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The 2010 Season of the Pompeii *Quadriporticus* Project: The Western Side

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Introduction

The Pompeii *Quadriporticus* Project (PQP) conducted its first field season in the summer of 2010 with the purpose of better understanding this important and monumental building in its architectural, infrastructural and urban contexts (fig. 1). Since its discovery in 1766, most of the interest for the *Quadriporticus* has centered on the cache of gladiatorial equipment recovered from its side-rooms[1], for which the building is commonly termed the 'Gladiator's Barracks', as well as its general relationship to the adjacent Large Theatre[2]. Under the direction of Eric Poehler (University of Massachusetts-Amherst) and Steven Ellis (University of Cincinnati), the PQP was established as a development of the directors' work together in the adjacent *insula* (VIII.7.1-15) as part of the Pompeii Archaeological Research Project: *Porta Stabia* (PARP:PS), directed by the latter (fig. 2)[3]. With several excavated trenches from that project extending against the eastern side of the

Fig. 1. West side of Quadriporticus.

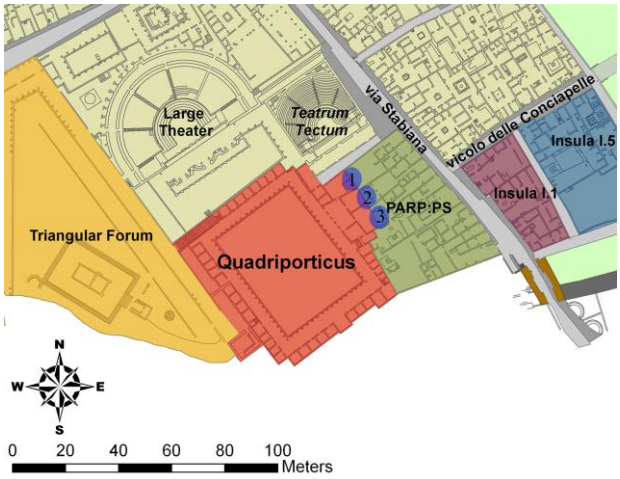

Fig. 2. Map of Quadriporticus *and surrounding areas including location of excavated areas (1 = Trench 28000, excavated in 2009 (see* ELLIS, DEVORE *2010: 12-15); 2 = Trench 9000, excavated in 2006 (see* ELLIS, DEVORE *2006: 10-12; 2007: 123; 2008: 313-314); 3 = Trench 13000, excavated in 2007 (see* DEVORE, ELLIS *2008: 8-11).*

[1] On the discovery of these items, see PAH I.i.198-207 (December 20, 1766 – May 23, 1767). On the interest surrounding them, see PARSLOW 2007, 7. The building is first reported as early as 25 October 1766 and appears to have been completely exhumed by 1818.

[2] For an overview of the building's architectural elements, see RICHARDSON 1988, 83-87.

[3] DEVORE, ELLIS 2005; 2008; ELLIS *forthcoming*; ELLIS, DEVORE 2006; 2007; 2008; 2009; ELLIS, EMMERSON, PAVLICK, DICUS *forthcoming*. For the online profile of the Pompeii *Quadriporticus* Project, see http://www.umass.edu/classics/PQP.htm. For the online profile of the Pompeii Archaeological Research Project: *Porta Stabia*, see http://www.classics.uc.edu/pompeii.

Fig. 3. Wall face 289 (room 40), from South.

Quadriporticus, the initial aims of the PQP were to take advantage of this valuable and rare excavation data by combining it with the first detailed analysis of the entire monument's stratified architectural features. The incorporation of excavated and archival data with sophisticated recording techniques of the standing architecture of the *Quadriporticus* has the very real potential of establishing some important 'firsts' for what is one of the largest public buildings in the city. These include:

1. the establishment of definitive and contextualized dates for its construction and subsequent reconstructions;
2. an understanding of its evolving function as a corridor of movement between one of the oldest and principal gates to the city (the *Porta Stabia*) and the centuries-old sanctuary on the Triangular Forum;
3. and, not least, the role it played in the complex and city-wide systems of municipal infrastructure.

Methodology

Our 2010 field-work began with a campaign of masonry analyses of the building's west side. As with our published work at the Pan-Hellenic sanctuary of Isthmia in Greece[4], this methodology involves the 'atomizing' of the architecture into its constituent parts, based on the recording of their stratified and morphological relationships. More specifically, our masonry analyses involve the careful examination, recording and interpretation of visible sections of architecture to determine the style and materials of construction – including stone types and bonding agents (e.g., mortars) – and the identification of the individual events of construction of each wall in a building from the laying of the foundations to the driving of nails through the finished plaster (fig. 3). The recording of so many identifiable units of architecture might seemingly increase the general level of convolution in reading the architecture, but it is a methodology that conversely and dramatically reduces that complexity by structuring a 'rebuilding' of those units though a hierarchical procedure. The resulting stratigraphic associations (bonding) and disassociations (abutting, cutting or overlying) of each section of every wall are then visualized in a Geographical Information Systems map. The visualization of these collective relationships enables the identification of larger units of construction. The same map then facilitates the delineation of a relative stratigraphic/chronological sequence of these units toward an overall structural phasing of the building. The sorting of these larger units by their relative chronological associations simplifies the complexity of the site's architecture and brings the evidence of its development into sharper focus.

Together with our developing field methodologies at PARP:PS, several tablet computers (iPads) were used for the on-site recording and analysis of our field-work data[5]. This completely digital process synchronized wirelessly with our main database. The benefits of this system are far too many to fully list here, at least given the scope of the present publication, but include the ability to create cleaner data more quickly and simply, to draw complex vector graphics to an immediate publication quality, to access the data from those working on other iPads, to analyze data while still in the field and to ensure a much more robust security of the collected data than with more traditional means of paper recording.

Results

The 2010 campaign focused on the architectural and infrastructural changes to the *Quadriporticus*'s western side, which rises to meet the Triangular Forum in a series of three distinct levels (fig. 1). In what follows we describe each of these levels before outlining their collective phases of development.

[4] ELLIS *ET AL.* 2008.

[5] For an overview of our use of tablet computers to record data in the field, see http://www.umass.edu/classics/PQP_Files/The_iPad_in_Pompeii.pdf.

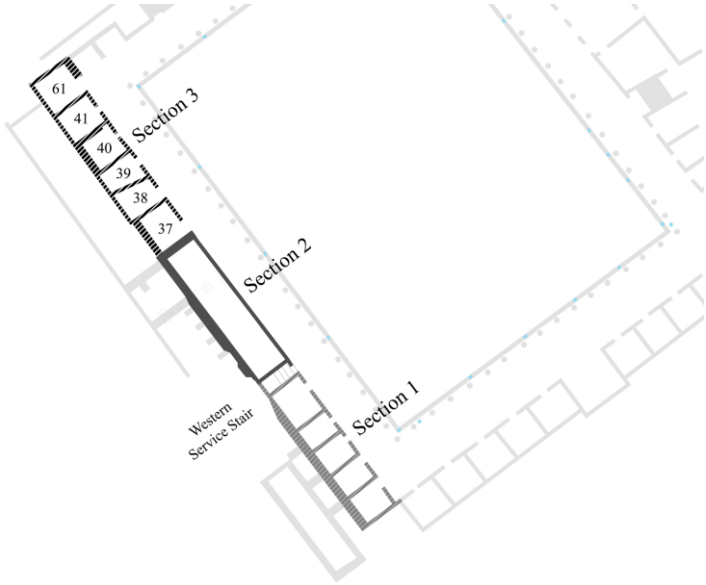

Fig. 4. Plan of the ground level of Quadriporticus.

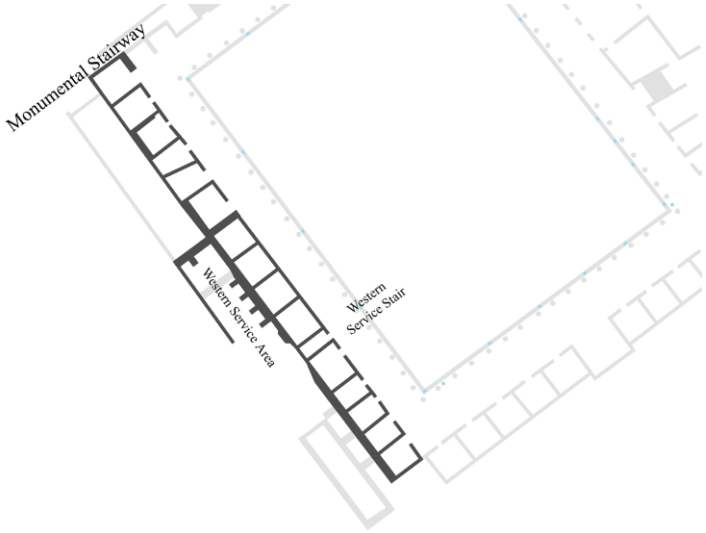

Fig. 5. Plan of the second level of Quadriporticus.

Ground Level of the Quadriporticus

The ground level of the west side of the *Quadriporticus* can be divided into three sections (fig. 4). Section one comprises five rooms in the south-west of the building, ending at the narrow western service stairway. The façade of these rooms was built mainly in *opus vittatum mixtum* (fig. 1), while the original interior walls as well as the modern reconstruction of upper levels were built in *opus incertum*. At the end of section one the construction style changes subtly to become brick work[6], matching the other side of this entrance to the western service stairway where section two begins as a 17m stretch of unbroken masonry comprising two bands of *opus incertum* quoined into *opus testaceum* ends. The lower band is made up of small, dark lava stones while the upper band is a mix of Sarno limestone and lava stones with a few important inclusions of yellow tuff[7]. The six rooms of section three appear irregular in both shape and construction (fig. 4). Based on construction style, the southernmost room (room 37) should be grouped with section two's brick and banded *opus incertum*. By shape, however, it resembles another space, two rooms to the north (room 40). Both rooms are shallower than the other four rooms, all of which extend 45cm farther to the west. The northern five rooms (38-41, 61) were very similarly constructed: *opus incertum* in lava and Sarno limestone. In the walls of three of these five rooms, however, there are significant quantities of cruma stone and yellow tuff found in revealing locations; the significance of these locations will be returned to below (see Phase Four). The northernmost room (61), the public latrine, is partially embedded beneath the monumental stairway.

Second Level

A long Sarno limestone wall terraced the *Quadriporticus*'s western side, creating space for a second story, which by the final period was divided into fifteen rooms (fig. 5). A wooden balcony running the length of the west side of the *Quadriporticus* accessed these rooms[8]. The western service stairway accessed the balcony, as well as another area behind the second story terrace wall, called the western service area. A section of *opus signinum* flooring indicates the ancient level in this area and four buttresses bonded to the terrace wall with large gray tuff blocks enclose the space. One such block was inscribed with a graffito: Trem Marotta, 10/1914. Across from this graffito, the lower portion of the westernmost wall of this area was also constructed in large, irregular Sarno limestone pieces and continues northward behind the modern lava stone wall, presumably to meet the large wall visible in the third level.

[6] The change in construction style from *opus vittatum mixtum* to *opus testaceum* (brickwork) reflects an aesthetic choice to make the southern side of the western service stair match the northern side. That this is not a marker of chronological change is demonstrated by the presence of the same mortar bonding both styles of construction into a single moment of building on the south side of the doorway.

[7] In the interest of clarity, the labels of stones types used here follow their conventional names. For the formal names and chemical characteristics of these stone types, however, we follow the definitions of KASTENMEIER *ET AL*. 2010.

[8] Richardson (1988: 83) reports that there was significant evidence of the balcony discovered in the initial excavations. Although we do not disagree with the reconstruction of the balcony, Richardson does not provide a citation and our reading of the PAH has not found the evidence described.

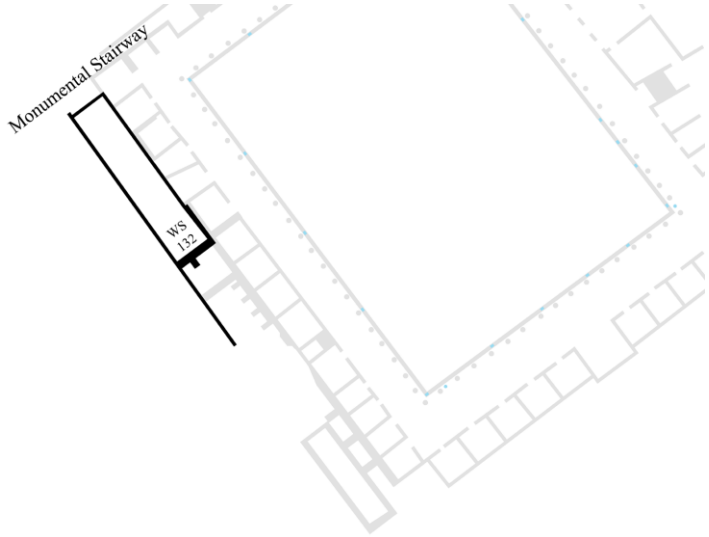

Fig. 6. Plan of the third level of Quadriporticus.

Fig. 7. Original Sarno construction with trimmed tuff block.

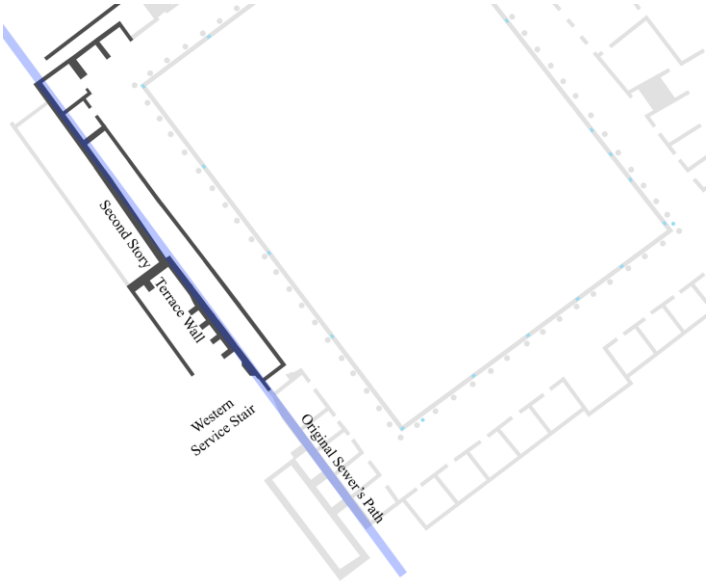

Fig. 8. Plan of Phase One.

Third Level

The third level of the *Quadriporticus* is nearly completely restored in modern masonry (fig. 6). Currently, the third level appears as a long, undivided corridor between the monumental staircase in the north and Wall Segment 132. Based on its undivided form, identical to that of the 1879 Plastico Model of Pompeii, it seems best to understand this space as a veranda overlooking the *Quadriporticus* and Pompeii's urban landscape beyond[9]. Although Wall Segment 132 is one of the third level's only remaining ancient constructions, it shares the construction style and materials of much of the second story, including a cut block of tuff and attached buttress.

Phasing

Our research has identified five ancient phases of construction in the western portion of the *Quadriporticus*. Cursory examination of the rest of the building suggests that it will also fit within this relative chronology. These phases are tentatively set within an absolute chronology between the traditional 2nd century BC date of the *Quadriporticus* and the secure *ante quem* date of AD 79.

Phase One

The earliest architecture in the *Quadriporticus* consists of large, irregular pieces of Sarno limestone (fig. 7), quoined together in some places with large blocks of gray tuff that were trimmed into shallow "T" and "L" shapes in some places to bond perpendicular segments of the masonry more securely. The rough trimming of several of these blocks indicates they were recycled from some earlier construction[10].

[9] On the value of cork models as records of ancient monuments, see KOCKEL 2004.

[10] No earlier constructions have been found to precede the Sarno limestone walls and little is expected as any previous architecture would almost certainly have been obliterated by the massive earthworks required to terrace the nine meters of elevation difference between the ground level of the *Quadriporticus* and Triangular Forum. If these blocks came from another building that preceded the *Quadriporticus*, no trace of it (other than the blocks) survives. In the 2011 field season we will look more closely at the dimensions of these blocks and attempt to source them to known tuff buildings in Pompeii.

Fig. 9. Wall face 265 (room 37), from North.

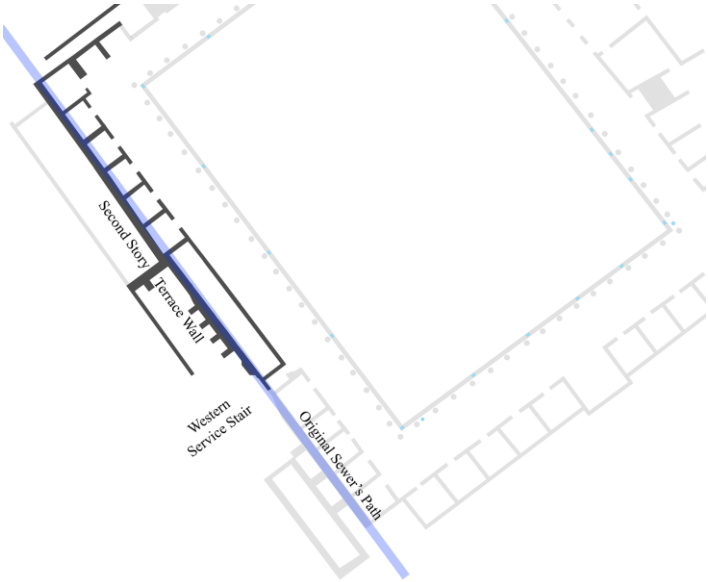

Fig. 10. Plan of Phase Two.

In Phase One only the two northernmost rooms existed, with the rest of the western façade of the *Quadriporticus* being an unbroken wall south to the western service stair (fig. 8). These rooms were shallower than today, narrowed in the west by the original sewer's presence and in the east by a closer façade wall. Evidence of this earlier façade is found in a layer of red plaster marking its exterior and the remnant of the original façade wall, which is preserved in the northern wall of Room 40 (fig. 3). Further reinforcement for this interpretation comes from the southern wall of Room 37, which preserves a vertical scar at its eastern end where the original façade wall was cut down (fig. 9).

Room 61's north wall contains two arched openings – the larger for the sewer and the smaller apparently to drain the post-*scenae* area – that were filled and plastered in the final period. The sewer was built almost entirely in Sarno limestone; the lower walls are made of irregular pieces while the vault is constructed in the same style of long, narrow Sarno voussoirs as the arches supporting the monumental stairway. The sewer and *Quadriporticus* wall were also stratigraphically bonded by large blocks in the sewer's western wall and the northern wall of Room 61. Moreover, the sewer was directly connected to the second story terrace wall, which was partially built over the extrados of the sewer. This robust (up to c. 90cm thick) Sarno limestone masonry is found throughout the west side, including beneath the monumental stairway, throughout the second story terrace wall and its connection to the third level masonry. The effect of the terrace wall was to create a long corridor that paralleled the portico at ground level. Remnants of a layer of white plaster are preserved along the entire length including several areas where the density and irregular arrangement of nails and nail holes in the plaster suggest that objects were hung or posted here.

Phase Two

The *Quadriporticus*' second phase of construction saw the creation of four new rooms, above which the second story corridor was rebuilt, extending over the two original northern rooms, perhaps for the first time (fig. 10)[11]. These new rooms were cut in as far as the exterior wall of the sewer. Because the original façade was farther east, these rooms, matching those in Phase One, were quite small. Thus, although the width (i.e., north-south dimension) of the rooms varied, each would have had a depth of approximately 2.30-2.40m. The original façade wall's placement may have been influenced more directly by the desired width of the second story corridor, the interior dimension of which was almost exactly ten Oscan feet (2.75m). Finally, extending the second story corridor over these rooms further reduced them by creating rather low ceilings – no more than 2.50m high.

Phase Three

In a third phase the second story corridor was truncated and the six rooms of the first level were given a second story (fig. 11). This new design was realized by removing the floor of the corridor and extending the east-

[11] Putlog holes in the original Sarno limestone construction of the west wall of room 61 (WF_302) were cut in rather than formed, suggesting a change to the original design of the rooms.

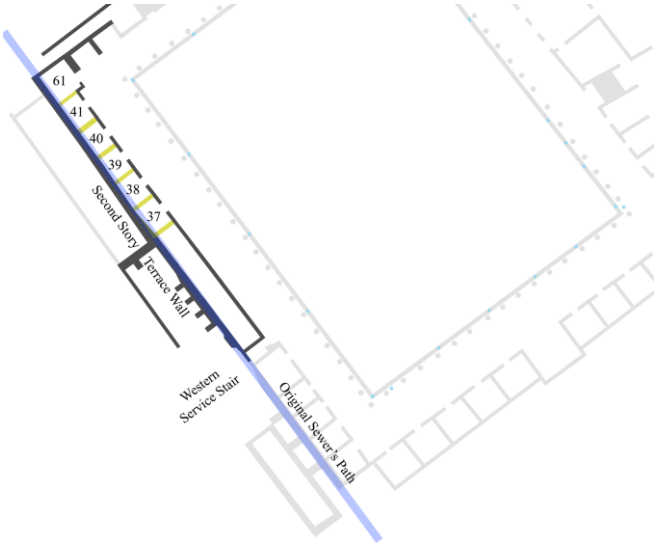

Fig. 11. Plan of Phase Three.

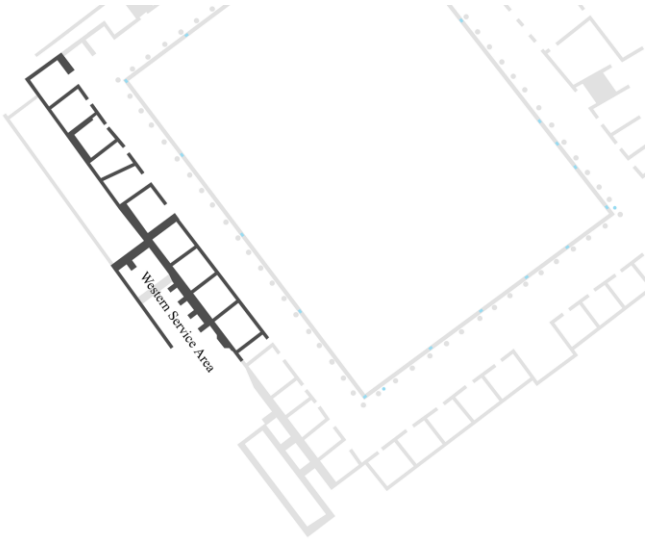

Fig. 12. Plan of Phase Four.

Fig. 13. Original sewer line and cut through its floor. Curve of the new sewer and the cruma bedrock are also visible in the cut.

west walls of the six rooms in the northwest upward using distinctive yellow tuff stones arranged in *opus quasi reticulatum*[12]. The absence of evidence for how the spaces were accessed, as well as the presence of plaster where the floor of the second phase had been and where it will be again in the next phase suggests that these rooms may have been equipped with a wooden mezzanine level. For example, Room 40 has plaster on the north and south walls at the same level of the beam holes in the west wall. Moreover, the thickness of the plaster on the southern wall partially blocks the southernmost beam hole, giving further reason to see wooden mezzanine levels in these rooms.

Phase Four

The cause of the rebuilding in the *Quadriporticus*' fourth phase (fig. 12) is clearly the result of a collapse of the Phase One terrace wall. There is an obvious temptation to relate this collapse to the seismic activity in AD 62/3. Indeed, some of the elements of construction as well as the overall design of the building's Fourth and Fifth Phases give some reason to associate the collapse with a late date. Still, our current relative chronology does not offer the precision in absolute chronology to assign this particular structural event to a specific historical event. The response to this collapse was an expansion and modification, or perhaps a completion, of the Phase Three process to buttress the second level by dividing the corridor into additional rooms. At the same time, a new façade was constructed with a slightly different orientation that altered the six northern rooms in shape and dimension. Four of these rooms (38, 39, 41, 61) were further enlarged by cutting through the space occupied by the sewer, putting it out of use.

Expanding these rooms permitted the transformation of Room 61 into a public latrine[13] and required the redirection of the sewer's path from beneath the western side of the *Quadriporticus* to a south, southeasterly course that dives steeply underground (fig. 13). The change can be recognized in the walling up of the original sewer's course and the approximately 1.5m deep drop that was cut through both the original sewer's floor and the natural

[12] It should be noted that in the 1879 Plastico Model the *opus quasi reticulatum* is shown to extend all the way to façade wall while only a significantly smaller section of the masonry survives today.

[13] The new latrine in the *Quadriporticus* is the one of the smallest in the city (15m^2): Stabian Baths, 24m^2; Forum Latrine, 35m^2; Forum Baths, 6m^2; Central Baths, 36m^2; Grand Palaestra, 59m^2; Larger Theater, 18m^2.

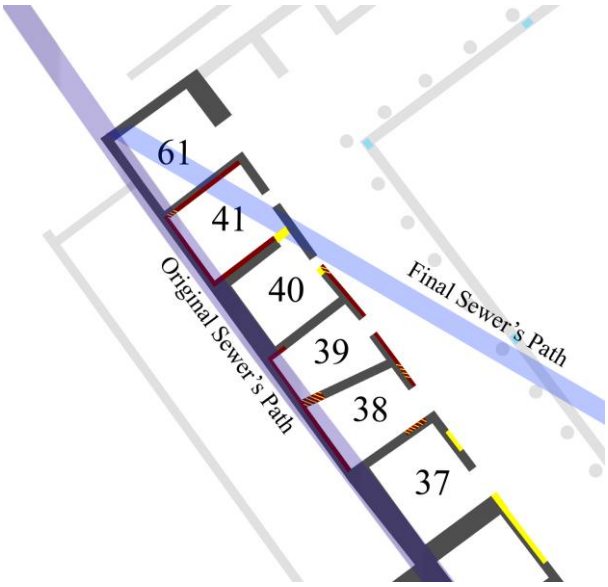

Fig. 14. Plan of locations of cruma (red) and yellow tuff (yellow or yellow lines) in masonry.

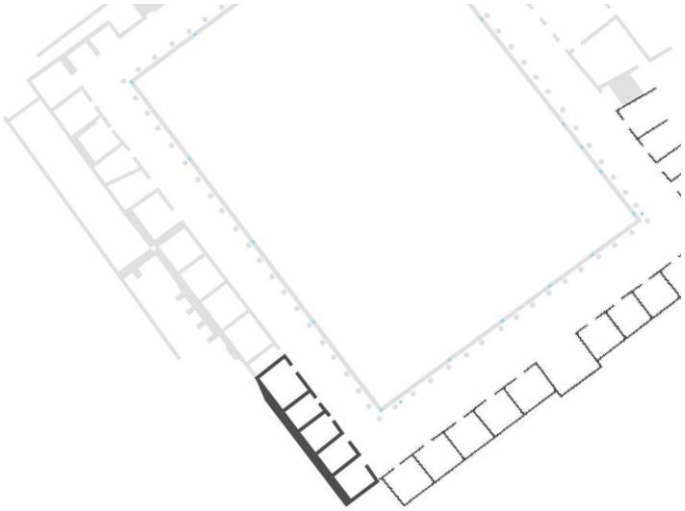

Fig. 15. Plan of Phase Five including suite of rooms in the southern portico.

bedrock to the meet the new latrine's collection point. It is at this same point that the sewer's new orientation begins. The removed bedrock, a distinctive red-brown crumic material still visible in the cut for the new sewer, can be observed in a number of walls demonstrating its use as a building material after extraction. Together with some of the detritus of the previous *opus quasi reticulatum* walls, this red-brown cruma is exclusively found – and importantly not found – in revealing locations: in new western facade wall, in the walls of the four rooms that cut through the old sewer and nowhere else (fig. 14)[14]. Such a relationship conclusively links together the creation of these rooms to the destruction of the upper level of the Third Phase (*opus quasi reticulatum* in yellow tuff), the construction of the new western façade, the reorientation of the sewer and the creation of the latrine. The use of these materials together asks us to imagine the intentional collection of both the debris of the recently destroyed walls and the spoil of the new sewer line's excavation for use in the rebuilding of the *Quadriporticus*.

Phase Five

The fifth and final phase of construction created a suite of small rooms in the southern part of the *Quadriporticus*' west side (fig. 15). Their construction was part of a complete and contiguous rebuilding of the southwest, south and southeast of the building that created a great arc of similar spaces, constructed almost entirely in *opus vittatum mixtum*. This style of construction is traditionally dated to last decades of Pompeii's existence and its stratigraphic associations with other structures within the *Quadriporticus* place it conclusively in that building's final phase, even in the late A.D. 70s. This chronology is demonstrated by the fact that the northern suite of ten rooms – an area where the use of *opus vittatum mixtum* was second only to the southern portico – was still unfinished at the time of the eruption of Mt. Vesuvius in A.D. 79. Within each of these nearly identical rooms a plaster layer decorated in the fourth style had been applied that preserves a rectangular scoring for the second story beam holes that were never cut. These facts, the painting style and the unfinished construction, strongly suggest a very late date for the beginning of Phase Five[15].

Because there are only the slightest traces of the preceding architecture in the southwest of the building, we cannot observe the importance of the change these additional rooms had on the *Quadriporticus*. It is possible, however, to situate these ten new spaces within the broader chronology developed for the west side and recognize them as the fulfillment of a process to generate more and more individual spaces surrounding the portico. Thus, in the first phase (fig. 8), only two rooms can be identified. Four more were added in the second phase (fig. 10) and in

[14] The significant modern reconstruction of the southern wall of Room 61 (WF_301), preempts the ability to recognize the (predicted) use of cruma in this wall.

[15] RICHARDSON 1988: 85, following Maiuri (1942: 81-83), also claims that this part of the building was very late based on the prevalence of *opus vittatum mixtum* as well as the 4th style painting found here. While the number of documented finds in any Pompeian room by no means dictates the use of – or architectural completion of – that space (cf. ALLISON 1992; 2004), the general lack of finds in these rooms, by comparison with those along the eastern side of the *Quadriporticus*, is at least suggestive of their incompletion. Conversely, the tunneling activities in the west side of the *Quadriporticus* may have removed important artifacts prior to the final disinterment of the area sometime after 1805.

Fig. 16. Plan of gutter elevations (dark green is highest, dark red is lowest) including the projected path across Quadriporticus*.*

Fig. 17. Map of sewer's path across the city including location of latrines and street drainage entry points: 1). Origin at Stabian Baths latrine; 2). Drainage opening on Via dell'Abbondanza; 3). Latrine at VIII 4, 9; 4). Latrine at VIII 4, 4.49 (room 22); 5). Drainage opening on Via del Tempio d'Iside; 6). Latrine at Theater.

the third phase (fig. 11), a mezzanine story was created for these six rooms. It is the fourth phase (fig. 12) that witnessed the strongest trend towards creating individual spaces, when ten new rooms were built on the second level and additional space was created in the first floor rooms. These ten rooms were added to by the construction of another ten in the final phase (fig. 15), bringing the total on the west side to twenty-six spaces on two levels. The individuation of space on the west side is echoed in the rest of the building, implicating these rooms within the intension for the final design of the *Quadriporticus* (fig. 2).

Urban Infrastructure and the Evolution of the Quadriporticus*:*

The collapse of the second story terrace wall in the fourth phase precipitated a redesign that widened four of the northwestern rooms at the expense of the sewer. This expansion permitted the creation of the latrine, but required a new sewer line to be cut. At the latrine, this new sewer can be seen to descend steeply in a south, southeasterly direction. The slope of the gutter surrounding the *porticus* offers evidence that this direction was maintained across the *Quadriporticus*. Elevation points taken at regular intervals along the gutter's course show that the northeast corner is the highest point (fig. 16). The lowest point, however, is not the southwest corner, but instead is approximately 14 meters farther east in the southern gutter. The location of this collection point puts it on alignment to intersect the new sewer and thus chronologically connects the drainage infrastructure of the interior of the *Quadriporticus* with the final phase of construction[16]. By linking a major destructive event to a change in drainage schemes, this chronological connection has implications for how we understand the *Quadriporticus*' final infrastructural design.

Thus, if we imagine the immediate aftermath of the terrace wall and sewer collapsing together, the sewer's final design begins to reveal the hallmarks of an emergency procedure. Because this sewer received waste from not only four large latrines before reaching the *Quadriporticus*, but also collected the surface drainage from the city streets, its disconnection from an exit was no trivial matter (fig. 17). Even if much of the sewer's final section were undamaged, reconnecting it to an outlet could only have been done as part of the reconstruction of the standing architecture. Preceding repair, of course, would be the removal of a significant volume of masonry lying in the area of the *porticus*. In the meantime, water and sewage was still flowing somewhere, perhaps into the *Quadriporticus* itself. In this scenario, digging a new channel was a more appropriate response to this immediate need and directing it across the open area of the *Quadriporticus* would have been the easiest place to create that channel (fig. 16). The absence of any standing architecture above ground and the soft volcanic material and terracing fills below ground would have facilitated construction of the channel and contributed to its specific placement. Only the presence of a large cistern presumed to exist in the south of this open area – which perhaps determined the course of the new sewer's orientation – might have impeded its construction[17].

[16] Richardson (1988: 85) believed that the current gutter was part of the original design of the *Quadriporticus.*

[17] A water lifting device can be seen in the south of the *Quadriporticus* as early as 1792, which strongly suggest the existence of an ancient cistern or cisterns. See images by Jacob Philipp Hackert (GARCIA, GARCIA 1998: 596-597, no. 6510) and Luigi Salvatore Gentile (*Pompei – Caserma dei gladiatori*, 1805; PAGANO, PRISCIANDARO 2006, vol. 1, Fig. 1, Parte Seconda) that show

Conclusion

The 2010 field-season of the PQP has yielded much new and important data for understanding the structural and social shape of the *Quadriporticus* at Pompeii. It is naturally hoped that the forthcoming seasons will contribute yet more to our ability to date its several reconstructions and to contextualize these to local and regional histories, as well as to furnishing a clearer understanding of its clearly multiple functions and roles. Connecting this information with the results from the *Porta Stabia* excavations[18] broadens the scope of our endeavors while also demonstrating the (all-too-rare) value of shared datasets.

Acknowledgements

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this water lifting device in the south-center of the Quadriporticus. Openings are found near the southeast and southwest corners of the *Quadriporticus* that are assumed to be cistern heads (RICHARDSON 1988: 84).

[18] See note 3, above.

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