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SURVEY, ANALYSIS AND RELEVANT INTERPRETATION OF FURTHER INTERVENTIONS IN THE UNDERGROUND SITE OF *CLAUDIUM*

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Abstract
In the eighteenth century, the scholar Alberto Cassio studied the remains of the *Templum Divii Claudii* in Rome. The monument, dedicated to the great Roman emperor, had been started in 54 A.C. In the course of his field observations along the garden of the Passionist Fathers' monastery, where the *castellum* (a distributing reservoir) was situated, he spotted some well openings, dated back to the Roman period. According to Cassio, the wells were connected to an underground cisterns system, necessary to supply the huge Nerone's *lacus* (lake) and later on, the arena in the Flavian Amphitheatre. In the year 2005, the association Roma Sotterranea (Rome underground) has been carrying out, on behalf of the Rome's Archeological Superintendence, an investigation together with a topographic survey and mapping of the *Claudium* underground site, discovering sixteen wells dated back to the Roman period. This could lead to believe that after three centuries, Cassio's hypothesis turns out to be true. Marco Gradozzi has been investigating the site for a long time, producing this survey and some interpretations.
Keywords: Alberto Cassio, *Templum Divii Claudii*, ancient hydraulic works, Nerone's Lake.

Riassunto
Nel Settecento l'erudito Alberto Cassio studiò i resti delle sostruzioni del Templum Divii Claudii*, monumento realizzato a partire dal 54 d.C. e dedicato al grande imperatore romano. Perlustrando il giardino del monastero dei Padri Passionisti, luogo in cui era situato il* castellum *della derivazione neroniana dell'Acquedotto Claudio, il Cassio individuò in superficie le aperture pertinenti ad alcuni pozzi di epoca romana. Secondo Cassio i pozzi erano collegati a un sistema sotterraneo di cisterne, fondamentali per alimentare il gigantesco* lacus *di Nerone prima e l'arena dell'Anfiteatro Flavio poi. Nel 2005 l'associazione Roma Sotterranea ha effettuato per conto della Soprintendenza Archeologica di Roma il rilievo topografico dei sotterranei del* Claudium*, scoprendo ben sedici pozzi di epoca romana. A tre secoli di distanza l'ipotesi di Alberto Cassio potrebbe risultare più che mai realistica. Marco Gradozzi è membro dal 2005 dell'associazione Roma Sotterranea; nel 2014 si è laureato in Storia e Conservazione del Patrimonio Artistico presso la facoltà di Lettere dell'Università Roma.*
Parole chiave*:* Templum Divii Claudii*, antiche opere idrauliche,* Lacus Neronis.

In 54 A.D. Empress Agrippina decided to build a temple on top of the western spur of the hill (called Caelius), dedicated to the memory of her deceased husband, the emperor Claudius (41-54 A.D.). After the death of Agrippina (59 A.D.), and especially after the terrible fire of 64 A.D., her son Nero (54-68 AD) completely changed the area of the Palatine, the Velia, the Esquiline and Celio, turning this portion of the city into a huge urban villa (Domus Aurea). At the same time, Nero took on a branch of the Celio Aqua Claudia, placing its tank terminal near the S substructure of the Templum Divi Claudii [1]; also the E substructures were modified, incorporated into the new urban villa and transformed into nymphs and fountains [2].
Emperor Vespasian (69-79 AD) marked his reign with great urban transformations [3] that also involved the area of the Templum Divi Claudii (Fig. 1). On top of the platform (200 x 180 meters) the temple was finally built, while the W side was covered by gigantic substructures in travertine that we can still admire; Vespasian also restored the ancient route that, from the nearby street Caelimontana, combined the W substructures, headed towards the Valley of the Coliseum [4].
The advent of Christianity caused the dismantling of many pagan places of worship, and the Templum Divi Claudii was no exception. In the middle of the XII century, following the devastation caused by the mercenary forces of the Norman Robert Guiscard (1084), a monastery-fortress was built on the ruins of the substructures of the temple. The realization of this defensive structure was part of a larger project which had as its objective the control of the access roads to the papal residence of the Lateran [5]. In 1217, at the time of Pope Honorius III, the temple area was known in the ecclesiastical sphere as clausura Clodei [6]. From 1773 both the church of Sts. John and Paul and the monastery are managed by the PP. Passionists of St. Paul of the Cross (Fig. 2).
The SW subterranean environments beneath the Templum Divi Claudii are the result of centuries of tuff mining. The exploration of the environments has revealed some surprising aspects, such as the presence of wells in ancient times (partially cut from the quarry), some reservoirs and filling the hollow spaces with soil from other sites.

1) Frontin., LXXVI.
2) Colini, 1944.
3) Suet., Vespasiano, IX.
4) Prandi, 1953.
5) Krautheimer,1981.
6) Lanciani, 1985.

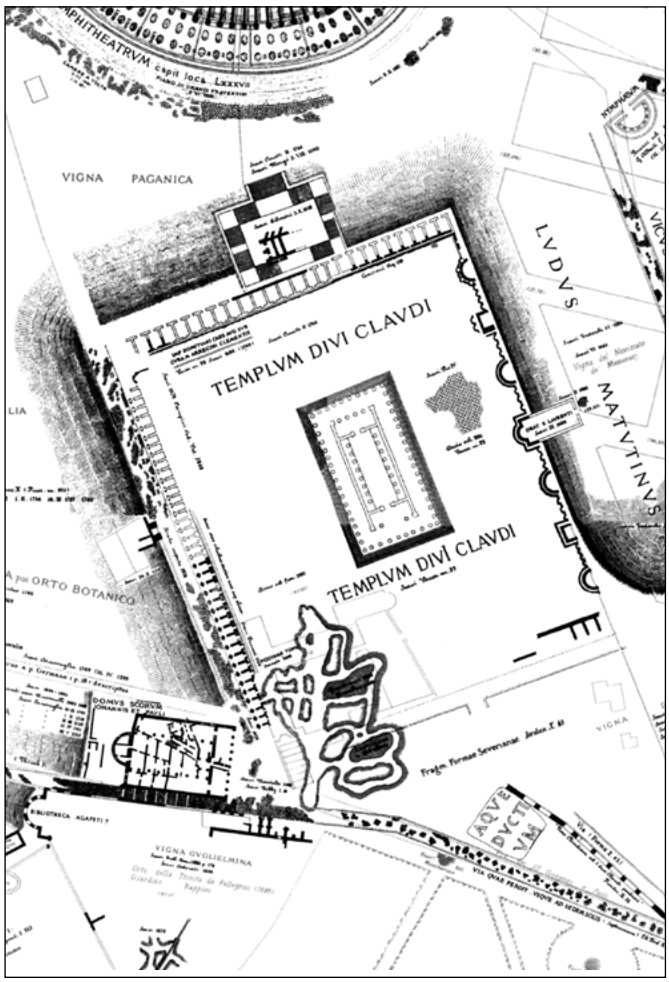


Fig. 1: plate XXIX, XXX, XXXV, XXXVI of the Forma Urbis (1901) by R. Lanciani (with graphic enhancement by Elettra Santucci).

Fig. 1: tavv. XXIX, XXX, XXXV, XXXVI della Forma Urbis (1901) di R. Lanciani (elaborazione grafica di Elettra Santucci).

In 2005 Association "Roma Sotterranea", contracted under the auspices of t he Archaeological Superintendency of Rome, completed the topographical survey of the subterranean area (Figs. 3 - 4).

In 1950 the architect Adriano Prandi restored the W substructures in travertine, the church and the monastery [7]. The entrance to the underground is within the substructures, at the fourth of the lower fornix (Fig. 5). At this point we find Vespasian' route, running along seven meters below the current street that was brought back by Prandi at the XII century level [8].

The spaces of the quarry are separated by pillars and walls of stone tuff spared by quarrymen. The height of each space (without soil) is of about 4 meters (Fig. 6).

The wells were cut from the quarry both horizontally and vertically (left in the Fig. 7). Most of the them show very particular characteristics: diameter of 90 cm. (three Roman feet) and "pedarole" (slots for hands and feet dug into the tuff). Dating them is difficult considering that wells of this type were built from the Republican to the Middle Ages (Fig. 8).

In the vaults beneath there are two water reservoirs that are still working (Fig. 9). The water analyzed is bacteriologically pure [9]. The hydrogeological map of the historical center of Rome [10] documents the presence of an aquifer under the Celio whose altitude (30 meters a.s.l.) is very close to the one noticed near the entrance of the underground (33 meters a.s.l.). The presence of a well in the vicinity of each basin is absolutely logical. Probably the water currently visible comes from both the aquifer and the irrigation of the garden above.

The well was entirely cut from the quarry, however, a tube four meters long, connected to a pump, shows how the monastery has continued, centuries later, to lift water from the aquifer below (Fig. 10). When the quarry was abandoned the underground areas of the Templum Divi Claudii were used as landfill for large quantities of soils and materials from other places (Fig. 11). During the restoration of the monastery (1950), the workers used the old wells to throw into the underground spaces huge quantities of soil and materials of various kinds, thus creating cones of garbage (Fig. 12).

7) Prandi, 1953.

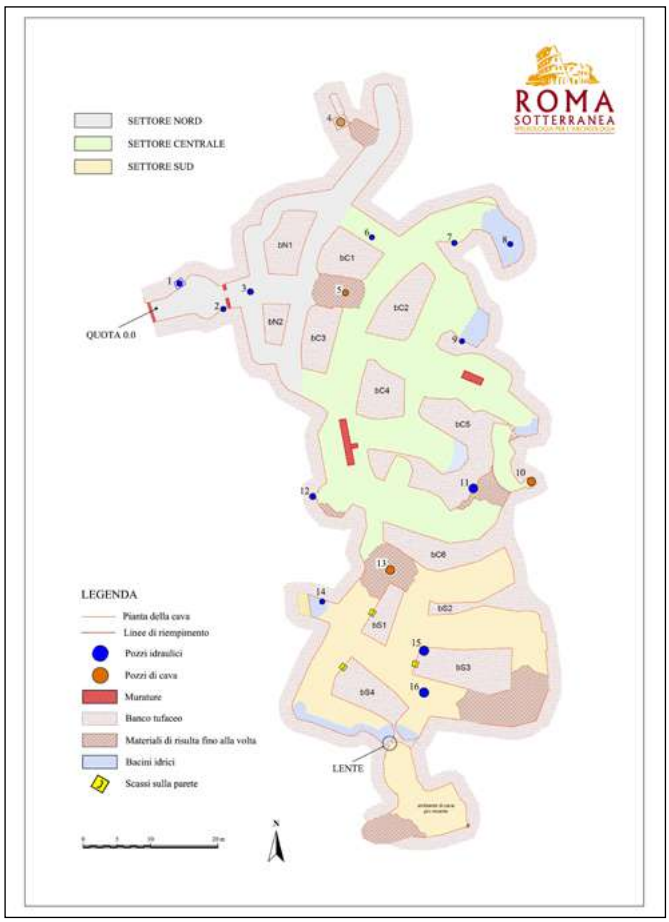
8) Prandi, 1953.

9) Analisi dell'acqua commissionata dall'Associazione Roma Sotterranea

10) Corazza & Lombardi, 1995

Fig. 2: order of the Passionist Fathers monastery (photo M. Gradozzi).

Fig. 2: il monastero dei PP. Passionisti (foto M. Gradozzi).



Dating the wells is a real enigma. Their construction may date back to the beginning of the Republic, before the creation of the aqueducts. According to another hypothesis wells may have been built at the time of Vespasian, for the maintenance of large underground tanks used to supply water for the naval battles (Naumachie) that took place in the Coliseum during the first years of its existence. Alternatively, the wells may have been made after the year 537, when the Ostrogoth king Vitige, besieging Rome, damaged the aqueducts that supplied the city, thus interrupting the water supply [11].

The dating of the quarry is uncertain. Its opening could be traced back to the late IV century, when the area near the temple was at the center of important changes: some domus of the Flavian era were buried, while Senator Pammachius built his place of worship, the titulus Pammachii (at a later stage the temple was transformed into the church of Sts. John and Paul). The Templum Divi Claudii was also being dismantled, in fact, one of its capitals was found in the basement of

11) Coates Stephens, 1999, p. 215.

Fig. 3 (left): subterranean plan SW of the Templum Divi Claudii by De Pace, et al. for Association Roma Sotterranea (with graphic enhancements by Elettra Santucci).
Fig. 3 (sinistra): mappa degli ambienti sotterranei SW del Templum Divii Claudii realizzata da De Pace e altri per l'Associazione Roma Sotterranea (elaborazione grafica di Elettra Santucci).

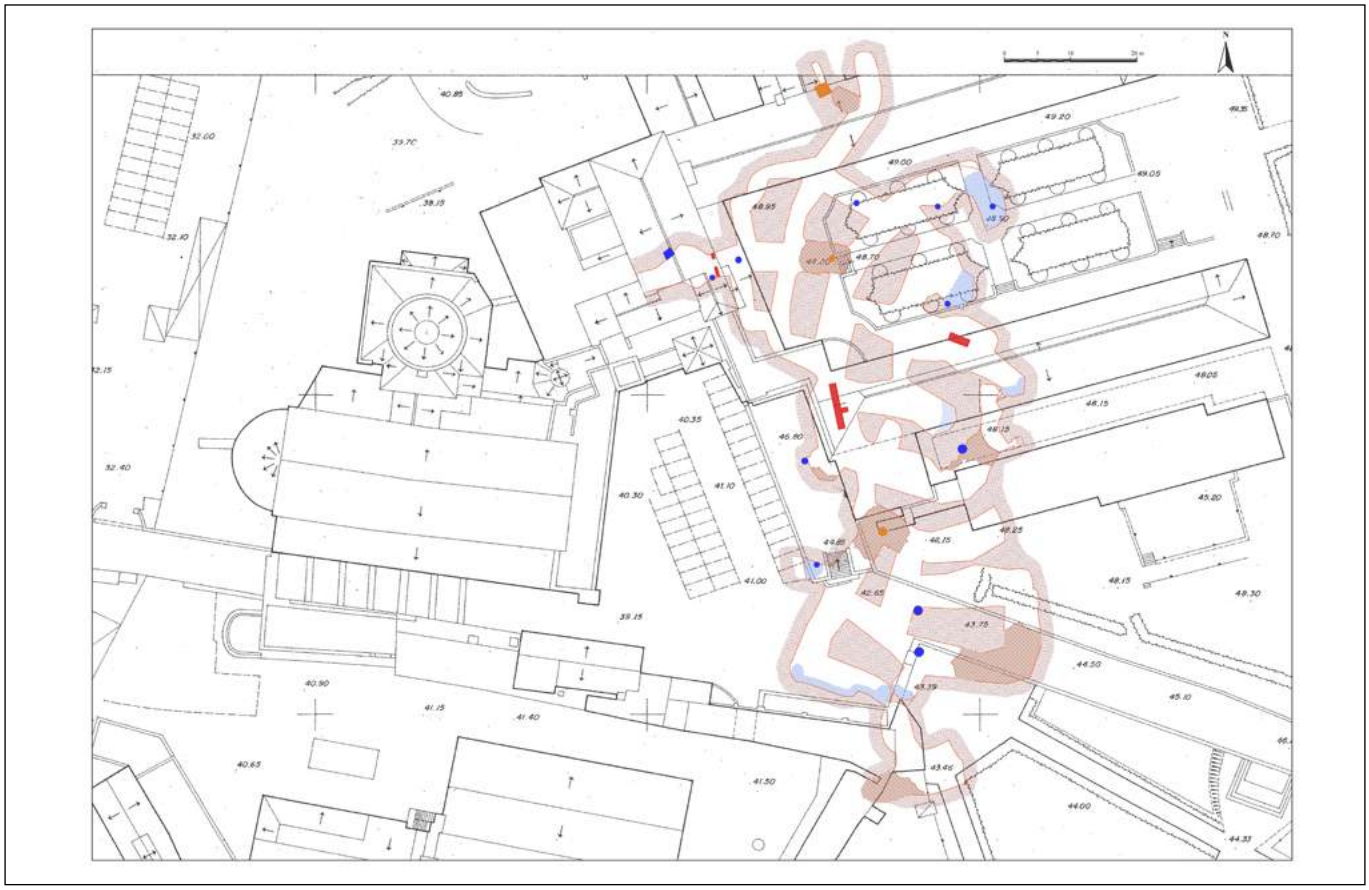


Fig. 4: subterranean plan of the Templum Divi Claudii superimposed a top a photogrammetric aerial view from the Ministero per i Beni Culturali, Plate 35 B (with graphic enhancements by Elettra Santucci).
Fig. 4: gli ambienti sotterranei del Templum Divi Claudii sovrapposti alla Carta Aerofotogrammetrica del Ministero per i Beni Culturali, Tavola 35 B (elaborazione grafica di Elettra Santucci).

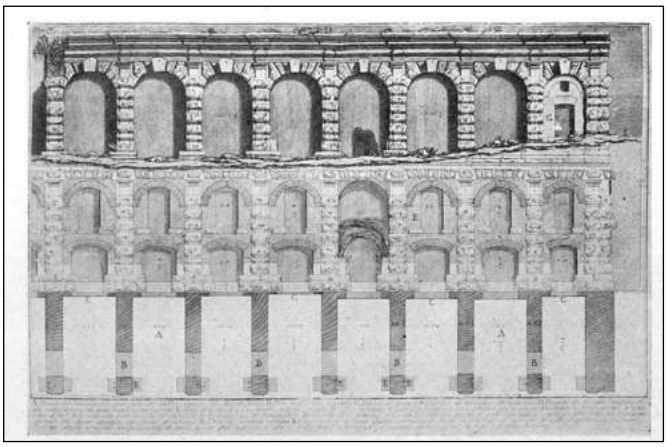


Fig. 5: reconstruction of the Elevation and Plan of the western substructures of the Temple of Claudius (G. B. Piranesi).
Fig. 5: ricostruzione del prospetto e della planimetria delle sostruzioni occidentali del Tempio di Claudio (G. B. Piranesi).

Fig. 7: well with a carved vertical foot-hold (photo M. Gradozzi).
Fig. 7: pozzo con pedarole tagliato verticalmente (foto M. Gradozzi).

Fig. 6: support pier carved by excavators (photo M. Gradozzi).
Fig. 6: pilastro risparmiato dai cavatori (foto M. Gradozzi).

Fig. 8: well with a carved horizontal foot-hold (photo M. Gradozzi).
Fig. 8: pozzo con pedarole tagliato orizzontalmente (foto M. Gradozzi).

Fig. 9: water basin (photo M. Gradozzi). *Fig. 9: bacino idrico (foto M. Gradozzi).*

the titulus [12]. Perhaps it was due to the transformation of the area that were filled in both the road Vespasian and the lower order of the W substructures of the temple[13]. A cadastral record of the year 1003[14] mentions a tuff quarry right in the area of the temple, while another hypothesis would date back to the time of the construction of the monastery-fortress (1150). The contracts with the miners document the activities of the quarry[15] until the XVIII century.

When did the filling of underground areas begin? At the beginning of the XIX century excavations began to remove from the Coliseum and the Roman Forum the soil accumulated for nearly 15 centuries. A vineyard near the monastery, the *Cornovaglia* vineyard, was purchased to dispose of the excavation soil. The sources of the time report that the soil coming from the Coliseum had raised the level of the vineyard of 18 meters [16]. In the absence of official documents, we may consider that the underground areas of the Templum Divi Claudii were used as a disposal place for the soil that the *Cornovaglia* vineyard was no longer able to contain (Fig. 13).

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12) Lanciani, 1985, p. 307.

13) Prandi, 1953, pp. 417- 418.

14) Allodi-Levi, 1885, documento 91.

15) Colini, 1944.

16) Pietrangeli, 1983.

Fig. 10: modern well pipe tapping the aquifer (photo M. Gradozzi).
Fig. 10: tubo moderno di captazione dell'acquifero (foto M. Gradozzi).

Fig. 11: branch line of the quarry blocked by construction debris (photo M. Gradozzi).
Fig. 11: braccio della cava riempito da terreni di riporto (foto M. Gradozzi).

Fig. 12: cone of debris deposited from monastery above (photo M. Gradozzi).
Fig. 12: cono di detriti provenienti dal monastero soprastante (foto M. Gradozzi).

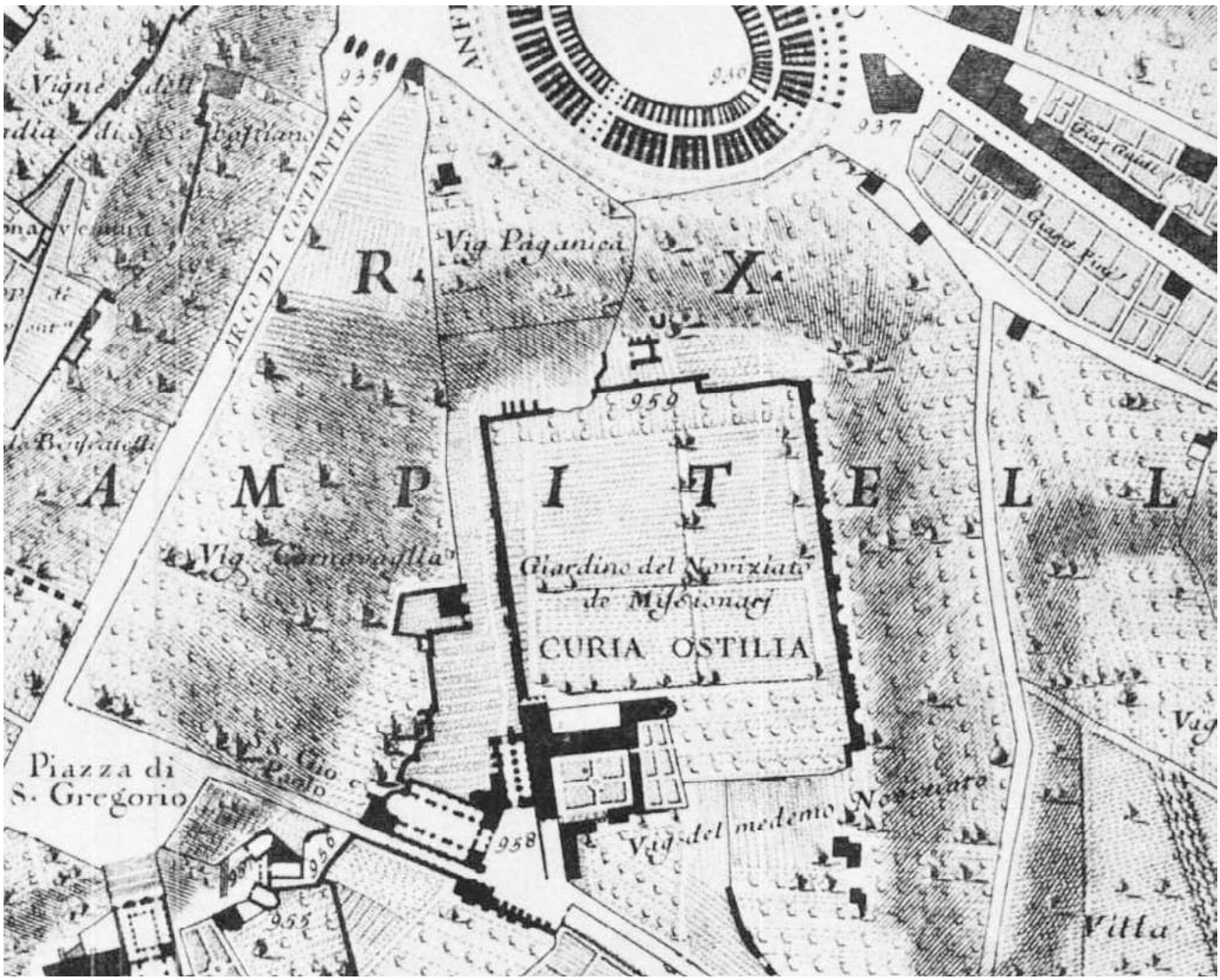

Fig. 13: the vineyard of Cornovaglia from La Nuova Pianta di Roma by G.B. Nolli (1748).
Fig. 13: la vigna Cornovaglia nella pianta di Roma di G.B. Nolli (1748).