

## The Baths at Carsulae. Excavations and Survey 2004-2008

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The Roman city of Carsulae lies in the territory of Terni, Umbria, a few kilometers from the village of San Gemini. It is the common opinion that the city was founded in the late 3rd century B.C. when the Via Flaminia was constructed from Rome to the Adriatic, and it attracted the population away from the ancient Umbrian mountaintop settlements, which were eventually abandoned. The site may have been selected for its excellent water, very high in calcium, now bottled today under the brand Sangemini (and which, until the 1970s, was sold only in pharmacies). The modern spring lies below and to the south side of the hill on which Carsulae rests.

In fact, Carsulae seems throughout its history to have been associated with health and healing. Its forum is dominated by twin temples to Castor and Pollux, whose role as healers and patrons of doctors was inherited by the saints Cosmo and Damian. A 12th century church to San Damiano at Carsulae is built into the remains of the ancient *macellum*. Its tympanum relief depicts two haloed figures receiving drops of healing water from the cross. The city was abandoned in the 4th or 5th century, probably as a result of a devastating earthquake, and the town of San Gemini (note the coincidence of the name) may have absorbed its population. In the 13th and 14th centuries San Gemini produced a number of famous doctors who served the popes. Although physical and historical evidence associates Carsulae with healing, the location of the ancient spring has not been found; nor do the ancient writers who mention Carsulae -- Strabo, both Plinys, Tacitus<sup>1</sup> -- speak of its water or its function as a place of cure.

Nonetheless, the ancient structure closest to the modern water source is the bath, which is situated on a level shelf below and away from the main part of Carsulae. It appears to lie, oddly, between the *fossa* and a cliff, which forms a natural *agger*. This liminal position may indicate that the baths served less for the daily hygiene of the inhabitants of Carsulae and more for the purification and healing of visitors who came to "take the cure." It suggests, too, that the bath may have inherited some of the functions of a pre-existing Umbrian healing cult, of which two, Monte Torre Maggiore and Sant' Erasmo, are known on the mountaintops above Carsulae. If a connection can be determined between the ancient city and healing waters, the baths would have been of primary importance in defining the city's character and furthering its purpose, and thus would perhaps have been established at the same time as the foundation of the city.

### *Previous excavations of the baths*

For centuries Carsulae had been a rich source of marble architectural and sculptural elements for the random taking, and traces can be found liberally immured into the churches of the surrounding towns. The Cesi family of Acquasparta sought works to adorn their palace in the 16th century. Documentation of the extant sculptural and architectural remains from Carsulae did not begin until the 17th century.<sup>2</sup> The first systematic excavation of the site took place in 1783, when Pope Pius VI authorized Count Sebastiano Graziani of Terni to open three areas, one of which was that of the baths, where figured mosaics in pink and white marble had already been found.<sup>3</sup> In 1800, after those excavations had been completed, E.A. Milj published a catalogue of the visible remains at Carsulae. He speaks of the baths: "*vestigia dei pubblici bagni abbastanza magnifici, tassellati a mosaico di fino marmo a più colori, e con figure a bassorilievo di animali quadrupedi, acquatici e volatili; ed in cui erano guidate le acque con tubi, canali di piombo in uno dei quali dissotterrato anni or sono, vi si leggeva F. Elius Cresces. Fec*"<sup>4</sup>.

<sup>1</sup> TACITUS III. 60-61; PLINY, *NH* 3.113; PLINY letter I.4; Strabo V, 2.227

<sup>2</sup> For discussion of these, see MORIGI 1997: 15, and CIOTTI 1976: 13-14.

<sup>3</sup> CIOTTI 1976: 12 and n. 12, in which he quotes a letter from il conte Sebastiano Graziani to Cardinal Francesco Carrara: "*Il fondo di questo mosaico è tutto bianco, interrotto bensì da alcune piccole linee rosse; dell'istesso colore sono tutte le figure, o mostri marini tratteggati con linee bianche*".

<sup>4</sup> MILJ 1800: 5.

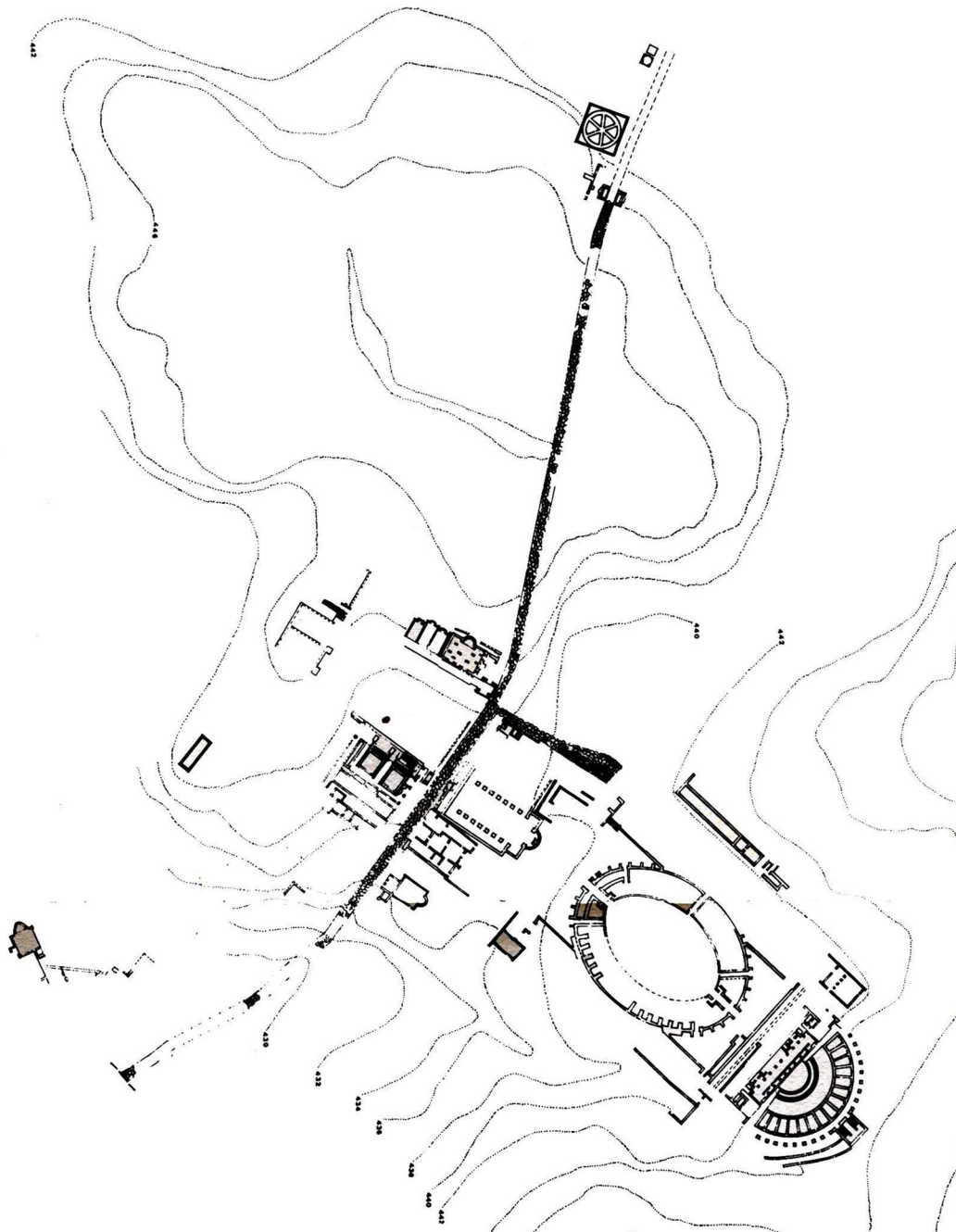


Fig. 1. Plan of Carsulae, P. Licen (CIOTTI 1976: 20-21).

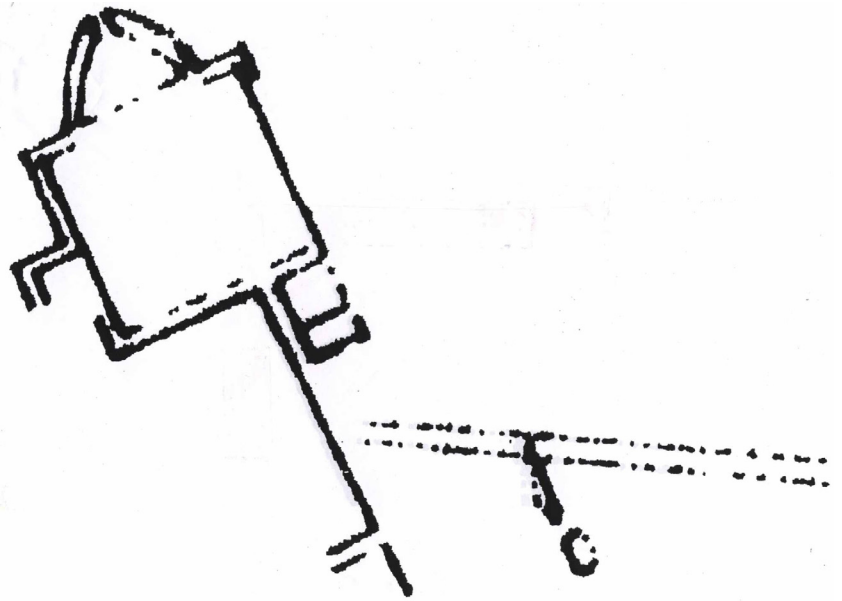
In modern times, the site had seen only one excavator, Umberto Ciotti, who, in his capacity as Soprintendente ai Beni Archeologici Umbri, excavated at Carsulae from 1951 to 1972. Assisted by the architect Italo Gismondi, he opened, consolidated, and restored the monumental core of the city, which is now an archaeological park (fig. 1).

His researches in the area of the baths, however, appear to have been brief and his publication of them scanty. Unfortunately, we do not have Ciotti's excavation notes or any scientific information beyond his limited remarks (author's translation): "A probe executed in the first years of the state-sponsored excavations brought to light the mosaic pavement of an apsidal room and several *suspensurae*, but exploration was not continued in this part of the city"<sup>5</sup>. The goals of our excavation, then, include reconstructing the history, not only of the baths themselves and their development over the centuries, but also of the centuries of undocumented intrusions into their remains. This will be Carsulae's first scientific history.

<sup>5</sup> CIOTTI 1976: 42. On the baths see also *Id.* 1956: 266; MORIGI 1997: 31-32; BRUSCHETTI 1995: 31.

Fig. 2. Extreme enlargement of the plan of the baths published by Ciotti in 1976.

Figure 2 is an extreme enlargement of the only plan of the baths published by Ciotti. One can see that he exposed one apsidal rectangular room, which his plan shows to be serviced by branching lines of channels or drains. One branch leads toward a cistern in *opus caementicium* near the Via Flaminia; the other heads, as we now know, toward a wall of *opus quadratum*, near the southern entrance to the city. We discovered the latter wall in 2004; it will be discussed below. It is not recognizable in any earlier plans or photographs of the city.



*Excavation of the apse*

After more than three decades, the Roman baths at *Carsulae* again see the light of day. In 2004, a tractor cleared away 30 years of dense, destructive vegetation to expose the site as it had been left in 1972. Clearly visible was the apse, extending from the NW end of a rectangular room, all of brick-faced concrete construction.

Excavation from 2006 to 2008 concentrated on the western side of the apsidal structure. Progress was slow, in part because dumps of material discarded by previous excavators had washed down over the architectural features, but nonetheless provided valuable documentation of the depositional history of the site. In addition, the fragile architecture, so long exposed to the elements, needed to be shored up and protected as we proceeded. Our results are thus preliminary and our conclusions tentative. We have unearthed or re-exposed only a small percentage of the surface area of the building.

The first two seasons of excavation, 2005 and 2006, revealed the hypocaust structure of the apse, with some rather surprising elements, some of them *in situ* and others discarded haphazardly about the ancient remains (fig. 3). A wall of *opus vittatum*, which we found abutting the exterior of the apse in the northwest corner of the excavated area, must form one side of the furnace room, which fed hot air directly into the subfloor of the apse. The break in the apse, documented in the plans of Ciotti's excavation of 1953, is the opening to the furnace, and we found that it was covered by a brick arch. The brick-faced walls of the apse end against long blocks of peperino that supported the base of the arch. Surprisingly, these blocks are carved with simple triglyph and metope motifs, just like those on two large blocks found overturned and discarded in the center of the apse (fig. 4). On the north side of the opening, a carved base molding, very like the

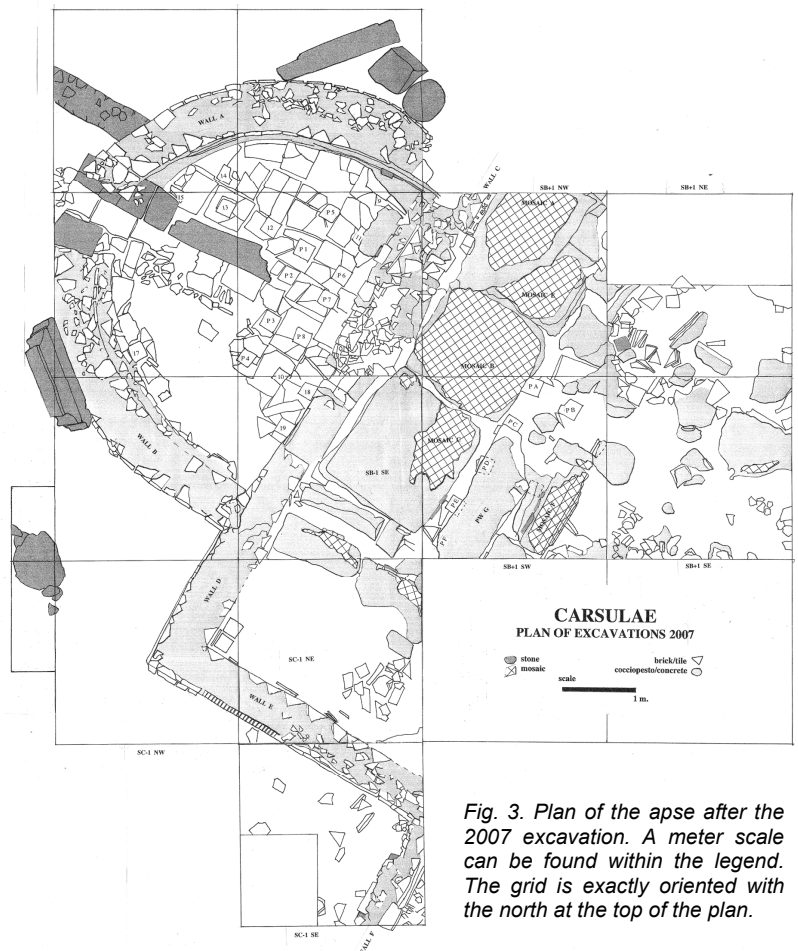


Fig. 3. Plan of the apse after the 2007 excavation. A meter scale can be found within the legend. The grid is exactly oriented with the north at the top of the plan.



one found tossed outside the southern curve of the apse, is set against the stone blocks to form a long line of stone, extending into the apse for 2/3 of its depth. All of these blocks are too decorative for their function and position and must have been reused from an earlier building or an earlier phase of the baths.

If we return the displaced carved stone blocks to what must have been their original position parallel to the identical ones that remain in place, they form a channel, which would have served as a flue from the furnace. The floor of the flue is paved with large ceramic tiles. The remainder of the apse area is filled with a regular pattern of *pilae*, resting on a floor of paving tiles, some of which show clear evidence of reuse from a different function.

Probing more deeply within the apse has revealed more information about the technology, the structure and functioning, of the hypocaust. Removal of the collapsing *cocciopesto* floor in the northern half of the apse exposed the pattern of *pilae* resting on a floor of large paving tiles. Of great interest is the wall that defines the eastern end of the apse and separates it from the rectangular room to the east; it appears to be double, its west side splitting away and toppling over. Removal of the *cocciopesto* floor that was bonded into it revealed that it was not a wall at all, but a second level of *pilae* (fig. 5). The mosaic floors of the rectangular room are thus resting on a double-decker hypocaust. This is a highly unusual feature<sup>6</sup>. A parallel for this is known from the Barbara Thermae in Trier, Germany, where a two-storied hypocaust surrounds a heated swimming pool<sup>7</sup>.

Within the apse we found more evidence of reuse and rebuilding that may shed light on the chronological phases in the development of the structure. Bricks or tiles intended for other purposes turned up in the hypocaust. Several *pilae* showed evidence of rebuilding; one was filled in with irregular flat rocks. Two paving tiles preserve brick



Fig. 4. View of the large decorative blocks placed to create a flue across the hypocaust of the apse.

**Carsulae 2006**  
**Elevation drawing of toppling "Wall C":**  
**Hypothetical double hypocaust**

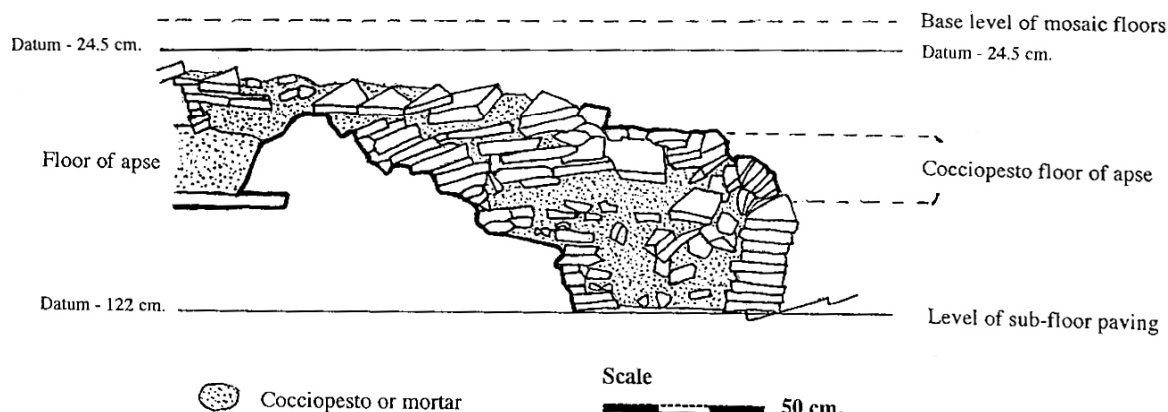


Fig. 5. Elevation drawing of the hypothesized double hypocaust after the removal of the apse floor.

<sup>6</sup> YEGUL 1995: 357: "Quite unusual is the double-storied hypocaust".

<sup>7</sup> KRENCKER *et al.* 1929: 245, fig. 363; see also YEGUL 1995: fig. 448.





Fig. 6. Ivory pin carved with a man's face.

This newly dug soil has also yielded evidence that illuminates the history of the excavation and/or pillaging of the site. A Corinthian pilaster capital was found slightly pinned beneath a large rock under what appeared to be a pottery refuse dump (fig. 7). The capital, which Stefan Freiburg has dated to the time of the emperor Claudius<sup>9</sup>, A.D. 40-50, resembles two others found at the site but whose original find-spots are unknown. The one found by our

Fig. 7. Corinthian pilaster capital, Claudian.

stamps, of a different manufacturers. These may ultimately help us to date at least one phase of the building. Both seem to consist of only a few letters, and are rectangular with rounded edges: an early design.

The most interesting examples of reuse are two rectangular tiles reused in the apse. These have irregular, hand-formed, raised bumps on one side. They appear to be an early form of *tegula mammata*, more primitive and thus perhaps earlier than the mold-formed ones used in the Stabian Baths at Pompeii. The *tegula mammata* is itself an early and less efficient system of aerating the walls of heated rooms than the *tubuli*, or box-flues, which replaced them in the first century A.D., and of which we have found examples *in situ* at *Carsulae*.

Some tentative evidence is thus mounting of an early date, perhaps republican, for the first phase of the baths (*vernice nera* pottery, *tegulae mammatae*), and for much patching, repair, and rebuilding over the centuries. The piecemeal nature of much of the rebuilding allows us to speculate that the repairs preserved the original form of the baths. The late 4th c. A.D. date of several coins and some of the artifacts suggests that the baths were in use throughout the history of *Carsulae*. Perhaps the greatest significance of the bath complex at *Carsulae* is the light it will shed on the development of this major Roman architectural typology. The problem of the origin and development of the Roman public bath during the period of the Republic "ranks high among the most contentious and insoluble issues"<sup>8</sup> for Classical archaeologists.

#### *Excavation on the northern and western exterior of the apse*

In this area we opened excavation units that overlapped both the architecture and soil that appeared, from the eroded edges of Ciotti's trenches, not to have been previously excavated. This was an attempt to connect the exposed architectural elements to their archaeological context. The previously unexcavated soil is surprising rich in artifactual material. Although not found in a context of their original use, these artifacts are nonetheless quite revealing.

A considerable number of them attest to the presence of women in the bath; three ivory objects: a hair pin, a clip carved with the profile of a man, and a needle, as well as many glass vessel shards of extreme delicacy, some of them decorated with silver or fine incisions (fig. 6). As for the pottery, almost every substantial locus contains a small amount of *vernice nera*, some of it mottled to a reddish brown; these wares are not inconsistent with the traditional date of the founding of *Carsulae*.



<sup>8</sup> FAGAN 2001: 403.

<sup>9</sup> Personal correspondence.





Fig. 8. Limestone block carved with funerary motifs and discarded on the exterior of the apse.

excavation had been cut down horizontally from its original size; the one now in the antiquarium at *Carsulae* was cut in half vertically. The capital's place of discovery suggests that the official excavation did not find it but probably some earlier pillager had.

To the north of the apse wall, Ciotti's precedence was clearly documented. A band of soft, sterile soil against the face of the wall may be the remains of an excavation trench, and seems to confirm that the previous excavation traced the walls. Once the fallen tiles from the northern face of the apse had been removed, more displayed decorative architectural blocks appeared. Beside them we found a broken cooking pot, not ancient. Stamped into the vitreous orange glaze on the underside of its base was *VULCANIA*, which seems to be a now-defunct Tuscan producer of pottery in Colle Val d'Elsa, near Siena. Its presence here may date from the excavation of the 1950s.

One of these displaced elements on the northern exterior of the apse is a limestone block, carved into a shallow arch, which is very like the one that we found tossed outside the apse on the western side. (fig. 8) It is carved in relief: on either side of a much-ruined rectangular field, in which one can just make out the outline of some four-footed creature, are carved arched niches in which figures of Cupids lean on upturned torches. This is a common funerary motif, and it brings into discussion both the chronology and the nature of the baths.

In 1980, Francesca Silvestrelli, who visited and photographed the exposed remains before they became overgrown, published an article<sup>10</sup>, in which she concluded that the baths were built during the Empire on a site that had previously been occupied by tombs of the Republic, and that the tombs had been destroyed to make way for the baths. Unless the boundaries of the city had changed since the Republic, however, these tombs would have been within the *fossa*, and in principle, Roman tombs are not built within the confines of a city; rather, they lie outside the gates. Furthermore, the stone is not the same as that visible in the cliff face to the north of the site. Some of the blocks appear to be of peperino, which is not found in the immediate area. As increasing evidence now suggests, they were patches and repairs to an already existing structure. The flue of decorative blocks cutting across the apse hypocaust was probably added to increase the draft into the double-story hypocaust of the rectangular room.

How, then might we explain the presence of these funerary elements? Perhaps an area of tombs outside the southern entrance to the city was destroyed in a severe earthquake which also damaged the baths. The inhabitants of *Carsulae* may have scavenged them as handy building materials. Fortuitously, the reuse of funerary elements is also an auspicious metaphor: the submission of death to the cause of health and healing, the use of the house of the dead to bring life and health to the living.

#### *Excavation of the western side of the rectangular room*

The rectangular room appears at least in part to have rested on a double-level hypocaust. Quadrants opened to the east of the previously exposed mosaic floors yielded evidence that the double-story hypocaust continued eastward. Traces of mosaic pavements, one of them white with wide red stripes, indicate that it was from here that the finer mosaic floors had been robbed out (fig. 9).

Fragmentary box tile flues (*tubuli*) were found all along the eastern side of the western wall (D-E) to transfer heat up the walls from beneath the floor. Thin slabs of marble, too, appear against this wall, as they did in the apse, and would have served as a decorative facing; we assume that the entire room, apse and all, was faced with marble.

<sup>10</sup> SILVESTRELLI 1997/2000: 259-269, Tav. IV A. The photograph was probably taken by the author, and it is an important document for the history of the deterioration of the site. Her caption: "*Il monumento funerario inglobato nelle fondazioni dell'abside dell'Ambiente A.*"



Fig. 9. Pink and white mosaic in the rectangular room.

In tracing the southward continuation of the double-story hypocaust and its relationship to the western wall of the rectangular room, we found that, beneath the hypocaust floor of the apse, the wall was coated with the same hydraulic plaster that coats that wall on the exterior of the building on the west to the south of the apse wall (Wall D). Since none of this plaster occurred on the curved walls of the apse in the sub-floor, this must indicate that that apse was added later. In fact, a shallow niche seems to have been cut into the straight wall to accommodate the insertion of the end of the southern arc of the apse.

The hydraulic plaster coats Wall D on the exterior of the building to a thickness of about 4 cm. Oddly, Wall E, which forms a corner with Wall D, had no plaster coating. It appears that the plaster was removed from Wall E in order to expose the vertically-set bricks, or soldiers, set at the base of the southern wall. We excavated to the bottom of those soldiers and found that they rested on a bipedal brick; under this bipedal, two bricks, their top corners set against each other and their bottoms spread away, created a triangular opening, probably for a drain (fig. 10). These may shelter a lead pipe such as that noted by E.A. Milj in 1800.

On the interior of the building, on the western side of the rectangular room, beneath the hypocaust floor and on center with the apse, Wall D drops down and creates a window 1.1 m. wide. We judge, from the height of the *pilae* excavated in the northern half of the apse and the height of the molding blocks that lead out of the flue, that this window beneath the floor would have allowed hot air to pass beneath the rectangular room.

This area has given us some important new insights into both the structure of the baths and the phases of their rebuilding, and we have come to a tentative hypothesis about the relationship between the apse and the rectangular room. We suggest that the northern side of the apse partially was filled with a pool, resting on the molding blocks that formed a flue from the furnace and on the lower *pilae*. Perhaps the shallow arched blocks found tossed outside the apse (one of which is carved with the motif of cupids leaning on torchs, the other undecorated) served as additional support beneath the pool. The eastern side of the pool was heated by a double-story hypocaust, on which the large, mosaic-covered slabs rested. Access to the pool was provided on the southern side, where two steps led down. The plan suggests an interesting and unusual asymmetry to the baths; this may have resulted from their piecemeal building and rebuilding over centuries. The structure of Wall D, its relationship to Wall B of the apse, and the presence of hydraulic plaster in the sub-floor all suggest that the apse was added later.



#### *Excavation to the south of the rectangular room*

In our attempt to reconstruct the history, not only of the baths, but also of their various excavations and pillagings, we have concentrated on architectural elements that have been torn from their original contexts and either tossed

Fig. 10. Drain located beneath vertical bricks, leading out from beneath south wall of the rectangular room.



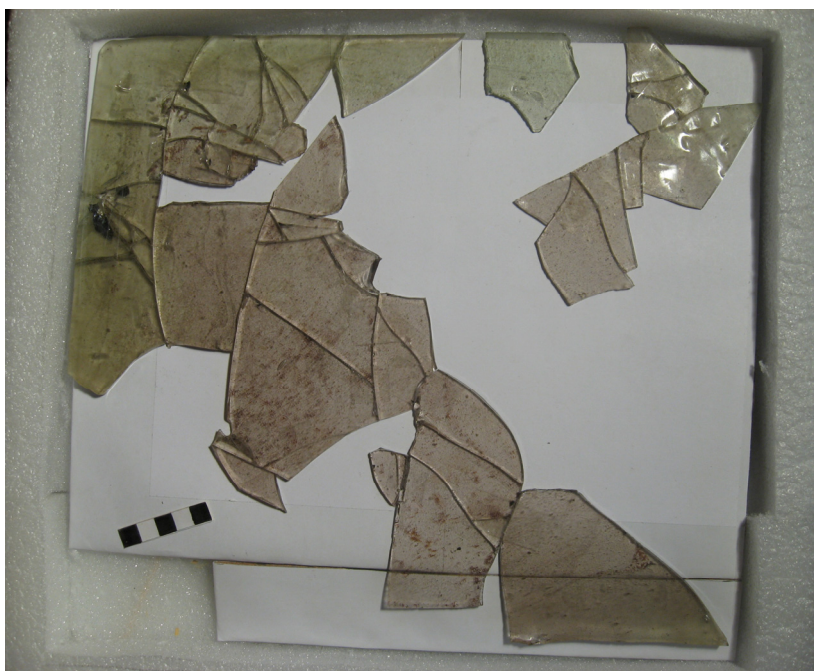


Fig. 11. Column carved with foliate pattern, found buried beneath a wall to a room on the south side of the rectangular room.

another wall extending to the southeast. This L must have enclosed two sides of a room, which was certainly heated, and may have received a flow of heat from the rectangular room. At its southeastern end, however, it is almost completely obliterated; it consists of only one course of bricks.

For the other displaced architectural elements, we can know or guess where in the baths they had been reused and why, but not where they came from or who removed them from their second location. For the buried column, however, we cannot yet guess the answer to any of those questions, and are left with even more: why was it buried and by whom?

About 30 cm. west of the wall hiding the column and parallel to it, a line of flat glass shards appeared in the soil. Excavation produced many more of these, some of which could be joined to form a window pane measuring at least 35 x 33 cm. (fig. 12) This is further evidence that this room was heated. The window was facing to the northwest, and would have brought solar heating to the room in the late afternoon, the most common time for bathing, Vitruvius tells us.<sup>1</sup> The unusually large size of the pane suggests a high level of technological refinement, which contrasts with the puzzlingly shoddy character of the wall into which it was set. This building does not cease to bewilder, but excavation in this area must be very slow and careful measured because of the highly degraded nature of the remains.



Excavation in the area of the polygonal wall

A wall built of massive dressed boulders, not rectangular and not laid in courses, was discovered and photographed by Paolo Renzi in 2004. Its construction most closely resembles that of the *opus polygonale* walls around Sant'Erasmo, on a mountaintop above *Carsulae*. A stretch of more than six meters is preserved to a maximum height of about three meters above the level of the *fossa*, which runs directly up to its southern face (fig. 13). The wall extends roughly SE to NW, and on the eastern end of its exposure, an irregular wall or deposit of boulders abuts it at a right angle. Its western side appeared to have once formed a corner, although many large rocks have fallen into the

Fig. 12. Panel of window glass found parallel to the wall under which the foliate column is buried.





Fig. 13. Wall in *opus polygonale* 50 m. to the east of the baths.



Fig. 14. "Stepping stones" leading from polygonal toward the Imperial-era cistern.

*fossa* to expose the wall's inner core. In line with where the corner would have been, a series of large rocks, spaced at intervals of two to three meters, like stepping stones, run northeastward toward the Imperial-age cistern (fig. 14).

We opened two quadrants in this area: one along the line of "stepping stones," to determine if they were a continuous wall; and the other, against the southern face of the polygonal wall where it abuts the irregular boulders and where a flight of five stone steps led down from, we think, the Via Flaminia. Several very surprising and significant discoveries in this area have placed the baths, and perhaps the whole history of *Carsulae* itself, in a new perspective:

1. The "stepping stones" are continuous, and they do form a wall at a right angle to the archaic wall. It is very thick, and it will require more excavation to determine whether it is a wall or the edge of a terrace, such as the one below the town of Cesi just a few kilometers away; that one has been interpreted as a *basis villae*.

2. These two walls are exactly aligned with the walls of the baths 50 meters to the west. This would suggest that the two structures may have had some connection to each other in function, and that the baths, which must be later, may have made use of the polygonal structure in some way.

3. The SW-NE-running leg of the polygonal wall leads directly toward the center piling of the *opus caementicium* cistern that served the baths in the Imperial period. This would suggest may functional connection as well.

4. Although less than a meter's width of soil was excavated along the western face of the "stepping stones," it yielded much pottery and many artifacts. This is evidence that this area had not been previously excavated. The pottery ranges from black gloss to Imperial-period cookware and, though not *in situ*, not in its original functional environment, it gives evidence of the chronological range of the site's occupation. The black gloss wares allow the possibility of a pre-Roman presence at *Carsulae*.

5. The quadrant that was opened on top of the boulders, between the polygonal wall and the five stone steps leading to the Via Flaminia, produced perhaps the most unexpected feature: a platform of *cocciopesto* paved with terracotta tiles (fig. 15). Part of it lies on top of the polygonal wall, though at a right angle to it, and appears to be





Fig. 15. Pavement of tile-paved cocciopesto resting on the polygonal wall.

a step for access to this massive feature or to the *fossa* below it. This is further evidence that the later Romans used the older structure for some purpose, and that purpose was probably related to the baths.

The liminal position of this structure and of the baths, neither inside nor outside the city, suggests that this may have been a kind of quarantine area, intended to serve travelers in search of a cure or soldiers returning from campaigns, and to keep their maladies away from the general population of *Carsulae*.

We tentatively hypothesize a pre-Roman presence at *Carsulae* that may have attracted the Romans to found a city there. The fact that the massive polygonal walls align with the baths may suggest this this, and that *Carsulae*'s healthful water was the connecting link.

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