

# **POMPEII SUSTAINABLE PRESERVATION PROJECT**

## **Porta Nocera Necropolis preliminary campaign**

(22 September to 14 November 2014)

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## A. Subject and terminology

Porta Nocera necropolis is one of the burial sites of Pompeii. The majority of the tombs at Pompeii date from the 1<sup>st</sup> century BC to the mid-1<sup>st</sup> century AD. Like in every roman town, the tombs crowded the sides of the roads leading to the city-gates (Fig. 1).



Fig. 1 Pompeii. The other necropoleis outside the city gates.

Only small parts of the *suburbium* of Pompeii have been excavated. Thus the amount of known burials and tombs is limited. The largest numbers of tombs are preserved outside the so-called Porta Ercolano and Porta Nocera. The *via dei sepolcri* outside the Porta Ercolano was excavated in 1763 and was therefore an integrating part of the visual memory of Pompeii in the 18<sup>th</sup> and 19<sup>th</sup> century.

The Porta Nocera necropolis can be divided into four parts, only two of them today visible: The first part comprises the western part of the necropolis with its funerary precincts close to the city-gate. This part, usually called "Porta Nocera necropolis", was excavated between 1954 and 1956, and is open to visitors<sup>1</sup>. It's located immediately in the west of the Amphitheatre-entrance of the site of Pompeii. This modern entrance presumably overlays the extension of the necropolis in easterly direction, as proved by the second excavated part, in the east of this entrance. The eastern section of the necropolis was excavated in 1983. Its location south of the Amphitheatre, relatively dislocated from the usual tourist route, caused a neglected state for several years. Nevertheless, this part is visible and accessible, even for tourists. In the archaeological literature is often referred to it as the "tombs of fondo Pacifico" (this means the name of former estate before getting part of the state property of the Pompeii-site)<sup>2</sup>.

Other two sections of the necropolis were discovered more in the east, outside the state property. Both of them have been reburied. One section was excavated in 1886 on the property of Angela Contieri (widow Pacifico). It comprised six funerary monuments and the facades of other two (see below: C.1. History of excavation). The tombs are located on both sides of a street identified by the excavators as the "*via nucerina*", so the main road between Pompeii and Nuceria. Thus, in the archaeological literature the label used for it, was "necropolis of the *via nucerina*". Sometimes it's referred to it as "ex-fondo Pacifico" or "proprietà Arpaia"<sup>3</sup>. The distance between the formerly

<sup>1</sup> Basic literature is MAIURI 1960; D'AMBROSIO – DE CARO 1983; VAN ANDRINGA ET AL. 2013.

<sup>2</sup> D'AMBROSIO – DE CARO 1987; KOCKEL 1985.

<sup>3</sup> SOGLIANO 1886; SOGLIANO 1887; see also MEIER 1886; MAU 1888; G. Stefani in: GUZZO 1998, pp. 51-55.

described tombs excavated in 1983 and this section in only 15 m circa. The section located in the "proprietà Arpaia" was reburied in the 1980ies.

The second section discovered outside the state property was excavated in 1952 on the property of the *Prelatura del Pontificio Santuario di Pompei (edifici I.P.S.I., Istituto per la Specializzazione Industriale)*. Two funerary monuments and part of a road paved with lava slabs were discovered. They represent the most easterly tombs respectively to the Porta Nocera. Its distance to the formerly described section is about 63 meters. Usually they are called the "tombs of the fondo Prelatura"<sup>4</sup>. This section was destroyed by the modern construction.

In this report I will use the simplest and clearest way to distinguish the four sections of the Porta Nocera necropolis, labelling every section with its excavation year (Fig. 2): **Porta Nocera necropolis (excavation 1954)** and **Porta Nocera necropolis (excavation 1983)** for the two still visible parts of the necropolis; **fondo Pacifico (excavation 1886)** and **fondo Prelatura (excavation 1952)** for the two reburied sections.



Fig. 2 Pompeii. The four sections of the Porta Nocera necropolis.

## B. General overview and topography of the Porta Nocera necropolis

The necropolis of Porta Nocera is located south-east of the ancient city of Pompeii. It develops at the foot of the city-walls, along the path of an outer ring road, coming from Porta Stabia in the west. Once left the town-area behind, the road continues in a straight east-west orientated line towards the ancient city of Nuceria. In this area the Pompeian city-wall is built on the eastern limits of a natural terrace on which the settlement had place during the 6<sup>th</sup> century BC.

From the beginning the whole area, on which the necropolis develops later, must have been on a level of some meters lower than the city-walls and the urban constructions (comprising the later Amphitheatre, the Palestra Grande and the houses of Insulae II 8 and I 20, 21 and 22). In the Samnite

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<sup>4</sup> SOPRANO 1961.



period the area was further lowered, creating a ditch about 20 meters wide<sup>5</sup>. It is very likely that at least since the 2<sup>nd</sup> century BC, a small *pomerium*-road followed the southern rim of the ditch (Fig. 3).



Fig. 3 Actual topographical situation as revealed in: NEAPOLIS 1994, table 18 and 19 (photographical sketch).

In its south-east sector the city opens to its territory by the so called Porta Nocera. There is archaeological evidence for the existence of a city-gate in this point since the 4<sup>th</sup> century BC<sup>6</sup>. The city-gate not only linked the town with the *pomerium*-road and the territory of the *ager nucerinus* in the East, it functions even as an important north-south connection, as proved by the archaeological evidence of two pre-roman sanctuaries and the large funerary precinct of the *gens Epidia* located in the southern *suburbium* close to the city<sup>7</sup> (Fig. 4).



Fig. 4 Archaeological findings close to Porta Nocera.

<sup>5</sup> See oral presentation by Christiane Brasse, on 12.11.2014 during the final PSPP workshop: chronology in correspondence with the city-wall phases: 3<sup>rd</sup> century BC (probably towards the end of the century).

<sup>6</sup> The existence of an arcaic city gate in this point cannot be proved, because the later phases of the city gate, with its fortification systems did overwhelm previous evidence.

<sup>7</sup> For the pre-roman and roman burials in the so called fondo Azzolini see DELLA CORTE 1911; DELLA CORTE 1916; G. Stefani in: GUZZO 1998, pp. 93-105; for the sanctuary of the so called fondo Iozzino: D'AMBROSIO 1993; for the sanctuary of Sant'Abbondio BIELFELDT 2007 with former bibliography; the sanctuaries are dated respectively to the late 4<sup>th</sup> (fondo Iozzino) and the second half of the 3<sup>rd</sup> century BC (Sant'Abbondio).

After the conquest of the city by Sulla in 89 BC and the re-settlement of Pompeii as a Roman colony in 80 BC, an improvement of the road-network was needed<sup>8</sup>. At the present state of research it's impossible to determine exactly when the arrangement of the new streets in the area of the Porta Nocera necropolis took place. The streets are paved now with big lava slabs, which are preserved near to Porta Nocera in the area of the intersection of the road that descends from the city (north-south direction) and the outer ring road (west-east direction), and also in the section of the so-called fondo Prelatura (excavation 1952, reburied). In any case, the realization of the new road system had to result in a significant rearrangement of the whole area. For connecting the inner-city street level to the new east-west-axis, it was necessary to lower the street level some meters inside the city-gate, to put bare the foundations of the city-gate and the city walls for at least 2 m, and to construct an underground water channel on the west side of the city-gate.

At this stage of the investigations it seems clear that only a few of the funerary monuments of the Porta Nocera necropolis were erected before this rearrangement of city-gate and streets, while the majority of the tombs are part of the new topographical situation (see below: C.4. Chronology of the necropolis). At the moment there is no evidence for pre-roman burials or tombs in the area. The earliest tombs go back to the late Sullan period (as mentioned, possibly in the timespan before the re-assessment and paving of the street). Noteworthy is then the apparent anomaly in the distribution of the tombs in the whole western part of the necropolis (excavation 1954). In fact in the area east of the city-gate the precincts are allined on both sides of the road, while in the western part the funerary monuments develop only along the south side of the street. The northern side is closed here by a boundary wall and a series of *cippi* (Fig. 5).

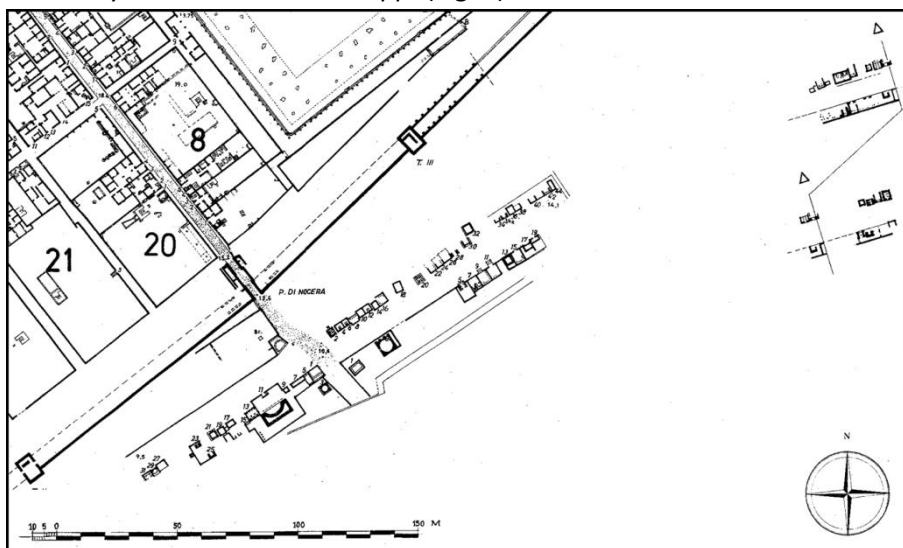


Fig. 5 Porta Nocera necropolis (excavation 1954 and 1983) in the city map of Eschebach (edition 1993).

This wall may trace the limit of the *pomerium* considering its distance from the city-walls of 29.60 m circa, what means 100 Roman feet. The width of this public area (*pomerium*) is further underlined by the presence of the inscription-stone set by the tribune Suedius T. Clemens, commissioned by Emperor Vespasian, in its role as censor, to revise the cadastre usurped by private persons<sup>9</sup>. The *cippo* is placed at the crossroad in front of the city-gate, fixed in a layer of debris (about 60 cm high) that covered the road pavement in this time. In fact, thick layers of debris were found on the streets and close to the funerary

<sup>8</sup> For the streets and their continuation in the *ager pompeianus* see also the considerations in DE SPAGNOLIS 1994, pp. 10-24.

<sup>9</sup> English translation of the inscription: "By virtue of authority conferred upon him by the Emperor Vespasian Caesar Augustus, Titus Suedius Clemens, tribune, having investigated the facts and taken measurements, restored to the citizens of Pompeii public places illegally appropriated by private persons." (cf.: <http://www.pompeiiinpictures.com>).

monuments, reaching up to 1.20 m near to the most westerly tombs (see excavation Van Andringa Sept. 2014). These earth and debris layers are a clear evidence of the state of abandonment of the whole area in the years following the earthquake of 62 BC. During the excavation of 1954 in the Porta Nocera necropolis these occupation layers were partially removed, creating an overall surface that represents neither the situation before 62 BC nor the real AD 79 level.

Thus, it is clear that the topography of the whole area is heavily modified, once by ancient interventions and second by modern excavation.

The analysis of the distribution of the funerary monuments shows that even in this necropolis there seems to be no real programmatic planning for the occupation of the site. The precincts in fact are sometimes distributed in groups, sometimes quite distant one from another and seem to follow as only principle the observation of the *pomerium*-line, the extension of the street, and the property-limits of neighboured precincts.

The Porta Nocera necropolis offers a large series of examples as typology is concerned. This goes from the most monumental kind of funerary monument, the large semi-circular "exedra tombs" like the one of *Eumachia*, or the mausoleo of *Barchilla*, designed as a rotunda, to various types of funerary monuments like the podium- or "house-tombs" with or without a second register articulated as *aedicula*, *tetrapylon* or *tholos* and decorated with columns, capitals or statues, to tombs with articulated façades like the monument of the *Flavii*-family, to unroofed enclosures with or without articulated façades, and precincts without any architectural items limited by *cippi*, wherein *columellae* are indicating the single burials. Generally the funerary chamber is not a current item of this necropolis. Usually the cinerary urns were buried in the ground in proximity to the funerary monuments or inside their enclosures (Fig. 6).



Fig. 6 Porta Nocera necropolis (excavation 1954 and 1983). Various tomb types (Photo: author).

All tombs were designed to be seen and the many electoral inscriptions (*dipinti*) and *graffiti* on their street-facades prove that the site was busy and a place of pass-by traffic<sup>10</sup>. Nevertheless, the Porta Nocera necropolis wasn't the most prominent place for the Pompeian municipal magistrates, as attested by the concentration of tombs of the elites outside the Herculaneum-gate. The last years of city-life see a substantial depletion of the necropolis. The monumental tombs of the previous phases are now generally replaced by more modest types. It is perhaps significant that the majority of these tombs belong to freedmen.

<sup>10</sup> DELLA CORTE 1958; DELLA CORTE 1952-1970; RENBERG 2004.



## C. Bibliographical and archival research

### C.1. History of excavation

The history of excavation of the necropolis begins in 1886 with the casual discovery of a series of tombs during the construction works for a deep well on the private property of Angela Contieri (widow Pacifico) close to the Amphitheatre of Pompeii. Once captured the importance of this discovery - in all probability part of a suburban necropolis - official excavation started soon. This section of the necropolis was published by Sogliano in 1886 and 1887<sup>11</sup>. In total six funerary monuments and the facades of other two were discovered<sup>12</sup>. Four of the monuments are situated on the north of a (unpaved) street, two on its south. Due to its alignment it was evident that a portion of the main road between Pompeii and Nuceria was found. The tombs were constructed mainly during the imperial period or the last years of city life and belonged mainly to the libertine class. This section of the necropolis, sometimes called "fondo Pacifico, proprietà Arpaia", was visible until the 1980ies and was then reburied (Fig. 7 and 8).

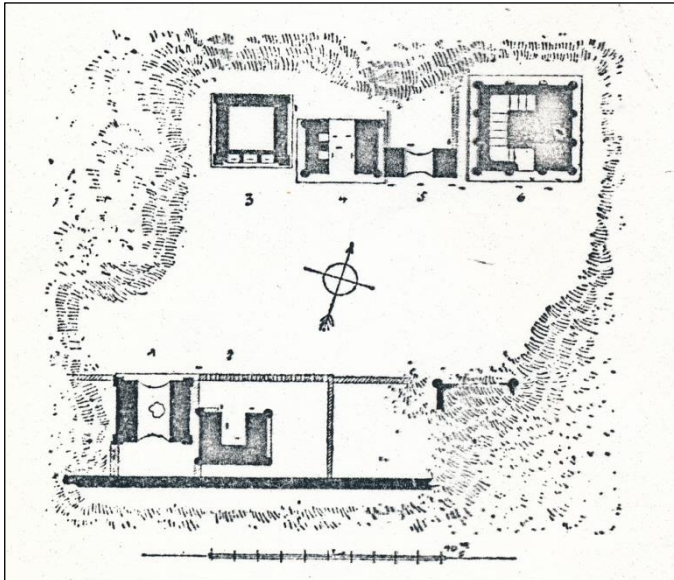


Fig. 7 Porta Nocera necropolis, fondo Pacifico (excavation 1886).

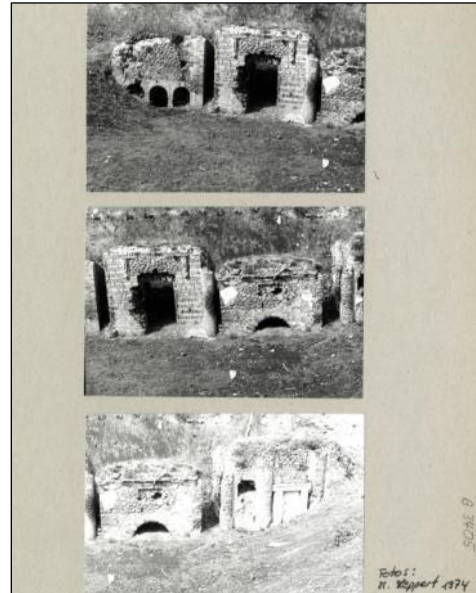


Fig. 8 Archive photograph of 1974 reproducing the tombs 3-6 (© Institut für Klassische Archäologie LMU-München).

In 1952 another emergency excavation close to the fondo Pacifico brought to light a second segment of the street and other two tombs. The two funerary monuments are located on the north of the street. Differently from the section excavated in 1886 the street in this section preserves its original paving in big lava slabs. This is not easy to explain, considering the short distance of only 63 m from the most easterly monument of the 1886-excavation and the excavation trench of 1952. The tombs were published by Soprano in 1961<sup>13</sup>. This section of the necropolis (fondo Prelatura) was destroyed by the modern construction of the *I.P.S.I.* edifices (Fig. 9).

<sup>11</sup> SOGLIANO 1886; SOGLIANO 1887; see also MEIER 1886; MAU 1888; G. Stefani in: GUZZO 1998, pp. 51-55.

<sup>12</sup> Three monuments are of the "fornix-type" (1, 4 and 5); two of the podium-type with niches in the facades (2 with one niche and 3 with three smaller niches); and one of an articulated podium type with second register, detailed description can be found in MAU 1888.

<sup>13</sup> SOPRANO 1961; monument 7 is of the podium type with three small niches in the front, dated by Soprano to the Augustan period; monument 8 is of the "fornix-type", dated to the last years of city-life.



Fig. 9 Composed ground plan of the two reburied sections of the necropolis.

In 1952 close by the excavation on the fondo Prelatura, even on the state property of the Scavi di Pompei excavation work was begun. This work was part of a big project under the direction of Amedeo Maiuri financed by the Cassa per il Mezzogiorno (after-war development program for southern Italy)<sup>14</sup>. The aim of this project was to remove all the old excavation-debris accumulated for decades outside the city-walls and to use it for drainage and land improvement in the Sarno river valley as well as for the construction of the motorway Pompeii-Salerno. As Maiuri points out, in less than a decade all around Pompeii more than one million and a half cubic meters of soil and debris were removed<sup>15</sup>. Excavations in the area of Porta Nocera began actually in May 1952. After the removal of the debris-mountains the objective of a more archaeological excavation was to prove the existence of a city-gate in this point, bearing in mind obviously the findings on the nearby fondo Pacifico from 1886 identified as necropolis along the "*via nucerina*". From early 1954 to 1956 a 210 m long stretch of the necropolis was unearthed. The limits of the excavation in the east, south and west are caused by the existence of modern buildings and the modern Amphitheatre-entrance (opened in 1931). The excavation of the necropolis was done quickly and – as mentioned before – the occupation layer of 79 AD in some areas was undercut while in other areas it was never reached. Excavation work and first emergency conservation measures went on until 1959 (Fig. 10 and 11).

<sup>14</sup> MAIURI 1960, in particular pp. 177-179. A brief description of the history of excavation of the Porta Nocera necropolis can be found in D'AMBROSIO – DE CARO 1983; KOCKEL 1985; A. D'Ambrosio in: GUZZO 1998, pp. 56-57; VAN ANDRINGA 2013, in particular 16-28.

<sup>15</sup> MAIURI 1960, 166.





Fig. 10 Porta Nocera necropolis. Excavation in 1954 (© Soprintendenza Pompei).



Fig. 11 Excavation 1954. Precincts ES\_05, ES\_07, ES\_09, ES\_11 and EN\_22, EN\_24, EN\_26 and part of EN\_28 from north-west (© Soprintendenza Pompei).

Amedeo Maiuri, who died in April 1963, never published his work in this section of the necropolis. This was done only 30 years later by Antonio D'Ambrosio and Stefano De Caro in 1983. However, a series of overview photographs, the excavation journals and a planimetry in the scale of 1:200 of the site had been realized in the 1950ies. Furthermore Matteo Della Corte documented day by day the discovery of *graffiti* and *dipinti*<sup>16</sup>. The lack of a scientific publication appropriate to its significance might be one of the reasons why the necropolis was little receipt in archaeological literature and fell in decay during the 1970ies. This changed with the new documentation work and publication by D'Ambrosio and De Caro in 1983 sponsored by Total Italy and the Touring Club Italy, as well as with the discovery and excavation of another section of the necropolis by the same authors in 1983 south of the Amphitheatre, but even with the contemporary publication of the necropolis of Porta Ercolano by Valentin Kockel<sup>17</sup>.

The excavation south of the Amphitheatre in 1983 was done by the Soprintendenza for detecting the terrain as possible construction site of a new museum, close to the southern entrance of Pompeii. The excavation trench of 1983 unearthed a circa 40 m long stretch of the necropolis with funerary precincts on both sides of a street. As in the fondo Pacifico (excavation 1886) the street appears to be unpaved (Fig. 12).

<sup>16</sup> DELLA CORTE 1958; DELLA CORTE 1952-1970.

<sup>17</sup> KOCKEL 1983.



Fig. 12 Porta Nocera necropolis (excavation 1983). Unpaved street, terrace-walls in the south and funerary monuments (© Institut für Klassische Archäologie LMU-München).

South of the street two terracing walls were discovered. The first runs along the southern limit of the street, supporting the terrain on which the funerary monuments and enclosures are located, the second closes the precincts at its south and might have functioned even as perimeter wall of an suburban private property (Fig. 13 and 14).

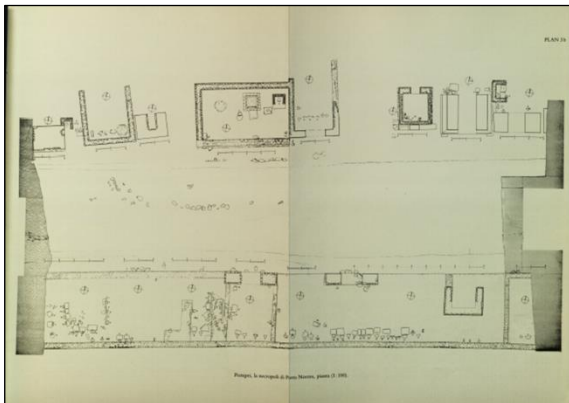


Fig. 13 Porta Nocera necropolis (excavation 1983), map.

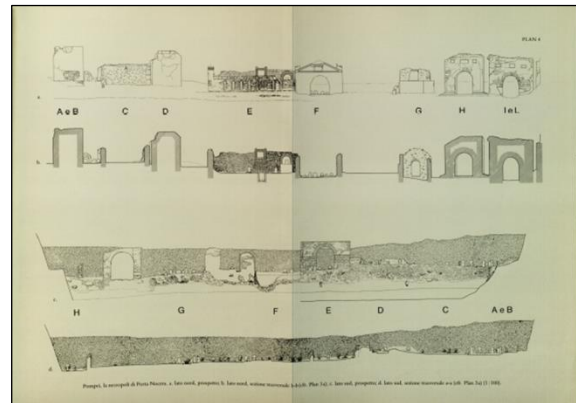


Fig. 14 Porta Nocera necropolis (excavation 1983), sections.

Generally the funerary precincts in this section of the necropolis do appear to be less "important", as proved by less sophisticated typologies of funerary monuments and the many prosopographical testimonies of libertine status. For this reason, chronology is difficult to determine but seems to coincide with the other sections excavated before. The excavation of 1983 was published in 1987 by D'Ambrosio and De Caro<sup>18</sup>.

Up to now, due to the modern topography of the whole area (from the edifices of the Prelatura in the east to the tourist path "fuori dalle mura" on the west) no more discoveries of further precincts or street sections are conceivable. However, in both of the still visible parts of the necropolis (excavation 1954 and excavation 1983) in different times archaeological trenches were conducted and are still ongoing. We have notice of exploration trenches done by Maiuri in 1959 (close to the monument of

<sup>18</sup> D'AMBROSIO – DE CARO 1987.

Aulus Clodius Iustus (= OS\_05) and to the one of Publius Vesonius Phileros (= OS\_23)). Other trenches were made by Salvatore Nappo<sup>19</sup>, furthermore some burials were excavated between 1996-1997 by Adele Lagi and Grete Stefani<sup>20</sup>. William Van Andringa and his team started the exploration of a series of burials in the necropolis in 2003<sup>21</sup>. Unfortunately the trenches made by Maiuri and by Salvatore Nappo are unpublished (Fig. 15).

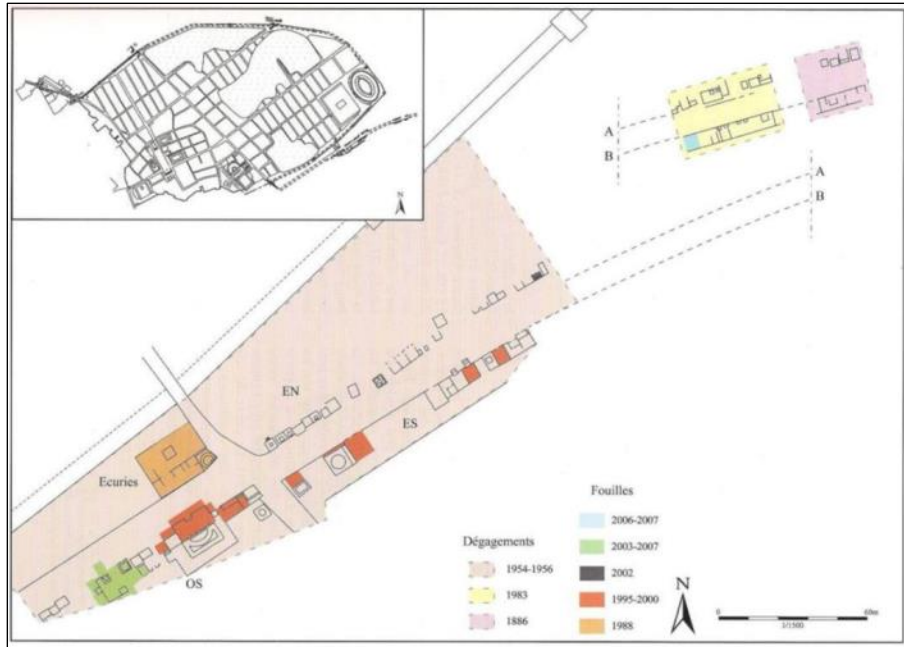


Fig. 15 Excavation and stratigraphical trenches in the Porta Nocera necropolis, after Van Andringa 2013, Fig. 20.

## C.2. Former restauration work

During the preliminary campaign of the PSPP in 2014 research on former restauration work was done by autoptic observation of all archaeological evidence on both sites (excavation 1954 and excavation 1983). Furthermore all photographs of the time of excavation conserved in the photoarchive of the Soprintendenza were examined. Another source of historic photographs of the necropolis is the photoarchive of the DAI Rom, including some 60 pictures of the western section of the necropolis taken between 1958 and 1979. In the future even the archives of written documents of the Soprintendenza Pompei and the Soprintendenza Napoli have to be consulted. This means long and patient work with the hope that precise information on restauration and conservation work made during the past 60 years might be found.

What comes out clearly from the examination of archival photographs is that already in the period of the excavations 1954-56 and the immediately following years considerable restauration work and first emergency interventions were done. In fact some photographs in the photoarchive of the Soprintendenza Pompei show a series of funerary monuments before (1954) and after (1959) restauration work. This documentation is integrated by a series of photographs of the DAI Rome taken in 1958 and in 1963.

<sup>19</sup> Mentioned in DE SPAGNOLIS 1994, p. 18 with fig. 10.

<sup>20</sup> GUZZO 1998, pp. 61-89; for the location of the trenches see the ground-plan on p. 58; some photographs taken during the excavation exist in the photoarchive of the Soprintendenza.

<sup>21</sup> VAN ANDRINGA 2013; see location of trenches see p. 27 fig. 20.

In many cases these restoration measures concern the **reconstruction** of parts of the stony or brick/tile - walls. Reconstruction work was done for example in the family tomb of the *Flavii* (07\_OS) [see photograph of 1954 (Inv. Pomp. D/93396) and of 1959 (A 1148 (neg. 8309 ex); the tomb ES\_13 [see photograph of 1954 (A 1415, = 8977) and soon after (E / 185)]; the tomb EN\_02 [see photograph of 1954 (D/93384) and of 1959 (A 1134)]; and the tomb EN\_20 – in this case there was done properly an anastylosis [see photograph of 1954 (E/193) and of 1959 (A 1135, = 8286)].

Along with the reconstruction work, evidently some interventions for **protecting the upper part of the monuments** were taken. Modern protection roofs on tombs EN\_34\_a and OS\_31 can be seen on 1963 DAI photographs (but the protection roof on tomb OS\_31 is not the same as visible today); the tomb OS\_09 with reconstructed architrave and roof, and the tomb OS\_23 with modern roof can be seen already on 1958 photographs, while the tomb OS\_13 on a 1970 DAI photograph appears still without reconstruction or roofing.

The articulated facades of ES\_09 and ES-11 and ES\_19 were sheltered **by modern tiles** already in 1954, while the vertical surfaces of their facades with the *dipinti* were protected by simple removable fabric panels or bast mats (see DAI Inv 63.1276 for the tomb EN\_14). The big glass panels installed in front of these facades are then visible on DAI photographs of 1974. The surface protection by bitumen and modern "cocciopesto" seem to be detectable already on photographs of 1972 for a series of EN-tombs. The historical photographs document even that some **emergency measures for the plaster work** had been done step by step as the monuments were excavated [see tomb EN\_12 (A 1323, = 8484) Soprintendenza photograph from 1954]. Even the ventilation trench on the north, west and south of the funerary chamber of the tomb ES\_02 seems to have been installed before 1963 [see photograph DAI].

As regards the eastern section of the necropolis excavated in 1983, two photographs in the in the photoarchive of the Soprintendenza Pompei document that **protection roofs** were installed during the excavation between 25.10.1983 and 11.11.1983 (Dp 3106 and Dp. 3163). These protection roofs seem to be the same that were still on site in 2014.

### C.3. Topographical maps and ground plans

According to the history of excavation for a long time only single planimetries of the four excavated sections of the necropolis existed. Furthermore, only the detailed ground plans of the monuments in the fondo Pacifico (excavation 1886), the fondo Prelatura (excavation 19552) and the eastern section of the necropolis (excavation 1883) had been published up to now. The ground plan of the western part (excavation 1954), drawn by Ciriaco De Lorio soon after the excavation in 1954-56 and conserved in the archives of the Soprintendenza, has never been published by its own.

In all probability the first overview plan that allows to understand the location and extension of the city-gate and the necropolis outside the walls, is a sketch published by Maiuri in its tourist guide "Pompei", edition of 1967 (Fig. 16)<sup>22</sup>.

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<sup>22</sup> The image is taken from A. Maiuri, *Pompeii*, 11. Auflage 1967 (= probably the unchanged or little changed re-print of the 6<sup>th</sup> edition from May 1955), p. 65. Thanks to Prof. V. Kockel for this notice and the scan of the map.



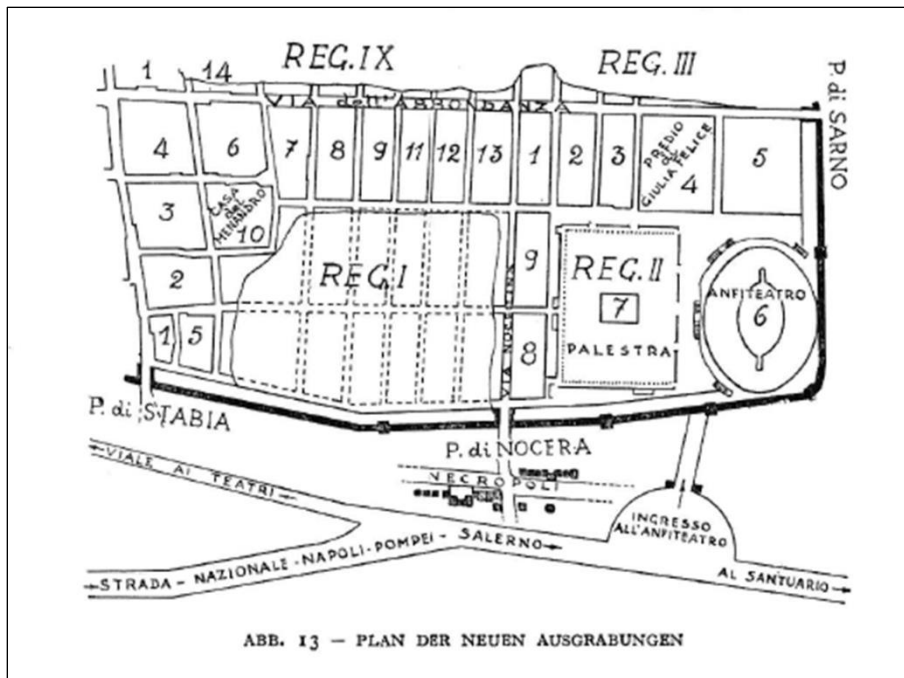


Fig. 16 Sketched location of the Porta Nocera necropolis (excavation 1954) in a tourist guide by A. Maiuri.

Thus, the topographical layout of the necropolis can be comprehended only in the city-maps published by the RICA-Group in 1984<sup>23</sup>; by Eschebach (edition 1993)<sup>24</sup> and the Consorzio Neapolis in 1994<sup>25</sup>. But it has to be noticed that all the three maps differ slightly each from another (Fig. 17 and 18):

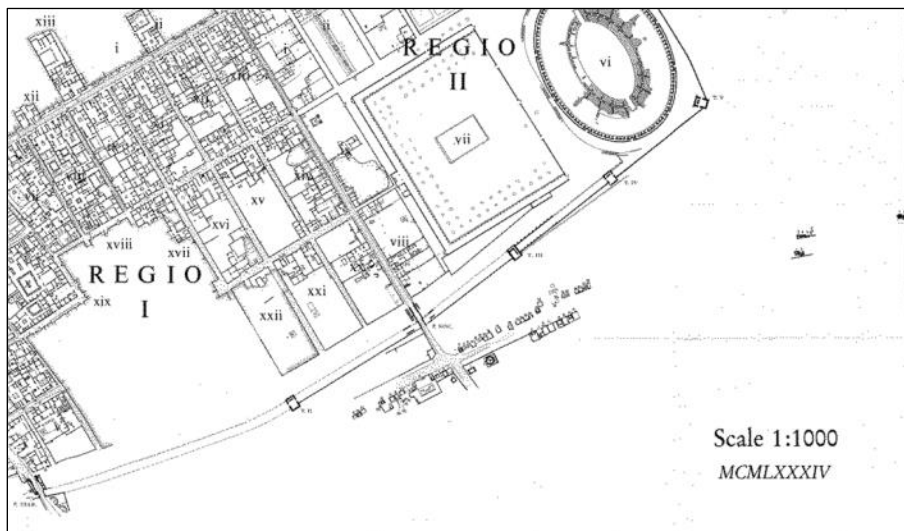


Fig. 17 Detail of the city map by the RICA-group (1984).

<sup>23</sup> RICA-GROUP 1984.

<sup>24</sup> ESCHEBACH 1993.

<sup>25</sup> NEAPOLIS 1994, table 18 and 19.

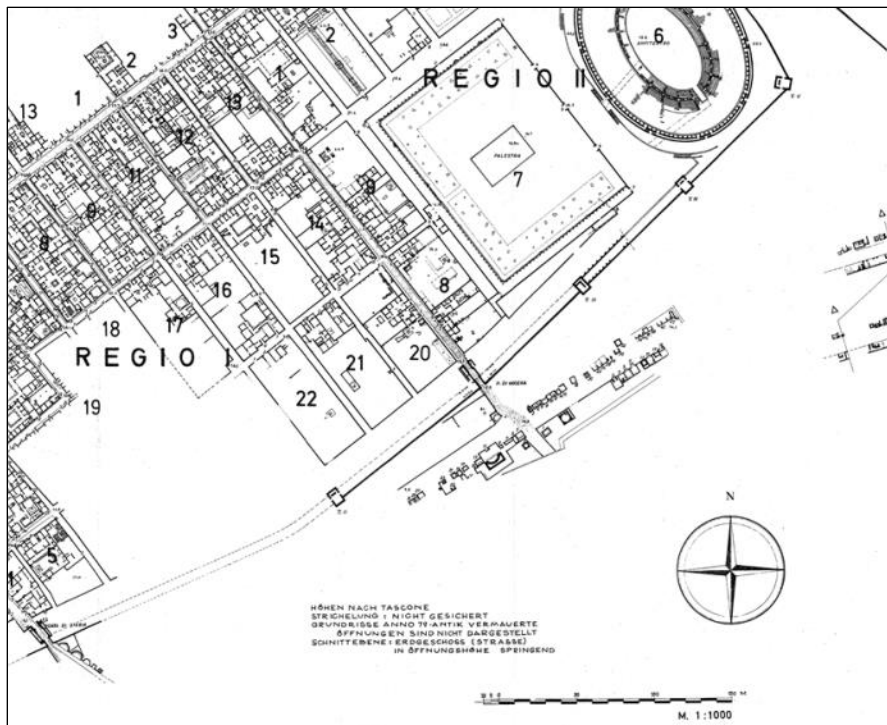


Fig. 18 Detail of the city map by Eschebach (edition 1993).

The map of the RICA-group shows the tombs excavated in 1954 (with numbering), the tombs of the fondo Pacifico and the fondo Prelatura, but NOT the tombs excavated by D'Ambrosio and De Caro in 1983. Geodetic points are lacking in the whole area.

The city-map of Eschebach includes the sections of 1954, 1983 and the fondo Pacifico (excavation 1886), but NOT the section of fondo Prelatura (excavation 1952). Numberings and some geodetic points are marked only in the section outside Porta Nocera.

The maps published by the consorzio NEAPOLIS (table 18 and 19 of volume III) are indicating a dense network of geodetic points as well as contour lines, modern edifices and streets outside the state property (see above Fig. 3). But this maps includes the section excavated in 1983 and only part (!) of the tombs excavated in 1954; actually all the tombs in the west of the funerary precinct of Eumachia (= OS\_11) are missing.

Besides these substantial differences, some details in the ground plans of RICA and Eschebach are different and/or not corresponding exactly to the actual architectural features observable on-site.

It has to be noted that the PSPP-team during the preliminary campaign in 2014 didn't have access to the new digital and georeferenced city-plan of the Soprintendenza Pompei.

#### C.4. Chronology of the necropolis

The bibliographical research has taken into account even the chronology of the funerary precincts of the still visible parts of the necropolis (excavation 1954 and excavation 1983) as proposed in the contributions of D'Ambrosio and De Caro. At this stage of the archaeological investigations by the PSPP the dating offered by these authors for each precinct has been completely adopted without further research on this subject. Nevertheless it had been considered useful to transfer the information into a ground map with various layers, corresponding to the main building-phases as proposed by

D'Ambrosio and De Caro. This work was done only for the section excavated in 1954, since here the epigraphic and prosopographic evidence is better.

The implementation of the chronology established by D'Ambrosio and De Caro in excel-sheets allows furthermore a first approach to the chronological distribution of the precincts. In fact the occupation of the necropolis (excavation 1954) seems quite equal over time, with a light increase during the last 25 years of city life (Fig. 19).

late sullan and caesarian period, untill the first augustan period (ca. 70-20 BC)	augustan period (ca. 27 BC - 14 AD)	julio-claudian period (c.a 20 BC - 54 AD)	last 25 years of city life (ca. 54 - 79 AD)	late neronian-flavian period, partly after 62 AD
14 / 59	14 / 59	10 / 59	15 / 59	6 / 59
24 %	24 %	17 %	25 %	10 %

Fig. 19 Chronological distribution of the precincts excavated in 1954 (after D'AMBROSIO – DE CARO 1983.)

As pointed out before, presumably only a few of the funerary monuments seem to have been built before the rearrangement of the city-gate and the streets. This urbanistic layout survived then – besides the overlay by debris after the earthquake of AD 62 – until AD 79. Without further research the period of this important urbanistic intervention cannot be established exactly. Maybe it took place only during the second building-phase of the necropolis, i.e. during the augustan period. However, in this context it seems noteworthy that - according to the chronology of D'Ambrosio and De Caro – in the entire area the North side of the street (tombs with the EN abbreviation) was occupied by constructions only from the Augustan period onwards (Fig. 20-25).

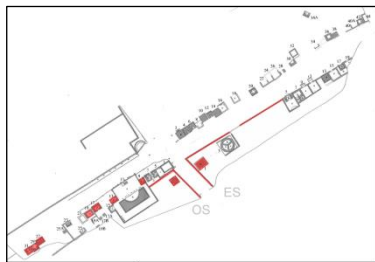


Fig. 20 Late sullan period, untill the first augustan period (ca. 70-20 BC).

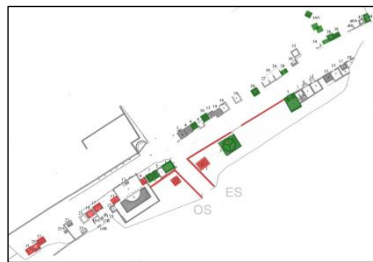


Fig. 21 Augustan period (ca. 27 BC - 14 AD).

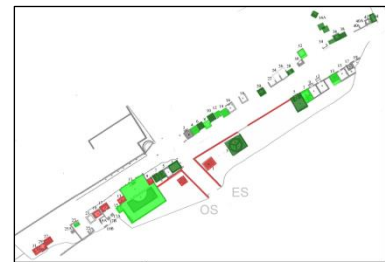


Fig. 22 Julio-claudian period (ca. 20 BC - 54 AD).

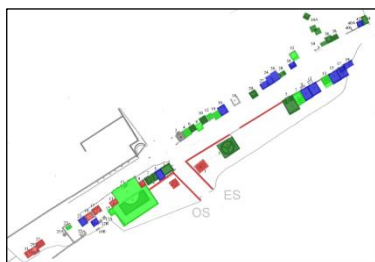


Fig. 23 Last 25 years of city life (ca. 54 - 79 AD).

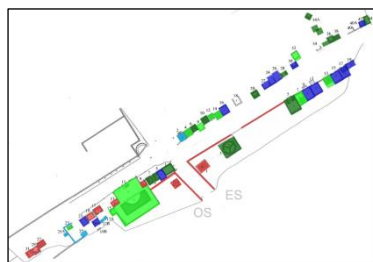


Fig. 24 Late neronian-flavian period, partly after 62 AD.

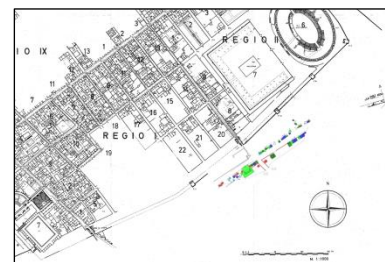


Fig. 25 Chronological distribution matched on the Eschebach-map.

For the future, in a step by step revision of the former bibliography, the comparison with the results of the stratigraphic excavations by the Van Andringa - team, as well as with the results of the geophysical campaign made by IBAM-CNR, precisions for single monuments and new hypotheses on

the chronological occupation of the necropolis and the development of the whole area can be expected.

#### D. Archaeological investigations on-site

The archaeological survey conducted by the author from 25 September to 11 November 2014 in the necropolis did produce a detailed archaeological documentation.

Once a uniform terminology was established in collaboration with Dr. Albrecht Matthaei, every funerary precinct was analysed considering the categories "typology", "building materials", "construction technique" and "mobile items". Even the absolute and relative chronology as proposed by D'Ambrosio and De Caro was enclosed in this inventory. All data are registered in excel-sheets and are therefore easy to be analysed, combined or implemented in databases.

Furthermore three glossaries with brief descriptions and significant illustrations of the site-specific building materials, construction techniques and monoliths were created.

##### D.1. Typology of the funerary monuments

The typology of the archaeological items was established by using a deductive method. In fact the categories were defined on the basis of the archaeological evidence in the two still visible sections of the necropolis (excavation 1954 and excavation 1983). The categories are intentionally rough reflecting substantially the most evident formal-architectural characteristics. They may be subdivided for further analyses.

Actually the necropolis counts 73 **funerary precincts**. The total data-entry in the excel-sheets amounts to 90 records, as terrace-walls, property- or division-walls and other architectural features are also documented. The 73 funerary precincts include 39 **funerary monuments** (33 are free standing monuments, six of them present an enclosure wall near to the monument), 15 **enclosures** – that means the burials are delimited by simple perimeter walls - , 12 **enclosures with** an architectural designed **façade** and six **precincts without architectural elements**, where the property limits are indicated by *cippi* (Fig. 26).

TYPOLOGY								
funerary precinct	others	immobile items					particular immobile items inside/close to the precinct	
		funerary monument	enclosure	enclosure + facade	"concessione" (precinct without architectural elements)	unclear (partially excavated)	funerary chamber	others
73 / 90	17 / 90	39 / 73	15 / 73	12 / 73	6 / 73	1 / 73	9 / 73	6 / 73
81 %	19 %	53 %	20 %	16 %	8 %	1 %	12 %	8 %

Fig. 26 Typological division of the precincts (excavation 1954 and 1983).

In total the funerary chambers in the necropolis amount to nine, seven of them are incorporated in funerary monuments. The other two can be found in the "enclosure with façade" OS\_07 and the "enclosure" ES\_07. This latter one and the funerary chamber in the monument EN\_02 are semi-hypogaea.



## D.2. Building materials

For each funerary precinct as well as for the terrace- , property- or enclosure - walls the building materials were recorded on site. What will be presented below is the analysis of the full data-set of 90 records, detecting the total distribution of building materials in the necropolis (Fig. 27). This means a purely numerical evaluation, in which typology is not considered (the percentages are once without sporadic use, once including materials only sporadically used in the single precincts).

OVERVIEW BUILDING MATERIALS								
lava	travertine (calcareous tufa)	brick	grey tuff	red cruma	limestone	others	black cruma	yellow tuff
78 / 90	43 / 90	30 / 90	15 / 90	4 / 90	3 / 90	5 / 90	0	0
87%	48%	33%	17%	4 %	3 %	5 %		
including sporadic use:								
78 / 90	47 / 90	33 / 90	19 / 90	12 / 90	6 / 90	5 / 90	0	0
87 %	52 %	37 %	21 %	13%	7 %	5 %		

Fig. 27 Total distribution of building materials (excavation 1954 and 1983).

What comes clearly out is that Lava is the most common building material in the necropolis, followed by travertine (the so called Sarno limestone), and brick or tiles. Less common are grey tuff, red cruma and white limestone (see Annex 3, glossary of building materials). "Others" means sporadic materials as fragments of mortar, "cocciopesto" or ceramics, used in some precincts (enclosures) for earthquake-repairs after 62 BC. Marble is not recorded in this list because it should be treated more as architectural decoration than as building material.

Consequently in the necropolis almost all typical building materials used over centuries at Pompeii are represented. What is missing of course are the so called pappamonte and the "lava tenera", which generally do not occur in the city as building materials after the 4<sup>th</sup> century BC.

Instead much more surprising is the complete absence of yellow tuff. The yellow tuff is not a local litho-type. The most important deposits can be found in the Naples area (phlegraean fields)<sup>26</sup>. But it was introduced as building material at Pompeii after the colony. For its characteristics, the yellow tuff is used mainly in *opus reticulatum* or *opus vittatum mixtum* walls. Its use remained sporadic almost until the middle of the first century AD. It is used primarily in public or somehow bigger building-projects. But we do have archaeological evidence for its use in funerary monuments in the other pompeian necropoleis, thus its absence in the necropolis close to Porta Nocera seems noteworthy. Maybe future investigations and comparison-work might help to formulate hypotheses.

## D.3. Construction techniques

During the archaeological survey the construction techniques of each funerary precinct, including the terrace- and property walls, was recorded. Like in other architectural structures, also in the funerary

<sup>26</sup> On this and other building materials of Pompeii KASTENMEIER ET AL. 2010 with former bibliography.

monuments and enclosures frequently more than one technique is combined during construction work. Besides the construction techniques, the data-entry contains case by case the building materials selected for the execution of the different techniques. In addition even the exact position of where one or another technique was used, has been recorded (for example: corners, façade, arches). Thus the excel-sheet might be a quite complete working instrument.

What will be presented below (Fig. 28) is the analysis of the full data-set of 90 records, detecting the total distribution of the various construction techniques revealed in the necropolis.

construction techniques:					
<i>opus incertum</i>	<i>opus testaceum</i>	<i>opus vittatum</i>	<i>opus vittatum mixtum</i>	<i>opus reticulatum</i>	monoliths
79 / 90	24 / 90	16 / 90	9 / 90	1 / 90	32 / 90
89 %	27 %	18 %	10 %	1 %	35,5 %

Fig. 28 Total distribution of construction techniques (excavation 1954 and 1983).

As pointed out formerly for the building materials, even the construction techniques detectable in the necropolis are the common ones for the period, means from the foundation of the colony in 80 BC to AD 79<sup>27</sup>.

The majority of the monuments and enclosures consist in *opus incertum* facing an *opus caementicium* core, with corner reinforcements in other techniques. Frequently the reinforcements of the corners of the funerary monuments are in *opus testaceum*, a technique that for this purpose at Pompeii, especially in the private architecture, but even in the minor architecture of territory (*villae rusticae*) is less common. Otherwise the corner reinforcements are in *opus vittatum* or, less frequent, in *opus vittatum mixtum*. Consequently most of the architectural structures consist in large part of small-dimensioned building materials, which means easy supply and economy of the building site.

From the nature of the funerary monuments as stand-alone buildings with aesthetic and especially with representative demands, thus from the sculptural appearance of the funerary monument itself, results moreover the relatively frequent use of large stone blocks ("monoliths").

The blocks are sometimes used for visible and decorated cornices, usually for the facings a vista of the base/podium or the entire monument. In the latter case the architectonical structure consists in an *opus caementicium* core faced with orthostats. Even if the utilization of large stone blocks is clearly an economic effort for the tomb-owners – others and more specialised craftsmen are needed – in the necropolis the most prestigious material for facings (i.e. marble) seems almost lacking (anyway one must consider that in the second order of some funerary monuments materials may have been spoliated after AD 79). Generally the cornices and facings are in lava, white limestone or grey tuff. Apart from the less prestigious litho-types, the monoliths a vista however are part of the aesthetic equipment of the funerary monuments just like the columns, capitals and statues.

<sup>27</sup> From the wide bibliography on roman and pompeian construction techniques can be cited here only a few examples: overviews: CARRINGTON 1933; JOHANNOWSKY 1976; *opus caementitium*: RAKOB 1976; COARELLI 1977; *opus vittatum mixtum*: FRÖHLICH 1995; *opus testaceum*: STEINBY 1979; WALLAT 1993; COARELLI 2000; DESSALES 2011; COARELLI 2013 (especially for the distinction of the two types of corner reinforcements, present even in the necropolis); *opus reticulatum* TORELLI 1980.

In the contemporary private architecture inside the city monoliths with this accentuated aesthetic and representative function are nearly unknown. In fact, the comparable use of *opus quadratum* for the facades of the Pompeian houses does generally belong to an earlier urbanistic phase, i.e. the samnite period.

#### **D.4. Mobile items**

Another important objective of the archaeological survey during the preliminary campaign, was to create a checklist for the evaluation of all the mobile items that are conserved on site (in 2014). The mobile items comprehend all features that are no architectural structures and therefore "sealed" to the ground. If we match the information from the excavation diaries, the archive-photos, the publications of 1983 and 1987 by D'Ambrosio and De Caro with the current conditions, it's evident that these items are actually "mobile".

At the present stage of the investigations the relative excel-sheets include the *cippi*, the *columellae*, the tomb slabs, urns, statues, capitals and "others". Considering the short time available during the preliminary campaign, the procedure was as follows: For every funerary precinct the mobile items as described in the publications of D'Ambrosio and De Caro were reviewed on site and their presence or absence today, was registered in the excel-sheets. Obviously even the original inventory number of items was listed. This kind of controlling between the status published in 1983 (western section) and in 1987 (eastern section) and the current state in 2014 was done systematically for all precincts in the case of *cippi*, *columellae*, (visible) tomb slabs, statues and capitals. Any example of precinct with missing mobile items was photographed.

What was not done is to search the missing mobile items in the archaeological magazines or to look for notices in other publications than the two of D'Ambrosio and De Caro. However for facilitating future research in the magazines all inventory numbers indicated by the authors have been transferred in the excel-sheet.

A first numerical analysis for *cippi* and *columellae* that are at the moment not visible on site but described as once existing by D'Ambrosio and De Caro shows considerable differences: from 258 *columellae* described in the bibliography, 139 *columellae* are actually not visible: (= 54%), while from 41 *cippi* described in bibliography, six *cippi* are actually not visible (= 15 %).

For future conservation and restauration work on the necropolis there is an absolute necessity to continue the investigations on the mobile items, search for the current location of these items in the magazines, do research on the original context of statues, capitals and other architectural elements, and – obviously – to include them in the program of preservation of the necropolis.

#### **E. Proposals for future investigations**

With the archaeological survey on site and the bibliographical and archival research on the necropolis a solid basis for future research was created. All data at the moment available were entered in excel-sheets. This systematic recording might be the starting point for a more sophisticated database and/or the implementation of information in a GIS.

The study of the building materials used for the ancient constructions (excavation 1954 and 1983) can be considered completed. Further research on the construction techniques instead is recommendable.

In particular, the confrontation with the other Pompeian necropoleis is absolutely necessary. Furthermore the study of the Roman necropoleis and single funerary monuments around the Gulf of Naples will be helpful for determining the construction-process of the tombs. Analogies and comparison on a local and regional scale regarding the epigraphic and prosopographic material may contribute to a more precise dating of the single monuments. The chronological development of the necropolis in fact has to be sharpened, and this – as pointed out – goes hand in hand with future topographical and geophysical investigations.

Since the topography of the whole investigation area is complex and underwent substantial changes by anthropogenic activity from the foundation of the city of Pompeii in the 6<sup>th</sup> century BC up to modern times, a detailed research agenda on this subject should be developed. Crucial for every investigation on the topography of the necropolis, the streets, the possible links between the four excavated sections and the other necropoleis of Pompeii, as well as on the relation of the Porta Nocera necropolis with the southern *suburbium* is a new topographical site map, suitable for 3D modelling.

What has to be continued in the future is the archival research on former restauration work as well as on any former regulatory intervention by the Soprintendenza in the necropolis. All information on previous restauration work should then be implemented in the existing excel-sheets.

As regards forthcoming conservation and restauration work in the necropolis there is an absolute necessity to continue the investigations on the mobile items, search for the current location of these items in the magazines, do research on the original context of statues, capitals and other architectural elements, and – obviously – to include them in the preservation program.

## **F. Bibliography (up to December 2014)**

BIELFELDT 2007

R. Bielfeldt, Der Liber-Tempel in Pompeji in Sant'Abbondio. Oskisches Vorstadtheiligtum und kaiserzeitliches Kultlokal, RM 113, 2007, 317-371.

CARRINGTON 1933

R. C. Carrington, Notes on the Building Materials of Pompeii, JRS 23, 1933, 125-138.

COARELLI 1977

F. Coarelli, Public building in Rome between the Second Punic War and Sulla, Papers of the British School at Rome, 45, 1977, 1-23.

COARELLI 2000

F. Coarelli, L'inizio dell'opus testaceum a Roma e nell'Italia romana, in: P. Boucheron – H. Broise – Y. Thébert (Hr.), La brique antique et médiévale. Production et commercialisation d'un matériau (Actes du colloque international organisé par le Centre d'histoire urbaine de l'École normale supérieure de Fontenay/Saint Cloud et l'École française de Rome, Saint-Cloud, 16-18 novembre 1995) (Rome 2000) 87-95.

COARELLI 2013

F. Coarelli, Opus mixtum, in: F.M. Cifarelli (Hr.), Tecniche costruttive del tardo ellenismo nel Lazio e in Campania (Atti del Convegno Segni 3 dicembre 2011) (Espera, Roma 2013) 65-70.

D'AMBROSIO – DE CARO 1983



A. D'Ambrosio – S. De Caro, Fotopiano e documentazione della Necropoli di Porta Nocera, in: L. Vlad Borrelli (Hr.), *Un impegno per Pompei. Studi e contributi* (Milano. TOTAL, Touring club italiano, 1983).

D'AMBROSIO – DE CARO 1987

A. D'Ambrosio – S. De Caro, La necropoli di Porta Nocera. Campagna di scavo 1983, in: H. von Hesberg – P. Zanker (Hr.), *Römische Gräberstraßen: Selbstdarstellung, Status, Standard* (Kolloquium in München vom 28. bis 30. Oktober 1985) (München 1987), 199-228.

D'AMBROSIO 1993

A. d'Ambrosio, Scavo nell'ex Fondo Iozzino, *RStPom* 6 1993-1994, 220-221.

DE SPAGNOLIS 1994

M. De' Spagnolis, *Il Pons Sarni di Scafati e la via Nuceria – Pompeios*, Roma 1994.

DELLA CORTE 1911

M. Della Corte, Di un sepolcreto della necropoli sannitica di Pompei, scoperto presso Porta Stabiana, *NSc* 1911, 106-111.

DELLA CORTE 1916

M. Della Corte, Pompei. Necropoli sannitico-romana scoperta fuori la Porta di Stabia, *NSc* 1916, 287-309.

DELLA CORTE 1952-1970

M. Della Corte, *CIL IV Supplementi III, 4* (Berlin 1952-1970).

DELLA CORTE 1958

M. Della Corte, *NSc* 1958, 157-163.

DESSALES 2011

H. Dessales, La connaissance des roches et son application par les structores. Le cas pompéien, in: N. Monteix - N. Tran (Hrsg.), *Les savoirs professionnels des gens de métier. Études sur le monde du travail dans les sociétés urbaines de l'empire romain* (Journées d'études École française de Rome (Rome, 12 – 13 octobre 2009), Collection du Centre Jean Bérard 37 (Naples 2011) 41-63.

ESCHEBACH 1993

L. Eschebach (Hr.), *Gebäudeverzeichnis und Stadtplan der antiken Stadt Pompeji* (Köln et al. 1993).

FRÖHLICH 1995

T. Fröhlich, *La porta di Ercolano a Pompei e la cronologia dell'opus vittatum mixtum*, in: *Archäologie und Seismologie. La regione Vesuviana dal 62 al 79 D. C. Problemi archeologici e sismologici* (Colloquium Boscoreale 26-27. Novembre 1993), a cura di L. Jacobelli - F. Seiler (München 1995) 153-159.

GUZZO 1998

Pompei oltre la vita. Nuove testimonianze dalle necropoli (Catalogo della mostra Boscoreale (2 aprile – 31 maggio 1998)(Napoli 1998).

JOHANNOWSKY 1976

W. Johannowsky, La situazione in Campania, in: P. Zanker (Hr.), *Hellenismus in Mittelitalien* (Kolloquium in Göttingen vom 5. bis 9. Juni 1974) (Göttingen 1976) 267-299.

KASTENMEIER ET AL. 2010

P. Kastenmeier - G. Balassone - G. di Maio - M. Boni - M. Joachimski - N. Mondillo, The source of stone building materials from the Pompeii archaeological area and its surroundings, *Periodico di Mineralogia* 79 (special issue december), 2010, 39-58.

KOCKEL 1983

V. Kockel, Die Grabbauten vor dem Herkulaner Tor in Pompeji (Mainz 1983).

KOCKEL 1985

V. Kockel, [Rez.zu]: Un impegno per Pompei. Studi e contributi, *Gnomon*, 57, 1985, 545-551.

MAIURI 1960

A. Maiuri, Pompei - sterro dei cumuli e isolamento della cinta murale. Contributo all'urbanistica della città dissepolta, *Bollettino d'Arte* 1-11, 1960, 166-179.

MAU 1888

A. Mau, Scavi di Pompei. Sepolcri della Via Nucerina, in *RM* 1888, 120-138.

MEIER 1886

H. Meier, Aufdeckung von Gräbern in Pompeji, *Centralblatt der Bauverwaltung* VI. 46, 1886, 451-452.

NEAPOLIS 1994

E. Furnari (ed.), Neapolis. Progetto - sistema per la valorizzazione integrale delle risorse ambientali e artistiche dell'area vesuviana, vol. III Planimetria della città antica di Pompei (Roma 1994).

RAKOB 1976

F. Rakob, Hellenismus in Mittelitalien. Bautypen und Bautechnik, in: P. Zanker (Hr.), *Hellenismus in Mittelitalien* (Kolloquium in Göttingen vom 5. bis 9. Juni 1974) (Göttingen 1976) 366-378.

RENBURG 2004

Gil Renberg, The Living Among the Dead at Pompeii's Via Nucerina Necropolis, Paper held at the A.P.A. Conference 2004 in San Francisco (unpublished)

RICA-GROUP 1984

RICA-Group (ed.), *Corpus Topographicum Pompeianum*, vol. III The RICA Maps (Roma 1984).

SOGLIANO 1886

A. Sogliano, Pompei, *NSc* 1886, 334-337.

SOGLIANO 1887

A. Sogliano Pompei, *NSc* 1887, 33-40 and 452-458.

SOPRANO 1961

P. Soprano, Via Nucerina. Sepolcri di età romana, *NSc* 1961, 189-200.

STEINBY 1979

M. Steinby, La produzione laterizia, in *Pompei* 79, a cura di F. Zevi (Napoli 1979) 265-271.

TORELLI 1980

M. Torelli, Innovazione nelle tecniche edilizie romane tra I sec.a.C. e il I sec.d.C., in: *Tecnologia, economia e società nel mondo Romano* (Atti del convegno di Como 27, 28, 29 settembre 1979) (Como 1980) 139-162.

VAN ANDRINGA ET AL. 2013

W. Van Andringa et al., Mourir à Pompéi: Fouille d'un quartier funéraire de la nécropole romaine de Porta Nocera (2003-2007) Collection de l'École française de Rome 468) (Rome 2013).

WALLAT 1993

K. Wallat, Opus testaceum in Pompeji, RM 100, 1993, 353-382.