

Vernacular architecture and archaeological remains. Direct links in the Phlegraean Fields in Campania (Italy)

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Abstract

The paper analyses some vernacular architecture typologies in the Italian region of Campania which are intimately linked to the archaeological remains of the architectures that preceded them. These vernacular architectures have been poles for many centuries for the organization and management of the territory and have contributed to the definition of the historical landscape of the Phlegraean area. The economic and political importance of the Phlegraean territory in Roman times is amply evidenced not only by ancient literary sources, but also by the wide presence of archaeological remains. Alongside the major Roman monuments of Pozzuoli, Cuma and Baia, noble villas, cisterns and funeral buildings have been developed throughout the area of the Phlegraean fields, especially along the Via consularis Puteoli Capuam which connected the flourishing port of Pozzuoli to the city of Capua. It is on these remains that, starting from the sixteenth century, rural farms have been developed often by re-using the archeological remains as foundations for the new buildings or by employing archaeological materials inside the building. This heritage, which is in a state of disuse and abandonment, is not yet fully known and catalogued and constitutes an important example of the local built heritage for the values of the construction tradition, materials and techniques that they preserve. The study is characterized by an interdisciplinary approach and will address the close relationship with the landscape of these settlements, the continuity of use and bioclimatic characteristics and materials which make this heritage a valid reference for sustainability and an ecological way to build and live. The essay will address some emblematic case studies that illustrate the characteristic values of this vernacular architecture, and their state of conservation analysed with respect to their structural instability and degradation in order to identify guidelines for the conservation and enhancement of this rural heritage.

Keywords: conservation; vernacular architecture; archaeology; Phlegraean Fields.

1. Introduction

The economic and political importance of the Phlegraean territory in Roman times is amply evidenced not only by ancient literary sources, but also by the widespread presence of archaeological remains. Alongside the major Roman monuments of Pozzuoli, Cuma and Baia, noble villas, cisterns and funeral buildings have been developed throughout the area of the Phlegraean fields, especially along the Via Consularis

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construction tradition, materials and techniques that they preserve. Rural dwellings, manor houses, agricultural and lookout towers, and rural farmhouses built on archaeological evidence are the main components of a full palimpsest strewn over the agricultural land of the Phlegraean Fields.

The close relationship with its landscape, the reuse of ancient and pre-existing constructions, the continuity of use, its typological and appropriately architectural technical-constructive specificities, are only some of the aspects that emerge from the analysis of such structures. In 2006, a research work conducted by a group of scholars of the University of Naples Federico II and funded by Regione Campania compiled an inventory of the farmhouses and rural dwellings located in the area of Pozzuoli, giving rise to a systematic process of knowledge dissemination and protection. This kind of activity was urgently needed because of the widespread conditions of degradation of this heritage, or, worse still, because of the unaware operations being conducted on it. Starting out from the results of that experience, this paper takes on the study of the rural architecture of the Phlegraean Fields, the area west of the city of Naples (Italy) characterised by its extraordinary geological and landscape characteristics, by thoroughly analysing all its connoting elements, in view of their conservation and protection. The Phlegraean Fields consist of many crater belts (Gauro, Astroni, Monte Nuovo, etc.), also transformed into lakes (Lucrino, Agnano, Fusaro, and Miseno) and residual strips of volcanic craters, such as Soccavo, Pianura, and Quarto, culminating on the spur of the Hermitage of Camaldoli. The localization of the largest Phlegraean rural dwellings follows the low-lying areas between the crater belts; these areas are best suited to extensive crops such as vines, which have been historically able to take advantage of the abundant presence of water, as well as of the presence of volcanic slag in the soil, an extraordinary element of fertilization throughout the entire *Campania Felix*. The heritage of rural architecture in the Phlegraean Fields has thus closely followed the structure of its agricultural territory: vine is the main crop, but the

presence of but the presence of fruit trees and woods is historically documented, especially of chestnuts, which provided wood for vine piling. However, in the case of the Phlegraean area, during the classical age historical farmhouses were also built along the routes of the ancient roads of communication of the *ager puteolanus*, between Rome and Naples: ‘via Consolare Campana’, *Consularis Puteolim Capuam*, and ‘via Antiniana’, *Puteolis-Neapolim per colles*. In the vicinity of these routes—connecting the port of Pozzuoli to Naples and, through Capua and the Via Appia, to Rome—a widespread rural urbanization arose ranging from agricultural warehouses, to *cisternae*, *columbaria*, funeral mausoleums, and *villae rusticae*. The nuclei of modern hamlets have subsequently been grafted on to the Roman ruins of these architectures closely connected to the purely agricultural vocation of the *Ager Campanus*. Later, the first structures of the farmhouse complexes were built without formal, material, and functional interruptions.

1.1. Casa dei comignoli in Baia

Inside these farmhouses, it is common to find ruins of Roman nymphs in *opus reticulatum* reused as *cellai* (cellars) or ovens. However, the ancient *spolia* continued to be used for purposes similar to those for which they had been originally built, with a functional continuity that recalls the phenomenon defined in the 1960s by Emilio Sereni as “inertia of the agricultural landscape”.

This is the case of *Casa dei comignoli* in which we found a rural architecture founded on the preexistence of Roman structure. The area of Baia was the seat of Roman patricians and emperors for the healthiness of the place. Evidence of these constructions can still be seen today and the remains on which the chimney house stands can be traced back to these types. In fact, it incorporates on the ground floor parts of what could have been a cistern of the Augustan age, probably dating back to the first century A.D. Although the wall structure still visible is of scarce dimensions, we can clearly read the *opus reticulatum* which allows us to date the construction to the Roman phase.

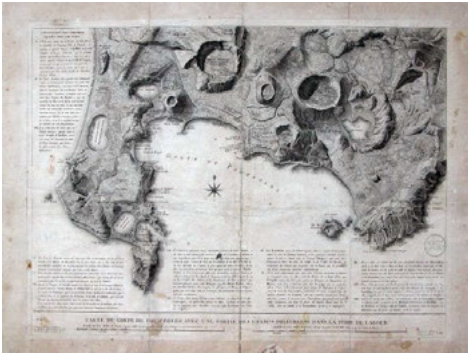


Fig. 1. F. La Vega, Map of the Gulf of Pozzuoli with part of the Phlegrean Fields , 1778-1780, Napoli, Biblioteca Nazionale



Fig. 2. Casa of Comignoli in Baia, Italy (Source: Angelino, 2002)



Fig. 3. Casa of Comignoli in Baia, Italy, the remains of a Roman structure in opus reticulatum (Source: Angelino, Bruno, Di Donato, Linguiti, Tomeo, 2018)



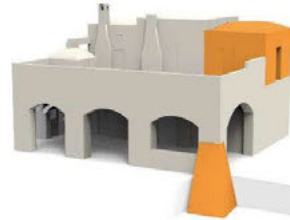
ROMAN ERA
The Cistern



XVII CENTURY
The Cellaio



XIX CENTURY
The rural house



XX CENTURY
Second floor volume



XXI CENTURY
The addition

Fig. 4. Casa of Comignoli in Baia, Italy, historical constructive phase (Angelino, Bruno, Di Donato, Linguiti, Tomeo, 2018)

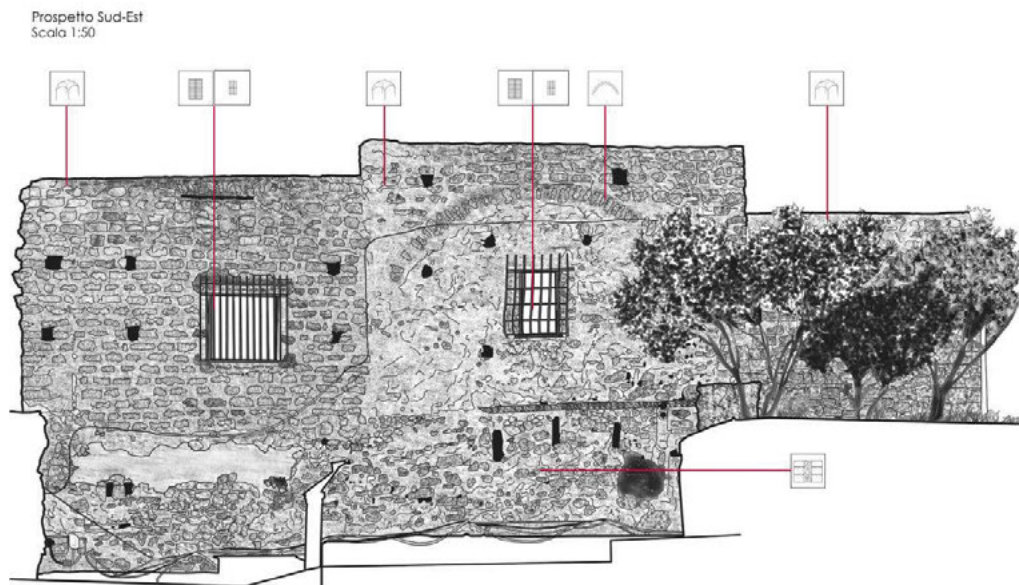


Fig. 5. Casa of Comignoli in Baia, Italy, Materic restitution of the state of conservation, north - east façade and section (Source: Angelino, Bruno, Di Donato, Linguiti, Tomeo, 2018)

After the eruption of 1538 the entire area of the Phlegraean fields was repopulated with an increase in the agricultural activity and the consequent development of a predominantly rural architecture. The house with the chimney pots can be traced back to this typology, which was built starting in 1670 with the construction of the two volumes on the ground floor with exposed barrel vaults, as is the case with the cellars in the area. In fact, from the maps of the time the presence of the building is clear, as well as in the *Map of Castiello de Baya* by Filippo Marinelli in 1734, representing the plan of the castle besieged by the Count de Marsillac. During the nineteenth century the building underwent further modifications to be used as a dwelling, as can be seen from the numerous views that portray the Castle of Baia. The terrace with the underlying arches was built and further volumes were added with vaulted roofs in wrought lapillus.

From an in-depth observation of the construction techniques through the material relief of the elevations and sections, it is clear that only two of the upper volumes can be dated to this period. With its acquisition by a noble family, the building takes the name of *Masseria Festinese* taking on, during the twentieth century, its current configuration with the addition of the third volume in the upper part. In the rural building, set of the film *Il Decamerone* by Pier Paolo Pasolini in the seventies of the twentieth century, there are still traces of coloured plaster, probably dating back to the nineteenth century. The building, abandoned in the second half of the twentieth century is in a serious state of neglect and decay that deeply undermine the preservation of the building's historical and architectural values.

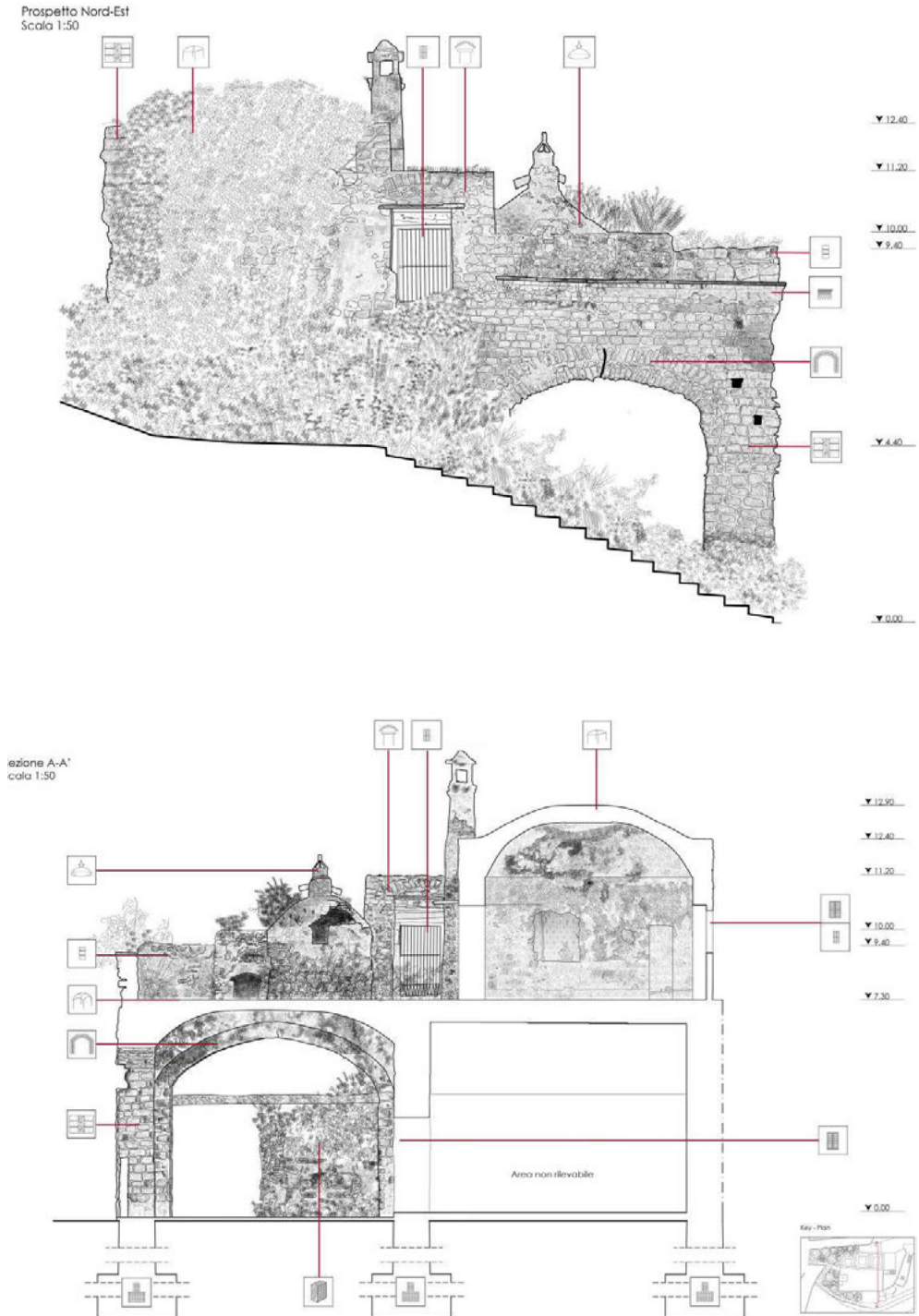


Fig. 6. Casa of Comignoli in Baia, Italy, Matic restitition of the state of conservation, south-east façade (Source: Angelino, Bruno, Di Donato, Linguiti, Tomeo, 2018)

1.2. Mirabella Farmhouse in Pozzuoli

The Mirabella farmhouse is located in the northern part of Pozzuoli, and relates to neighbouring rural context, in a radius of a couple of kilometers with other artefacts of the same type falling in a state of ruin of the same type, namely *Masseria Costantino*, the two *Masserie Negri* and the *Masseria Tramontano* or the *Ricetto di Forte* of which the lack of the various collapsed roof slabs is visible from above. Most of the farms are currently used for residential purposes but this has led to the detriment of the possible interpretation of their original conformation. For example to make use of the building, numerous transformations and additions have been made that do not respect the typological, morphological and technological characteristics that are no longer visible or verifiable. Different from the old farms are the rural houses built in times closer to ours. Many are single-celled, some consisting of only a couple of rooms on the ground floor, and many with two floors.

The rustic edifice is reduced to just the cell or it does not exist where the property is small and practises horticulture; in this case the house - rectangular in plan - is made up of one or two rooms, an oven, a hut for storage, a chicken coop or pigsty. It is reduced only to the cell where the cultivation of the vine is widespread and where the breeding of livestock has no significance. Alongside the single-celled houses, consisting of a single room with a fireplace and beds, there are also several houses with a first floor and a horse or cow stable. These have a kitchen, an oven (or fireplace) and the rustic structure on the ground floor, the bedroom or bedrooms on the first floor, which is accessed via an external staircase. The hut with sloping roof (with a masonry base) accompanies almost every rural house in the crater basins (Pisani, Quarto). It serves as a cellar for wood and fruit storage or, more rarely as a barn. The *Mirabella* farmhouse retains all the materials and traditional construction techniques. The main load-bearing structure of the floors is made up of rough or squared beams, while the secondary one is made up of wooden panels (*chiancole*

or *chiancarelle*) that rest on the beams, or squared rafters and a "boulder" or a plank of large boards nailed to the said rafters. The main beams are in raw chestnut, round and without squaring, resting on special recesses made in the load-bearing walls. These are arranged at a center distance of 80-90 cm, with the largest diameter alternately on one side and the other. The "*chiancarelle*" (90-100 cm) are placed in the normal direction to the beams and above them. A first layer of "*arriccio*" (ordinary mortar with pozzolana, common sand and slaked lime, mixed with various types of scrap) is prepared on the *chiancarelle*. The upper boulder is made up of a conglomerate of volcanic *lapilli*, lime and water. Typical of this type of rural farms are the vaults: The construction tradition handed down two types of vaults: the "*sopraterra*" one, built on shaped ground, and the "*sopralegnami*", made on wooden scaffolding. In the first case, the shaping of the vault is made with formwork positioned *ad hoc* in the environment surrounded by the perimeter walls so as to form, the supporting shape of the vault by beating. The stones – porous, light and suitably shaped are placed on this template with circular geometry. The second case consists of several ridges placed against the wall of their ends and supported by props. For the arched part there are other pieces such as *monachetti* and struts connected to each other which support the mantle of *chiancole* covered by rubble, so as to configure the boarding. The farm has a load-bearing wall structure in local yellow tuff, with irregular localized stone. From a volumetric point of view, as already mentioned, it has an ancient ground floor for purely agricultural and storage use (vaulted cellars side by side) and, in part, probably for breeding farm animals. According to the temporal aggregative hypothesis, the initial configuration provided, on the north side of the farm, an environment affected by the presence of open support arches that allowed (the) passage and acted as a threshing floor for the animals. The intervention saw the pairing of the first and third arches and an opening to ensure greater structural support. The kitchen with

chimney and main entrance portal has seen over time a cut of a part of the inclined pitch and the subsequent construction of new portions of walls in yellow tuff and roof slab in reinforced concrete with iron joists. Wear and tear has caused the concrete cover to fall in some places, revealing the reinforcements above. Two buttresses have also been added in this room made up of trapezoidal tuff for structural containment purposes. The current situation sees, due to the complete abandonment, a state of advanced ruination of the building. Large portions of roofing slabs have collapsed due to the state of decay of the chestnut beams which, yielding in some points, have caused the various collapsings and the subsequent growth of weed vegetation. As for other invasive superfetations, these can already be appreciated in the elevation of the west front, with the volumetric addition of a bathroom on the first floor and another on the ground floor to the southwest (probably both being introduced around the middle of the last century).



Fig. 7. Mirabella Farmhouse in Pozzuoli (Angrisani, Bisceglia, 2018)

2. Conclusion

The increased farming complexity of the Neapolitan area in comparison with other Italian areas is generated by a greater land fractioning (95 % of the agricultural lands do not exceed five hectares. Thus Phlegrean rural houses present a great variety of types, even in very small areas. It must not be forgotten that the fragmentation of large rural dwellings was dictated by the reduction in land property attached to them and, therefore, also by

the change in land use and the gradual substitution resulting in extensive cultivation with others requiring a smaller size property. The agrarian structure of the Phlegrean territory changes as crops change, with special adaptation to the climate, altitude, and to the land structure: the land fractionation and the fragmentation of the ancient nuclei increases, as well as the dispersion of rural architecture settlements, which continue to be isolated and to adapt their typology to the main crops, and hence to the agricultural processes that take place within them. Nowadays, the Phlegrean farms are in a general state of disuse and abandonment, due not so much to earthquakes or bradyseism as to their progressive abandonment, even by their owners. A heritage that has gradually lost its original function also due to wild urbanization and ecological conditions that make quality agriculture difficult is struggling to justify its conservation, although it still preserves its historical and constructive features and also in some cases its landscape value. Consisting of low and compacted buildings with no more than two floors, this heritage has withstood the earthquakes that have historically taken place throughout history in the area, but will not stand the lack of maintenance that today is gradually consuming the beaten elements, bringing down the wooden floors, pulverizing the masonry mortars subjected to crushing and deleting the traces of a building tradition that is disappearing on account of abandonment. In compliance with the Italian Law n. 378 of 2003 containing “Provisions for the Protection and Enhancement of Rural Architecture”, in 2006 the Campania Region issued a draft law “Regulations Regarding the Protection, Preservation and Enhancement of Traditional Rural Architecture”. In the absence of a full awareness of the values and elements necessary to safeguard this heritage, this law actually encouraged interventions that distorted the technical and anthropological specificities of these architectures, in the name of a misunderstood notion of ‘enhancement’. Studies like the present one aim to deepen and broaden our knowledge and dissemination of the values of

these rural buildings to the Heritage Communities so that they can be preserved in their characteristic values. At the same time, the choices that follow the principles of architectural restoration make it possible to enhance this heritage, guaranteeing its transmission from archaeological times to the future.

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