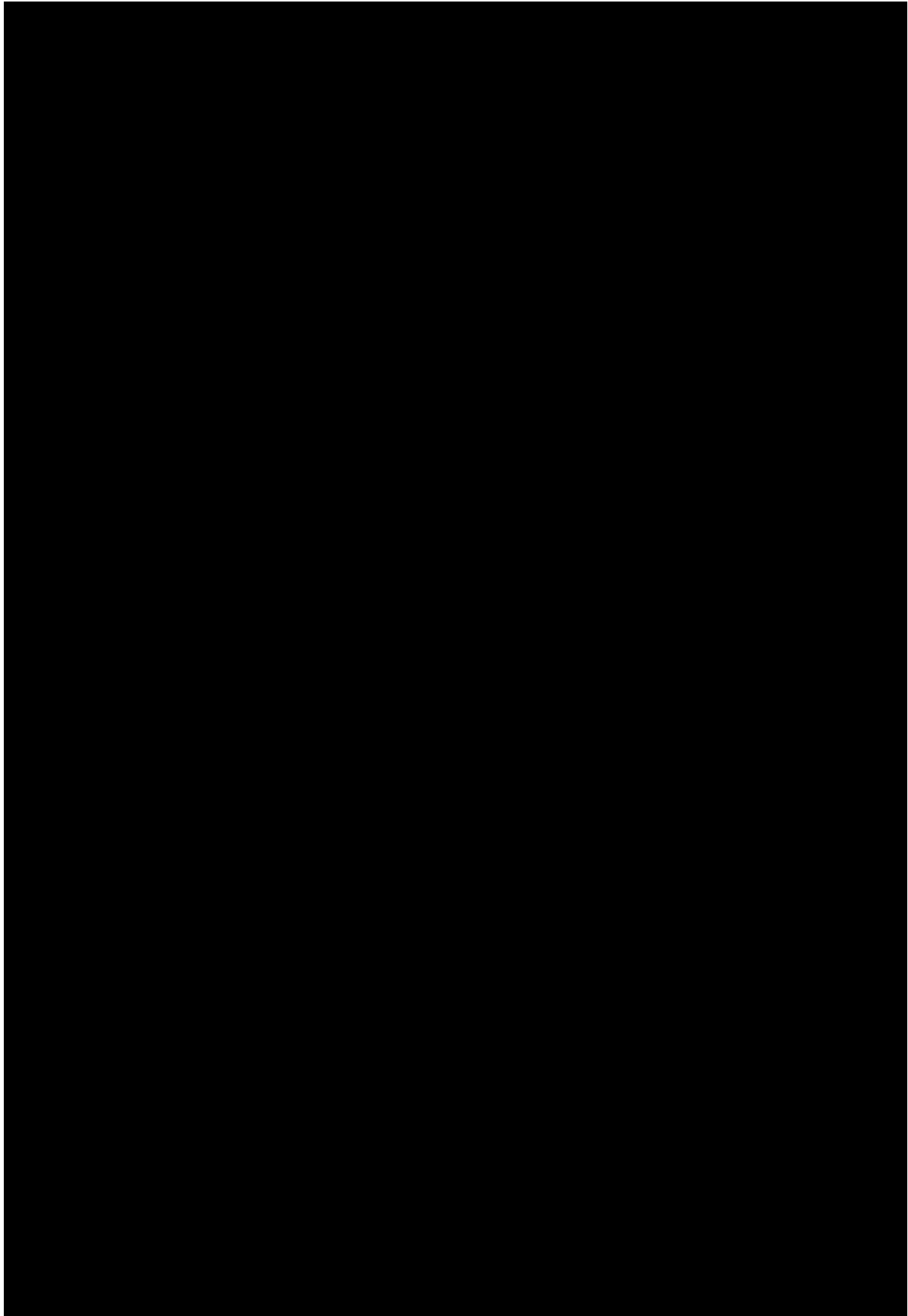


Figure 256A-G: Baths of *Pisae*, views of individual rooms. **A:** R1, N outer side, from N. **B:** general view from NE. The pilasters along the long walls of R4 are visible. **C–E:** R1, views of the E wall and niches, from SW, W, NW. **F:** R5, from S. **G:** S part of R4, from E.

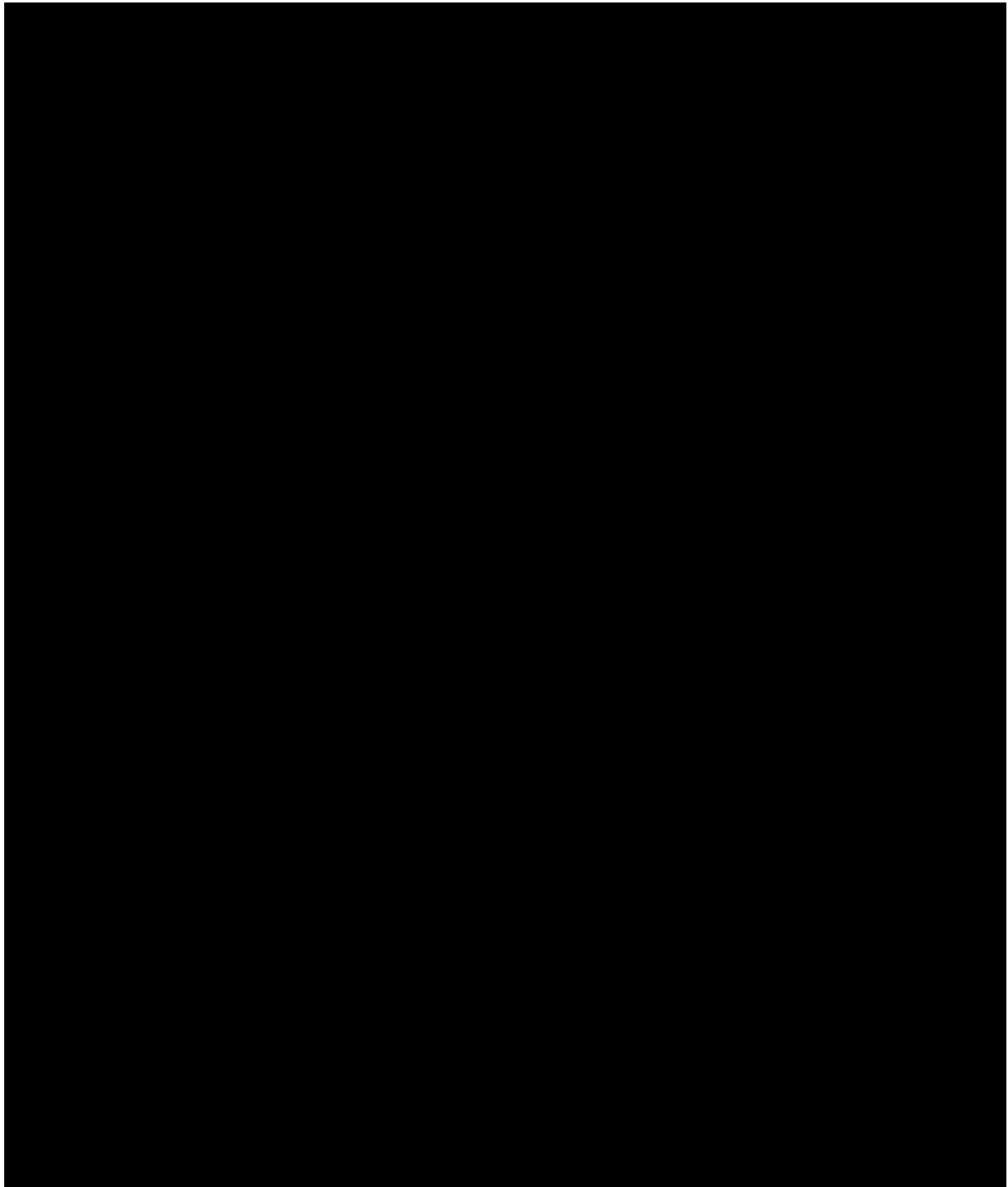


Figure 257A–G: Baths of *Pisae*, reconstruction, construction materials and techniques. **A:** Proposition of reconstruction of the vaults and volumes of the rooms, by Campus. **B:** R2, SW part of the wall, brick facing. The arrows point at the levelling courses. From N. **C:** R2, S wall. Note the springing of the cross-vault, and the facing alternating 2 courses of brick and 3 of stone blocks. **D:** detail of the construction materials: blocks of *panchina*, mortar with inclusions of *pozzolana* indicated by arrow. **E:** close-up on the *cocciopesto* of the *suspensura* floor. Brick to the left side, mortar to the right. **F:** vault of R1, from N (A: CAMPUS 2015, fig. 5).

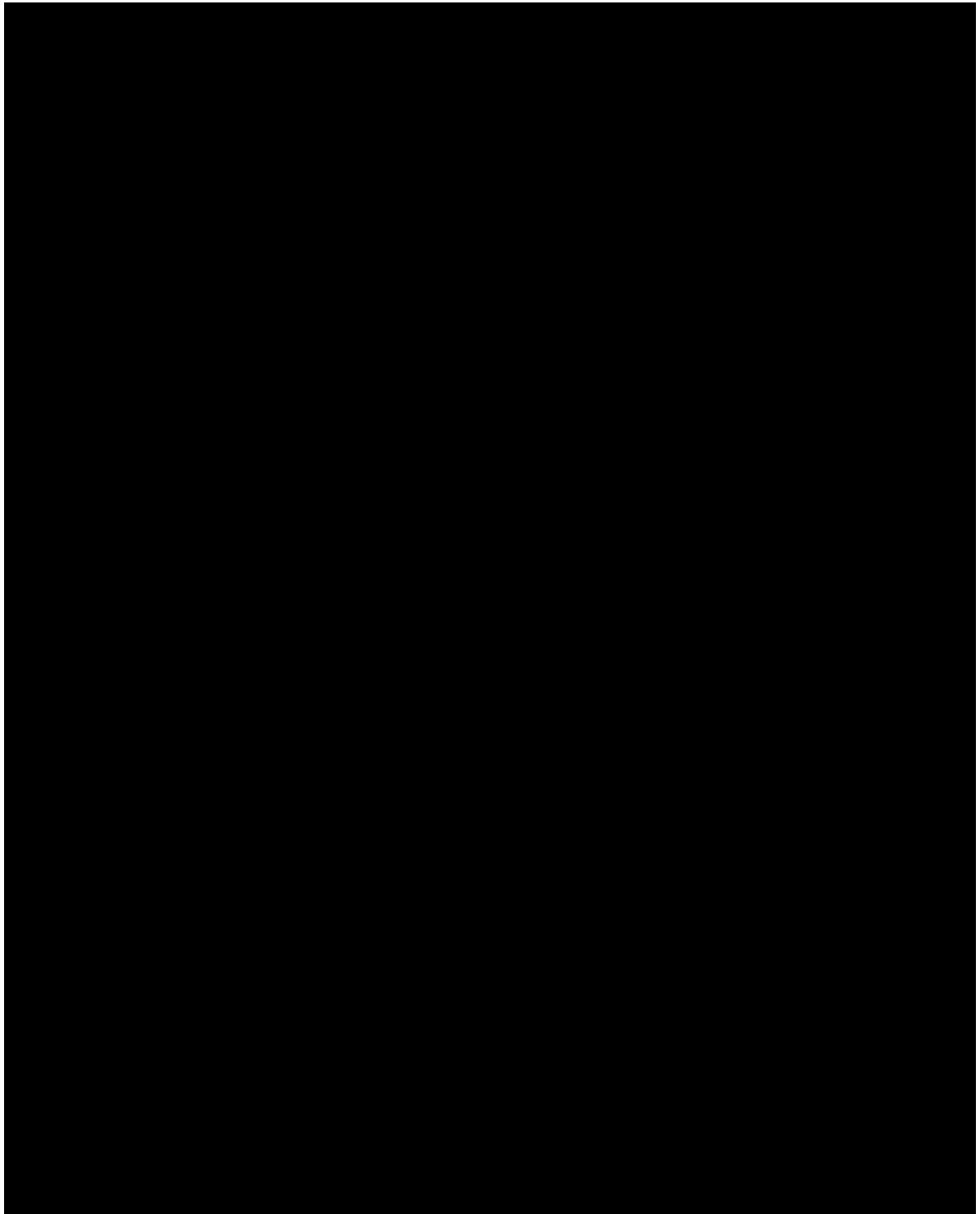


Figure 258A–G: Baths of *Pisae*, heating, water, decoration. **A:** hypocaust in NE corner of R6, from S. Note CBM against hypocaust wall. **B:** hypocaust in SW niche of R1. Note the *tubuli* against wall. **C:** remains of the *suspensura* floor, with layer of *bipedales* covered by *cocciopesto*. Now in R1. **D:** drainpipe in SW corner of R4. **E:** drainpipe in SW corner of R2. **F:** floor and wall decoration in R5, from E. Note the blocking of the passage towards R6. **G:** floor decoration in the S part of R4, from NW. **H:** fragments of marble decoration with vegetal motives, found during the 2017 excavations (A, H: FABIANI, GUALANDI & CAMPUS 2019, fig. 9–10; B: PASQUINUCCI & MENCHELLI 1989, fig. 44; F–G: CAMPUS 2016, fig. 3–4).

1 – Location

1.1 – Province and Comune of Grosseto

1.2 – 11.160462 E, 42.827495 N

1.3 – On the slope of the N hill of *Rusellae*, not far from the forum, in an area occupied since the 3rd–2nd cent. BC by residential units, obliterated by the construction of the baths.

2 – Preservation

2.1 – Good in plan. Elevation: hypocaust level in heated rooms, up to 1.20 m in other rooms (before restoration). Heavily restored in the 1970s, limited restorations in 2005–2006 (R5, R8).

2.2 – Part of the Area archeologica di Roselle, open to visits

3 – Research

3.1 – Discovered and first excavated in the early 1930s, then in 1942–1943 (R1 to R11). Excavations and restorations in the 1970s by the Soprintendenza alle Antichità dell'Etruria (R12 to T15), then further excavations in 1987–1991 by the Museo Civico of Grosseto (or the Museo Archeologico e d'Arte della Maremma) (dir. M.G. Celuzza)

3.2 – Visited in April 2016

4 – Dimensions

1,400 m², inscribed in a 48 x 52 m square

5 – Chronology and phasing

5.1 – I: 1st quarter of 2nd cent. AD (CT, S (mosaics), M (brickstamps))

Pre-bath phase: residential area

5.2 – 4th cent. AD

Structures reused as a church during medieval period (construction late 6th–early 7th cent. AD): some walls reused and raised, central pool (R8a) filled and covered with floor. Necropolis (late 6th–7th cent. AD, up to 12th cent.) in R5, R15 and further W. Addition of campanile (in R15) in 10–11th cent. AD.

After his structure was abandoned, a new bath building (Baths of *Arzygius*) was built further downhill, close to the eastern city gates (AD 366–370)

6 – Description of the remains and identification of rooms

6.1 – Due to the topography of the land sloping from N to S, the building took an L-shape, with the non-bathing rooms occupying the W part of the plot (oriented N–S) and the bathing

and heated rooms (oriented to the E–W) taking the N part. The SW area was possibly occupied by a porticoed courtyard (R15), and the SE area could have been an open-air area (R16) (fig. 259, 260A, 261D).

R1: elongated service area along NW side of baths. **R2** (fig. 260F): latrine, with channels along S and E walls (max 9–10 seats acc. to Medri & Celuzza). Small semi-circular niche in N wall. **R3–R4** (fig. 260C–D): two further rooms opening off R8. From plan: ca. 5.75 x 4.50/4.30 m (R3) and ca. 3.5 x 4.30 (R4). **R5** (fig. 261A–B): ca. 9.50 x 7.20 m, accessed from R8, led into R9 and heated sector. Rectangular niche on E wall (ca. 0.80 m deep), probably containing *labrum* or small basin (see 9.2–3). A distinction between the central part of the room and its N part may have been marked by wall sections projecting from the W and possibly E walls, and by the decoration (see 10.1, fig. 262F); it has been suggested that the N part contained a pool, mirroring pool R5a, but the evidence for this suggestion is unclear. Mosaic floor. R5 equipped with pool R5a along S side (ca. 4.60 x 2.60 m), situated 1 m lower and accessible via two flights of three steps; the E and W sides of the pools had semi-circular niches. Mosaic floor. **R6** (fig. 261C): large room, probably a service area from which *praefurnia* heating of R9–R10–R11 were operated. **R7:** elongated room forming the E end of the bathing block, probably a service area from which *praefurnia* to heat R11 were operated. The circulation floor of both R6 and R7 was significantly lower than that of R5 and R9–R11. **R8** (fig. 260B): large courtyard (16.50/17.50 x 14.50 m) with pool R8a in its centre. Hypothetically reconstructed (Celuzza & Medri) with a colonnade around R8a to support roof of portico. Pool **R8a** 2.60 m deep, waterproof lining. Heavily restored. Double perimetral wall: an internal one with three offsets parts, and an external one on which the supports of the hypothetical roof could have been set. The two walls may belong to two different phases, with the outer one being earlier and framing a shallower pool (Canocchi). At the foot of the inner wall of R8a, a quarter-of-a-circle marked the connection between wall and floor. Square recess or ‘well’ on floor of pool, 1.50 x 0.90 m, 0.80 m deep. **R9–R10** (fig. 261C): two quadrangular heated rooms. **R11:** largest heated room, with a semi-circular niche on E wall and two rectangular recesses containing pools R11a and R11b to the S and N. **R12** (fig. 260E), **R13**, **R14:** groups of three rooms heavily damaged by the construction of the church and campanile. All three seemed to have connected R15 with R8. They mirrored R2, R3 and R4 on the other side of R8. **R15:** large colonnaded courtyard. Mostly destroyed, but stretches of the S and W walls, as well as part of the stylobate, were brought to light, confirming its original dimensions and the presence of the colonnade. **R16:** large open-air area, possibly connected to the baths.

6.2 – In the bathing block, R5 with cold-water pool R5a was a *frigidarium*, possibly with *apodyterium* in its N part; the first heated room R9 was a *tepidarium*, R11 with its two heated pools R11a and R11b, a *caldarium*. The intermediary heated room R10 has been called *laconicum* or *sudatio*. R6 and R7 were service areas.

The functions of the rooms in the non-bathing block are less clear, apart from R2, a latrine. R1 may have had a function related to the collection of wastewater. R8 was an inner courtyard with pool R8a, of unclear function. The restorations obliterated any traces of water supply and

disposal. Possibly *natatio*, but no obvious access since the offset parts of the walls are too narrow to be used as steps, and the pool is much deeper compared to other examples of *natationes*. Alternatively, could be a water tank. Absence of visible way for draining it (see 9.3) would favour the second interpretation. R12 has been called a vestibule, allowing for a transition between R15 and R8. R14 and/or R15 could have acted as entrances; R16, a large open-air area, could have been the *palaestra*. R15, a porticoed courtyard, could have worked as *palaestra* if R16 was not part of the baths.

The circulation of bathers within the bathing block was retrograde: entrance from R8 into *frigidarium* R5 – *tepidarium* R9 – *laconicum*(?) R10 – *caldarium* R11 and back.

Ciampoltrini suggested the baths could have been an imperial benefaction (CIAMPOLTRINI 1993b, 441–442, see also CELUZZA & MEDRI 2019, 362–363).

7 – Construction techniques and materials

7.1 – No information available

7.2 – Concrete walls, facing in brick courses with reticulate panels, and brick quoins (fig. 261F). Local limestone used for the reticulate. R8a faced in courses of travertine blocks (fig. 261E). Outer walls 0.60 m thick.

The supply of CBM probably came from a municipal *figlina*, as indicated by the brickstamps (see 10.2) (Medri & Celuzza). Similarities in construction techniques with the thermal bath building in the suburban area of Roselle, modern-day frazione di Bagno Roselle (11.138703 E, 42.807504 N) were noted by Ciampoltrini, and by Medri & Celuzza (CYGIELMAN 2004, 83–111).

7.3 – Considering the thickness of the walls, all bathing rooms (R5, R9–R11) could have been vaulted (fig. 261D).

8 – Heating devices

8.1 – No traces of *praefurnia*. The position of the heated rooms suggests that R6 and R7 were the main service areas from which the *praefurnia* were operated. The height at which the *areae* of the hypocausts were set required the *praefurnia* to be at a higher level than the circulation floor of R6–R7; the furnaces were therefore probably reached via sets of stairs (fig. 261D). One or two boilers would have been necessary to heat the water for pools R11a and R11b.

8.2 – Apart from a possible fragment of the *area* in the SW corner of R10 revealing a floor in *sesquipedales* (fig. 262A), nothing preserved of the heating systems of R9, R10 and R11.

9 – Water management

9.1 – No direct evidence. The main sources of water for the city were groundwater and rainwater (Felici); there is no clear evidence of an aqueduct supplying the city.

R8a could have been a water tank, but if so the water it contained was probably not used for the baths since it was located below the water-consuming facilities of the baths, and not traces

of a water-lifting device have been found (such a device in the middle of a main room would also have been unlikely).

The most likely possibility according to Medri & Celuzza is that there was a reservoir or cistern uphill from the baths, on the SW slope of the hill, in a position from which it could have supplied the baths by gravity.

9.2 – R8a, pools R5a, R11 and R11b needed to be supplied with water. A recess on the W wall of R8 could be related to its water supply. There was probably a *labrum*/small basin in R5, as suggested by the presence of a water disposal channel starting in the niche (see 9.3); Medri & Celuzza also suggested there might have been a fountain in the recess in the W wall of R2.

9.3 – Three main branches. The channels were floored with tiles (0.58 x 0.47 m), had walls faced in brick courses in lower part and reticulate in upper part, and were covered with a concrete vault.

- Channel A (fig. 262C), sloping from E to W, collected water from *labrum* and pool R5a in *frigidarium* R5.
- Channel B, running from S to N under the W side of R8. It may have come from outside the baths, through the W wall of R8 where a relieving arch is visible slightly N of R12.
- Channel C, starting at the entrance of R2 where channels A and B merged (fig. 262B). Channel C flushed the latrines R2, then possibly headed through the N wall of R2 and headed eastwards through R1 (channel in R1 not excavated) until it reached W1, a small collecting basin, in which rainwater could also have flowed. The path of the channel is visible again in R6, passing under a relieving arch in the W wall of R6 (fig. 261G), in the NW corner; the channel then continued along the N wall of R6, before exiting the baths to the E through R7 (fig. 262D).

How water was drained from R8a is unclear: since its floor was at a lower level than all three channels, it could not have been connected to them. The recess/'well' on the pool's floor was apparently not connected to the water disposal but could have allowed water to settle. Felici reconstructed an overflow pipe in the NW corner of the pool, in correspondence to a damage section of the wall, discharging in channel A or B.

10 – Decoration and material

10.1 – Black and white mosaic floors with marine motifs in both R5 and R5a (fig. 262E–F). Mosaic floor in R5 separated in two part by black stripe, distinguishing a N part and a central one. Riesch mentioned scattered remains of white and grey marble slabs, with cornices in red marble, fragments of 'serpentino', coloured stucco fragments. Remains of white and grey marbles in 'zoccolo' (probably *dado*) of R5. Possibly mosaic floor in R15.

10.2 – Two pilaster strips capitals in marble. At least 63 brickstamps and 26 inscriptions. Most if not all inscriptions were reused in the baths and/or in the pavement of the medieval church (SALADINO 1980, n. 20-41; CONTI 1998, n. 27-29, 32-33, 35, 43, 47, 52, 57, 62, 65, 67-69, 81, 101, 106-108, 110, 113, 120, 123-124, 126; CELUZZA 2012).

63 brickstamps (CELUZZA & MEDRI 2019, 362)

- *CIL XI.6689, 78b*: *Probi / Russel(ani)*, 43 examples found during 1970s restorations
- **Unpublished**: *Probi*, 2 examples found during 1970s restorations
- *CIL XI.6689, 78a*: *Sex(ti) Clement(i) / Probi*, 8 examples
- *CIL XI.6672, 929(?)*: *Cla(udi) Go[b(athi) ---]*, 8 examples. Urban stamps, late Flavian dating
- Two unreadable brickstamps

11 – Bibliography

Main articles: CELUZZA & MEDRI 2019

Brief notices : RIESCH 1933, 349–350; MINTO 1943, 555–556; MAZZOLAI 1960, 93–95; CANOCCHI 1977, 119–122; TORELLI 1980, 274; MELANI & VERGARI 1985, 94–103; AGRICOLI & CELUZZA 1993, 132–133; NIELSEN 1993, 49 note 90; CUNIGLIO & GESSANI 2012, 125–126 (restorations 2005–06); FELICI 2015, 426–427

Decoration: CIAMPOLTRINI 1994, 5–6, cat. 3; BUENO 2011, 137, 348–350, 456, 460, pl. LXXXVI.5; TESS2824; TESS17378

12 – Illustrations

Plans, sections: CANOCCHI 1977, fig. 34; AGRICOLI & CELUZZA 1993, fig. p. 132; CELUZZA & MEDRI 2019, fig. 1, 9, 11

Pictures: MINTO 1943, pl. XLV; COARELLI *et al.* 1975, fig. p. 110–111; MELANI & VERGARI 1985, fig. p. 38, 78, 93, 101, 103; CELUZZA & MEDRI 2019, fig. 3–7, 10, 12–13

Model: CELUZZA & MEDRI 2019, fig. 14

Decoration: CIAMPOLTRINI 1994, fig. 7–13; CUNIGLIO & GESSANI 2012, fig. 3

Rusellae, Urban baths

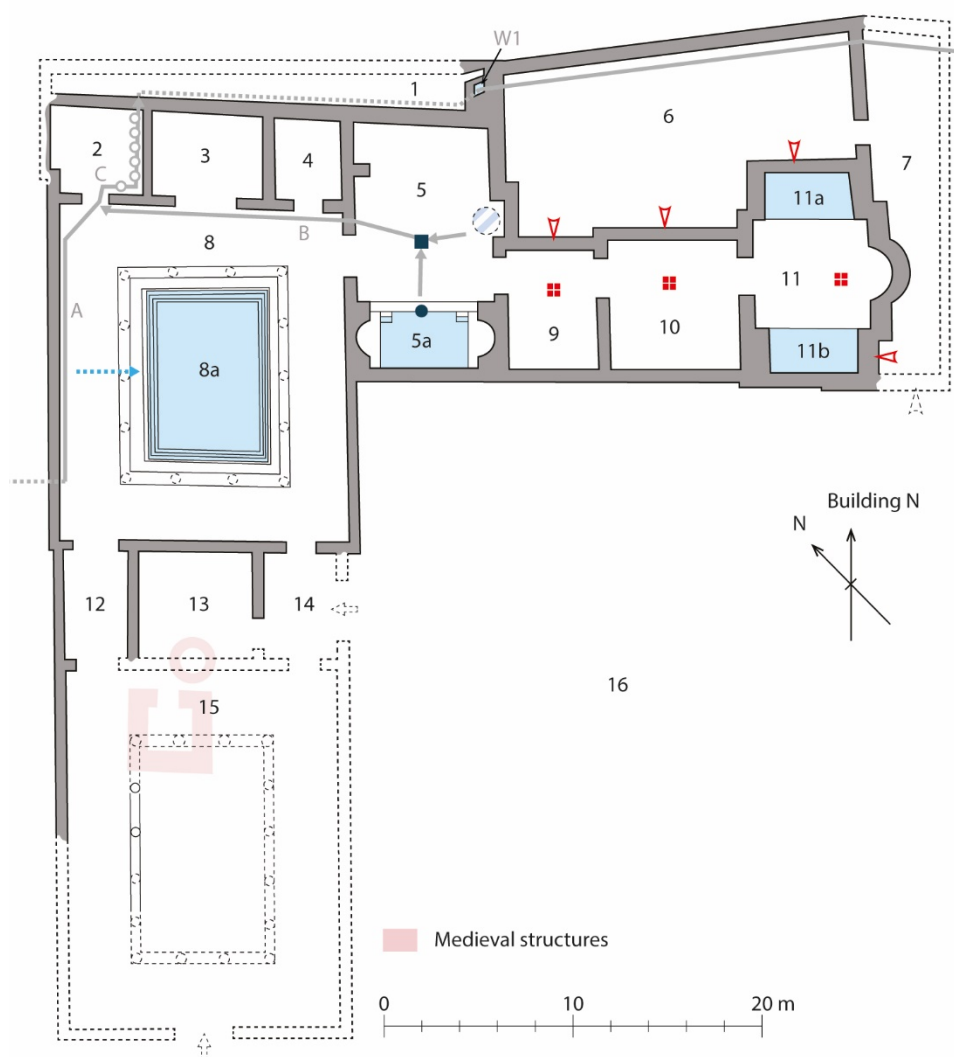


Figure 259: Plan of the Urban Baths of *Rusellae* (after CELUZZA & MEDRI 2019, fig. 1, 9).

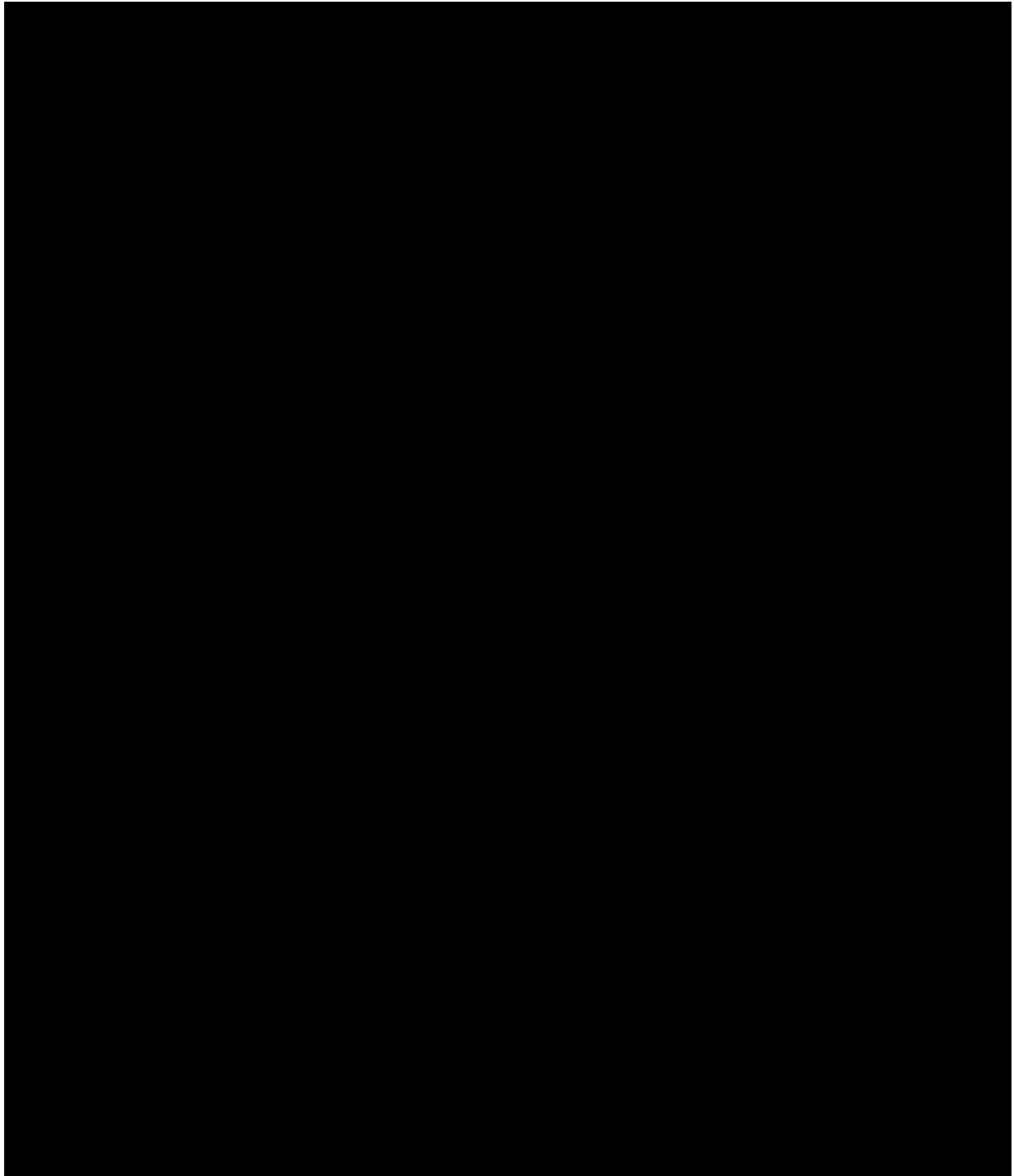


Figure 260A–F: Urban Baths of *Rusellae*. General views: **A**: aerial view of baths, N on top. **B**: panoramic view of R8, from W. **C**: R3, from S. **D**: R4, from S. **E**: R12, from S. **F**: NE corner of latrine R2, with niche in N wall and part of channel C (A: CELUZZA & MEDRI 2019, fig. 4).

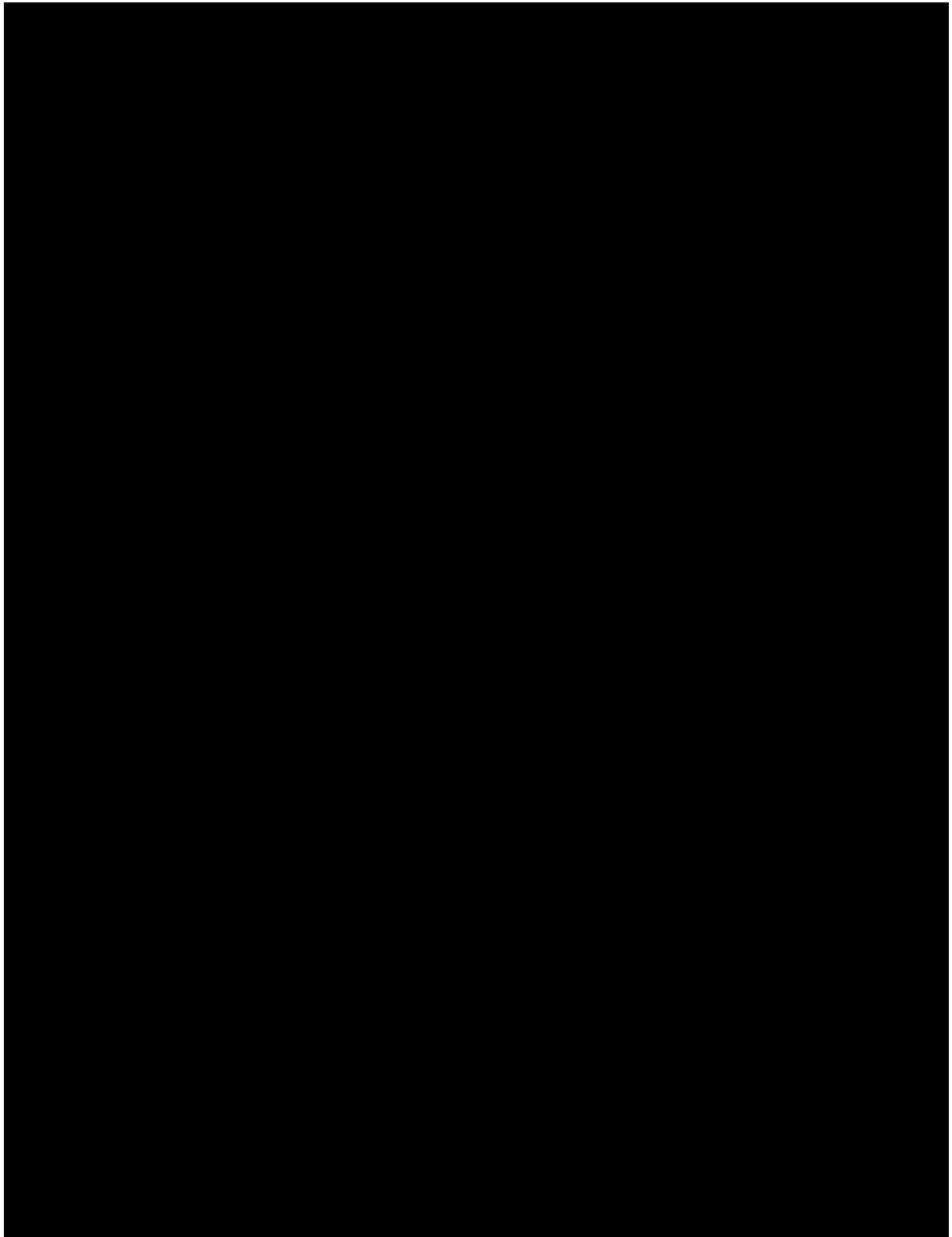


Figure 261A–G: Urban Baths of *Rusellae*. General views: **A**: R5a, from S. disposal channels in foreground (left) and background (middle). **B**: W niche of R5a, from S. **C**: panoramic view of heated rooms R9–R10 with service area R6, from W. **D**: model in the Museo Archeologico e d’Arte della Maremma, Grosseto. Constructional aspects: **E**: travertine blocks facing of R8a. **F**: reticulate facing with brick belts and quoins (R7). **G**: relieving arches in NW corner of R6, from E (D: CELUZZA & MEDRI 2019, fig. 14).

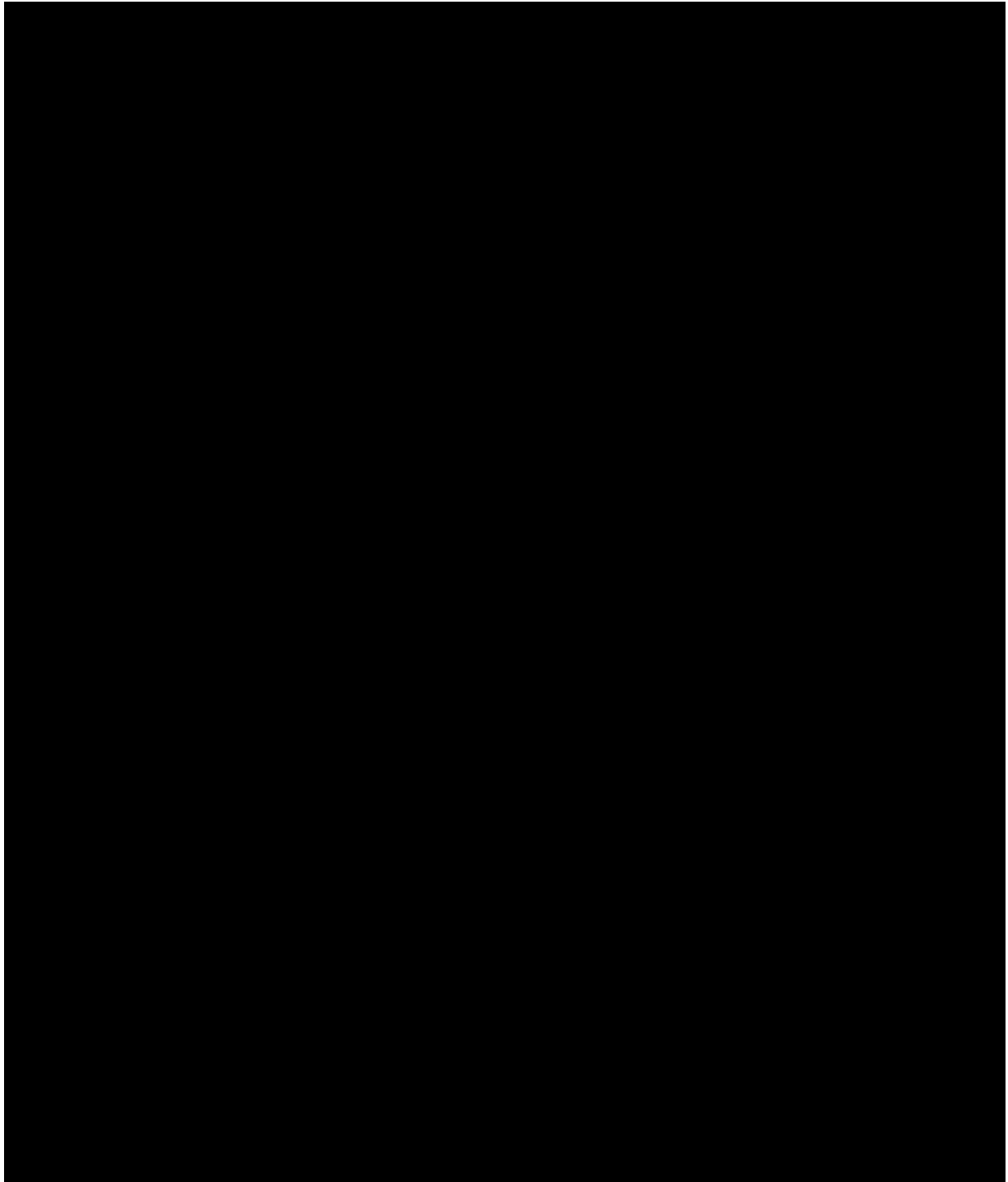


Figure 262A–F: Urban Baths of *Rusellae*. Heating: **A**: possible remains of *area* in SW corner of R10, from E. Water: **B**: underground water disposal channels, junction of channels A and B. **C**: channel A in R5, from E. **D**: channel C in R6, at junction with R7, from E. Decoration: **E–F**: mosaic floor in R5, from S. E is a detail of the TL corner of F (B: CELUZZA & MEDRI 2019, fig. 12; E–F: CIAMPOLTRINI 1994, fig. 7–8).

1 – Location

1.1 – Province of Livorno, Comune of Rosignano Marittimo

1.2 – 10.447532 E, 43.359921 N

1.3 – In the harbour district of the city, flanked by roads on the S and W side, the W one leading to *horrea* to the N of the baths (to the W side of which are attached the so-called small baths). W of the W road, in front of the baths, is a *schola* (SANGRISO 2017), and two further buildings currently being excavated are located further SW and SE.

2 – Preservation

2.1 – Plan well preserved; poor preservation in elevation (foundations/hypocaust level)

2.2 – Backfilled

3 – Research

3.1 – Excavated 1992–2000/2003 by the *Università di Pisa* (dir. M. Pasquinucci, S. Menchelli)

3.2 – Not visited

4 – Dimensions

2,470 m² according to Menchelli–Sangriso 2019, calculated at roughly 1,200 m² from plans. *Palaestra* R1 at least 400 m² (from plan)

5 – Chronology and phasing

5.1 – 3 mains phases identified, but not all modifications could be connected with specific phases. Phasing according to MENCHELLI & SANGRISO 2019a based on relationships between structures.

I: early 1st cent. AD (AD 0–20) (U?: construction of *horrea*)

II: early 2nd cent. AD (AD 100–130) (U: reorganisation of neighbourhood, including construction of the *Piccole terme* W of the *horrea*)

III: phase II and later (relative chronology)

- I: *praefurnium* A heating R2
- II: backfilling of R2 and rearrangement of *praefurnium* A to heat R5
- Undated: *praefurnium* C defunctionalized and hypocaust of R7 raised
- II–III: Construction of pool R2a with channel A
- Later, construction of pool R3a with channel C (goes over channel A)
- Later, construction of apse R4 with possible dismissal of pool R3a (R4 cut channel C)

- Later, replacement of marble pavement of pools (R3a?) and niche of *caldarium* R7 (R7a? N apse?)

5.2 – Late 6th (AD 570–600)–early 7th cent. AD (AD 600–620)

- Well E of baths and pool R2a backfilled
- Necropolis in courtyard R1
- Apparently, already a necropolis in the baths in the late 3rd–early 4th cent. AD (SANGRISO & MARINI 2010, 345)

6 – Description of the remains and identification of rooms

6.1 – Behind a porticoed courtyard (R1), the rooms were organized along a N–S axis (R3, R5, R6, R7) crossed by a perpendicular axis at the level of R3 (R2a, R2, R3, R3a, R4).²⁰ **R1** was a large courtyard, ca. 20 m E–W and at least as long N–S; four stone bases are preserved along its W side and two along the N side, probably supporting columns or pilasters and creating a portico that possibly continued all around the courtyard. The courtyard was probably directly accessible from the street running to the S. In Late Antiquity, the portico was reused as a burial place. **R2a** was an oblong pool (ca. 8 m N–S) built at a later phase (II–III), accessible from R2 via two flights of semi-circular steps of three steps in its NE and NW corners. Between the staircases ran a high step, possibly a bench. Marble veneer on floor and walls. Once out of use, the pool was used as a dump. **R2** was initially heated (I) before its heating system was removed (II). Probably accessible from R3. Presence of a series of wall stretches along the S section of the E wall, of unclear function. **R3**, a square room on the main axis of the baths, was accessible from R1 and led into R2, R3a and R5. **R3a** was a pool floored in marble slabs and added in a secondary phase (II–III). It has been described as being ‘on two levels’ (Menchelli–Sangriso 2019), but what is meant by that is unclear. It was later decommissioned when **R4**, a large apse, was added to the E. **R5** was a room heated from R8 (in phase II), accessible from R3 and leading towards R6; it was equipped to the W by a small apse which may have contained a *labrum* according to Menchelli–Sangriso 2019, based on the remains of a support and the reddening of the CBM floor.²¹ **R6** was another heated room, heated from the E (R11), accessible from R5 and leading into R7. **R7** was the last heated room in the main axis of the baths. Square shape with a semi-circular extension to the W, possibly a pool (**R7a**, supported by the presence of disposal channel C), an apse to the N and possibly a square extension to the E, which may have been a pool too (R7b). Initially heated from R10; at a later stage, *praefurnium* C in R10 was blocked, the *area* was raised and the heating occurred from R11 (*praefurnium* D). Menchelli–Sangriso 2019 hypothesized the presence of a *labrum* in the N extension in phase II–III, after the floor had been raised. Based on pictures of the heating systems, the different extensions were not in use contemporarily (see point 8.1 on heating systems). **R8, R9 and R10** were small

²⁰ No dimension is given in publications, and the plans are of difficult reading and not precise enough for proper dimensions to be taken. The few dimensions provided here only give an idea of the scale of the rooms.

²¹ It is also possible that the CBM floor was the *area*, in which case its reddening would be due to the hot air passing through from *praefurnium* A.

rooms containing *praefurnium* A (heating R2 in phase I then R5), and *praefurnia* B and C (heating R7). **R11** was a large room of irregular shape containing two *praefurnia* (D and E) to heat R6 and R7 to the W; it also had an access towards R12. **R12** was a room accessible from R11.

6.2 – Menchelli–Sangriso (2019) interpreted the rooms and reconstructed the circuit as follows: *palaestra* R1 – *apodyterium* R3 – *laconicum* R5 – *tepidarium* R6 – *caldarium* R7 with the N apse of R7 called a *sudatio*; after the cold-water pools were built, bathers could go from R3 to pool R3a, and to pool R2a via vestibule R2. *Frigidaria* were identified in R2a and R3a, service areas in R11 and R12, R2 was tentatively identified as a latrine based on the elements against the wall, and R4 as a large structure monumentalizing the space.

Several aspects of this reconstruction are subject to caution:

- *Frigidaria* were usually rooms equipped with pools, not simply pools. Better candidates for a *frigidarium* could be R2 and R3 (with pools R2a–R3a); their contemporaneity of use is not ascertained.
- Heated room circuit: the canonical succession of heated rooms was *tepidarium* – *laconicum/sudatorium* ('sweat-bath' from now on) – *caldarium*. The interpretation of R3 as *laconicum* is puzzling, since R3 was the first heated room on the circuit, open to a non-heated room (therefore with a lower temperature), and was heated from R8, a small *praefurnium*. A more mainstream identification of rooms would be *tepidarium* R5 – sweat-bath R6 – *caldarium* R7.
- R7: there is no reason to consider the N extension of R7 as a sweat-bath: since it was open to R7, which, based on its identification as *caldarium*, probably contained hot-water pools, it had the same temperature and atmosphere as R7 and was simply part of the *caldarium*.
- R2: the wall stretches against the E wall of R2 are not convincing for a latrine; a water disposal channel would instead be expected. The closest water body whose water could have been used to flush potential latrines was R2a, but it emptied to the SE. A latrine overlooking a pool would also be unexpected, but R2a may have been defunctionalized at a certain point.

A revised identification of rooms and circuit would be: *palaestra* R1 – *frigidarium/apodyterium* R2/R3 with pools R2a and R3a (different phases) – *tepidarium* R5 – sweat-bath R6 – *caldarium* R7 and back.

7 – Construction techniques and materials

7.1 – Tile floor in the W apse of R5 (but see comment in point 6.1).

7.2 – Concrete foundations in trenches dug in humid sand. Lower part of the elevation (for ca. 0.50 m) in concrete faced with horizontal courses of blocks of local stone (so-called *panchina livornese*), ca. 24 x 12 x 12 cm. This lower part was then covered by a levelling course of tiles, and the upper part of the elevation was in perishable materials, either clay beaten between two formworks, or sundried brick.

7.3 – Nothing preserved; it has been suggested (Menchelli–Sangriso 2019) that the baths could have been roofed in part with wooden beams supporting a pitched roof covered with tiles (like the nearby *horrea*), in part with vaults.

8 – Heating devices

8.1 – Little information available on the five *praefurnia* that equipped these baths; they did not all work contemporaneously. *Praefurnia* in R8 (A), R9 (B), R10 (C), R11 (D–E). ***Praefurnium A*** initially heated R2 (I) and later (II–III) heated R5. No information available on ***praefurnium B***, but it may have been defunctionalized at some point if R7a stopped being used (see 8.2). The fact that it heated an extension of the *caldarium* (where pools were usually located) and the presence of channel B starting from R9 suggest this *praefurnium* could have been equipped with a boiler. ***Praefurnium C***: small furnace heating R7 in phase I; later blocked (when hypocaust of R7 was raised) and its outer opening was blocked with a tile set vertically. ***Praefurnium D***: from pictures, this *praefurnium* seems to have had several phases. Its channel is very long, with longitudinal extensions both inside R11 and under R7b. Either the *praefurnium* channel started in R11 and continued under R7b (probably in phase II, contemporarily with the raising of the level of the *area* of R7), or a second *praefurnium* was created in a later phase, right under R7b, possibly defunctionalizing the pool (see 8.2). The outer longitudinal extensions and the fact that, like *praefurnium B*, it heated an extension of the *caldarium*, suggest this *praefurnium* could have been equipped with a boiler. ***Praefurnium E*** in the S part of the room heated R6, and a second, larger *praefurnium* in the N part to heat R7.

8.2 – R5, R6 and R7 were heated; R2 was heated in phase I only. ***Area***: made of tiles (from pictures, at least in R7). ***Pilae***: *bessales* (22 x 22 cm) in R6 and R1. **Wall heating**: numerous fragments of *tubuli* belonging to originals of different dimensions were found in collapse layers. The hypocausts of R7 and R6 communicated with one passage, those of R6 and R5 probably by one *vtoo*.

From pictures, several modifications visible in the hypocaust of R7:

- The N extension probably goes back to phase I; its *area* is lower than that of the rest of the room.
- A N–S wall blocked the passage between R7 and R7b, suggesting that at some undetermined moment R7b stopped being heated.
- A N–S wall blocked the hypocaust between R7 and R7a, suggesting the latter might have been defunctionalized at some point.

9 – Water management

9.1 – No direct evidence. E of R11–R12 was located a well (2.30 inner, 2.90 m outer diam.). Foundations of pebbles, facing of brick (*bessales* cut in triangles) bound with mortar, then plastered. Could have been used by slaves operating the baths, but not exclusively as it is outside of the structure of the baths and there were further buildings to the E. according to Menchelli–Sangriso 2019, it is unlikely it was used to supply the baths. Two stone blocks on

the W side, possibly part of a roof support. A wooden cogwheel found in the backfill of the well could have been part of the lifting mechanism.

A water tank was located to the NE of the building and could have been used to supply baths.

9.2 – No information available. Pools R2a and R3a had to be supplied in cold water; the hypothetical pools in R7a and R7b would have required hot water.

9.3 – 3 water disposal channels found (A, B, C). A first drainage pipe (lead *fistula*) was located in the S wall of R2a; it emptied in **channel A** (covered *a cappuccina*), headed E, crossed courtyard R1 and left the building towards the E. **Channel B** was located in the N part of the baths; it probably served to collect water from hypothetical pool R7a (and possibly from a fountain slightly further W) and headed NE, passing between the *horrea* and the water tank before heading E. The water from R3a was emptied through a lead *fistula* on the E wall, discharging into **channel C**, coming from further S, passing over channel A and continuing NE. It was floored in CBM (*bipedales* for Menchelli–Sangriso 2019, tiles with knocked-off flanges according to pictures).

10 – Decoration and material

10.1 – Little preserved. **Floors:** *opus sectile* floor in R2 (polychrome marbles, geometric motives), floor of marble slabs in R2a and in R3a (only the negative of which is preserved in the latter case). **Walls:** marble veneer in R2a. Many fragments of polychrome marble and painted plaster found in collapse layers (see 10.2).

10.2 – **Statue of Attis** found in a late backfill layer in R2a. Not associated to the baths, and could instead have been located in the nearby *schola*. Dated mid–2nd cent. AD. (VALERI 2007). A picture of channel C shows what could very hypothetically be a rectangular brickstamp, ca. 6 x 2 cm.

In the same backfill layer where the statue of Attis was recovered (R2a) were found: hundredths of fragments of *tubuli*, many fragments of painted plaster, many fragments of ceramic, other statue fragments.

Large amounts of material found in the well to the E of R11–R12, belonging to two chronological groups (1: 1st–5th cent. AD, predominantly North-African provenance, connected with the time the well was in use; 2: much larger group dated early 6th–beginning 7th cent. AD, with material of Mediterranean provenance at large). Possibly relevant to the baths are: small marble slabs for wall veneer, from Asia Minor (*pavonazzetto brecciato*, *bigio antico*, *portasanta*) and North Africa (*greco scritto*), an *opus sectile* slab in Egyptian red porphyry, two fragments of a statue (an arm, a leg) in white marble of *Campiglia*. On top of that: 83 fragments of CBM (*tegulae* and *imbrices*, bricks, one fragment of a brick column) of local production, *terra sigillata italica*, thin-walled ware, *terra sigillata Africana*, 7 lamps, many amphorae (mostly North African, some local, some imported from Campania, Sicily, Iberia and the eastern provinces), common ware. Also wood material, including wedges, fragment of tables, and a cogwheel.

11 – Bibliography

PASQUINUCCI & GAMBOGI 1997, 232–234 = MENCHELLI 2000; PASQUINUCCI, MENCHELLI & SANGRISO 2008, 387–390 = MENCHELLI & SANGRISO 2019a.

Material: SANGRISO & MARINI 2010.

Brief mentions: PASQUINUCCI & MENCHELLI 2005, 397.

12 – Illustrations

MENCHELLI 2000, fig. p. 108–109 (pictures) p. 109 (plan, scale incorrect); PASQUINUCCI, MENCHELLI & SANGRISO 2008, fig. 155 (picture); MENCHELLI & SANGRISO 2019b, fig. 4 (city plan); MENCHELLI & SANGRISO 2019a, fig. 1 (plan), 3–10 (pictures), 11 (material).

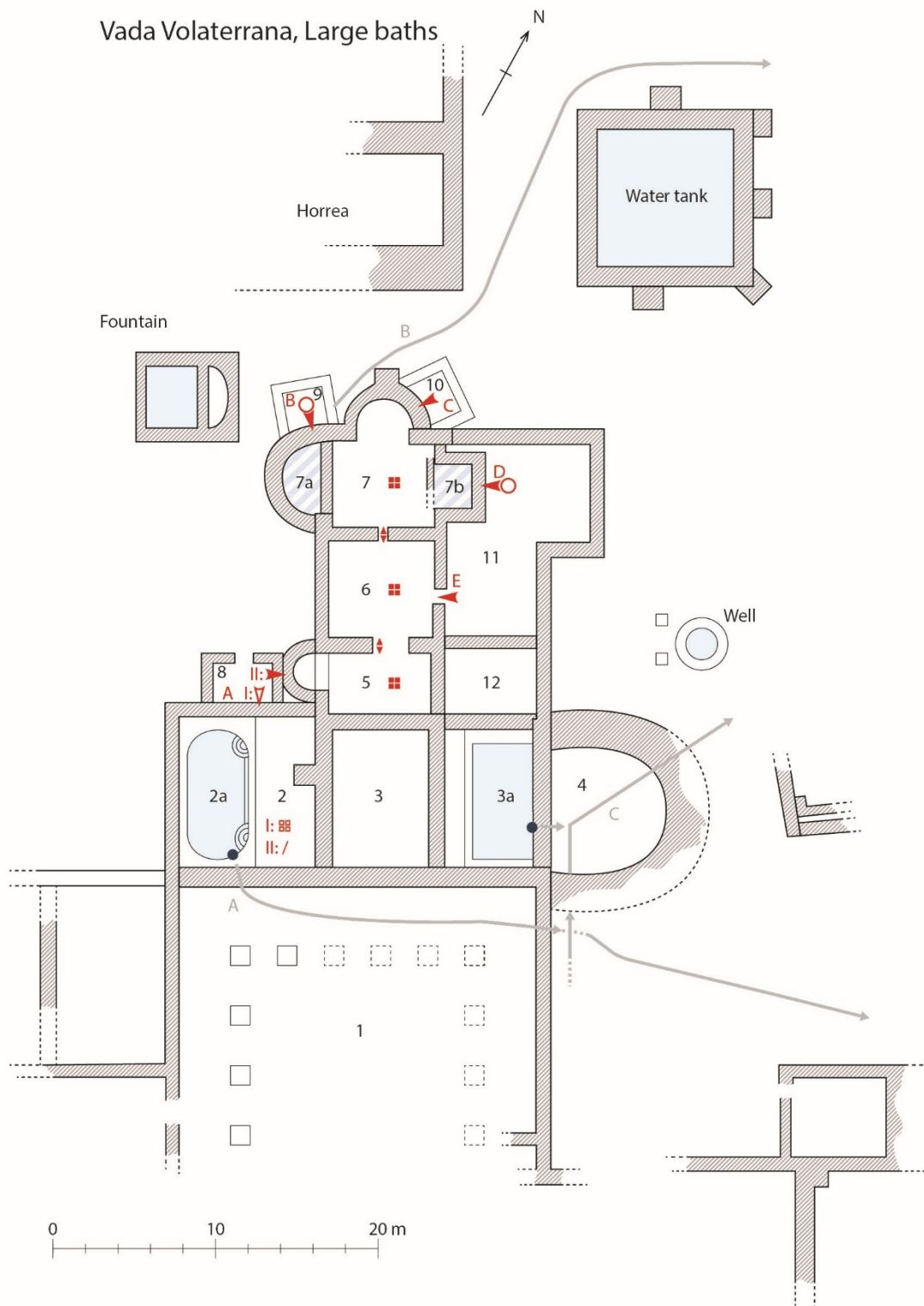


Figure 263: Plan of the Large baths of *Vada Volaterrana* (after MENCHELLI & SANGRISO 2019a, fig. 1; MENCHELLI & SANGRISO 2019b, fig. 4).

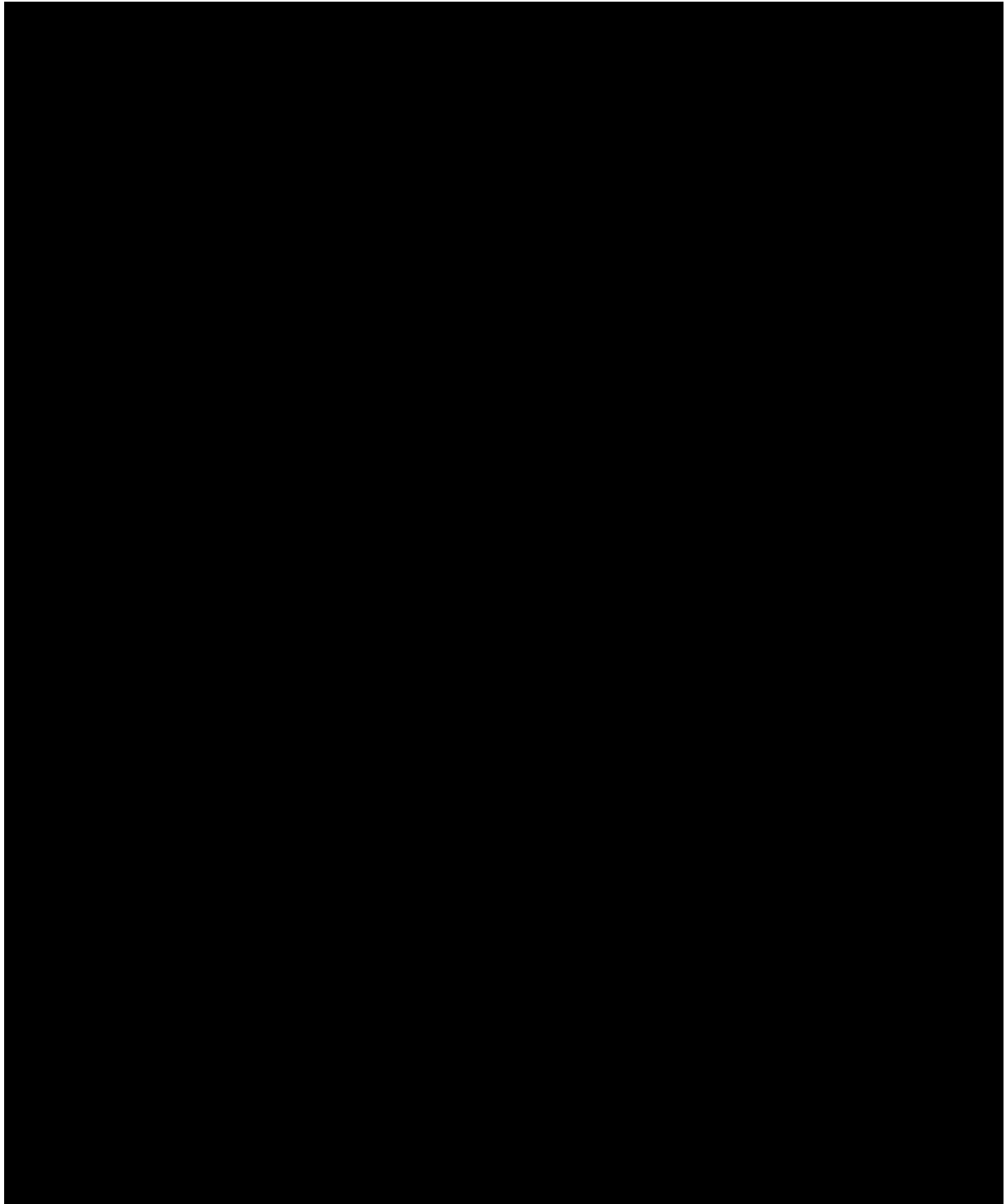


Figure 264A–F: Large baths of *Vada Volaterrana*. **A:** R7, from W. **B:** R6, with *praefurnium* E in background, from W. **C:** R2a, from N. **D:** R1, from N. **E:** R7, with R10 and *praefurnium* C in the foreground, from NE. **F:** R2, with unidentified wall segments, from S. (A, C–F: MENCHELLI & SANGRISO 2019a, fig. 3–6, 9; B: MENCHELLI 2000, fig. p. 108).



Figure 265A–D: Large baths of *Vada Volaterrana*. **A**: well E of R11–R12, from NE. **B–C**: Channel C, with lead *fistula* draining pool R3a and possible brickstamp, from NE. **D**: Marble decoration in R2a (A, C–D: MENCHELLI & SANGRISO 2019a, fig. 7–8, 10; B: MENCHELLI 2000, fig. p. 108).

Terme presso il teatro, Terme in Piazza Crucifera

Reliability: probably baths (heated rooms, iconography of mosaic), probably public (location)

1. 1.1 – Province and Comune of Arezzo
1.2 – 11.887670 E, 43.463788 N, 291 m asl
1.3 – Directly S of the theatre, and N of an open square, possibly the forum
2. 2.1 – Plan only partly known
2.2 – Filled back
3. 3.1 – N part alongside the theatre excavated in 1833 by Guillichini (R3 to R6); S part fiscovered in 1933 (R1, R2)
3.2 – Not visited
4. > 1,000 m²
5. 5.1 – Ciampoltrini: Flavian (Ciampoltrini: S)
Cherici: I: Augustan/Julio-Claudian (U), II: 2nd half 2nd cent. AD (R1) (S)
5.2 – Unknown
6. 6.1 – Little is known of the baths.
 - A group of rooms to the S (R1, R2), the former with a mosaic floor.
 - a cistern to the NW, against the back wall of the *frons scaena* of the theatre. The cistern had two barrel-vaulted naves communicating via three openings.
 - A second group of rooms, heated, between the S block and the cistern. **R4** was a large room with an apse on its E side, and three small heated rooms on its S side, some of which comprising small pools.

The back wall of the *frons scaena* of theatre may have served as a monumental backdrop for a room of the baths.

6.2 – Ciampoltrini suggested R1 could be a *frigidarium* and R2, an *apodyterium*
7. R1, R2: brick facing. R6: brick facing for *frons scaenae* of theatre
8. 8.1 – No information available
8.2 – The three small rooms S of R4 were heated. Wall heating with *tubuli*, some of which with grooves on the sides. Loose circular bricks could have been part of the *pilae*.
9. 9.1 – Aqueduct tapping water from the *Fonte Grande* on the *Alpe di Poti* (854 m asl), supplying city and baths, and water transiting through large reservoir to the NW, next to the amphitheatre, on the top of the hill of San Donato (305 m asl, capacity ca. 2,000 m³ with reconstructed water height of 4 m)

Cistern NW of baths, slightly uphill, collecting rainwater from the *cavea* of the theatre (pipes leading from theatre to it). Lined with cocciopesto. Well (for settling?) along W side)

9.2 – Channel going from cistern R5 to small room NE of R4, then channel from there

9.3 – No information available

10. 10.1 – Mosaic floor in R1 depicting Neptune on quadriga. Marble veneer in R4. Mosaic floors (black and white or polychrome) and walls veneered in polychrome marbles in rooms S of R4

10.2 – In R1, found an altar with scene of Romulus and Remus being fed by she-wolf. Brickstamp *CIL* XI, 2, 1, 6689:197b. *MRA*[S]. Unclear if from theatre or baths

11. CHERICI 1988 [1990], 436–437, 439, 459–460, 467, 473–478; CIAMPOLTRINI 1993b, 438–439; PATURZO 1997, 302; TESS3560

12. CHERICI 1988 [1990], fig. 15 (pictures), pl. A–B (plans); CIAMPOLTRINI 1993b, pl. XII.1 (plan), XII.2 (picture); PATURZO 1997, fig. 126 (plan)

Arretium, Theatre Baths

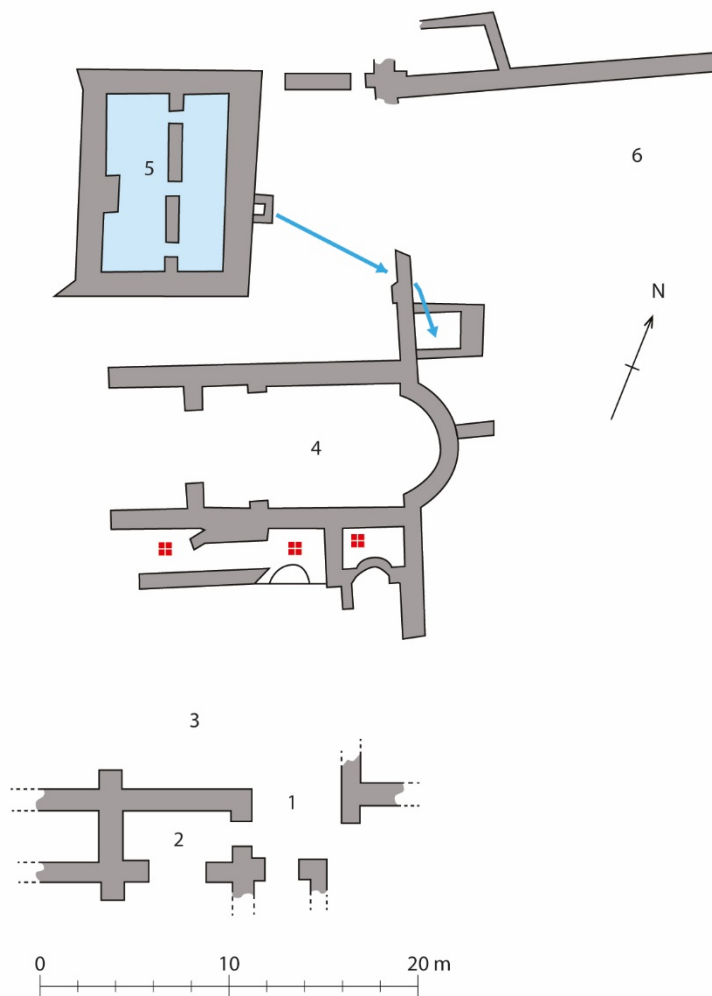


Figure 266: Sketch of the Theatre Baths of *Arretium* (after CHERICI 1988 [1990], pl. A–B; CIAMPOLTRINI 1993b, pl. XII.1).

Reliability: bath building, public according to Rendini

1. 1.1 – Province of Grosseto, Comune of Manciano
1.2 – 11.504794 E, 42.664682 N
1.3 – Off the Roman forum, bound to the east by a *cardo*.
2. 2.1 – Partly under the Palazzetto Ximenes (nothing preserved), partly under *piazza Vittorio Veneto* (6 rooms preserved at level of pavement)
2.2 – Plans to musealise the area mentioned in Rendini & Cuniglio 200, on hold as of 2019
3. 3.1 – Remains under the palazzo are known from a brief description from 1882. In 1925 the E part of the *piazza* was briefly explored, revealing a room with apse (R1). The other rooms were excavated in 2004–2005 by the Soprintendenza archeologica.
4. At least 280 m² (heated sector >80 m²)
5. 5.1 – I: 1st half of 2nd cent. AD (S). Several later modifications, undated.
5.2 – Unknown. Post-abandonment reuse of bath building: R1 subdivided, R2–R3 reused (presence of hearths and kilns).
6. 6.1 – The S part of the building is preserved, composed of two rows of three rooms.
R1: heated room, square (ca. 5 m on the side), with two niches on W and E walls, respectively curvilinear (ca. 3.6 x 2.2 m) and rectangular (ca. 3.9 x 2 m), which contained pools (based on 1925 drawing). Mosaic floor. In post-abandonment phase, a N–S wall cut the room in two. **R2:** ca. 5.6 x 4.8 m, accessed from the S. Divided in two by later wall. **R3:** ca. 5.7 x 4.8 m, with entrance from E (threshold *in situ*). Post-abandonment modifications. **R4:** service area with *praefurnium* A. **R5:** heated room, ca. 6 m E–W (in S part), min 5.5 m N–S. Mosaic floor. **R6:** ca. 6 m E–W, min 6 m N–S. Later modifications: creation of small niche in S wall, restoration/modification of wall decoration. **R7:** ca. 4.7 m E–W, min 5.5 m N–S. A series of lines are indicated on plan in Rendini; these could be related to the mosaic, but might also be a structure against S wall, possibly steps leading down into a basin.
6.2. R1 was a *caldarium* with two pools; R5 was a *tepidarium* or another heated room. Rendini hypothesised R6 could have been the *frigidarium*, but R7 could have had that function if the structure against S wall was a pool. R2 and R3 have been identified as *tabernae*.
7. Walls faced either in reticulate with quoins of small blocks of travertine (R1), or with brick courses (R1, hypocaust level).
8. 8.1 – *Praefurnium* A in R4 heated R1 and its W pool R1a. No mention is made of it, but it is likely that the *praefurnium* was equipped with a boiler; it is also likely that another *praefurnium* in the same service area served to heat R5.

8.2 – *Suspensurae* in two rooms, possibly in a 3rd one. The *suspensura* floor in R1 was 0.25–0.30 m thick.

9. 9.1–3 – No information available

10. 10.1 –Two figurative black and white mosaic floors in R1 and R5. Double black frame, white background, black figures with details in white, limestone tesserae. In R1: originally ca. 4.50 x 4.80 m, only E part preserved. Depiction of a fish and part of a marine horse (dated 2nd cent. AD, compared with motif of mosaic floors of baths of *Rusellae*); other fragments depicted a hippocampus. Marine scene in R5 (one fish preserved). R6: monochrome black mosaic, white frame; marble slabs on the walls.

11. CIANI 1992; RENDINI & CUNIGLIO 2005; RENDINI 2019; TESS17389; TESS17390

TORELLI 1980, 184 mentioned remains of Roman baths close to the modern-day *terme di Saturnia*; considering the distance between the modern baths and *piazza Vittorio Veneto*, he was not talking about the same bath building, and it is likely that the one mentioned by Torelli was a set of thermal baths.

Archival material: kept in the Polo Museale della Toscana (info. 2019)

12. RENDINI & CUNIGLIO 2005, fig. 1 (plan), fig. 2 (decoration); RENDINI 2019, fig. 1 (city plan), 2 (plan) 3–8 (decoration)

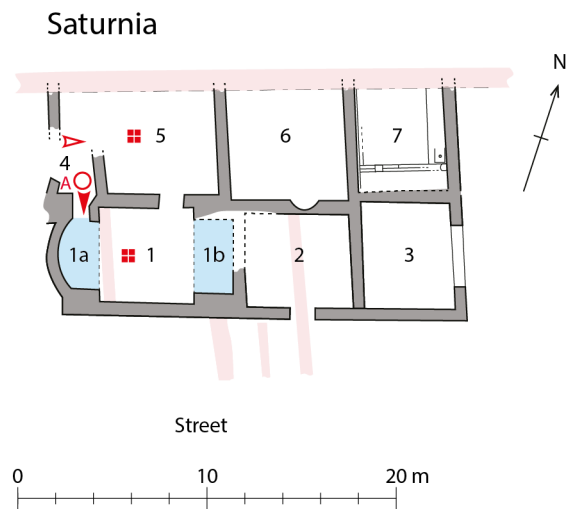


Figure 267: Plan of the baths of *Saturnia* (after RENDINI 2019, fig. 2).

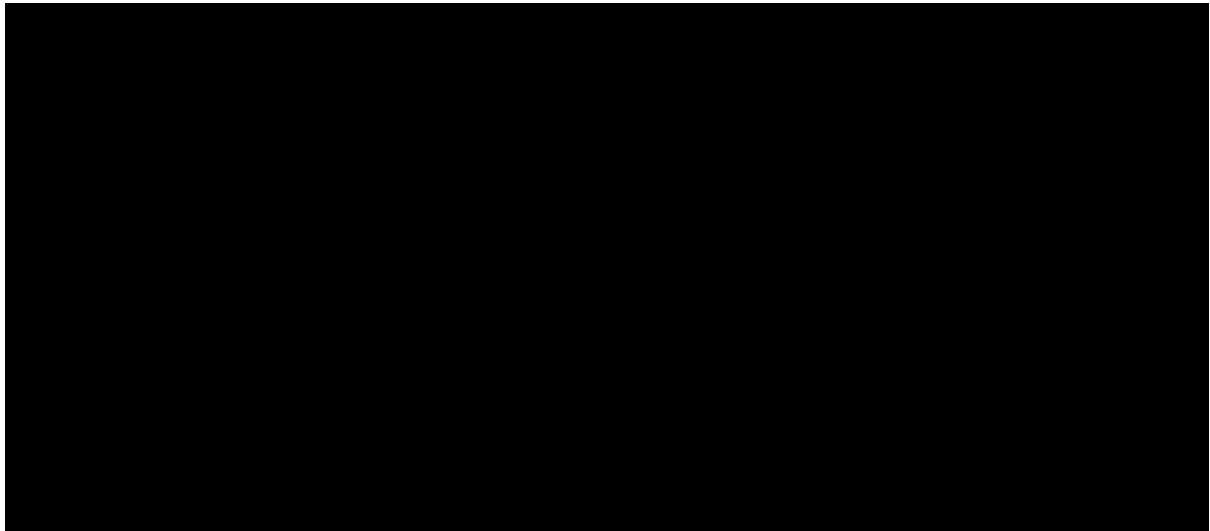


Figure 268: Baths of *Saturnia*. L: R1, from S. R: mosaic floor of R1 (RENDINI 2019, fig. 3–4).

Sestinum (Sestino)

To.G.10

Reliability: Bath building, probably public (dimensions, ‘monumentality’)

1. 1.1 – Province of Arezzo, Comune of Sestino
 1.2 – 12.296802 E, 43.709835 N
 1.3 – No information available
2. 2.1 – Walls of R1 preserved up to 3.65 m. Structure significantly damaged by landslides, a phenomenon that affected the whole city in Roman times and continues nowadays. Restored and covered by a roof.
 2.2 – Accessible for visits?
3. 3.1 – Excavated in 1984 by the Soprintendenza per i Beni Archeologici della Toscana (pool R1b). Further excavations in 2004–2006 by the Soprintendenza (dir. M. Salvini) and the Cooperativa Archeologia (dir. V. Montanarini, M. Tornatore), R1 to R4.
 3.2 – Not visited
4. > 300 m²
5. 5.1 – I: late 1st cent. BC – 1st cent. AD (?)
 Traces of ancient restoration and later phases, undated
 5.2 – Late 4th cent. AD (coin of Valens in rubble layers of pool).
 Damaged by a landslide that possibly lead to the abandonment of the structure, or that occurred after its abandonment. After abandonment, systematic spoliation of marble veneer of upper part of walls (so after collapse of structures).
6. 6.1 – Only four rooms identified so far. A N–S oriented foundation wall runs along the E side of the building. **R1**: ca. 9.8 x 8.3 m, preserved max. 3.65 m high (fig. 270B). Accessibility unclear, but probably gave access to R3. Marble slabs floor. Equipped with **pool R1a**, ca. 10.3 x 4 m, accessible via three steps in SW corner (fig. 270C); a niche

on E wall, 2.57 m above floor level, contained statue that functioned as a fountain. A wall separated the pool from the room, probably built in a later phase. Marble slabs on floors and walls. **R2**: only partly preserved, possibly larger than 12 m. Mosaic floor. **R3–R4**: two heated rooms (fig. 270A). Ca. 7 x 4.4 m (R3); R4 probably same length, width unknown. SW orientation.

6.2 – R1 was a *frigidarium* with its cold-water immersion pool R1a, and could also have acted as *apodyterium*. As a first heated room, R3 was probably a *tepidarium*. The service areas are missing, probably further W and/or along the N side of the heated rooms.

7. From pictures, some walls were faced with brick courses.

8. **8.1** – /

8.2 – R3 and R4 were heated by hypocaust, with *pilae* made of *bessales* (fig. 270A).

9. **9.1** – /

9.2 – Pool R1a supplied via niche in E wall, via pipe going through statue.

9.3 – In pool 1a, lead *fistula* on floor draining towards central drain in R1. The space between the E wall of the building and the N–S oriented substructure wall along the E side of the building was floored with brick and served to evacuate infiltration water.

10. **10.1** – Marble slabs for floor in R1, for floor and walls in pool R1a (the latter in *bardiglio* from the Apuan Alps, fig. 270C); white mosaic floor in R2.

10.2 – A headless female statue of a nymph (Venus Anadyomene type), dressed in *himation*, with a shell at pelvis level (fig. 270D). Used as a fountain spout: lead pipe coming out of shell. Found in pool R1a, now in the *Antiquarium* of Sestino. Dated 1st cent. AD (Salvini) or Severan? (Tondo). See MARCIANO 2003.

Several fragments of architectonic terracottas.

11. TROTTA 1990, 30; TONDO 1997; SALVINI 2005; TOSCANA D'APPENNINO SOC COOP n.d.

12. SALVINI 2005, fig. 1, 3–6 (pictures), 2 (material); TOSCANA D'APPENNINO SOC COOP n.d. (plan, pictures, material)

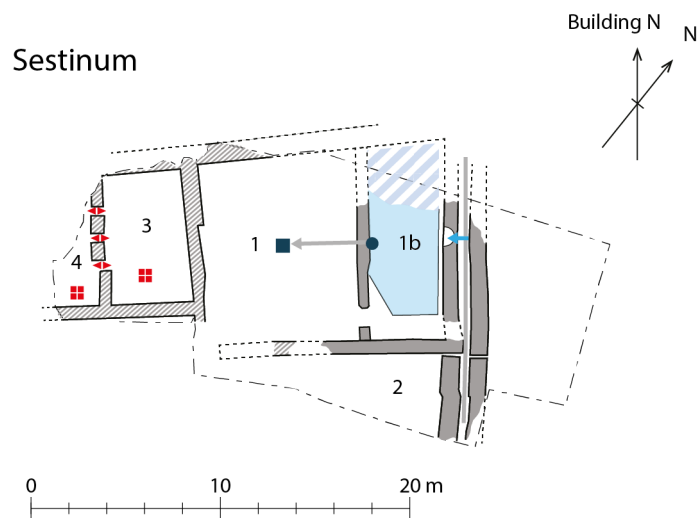


Figure 269: Plan of the baths of *Sestinum* (after a plan courtesy of the Soprintendenza–SABAP Firenze, Pistoia, Prato).

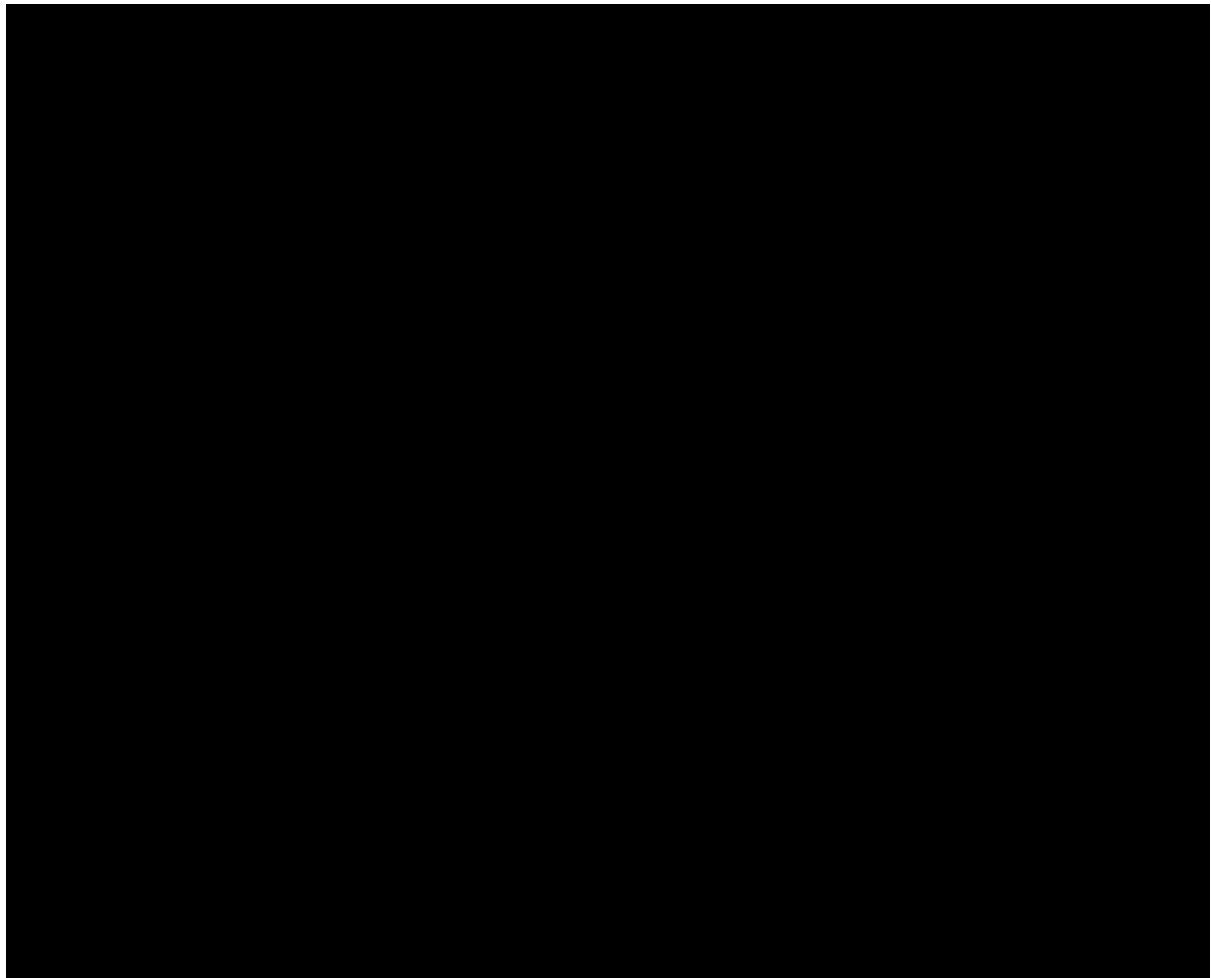


Figure 270A–D: Baths of *Sestinum*. **A:** R3, from SE. **B:** R1, from SW. **C:** pool R1a and its marble floor, from NW. **D:** Statue of a nymph found in pool R1a. (A–C: of the Soprintendenza–SABAP Firenze, Pistoia, Prato; D: TOSCANA D'APPENNINO SOC COOP n.d.).

Tuscany, uncertain identifications

Arretium (Arezzo), San Michele

To.G.11

Reliability: possibly baths (heated room), status unknown (public for Paturzo, private for others)

Province and Comune of Arezzo

11.881911 E, 43.463254 N

Mention of a heated bathing room (*pilae* made of circular bricks, *suspensura* floor in *cocciopesto*, *tubuli*) discovered in the 1960s at the foot of the Campanile of San Michele. Mosaic floor nearby.

Paturzo suggested the building could be public, since a public building, the church, was built on top. Others suggested it could be private and connected to a *domus*.

Bibliography: PATURZO 1997, 317; CHERICI 2009, 164

Illustrations: CHERICI 2009, fig. A no 29 (city plan)

Arretium (Arezzo), Via San Clemente

To.G.12

Reliability: weak (mosaic? nearby pool?)

Province and Comune of Arezzo

11.879861 E, 43.470828 N (approx.: via San Clemente)

In 1710, a building equipped with a mosaic floor was discovered outside the city wall and interpreted as 'probabilmente termale'. A pool equipped with benches was also found in the nearby Convento delle Clarisse.

Bibliography: FABBRI *et al.* 1992, no 7.2; PATURZO 1997, 317; BUENO 2011, 41; TESS2926

Arretium (Arezzo), Via del Ninfeo

To.G.13

Terme ad est dell' Anfiteatro

Reliability: weak (erudite tradition, possible pool, possible water storage)

Province and Comune of Arezzo

11.882830 E, 43.460929 N (approx.)

The area around Via del Ninfeo, ca. 150 E of the amphitheatre, is considered to have been a 'vasta area di edifice termali' since medieval times, and a series of structures found in the surroundings over the course of several centuries have been attributed to bath buildings. All remains are built over.

In the 1540s: discovery of mosaic floors (one black and white with braided frame and craters in corners), a circular pool, heating ducts, marble veneer (cipollino), porphyry columns, and torso of male togate marble statue. Also, discovery of ‘una bella certamente mole di marmo con le sue base, e aquidotti rovinati con meraviglioso pavimento di vetro a guisa de bagni di Agrippa in Roma.’ (Alessi, responsible of the investigations, quoted in Cherici 2009).

In 1925, Pasqui (in Paturzo) reported 5 mosaic floors in area, as well as a female headless statue. Finally, in via del Ninfeo, two or three rectangular parallels rooms, barrel-vaulted, with walls covered in *opus signinum* and perhaps mosaic floors, have been variously interpreted as baths, water storage, *nymphaeum*, temple, church. For Cherici, water was tapped from the river Castro

Bibliography: PATURZO 1997, 316–317; CHERICI 2009, 165

Illustrations: CHERICI 2009, fig. A (32) (location)

Clusium (Chiusi), I Forti

To.G.14

Reliability: weak (three cisterns, one pool)

Province of Siena, Comune of Chiusi

43.014670, 11.951118 (approx.)

In the area of *I Forti* were discovered in 1921–22 three cisterns and a large pool in *opus caementicium* along with *cocciopesto* and mosaic floors; a fourth cistern (5.40 × 5.60 m, in use from the 2nd cent. BC until the Augustan period) was discovered in 1986. Based on these discoveries, Paolucci suggested identifying the area as a bath building.

Bibliography: BIANCHI BANDINELLI 1925, 238; CALLAIOLI *et al.* 1988; PAOLUCCI 1988, 110

Clusium (Chiusi), Piazza XX Settembre

To.G.15

Reliability: weak (?)

Province of Siena, Comune of Chiusi

11.948570, 43.016373 (approx.)

Gamurrini identified a bath building in the E part of Piazza XX Settembre (the hypothetical location of the forum). Dated to the imperial period (Borghi).

Bibliography: BORGHI, QUILICI & QUILICI GIGLI 2002, 118

Clusium (Chiusi), Via Violella

To.G.16

Reliability: possibly baths (circular bricks *pilae*, but unclear if *in situ* or not), status unknown

Province of Siena, Comune of Chiusi

11.943233 E, 43.015779 N

Excavations led by the Soprintendenza alle Antichità d'Etruria in 1966–1968 W of the city centre, directly to the SE of the city walls, brought to light *pilae* made of circular bricks and a room with an apse and a mosaic floor. Its walls were faced with irregular stonework.

Mosaic: black and white, depicting Dionysus riding a panther, framed in an octagon surrounded by four panthers and geometric patterns. Lower register with two facing panthers separated by a kantharos. Dating: 2nd cent. AD (Bueno), 2nd half of 2nd cent. AD (Zazzaretta) into early 3rd cent. AD (Borghi *et al.*).

Bibliography: ZAZZARETTA 1988, 143; BORGHI, QUILICI & QUILICI GIGLI 2002, 93–95; BUENO 2011, 54–55, 284–285, 344–345, 403, 447, 456, 468; TESS³⁸⁵³

Archival material: *Archivio Bersotti, Chiusi*, ms. parte II.9; pictures in the Archive of the Soprintendenza Archeologica della Toscana (excavation: *SI XIII*, 4, 20198; mosaic: *SI XIII*, 20555 and 21672).

Illustrations: BORGHI, QUILICI & QUILICI GIGLI 2002, fig. 80; BUENO 2011, fig. 17, pl. XII.4

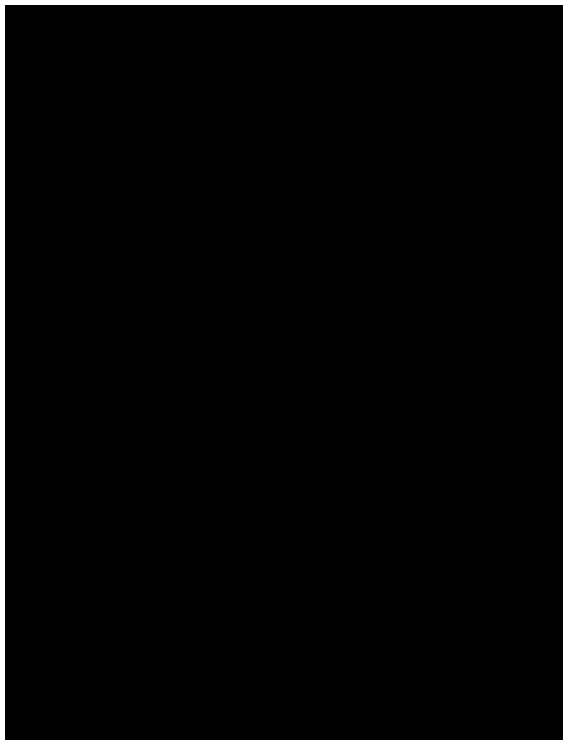


Figure 271: Drawing of the mosaic floor found at *Clusium* in via Violella (BORGHI, QUILICI & QUILICI GIGLI 2002, fig. 80).

Faesulae (Fiesole), Piazza Garibaldi

To.G.17

Reliability: possibly baths (heated rooms), status unknown

Province of Firenze, Comune of Fiesole

11.294424 E, 43.806806 N (approx.: Piazza Garibaldi)

Mention of the discovery of heated rooms during excavations under Piazza Garibaldi in 1986–1990.

Bibliography: SABELLI 1995, 65 note 11

Florentia (Firenze), Piazza San Giovanni

To.G.18

Reliability: baths, status unknown. Small size of rooms

1. 1.1 – Province and Comune of Firenze
1.2 – 11.254675 E, 43.773323 N
1.3 – In the N part of the city, close to the city wall, directly to the SE of the N city gate. Currently under the modern Piazza San Giovanni, W of the Baptistery.
2. 2.1 – Poor. Preserved at hypocaust level.
2.2 – Under Piazza San Giovanni
3. 3.1 – Excavations 1895 (dir. Corinti) during destruction of Palazzo arcivescovile. Surrounding area (south and under Baptistery) excavated in 1897 (dir. Milani, found *impluvium* of probable *domus*) and 1912–1915 (dir. Castellucci). The S part of the bathing area was not excavated.
3.2 – Not visited
4. Unknown. The square delimited by R4, R14 and R16 would cover ca. 200 m².
5. 5.1 – Imperial period (Ciampoltrini) / 3rd cent. AD (Galli)
The baths reused structures of a previously existing building, possibly a *domus* (to which the structures found under and south of the Baptistery probably belonged), dated to the 1st cent. AD and to which belonged R5, R6, R8, R9, R12, and floors under R16 (mosaic floor) and R17 (*cocciopesto* floor).
5.2 – Possibly already decommissioned by 4th cent. AD. Several tombs on Roman levels
6. 6.1 – The bathing rooms occupied the NW part of a larger complex, of unclear articulation. The strictly bathing rooms were **R3**, **R4** (heated pool), **R14** (heated), **R15** (with a semi-circular apse), **R16** (3.26 × 3.72 m, heated), and **R17**.
Directly to the E, a series of rooms—**R5** (4.86 × 3.66 m), **R6**, **R9**, **R12**—were accessible from a N–S corridor **R8** (14.60 × 1.33 m) opening onto a road to the N, running between the building and the city wall. Further rooms to the S (**R11**) and to the E (**R13**). The connection between these rooms and the bathing section is unclear.
6.2 – The rooms south of the Baptistery (R18–R23) and under it (R24–R40), of unclear connection with the baths, have been interpreted as part of a *domus*.
The two reconstructed plans in Corinti's Cartoline show differences with Galli's plan, as well as inconsistencies with each other.
7. From pictures, walls faced with horizontal courses of varying height, possibly alternance of brick and stone blocks

8. 8.1 – Mentioned of a furnace (*prae-furnium?*)
 8.2 – R3, R4, R14, R16 and R17 were heated. **R16**: *area* made of tiles with knocked-off flanges. Connections between hypocausts of R3–R16, and R14–R17.
 Wall heating: *tubuli* found in **R4** (not *in situ?*)
9. 9.1 – See [To.04]
 9.2 – R4 required hot water.
 9.3 – **R4**: pipe in N wall, possibly overflow. **R15**: wastewater channel in W part. Sewers under road to the N, running E–W, slope toward W (10 on plan)
10. 10.1 – Marble floor and wall veneer in **R4**, possibly in **R3** too. Red paint on walls of **R15**.
 Mosaic floor in **R5** (TESS2705), **R6** (TESS3641) and **R13**; the first two were black and white, geometric pattern. Possibly *opus scutulatum* floor in **R8**. Simple mortar in **R9**. Marble floor and walls in **R12**.
 10.2 – Many fragments of moulded cornices in white marble; fragments of columns in cipollino; fragment of door moulding in marble; marble Corinthian capital, 0.64 m high; fragment of pilaster strips and other slabs (veneer) in Italian white marble; six bronze coins, 4th cent. AD; fragments of common ware.

Stamped CBM

Three tiles (*'embrici'*, 0.57 x 0.44 m) with stamps; two stamped bricks (*'tegoli'*), from the floor of a room (from an *area?*). Galli could not retrace the stamps.

Inscription

Marble slab, 3 letters: R PA

CIL VI.16740 = ILS 8518 = EDR112446

Marble *tabula*. Found in the area of baths (Corinti) or Florence/Rome (EDR)

*Daphnus et
 Chryseis
 Laconis liberti
 Fortunato suo v(ixit) a(nnis) VIII,
 balneo Martis piscina
 perit.*

Corinti associated the *balneum Martius* mentioned in the inscription with the remains, association doubted by Maetzke who also doubted the authenticity of the inscription

See also: FAGAN 1999, cat. 260

11. GALLI 1916, 89–112; MAETZKE 1941, 68; CIAMPOLTRINI 1993b, 433, 436–437; CESATI 2004

Decoration: TESS2705, TESS3641

12. GALLI 1916, between p. 82–83 (plan), fig. 6–7 (pictures); CESATI 2004, cartoline 5–7

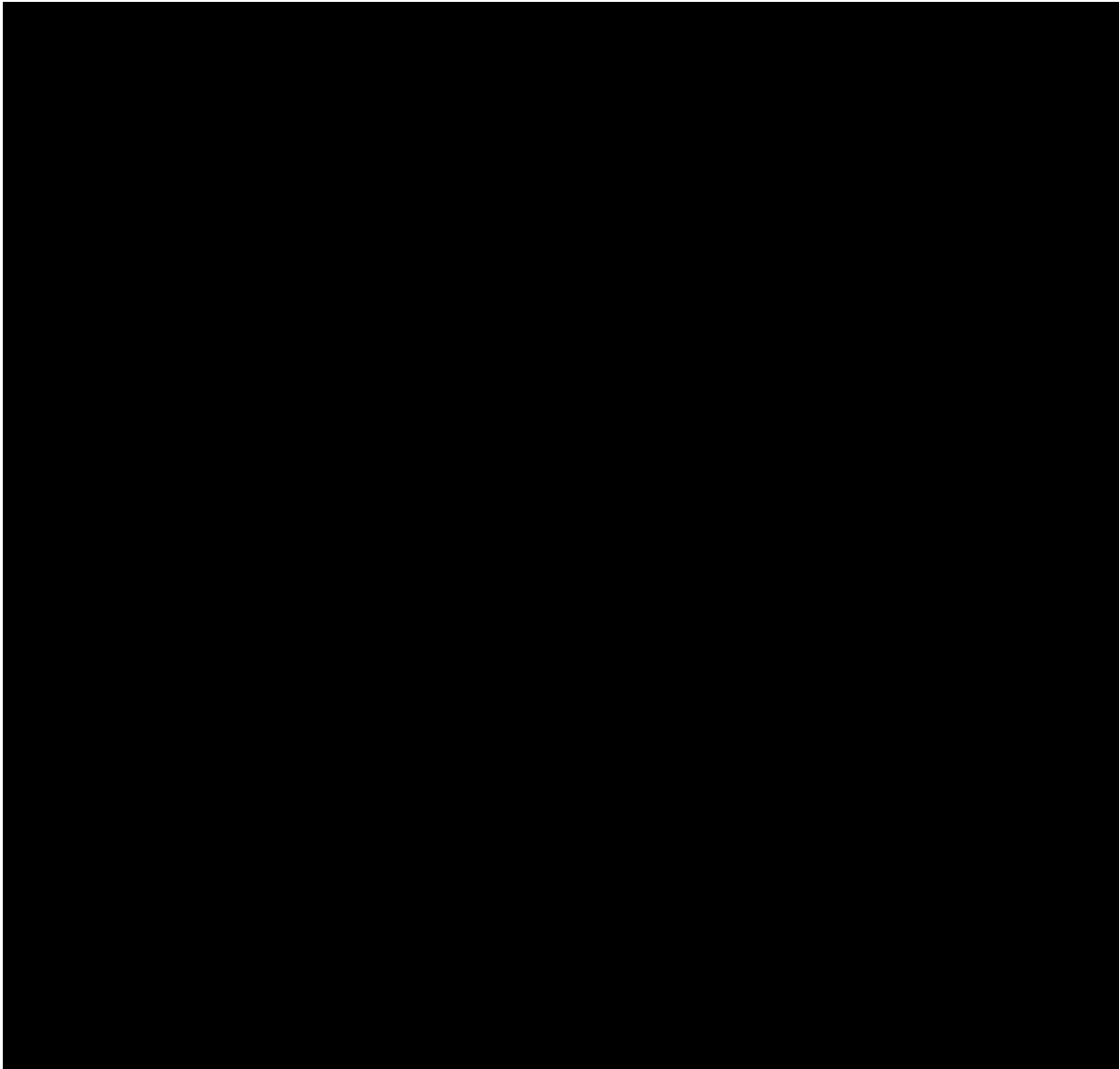


Figure 272: Plan of the baths of *Florentia* in Piazza San Giovanni (GALLI 1916, between p. 82–83, amended by author).

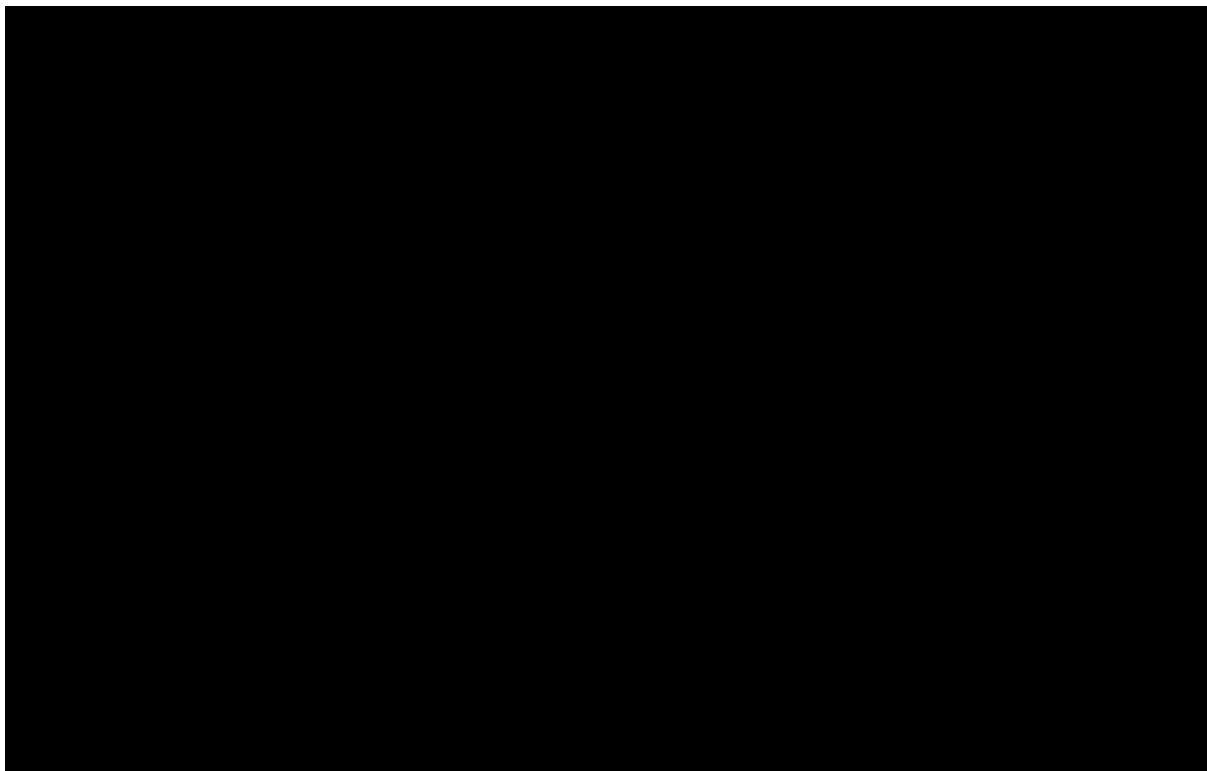


Figure 273: Baths of *Florentia* in Piazza San Giovanni, in Corinti's Cartoline (CESATI 2004, cartolina 5).

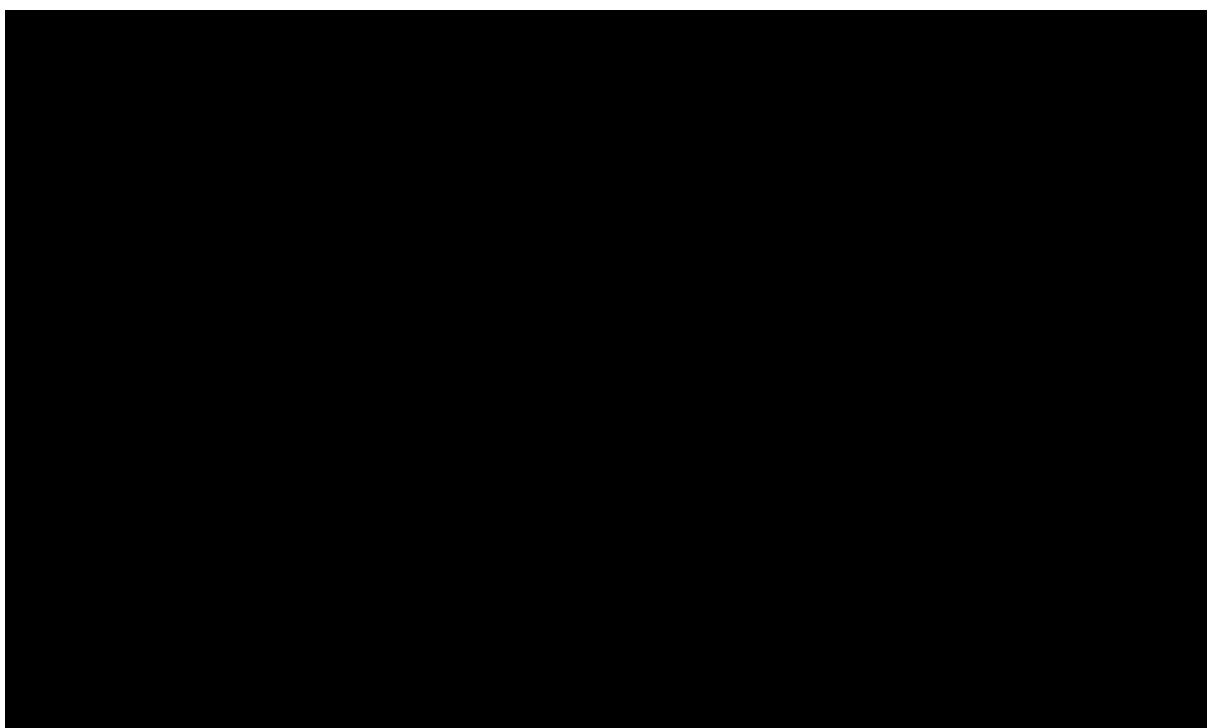


Figure 274: Baths of *Florentia* in Piazza San Giovanni, in Corinti's Cartoline (CESATI 2004, cartolina 6).

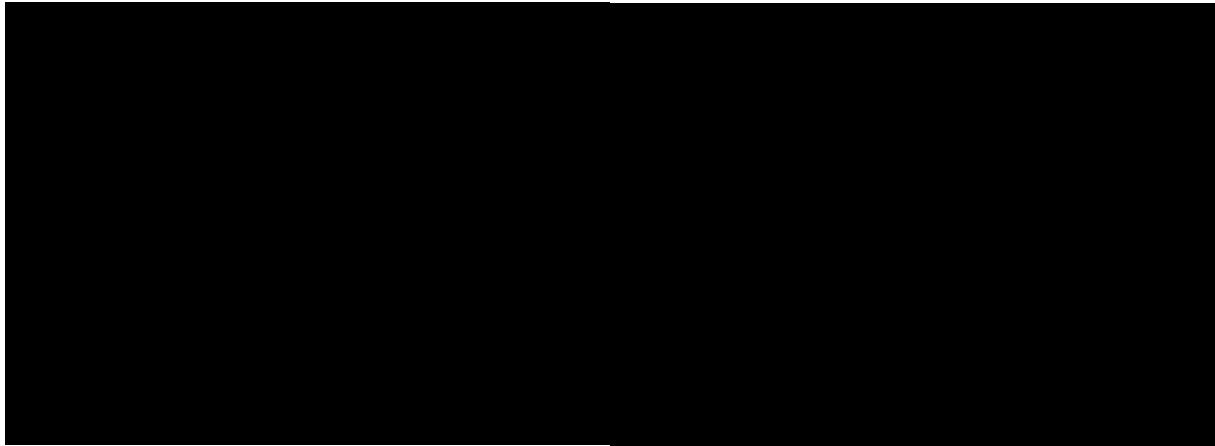


Figure 275: Baths of *Florentia* in Piazza San Giovanni, during the 1895 excavations. Heated rooms, number and orientation unknown (GALLI 1916, fig. 6–7).

Florentia (Firenze), So-called Terme di Capaccio

To.G.19

Terme di Capaccio, Terme in via Por Santa Maria, Terme presso la porta meridionale

Reliability: Weak. Identification based on dimensions, wealth of material and presence of a large pool. These arguments hint at a public building but do not confirm its function as baths.

1. 1.1 – Province and Comune of Firenze
 1.2 – 11.254116 E, 43.769477 N
 1.3 – Directly outside the S gate of the city, against the city wall.
2. 2.1 – Only a few rooms are known, preserved for 1–2 m in elevation.
 2.2 – Backfilled, nothing visible.
3. 3.1 – Erudite tradition recorded the existence of a bath building in the area since the 14th cent. AD. Discovery of material in the area occurred during the Renaissance until the 18th cent., when Manni published a study of the baths of Firenze; he mentioned *suspensurae* in the area, identified as part of private baths by Lopes Pegna.
 Excavations took place in ca. 1926, 1947 (by the Soprintendenza, dir. Maetzke), 1950–1952 (poorly documented).
 3.2 – Not visited
4. Unknown. Preserved surface area: ca. 800 m².
 Lopes Pegna indicated that the baths occupied ca. 4,000 m² between via Vacchareccia to the N, beyond via delle terme to the S, the E side of via Por S Maria to the E and Piazza San Biagio/Parte Guelfa to the W. For Manni, the baths extended to Palazzo Davanzati to the W and Borgo Santi Apostoli to the S.
5. 5.1 – I: Early 2nd cent. AD/Hadrianic (CT, S). II: 3rd–4th cent. AD
 5.2 – Early 5th cent. AD when damaged by fire. Tombs later placed in some rooms. R6 reused as dwellings in medieval period.

6. **6.1** – From the limited excavation area, the complex was organised around a large room R1 at the centre of which was a pool R1a, surrounded by a portico. Several rooms opened around R1: some rectangular rooms to the E (R2–R3), at least one with a mosaic floor. Connection between R1 and R3 via columnar screen, two column bases in place; passage blocked at a later time. Large corridor to the N (R4), with mosaic floor, overlooking to the N a wall animated with a series of semi-circular niches (R5). Behind this wall was a series of parallel low vaulted rooms (R6).
6.2 – R4 may have been an entrance. R5 was tentatively interpreted as a *nymphaeum*, but the absence of any traces of piping does not support the identification. R5 was interpreted as substructures for a putative *castellum aquae* above (based on the supposed origin of the term *Capaccio* in ‘*caput aquae*’), but no traces of piping have been found.
7. Concrete walls. Facing described as horizontal courses of small stone blocks alternating with brick courses, but from pictures the facing was exclusively made of stone block courses. Concrete walls in R6, possibly without facing.
8. **8.1–2** – No information available
9. **9.1** – See catalogue entry for *Florentia*, Piazza della Signoria [To.04]
9.2–3 – No information available
10. **10.1 – R1–R1a:** pool veneered with Luni marble and *cipollino*. Colonnade made with grey granite columns and white marble Corinthian capitals. Marble floor around pool; ambulatory floored with polychrome mosaic (white, yellow and black). Mosaic floor in **R2**, geometric, black and white (white background). Pattern of hexagons with inscribed flower, braid frame. *Opus sectile* floor in **R3**, polychrome (remains of *giallo antico*, *pavonazzetto*, *verde antico*), geometric pattern. Walls of some rooms around R2–R3, and R5, veneered in polychrome marbles: *cipollino*, red porphyry, green serpentine, *giallo di Siena*.
10.2 – Various finds in the general area of the baths, over several centuries: polychrome marble fragments (incl. veneer), several statues and statue fragments, Corinthian columns and capitals, statue bases in white marble with mouldings, small bronze herm.

Statues (CAPECCHI 1996, 207–212):

- ‘Statue with Roman dress’ (16th cent. discovery)
- Statue of a young male. Found in 1926, in the Museo Archeologico di Firenze (info. 1996), inv. 210432. White marble, fine grain. Preserved height 0.58 m. Dating: 2nd half of 1st cent. AD.
- Statue of Hercules with *leonte* leaning of a trunk, headless. Found in 1950, in the Museo Archeologico di Firenze (info. 1996), inv. 92082. White marble, large grains,

possibly from the Cyclades. Preserved height 1.14 m, W 0.60 m, D 0.28 m. Dating: Flavian.

- Trunk with *leonte*, possibly of a similar same type and dimensions as the previous one. Found during same campaign, kept in same location, inv. 92083. Preserved height 0.99 m.

11. MAETZKE 1941; LOPES PEGNA 1962, 130–136; SCAMPOLI 2007b, 74–75; PAGNI 2010, 169–171, 337–339

Brief mentions: CIAMPOLTRINI 1993b, 436–437; CIANFERONI 2015, 57

Material and decoration: LOPES PEGNA 1962, 262; CAPECCHI 1996, 207–212; PAGNI 2010, 202–204; TESS3760; TESS3674; TESS17167

12. Plans: CAPECCHI 1996, fig. 11; PAGNI 2010, fig. p. 169, 171, 339

Pictures: LOPES PEGNA 1962, fig. 45–50; SCAMPOLI 2007b, fig. 23–28; SCAMPOLI 2007a, fig. 6–8; PAGNI 2010, fig. p. 170, 337–338

Material: CAPECCHI 1996, fig. 122–125

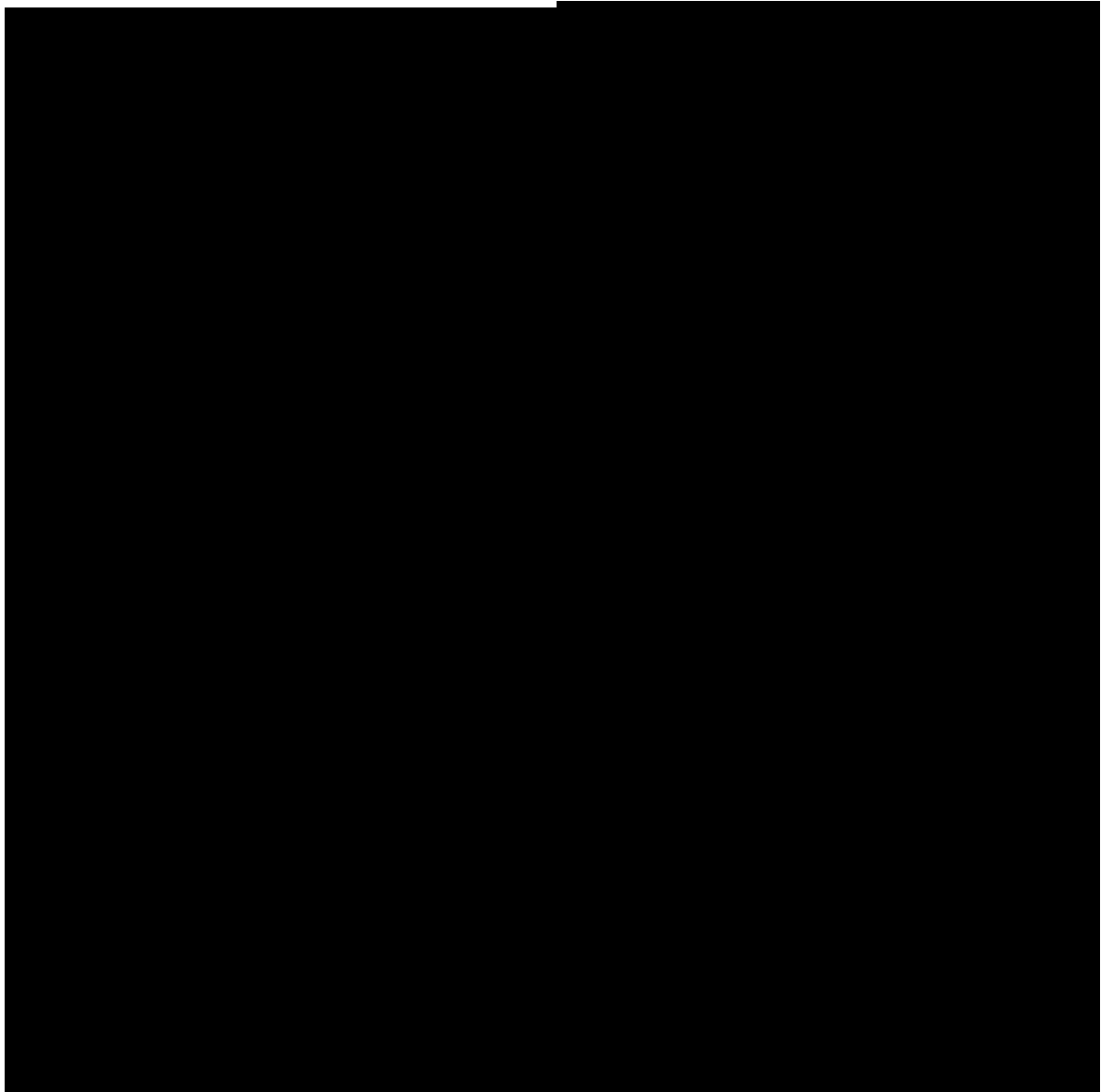


Figure 276: Plan and axonometric view of the so-called Terme di Capaccio at *Florentia* (PAGNI 2010, fig. p. 169, 171, modified by author).

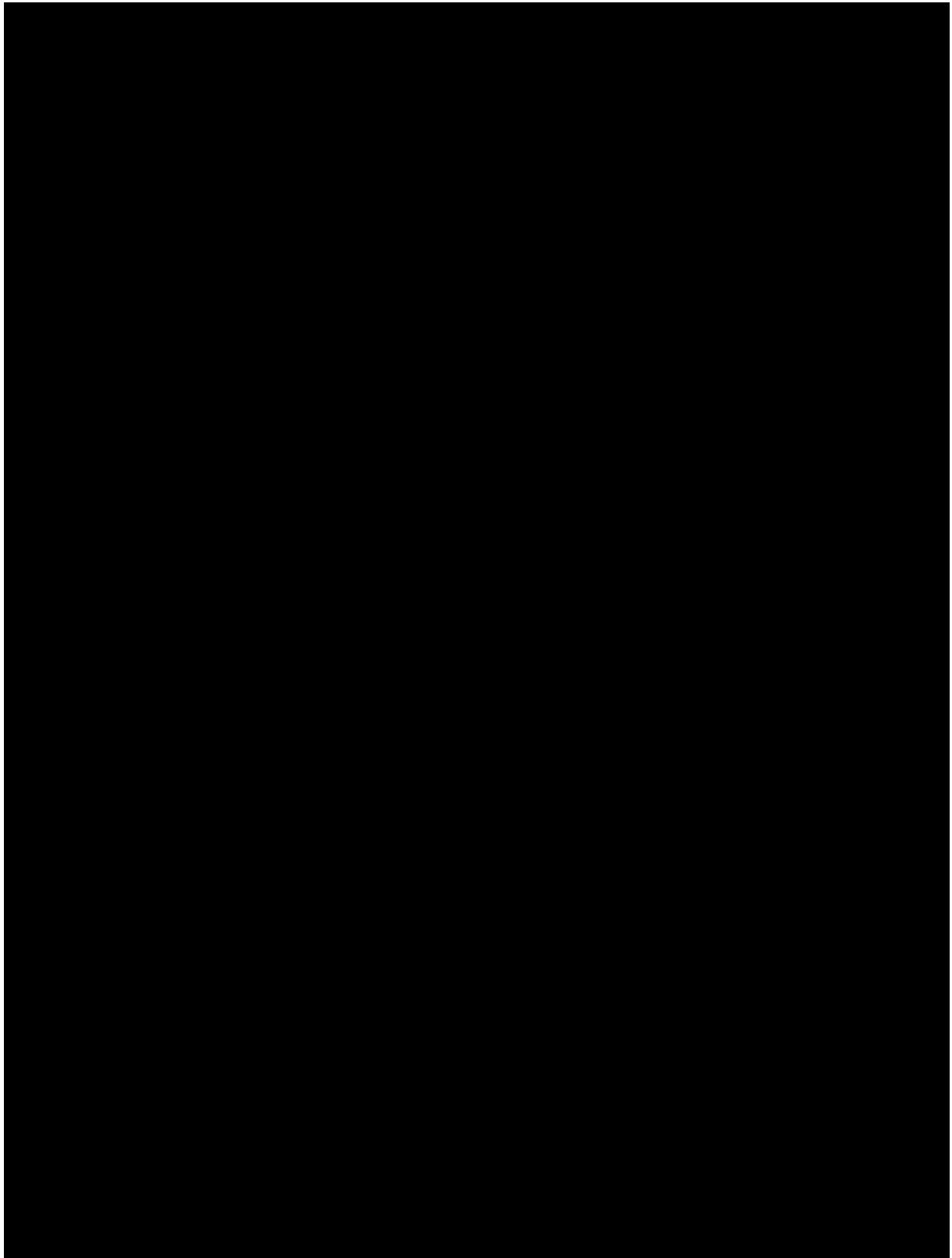


Figure 277A–F: So-called Terme di Capaccio in *Florentia*. **A**: view of R4–R5, from S. **B**: passage from R3 to R1, from E. **C–D**: decoration. Mosaic floor in R2, *opus sectile* in R3. **E–F**: material. Statues of young male and Hercules (A: SCAMPOLI 2007a, fig. 6; B–C: SCAMPOLI 2007b, fig. 26–27; D: TESS17167; E–F: CAPECCHI 1996, fig. 121, 123).

Reliability: weak (one apse)

Province and Comune of Firenze

11.255828 E, 43.771793 N (approx.)

Unpublished excavations by the Soprintendenza Archeologica per la Toscana (dir. G. De Marinis) uncovered an apse under the Torre della Pagliazza, which Ciampoltrini suggested could have been part of a bath building.

Bibliography: CIAMPOLTRINI 1993b, 434

Reliability: possibly baths (*tubuli* in backfill layers, possible porticoed pool in R1), status unknown

1. 1.1 – Province and Comune of Lucca
1.2 – 10.504643 E, 43.841177 N
1.3 – Now under the apse of the late antique church of SS Giovanni e Reparata
2. 2.1 – Poor
2.2 – Musealized in the basement of the church of SS Giovanni e Reparata
3. 3.1 – Excavated by in 1976–77 (dir. De Marinis); small trench in 1990.
3.2 – Not visited
4. The identified structures fit into a 35 x 15 m rectangle, for a potential surface area of 525 m².
5. 5.1 – I: late 1st cent. AD – Trajanic/Hadrianic period (M). Later, undated modifications. The structures obliterated a previous building, possibly private, dated between the late 2nd cent. BC and the Augustan period.
5.2 – Before mid-4th cent. AD (M), when the structure was transformed into a church
6. 6.1 – Remains of walls belonging to several rooms: a room with two columns (**R1**), forming a portico around a structure hypothetically identified as a pool. The E wall was reinforced by buttresses and displayed remains of steps veneered with marble, but the connection between these steps and the pool is lost. E of R1 was a corridor (**R2**) at a lower level, which opened into **R3**. Two further rectangular rooms are visible to the N (**R4–R5**). Further to the N, a quadrilobed room (**R6**), interpreted by the excavators as the baptistery of the church, could instead have initially been a square room that was part of the same building as R2–R5 (Ciampoltrini). Wall **R7**, for its alignment with the other structures, could also be part of the building.
6.2 – Ciampoltrini tentatively identified R1 with a *frigidarium* with pool, and R3 with a *palaestra*.

7. The walls of R6 were made of horizontal courses of rough-hewn stone blocks regularized by a thick layer of mortar, and the (possibly later) apses in the same room were made of stone blocks and brick arranged in a herringbone pattern.
8. 8.1 – /
8.2 – Several fragments of *tubuli* found in later backfill layers.
9. 9.1 – No direct evidence for the imperial period, but the transformation of R6 into a baptistery in the 4th cent. AD, with the relevant water adduction pipes, suggests that water was available in the area.
9.2–3 – /
10. 10.1 – Marble slabs over concrete floor in R1 and R6.
10.2 – /
11. CIAMPOLTRINI 1993b, 428–430; 1993a; DE MARINIS 1993
12. CIAMPOLTRINI 1993b, pl. X; CIAMPOLTRINI 1993a, fig. 1 (plans)

Luca

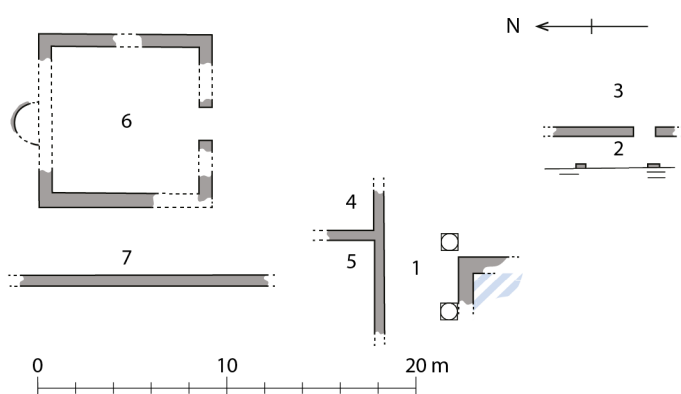


Figure 278: Plan of the structures under the church of SS Giovanni e Reparata at *Suana* (after CIAMPOLTRINI 1993b, pl. X).

Suana (Sovana), Chiesa San Massimiliano

To.G.22

Reliability: probably bath building, status unknown

1. 1.1 – Province of Grosseto, Comune of Sorano
1.2 – 11.64164 E, 42.65626 N
1.3 – No information available
2. 2.1 – Only one heated room partly preserved, the other parts of the baths destroyed by the construction of late antique and more recent graves, and the church
2.2 – Now under the NW corner of the church of San Massimiliano
3. 3.1 – Excavation in the church in 2004 by the Soprintendenza per i Beni archeologici della Toscana, in collaboration with the Società Archeologica del Centro Italia s.r.l.

4. One room preserved for 30 m²
5. 5.1 – I: imperial period (CT: brick facing), possibly 2nd cent. AD (CT: relieving arch)
 5.2 – Abandonment date unknown
 In post-Roman phase, the walls were razed and the structures backfilled with rubble. Large stone blocks were placed possibly to support floor of new construction and walls of church.
6. 6.1 – One heated room with hypocaust, 5.12 m wide, length not preserved. Midway along W wall, another E–W wall subdivided the space in two parts. Relieving arch visible in W wall. Mosaic floor.
 Outside of R1, another wall and three water channels, possibly connected to the same building.
 6.2 – Barbieri *et al.* identified R1 as a *caldarium*
7. Walls of R1 faced in brick. The arch in the W wall of R1 was made of brick and tuff blocks. The wall outside of R1 was faced with 5 courses of brick alternating with reticulate.
 The E–W channel had walls in concrete and a floor made by two layers of waterproof mortar. The first N–S channel was floored with *bipedales* and bound by walls made of tuff blocks; the longer N–S channel was covered a *capuccina* with two *bipedales*.
8. 8.1 – /
 8.2 – R1: hypocaust floored with *tegulae* with knocked-off flanges (L 0.58 m, W 0.37 (lower end) – 0.44 m (upper end)) on layer of beige lime. *Pilae* made of *bessales* (side ca. 0.23 m), 0.56–0.59 m high; one *pilae* has triple thickness. *Suspensura* floor made of *bipedales* (side 0.59 m, 0.05 m thick) supporting a layer of whitish *cocciopesto*. *Tegulae* (0.60 m high, 0.33 m wide) against N part of W wall and against the E–W wall (described as rectangular section *tubuli* by Barbieri *et al.*, but the dimensions and the picture suggest *tegulae* instead).
9. 9.1–2 – /
 9.3 – An E–W channel, 0.46 m wide, a N–S channel, and a third, N–S channel. The latter might have run along the whole length of the church. The connection between the channels and the baths is unclear.
10. 10.1 – In R1, imprint of a mosaic floor in the *cocciopesto* layer. The mosaic belonged to a secondary phase and was made of black and white limestone tesserae, loose.
 10.2 – /
11. BARBIERI, MILLEMACE & TUCI 2007–2008
12. TONDO *et al.* 2004, p. 381 fig. 2 (plan of excavation area); BARBIERI, MILLEMACE & TUCI 2007–2008, fig. 11, 15 (plan, section), 12–14, 16 (pictures), 9 (decoration)

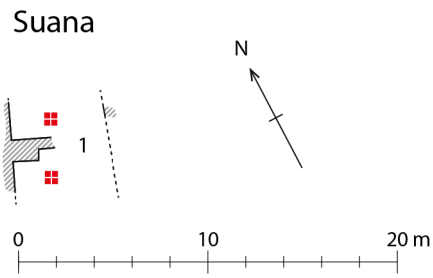


Figure 279: Plan of the baths of *Suana* (after BARBIERI, MILLEMACI & TUCI 2007–2008, fig. 11).

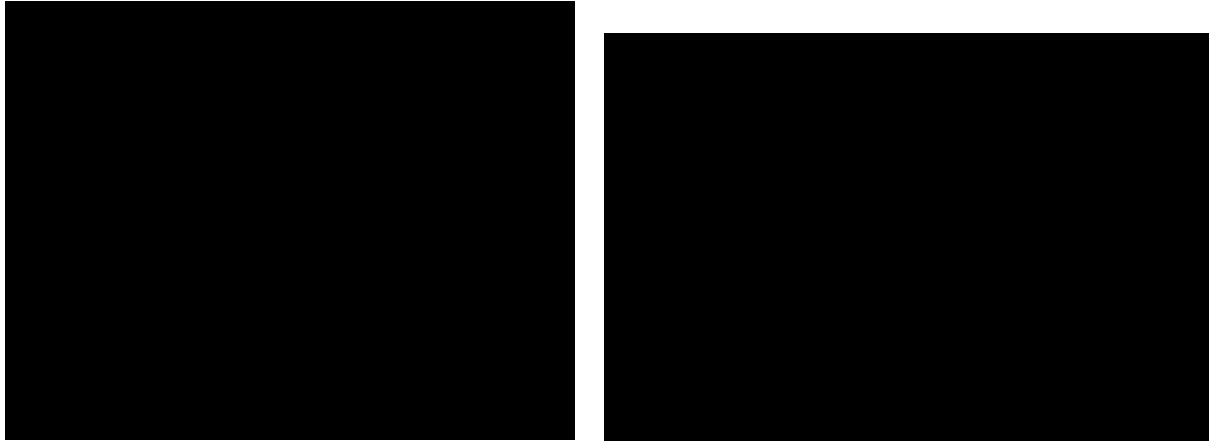


Figure 280: Baths of *Suana*. Details of the construction technique and hypocaust system of R1 (BARBIERI, MILLEMACI & TUCI 2007–2008, fig. 13, 16).

Umbria

Umbria, Catalogue

Ocriculum (Otricoli)

Um.01

Terme di L. Iulius Iulianus, Thermae hiemales, Terme invernali

1 – Location

1.1 – Province of Terni, Comune of Otricoli

1.2 – 12.466533 E, 42.414122 N, ca. 200 m asl

1.3 – In the urban centre, on an artificial terrace, SE of the theatre

2 – Preservation

2.1 – Limited. Walls of R1, R3 and a pier in R5 are visible today, up to ca. 6 m above current ground level. Other structures, not visible nowadays, are preserved to a lower height. Restored.

2.2 – Part of the Parco archeologico di *Ocriculum*

3 – Research

3.1 – First excavated at the end of the 18th cent. AD (1779–1780, 1782–1783) by the Papal authority (dir. G. Pannini). Further research by C. Pietrangeli in 1940s–1980s, and excavations by the Soprintendenza (previously called Ispettorato) Archeologica dell'Umbria (dir. U. Ciotti, then A.E. Feruglio), undocumented. Further work by the Soprintendenza in late the 1990s–early 2000s (dir. L. Cenciaioli). Geophysical survey by the British School at Rome in the early 2000s. Architectural documentation by De Rubertis in 2011.

3.2 – Visited in March 2016

4 – Dimensions

The currently visible structures (from R3 to SW to R6 to NE) fit in a ca. 1,000 m² polygon. R1: ca. 130 m². R3: ca. 60 m²

5 – Chronology and phasing

5.1 – Several dating proposed, most considering that there were two baths, those of *L. Iulius Iulianus* and the *thermae hiemalis*, either different structures or the latter being an extension of the former.

***L. Iulius Iulianus's* baths:** construction in 2nd cent AD (brickstamp, inscriptions *CIL* XI.4087–4090). Gaggiotti preferred an Augustan date for the inscription, and supposed a second phase for the remains currently visible.

Thermae hiemalis:

- **I:** unknown
- **II:** AD 341. Enlargement by *S. Cluvius Martinus* and *M. Caesolius Saturninus* (CIL XI.4095–4097)
- **III:** 4th–5th cent. AD. Restoration by *C. Volusius Victor* (CIL XI.4094)

5.2 – Unknown. Urban centre abandoned 7th–8th cent. AD

6 – Description of the remains and identification of rooms

6.1 – Only two large rooms, one octagonal (R1) and one circular (R3), as well as a few structures in between, are preserved; they have been attributed to the baths of *L. Iulius Iulianus*, and no archaeological remains of the *thermae hiemalis* is known.

R1: octagonal room inscribed in a square, with four semi-circular niches in the corners, and four openings on the sides, with main entrance from the E through an anteroom R2 (marble threshold). Possibly another passage in the SE niche, as indicated by a segmented arch visible above the soil level. Above the niche are the heavily restored remains of the springing of an arch that spanned the E entrance. The N wall is preserved up to 6 m above ground; the transition between the wall and the roof was marked by a slightly projecting course of bricks or tiles. Complex umbrella vault (see 7.3). The triangular spaces reserved above the corner niches are floored with concrete and identified as service areas. Mosaic floor, marble on walls (see 10.1). **R2** was an anteroom/main access to R1. **R3:** circular heated room SW of R1, included in a square structure, diam. 9 m. One large window in S wall, originally covered by two arches, now collapsed. Accessible from S and N (as indicated in Pannini's plan but not visible anymore). R3 was connected to R1 via a wall **R4**. **R5:** Rectangular room with two pairs of semi-circular niches covered with umbrella vaults, partly blocked. **R6:** structures to the NE, buried, probably part of the baths based on CTM, probably a pool or water tank.

6.2 – From Pannini plan, the *thermae hiemalis* were located between the baths and the large substructures to the N; the geophysical surveys by the BSR demonstrated the existence of structures in the area, but with a different orientation to those drawn by Pannini.

7 – Construction techniques and materials

7.1 – No information available

7.2 – Concrete faced with courses of bricks and mostly tiles (where reticulate was used in most of the city). Cocciopesto on outer walls of R3.

7.3 – R1 was covered by a complex segmental umbrella dome with originally 41 gores, 9 of which preserved. There was probably an oculus at the crown of the vault. The connection between the walls of the octagonal room and the gores of the vault was made via small 'triangoli sferici' on top of two slightly projecting courses of brick. According to Antonelli, this type of vault is unique in the Roman world, the closest comparison being a 3rd cent. AD semi-dome in the Villa dei Gordiani near Rome.

At the back of the extant part of R1 are the remains of two rooms, covered with cross vaults.

8 – Heating devices

8.1 – No information available

8.2 – R3 heated, traces of *tubuli* on the walls

9 – Water management

9.1 – Structures to the NE, buried, probably part of the baths based on CTM, probably a pool or water tank since the corners are thickened with waterproof lining.

9.2 – In the corner niches in R1, circular-section openings under the springing of the vault, probably originally fitted with water supply pipes. Opening in the wall between the SW niche and the W passage, 0.20 x 0.10 m, with traces of lime concretion on lower surface, possibly with same function.

9.3 – The Rio San Vittore, a stream that crossed the site, was channelled underground; the baths were later built above the channel. SW of R1, a water disposal channel made in brick and covered a cappuccina, was headed towards the underground channel of the Rio San Vittore. Alternatively identified as channel used for fetching water from an underground cistern (Hay *et al.*, contra Antonelli).

10 – Decoration and material

10.1 – R1: mosaic floor on preparation layer of mortar included pozzolana, tile fragments, and pieces of tuff. Walls veneered with marble for more than 6 m, then wallpainting. Vault covered with glass *tesserae*.

Mosaic floor in R1, in Vatican Museum since 1783. Polychrome octagonal mosaic, diam. 12.90 m, with missing central emblema (restored as a gorgon head in the 18th cent. AD). Around the centre, the space was divided in 8 radial sectors, each subdivided in two sectors, filled with scenes of Centaurs and Greeks fighting, tritons, Nereids and sea monsters.

Dating: 2nd–3rd quarter of 2nd cent. AD (Picard, who suggested it was the work of an Italian workshop) or 3rd cent. AD (Helbig & Speier on stylistic grounds).

Another **mosaic floor** probably from the baths, from a room next to R1, where remains of a large basin covered in *opus signinum* were found. Other provenances, away from the baths, have been suggested. Several fragments of a black and white mosaic, the largest fragment (2.30 m wide) depicting a scene from the Odyssey (Ulysses attached to the mast of his boat to listen to the sirens). Other fragments with sea creatures, Neptune on a quadriga, a Nereid. In Vatican Museum since 1783

10.2 – During papal excavations: inscriptions, statues (two headless statues of *Sex. Cluvius Martinus* and *M. Caesolius Saturninus*, with their related bases; an imperial portrait, possibly Augustus; a headless statue, woman dressed with *chiton* and *himation*), and marble fragments.

One brickstamp (FILIPPI 1996; HAY, KEAY & MILLETT 2013, xiii)

- *CIL XV.1078: O(pus) (doliare) ex pr(aedis) Lucillae Veri (fecit) Merc(urius) Cl(audii) Quint(ualis)*

One circular brick stamp, *in situ* among the *bipedales* of the arch of the NE niche of R1.
AD 145–150

Nine inscriptions found in the baths in the 1780s (PIETRANGELI 1978)

- **CIL XI.4090 = [E47]** (FILIPPI 1994, 94): *Iuliae Luciliae, / L. Iuli Iuliani fil., / patron[i] municipi, / cuius pater / thermas Ocricola/nis a solo extructas / sua pecunia dona/vit. / Decur(iones), Aug(ustales), pleps / l(ibentes) d(ono) d(ederunt).*

Statue base, W 0.59 x H 0.97 x T 0.55 m. Five fragments of a second example of the same text were also found. Statue erected in honour of *Iulia Lucilia* for the merits of her father *Lucius Iulius Iulianus* who built the baths and was the *quattuorvir* mentioned in the inscription CIL XI.4087. Dated under Augustus or in the 2nd cent. AD, and connected to the construction phase of the baths.

- **CIL XI.4088 and CIL XI.4089 = EDCS-21500008 and EDCS-21500009**

[L(ucio) I]ulio L(uci) f(ilio) Pal(atina) / Iuliano / [p]atrono munici/pi(i) Irenaeus / lib(ertus)
[L(ucio)] Iulio L(uci) f(ilio) Pal(atina) / Luciliano / [p]atrono munici/pi(i) Irenaeus / lib(ertus)
Two bases of statues set in honour of *L. Iulius Iulianus* and *L. Iulius Lucilianus*, relatives (brothers?) of *Iulia Lucilia* mentioned in CIL XI.4090, set up in the baths by the *libertus* *Irenaeus*.

- **CIL XI.4096 and CIL XI.4097 = EDCS-21500018 and EDCS-21500019:** *Bonae originis suboli et / sinceritate praecipua praedi/to M(arco) Caesolio Saturnino om/nibus honoribus functo lauda/bili viro restauratori thermal/rum hiemalium cum Sex(to) Cluvio / Martino fratre suo pro tantis / meritis erga se ordo et cives splen/didissimae civitatis Ocricolanae / statuam marmoream patro/no dignissimo ad perenne tes/timonium publice / censuerunt / feliciter //*
Dedicata XVI Kal(endas) / Decembres / Marcelli/no et Probi/no cons(sulibus)

Two bases of twin statues. The text is the same on both bases (with the line breaks in slightly different places) as they are both dedicated to the brothers *Sex. Cluvius Martinus* and *M. Caesolius Saturninus* who restored the *thermae hiemalis* in AD 341.

- **CIL XI.4095 = EDCS-21500017:** *Provocati temporis beatitudine[m] dd(ominorum) / Impp(eratorum) Constan[ti] et Constantis] Aug(g)ustorum<q=O>ue nn(ostrorum) / volumnatatem thermarum hiemalium Sex(tus) Gluvius Mar/tinus et M(arcus) Caesolius Saturninus omnibus honori/bus functi de sua pecunia ordini seu civibus Ocriculanis ad meliorem pulc(h)ritudinem pro civica ad/fectione cum augmento operi novi exercientes / adsi<g=C>naverunt et dedicaverunt //*
Die XVI / K<a=I>l(endas) De/c<e=I>mbr(es) / Marce/llino et / Pro/bino / con/suli/bus

Inscription officially commemorating the restoration of the winter baths by *Sex. Cluvius Martinus* and *M. Caesolius Saturninus*, mentioned in CIL XI.4096 and 4097. The inscription suggests that the restoration was accompanied by an enlargement of the more ancient winter baths that were located, according to the 17th century excavations, next to the other baths.

- **CIL XI.4094 = EDCS-21500016:** *P(o)s(i)t(a) / di[a]e III Nonas No<v=B>(embres) //*
C(aio) Volusio Victor/li qu(a)estori r(ei) p(ublicae) Ocriculanorum IIII/vir<o=I> aedil<i=ES>

IIIvir<o=I> iur/e [e]d(i)c(undo) III(viro) quinq(uennali) cives [ei] / plebei hoc[e] merito stat/uam huic posuerunt q/ui t(h)ermas (h)iemalis ad pristi/nam dig(nitatem) restauravit et d(e)d(i)c(a)v(it)

Found alongside CIL XI.4081 and 4100. Statue base of C. Volusius Victor, who restored the *thermae hiemalis*, erected with public funds. Late 4th–early 5th cent. AD (palaeography)

- CIL XI.4100 = EDCS-21500022 = [E48]= [---]lalla / [--- in perpe]tuum / [---] dedit / [--- i]ncolis hospitib(us) / [--- fa]mil<i=L>isque eorum / [---]

Found alongside CIL XI.4081 and 4094. Fragment of an inscription mentioning a probable *lavatio* benefaction.

- CIL XI.4081 = EDCS-05801572: *Fortunae Augustae / Sex(tus) Aufidianus Sex(ti) f(ilius) Arn(ensi) / Celer prae(f)ectus fabrum / IIIvir aedilis III/vir iur(e) dic(undo) IIIvir quinq(uennalis) / quaestor III de suo / dedit locus / d(atus) d(ecreto) d(ecurionum) / ob dedicationem eius mulsum et / crustulum populo dedit*

Found alongside CIL XI.4094 and 4100. *Sextus Aufidianus Arnensi*, municipal magistrate, dedicated a statue to *Fortuna Augusta* and offered *mulsum et crustulum* at the occasion. 2nd cent AD (EDCS)

11 – Bibliography

PIETRANGELI 1943, 69, 84–87; HELBIG & SPEIER 1963; PIETRANGELI 1978, 64–65; GAGGIOTTI *et al.* 1980, 24; MANDERSCHIED 1981; DAREGGI 1982; PICARD 1983, 35–37; FILIPPI 1994; COLIVICCHI & ZACCAGNINO 2008, 178–180; DE RUBERTIS 2011; CENCIAIOLI 2012; HAY, KEAY & MILLETT 2013, xiii, 18–19, 21, 58–60, 149; ANTONELLI 2018, 18–25; 2019; TESS9966; TESS9967

12 – Illustrations

PIETRANGELI 1978, pl. III, fig. 64–65 (pannini's drawings), 66–71a (pictures), 112 (material); DE RUBERTIS 2011, fig. 1 (city plan), 22 (axonometry), 23–28 (plans and sections); CENCIAIOLI 2012, fig. 6–7 (decoration); ANTONELLI 2019, fig. 1, 7–9, 11, 13, 17, 19–20 (plans and sections), 12, 14–15 (pictures)

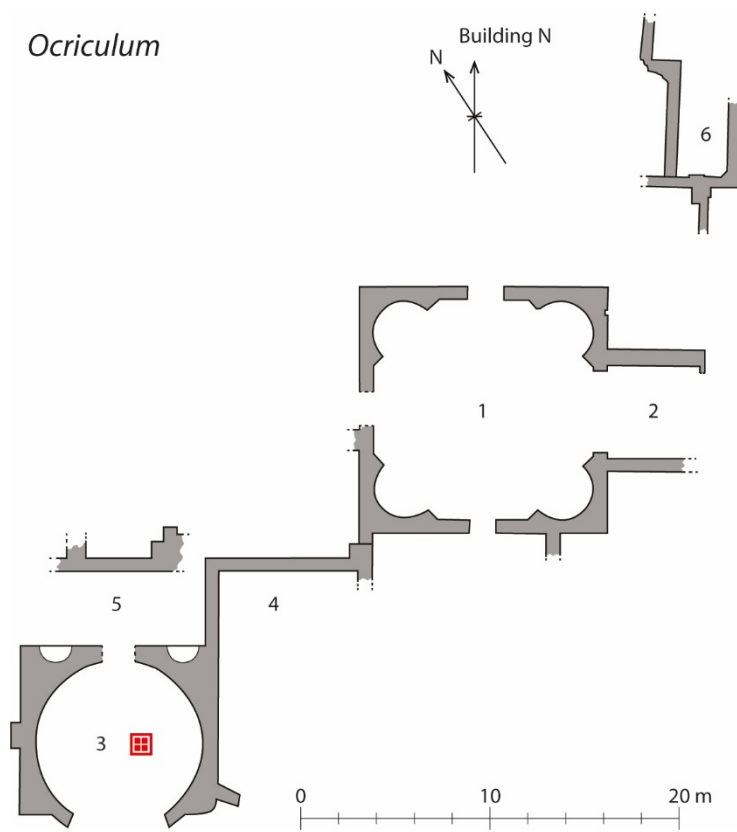


Figure 281: Plan of the baths of *Ocriculum* (after DE RUBERTIS 2011, fig. 25).

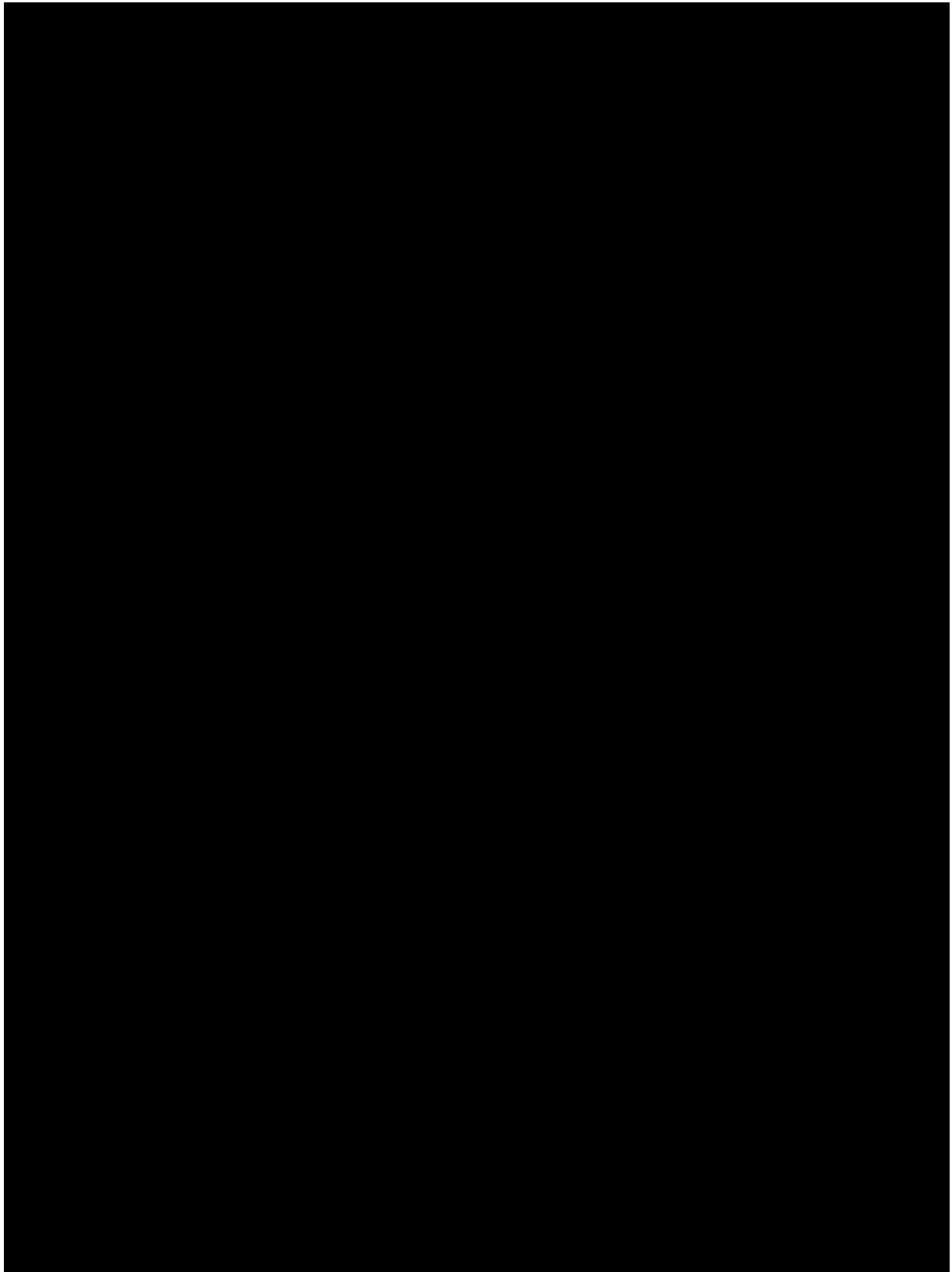


Figure 282A–E: Baths of *Ocriculum*. **A:** general view of R2 and R1, from E. R3 is visible in the background to the left. **B–C:** R1, from E. **D:** R1, from SE. **E:** detail of niche in NE corner of R1 (C: ANTONELLI 2019, fig. 7).

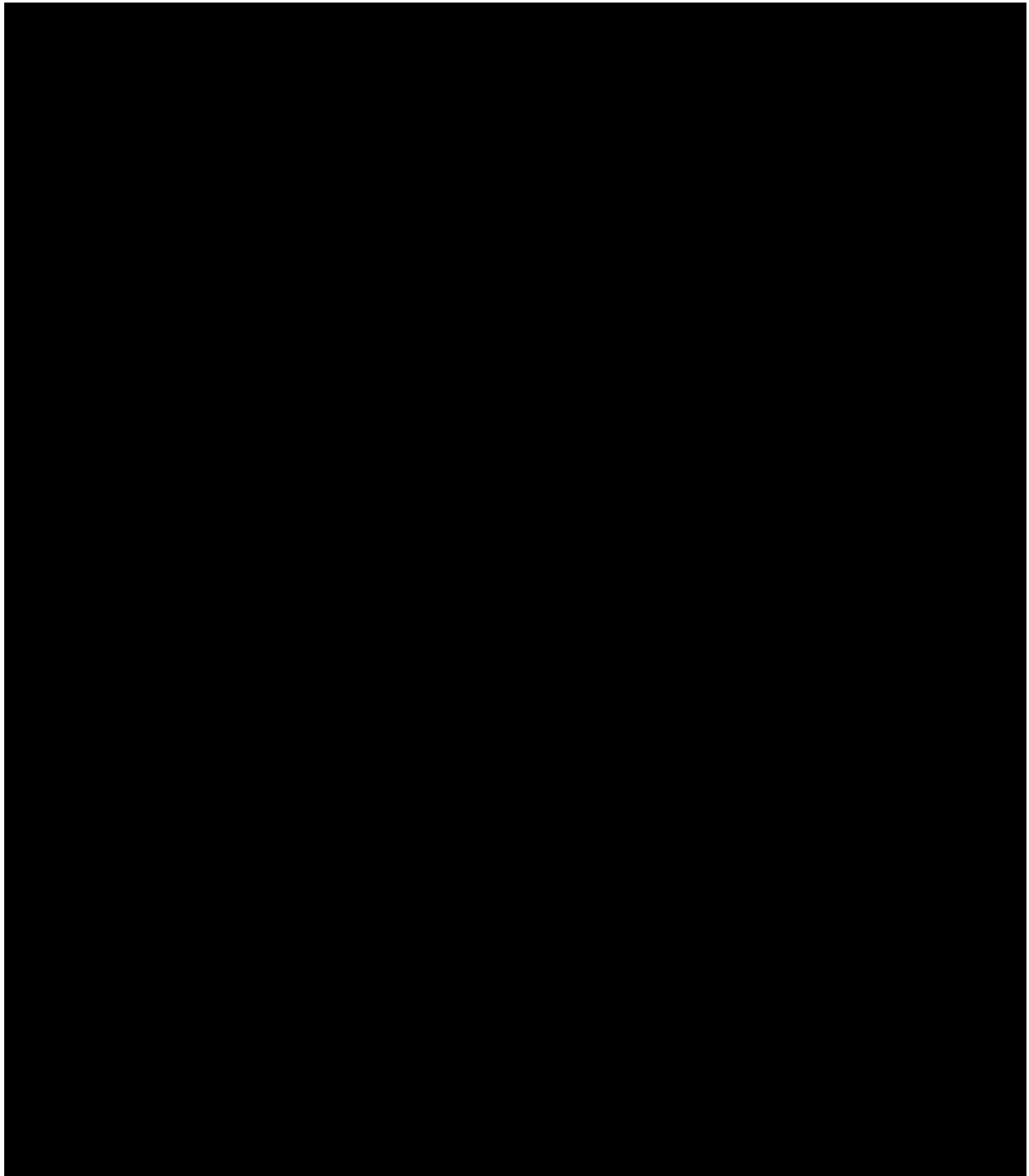


Figure 283A–G: Baths of *Ocriculum*. **A:** detail of vault of R1. **B:** outer walls of R3, from E. **C–D:** S wall of R5, from N. **E:** R2, from S. **F:** remains of *tubuli* in the wall of R3 (D: ANTONELLI 2019, fig. 8).

Sometimes referred to as 'domus'

1 – Location

1.1 – Umbria, province of Perugia, Comune of Cannara

1.2 – 12.524089 E, 42.985994 N; 510 m asl

1.3 – In the NE part of the city, close to the city walls and the possible location of the forum.

2 – Preservation

2.1 – Preserved at the level of the hypocausts or for the first few courses.

2.2 – Backfilled? From Google Earth pictures, the heated sector has been covered, as well as the floors of the cold sector.

3 – Research

3.1 – Discovered and partly cleared in 1932 (dir. G. Canelli Bizzozzero). Further exploration, cleaning and restoration between 1984 and 1987 by the Soprintendenza Archeologica per l'Umbria (dir. D. Manconi). Barbieri mentions that in 2002 works had 'recently' resumed in the area. More rooms might exist in the N part, but they are unrecorded or not excavated.

3.2 – /

4 – Dimensions

400 m² (Barbieri) or at least 550 m² (calculated on plan: heated 205 m², cold 280 m²)

5 – Chronology and phasing

5.1 – Pre-thermal phase: Augustan (CT: facing technique found in Umbria from mid-1st cent. BC. S: technique to hang marble veneer, typical of Augustan period (Ciani). I: post-mortem dedication to Augustus, establishing *terminus antequem* for the construction (Sensi))

Only R1. There is no evidence that the building had a thermal function at that stage.

I: Hadrianic (S: mosaic floor of *frigidarium* compared to mosaic floors in Ostia (Serapeion, ca. AD 127) and *Italica* (House of the Labyrinth, house of Neptune, 1st half of 2nd cent. AD); T: use of curvilinear walls, esp. in *frigidarium*, in the wake of their use in major bath buildings such as the Baths of Trajan in Rome or those at Hadrian's Villa).

Construction of R2, R3, R4, R5, R6, R7, possibly modification of the central space of R1 into an *impluvium*.

5.2 – Date unknown, possibly not too long after phase II as the building does not seem to have undergone the usual late antique modifications (such as redecoration, modification of circuits, robbing of decoration).

6 – Description of the remains and identification of rooms

6.1 – The building is composed of at least 7 rooms arranged in two parallel rows.

R1: Square, 11.90 m on each side, accessible from two openings on W wall. Cuts in the N walls could correspond to a former opening towards R7, later blocked. Remains of a portico composed of 8 columns made of brick and stuccoed in white; mosaic floor and traces of marble veneer. The square space inside the portico (5.80 m on the side) was open-air and possibly turned into an *impluvium* in phase II. Access to R2 from passage in S wall. **R2–R2a:** Rectangular room, 8.80 x 6.70 m, accessible from R1, equipped with a large apse, 3.70 m wide and 2.70 m deep, on the east side. Traces of the marble veneer on walls, figurative mosaic floor. Apse **R2a**, ca. 3.70 x 2.80 m, figurative mosaic floor. **R3:** heated room, 6.45 x 5.30 m. Possibly mosaic floor. Accessible from R2, probably gave access to R4. **R4:** heated rectangular room, 7.65 x 6.50 m, probably accessible from R3, gave access to R5. **R5:** little remains. Heated room, 7.3 x 6.3 m, with two apses with curvilinear back walls on S (6.1 x 2.5 m) and W (3.6 x 2.1 m) sides probably for heated pools, and smaller semi-circular apse (2.7 x 1.3 m) on E side. Probably accessible from R4. **R6:** Known only through graphic documentation, not fully excavated. Service area for the operation of *praefurnia* A and B. Accessible from outside the baths. **R7:** Additional room directly N of R1, identified by Canelli Bizzozzero during excavations but not documented. Mention of an *opus spicatum* floor continuing for ca. 12 m.

6.2 – Barbieri interprets the rooms as follows: R1 is an *apodyterium/atrium*? (by comparison with the Terme del Nuotatore in Ostia), R2 is a *frigidarium* based on its richly ornated mosaic and its position before the first heated room and the waterproofing of the walls. The identification of a pool in R2a is however unconfirmed. R3, as the first, indirectly, heated room, is a *tepidarium*, followed by a *sudatio* in R4 heated by one or two *praefurnia*, and finally a *caldarium* R5 with a more articulated plan and possibly two heated pools and a *labrum*. R6 is the service area for the operation of some of the *praefurnia*.

The circuit is therefore retrograde: *atrium* R1 – *frigidarium* R2 – *tepidarium* R3 – *sudatio* R4 – *caldarium* R5 then back. The number of doors between R3–R4 and R4–R5 is unknown; if there was more than one door per wall, the circuit could have circular for the heated sector.

The baths have been identified as public (CANELLI BIZZOZZERO 1933, 170; SENSI 1992, 86) or as part of a large *domus* (MANCONI 1985, 357). The former suggestion appears more plausible considering the dimensions of the structure (400–600 m²), the proximity of a large water tank and the discovery of inscriptions in R1 and R2.

7 – Construction techniques and materials

7.1 – *Opus spicatum* in R7, mosaic and travertine fragments in R1.

7.2 – Ca. 0.50 m thick walls in *opus caementicium* faced in brick (mostly) or with courses of small stone blocks. Brick facing in R2, R3, R4, R5 and possibly R6, cut in triangles or trapezoid from *bessales*, tiles or *sesquipedales*, 0.25–0.35 m long, 3–4 cm thick. Levelling courses made of *bipedales*. The walls of R2 are covered in hydraulic mortar. Horizontal courses of stone blocks

only in R1, different widths, bound together with 0.8–1.2 cm thick layer of mortar. Stone is local sandstone, cut in various sizes shaped in rough truncated cones.

7.3 – No information available.

8 – Heating devices

8.1 – Service area R6 contains *praefurnia* A and B that heated R4 and R5, respectively. *Praefurnium* B presumably served to heat the water to supply pool R5a, but there is only a limited amount of space to fit a boiler. Another *praefurnium* C heated R5 and presumably the water of pool R5b. A possible arched passage in the E wall of the hypocaust of R4 (seen on BARBIERI 2002, fig. 29), along with additional structures against the outer face of the E wall of R4 (seen on BARBIERI 2002, fig. 21), could, very hypothetically, indicate the presence of an additional *praefurnium* heating R4 from the E.

The plan in Barbieri (2002, fig. 21) shows that the furnace mouths of *praefurnium* A and C are lined with large blocks, presumable of refractory stone, creating channels that enter the hypocaust (*praefurnium* A) and/or extend in the service area (both *praefurnia*).

Three hypocausts passages ensure the exchange of heat between R5 and R4, and only one between R4 and R3, ensuring the latter stayed at a lower temperature.

8.2 – Hypocausts in R3, R4 and R5. In R3 and R4, brick floor, square *pilae* (*bessales?*), and rectangular cross-section *tubuli* fixed to the walls with metal clamps. No information about the hypocaust of R5 apart from square *pilae*, but presumably the same.

9 – Water management

9.1 – A 12 m long, 4 m deep reservoir is located slightly uphill from the baths, a few meters from R5. No longer visible today but known from a photograph from 1932 excavations (reproduced in BARBIERI 2002, fig. 43).

9.2 – Probable pools in R2a (cold) and R5a–R5b (heated); hypothetical *labrum* in E apse of R5.

9.3 – Drains at the centre of R1 and R2. From the drain in R2, three underground channels, directed to the W, N (possibly connected to the drain in R1), and E, the latter one heading towards the main sewers.

10 – Decoration and material

10.1 – Mosaic floors in R1 and R2, and possibly in R3 and R4 where loose tesserae (black, white and red) have been found. In R1, the floor is covered by a white mosaic made of large tesserae, framed by two thin bands of travertine. The mosaic of R2 is more elaborate and represents a Nilotic scene in red, black and white tesserae, now in the Museo Comunale di Cannara. The scene depicts six pygmies along the four sides of the mosaic, surrounded by lush vegetation and attacked by wild exotic animals (hippopotamus, crocodile, ibis). The central frame represents four pygmies fishing on tiny boats. The mosaic of the apse shows different species of fish (see MATTEINI CHIARI & MAURIZI 1992, 32–33).

Walls: remains of marble veneer found in R1 and R2, and traces of painting in R1.

10.2 – Several fragments belonging to seven inscriptions found in R1 and R2 during the 1932 excavations:

- 1) **Inscription AE 1995, 452 = EDR135833 = SupplIt 27, 2013, no 2:** [---] / [sac]rum. / T(itus) F[isc]ilius T(iti) [f(ilius) T(iti)] n(epos) / [Proc]ulus Capp[ian]us / [---] ex [---].

7 fragments of a slab of giallo antico. Honours given by *Titus Fiscilius Proculus Cappianus* at a “deity [...], at a divinized emperor [...] or at the entire imperial household”. Barbieri (2002, 42) proposed to see in the inscription that a member of the *gens Fisciliia* assumed the cost of the construction of the baths. This senatorial family included two local patrons who were active in Augustan times, at the moment R1 was built. There is however no evidence that there was already a bath building in that phase. Dating: 2nd half of 1st cent. AD. See also CANELLI BIZZOZZERO 1936 [1989], 97–98; SENSI 1992, 98–100, no 58; BARBIERI 2002, 42, note 166.

- 2) **Inscription AE 1995, 445 = EDR135988 = SupplIt 27, 2013, no 12:** [---]o Au[g(usto) ---?] / [sa]cr[um?] --- / [---]

One fragment, white marble, from R1, along with three other fragments, now lost. Sensi proposed to connect this fragment with inscription *SupplIt 27, 2013, no 13*, see contra ZUDDAS 2013. Dated 1st cent. AD. See *Archivio Bizzozzero* 1931–1938, no 6–5–2–3; CANELLI BIZZOZZERO 1936 [1989], 98–99; SENSI 1992, 91, no 48.

- 3) **Inscription SupplIt 27, 2013, no 13 = EDR135987:** Div(-) [---] / [---]

One fragment, found in 1932 in R1. Dated 1st–2nd cent. AD. See also: *Archivio Bizzozzero* 1931–1938, neg. 6–5–2–3; CANELLI BIZZOZZERO 1936 [1989], 99.

- 4) **Inscription AE 1995, 454 = EDR140228 = SupplIt 27, 2013, no 29:** [---] / [--- Ni?]grin[---] / [--- IIIIvi]r- iur(e) [dic(undo)] / [---] quin[q(uennal-) ---] / [---]

One fragment, grey limestone, found in 1932 in R2. Zuddas restored a *Nigrinus*, member of the *Calidii* family. The *gens Calidii* was an equestrian family known in the *municipium* during the 1st quarter of the 2nd century AD (see *CIL XI* 5175). Dated 1st half of 1st cent. AD. See also: CANELLI BIZZOZZERO 1936 [1989], 94–95; SENSI 1992, 100, no 60; BARBIERI 2002, 42, note 166.

- 5) **Inscription SupplIt 27, 2013, no 38 = EDR141953:** [---] / [---]us [---] / [---] the[---] / [---]

One fragment, found during 1932–38 excavations, now lost but known through picture. Sensi restored a *Fiscilius* as dedicant. For Zuddas, the large size of the letters could be consistent with a public construction, a bath building considering the location of the discovery, and restored THE[RMAS] in line 2 (*SupplIt*) but THE[ATRUM] on EDR. Dated 1st cent. AD. See also: *Archivio Bizzozzero* 1931–1938, neg. 6–5–1–26, 6–5–1–60; SENSI 1992, 86, 89 note 45; BARBIERI 2002, 42, note 167.

- 6) **Inscription *SupplIt* 27, 2013, no 50 = EDR141966:** [---] / [---]IVM[---] / [---]ERBI[---] / [---]VLVM[---] / [---]

Found in 1932 in R1, now lost. See also: CANELLI BIZZOZZERO 1936 [1989], 99.

- 7) **Inscription *SupplIt* 27, 2013, no 67 = EDR141987:** fragment a: [---] / [---]+I+[---] / [---]N+[---] / [---]; fragment b: [---] / [---]+[---] / [---]VV+[---] / [---]

Two fragments, grey marble, found in 1932 in R1. Dated 3rd cent. AD. See also: CANELLI BIZZOZZERO 1936 [1989], 99; SENSI 1992, 104–105, no 72–73.

- 8) **Inscription *SupplIt* 27, 2013, no 79 = EDR141999:** [---] / [---]TO[---] / [---]

One fragment found in 1932 in unknown location but possibly baths. Now lost, known through picture. Sensi proposed to attach it to inscription 2, reading AV[GVS]TO. Dated 1st cent. AD. See also: *Archivio Bizzozzero* 1931–1938, neg. 6–5–2–3, 6–5–1–25, 6–5–1–52; SENSI 1992, 91, no 48.

11 – Bibliography

CANELLI BIZZOZZERO 1933; CANELLI BIZZOZZERO 1936 [1989] (not consulted); MANCONI 1985; 1987; CIANI 1992, 123; MATTEINI CHIARI & MAURIZI 1992, 31–34; SENSI 1992; BARBIERI 2002, 33–42; COLIVICCHI & ZACCAGNINO 2008, 246–247; ZUDDAS 2013, 106, 115–116, 120–121, 143, 150–151, 163, 170, 179, 186–187, 191, no 2, 12–13, 29, 38, 50, 67, 79.

12 – Illustrations

MANCONI 1985, fig. 2 (plan 1932–38 excavations), 4 (plan), 10–11 (pictures); BARBIERI 2002, fig. 21, 31 (plans), 43 (water tank), 45 (city plan), 20, 22–23, 28–30 (pictures), 24–27 (decoration).

Urvinum Hortense

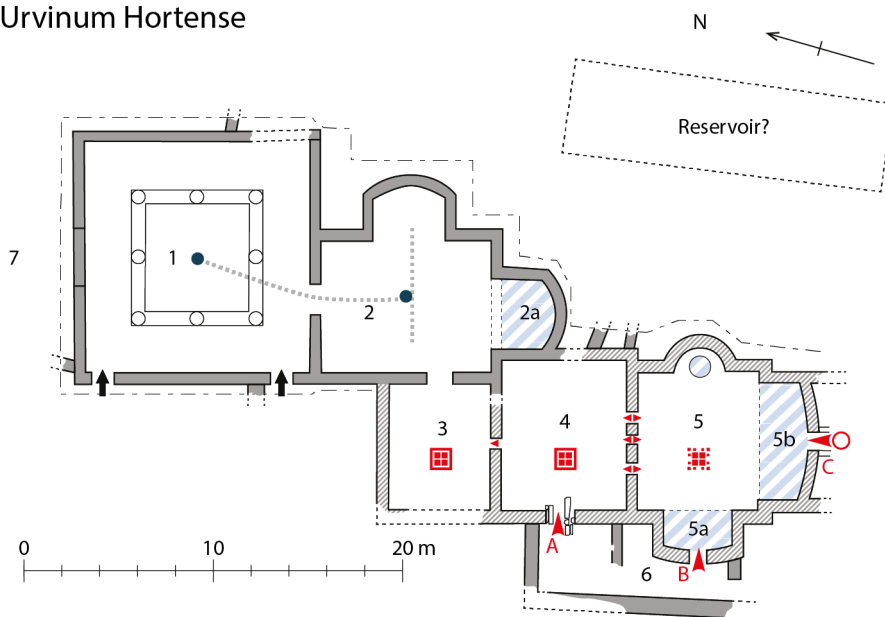
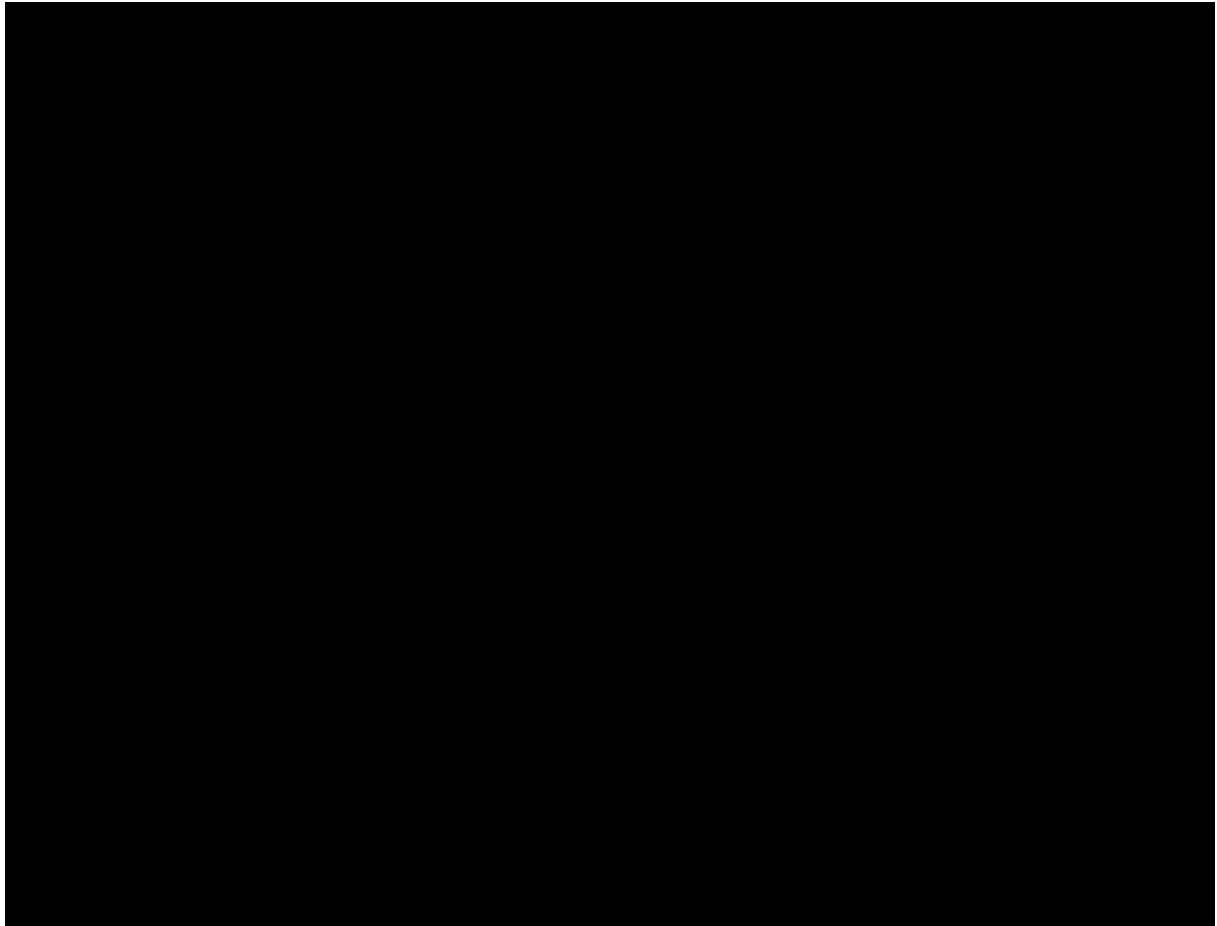
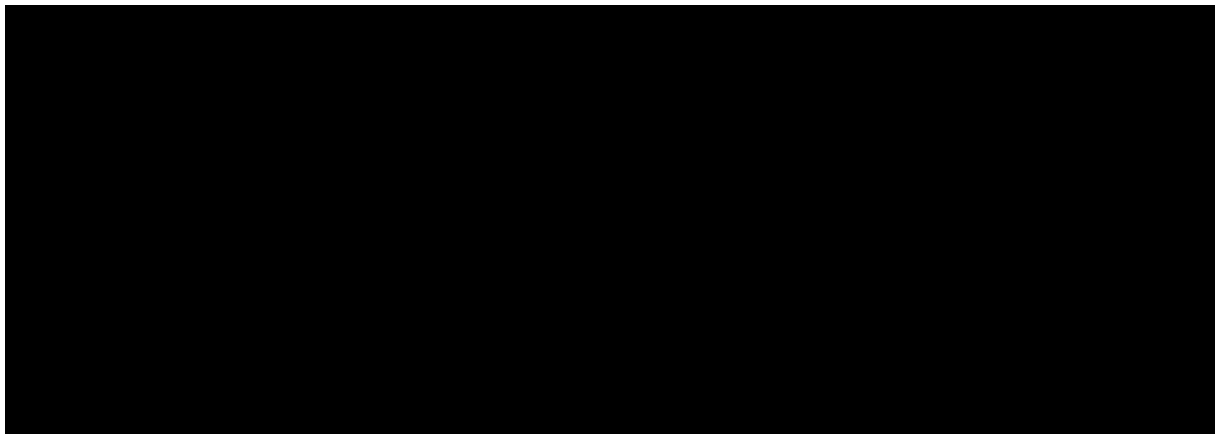


Figure 284: Plan of the baths at *Urvinum Hortense* (after MANCONI 1987, fig. p. 395; BARBIERI 2002, fig. 21).



Figures 285–286–287: Baths of *Urvinum Hortense*. **TL**: State of the structures before 1985, from S, with R4 in foreground, then R2a–R2–R1. **TR**: view of R2 during 1932 excavations, from W. **B**: mosaic from R2, now restored in the museum of Cannara (TL: MANCONI 1985, fig. 10; TR: MATTEINI CHIARI & MAURIZI 1992, fig. p. 31; B: I LUOGHI DEL SILENZIO 2017).



Figures 288–289: Baths of *Urvinum Hortense*. Heated sector. **L**: view of R4 during the 1932 excavations, with R3, R2, R1 in the background, from SW. **R**: view of the E wall and apse of R5 during the 1932 excavations, from S (BARBIERI 2002, fig. 28–29).



Figures 290–291: Baths of *Urvinum Hortense*. Construction techniques. **L**: Wall facing in courses of small stone blocks in R1. **R**: Wall facing in brick courses, room unknown (L: MANCONI 1985, fig. 11; R: BARBIERI 2002, fig. 20).

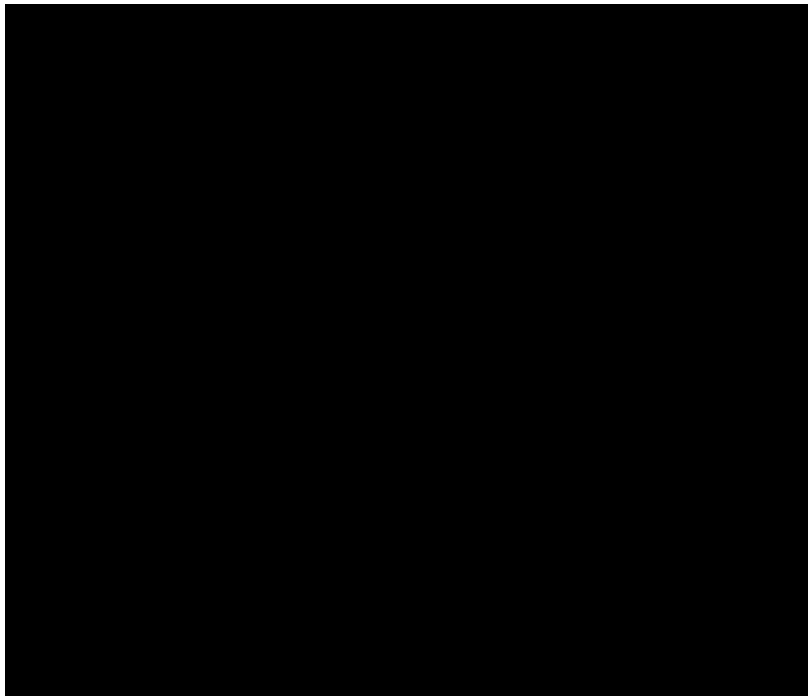


Figure 292: Inscriptions 1–5, 7–8 found in the baths of *Urvinum Hortense* (© EDR).

Umbria, Gazetteer

Forum Flaminii (S Giovanni Profiamma), S. Claudio Um.G.03

Reliability: probably baths (typology, orientation, presence of pools, mention of heating elements), probably public (scale, entrance from main road)

1. 1.1 – Province of Perugia, Comune of Foligno
1.2 – 12.725356 E, 42.983436 N (approx.)
1.3 – Alongside the *Via Flaminia*. Possibly ca. 250–300 m NE of the local church.
2. 2.1 – Unknown
2.2 – Backfilled or destroyed
3. 3.1 – Brought to light around 1832; documentation limited to one plan and a brief description.
3.2 – /
4. No information in the original documentation. Sensi supposed that the drawing was at 1:50, the building therefore had a 20 m long façade and an extension of ca. 32 m. At this scale, the walls appear rather thin (ca. 0.45 m), and the plan was re-scaled so that the walls are 0.60 m thick, a more common measure. At this scale, the façade measured ca. 25 m and the baths, ca. 38.50 m along the NW–SE axis.
5. 5.1 – I: mid-imperial (Sensi: T)
The use of curvilinear shapes in R3 could indicate a date in the later part of that period.
5.2 – Unknown
6. 6.1 – Complex arranged along a NW–SE axis, with its NW side along the *Via Flaminia*, from where it was entered. Entrance into NW wing of **R1**, a rectangular porticoed courtyard with a segmental long SE wall and colonnade. The colonnade comprised 22 Corinthian columns. The NW wing of the peristyle was two/three steps lower than the courtyard and the lateral wings of the portico. Open-air peristyle, as suggested by the presence of a water channel running at the foot of the columns. From R1, passage into **R2**, a rectangular room with mosaic floor, then into **R3**, an architecturally elaborate room that could be described as a rectangle on its short side and from which opened, via screens of pairs of columns, three rectangular exedras with segmental back wall and probably containing pools. The exedras to the NE and SW were specular, the one on the main axis to the SE was larger and deeper. The parts of the long sides on either side of the exedras seem to have been animated by niches. Further rooms were partly brought to light: **R4**, **R5**, accessible from R3 and leading, via a small transition room **R5**, into **R7**, a large circular room.

6.2 – Sensi suggested that R2 was a vestibule-*frigidarium*, R3 a *tepidarium*, and R7 a *caldarium*. While R2 could have been a vestibule/*apodyterium*, R3 was more likely the *frigidarium*, being the largest (known) room of the building and equipped with (*a priori*

cold) pools. Based on the typology of rooms, R7 was possibly heated, with R6 acting as heat trap.

7. No information available
8. 8.1–2 – the excavation report mentioned ‘stufe’, suggesting that some elements of the heating systems were recovered. Based on the typology of rooms, R7 was possibly heated, with R6 acting as heat trap.
9. 9.1 – No information available
9.2 – Water was necessary for pools R3a, R3b, R3c.
9.3 – Gutter alongside the colonnade in R1
10. 10.1 – Mosaic floors in R2 and R3. In R3a, R3b and R3c: marble (slabs) on the floor and steps, and marble ‘intarsi’ (possibly *crustae*) on the walls.

10.2 – One inscription

CIL XI.7993 = EDR162804

One fragment, square stone *tabula*, found in the baths during the 1830s excavations, reused in a marble floor (possibly one of the pools of R3).

Top left and bottom right corners missing. 0.50 (W) x 0.42 (H) x 0.045 m (T); letters: 6–8 cm

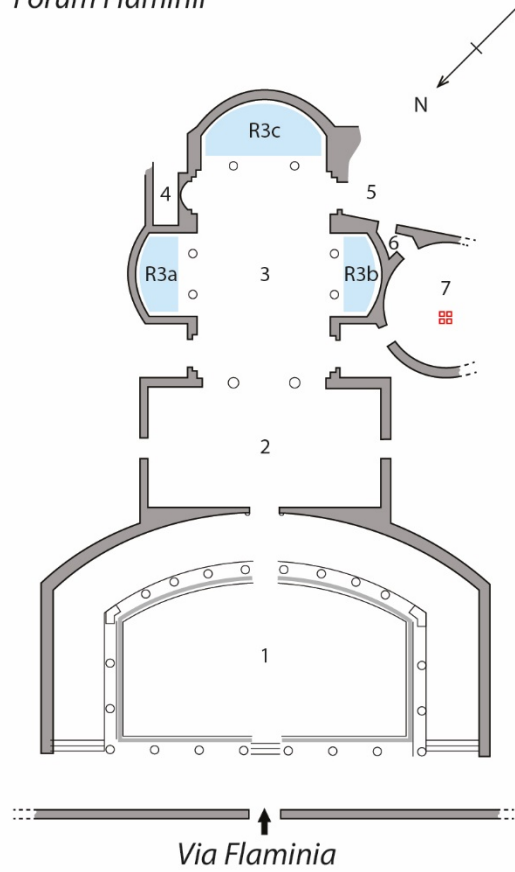
[Cae]s̄ia C(ai) f̄iliae)
[S]abinae,
[p]arenti municipii.
Dec(urionum) decr(eto).

1st half of 1st cent. AD (EDR)

SENSI 1986, 379, fig. 3

11. SENSI 1986; **Archival material**: Roma, Archivio di Stato, Disegni e Piante coll. 1, cart. 127 n. 9
12. SENSI 1986, fig. 1–2 (plan), 3 (material)

Forum Flaminii



Scale approximative

Figure 293: Plan of the baths of *Forum Flaminii* (after SENSI 1986, fig. 1).

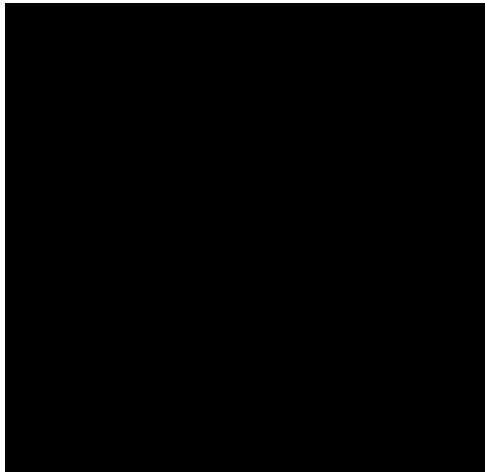


Figure 294: Inscription *CIL XI.7993* found in the baths of *Forum Flaminii* (SENSI 1986, fig. 3).

Reliability: bath building (heated rooms, iconography of mosaic), probably public (dimensions)

1. 1.1 – Province of Perugia, Comune of Bevagna
1.2 – 12.60939 E, 42.93487 N
1.3 – N part of the Roman town, E of the theatre and along the *cardo maximus*
2. 2.1 – Only one room with mosaic and parts of three other rooms were excavated. Mosaic restored in the 20th cent. AD
2.2 – In the basement of a palazzo in Via Porta Guelfa
3. 3.1 – Known since the 17th cent. AD, excavated in 1891.
3.2 – Not visited
4. > 250 m² (of which ca. 125 m² for R1)
5. 5.1 – 2nd cent. AD ((style of mosaic, CTM)
5.2 – Unknown
6. 6.1–2 – R1: 12 x 6.75 m room, equipped with semi-circular niche (diam. 1.30 m) flanked by two rectangular niches on one long side, and with rectangular niches on the opposite side. Mosaic floor, wall veneer.
On top of R1, the remains of three other rooms were found, two of which were heated.
7. Walls faced in alternate courses of bricks and stone blocks.
8. 8.1 – No information available
8.2 – One room floored with CBM, possibly the *area* of a hypocaust. From a plan, the *pilae* could have been made of *bessales*
9. 9.1–2 – Mention of nearby lead *fistulae*
9.3 – Channel passed under the floor of R1, with walls in bricks, covered by tiles set a cappuccina; another channel connected to it.
10. 10.1 – R1: The mosaic depicted sea creatures in black on white background, within double black frame. Floral decoration in the niches. Walls veneered in marble.
10.2 – No information available
11. BUCCOLINI 1891; PIETRANGELI 1953, 81–84; BONOMI PONZI, TUFANI & CARTOLANI 1991; PICUTI 2009, 67–68
12. BONOMI PONZI, TUFANI & CARTOLANI 1991, fig. 29–30 (plans), 33, 36–41 (pictures); PICUTI 2009, fig. 8 (plan), 9 (picture)

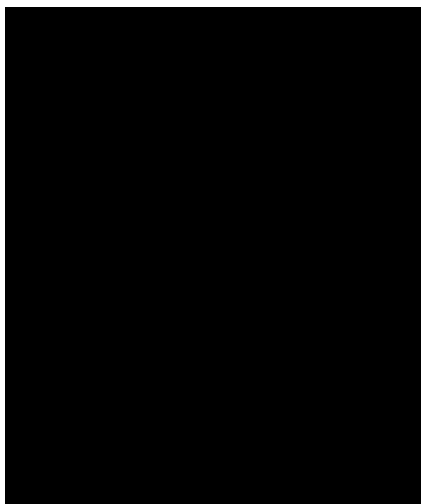


Figure 295: Plan of the remains under Via Porta Guelfa at *Mevania*, scale 1:400 (BONOMI PONZI, TUFANI & CARTOLANI 1991, fig. 29, modified by author).

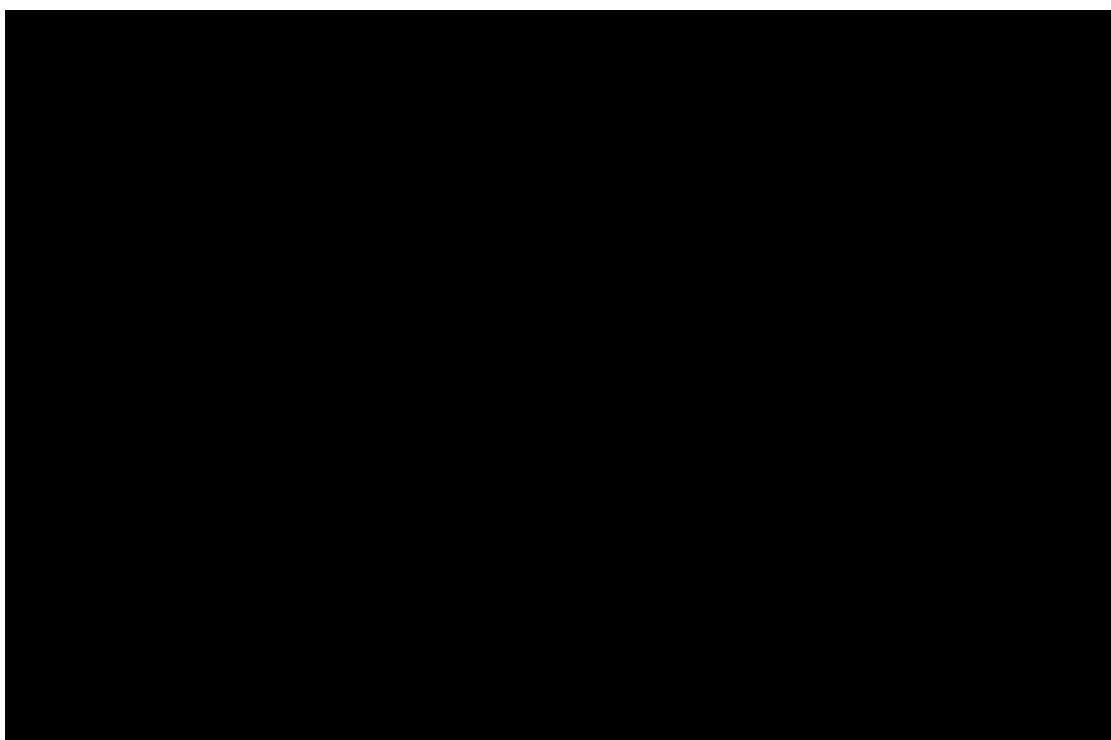


Figure 296: Mosaic floor under Via Porta Guelfa at *Mevania* (FEDELI 201?).

Reliability: baths, probably public (dimensions, location)

1. 1.1 – Province of Perugia, Comune of Gualdo Tadino
 1.2 – 12.766871 E, 43.211641 N
 1.3 – Along the *Via Flaminia*, S of the *forum*, N of the *forum pecuarium* and the *sacellum* of Hercules, which may have been connected to the bath building in the late 3rd cent. AD
2. 2.1 – Only the N half was excavated; S part under a modern road
 2.2 – Filled back
3. 3.1 – Excavated 2004–2005 by the University of Perugia (dir. Paolo Braconi) with the Soprintendenza per i beni archeologici dell'Umbria and the Comune of Gualdo Tadino
 3.2 – Not visited
4. > 700 m² (from plan in SISANI 2009; remains inscribed in a 45 x 20 m rectangle)
5. 5.1 – **Pre-baths:** 2nd cent. BC
 - Remains of floors and walls (lower part in masonry, elevation in clay)

I: early 1st cent. AD
 II: early 2nd cent. AD

 - Addition of *nymphaeum* R6a
 - *Palaestra* R8 turned into a *portico*
 - Pool R8a filled

III: late 4th cent. AD

 - Flooring of R6 and R7
 - Furnaces in R2 decommissioned
 - Portico R8 subdivided
 - Addition of a latrine (room unspecified)

5.2 – Unknown
6. 6.1–2 – The complex was organized around a large central rectangular room (R6–R7), identified as *frigidarium* and paved with marble slabs in phase III; the room was closed to the S by a rectangular pool (R7a) floored with a mosaic and to the N by a semi-circular *nymphaeum* (R6a) added in phase II.
 W of the *frigidarium* were three heated rooms (R1, probably R3 and R5), heated from *praeurnia* located to the N, probably in R2; the furnaces were defunctionalized in the 4th cent. AD. R1 was probably a *caldarium* with a semi-circular pool to the W and a rectangular pool to the N. Between the *frigidarium* R6 and the heated rooms was R4, a rectangular room with a structure against the S wall and the S part of the E and W walls, possibly a bench or a latrine (Sisani mentioned a latrine added in phase III).
 The E part of the complex was originally occupied by a *palaestra* (R8) with a central pool (R8a); in phase II, the pool was abandoned and the *palaestra* transformed into a

portico. In phase III, the portico was subdivided into smaller service rooms, including a latrine.

The excavators hypothesised the existence of further heated rooms, indirectly heated, to the S of rooms R1, R3 and R5.

7. No information available

8. **8.1** – Two furnaces located in the N part of the complex, probably in R2 to heat *caldarium* R1 and its N pool; that *praefurnium* was probably equipped with a boiler. The other directly heated room is in all likelihood R3, and the third heated room mentioned in the reports is probably R5 (thus indirectly heated, unless more furnaces were located in a room to the S).

In phase III, the furnaces were defunctionalized, and the hypocausts filled in. Sisani suggested that if heating continued, it may have been done by braziers.

8.2 – No information available

9. **9.1** – No information available

9.2 – R7 was equipped with a rectangular pool to the S, and in phase II R6 was equipped with a *nymphaeum* to the N. From the plan, it is possible to restore a rectangular and a semi-circular pool in the N and W recesses of R1, respectively. Still from the plan, it is possible that R5 was equipped with a pool in its S end.

9.3 – No information available

10. **10.1** – Mosaic floor in R7a

10.2 – No information available

11. SISANI 2006, 149; 2012, 307–308

12. SISANI 2009, fig. 1; SISANI 2012, 307 (plans)

Tadinum

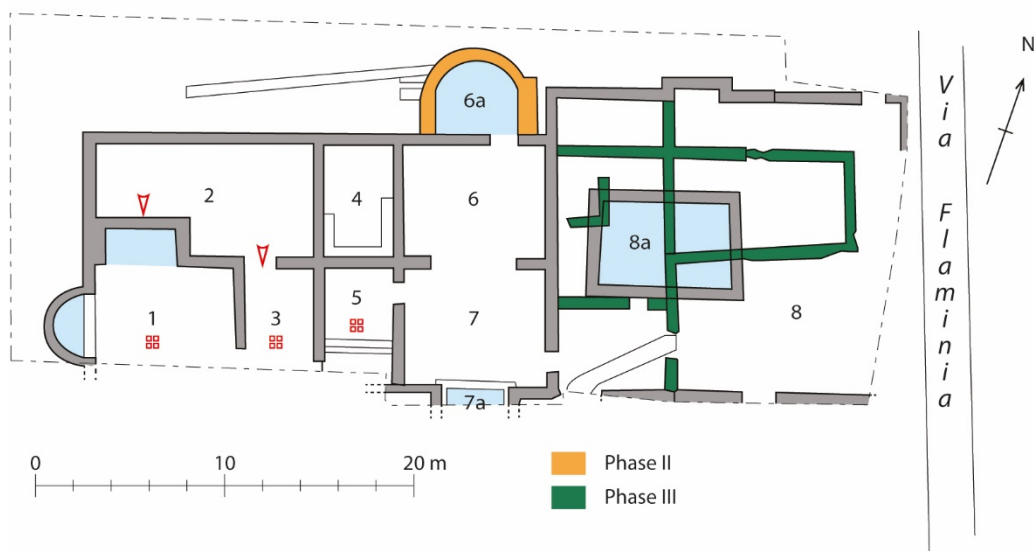


Figure 297: Sketch of the bath building of *Tadinum* (after SISANI 2009, fig. 1).

Umbria, uncertain identifications

Asisium (Assisi), Forum area

Um.G.06

Reliability: weak (cistern)

Province of Perugia, Comune of Assisi

12.61472 E, 43.07139 N

A hypothetical bath building has been restored in the vicinity of the forum; the hypothesis is based on the discovery, in the Piazzetta della Chiesa Nuova, of a domed reservoir faced with blocks of local pink limestone covered in waterproof *cocciopesto*. The channel supplying the water to the reservoir is still visible. Dimensions of the reservoir: 1.2 m diameter, 4 m height, not completely excavated.

Bibliography: SCIAMANNA 2008, 144–145

Asisium (Assisi), San Quirico

Um.G.07

Reliability: possibly baths (pool), status undetermined

Province of Perugia, Comune of Assisi

12.613305 E, 43.069987 N

The remains of several rooms of what has been interpreted as a set of public baths were found in the Monastery of San Quirico. The best-preserved room, interpreted as a *caldarium*, is vaulted (>30 m² of surface area for the vault), with the highest point of the vault (restored) reaching 9 m. The walls were faced in brick, of which only the negative remains, and several openings in the walls contained terracotta pipes, interpreted as ducts for hot air. A bench ran alongside one of the walls.

The only picture available might depict a pool, with a bench or step on the left-hand side (and later wall on top), and the floor, bench and well are covered in mortar. A hole just above the floor level could be for water disposal.

Bibliography: SCIAMANNA 2008, 144–145; ASSISI ITINERARI 2020

Illustrations: ASSISI ITINERARI 2020

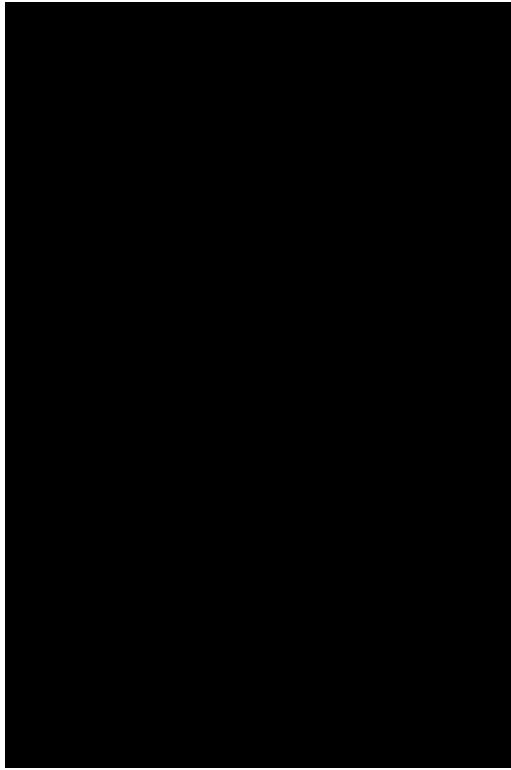


Figure 298: Structures in San Quirico at *Asisium* (ASSISI ITINERARI 2020).

Hispellum (Spello), S. Claudio

Um.G.08

Reliability: baths, possibly public (presumed size, location)

Province of Perugia, Comune of Spello

12.664989 E, 42.997666 N (approx.)

Structures located between the amphitheatre and a theatre-sanctuary complex were briefly mentioned by the scholar Fausto Gentile Donnola (ca. 1621) who identified them as a belonging to a bath building. Only disconnected elements over a 60 x 24 m area were found: a mosaic floor (black, white and red tesserae, decorated with alternated rectangles), a threshold, a *fistula*, a channel with tile, capitals and fragments of architectonic decoration.

Excavations in 2001–2003 around the church of San Claudio, which was built on the area of the baths in the 12th cent. AD, brought to light the remains of part of (1 x 0.30 m) a heated room: brick-faced walls lined with *tubuli*, remains of a mosaic floor, geometric motif, pink and white *tesserae*.

Dating: Flavian (BAIOLINI 2002, 117: U)

Bibliography: MANCONI, CAMERIERI & CRUCIANI 1996, 389–390, pl. V; BAIOLINI 2002, 116–117; I LUOGHI DEL SILENZIO 2014; FILIPPO 2018

Illustrations: MANCONI, CAMERIERI & CRUCIANI 1996, pl. Vd (city plan)



Figure 299: *Hispellum*, plan of part of the city showing the area of the supposed remains of the baths (d on plan) surrounded by the theatre (b), the amphitheatre (e) and the sanctuary (a) (MANCONI, CAMERIERI & CRUCIANI 1996, pl. Vd).

Iguvium (Gubbio)

Um.G.09

Reliability: possibly baths (heated room, pools), status unknown

Province of Perugia, comune of Gubbio

12.575508 E, 43.351568 N

Excavations under Via degli Ortacci and under the Hospital of Gubbio, ca. 200 m E of the Roman theatre, conducted in 1942, then in 1979–1983 by the Soprintendenza Archeologica per l'Umbria, revealed a series of structures, some of which are indicative of a bath building.

The remains belonged to several period, and not all were connected with each other.

In the W part, an apsidal pool (**R1**, ca. 6.50 x 4.30 m from plan) was found, lined with *cocciopesto*, and aligned to a wall directly to the N. Other structures nearby include a room with *cocciopesto* floor directly to the S (**R2**), a pool with floors and walls in *cocciopesto* and accessible via two segmental steps (**R3**), another pool with *cocciopesto* floor (**R4**), a heated room with an apsed S side and another apse on the W side (**R5**). The walls were faced in courses of limestone blocks alternating with courses of bricks.

In the E part, a group of connected rooms was found, including an apsidal pool (**R6**), three 9.70 m wide rectangular rooms aligned on the axis of the pool (**R7**, **R8**, **R9**), and a large square room (**R10**, ca. 12.50 m on the side) opening off of R9 via a tripartite opening. Most of the floor decoration was in *cocciopesto* with rows of white *tesserae*, except in R8, decorated with a mosaic floor.

Bibliography: STEFANI 1942, 347–350; BRACONI & MANCONI 1982–1983 [1985], 84–92

Illustrations: STEFANI 1942, fig. 2 (plan), 13–15 (pictures); BRACONI & MANCONI 1982–1983 [1985], planimetria generale,

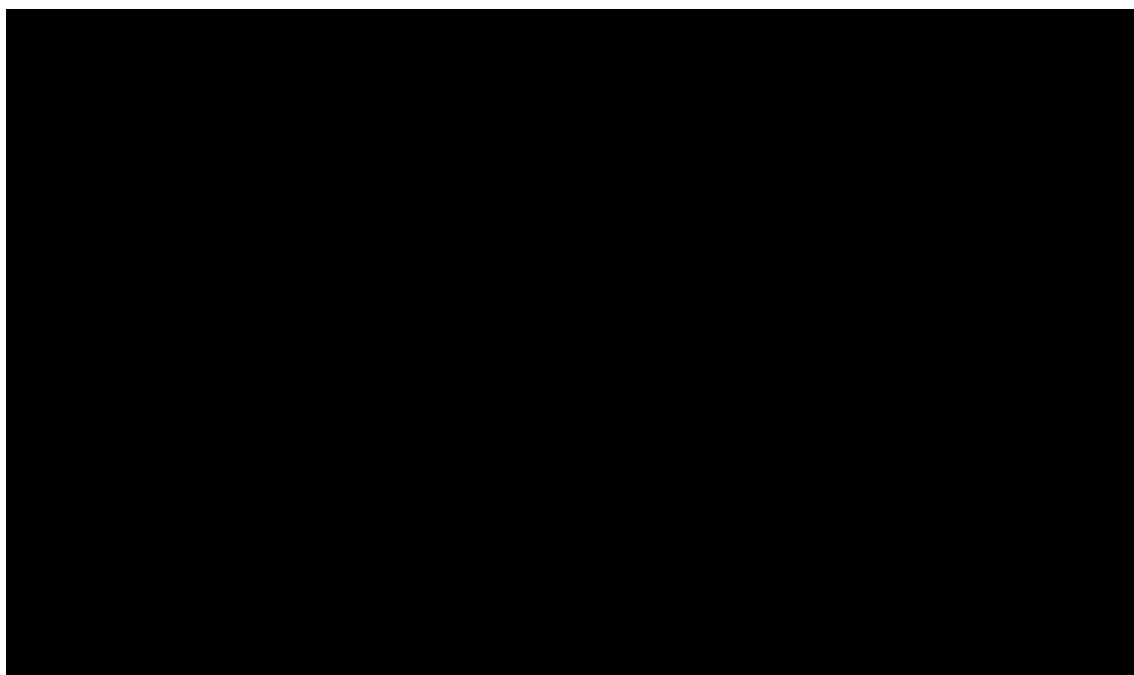


Figure 300: Plan of the structures in Via degli Ortacci at *Gubbio* (BRACONI & MANCONI 1982–1983 [1985], planimetria generale, modified by author).



Figure 301: L: R1, from E. R: R5, from NE (STEFANI 1942, fig. 14–15).

Interamna Nabars (Terni), Forum area

Um.G.10

Reliability: possibly a set of baths in the area (hypocaust, pool, water pipes), status unknown

Province and Comune of Terni

12.646036 E, 42.563487 N (approximate: Piazza dell’Olmo/via S Marco)

Bonomi Ponzi connected a large pool in cocchiopesto and brick found in Via S Marco and the remains of *suspensurae* in the area of the church of S Francesco, proposing they might belong to a bath building, probably public. Zampolini Faustini reconstructed a bath in the area

comprised between the modern Piazza I Maggio and Piazza dell'Olmo, in an area close to the Roman forum, basing his argument on several reports of findings of pipes and *suspensurae* in the area. The author also suggested that a room with reticulate walls found in a basement on Via Parrabbi, already noticed by Bonomi Ponzi, could be in relation with that set of baths.

The area thus delimited (between via S Marco/piazza dell'Olmo to the W, the church of S Francesco to the N, via Parrabbi/via I Maggio to the E) has a surface area of 9,000–11,000 m², 5–10 times bigger than the average size of more typical Central Italian bath buildings; it is therefore unlikely that all those remains belonged to a single bath building. The remains connected by Bonomi Ponzi (S Francesco to the N, via S Marco to the S) are ca. 80 m distant, it is therefore still unlikely they belonged to the same building.

Bibliography: GRASSINI 1960, 71; BONOMI PONZI 1994 [1997?], 676; ZAMPOLINI FAUSTINI 2006, 156, fig. 16

Interamna Nahars (Terni), Palazzo Gazzoli

Um.G.11

Reliability: probably baths (proximity of hypocaust and cisterns), status undetermined

Province and Comune of Terni

12.645399 E, 42.561713 N

During restructuration of the Palazzo Gazzoli in the 1990s, directly N of the Roman theatre, the remains of what has been interpreted as a large public bath building were discovered. They may have spread over two *insulae*, and they included a large apsed pool with *opus spicatum* floor and walls lined with cocciopesto, two cisterns communicating with each other and lined in cocciopesto, and two further rooms, one of which was heated and had an apse floored with a black and white mosaic with a circular stripe of pink *tesserae*. Another room (ca. 5.50 x 1.30 m) under Via del Pozzo and connected to the same building was floored with a white mosaic with double black frame. From plan, a rectangular room with a central apse on one of the long sides, ca. 6.70 x 3.50 m, has a shape typical of *caldaria* (see ch. II).

Dating: 1st cent. AD (TESS: S).

Bibliography: BONOMI PONZI 1994 [1997?], 676; ANGELELLI & ZAMPOLINI FAUSTINI 2005, 847–848, fig. 1 (1–2), 2; SISANI 2006, 198; ZAMPOLINI FAUSTINI 2006, 154–155, fig. 14; TESS9972, TESS9973, TESS9974

Illustrations: BONOMI PONZI 1994 [1997?], fig. 866 (plan); ANGELELLI & ZAMPOLINI FAUSTINI 2005, fig. 2 (picture)

Archival material: A plan in the Archive of the Soprintendenza per i Beni Archeologici dell'Umbria (Terni. Palazzo Gazzoli. Strutture romane – rilievo 1:50, autori F. Giordano, C. Cassisa, S. Capannelli, inv. 2904 del 16.6.1998)



Figure 302: Plan of the remains under Palazzo Gazzoli (BONOMI PONZI 1994 [1997?], fig. 866).

Interamna Nahars (Terni), S Angelo in flumine

Um.G.12

Reliability: not enough information

Province and Comune of Terni

12.645941 E, 42.559524 N

The remains of a bath building, 'con ogni probabilità di carattere pubblico' (Bonomi Ponzi), were found in Via di S. Angelo *in flumine*, close to the Nera river, in close proximity to the Roman walls. The baths were destroyed during WWII.

Bibliography: GRASSINI 1960, 68; GAGGIOTTI *et al.* 1980, 44; BONOMI PONZI 1994 [1997?], 676; ZAMPOLINI FAUSTINI 2006, 156

Perusia (Perugia), Via S Elisabetta

Um.G.13

Reliability: weak (iconography of mosaic). No author gives any evidence as to the connection of the room with mosaic to a bath building. The iconography of the mosaic is not common in bath buildings. Cenciaioli 1998, mentioning the late inscription *sacrum*, is open to a different identification for the building.

Province and Comune of Perugia

12.387403 E, 43.115018 N

A large black and white mosaic (14.10 x 8.10 m) discovered in 1875, depicting Orpheus taming wild beasts with his lyre, and a nearby cocciopesto floor, were interpreted as belonging to a public bath building.

Dated to the 2nd cent. AD on stylistic grounds; ancient damages and repairs with marble *crustae* and fragments of cornice, including an inscribed slab. Room reused during Christian period

(transformed into a church?), abandoned in the 6th cent. AD. Restored in the 1970s, 1996 and 2005.

Material: columns made of africano marble, architectonic elements; several inscriptions

- **CIL XI.1940 = EDR142782** (in-publication reference): *Anniae / Marsi fil(iae) / Quartillae / Gal(ei) Tettieni Severi / App(ius) Annius / Priscus patronae / l(ocus) d(atus) d(ecreto) d(ecurionum)*

Marble slab, W 0.78 x H 0.79 m, T 0.075 m, letters 3.2–8 cm. Reused to repair the mosaic floor. Dated 1st half of 2nd cent. AD (EDR). Mention of the *gens Annii*, known from Perugia at the beginning of the 2nd cent. AD.

- Four fragmentary inscriptions found in the backfill layers:
 - *S.P.* on marble support
 - *PLATA* on limestone support
 - *Iovanus*, a late Roman pagan *cognomen*, on a marble column
 - *Sacrum* on a marble slab

Bibliography: COARELLI *et al.* 1975, 67; GAGGIOTTI *et al.* 1980, 87; CENCIAIOLI, BOTTI & SCALEGGI 1998, with anterior bibliography; COLIVICCHI & ZACCAGNINO 2008, 199; TESS8502

Illustrations: CENCIAIOLI, BOTTI & SCALEGGI 1998, fig. 2 (plan), 1, 3–8 (pictures)

Spoletium (Spoleto), Teatro nuovo

Um.G.14

Reliability: weak (erudite tradition)

Province of Perugia, Comune of Spoleto
12.735382 E, 42.735827 N (Teatro Nuovo)

Structures found under the church/monastery of S. Andrea, itself built over by the Teatro Nuovo (1864), were interpreted as belonging to a bath building. They were described by 19th and early 20th cent scholars (Sansi, Sordini, Bandini) as an apse flanked by two stretches of walls which possibly made a 90° turn at their ends. The walls were in concrete faced with rough pieces of stone or with alternating courses of stone blocks and bricks. Mentions of polychrome marble floors in the same area.

The same authors identified this building as the *Thermae Turasii*, known from Cassiodorus's letters (early 6th cent. AD, *Variae* II.37, IV.24) and from a 2nd cent. AD inscription *CIL* XI.4815 = EDR123871 = [E62] found in a bath building. The inscription *CIL* XI.4781 = EDR123845, which recorded the restoration of the *thermae Spoletini* in AD 355–360 by Constantius II and Julian, has been associated with the same bath building.

Bibliography: DI MARCO 1975

Illustrations: DI MARCO 1975, fig. 14 (plan)



Figure 303: Hypothetical reconstruction of the remains under the Teatro Nuovo at *Spoletium* (DI MARCO 1975, fig. 14).

Spoletium (Spoleto), Casa Bandini

Um.G.15

Reliability: possibly baths (*praefurnium*), status unknown

Province of Perugia, Comune of Spoleto

12.74032 E, 42.73528 N (approx.)

A *praefurnium* and walls faced in ‘opera mista’ (brick and reticulate?) were found under ‘Casa Bandini’ (undetermined location, but probably to the E of the theatre) and interpreted as the remains of public baths, roughly dated to the 2nd cent. AD

Bibliography: GAGGIOTTI *et al.* 1980, 113

Tuder (Todi), Palazzo Ciuffelli

Um.G.16

Reliability: weak (cistern)

Province of Perugia, Comune of Todi

12.404559 E, 42.780921 N

Under Palazzo Ciuffelli and the sacristy of the former church of San Quirico were found, between 1860 and 1929, two rooms (with *opus signinum* and mosaic floors), three mosaic floors (one polychrome, one geometric), two wells and a cistern (square, cross vault, *cocciopesto* lining). Traditionally interpreted as a bath building because of the presence of the cistern, but STRAZZULLA 1982 rightly noted that nothing confirms this identification.

Bibliography: BECATTI 1938, col. 25 no 6; STRAZZULLA 1982, 184–185; BERGAMINI 1989, 12; BERGAMINI SIMONI 2001, 157–159

Illustrations: BECATTI 1938; STRAZZULLA 1982, fig. VI.2.3

Reliability: possibly baths (one heated room), status unknown

Province of Perugia, Comune of Todi

12.405163 E, 42.782620 N (via Termoli)

A series of investigations by the Soprintendenza archeologica per l'Umbria (dir. J.M. Strazzulla, then N. Lucentini and D. Monacchi) in 1980–1983 in the area of Via del Monte and Via di Valle Inferiore revealed the existence of a series of structures, including: a building with monumental façade, opening via a large arch into a room with a vault made of concrete; at a higher level, several rooms aligned, all with vaults made of concrete; the remains of a hypocaust, with *pilae* made of *bessales* supporting a *suspensura* covered with black and white mosaic. The area is thought to have been urbanized in the 1st cent. AD, with the construction of terracing walls and a drainage system, therefore potentially dating the baths in the 2nd cent. AD; the mosaic floor on top of the hypocaust was dated to the mid-2nd cent. AD on the basis of the dimensions of the *tesserae*.

Bibliography: BERGAMINI 1989, 16; BERGAMINI SIMONI 2001, 157–159

Illustrations: BERGAMINI 1989, fig. 11

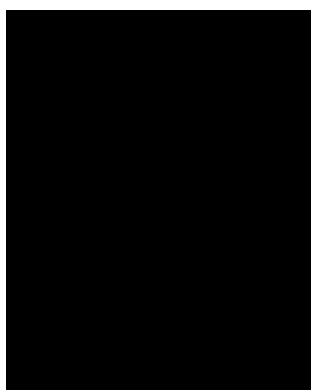


Figure 304: Detail of the hypocaust discovered in Tuder, Via Valle Inferiore (BERGAMINI 1989, fig. 11).