

## Via Consolare Project – 2007-2011 Field Seasons in Insula VII 6

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### Introduction

The Via Consolare Project has conducted research into the history of the urban development of *Insula VII 6*, the area of the *Villa delle Colonne a mosaico*, and the *Via Consolare* with the kind permission of the *Ministero per i Beni e le Attività Culturali: Soprintendenza Speciale per i Beni Archeologici di Napoli e Pompei*, since 2005. This report presents the results of the five years of research undertaken since the inauguration of sub-surface examination in *Insula VII 6*. Carried out during the summers of 2007-2011, this work has included geophysical investigation, 3D topographic survey, photography, analysis of standing structures, surface cleans to the preserved AD 79 levels, and targeted, sub-surface excavation.

Situated centrally on the western side of the ancient city and at the northwest corner of the Forum, *Insula VII 6* is bounded by the *Via delle Terme* to the north, the *Vico delle Terme* to the east, the *Vico dei Soprastanti* to the south and the *Vico del Farmacista* to the west. Just under 3200 m<sup>2</sup> in size, the *insula* forms a slightly irregular rhomboid, wider on its southern side than on its northern edge. In close proximity to the *Terme del Foro*, the Forum itself, and several primarily residential *insulae*, the block served to interconnect areas of relatively diverse function within the city and must have been a highly sought-after location in both the final phases of the city and throughout the history of its urban development. Irregularities within the structures of the *insula* suggest that a number of divisions, re-divisions, subdivisions and agglomerations occurred throughout its period of inhabitation, attesting to a long period of use and reuse<sup>1</sup> (fig. 1).

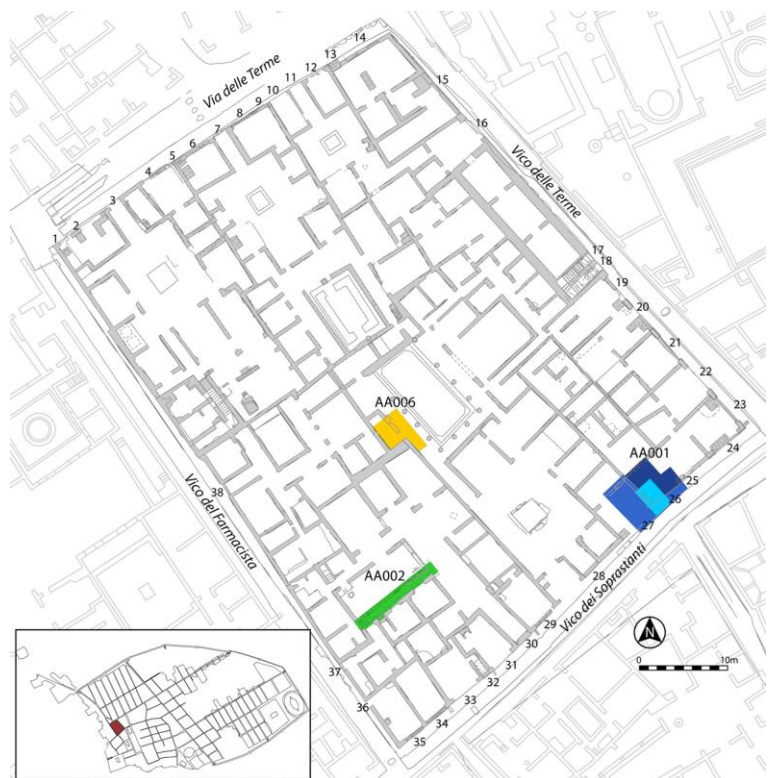


Fig. 1. Plan of *Insula VII 6*. AA001 in blue, AA002 in green and AA006 in yellow.

<sup>1</sup> ESCHEBACH, ESCHEBACH ET AL. 1995: *passim*.



Fig. 2. Central area of Insula VII 6 displaying a loss of standing remains due to Allied bombing in 1943.

The *insula* itself consists of a wide range of building types, including three medium-sized, axially-arranged atrium-peristyle houses; several smaller houses, including two with central porticos; and a large number of commercial properties clustering around them, particularly on the eastern side of the block. These include single-room *tabernae*, multiple-room business properties, a shop once erroneously thought to be a brothel, and at least one inn complex. On the eastern side, the block also contains a massively-constructed, three-chambered edifice, the so-called 'Great Cistern,' which appears to have provided water storage for the public baths across the street. This diversity attests to the wide range of commercial, domestic, and civic activities undertaken within the *insula*, making it an excellent candidate for revealing shifting priorities, economic trends, and forces of urbanisation that transformed the city throughout its history. Unfortunately, *Insula VII 6* was also an area of Pompeii particularly hard-hit by Allied bombs in 1943, sustaining considerable damage

from a number of explosions<sup>2</sup>. As a result, this *insula* has subsequently tended to be disregarded by scholarship as entirely destroyed and not worthy of further investigation<sup>3</sup>. While it is certainly true that bombs have levelled many of the standing remains through the centre of the block (fig. 2), subsurface soils may yet preserve a state of preservation that allows the reconstruction of earlier phases of use. This had already been found to be the case in bomb-damaged areas in *Insula VI 1*, as excavated by the University of Bradford<sup>4</sup>. One of the founding principles of the Via Consolare Project was to help to rescue as much data as possible from this understudied city block.

In 2007, preliminary, non-invasive examination was undertaken, including 3D topographic survey, analysis of preserved architectural details, and geophysical examination via electrical earth resistance survey (resistivity) and magnetometry in order to provide necessary plans and to determine the state of preservation of the stratigraphic deposits. In 2008, a test trench denoted Archaeological Area 001 (AA001) was excavated in the southeast of *Insula VII 6*, encompassing the southern rooms of two *tabernae* at *Insula VII 6*, 26-27, in order to provide ground truth for the findings of the previous year's geophysical analysis and to establish definitively the state of preservation of subsurface stratigraphy in one of the areas of the *insula* most extensively damaged from World War II bombing. A complicated and well-preserved sequence of stratigraphy was recovered, suggesting that continued excavation would be of value in providing information on the early history of this area of the city. Given the roughly analogous locations of the south-eastern corner of *Insula VII 6* and the shops south of the *Casa di Arianna* (VII 4, 31-33.50.51) in which Albert Ribera had discovered evidence suggestive of an *altstadt fossa*<sup>5</sup>, it was also hoped that wider excavations here might also provide corroborative data for this conclusion. At the same time, a second area within *Insula VII 6*, (AA002), a portion of the courtyard of the *Casa di Petutius Quintio*, was cleared of modern debris and build-up to the preserved AD 79 level, providing further clues to the developmental sequence on the south-western side of the block (fig. 1).

The 2009 field season saw the expansion of the test trench from 2008 (AA001), partially in order to permit a greater depth of excavation to be reached and also in order to investigate fully what had at first appeared to be the remains of an earlier street level, suggesting a connection with the small street spur that runs south from the eastern side of *Insula VII 6* and is terminated by the western side of the so-called *Granaio del Foro*. While wider excavation ultimately served to disprove this hypothesis, the chronological development of the *tabernae* at *Insula VII 6*, 26-27<sup>6</sup> began to be revealed, including surprisingly-detailed information on the condition of these shops at the time of the eruption. What had appeared in 2008 as the collapse of a cistern was revealed in 2009 to be only one part of a much larger system of exposed channels and open trenches that had just been excavated in AD 79, probably part of the provision for an extensive new drainage system in the area. These works appear to have been interrupted by the

<sup>2</sup> SPINAZZOLA 1953: Plate XIX; GARCIA Y GARCIA 2006: 102 f.

<sup>3</sup> ESCHEBACH 1993: 292.

<sup>4</sup> BON, JONES ET AL. 1997: 44.

<sup>5</sup> RIBERA, OLCINA, and BALESTER 2007: 89; BUSTAMENTE ET AL. 2010: 4.

<sup>6</sup> *NdS* 1910: 463; FIORELLI 1875: 436-437; DELLA CORTE 1954: 173; *GdS N. S.* 2 1873: 427f; *CIL* IV 541.

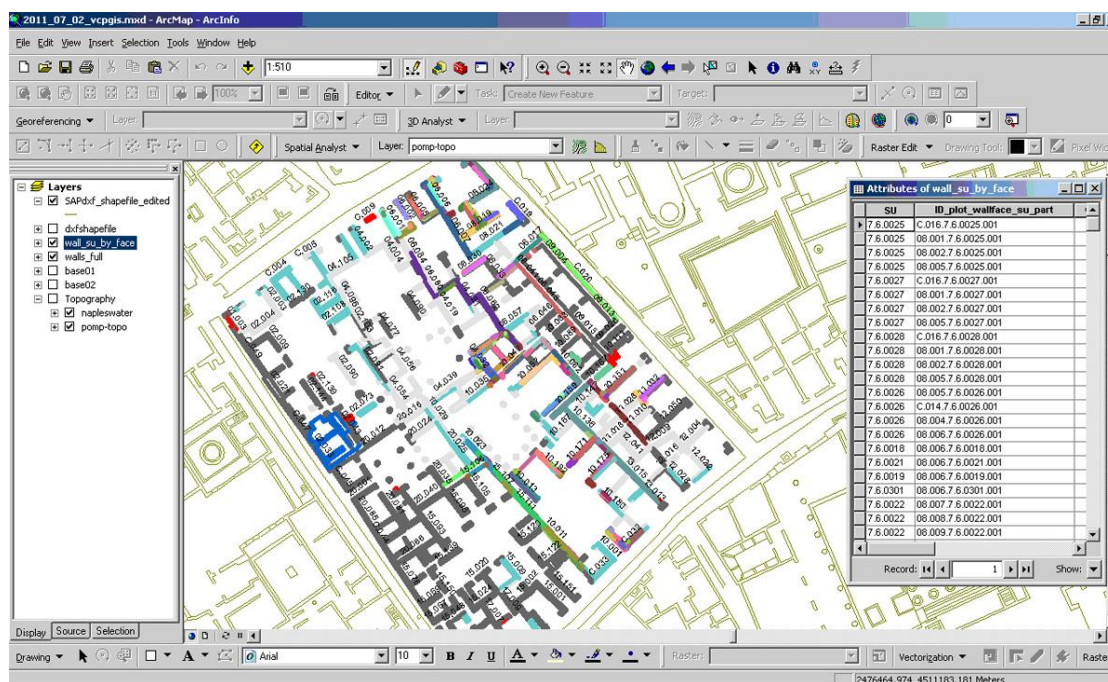


Fig. 3. Geographical Information Systems (GIS) database for Insula VII 6 in operation.

eruption, which filled the trenches with lapilli and stratified eruption debris left undisturbed by the first excavations in the area. It was possible to restore not only the working positions of the individual diggers, but also the locations of their spoil-heaps. This provides an important insight into the condition of this particular region of the city at the time of the eruption, as well as further evidence of the range of building activities that were underway during the seventeen years between the earthquake and AD 79, both on city infrastructure and within the domestic sphere<sup>7</sup>. During the 2009 field season a set of stairs within the 'Great Cistern' was also cleared of modern build-up and debris. Situated on the eastern side of the *insula* and opening onto the *Vico delle Terme*, these stairs provided access to subterranean service rooms associated with the workings of the 'Great Cistern'. Cleaning permitted the topographic survey and architectural analysis of this structure, and revealed little-known aspects of the building itself.

The primary purpose of the 2010 field season was to finalize the processing, recording, and analysis of materials of the previous two seasons of excavation and to coordinate the study of the standing remains undertaken in 2007 with new information provided by the excavation and cleaning in 2008 and 2009. To this end, specialists in pottery, numismatics, animal bone, charcoal, and ancient environmental remains commenced the scientific examination of this material. The numismatic study of all coins recovered through 2009 was finalized and the recording of necessary data from all previously excavated pottery was completed for the provision of spot dates. Necessary illustrations of all classes of artefact were provided and the stratigraphic sequence discernable in the standing remains was integrated into a working sequential framework for the whole of *Insula VII 6*. As a result, a preliminary phasing of the overall development of the *insula* was produced from the perspective of the relative chronology preserved in standing remains combined with dated materials recovered during excavation.

In 2011, excavation recommenced in order to complete excavation in the north-western quarter of the trench from 2008-2009 (AA001). This was desirable especially since this area was known to contain several hard-packed earthen layers, plausibly interpreted as working shop floors or sub-floors, which had not survived elsewhere in the excavated area of AA001. Preliminary cleaning in preparation for future excavation was also undertaken in the peristyle of the *Casa di Secundus Tyrannus Fortunatus* (VII 6, 28.19.20) (AA006) against one of the earliest walls preserved in the block. At the same time, processing of finds was maintained at an equal pace with excavation, and the *insula*-wide phasing narrative that had been developed in 2010 was refined via the successful introduction of a working Geographical Information System (GIS) database (fig. 3). In addition, 3D topographic survey was

<sup>7</sup> This adds to now extensive evidence for widespread rebuilding and augmentation in the city including the creation of the *Terme Centrale* cf. DE HAAN and WALLAT 2008, the reconstruction of the *Tempio di Venere*, cf. CURTI 2008, the recreation of the eastern side of the Forum itself, cf. DOBBINS 1994. Those changes documented on the southern side of *Insula VII 6* are most closely related to extensive interventions in the sidewalks identified by NAPPO 1996. All of these add to knowledge about the general rebuilding of the city documented by MAIURI 1942.

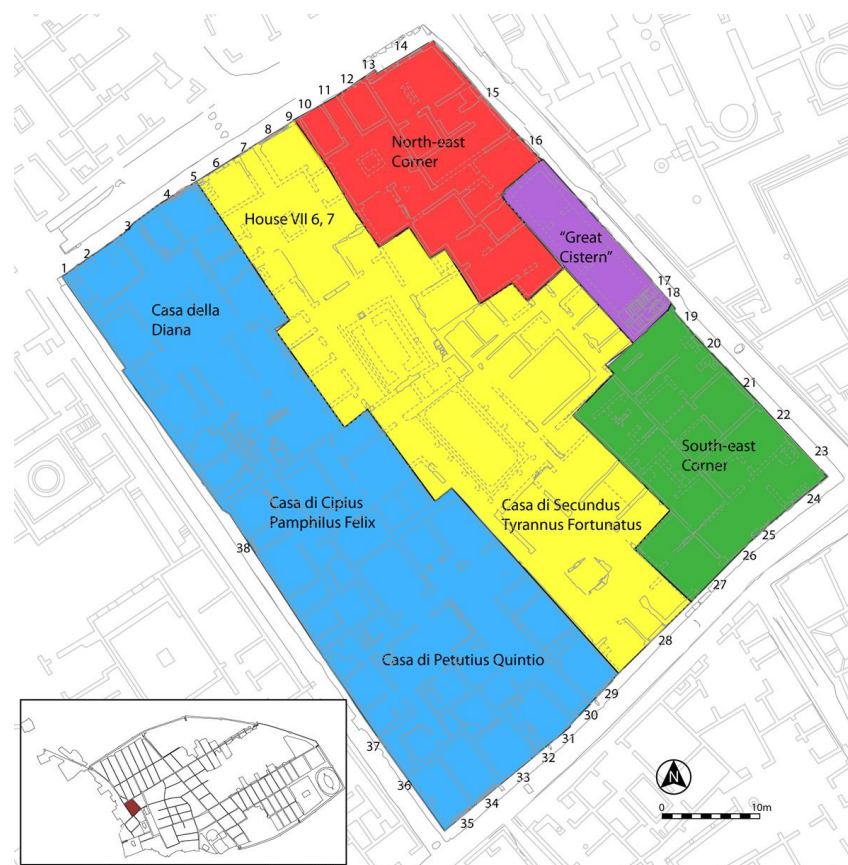


Fig. 4. Insula VII 6 divided into wall analysis zones. Blue is “western” (W), yellow is “central” (C), green is “southeast” (SE), purple is the “Great Cistern”, and red is “northeast” (NE).

### Preliminary Phasing of the Architectural Development of the Insula

During the past five seasons, the standing architectural remains of *Insula VII 6* have been examined closely, via a number of methods, including the analysis of mortar consistency, inclusions and colouration; wall construction methods and materials employed; and signs of alteration and the reuse of earlier buildings. Subsequently, these data have been integrated into a GIS database that has helped to produce a working narrative of the development of the block, which not only informs decisions on locations chosen for targeted excavation in order to resolve phasing difficulties, but also permits the extension of localised results and dating towards an interpretation of the development of the *insula* as a whole. Brief overviews of the phasing and architectural development of these areas as currently understood are presented below. These have been collected into five major zones within the *insula* (fig. 4): the western side (blue on plan), the central area (yellow), the south-eastern quarter (green), the ‘Great Cistern’ (purple), and two related properties at the northeast corner of the block (red). Because the building phases identified are derived from the relative chronology of the standing remains, dating will only be introduced where verified through excavation, or where the architectural tradition may imply a plausibly reliable chronological framework. Future excavation will provide the absolute chronology for those areas of the *insula* in which it is now absent. This phasing outline however, remains a work in progress and will undoubtedly be refined and altered by continuing and ongoing research, both into the standing architecture of the site and in light of new observations made possible by future excavation. Where possible, wall phasing in these areas has been aligned with the phases revealed through excavation, but the phasing remains localised, as designated by a leading letter (e.g. W1 for the first phase present in the ‘Western zone’ of the block, C1 for the first phase of the ‘Central zone,’ SE1 for that of the ‘South East zone,’ and NE1 for the ‘North East zone’). Where probable alignments between phases have been identified, these have been noted below.

undertaken on the exterior walls of the *Terme del Foro* in order to incorporate the study of these walls into the analysis of *Insula VII 6*, due to the strong chronological links between these two areas witnessed in the building of the ‘Great Cistern’.

As a result of the past five years of research, the complete sequence of AA001 in the context of the south-eastern corner of *Insula VII 6* has now been recovered. Preliminary relationships between the stratigraphic dating provided by this excavation and the relative phasing of the *Insula* as a whole have also been forged. This report presents these data, first with the current working interpretation of the major construction phases of *Insula VII 6* as a whole. Thereafter, precise details revealed by excavation in the two *tabernae* at *Insula VII 6*, 26-27 (AA001) and cleanings in the courtyard of the *Casa di Petutius Quintio* (VII 6, 30.37) (AA002), the ‘Great Cistern’, and in the peristyle of *Casa di Secundus Tyrannus Fortunatus*, are examined. The report ends with a discussion of current interpretations and their potential meanings for the urban development of Pompeii.

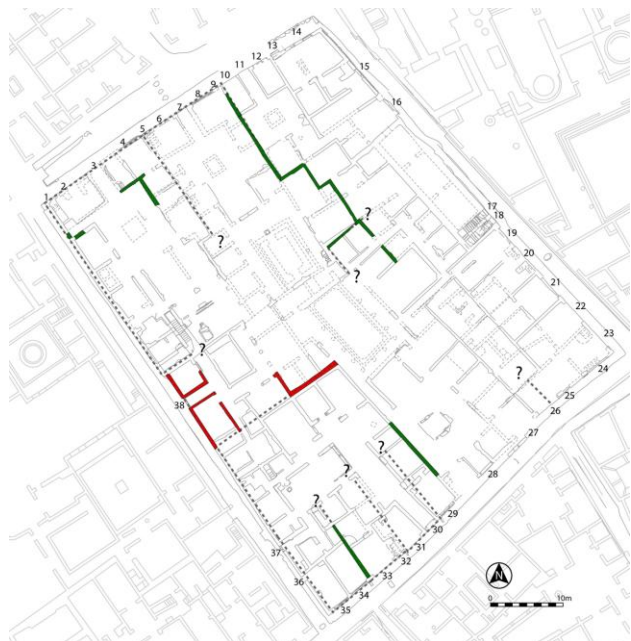


Fig. 5. Phase W1, C1, and SE1 - earliest traces of opus africanum construction and hypothetical property divisions. Red denotes walls in opus africanum type A and likely contemporary walls. Green denotes traces of repaired opus africanum walls or walls in opus africanum B. Hypothesized property divisions with no surviving evidence denoted with dotted lines.

### Western side of the Insula

The earliest construction activity preserved in the standing archaeological remains of *Insula VII 6* (Phase W1) is characterised by the building technique termed *opus africanum* type “A”<sup>8</sup> and is preserved intact in two known locations: in the perimeter wall on either side of doorway 38, the front entrance to the house known in the final-phase as the *Casa di Cippius Pamphilus Felix*<sup>9</sup>, and in the south-eastern property boundary wall of this same house (fig. 5). Moreover, large sarno stone piers and crossing courses characteristic of this construction technique have been identified, apparently *in situ*, in numerous other locations across the *insula* and plausibly are components of this building phase or of a secondary extension shortly thereafter in *opus africanum* type “B”. These walls preserve the sarno stone posts but have had their *caementa* infill rebuilt with *opus incertum* and mortar, often in diverse materials. It seems likely that *opus africanum* walls with clay bonding in their *caementa* might have needed to have been repaired from time to time. These walls therefore probably existed in the early *opus africanum* phase in the *insula* and were later rebuilt using the original posts as a framework. Two walls of particular importance for understanding the original property divisions in *Insula VII 6* at this early stage run through the *insula* north to south, dividing it roughly (though incompletely) into oblong thirds; the westernmost third of the block may therefore have begun as one contiguous house, or several independent units with a series of elongated row “houses” (*case a schiera*) of roughly equal width and as yet undetermined length situated on their southern side<sup>10</sup>. Targeted excavation is planned in search of confirmation of these original property divisions.

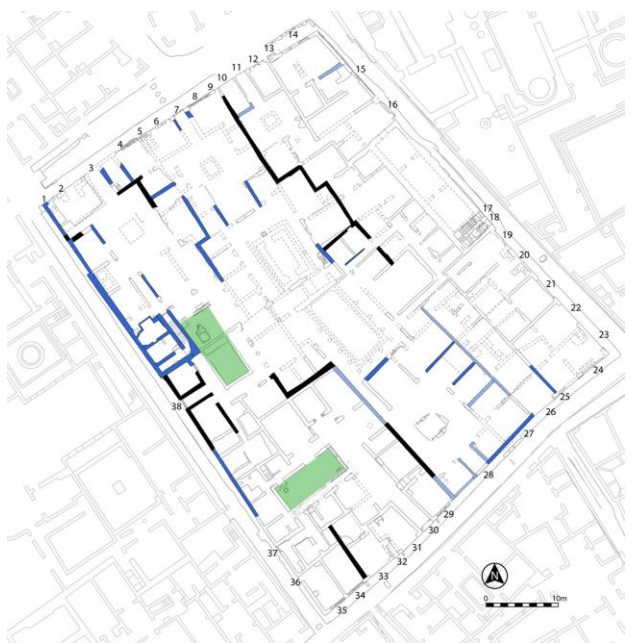


Fig. 6. Phase W2, C3, SE2 and NE1. Blue denotes walls of black lava or sarno stone opus incertum construction in this phase. Those attributed to this phase with less certainty are faded. Green denotes garden spaces added in this phase.

<sup>8</sup> PETERSE 1999: 37f. *ibid.* 60; PETERSE 2007: 377, both give a range of c. 450 BC – c. 420 BC for “Type A” construction. The interior wall within the *Casa di Cippius Pamphilus Felix*, though logically connected with the construction of the façade is not specifically mentioned but displays the same characteristics and should logically be dated to the same period.

<sup>9</sup> ESCHEBACH 1993: 298; PAHL 128ff; Bdl 1841: 118f; NdS 1910: 446ff.; SCHEFOLD 1957: 191; LAIDLAW 1985: 255ff; PPP III 186f.

<sup>10</sup> Similar to those identified and discussed by NAPPO 1997, HOFFMANN 1979 *et al.*

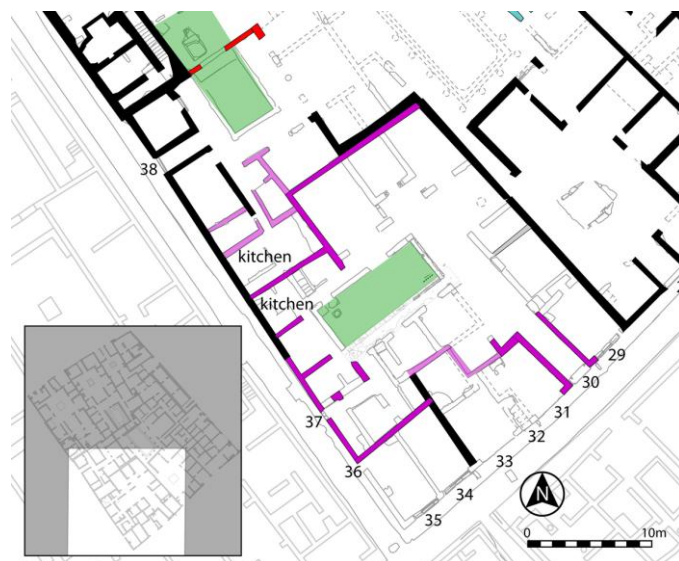
<sup>11</sup> This activity has been dated by María Luzón Nogué, Carmen Alonso Rodríguez, Castillo Ramírez, García Sánchez, Mañas Romero, Salcedo Garcés *et al.* to between the 1<sup>st</sup> c. BC-1<sup>st</sup> c. AD, (*cf.* [http://www.dianaarcaizante.com/#/fases\\_constructivas/](http://www.dianaarcaizante.com/#/fases_constructivas/)) but such a date is not supported by our analyses.

*Phase W3a - first phase of building separating the Casa di Petutius Quintio from the properties to the north. Purple denotes walls attributed to this phase, those with less certainty are faded.*

construction of a subterranean bath suite. This single property likely contained the entirety of the area that would later become the final-phase *Casa della Diana*<sup>12</sup>, *Casa di Cippius Pamphilus Felix*, and much of the *Casa di Petutius Quintio*<sup>13</sup>. The area occupied by the *Casa di Petutius Quintio* at this time appears to have been occupied largely by a peristyle created with *tuffo nocerino* elements (stylobate and fluted columns), likely a component of this larger complex. In the southernmost end of the western third of the *insula*, at least the southernmost parts of the possible southern row houses of Phase W1 seem to have persisted. The precise sequence in the south-western corner of the *insula* has been complicated by extensive rebuilding in the *Casa di Petutius Quintio* itself, and excavation is planned in order to clarify this part of the developmental sequence.

A considerable period of time seems to have elapsed between Phase W2 and Phase W3, which is currently divided into three sub-phases that may ultimately turn out to be contemporary. It seems likely that this phase of construction began at roughly the same time as the creation of the 'Great Cistern' and associated structures, but was probably not finished until immediately prior to the eruption. The *Casa di Petutius Quintio* was defined or redefined as a separate house centred on the older peristyle, with a brick façade installed at both its front and back entrances (doorways 30 and 37, respectively) (fig. 7). Two walls built using the *opus incertum* technique divided this house from its neighbours to the north, the *Casa della Diana/Casa di Cippius Pamphilus Felix*, which subsequently added a kitchen space, possibly in response to the loss of the kitchen within the *Casa di Petutius Quintio*. Elements of *tuffo* used in the construction of this phase, as well as embedded column fragments, suggest that the earlier *tuffo* peristyle was not retained in this phase. By this time at least, the structure had also clearly been separated from the five shops to its south. As a component of this change, the *Casa di Petutius Quintio* saw a redefinition of its interior space, the majority of which took place in the western half of the property and involved the provision of smaller rooms on this side.

In phase W3b, the *Casa di Petutius Quintio* acquired an upper storey, a series of rooms along its eastern extent, several false barrel-vaulted ceilings, and a *triclinium* on the northern side of the peristyle. All construction in this phase was characterised by the *opus vittatum mixtum* building technique (fig. 8). The south-western shops (doorways 35-32) were defined



*Fig. 8. Phase W3b-c - second phase of construction in the Casa di Petutius Quintio. Yellow denotes walls attributed to these phases in the Casa di Petutius Quintio. Blue denotes walls in the Casa della Diana of the same phases.*

<sup>12</sup> ESCHEBACH 1993: 293; PAH I 114f, 122, 125f; Bdl (1841): 118; NdS 1885: 49; NdS 1910: 377ff, 436ff, 455f; SCHEFOLD 1957: 189; LAIDLAW 1985: 255ff; PPP III 152.

<sup>13</sup> FIORELLI 1875: 437, NdS 1910: 481ff. SCHEFOLD 1957: 191; PPP III 154ff.

by *vittatum mixtum* frontages that match the *Casa di Petutius Quintio* additions in their construction, therefore possibly suggesting the decisions of a single property owner. After the construction of load bearing walls, normally in *opus vittatum mixtum*, interior subdivisions were created (Phase 3c). These final sub-phases in the *Casa di Petutius Quintio* are likely to have been contemporaneous with the final phase in the *Casa della Diana*, which was similarly characterised by *vittatum mixtum* with the addition of an upper storey in its final phase. This moment also saw the *Casa della Diana* separated from the *Casa di Cippius Pamphilus Felix*, which had heretofore communicated with it through a wide doorway in the peristyle<sup>14</sup>. The *Casa della Diana*, possibly due to having lost the kitchen at the southern extent of these two properties, seems to have modified its subterranean bath suite to include a kitchen as a component of this change.

#### Summary of Phases Present

Phase W1 (=C1=SE1)	Original construction in <i>opus africanum</i> , in both 'Type A' and 'Type B'.
Phase W2 (=C3=SE2=NE1?)	Construction in <i>opus incertum</i> with lava stones. Creation of a peristyle in <i>tufo nocerino</i> .
Phase W3a (=C5?=SE4?=NE2)	Interior construction in <i>opus vittatum</i> in <i>tufo</i> blocks. Frontages created in solid brick, most evident in the <i>Casa di Petutius Quintio</i> .
Phase W3b	Construction of walls with quoins in brick <i>opus vittatum mixtum</i> in order to support hanging barrel-vaulted ceilings, and the addition of a second story.
Phase W3c	Post <i>opus mixtum</i> builds, largely minor interior walls.

#### Central 'Atrium Houses'

Across the central area of the *insula*, there were approximately seven major phases that map changes in the unnamed house at doorway 7 (VII 6, 7)<sup>15</sup> and the *Casa di Secundus Tyrannus Fortunatus*<sup>16</sup>. In the earliest phase, these two areas may not have been distinct from one another, instead comprising one long property that was bordered or at least bounded by two segments of *opus africanum* walls on the east and west (Phase C1) (fig. 5). The second phase involved the rebuilding or repair of the *opus africanum* walls with *opus incertum* using sarno stone rubble which may have derived for the most part from the original *caementa* of the walls, with the addition of a stronger mortar and a diverse range of additional stone types in small quantities (Phase C2).

Either following this repair or possibly as a component of the same activity, both areas underwent a distinctive and widespread phase of construction using *opus incertum* of lava stones that served to articulate the frontages and some interior spaces of the property as a whole (fig. 6) (Phase C3). This widespread building activity seems to have been carried out at the same time as construction in the western half of the *insula* in the same technique and using the same materials (Phases W2 and SE2). The *Casa di Secundus Tyrannus Fortunatus* received a frontage of *opus incertum* in lava stones punctuated by large vertical quoins in sarno stone blocks. Similar frontages probably were built originally on the northern side of the block as well in House VII 6, 7. Today, these are only sparsely preserved, having been modified significantly in a subsequent phase, but seem to be visible in footing of *opus incertum* of lava stones. Inside the *Casa di Secundus Tyrannus Fortunatus*, the *fauces* walls also seem to have initially been built with lava stones, forming a band in the wall now only just preserved above ground level. The back wall of the *tablinum* and a series of east-west lateral walls that abut the original eastern wall were also constructed at this time. This 'lava *opus incertum* phase' also occurred in House VII, 6, 7 in which the lower courses of the *fauces* walls and the lower courses of the *tablinum* walls appear to have been constructed in a similar fashion at the same time. These constructions may have constituted a movement towards the definition of one large *atrium* house, similar to the situation on the western side of the *insula*. Unfortunately heavy bomb damage in the centre of the block obscures the details that might otherwise be present in the walls. It is to be hoped that excavation or cleaning to the preserved foundations across this space will provide greater information on this phase of development. At the very least, it is possible to say that the property involved both northern and southern entrances with some sort of articulated space in the interior.

The fourth phase of building (C4a) involved the construction of a shop (VII 6, 27) in south-eastern corner of *Casa di Secundus Tyrannus Fortunatus*, reversing the orientation of the room and probably separating it from the house interior. The original lava and sarno stone frontage at the south-eastern corner was removed and replaced by large *tufo nocerino* blocks, a stylistic change that included the frontages of the *insula*'s entire south-eastern corner,

<sup>14</sup> A fact already noted by SPANO in NdS 1910: 481ff.

<sup>15</sup> PAH I, 1, 140; FIORELLI 1875: 435, NdS 1910: 455ff; SCHEFOLD 1957: 189f.

<sup>16</sup> PAH I 131, 144ff, II 147 III 10, 226; GdS N.S. 2. (1873): 427f; FIORELLI 1875: 436; NdS (1910): 463ff; SCHEFOLD 1957: 160; LAIDLAW 1985: 257.

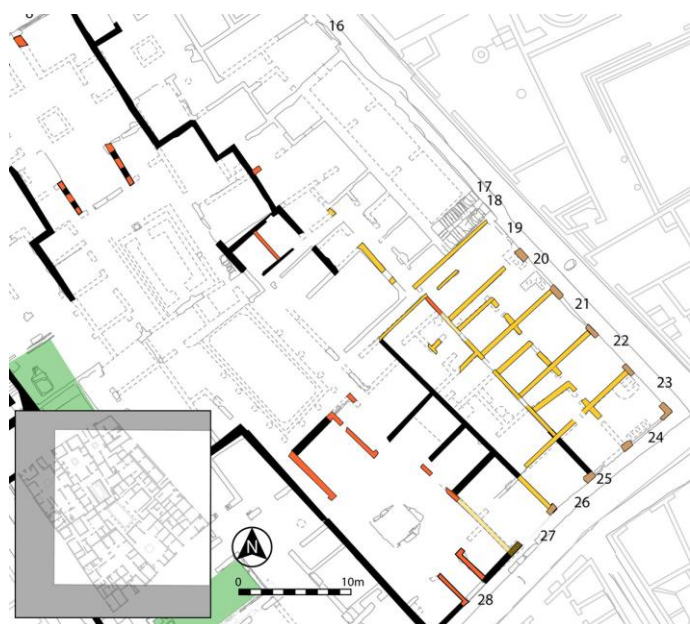


Fig. 9. Phase C4a-b and SE3 – further division of the southeast buildings. Orange denotes walls attributed to this phase in the Casa di Secundus Tyrannus Fortunatus constructed in sarno stone opus incertum. Yellow and tan denotes walls of the shop divisions and tuffo frontages, respectively.



Fig. 10. Construction related to the "Great Cistern" (Phase SE4 and C5). Teal denotes walls associated with the construction of the Cistern itself. Blue denotes walls of the northeast corner shops constructed at the same time (Phase NE2). Red denotes changes to the Casa della Diana (Phase W3). Pink denotes alterations in the southwest (also Phase W3).

which were formed into a unified frontage on this side of the *insula* (fig. 9). The addition of this shop also seems to have prompted the construction of at least two T-shaped walls at the ends of the early lava stone east-west walls of the Casa di Secundus Tyrannus Fortunatus in order to create doorways between the rooms opening off the atrium and an uninterrupted alignment in the arrangement of the walls. At a moment either contemporary or slightly previous to this, widespread patching and mild alterations were undertaken, primarily in *opus incertum* using sarno stone consistently combined with certain miscellaneous building materials (C4b) (fig. 9). Many of the original lava stone *opus incertum* walls received some alteration at this time with the result that with its completion, the two large atrium houses of the block in the final phase (Casa di Tyrannus Secundus Fortunatus and House VII 6, 7) were defined according to canonical, axial 'atrium-house' arrangements. The construction of the *fauces* and *tablinum* walls of the Casa di Secundus Tyrannus Fortunatus and the extension of the property's east-west lava stone walls also belong in this phase. In House VII 6, 7, the two original lava stone entrance walls were topped with sarno stone *opus incertum* and the room to the south of the atrium (later to become the *tablinum* of the northern house) also received additions in *opus incertum* in sarno stone that were added atop the original lava stone walls, and were punctuated by two large openings on each side. Since the area appears to have been one large property at this time, this room in House VII 6, 7 conceivably served as the *triclinium* for the house. It is certainly marked by two apposing rows of broad windows on either side in a manner that would have been unusual for a *tablinum*. If this is correct, then the doorway at number 7 must have been a back door to the property at this time.

With the changes wrought by the creation of the 'Great Cistern' to the east (*cf. infra*), the central area underwent its fifth general phase of construction (C5). This saw the division of the large property that had included the Casa di Secundus Tyrannus Fortunatus and House VII 6, 7 into two separate properties by closing off the peristyle colonnade in House VII 6, 7 by constructing a wall that filled the spaces between the columns. Following the division, a new *triclinium* was constructed in the Casa di Secundus Tyrannus Fortunatus, possibly in response to the loss of the earlier *triclinium* in House VII 6, 7. (fig. 10).

The final changes in the area occurred when, following the separation of the two central properties, House VII 6, 7 re-annexed a portion of the Casa di Secundus Tyrannus Fortunatus in order to construct a kitchen and an upper storey with a toilet, evidenced by a preserved down-pipe in this wall and preserved in plans and photos (the structure itself was obliterated in the 1943 bombing)<sup>17</sup>. This phase of construction was echoed in the Casa di Secundus Tyrannus Fortunatus with the creation of a wall that re-aligned the back rooms of the property with the rear wall of the newly constructed kitchen in House VII 6, 7. In addition, the openings in the walls of the *tablinum* in

<sup>17</sup> Pompei Photo Archive No. P580.



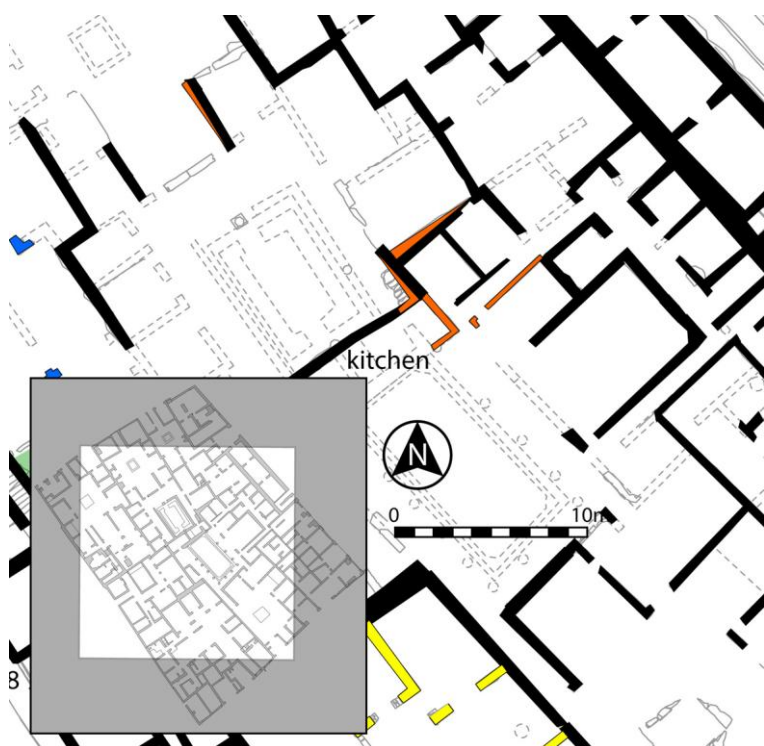


Fig. 11. Final phase changes. Orange denotes the addition of walls and realignments (Phase C6). Yellow and blue represent components of Phases W3b-c.

House VII 6, 7 were filled, possibly in order to provide additional structural support for the nearby upper storey. Finally, the eastern wall of the *tablinum* was thickened with a heavy layer of plaster and broken coarse-ware pottery in order to create a more strictly-square axial alignment with the northern entrance (fig. 11). This seems to have been the last major activity identifiable in the development of House VII 6, 7.

#### Summary of Phases Present

Phase C1 (=W1=SE1) Construction of two property walls in *opus africanum* (Type B).  
 Phase C2 Rebuild of early *opus africanum* walls with sarno stone *opus incertum*.  
 Phase C3 (=W2=SE2=NE1?) Creation of frontages in *opus incertum* with lava stones defining entrances, lateral walls, and rooms,

producing an unclear structural arrangement.

- Phase C4a (=SE3) Conversion of the southeast corner of the *Casa di Secundus Tyrannus Fortunatus* into a shop. Lava stone *opus incertum* and sarno quoin frontage broken through and sarno stone frontage replaced with *tufo* façade. Construction of 'T'-shaped walls in *Secundus Tyrannus* to create a new alignment with the shop.
- Phase C4b Rebuilding and/or addition to Phase C4a walls in *opus incertum* of sarno stones and random construction debris terminated by large sarno stone blocks. Articulation of property as single *atrium* house.
- Phase C5 (=W3?=SE4=NE2) Division into two separate properties. Creation of new *triclinium* the *Casa di Secundus Tyrannus Fortunatus*.
- Phase C6 Filling of *tablinum* openings and realignment of eastern *tablinum* wall in VII 6, 7. Re-annexation of areas of the *Casa di Secundus Tyrannus Fortunatus* by House VII 6, 7 for construction of kitchen and a second-storey toilet.

#### Shops at South-East Corner of the Insula

The south-eastern corner of the *insula* (*Insula* VII 6, 19-27) has been the focus of archaeological excavation (AA001) and hence provides chronological information otherwise missing from the rest of the architectural phasing. At the same time, adjacent to the east and north of our excavations, this corner is obscured by numerous aspects of modern intervention. Heavily bombed in 1943, the area has also witnessed considerable modern construction, including a patio for the restaurant in the *Terme del Foro* (now housing pumping machinery) and septic tanks built in at doorway 22<sup>18</sup>, which were augmented in 2011 by the addition of two more septic tanks to the north. Despite these obstacles, the team was able to gain some information concerning the phases of the area that is directly relevant to our excavations at doorways 26 and 27. The main objective for the analysis of this area was to determine the chronological relation of the insertion of the numerous *tufo nocerino* frontages from doorways 19 through 26 to the construction of the 'Great Cistern' (VII 6, 17-18) and the phases of the *Casa di Secundus Tyrannus Fortunatus*.

The south-east corner appears to have undergone only four general phases of development. During the earliest phase (SE1), the area seems not to have been built upon, and the *opus africanum* constructions present to the north and west have not been found reaching south into this area. The first major change seems to have been linked to the primary construction of the *Casa di Secundus Tyrannus Fortunatus*, which served to establish the western boundary of this space (SE2), even though the plot divisions may well have been established prior to this

<sup>18</sup> GARCIA Y GARCIA 2006: 102.

event. The third phase saw the insertion of large frontage blocks in *tufo nocerino* defining a series of shops at the doorways on *Vico dei Soprastanti* and *Vico delle Terme*, with generally insubstantial walls in sarno stone *opus incertum* constructed in order to provide a group of five roughly identical shops, plus a shop converted from the south-east corner of the *Casa di Tyrannus Secundus Fortunatus* (fig. 9). In the final phase in the south-east corner, the 'Great Cistern' (VII 6, 17-18) was constructed to the north, over the northernmost of the shops, incorporating an early wall into its structure.

That the construction of the 'Great Cistern' (VII 6, 17-18) should be sequenced after the erection of the *tufo* frontages rests on two pieces of evidence, both of which at the present moment are circumstantial. First, the new frontages, though flush with one another, do not align with the eastern face of the 'Great Cistern'. Instead, the brick face of the Cistern encroaches significantly on the western sidewalk of the *Vico delle Terme*, resulting in a noticeable narrowing of the sidewalk and an awkward jink in the façade itself. The encroachment onto the sidewalk along the *Vico delle Terme* may have been to achieve a certain wall thickness and the structural integrity necessary to hold a large volume of water. Had the *tufo* frontages post-dated or been simultaneous with the construction of the 'Great Cistern', logically the walls might have extended in order to follow the alignment of the Cistern, if not for aesthetic reasons, then surely due to structural considerations. The second piece of evidence that situates the construction of the 'Great Cistern' as secondary to the shops and the *tufo* frontages is the Cistern's incorporation of an earlier wall into its construction. A wall located at the southwest corner of the 'Great Cistern' preserves traces of plaster on the face that joins with the western and southern perimeter walls of the Cistern. The incorporation of an earlier wall would have provided structural support to the southwest corner of the cistern staircases in what appears to have been a shortcut taken by the builders. This earlier wall appears originally to have been a component of the shop at doorway 19 and hence a component of Phase SE3 – sequenced by ceramic evidence in AA001 to roughly the middle of the 1<sup>st</sup> c. BC<sup>19</sup>. As such, it preserves the initial spatial layout of the shop, which is mirrored in the nearly identical sizes of the shops that run along the *Vico delle Terme* to the south of the cistern. The construction of the 'Great Cistern', if it does post-date the erection of the *tufo* frontage blocks, may have occurred at the earliest in the late Augustan period, perhaps in conjunction with changes to the city aqueduct. Planned excavation at the south-eastern corner of the 'Great Cistern' should help to clarify the relationships of these two alignments and could reveal whether other structures, now destroyed or buried, preceded the construction of the 'Great Cistern' itself.

#### Summary of Phases Present

Phase SE1 (=W1=C1)	Construction of walls in <i>opus africanum</i> to the north and west of the area.
Phase SE2 (=W2=C3=NE1?)	Creation of the <i>Casa di Secundus Tyrannus Fortunatus</i> .
Phase SE3 (=C4)	Insertion of <i>tufo</i> façade, followed by dividing walls between the shops in sarno stone <i>opus incertum</i> .
Phase SE4 (=W3?=C5=NE2)	Construction of 'Great Cistern' (VII 6, 17-18) incorporating the north wall of the northernmost shop from Phase SE3.

#### 'Great Cistern' of the Terme del Foro

The so-called 'Great Cistern' (VII 6, 17-18) appears to have been constructed as a single action consisting of a few separate stages. The first activity must have involved the razing of any pre-existing structures and the excavation into the subsoil and underlying lava plateau to the planned depth of the structure. On the western side, some earlier features appear to have been left intact, including the pre-existing east-west running wall discussed above. The first event in the building of the Cistern itself is characterized by the construction of a wall with a lower course of *opus incertum* in sarno stone and *cruma di lava*. A series of walls in lava stones abut the lower sarno and *cruma* course of the cistern, but are lightly keyed with the upper course of the water tower. It is possible that some of these walls, like the southernmost one, may also predate its construction, but this remains to be determined. The upper course is clearly distinguished by different building materials and construction technique, switching from the use of sarno and *cruma opus incertum* to Phlegrean *tufo* in *opus quasi-reticulatum*<sup>20</sup>. The eastern face of the Cistern is constructed with brick quoins at the south-eastern and north-eastern corners with a lower sarno stone *opus incertum* wall and a top construction in *opus quasi-reticulatum* of Phlegrean *tufo* running between the two corners. Despite the different building materials and techniques employed in its creation, the eastern wall of the 'Great Cistern' was clearly undertaken as part of a single, multi-stage, process of construction since each brick corner is keyed with the sarno stone and *cruma opus incertum* walls that form the its northern and southern ends.

<sup>19</sup> The preliminary date derives from analysis of black gloss forms recovered from relevant deposits. The date range is c. 100-50 BC.

<sup>20</sup> ADAM 1994: 130.

The current interpretation, that the 'Great Cistern' post-dated the shops with *tufo* frontages that extend to the south (VII 6, 19-23) would imply a later date for its construction than has generally been the case<sup>21</sup>, and will need to be verified by further examination and excavation. The construction of the 'Great Cistern' also either pre-dated or was built contemporaneously with the structures in the north-eastern corner of the *insula* (VII 6, 13-16), which may be observed in the similarities of their construction. As a final step, the easternmost wall of the Cistern was plastered on its outer face with a thick water-proof plaster layer, similar to that which may be observed on structure's interior surfaces.

### Summary of Phases Present

The Great Cistern was built in a single phase (=W3?=C5?=SE4=NE2)

### Caupona and Hospitium in the Northeast Corner of the *insula*

The earliest observable phase in the north-eastern corner of the *insula* consists of the wall fragments that are visible only just emerging from the ground surface below the current configuration of the walls. These provide the suggestion of at least one earlier phase of activity, which, unlike the rest of *insula*, is generally absent from the standing walls of this area. To the west, a wall built in *opus africanum* in sarno stone forms the western boundary of these two structures. Since this *opus africanum* construction terminates somewhat short of the northern frontage of the *insula*, perhaps the original layout of the block was slightly more restricted on its northern extent. Several small sections of earlier wall constructions have also been incorporated into the later structure of walls through this area, including two wall segments with an unusual and characteristic pink-coloured mortar in the walls near doorway 11. The early phases of this area remain to be clarified by excavation. Possibly these early traces should be linked to the Phase W2/C3/SE2 remains recovered from within the rest of the *insula* (fig. 6).

Beyond these early traces, there is some suggestion that the area also related to activities carried out to the south of the 'Great Cistern', plausibly serving as a staging ground for its construction after previous structures had been levelled. At the northeast corner of the *insula* are several blocks of *tufo nocerino*, clearly having been used to create the north-eastern corner of the *insula*. It is possible that these belong originally to the same phase of *tufo* frontages present in the south-eastern quarter of the *insula*, simply having been reused after the creation of the 'Great Cistern' displaced the façade of at least one earlier shop. These blocks were stacked somewhat haphazardly and then all but one shaved down in order to align with the *Vico delle Terme*, forming an unusual oblique angle from the original rectangular blocks (fig. 12). A second component of this activity involved the establishment of the overall layout of the northeast corner in a unified building technique with brick quoining, with walls constructed in *opus incertum* with a highly distinctive brick band close to the level of the upper storey floor joists (fig. 10). This structure



Fig. 12. Misaligned blocks in tufo nocerino on the north-east corner of Insula VII 6.

seems to have been built in its entirety shortly after or during the completion of the 'Great Cistern', with which it shares materials and wall connections. It is likely that a unified series of brick frontages of the entire north side of *Insula* VII 6 were also constructed at this point. The process of construction involved first the creation of the outer circuit walls, which were subsequently subdivided into rooms by abutting walls constructed in a similar manner. It is possible that the stairs that form doorway 13 may have been built at the same time, but these have been so heavily reconstructed in the modern period that any definitive understanding of their sequence cannot presently be identified. To the west, the neighbouring property (doorway 11) was subsequently subdivided into smaller rooms using *opus mixtum* to create the current configuration. Shops were created in the front rooms of the property and closed off to the rest of the property behind. At some point after this, a doorway was cut in the western fauces wall

<sup>21</sup> *Ibid.*; MAU-KELSEY 1899: 226; RICHARDSON 1988: 151.

to permit access from the interior of the structure to the shop at doorway 10. Eventually the back range of this property came to take advantage of the area immediately to the west of the 'Great Cistern', incorporating it via a relatively awkward series of corridors and doorways.

#### Summary of Phases Present

- Phase NE1 (=W2?=C3?=SE2?) Traces of earlier structures, possible foundations in *opus incertum*, some with characteristic pinkish mortar.
- Phase NE2 (=W3?=C5=SE4) Construction of the 'Great Cistern' in conjunction with Plot 8 in *opus incertum* with a distinctive brick band.
- Phase NE2a? Internal construction within Property (VII 6, 10.11.16), involving *opus mixtum* and a variety of construction techniques in order to create insubstantial walls.

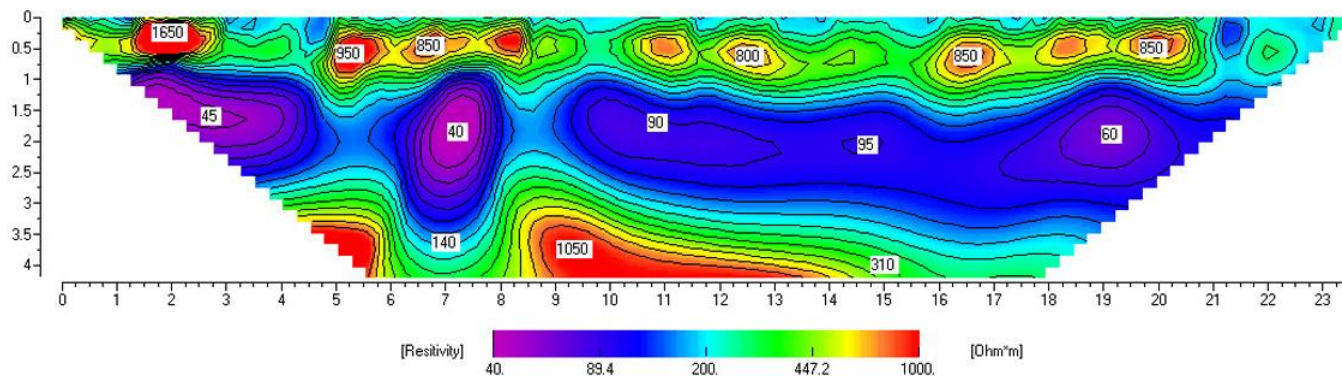


Fig. 13. Transect 4. Electro-Resistivity Section located in the south east corner of Insula VII 6.

#### Sub-Surface Examination and Excavation at Insula VII 6, 26-27

In order to examine whether subsurface soils of *Insula VII 6* might yet preserve useful, stratified archaeological data, the Via Consolare Project conducted investigatory geophysical analysis in 2007 throughout the *insula* with the assistance of Geoastier S.r.l.<sup>22</sup> One of eight transects was placed along a portion of the length of the southern side of the *insula*, through the front rooms of two shops at doorways 26 and 27 in the southeast corner of the block in cluster with five other commercial properties<sup>23</sup>. These rooms are marked in plans in *Pitture e pavimenti di Pompei* as room 93 (on the west, doorway 27) and room 90 (on the east, doorway 26), notation that will be followed here.<sup>24</sup> Employing electrical resistivity tomography, the resulting "pseudo-section" not only indicated preserved stratigraphy, but also revealed potentially interesting anomalies (fig. 13). Spano had thought that this part of the *insula* was just as old as the rest, on the basis of the materials used in the construction of its back rooms, with a façade constructed in *tufo nocerino* and internal structure built of sarno stone blocks<sup>25</sup>. The shop to the east was left partially exposed after initial excavations in 1762 which probably also exposed parts of shops 26 and 27, and then was sporadically revisited during the second half of the 19<sup>th</sup> c., before finally being cleared in 1910. It was therefore likely already extensively degraded early in the history of the excavated site. The area was also particularly badly hit in the Allied bombing of 1943, but as with much of the *insula*, it appeared that the walls had received the brunt of the damage.

In 2008, test excavation was undertaken to examine these encouraging results further, consisting of a small, three meter by 2.5 meter trench – Archaeological Area 001 (AA001). Excavation produced largely intact, well-preserved stratigraphy, demonstrating that the bombs that had hit this area had mainly destroyed the standing remains, levelling all nearby walls, but had left the soils largely unscathed. Stratigraphic excavation proceeded according to the highest levels of modern scientific standards, including one-hundred percent recovery of finds through screening and with eight-litre samples reserved from each ancient deposit for archaeological floatation to recover environmental evidence. This test trench was followed in 2009 by continued excavation which expanded the

<sup>22</sup> We are grateful to Gianfranco Morelli, Federico Fischanger and Alessio Pacchini for their geophysical expertise in carrying out these examinations.

<sup>23</sup> *NdS* 1910: 463; *Fiorelli* 1875: 436-437; *Della Corte* 1954: 173; *GdS N. S.* 2 1873: 427f; *CIL* IV: 541.

<sup>24</sup> *Bragantini I., De Vos M., Badoni F.P. and Sampaolo* 1993. Vol III.

<sup>25</sup> *NdS* 1910: 463.

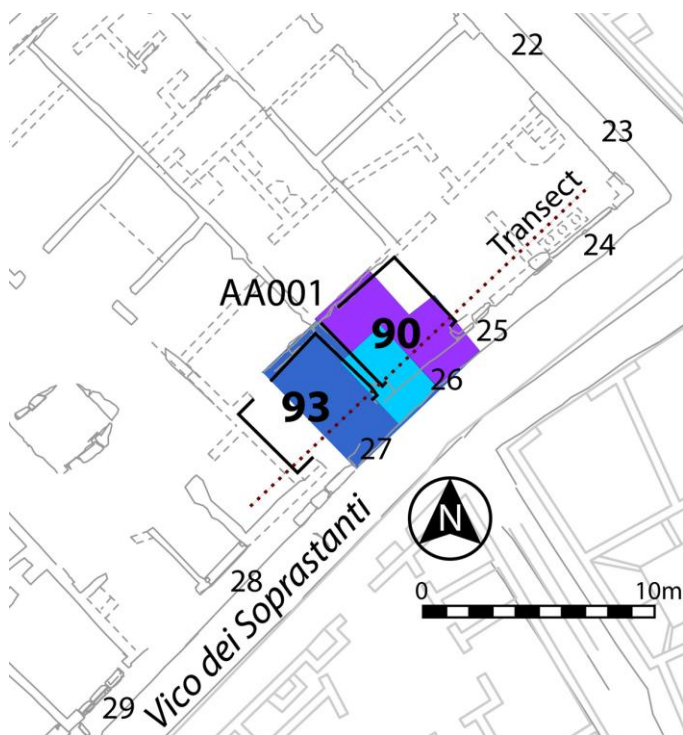


Fig. 14. AA001 excavation by year – light blue denotes extent of trench in 2008, dark blue in 2009, and purple in 2011. Room numbers assigned in PPP to Properties 26 and 27 are marked in bold.

area excavated to the north, east, and west sides reaching a size of six by seven meters, including the majority of the two front rooms of the shops. Excavation proceeded to natural soils in all areas but the north-eastern corner of the trench. In 2011, this area, measuring approximately four by five meters, was reopened and excavation completed to the level of natural soils (fig. 14). With the completion of excavation in AA001, it is possible to present the phasing sequence for the front rooms of both property 26 (room 90) and 27 (room 93) throughout their entire developmental history, revealing a complicated sequence of urban growth, change, and re-use in the south-eastern corner of the block. It is clear, too, that the evolving utilisation of these areas frequently involved the widespread removal of earlier floors and soils, serving to truncate aspects of the stratigraphic sequence. This means that the chronological record of the area, though presenting a full chronological sequence overall, sometimes requires the thoughtful combination of diverse fragments of evidence in order to produce the complete narrative presented below. The following discussion is representative of our current thoughts and interpretations prior to the finalisation of study in this area.

#### Phase 1 – Natural Soils and Earliest Deposits

The natural soils excavated in the AA001 present a gradient from a relatively bright orange-yellow silty soil at greatest depth to a darker, rich brown silty soil at the top of the preserved level that was entirely devoid of traces of human activity, but was frequently penetrated by trenches and construction undertaken during subsequent ancient phases. Though excavation in 2009 in rooms 93 and 90 did not reach this deposit in all areas, the ubiquitous presence of these levels in the sections of all later cuts permits the reconstruction of an ubiquitous layer of natural soils across the area prior to earliest human activities. Immediately overlying these natural silts was a thin, ephemeral layer of light-grey compacted fine silt, not normally more than 2-3 cm thick, which was itself capped with a thicker (20-50 cm) layer of dark-grey to purple-black fine volcanic sand (fig. 15). Both of these deposits were equally devoid of artefacts. These must therefore be understood as naturally-produced deposits, though clearly distinct from the underlying natural soils that appear to be better suited for supporting plant growth<sup>26</sup> and despite the remarkably uniform nature of the dark-grey sandy deposit, which itself might otherwise suggest human agency. Similar deposits have been reported



Fig. 15. AA001 later pit cut showing natural soils and dark-grey to black sandy deposits in section.

<sup>26</sup> Recent analysis of series of early eruption deposits by ROBINSON 2008, imply that this could be residue of one of the final layers identified in that work, plausibly residue from a non-Plinian eruption of Vesuvius or from other volcanoes such as those in the Campi Flegri or on Ischia.

in the excavations in *Insula VI 1*, the *Casa Arianna* (VII 4, 31.51)<sup>27</sup>, *Regio VI* and beyond<sup>28</sup>. While none of these soils produced any datable evidence in AA001, the presence of nearly identical dark-grey sandy deposits under the *tufo nocerino* phase of the city wall, recovered in *Insula VI 1*<sup>29</sup>, implies a date at least earlier than the mid-3<sup>rd</sup> c. BC, and conceivably even earlier than the prior late 4<sup>th</sup> c. BC phase of the city wall<sup>30</sup>. Indeed, it is possible that these enigmatic deposits form a build-up of residue to be associated with the well-known 5<sup>th</sup> c. BC gap in archaeological data at Pompeii, especially as recently re-interpreted by Coarelli, who has suggested that the “*altstadt*” zone results from the secondary occupation of the site after this early period of inactivity<sup>31</sup>. Certainly nothing recovered from within AA001 would contradict such a hypothesis. The fact that in *Insula VII 6* these two deposits do not overlie any earlier features, but rather the natural soils themselves, suggests that much of south-eastern side of the block was without any sort of structure in the earliest phases of the city, despite its proximity to the Forum, the so-called ‘*altstadt*’<sup>32</sup> area, and traces of earliest *opus africanum* construction (Type A) present in middle of the western side of the block early in the following phase. Identifying the particular natural processes that caused these deposits to develop and their resulting significance for understanding the development of the area will require assistance from geological experts and scientific analysis<sup>33</sup>.

### Phase 2 – Primary spatial division

Analysis of standing architecture within the *insula* suggests strongly that the earliest spatial division in the block was undertaken in *opus africanum* Type “A”<sup>34</sup> construction in sarno stone blocks still preserved in the *Casa di Cypius Pamphilus Felix* (VII 6, 38) on the western side of the block. The localised nature of these traces combined with a lack of similar features elsewhere implies that this first division may have stood for some time in isolation. Additional walls, apparently originally built in *opus africanum* construction Type “B”, and joined directly with the earliest walls, were built in an as yet indeterminate period of time thereafter. These took the form of two stepped series of walls running north-south, especially visible on the western side of the *atrium* of the *Casa di Secundus Tyrannus Fortunatus*. The walls appear to have served generally to delineate either side of the central area of the *insula*, as noted above in Phases W1, C1 and SE1 (cf. fig. 6 *supra*). The construction of these walls extended the process of dividing the *insula* further to the east and south, but they also did not continue far enough to the south to have been present in the excavated area of AA001. The north-south wall that was recovered running through AA001, although roughly aligned with the course of the earlier walls, was, in fact built much later and in an entirely different fashion, with extremely shallow foundations. No clear trace of similar building activity was recovered from within AA001, which seems rather to have continued to be largely free from constructions at this time. This fact raises a number of important questions about the early shape of the *insula*, the possible effects of an “*altstadt*” circuit wall or its *pomerium* on the southern side of the block, and the precise course of the early *Via Consolare* at this time. Indeed, the fact that the earliest traces of stone wall construction are present facing west onto the *Vico del Farmacista*, fits with the suggestion that this road may have once formed the primary southern extension of the *Via Consolare*.<sup>35</sup> Since the walls that preserve traces of *opus africanum* are not themselves present within AA001, no dating has yet been recovered for their construction. The presence of “Type A” in the *insula* could permit a starting date as early as the 5<sup>th</sup> c. on the basis of Peterse’s chronology<sup>36</sup>. However, due to the majority of evidence for the earliest stone domestic construction at Pompeii, a date from the mid-late 3<sup>rd</sup> c. BCE<sup>37</sup> seems to be a reasonable hypothetical starting point for their construction.

The earliest traces of activity actually recovered from property 27 (room 93) result from the digging of several cuts which penetrated into the natural soils. Due to the removal of soils during terracing activities of a later phase, the level from which they were cut no longer survives and it is therefore not possible to establish either their function or to be entirely certain of their stratigraphic position. Pottery dates the filling of at least one of these pits to

<sup>27</sup> RIBERA, OLCINA, and BALESTER 2007: 87.

<sup>28</sup> Similar dark sand deposits have been found throughout *Regio VI*, including the excavations in *Insula VI 1* and those of Bonghi Jovino in *Insula VI 5* (cf. BONGHI JOVINO 1988), and in the House of the Greek Epigrams cf. STAUB GIEROW 2008.

<sup>29</sup> ANDERSON, JONES, ROBINSON *Excavations in the Casa del Chirurgo (VI 1, 9.10.23)*. in Preparation.

<sup>30</sup> MAIURI 1930; DE CARO 1985; D’AMBROSIO and DE CARO 1989; DE CARO 1992; CHIARAMONTE 2007.

<sup>31</sup> COARELLI 2008; cf. also Zevi 1991.

<sup>32</sup> cf. HAVERFIELD 1913: 63-68; VON GERKAN (1940); LAURENCE (1994) 12-19; GEERTMAN (2007); (1988) *et al.*

<sup>33</sup> Research of this type is to be undertaken by Dr. Simon Hunt of the University College London Department of Earth Sciences.

<sup>34</sup> PETERSE 1999: 37f.

<sup>35</sup> CAROCCI, DE ALBENTIS, GARGIULO, and PESANDO 1990: 196-197.

<sup>36</sup> *ibid.* 60; PETERSE 2007: 377, both give a range of c. 450 BC – c. 420 BC for “Typus A” construction. The interior wall within the *Casa di Cypius Pamphilus Felix*, though logically connected with the construction of the façade is not specifically mentioned in Peterse’s dating but displays the same characteristics.

<sup>37</sup> Excavations in *Insula VI 1* have suggested at c. 200 BC date for the *Casa del Chirurgo*: ANDERSON, JONES, ROBINSON, *University of Bradford Excavations in The Casa del Chirurgo* (forthcoming) and similar, or even later dates have been produced by FULFORD and WALLACE-HADRILL 1996, and slightly earlier by COARELLI and PESANDO 2006: 19 in *Insula VI 10*.



Fig. 16. Foundations of western portion of façade of the Casa di Secundus Tyrannus Fortunatus marked with orange lines.



Fig. 17. Foundations of western section of façade of the Casa di Secundus Tyrannus Fortunatus visible in section under tufo plinth after removal.

circa 250-200 BC<sup>38</sup>. In the eastern property (room 90), traces of an almost entirely removed wall were also recovered, running south-north directly above and cut into the black sandy-silt of the previous phase. While stratigraphic relationships indicated that this wall *could* be a remnant of this phase, truncation of the overlying sequence and the removal of the wall itself with any associated foundation fills have obscured the sequence. For this reason, this wall has been situated in this narrative within its latest possible context – the creation of the *Casa di Secundus Tyrannus Fortunatus*, in Phase 3, a situation which may change with additional data from future seasons.

### Phase 3 – Casa di Secundus Tyrannus Fortunatus, South-East Room

Phase 3 witnessed the construction of the *Casa di Secundus Tyrannus Fortunatus* in the centre of the block, located directly between the *opus africanum* walls of Phase 2, and making use of them for at least the western half of its outer circuit. It seems likely that at this moment, the *caementa* of these walls were heavily reworked with *opus incertum* if this had not already been accomplished. On the southern side, a façade was added in a distinctive technique with a hard-packed footing in the base of a deep trench supporting an upper wall in *opus incertum* in lava or sarno stones, and large sarno stone quoins at what appear to have been corners or doorways (figs. 16 and 17). Pottery originating from the foundation trench and wall footing dates this activity to between 175-125 BC. There are no traces of this wall ever having run across the southern side of property 26 (room 90), which was terminated with several large sarno stone blocks resting on a lower foundation of *opus incertum* in lava stones. These appear either to mark the eastern end of the wall or a small return prior to a doorway on the eastern side of the property. The southern-most of these two blocks exhibits a layer of course mortar on its upper face, suggesting that additional courses of masonry once rose above the level of the remaining sarno stone blocks. However, the presence of earlier plastered faces on these blocks from earlier uses tends to complicate this interpretation. Misalignments of these blocks with the underlying *incertum* wall, may also suggest a more complicated process of construction than has been possible to reconstruct from the archaeological sequence.

<sup>38</sup> We are grateful to Ms. Victoria Keitel, University of Reading, whose work has produced these date ranges and preliminary pottery sequences for all stratified deposits excavated in AA001.



Fig. 18. Exposed foundations of eastern wall at the boundary of AA001.



Fig. 19. Traces of a removed wall. Orange lines denote location of the linear cut and tufo block with which it aligns.

across the southern side of property 26 means either that a doorway into the *Casa di Secundus Tyrannus Fortunatus* was originally situated in an awkward position on the eastern side of the façade, or that the gap represents a narrow passageway between two properties, an opening that aligns neatly with the spur of a road on the opposite side of the *Vico dei Soprastanti*. In this case, the eastern wall of property 26 would actually have been the westernmost wall of another, as yet unknown property that continued further to the east, leaving a small space between it and the *Casa di Secundus Tyrannus Fortunatus*. The traces of yet another north-south wall, which on the basis of its elevation and alignment seems likely to have been a component of this phase of activity, however mean that such a passage would have been rather narrow. The removal of the overlying sequence has possibly served to compress and confuse the sequence of these activities and this relationship will perhaps become clearer as the pottery excavated from this early wall begins to provide dating evidence. Much less problematic than the eastern side of the property, the area of room 93 on the west must have been connected to the rest of the *Casa di Secundus Tyrannus Fortunatus* at this time, and was probably accessed either on the north or west. No traces of the flooring of this space associated with the house were recoverable, since in a subsequent phase, when the room was converted

A much thinner, but similarly hard-packed foundation, running from south to north under the final phase north-south wall, may suggest the course of a now-missing wall that would have also sealed the *Casa di Secundus Tyrannus Fortunatus* on the eastern side, but the precise relationships in this area were obscured by later wall construction, and even if there had been a wall in this location, it seems unlikely to have been intended as an exterior wall of the property. Another, much more substantial, wall was constructed in a virtually identical manner to that of the front façade on the eastern side of property 26, employing sarno stones in its fabric rather than lava (fig. 18). Despite the differences in material used in their construction – a thick and heavily-compacted foundation layer of rubble and debris, followed by a wall in *opus incertum* featuring quoins and supports with large sarno stone blocks – makes it quite clear that these two walls form part of a single phase of construction, probably to be identified with the widespread construction in lava-stone *opus incertum* identified as Phase C3, SE2 and W2 above. Unfortunately, all ceramic evidence of the date of this eastern wall was removed by a later cut that ran against it on the western side. Complicating matters are the traces of a now nearly totally-removed wall (cf. *supra*) that once ran south-north approximately 1.20m to the west of the eastern wall. Traces of this removed wall comprised a single, heavily damaged block of sarno stone, and a groove cut into the underlying black sandy-silt deposit, found underlying and filled by deposits of the following phase. These traces aligned neatly with a large block of *tufo nocerino* in the northern wall of the front room of property 26, which itself was resting upon a heavily compacted earthen foundation, not dissimilar from the other heavy foundations of the other walls of this phase (fig. 19).

The walls of this first construction present a rather unsatisfactory plan for the original structure (cf. fig. 6 *supra*). The absence of a wall



into a shop, the façade to the south was removed and the level of soil lowered, leaving only the foundations of the southern wall.

#### Phase 4 – Tufo nocerino Façade Structures

Ceramic dating for the next major phase of activity ranges between c. 100-50 BC but probably is best associated with the years immediately after the creation of the Roman Colony in 80 BC and the construction of the *Terme del Foro*. At this moment, both properties 26 and 27 became part of a row of similar south-facing shops with frontages in large blocks of *tufo nocerino*. It seems likely that these were intended to exploit opportunities for commerce created by the new baths complex, especially since they mirror the shops within the baths themselves in size and proportions, almost as if they were a part of a single construction. In order to achieve this transformation, room 93 of the *Casa di Secundus Tyrannus Fortunatus* was reoriented into a southward facing shop and probably separated from the house. Room 90 on the east, along with the rest of the south-east corner of the *insula* was converted into a row of similar shops, with frontages in large, neatly cut blocks of *tufo nocerino*. As a first step in this change, the eastern half of the southern façade of the house was largely dismantled to its foundations, creating a new southern opening. Beginning on the southeast corner of room 93, large blocks of *tufo* were then levered into place atop the *sarno* stone blocks. Evidence of the process of levering the stones was recovered from the top surface of the block dividing properties 26 and 27 which was broken in semi-circular shapes by the movement of the levers (fig. 20). This currently supports an additional pair of *tufo* blocks that together comprise an ashlar pier that, on analogy with others in the area, appears once to have consisted of at least four similar *tufo* blocks. On the basis of photos taken after the 1943 allied bombing<sup>39</sup>, it is certain that the present blocks have been re-erected in subsequent years and do not necessarily represent their original condition or orientation, but this need not undermine the fact that they were once so-arranged. Such is clear from the bases of the pillars, which have never moved.

The reorientation of these rooms also seems to have required a significant lowering in floor level within room 93 to meet the level of *Vico dei Soprastanti*. This caused the removal of any evidence of the earlier floors in this area, and the loss of the intermediate phases between



Fig. 20. Sarno stone blocks and inserted tufo nocerino façade.



Fig. 21. North-south running wall and parallel drains on either side.

<sup>39</sup> GARCIA Y GARCIA 2006: 106.



Fig. 22. Drainage features in property 26 (room 90).

this location and it seems likely that doorways 27 and 26 each led into different and separate commercial properties. Finally, additional finishing touches were made to the articulation of the walls in this area. The *tufo nocerino* block at the frontage was chipped away in order to create a flush finish with the north-south wall. In property 26, this reshaping left traces of a considerable number of *tufo* chips in the deposits that were now used to raise the floor level to be equal with the newly reduced level in property 27.

A drain was placed along the western side of this wall in property 27 (room 93), which evacuated water or other fluids from the north to the south and out onto the *Vico dei Soprastanti*. In property 26 (room 90), two further drains were created, separated by a deep cistern or well with walls that widened slightly as they descended. The first drain ran at a slight angle between the western side of the cistern/well and the dividing wall and thence out onto the street. The second ran along the eastern side of the same feature, but then turned sharply towards the east where it would have seemingly intersected with the eastern wall (fig. 22). Unfortunately this intersection was not only disturbed by later activity, but also fell outside of the area of our excavations, so it is uncertain how this relationship was resolved. Despite the fact that property 27 has yet to produce a cistern, it seems likely that both drain systems were overflows from water storage, suggesting that the row of shops were probably, at least initially, planned to have quite similar interior arrangements and uses. Both of these drains had gone out of use prior to the final phases of the site, since they were both subsequently blocked at their southern ends. The westernmost of the two drains was blocked by the placement of a block of sarno stone that cut through its southern end before it reached either the sidewalk or the kerb stones, which appear to have been its original destination. The eastern drain seems to have continued in use later than that to the west, as its southern end was not truncated until the activities of Phase 5 (*cf. infra*). Both shops likely were outfitted with packed earthen floors, which do not survive in the front room of property 27, but which survived in property 26 (room 90), where they present a fragmentary and uneven surface. Traces of tile capping on the western of the two drains in property 26 suggest that the top levels of this earthen surface may have not been preserved in AA001, but it is also possible that this capping was intended to sit proud of the floor for ease of access for maintenance.

### Phase 5 – Changes to the Shops

The shops probably existed as originally created for some time, but at some point in the 2<sup>nd</sup> half of the 1<sup>st</sup> c. BC (plausibly as early as 40 BC) changes became necessary in both properties. In property 26, the western of the two drains was cut by the creation of a new drain that ran parallel to the north-south wall and emptied onto the *Vico dei Soprastanti*. The cistern/well and the L-shaped drain on the east also went out of use at this time. After the cistern/well had been filled with a rubble deposit, both it and the eastern drain in property 26 were covered by a shallow levelling layer designed to seal them and to provide a new, higher surface for the new western drain. This second drain was built by cutting into a soil deposit that abutted the sarno wall. Portions of its construction near the sidewalk overlay the *tufo nocerino* plinth base and sarno blocks of the previous phases. Additional fragments of this

<sup>40</sup> For example that published in SPANO 1910: Fasc. X; and visible too in the *Plastico* in the Museo Archeologico Nazionale di Napoli, PADIGLIONE 1861.

drain were recovered at the bottom of a large pit cut made in Phase 6 (*cf. infra*), having collapsed into the pit during the eruption. The recovered portion of this construction included two articulated sections of ceramic pipe that had once fed into the main channel of the drain (fig. 23). A sample of the fill of the second pipe was extracted, showing a high volume of charcoal, fish scale, and small bones – likely to have been the contents of the drain during its final phase of use<sup>41</sup>.

Given changes visible in the structure of the foundations of the wall to the north of this room, it seems likely that at least one factor in this change was an alteration in the location of the doorway in to the shop's back rooms. The earlier drains appear to have been associated with a wide, eastern doorway in the north wall of property 26, while the single drain of the second phase runs directly under a threshold stone on the western side of a now-relocated passage. Further information on the rooms to the north of this space lies under roughly a metre of modern build-up and must await further investigation to be understood fully. In property 27, changes were made to the northern end of the front room, probably at roughly the same time if not a little later. A new wall was created in *opus incertum* of black lava stones, cutting through the drain at its north end, which had run parallel to the north-south wall, and clearly putting it out of use<sup>42</sup>. This wall was intended to separate property 27 into a front and back room, an arrangement that it originally appears to have lacked. Certainly the loss of functionality for this drain suggests that the process for which it had been created was also no longer a consideration in the western shop because a change in the type of business undertaken in this location had occurred.

While it is difficult to speculate on the nature of business undertaken by these shops at any phase in their history, especially since the primary evidence revolves around the hardly-diagnostic collection and drainage of water, it is clear that activity involving economic transactions played a major role. Certainly the volume of coins (90) recovered is indicative of a considerable amount of commercial activity in these areas consistent with a pattern already identified in *Insula VI* 1<sup>43</sup>. Additionally, the number of low denomination coins recovered from a relatively small area of shop floor deposits at property 26 helps to confirm their identification as working shop floors or sub-flooring, while the low value of the coins may imply that the nature of the business undertaken was relatively humble. This implication is also supported by a preliminary examination of animal bone recovered from the shops, which primarily derives from low-quality cuts of meat<sup>44</sup>. Activities of the following phase removed the uppermost layers of flooring, which may have contained clues to the activities undertaken in this area at least towards the end of Phase 5. The same removal also means that the coin assemblage is particularly representative of local and early minting processes of the Republican period in the city, with only a single imperial coin so far having been identified from 71 identifiable coins. A concentration of blown glass recovered from related deposits and within the eruption debris fills of the final phase suggests that property 26 (room 90) could have served for producing or selling glass vessels, at least towards the end of its life. However, it is not impossible that the material was introduced into the area during the eruption itself.



Fig. 23. Highly fragmented components of the drains to the east and west of the *opus incertum* wall.

<sup>41</sup> We are grateful to Dr Charlene Murphy and Dr Robyn Veal for their preliminary analysis of ecofact and carbonized remains from AA001. Further observations will be possible with the completion of their study.

<sup>42</sup> Deposits that would date this wall have yet to produce more refined date and could have occurred as late as about AD 50, for this reason it seems very likely that these changes may have been carried out in several distinct moments rather than as a single phase of activity.

<sup>43</sup> This pattern was identified by Dr. Richard Hobbs in his analysis of the coin assemblage of the excavations by the University of Bradford in *Insula VI* 1.

<sup>44</sup> We are grateful to Ms. Rachel Hesse of the University of Oxford for preliminary examination of mammal bone remains from AA001.

### Phase 6 – Construction work



Fig. 24. Coin recovered from AA001.

Though additional phases of use must have taken place during the 1<sup>st</sup> half of the 1<sup>st</sup> c. AD, all traces of intermediate activities were removed along with any associated flooring as a component of widespread construction and remodelling that was underway during roughly the last decade of the city's life. The recovery of a coin of Nero (inscribed '[NERO CAES]AR AVG GERM IMP' and dated to c. AD 65)<sup>45</sup> (fig. 24) from within one of the drains in property 26 helps to confirm that these features lay exposed in order to facilitate the large trenches that ran throughout the area and were only filled by the eruption itself. Though deriving ultimately from a heavily disturbed deposit, this coin may also provide an important *terminus post quem* for the rebuilding itself, suggesting that at least three years had passed between the earthquake(s) of AD 62 and the commencement of restoration work. Construction involved first the excavation of three large, approximately two-metre deep trenches, possibly intended for the placement of a new or modified drainage system (figs. 25 and 26). Each of these ancient trenches was of such a size that would have accommodated the shoulder width of only a single individual digging the trench with a pick-axe.



Fig. 25. Cuts for large-scale construction work in the final phase of AA001.

Ancient pick marks from the creation of the trenches were still evident in the bases of each where the removal of soil penetrated deeply into the natural soils below (fig. 27). In property 27 a roughly squared cut with rounded edges may either have been intended for the creation of a new cistern or served to remove an old one. Additionally, a long, narrow trench was excavated along the length of the sidewalk kerbstones in front of doorways 26 and 27, continuing both to the east and to the west beyond the boundaries of the studied area to an as-yet unknown extent, probably intended for the placement of new lead pipes<sup>46</sup>. The



Fig. 26. The trench cuts evident in property 27 (room 93) during the final phase.



Fig. 27. Pick-marks visible in base of the ancient trench.

<sup>45</sup> RIC I Nero 312. We are grateful to Dr Richard Hobbs of the British Museum for his study of the coin assemblage from AA001.

<sup>46</sup> NAPPO 1996.



Fig. 28. Collapsed kerbing stones on southern side of AA001.

met by a further sloping trench running directly against the easternmost wall in AA001. Plausibly this was intended as an access point, since all of the other trenches were rather deep and with such straight sides that entering the trench would have been difficult without a ladder. The lateral joining trench also appears to have run directly through the lower foundations of the eastern wall at this point in a manner similar to the central north-south wall. The trenches situated within room 90 and 93 did not connect with that running down the sidewalk, but were separated by a thin baulk of untouched soil, suggesting that they were intended to be connected at a later time. Perhaps this was intended to prevent flooding from rain water collected in the outside trench from running into the interior trenches. The general arrangement of the trenches, combined with their depth, suggests strongly that they were intended to connect to the drainage system already present on the *Vico delle Terme* and the *Vico dei Soprastanti* related to the *Terme del Foro* and the 'Great Cistern'. Plausibly the blockage of the drain on *Vico delle Terme* (cf. *infra*) necessitated a new arrangement that was never completed.

### Phase 7 – Eruption

It seems likely that these construction activities may actually have been ongoing during the early stages of the eruption, since at the bottom of each of the trenches there was a layer of trampled soils mixed in with lapilli. If this residue was indeed generated by crushing newly fallen lapilli underfoot, then the workers left no other trace of their presence and must have taken their tools with them when they departed. The trenches were subsequently filled by material from the spoil-heaps that had been produced by their excavation, intermixed with several collapses of the trench bulks, and alternating with layers of lapilli and eruption debris in an identifiable and explicable pattern. The worker's spoil heaps must have been situated very close to the trenches they had dug and were concentrated in the areas to the south and west, notably in the *Vico dei Soprastanti* itself. During the eruption, this material slumped periodically into the nearby open holes, probably as a result of volcanic tremors associated with the eruption<sup>47</sup>. The kerbstones lining the sidewalk, which likely had been severely undercut by diggers as they excavated the narrow trench along the sidewalk, also collapsed into this trench during the course of the eruption, as is shown by the lapilli that was present both above and below them (fig. 28). Though originally interpreted as potential evidence of an early street through this area in 2008, the discovery of additional collapsed sidewalk kerb stones to the east and west, which neatly align with a change to sarno stone blocks in the present surface-level kerb, has proved that these blocks are the AD 79 kerb stones and not an earlier street. Upper layers of the fills of these trenches likely derive from the collapse of the superstructure of the two shops. In the eastern side of property 26, the access trench was

<sup>47</sup> It is hoped that further exploration of this material may permit hypothetical reconstruction of the teams involved that may provide small-scale Pompeian parallels to suggested systems in place for the construction of the Baths of Caracalla in Rome cf. DE LAINE 2000 and provide additional details to the processes described by ADAM 1994.

<sup>48</sup> One of these collapses of material contained fragments of Flavian Beltran IVB amphora (001.082), reinforcing the idea that construction activities were on-going at the time of the eruption.

filled at its northernmost excavated point by a deposit of very ashy and fine lapilli intermixed with the remains of roof tiles and some fragments of marble revetments from an unidentified source. These open trenches were large enough to consume a large amount of eruption material and interestingly were seemingly not emptied during either phase of the original excavations under Fiorelli<sup>49</sup> and again under Spano<sup>50</sup>. It is difficult to imagine that such features would have been missed by the excavators, so it must be assumed that they were considered to be uninteresting. Early plans<sup>51</sup> of the area show a reconstructed countertop, which, together with the roofing<sup>52</sup> may have been the source of the marble fragments.

### *Phase 8 – Modern*

The excavation of the eruption debris was likely partially initiated in 1762 when the area to the east was cleared, but then undertaken more earnestly in several rounds between 1868 and 1910. Thereafter properties 26 and 27 seem to have received only a small amount of reconstruction and attention. Indeed, the recovery of intact eruption stratigraphy in trenches that were clearly open at the time of the eruption suggests that the area received, at best, cursory examination and treatment. Though few early photographs exist of the area, the *Plastico di Pompeii* by Padiglione (1861) in the *Museo Archeologico Nazionale di Napoli*, suggests a fair degree of preservation. Traces of modern mortar imply that a bench or platform, also present in the *Plastico*, seems to have been reconstructed across the unexcavated ancient trenches in the eastern room (90), but it is difficult to say what evidence was recovered during the initial excavations that might have supported such a reconstruction. Certainly the placement of the feature, arranged roughly north-south and in the centre of the doorway, without connection to either the western or eastern side of that opening, is suspiciously unusual. It is also difficult to imagine how such a feature could have been undercut during the final-phase construction work without causing its collapse although given that the same trenches clearly burrowed under the wall between properties 26 and 27, it is not impossible. The recovery of numerous fragments of marble revetment from the eruption debris nearby, may suggest the nearby presence of at least parts of a marble-decorated bench from which these fragments may have become separated during the eruption.

The Allied bombing of 1943<sup>53</sup> that destroyed many of the standing structures in this area of the *insula* must also have eradicated the reconstructed bench. After the bombing, there seems to have been considerable effort directed towards neatening up the *insula*, and restoring its major features. Debris from this damage was heaped up within certain rooms, utilising large blocks from the destruction to create make-shift retaining walls. One example is the 'wall' that flanks AA001 on the north side, which is now largely a collection of cursorily stacked stones, modern debris and rubbish with some intact lower wall fragments. The modern retaining wall does follow the line of an original ancient wall, though it effectively seals what was once a doorway, serving to obscure the original plan of the structure. Additionally, the *tufo* plinth atop the ancient *tufo* base has been re-erected in the modern day after having been toppled in the bombing. The kerbstones that presently line the northern side of the *Vico dei Soprastanti* are replacements of the stones that had collapsed into the trench cut along their north length and would not have been present when the area was first excavated. The precise timing of their replacement is unclear, but it is likely that they too represent an instance of post-war tidying. More recent modern interventions include the placement of a line of stones that redefined the missing 'threshold' of the property, the burials of several deceased dogs in the centre of the excavated area, and the placement of electrical lines down the length of the sidewalk, which ironically mirrored closely the narrow sidewalk trench that had been open at the time of the eruption, though at a much shallower depth.

### *Cleaning in the Casa di Petutius Quintio (VII 6, 30.37)*

In 2008 cleaning of modern debris was undertaken in the *Casa di Petutius Quintio* in order to investigate the state of preservation of AD 79 floors, to reveal visible architectural relationships occluded by modern build-up, and to correlate this information with geophysical analysis and phasing of the standing structures that had been carried out in previous years. Archaeological Area 002 (AA002) included the southern passage of the central garden (figs. 29-30), defined to the south by the thresholds of the southern range of rooms, to the north by a low wall, and to the west by a doorway into the western part of the structure. Clearing of modern build-up and detritus revealed evidence of

<sup>49</sup> FIORELLI 1875: 435-438.

<sup>50</sup> SPANO 1910: 437-486.

<sup>51</sup> PADIGLIONE 1861, SPANO 1910, ESCHEBACH 1993.

<sup>52</sup> The shops probably had upper stories and roofs similar to those reconstructed along the *Via dell'Abbondanza*. Spinazzola V, (1953).

<sup>53</sup> GARCIA Y GARCIA 2006: 102f.



Fig. 29. Extent of cleaning in AA002 during 2008.

AA002 Drawing 1

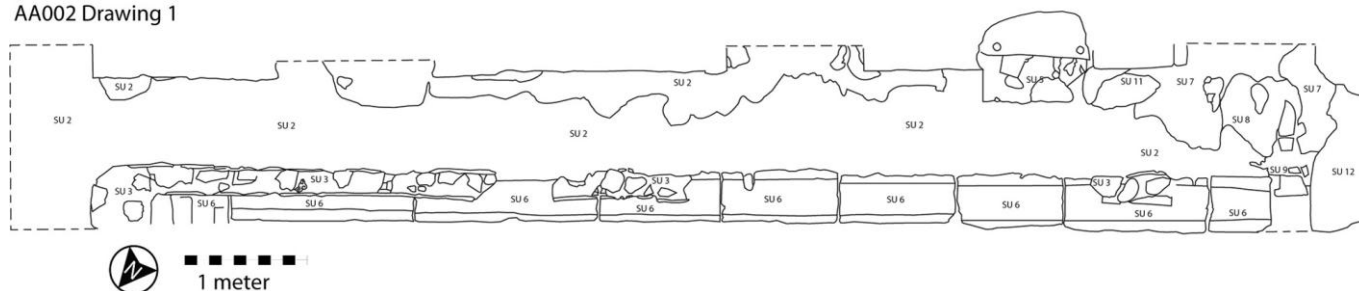


Fig. 30. State plan of AA002 after cleaning.



space, at least in part. The *opus signinum* floor, though largely obscured by later construction and not in direct physical connection with the *tufo* channel itself seems likely to have been a component of the same period of use of the house, especially since both precede the final phase. The floor was relatively well-preserved where present, though in places an associated mortar sub-floor was visible, especially at a break on its eastern end, apparently the result of a drain repair or placement during the subsequent phase. Both the sub-floor and its surface had been poured up against one portion of the wall flanking the area immediately to the southwest.

Fig. 31. Flooring with inset coloured marble (on left side of photo).

<sup>54</sup> This marbled surface has parallels in other earlier floors, notably in the *Casa del Centenario* (IX 8, 6.3.8.a.c). Dating will require further comparative analysis.



Fig. 32. Low dividing wall built directly over tufo nocerino channel.



Fig. 33. Wall on the western side of the trench, built over the marble chip inset floor.

plastering of either side of the low garden wall since the red plaster with which it was decorated lipped directly onto both the drain surface on the northern side and the *opus signinum* on the southern side.

### Phase 3 - Modern

Following the initial excavation of the house, first in 1808 and later in 1910<sup>55</sup>, the preserved AD 79 levels experienced some degradation through exposure and decay. However, since the area was not as heavily bombed as those zones to the east, similar processes of repair to the standing structures are not present. Nevertheless, several rooms within the house were used to collect debris from elsewhere in the block and remain filled to a high level. Removal of the modern layer in AA002, which consisted of a top surface of protective gravel, followed by sandy-silt heavily contaminated with modern debris and plants, revealed that both the *opus signinum* floor and the earlier floor inset with marble chips, together with the peristyle garden wall, had all been damaged through exposure,

<sup>55</sup> ESCHEBACH 1993: 292.

### Phase 2 - Transformations and Upper Stories

The second and final ancient phase recovered in cleaning saw considerable transformation of the garden space. Included in these activities were the construction of the wall to the west over the top of the earlier floor with inset marble chips, the creation of a stairway in *opus incertum* to the south, the laying of the final-phase *opus signinum* floor, and the construction and plastering of a low wall surrounding the garden and separating it from the walkway (fig. 32). These alterations are suggestive of wide-scale architectural change in the use of space within the Casa di Petutius Quintio, which included, seemingly for the first time, upper storeys and a nearly-complete removal of the *tufo nocerino* peristyle of the previous period. As such they represent changes connected generally with phases W3a-c (cf. supra). One component of this architectural redevelopment was the construction of a wall in *opus incertum*,

composed of a wide range of materials conglomerated atop and within the southern edge of the *tufo nocerino* stylobate, but probably permitting continued use of the drain channel. The imposition of this wall, directly over the earlier decorative features attests a significant change in priorities and a general narrowing of the passage to the south of the garden. Plausibly these changes related directly to the new structural requirements of the added upper stories. Strengthening seems also to have included alterations to the southern wall, including the creation of the base of a new stairway. Similarly on the west, another wall was added directly in front of the western range of rooms that served to narrow the opening into these spaces and over the earlier floor (fig. 33). After the construction of these walls, an *opus signinum* surface was laid to cover the space between the garden wall and the walls to the south, presenting the final phase of flooring in this area. This surface abutted both the peristyle garden wall and the walls defining the south side of the peristyle, but it was poured prior to the





Fig. 34. The 'Great Cistern' on the eastern side of Insula VII 6.



Fig. 35. Drainage with bronze fitting (lower left) and access corridor (right) within the service rooms of the 'Great Cistern.'

presumably after the initial excavation. Long-term plant activity seems to have been the key factor in the loss of the final, finished surface of the *opus signinum*, which today is preserved only in fragments. In addition, a patch consisting of modern mortar, brick and tile was identified in the western part of AA002, clearly intended to repair and restore the final-phase surface. Similar, mortar-like patching, found to overlie the earlier marble-chip *opus signinum* in the westernmost extent of AA002, can also be attributed to the modern phase and suggests that it may have been exposed even during the original excavations. This could indicate that construction activities also characterised the *Casa di Petutius Quintio* during its final years.

#### 'Great Cistern' Access Corridor Cleaning and Survey

A second major component of research in 2009 involved the cleaning and initial recording of the stairs, access corridor, and the subterranean service room of the 'Great Cistern' associated with the Forum Baths that is situated on the eastern side of *Insula VII 6*. Modern debris was removed in order to enable preliminary topographical survey of the stairwell and the service room below. The area is reached via a stairwell that leads down from an entrance located on the western side of *Vico delle Terme* (fig. 34). Removal of the modern overburden revealed a well-preserved stairway paved with broken roof tiles, as well as an intact packed earth floor approximately two metres below the street level of *Vico delle Terme*. The service room itself measures roughly two metres on its east-west axis and two and a half metres on the north-south axis and has two arched vaults that serve to support the stairs on the northern side.

There are two particularly interesting features in the subterranean service room. A wide drainage pipe runs through the base of the northern wall of the service room into the main chamber of the water tower. The pipe is equipped with a bronze fitting into which a stop plate could be placed or removed, allowing for control of the flow of water out of the water tower. The pipe empties into a channel that runs southeast out of the service room under the street. Roughly 50 cm above the exit point of the pipe is a larger opening in the northern wall of the service room lined with traces of a smaller lead pipe broken off at this point. The destination and origin of this pipe are unclear. Mau was of the opinion that the pipe was the way that water was removed from the cistern for use, while the drain below was used only to empty the cistern for cleaning<sup>56</sup>. Above the drain, an access corridor measuring 115 cm by 120 cm and built in *opus mixtum* of brick and black lava leads southeast out of the service room and under the *Vico delle Terme* on the same trajectory as the drain (fig. 35). The lack of waterproof plaster indicates that the corridor

<sup>56</sup> MAU-KELSEY 1899: 226.



Fig. 36. Preliminary investigations in the Casa di Secundus Tyrannus Fortunatus.

had served to create a small cupboard out of this space, and cleared a part of what once was the interior walkway of the peristyle of the house (fig. 36). On the western side of the area, a deep rubble deposit was encountered, which, while probably also of modern origin, was not removed because it was seen to be heavily mixed with ancient materials. It is likely that this deposit was primary residue from the post-bombing clean-up of the area. Similarly, on the east, no trace was found of an *opus signinum* surface, but instead a harder packed and finer levelling deposit that might have been intended as bedding for a final-phase surface that has now been lost. This suggests that the upper final phase surfaces in this area have degraded, emphasizing the importance of further cleaning and recording, as well as suggesting the potential use of future excavation in this area.



Fig. 37. Photo of AA001 excavation and corresponding 3D wire-frame mesh of the same area (viewed in MeshLab <http://meshlab.sourceforge.net/>)

method was tested in recording the walls of *Insula VI 1, 2-4* as a diagnostic of its capabilities and as a part of the VCP's efforts toward bringing the data produced in the University of Bradford's excavations in this area to publication<sup>60</sup>. In 2011, this methodology was utilized in all aspects of research, permitting the creation of 3D surface models of walls, streets, kerbing stones, and excavation deposits. After computer processing, it will therefore be possible to create a complete 3D model of the excavations undertaken in 2011, complete with a precise record of each deposit *in situ* (fig. 37). Structure-from-motion 3D point capture has also been employed in order to provide

was probably not itself used for water flow but rather seems to have been intended to provide access to the conduit below.

#### *Cleaning in the Casa di Secundus Tyrannus Fortunatus (VII 6, 28.19.20)*

During the final weeks of the field season in 2011, preliminary investigative cleaning was also undertaken in a 4 by 5 metre area at the north-west corner of the *Casa di Secundus Tyrannus Fortunatus* (AA006), in order to establish the degree of preserved stratigraphy below modern build-up, to examine the relationship of the walls below the level of greatest modern exposure, and to compare this information against the geophysical research undertaken in 2007. This area is particularly important as it is situated against one of the earliest walls of the *insula* which was built in *opus africanum* Type 'A'<sup>57</sup>. The clean also uncovered the foundations of a wall on the northern side of the area which prior to bombing

#### *3D Data Collection*

Since 2010 the VCP has also initiated the use of a recently-developed and revolutionary method of 3D data acquisition using structure-from-motion technology<sup>58</sup>. Using unordered sets of digital photographs, this highly-accurate system produces millions of 3D data points of target objects, each with spatial coordinates, colour, and surface normal information necessary for complete 3D surface reconstruction<sup>59</sup>. When paired with total station survey of standing remains, the end result is a scaled and accurate model of wall surfaces down to individual stones and mortar. In 2010, this new

<sup>57</sup> PETERSE 1999: 37f. *ibid.* 60; PETERSE 2007: 377

<sup>58</sup> Employing software written and made freely available by Yasutaka Furukawa of the University of Washington and Jean Ponce of the Ecole Normale Supérieure (PMVS2), and Noah Snavely of Cornell University (Bundler). The results are also manipulated and modified with MeshLab (supported by the 3D-CoForm Project) <http://meshlab.sourceforge.net/>.

<sup>59</sup> Our method is similar to that detailed in DUCKE 2011.

<sup>60</sup> ANDERSON, JONES, ROBINSON *Excavations in the Casa del Chirurgo*. in Preparation.

information on the faces of each wall in the south-east corner of the *insula*, facilitating the creation of a high-resolution computer model of the standing remains in order to illustrate, refine, and test hypotheses. This has augmented and complemented our earlier use of stitched rectified photography in order to record wall surfaces<sup>61</sup>. Comparison of our results with recent time-of-flight laser scan data produced in the Forum by Profs. Balzani, Santo Puoli, Grieco, and Zaltron of the Università di Ferrara and in the *Casa della Diana* by Prof. Luzón of the Universidad Complutense de Madrid, suggests that our results are an equally useful record of the standing remains, permitting the precise 3D reconstruction of the existing walls and floor features. However, unlike other methods, that employed by the VCP requires only consumer-grade digital cameras. The system is flexible, since photos may be taken so as to scan under-hanging or over-hanging walls and holes in the ground (such as the cistern/well in AA001) in an interactive and flexible manner. To achieve similar results with time-of-flight scanners would have been time consuming and some cases may simply not have been possible. As pioneers in this aspect of Pompeian research, it is hoped that this work will help to advance the standard of research, recording, and analysis undertaken in the city.

### Current Interpretations and Observations

Though long-forgotten to scholarly research, *Insula VII 6* is of great importance in the history of Pompeii, and clearly contains a number of clues to the socio-political and economic motivations behind the changing urban environment within the ancient city from its foundation until the eruption of Vesuvius. Excavations in the southern side of the *Insula* between 2007 and 2011 have produced a considerable amount of new information on the motivations and nature of these changes. Certainly it is significant that the earliest remaining walls appear to have been concentrated into a structure opening onto the western side of the *Insula*, at a point roughly half way along its present north-south façade. Perhaps this lends support to the suggestion that the *Vico del Farmacista* represents the continuation of the original *Via Consolare* as it headed to the port area, and this early structure faced outward onto its then most significant bordering street<sup>62</sup>. It is clear that the dimensions involved in the creation of this earliest core are also reflected in other systems of walls in the block, meaning that it should be possible to reconstruct most of the original layout of property boundaries with further targeted excavation. At the same time, the fact that the earliest *opus africanum* walls built to extend from this core may have terminated short of our excavations in the south-eastern corner of the block (AA001) also implies that a band of undeveloped space originally may have existed on the south-eastern side of the *insula*. Whether or not the theorised *altstadt* of the city ran down or near the *Vico dei Soprastanti*<sup>63</sup>, the area of *Insula VII 6* must have been in high demand given its proximity to the Forum and the urban core<sup>64</sup>, and it is difficult to imagine that such an area would have remained unoccupied for such a long time without some type of external influence, whether it was a wall, the *fossa*, or the *pomerium*. This observation may therefore have deep implications for our understanding of this area during Pompeii's earlier history.

The creation of the *Casa di Secundus Tyrannus Fortunatus*, between 175-125 BC, was just one component of wide-spread construction within the block in *lava opus incertum* that would likely have included not only changes in the *Casa della Diana*<sup>65</sup>, but also in the *tufo nocerino* peristyle in the *Casa di Petutius Quintio*. It is also significant that, at least for the *Casa di Secundus Tyrannus Fortunatus*, the original plan does not seem to have followed strictly the ideal of the *atrium* house into which it would eventually develop. In fact, it was the subsequent construction of eight, nearly identical shop entrances across the south-eastern corner of the block that regularised the internal structure of the *Casa di Secundus Tyrannus Fortunatus* into a standard atrium-house form, despite the conversion of one front room into a new commercial space. Likely a response to the new economic opportunities presented by the *Terme del Foro* of the new Roman *Colonia* in 80 BC, the fact that these properties not only mimic those around the baths themselves in size but also present a coordinated and unified exterior appearance in neatly-drafted *tufo nocerino* may suggest the plan of an individual owner, intent on capitalising on this opportunity. Similar interpretations have already been voiced for the southern half of *Insula VI 1*<sup>66</sup>.

Fatefully then, it would be the proximity of these very baths that would serve to promote most other major changes in the block. It is possible, although yet to be conclusively proven, that the 'Great Cistern', on the eastern side of *Insula VII 6*, was added *after* the *Terme del Foro* themselves, truncating the *tufo nocerino* shops, and necessitating the rebuild of much of the north-eastern corner of the block. Precise dating and confirmation of this transformation must await further excavation, but it is possible that the 'Great Cistern' may be a later feature better

<sup>61</sup> ANDERSON 2009.

<sup>62</sup> CAROCCI, DE ALBENTIS, GARGIULO, and PESANDO 1990: 196-197.

<sup>63</sup> RIBERA, OLCINA and BALESTER 2007: 89; COARELLI 2008; DICKMANN and PIRSON 2005.

<sup>64</sup> RIBERA, OLCINA and BALESTER 2007: 89; BUSTAMANTE ET AL. 2010: 4.

<sup>65</sup> This is equivalent to the 'Hellenistic Phase' in the *Casa della Diana* as described by María Luzón Nogué, Carmen Alonso Rodríguez, Castillo Ramírez, García Sánchez, Mañas Romero, Salcedo Garcés, cf. [http://www.dianaarcaizante.com/#/fases\\_constructivas/](http://www.dianaarcaizante.com/#/fases_constructivas/).

<sup>66</sup> JONES and ROBINSON 2005; 2007: 393f.

associated with the Augustan period provision or augmentation of the aqueduct system than as an original feature of the baths themselves<sup>67</sup>. Such a change also serves to bring into focus the importance of the subordination of private property to the needs of the city and raises questions of how and by whom such a process was undertaken. Similar issues are raised by the unexpectedly clear image of the state of the south-eastern shops at the time of the eruption that has been produced by the excavations in AA001. Such extensive construction and disturbance in their final days certainly suggests activity by city officials, possibly in response to needs generated by the *Terme del Foro* or the 'Great Cistern' itself. These renovations included linear trenches, seemingly coordinating a number of drainage features, and interestingly even including a tunnel under a standing wall that divided the two, apparently independent, and possibly separately-owned properties<sup>68</sup>. Stratified lapilli and eruption deposits recovered from these features confirm not only that they were open at the time of the eruption, but also reveal the presence of roofing over some areas that served to direct the flow of eruption deposits. Certainly such disturbance, with large spoil-heaps in the middle of the *Vico dei Soprastanti* will have had significant impact on daily life and traffic on the northern side of the Forum. Perhaps this should be seen as an extension of wide-spread renovations already well documented in the Forum itself<sup>69</sup>.

Far from a bombed ruin without redeemable use for academic study, *Insula VII 6* has proved to be a rich and valuable source of information on the urban development of Pompeii throughout its history in one of the most important and central locations of the ancient city. The past five years of research by the Via Consolare Project have helped to bring this important area of the city back into the scope of Pompeian research, and the information recovered has served to reveal much about the urban development of the block and its surroundings, often in surprising detail. These investigations have also raised a number of new questions and highlighted areas that must be examined in detail in future field seasons. *Insula VII 6* has suffered not only due to long exposure and bombing, but also from a general lack of scholarly awareness of its importance, paired with a belief that little remains to be studied in this area<sup>70</sup>. Our work has proven that it is not only archaeologically rich, but of vital importance in understanding the development of the ancient city.

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<sup>67</sup> Contra: MAU-KELSEY 1899: 226; RICHARDSON 1988: 151.

<sup>68</sup> If these repairs and changes do result from earthquake related damage, then this provides yet more evidence for the kind of disruption and repair the city was experiencing during the years between AD 62 and 79. The scope, nature, and degree of the repairs therefore may be fit into not only the pattern of disruption long identified cf. MAIURI 1942 *passim* and often discussed, cf. FRÖHLICH and JACOBELLI 1995, ALLISON 1995, LING 1995, VARONE 1995, FLOHR 2010, ANDERSON 2011.

<sup>69</sup> DOBBINS 1994.

<sup>70</sup> ESCHEBACH 1993: 292.

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