

Close to the volcan. Knowledge, conservation and enhancement of a Vesuvian vernacular heritage

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Abstract

In the area surrounding the slopes of the volcano, a historical network of rural architecture created by the known fertility of the Vesuvian soil can be identified. The terrain, rich in minerals due to the pyroclastic nature of the site, has since Roman times favoured the construction of agricultural structures, more or less concentrated in areas where the impervious nature of the soil allowed a profitable settlement for cultivation. The network of such examples of vernacular architecture, located within the boundaries of the Vesuvius National Park, is still visible today, albeit fragmented and in a state of abandonment. An ongoing research has made it possible to carry out an initial rigorous survey. These buildings are expression of distribution criteria in line with their function and represent the close relationship between settlement typology and territory. This peculiarity is strongly reflected in the constructive techniques and also represents the material evidence of a particular building savoir-faire passed down through the centuries. Materials taken from the site (e.g. lavas, lava foam, lapilli, pumice, etc.) are used and although there is no accurate quarrying of the stone, there is the technique 'a cantieri' with a strong mortar as a binder. The typology is diversified: from the small presidio to the building arranged on two levels, sometimes turreted, depending on the production and cultivation commitment. Unlike the traditional farms (masserie) located further down the valley, which have already been the subject of a considerable historiography, these cases of rural architecture located further up the slope have never been the subject of systematic survey. The contribution aims to focus on this almost unpublished heritage and to illustrate a methodology of integrated knowledge linked to the peculiarities of the volcanic site. The conservation of these vernacular architectures, in fact, plays a central role in the reading and understanding of the multidimensional values of the Vesuvius-Bay of Naples cultural landscape.

Keywords: Vesuvian vernacular architecture; rural landscape; constructive rural techniques; Vesuvius National Park.

1. Introduction: identifying the investigation area

The dispersed historical fabric of rural architecture, still visible today in the landscape of the Bay of Naples, represents the tangible relationship between the complex natural volcanic context and the anthropic action that has stratified over the

centuries. The coastal area, with the islands of the Gulf, together with the volcanic systems of the Campi Flegrei and Somma-Vesuvio, compose a geo-historical territory in which the vernacular heritage, despite the strong conurbation of the areas, is still recognisable, albeit with some variations and in association with the particular contexts in which the rural settlements themselves

developed. It is therefore a heritage that lets us read in the urban and natural fabric, a sort of patrimonial 'framework' that expresses the historical relationship between productive activities and the territory with strong volcanic connotation¹. These areas are universally known, even before the Roman colonization, to be fertile, as evidenced by the presence of pseudo-urban villas in the suburban parts of archaeological Pompeii and surrounding areas², indicating an important development of profitable agricultural activities. The repeated eruptions³ and the mantle of pyroclastic material stratified over the centuries have determined the peculiar Vesuvian agricultural fertility, which is at the origin of the socio-economic events of the foothills surrounding Somma-Vesuvius. These testimonies of material culture present some variations in typology and sometimes in construction, so that their morphology and the materials used fully reflect the geological nature of the site where they are located. Several studies, which have become the main reference in this field, have deepened the knowledge of the rural heritage of Campania and have focused over the years on some specific areas, investigating certain topics in depth⁴. The present contribution, the result of a research in progress, focuses instead on a scarcely investigated area in which there is a network of buildings, in some ways unprecedented, with precise peculiarities given the impervious articulation of the soil and the state of abandonment of the single architecture. The aim of the research is to identify them precisely, to examine the specific

features of their construction and their current criticalities, as part of a broader comparative study of the traditional rural constructions that have already been studied and fall within the same macro-area.

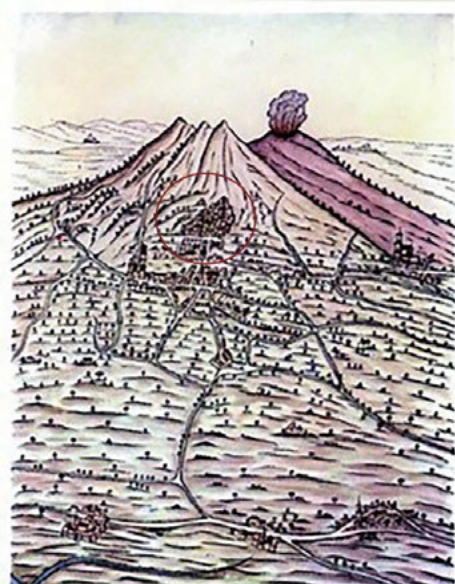


Fig. 1. *Somma e contorni* (XVII century, Archivio di Stato di Napoli). This view shows the Northern part of the volcanic site and the Monte Somma ridge with the scattering of buildings in the agricultural context. Study area circled in red.

The residual rural heritage of the Somma-Vesuvius volcanic system consists of a series of scattered buildings that have resisted both repeated eruptions and abandonment as a result of frequently unauthorised urbanisation processes, which since the 1950s have de facto decimated the cultivated areas. With respect to this area,

¹ See the cartographic documentation of the Piano Paesaggistico Regionale, with particular reference to cartography GD22_I; for the many aspects of the Bay of Naples cultural landscape, see the text edited by A. Aveta, B. G. Marino e R. Amore, *La Baia di Napoli. Strategie integrate per la conservazione e la fruizione del paesaggio culturale*, artstudio paparo, Napoli 2017, voll. I-II.

² Marino B.G., *La Villa di Diomede: restauri e ritrovamenti tra le muraglie di una casa pseudourbana*, in Greco G., Osanna M., Picone R. (a cura di), *Pompei: insula occidentali. Conoscenza, scavo, restauro e valorizzazione*, L'Erma di Bretschneider, Roma 2020, pp. 415-420.

³ Among the eruptions of the 20th century, the most incisive for the northern Vesuvian area was that of 1906. See Siniscalco C., *Istoria del*

Vesuvio e del Monte Somma con la descrizione delle principali eruzioni vesuviane dall'anno 79 e.v. fino alle recenti, Tip. della R. Accademia delle scienze, Napoli 1890.

⁴ See: Cennamo M. et al., *Le masserie circumvesuviane. Tradizione e innovazione nell'Architettura Rurale*, Fiorentino Art & Book, Benevento 2006; Gravagnuolo B., *Architettura rurale e casali in Campania*, Clean, Napoli 1994; Fondi M., Franciosa L. et al., *La Casa rurale della Campania*, Olschki, Firenze 1984; Pane R., *Campania. La casa e l'albero*, Montanino, Napoli 1961; Pane R., *Architettura rurale campana: con 53 disegni dell'autore*, Rinascimento del libro, Firenze 1936.

which concerns the area closest to the slopes of the volcano, the survey focuses on the settlements on the Monte Somma ridge (Fig. 1), the oldest volcano that gave rise to the best known, Vesuvius. In fact, it is precisely in this area that we find specific features that are of great importance for the typology of constructive technique, for the interconnection with the agro-agricultural aspects and, not least, for the characterisation of a landscape that is the object of potential enhancement processes.

2. Specificity of a singular heritage: settlement aspects

The buildings examined are located within the administrative boundaries of the municipality of Somma Vesuviana⁵, as well as in an area included in the Vesuvius National Park⁶. More precisely, our investigation area is located between the general oriented reserve (zone B) and the protection area (zone C), occupying the northern sector⁷. The territory here is characterised by significant transformations and alterations, but also by the presence of cultivated areas interspersed with long natural riverbeds (*alvei*) created by the outflow of volcanic lava which descending from the summit of the mountain with a steep slope reach the plain below, causing hydrogeological problems⁸. Numerous disused rural buildings are scattered along the furrow of the riverbeds, which are connected by inter-country paths (Fig. 2). In addition to the consistent slope of the mountainside, there is dense vegetation in some places - which differentiates this area significantly from the southern area on the slopes of

Vesuvius - to which is added a repeated lack of maintenance of the paths, making it difficult to reach the rural presidia, which in many cases are unknown even to the inhabitants of the area.

This circumstance also makes it difficult to georeference the buildings, and the plans of the authorities responsible for governing the territory (Vesuvius National Park and some municipal urban plans) do not indicate their presence. This lacuna is being remedied by integrating historical plans, georeferenced maps and localisation by means of drone surveys which, as can easily be deduced, provide data to be interpolated and verified due to the dense vegetation present.



Fig. 2. *Carta Topografica e Idrografica dei contorni di Napoli* (1817-1819). In this detail are indicated the fortified houses Fasano, Franci/Casillo and Scozio (Source: Nucleo Bibliotecario di Geografia, Università degli Studi di Napoli Federico II; graphic elaboration by Ragosta, 2022).

However, the presence of rural buildings is reported in some historical maps: in the *Carta Topografica e Idrografica dei contorni di Napoli* (1818-1819)⁹ and in those of the Military

⁵ For some historical information on Somma Vesuviana, see: Angrisani A., *Brevi notizie storiche e demo-grafiche intorno alla città di Somma Vesuviana con la bibliografia, cronologia, documenti, tavole geografiche ed illustrazioni*, Barca Ed., Napoli 1928.

⁶ The Vesuvius National Park has been instituted with D.P.R. of June 5th 1995. Besides Somma Vesuviana's territory it includes areas of twelve other municipalities: Ercolano, Torre del Greco, Trecase, Boscoreale, Boscotrecase, Terzigno, San Giuseppe Vesuviano, Sant'Anastasia, Ottaviano, Pollena Trocchia, Massa di Somma, San Sebastiano al Vesuvio.

⁷ Cfr. https://www.mite.gov.it/sites/default/files/archivio/normativa/piano_parco_nazionale_vesuvio2010.pdf Vesuvius National Park Plan - NTA

⁸ Simonetti R., *La bonifica e la sistemazione idraulica dei torrenti di Somma e Vesuvio*, Stabilimento Tipo-Litografico del Genio Civile, Roma 1912, p. 4; Coccozza G., *I torrenti del Somma*, in «Summana», n°16, Marigliano, settembre 1989.

⁹ *Carta topografica ed idrografica dei contorni di Napoli*, raised by order of HM Ferdinand I, King of the Kingdom of the Two Sicilies, by the Officers of the General Staff and by the Topographical

Geographical Institute dating back to the beginning of the last century, we can identify edifices and toponyms such as "masserie", "torrette" or more simply "case".

The studies conducted on historical rural architecture, as mentioned above - apart from the fundamental work of Benedetto Gravagnuolo, which has opened up the field to very interesting homogeneous geographical groupings¹⁰ - concern only certain geographical areas, and are generally oriented towards emphasising the typological aspect. In our case, therefore, the difficulty resides precisely in the absence of previous studies and specific bibliographical references: the limited research carried out at local level, of considerable usefulness, is therefore being supplemented with the collection of oral sources, to be cross-referenced with anthropological data and data relating to human geography and, in parallel, with those relating to building techniques and local materials, in order to obtain an adequate basis for comparative analysis, in order to achieve a greater degree of knowledge. In other words, from the point of view of method, we are aware that we are carrying out one of the «limitati "sondaggi" in un terreno ancora in larga parte da esplorare»¹¹, we are mapping data that could be considered homogeneous.

An early characterisation is that of the altitude of these 'mountain' rural settlements: shapes, dimensions and chromatic aspects are direct expressions of this particular landscape and its geology, distinguishing these buildings substantially from the large farms located on the lowlands. In fact, the latter,

situated in the area further down the valley, are developed according to wider and more complex architectural solutions: the rooms were used not only for the residence and preservation of the products, but also for their processing, with a planimetric layout generally in the form of a courtyard, occupying with the different rooms a rather large surface area, sometimes distinct between the production area and the living area¹² (Fig. 3).

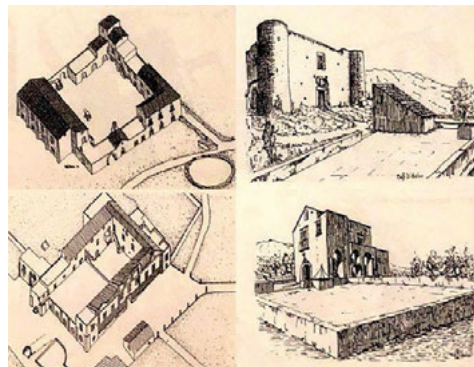


Fig. 3. Compositional schemas of two examples of masseria in the valley area and of the Scozio and Casillo fortified houses located in the upper area (Source: D'Avino, «Summana», n°64, p. 7).

The common feature of the rural buildings on the ridge of Monte Somma is a more compact and simplified shape, with a prevalent vertical development and exclusive use of lava material¹³. Moreover, the corners are often characterized by turreted elements, sometimes used for the insertion of the staircase¹⁴.

The function of these garrisons was generally that of the momentary conservation of the products collected, without prejudice to the residential function, more or less continuous¹⁵.

Engineers in the years 1817, 1818, 1819, drawn and engraved in the Topographical Office of Naples. Tavv. n 15. scale: 1: 25,000.

¹⁰ See Gravagnuolo B., *op. cit.*

¹¹ Gravagnuolo B., *op. cit.*, p. 9.

¹² D'Avino R., *Le masserie di Somma. Parte I: l'area orientale*, in «Quaderni Vesuviani», n°23, San Giorgio a Cremano, 1994.

¹³ This is what emerges from direct observation. For the classification of these types of rural buildings cfr. Gravagnuolo B., *op. cit.*, p. 15.

¹⁴ D'Avino R., *Le "torrette" sulla dorsale del monte nel comune di Somma Vesuviana*, in «Summana», n°46, Somma Vesuviana, settembre 1999, p. 2.

¹⁵ *Ibidem.*

3. «Masserie», «torrette» and «case»

Leaving aside a series of tower-houses and small constructions, reference will now be made to three buildings near the Ammendolara alveo. Visible also in the above-mentioned *Carta topografica e idrografica dei contorni di Napoli*, they correspond to the farms Fasano, Casillo and Scozio. These are located at different quotas and are concentrated in a more easily accessible area¹⁶. All of them are articulated on two levels to which is added the attic, a ventilated space with the function of drying the products of the earth¹⁷. The interior spaces of the levels below are small and essential, obviously aimed at a shelter for products, livestock and accommodation of settlers in a temporary manner. On the ground floor are developed functional spaces for agricultural activity, upstairs residences. Outside, in the areas of relevance, are still preserved several attached farm buildings - small in size - and other small structures, including spaces dedicated to the oven and the threshing floor, sometimes fenced. The first farmhouse that one encounters near the Ammendolara alveo is the Fasano (Fig. 4); it is a building of considerable dimensions, still close to the Somnese inhabited area. Its planimetric configuration is rectangular, with two levels and an attic with a single-pitch roof. In the corner between the north and east facades there is a slightly scarped turreted element, currently in precarious conditions. The main entrance (Fig. 5) is visible on the western façade, in which there are two access passages, to which correspond three openings on the upper levels: two on the first level and one in the attic. The masseria Casillo (Fig. 6) has an almost similar planimetric development, to which a rectangular body is attached; here the main front still preserves one of the two angular towers, which symmetrically defined the prospectus, at the center of which there is the main access, a rectangular space in correspondence of which, at the upper level a window opens

up. Above the access room there is a frame in which an epigraph¹⁸ attested the importance of these buildings in the framework of the productive organization of the nobility settled in the surroundings of Naples since the 17th century, with an increase of their presence in the Vesuvian area after the realization of the Royal Palace of Portici.



Fig. 4. Fortified house Fasano. View of the Western front with the two entries and the three windows (Source: Ragosta, 2022).

The Casillo fortified house, which visibly respects from a distributive point of view the differentiation of functions between the ground floor and the upper floor, is still surrounded by a series of smaller rural buildings.



Fig. 5. Fortified house Fasano, detail of the access to ground floor: note the masonry construction 'a cantieri' and the flat-tenting surface of the masonry section using brick elements (Source: Ragosta, 2022).

¹⁶ In the territory of Somma Vesuviana there are also other turreted buildings, among which are mentioned the Di Lorenzo turret, the Raia turret, the Cassano turret and the D'Avino turret. Ivi, pp. 4-8.

¹⁷ Ivi, p. 2.

¹⁸ D'Avino refers to what was written in the epigraphic engraving, also denouncing its theft. Cfr. ivi, p. 4.

A peculiarity is represented by the perimeter of the farmyard, which follows the shapes and sizes of pre-existing underground spaces, which some hypotheses date back to Roman times: these are barrel-vaulted cellars, reused with the same function¹⁹.

Finally, the fortified masseria Scozio (fig. 6), also with a rectangular plan, presents the entrance to the lower spaces on one of the two short sides, while the staircase, which leads to the upper floor with a large terrace, is grafted onto the northern facade. This is also surrounded by some small structures, among which one presents an interesting case of barrel-vaulted extrados coverage, hardly found along this side of Somma-Vesuvius. From the point of view of building techniques, the first remark that can be made is that in these three buildings there is almost no tuff, a stone which is widely used for the walls of the farms in the valley. The tuff is in fact used exclusively in the piers, in the setting of the windows and the arches of the vaulted rooms. The ribbed vaults are made of concretionary structure with small lava stone and mortar (Fig. 7).



Fig. 6. View of the fortified house Scozio; we can note here the presence of a terrace facing cultivated fields (Source: Ragosta, 2022)

The availability of volcanic material on site and the evident difference between the buildings in the valley and those in the mountains, the former reserved for a more comfortable stay, the latter almost as a support to the former in the agricultural and productive process, in line with a more sober morphology, is reflected in the wall fabric.



Fig. 7. Fortified house Fasano. Particular detail of the vaulting ceiling with mortar and small lava stone and arches in tuff ('spaccatelle') (Source: Ragosta, 2022).

"Scardoni" and "scheggioni"²⁰ (Fig. 8) alternated with lavas and "ferrugine", irregular and of different sizes, bound by a tenacious mortar, characterize the masonry texture, which is built in the form 'a cantieri' of which it is possible to recognize, in some places, the levelling surface with brick or stone elements of small thickness. Even if in the masonry structure there aren't visible any crossing stones, it is possible to catch a glimpse of a good graft between the stone elements. In some parts the covering plaster is still present, composed of lime and inerts of various naturally volcanic grain, while the floors, made of chestnut wood - essence still present in the area in the highest part of Monte Somma - reflect the traditional building composition with main non squared beams and secondary

¹⁹ In these hypogeal environments is testified the presence of mosaic flooring made of white limestone tiles. Cfr. *ibidem*.

²⁰ The stone masonry masters used to differentiate the two stones, using the term "scardone" to indicate the spheroidal stone components and the term "scheggione" to indicate those with the thinner and sharper end. Cfr: Califano L., *Poche riflessioni interessanti circa l'uso delle pomice vulcaniche nelle fabbriche*, Tip. all'Insegna del Diogene, Napoli 1851; Ragucci L., *Principj di pratica di architettura : ne' quali*

si espongono un'idea di descrizione di fabbricati, otto esemplari di misure per altrettante arti diverse e un dizionario de' vocaboli tecnici piu in uso presso i nostri artefici, Stamperia del cattolico di Francesco e Gennaro De Angelis, Napoli 1859; Di Stefano R., *Edilizia: elementi costruttivi e norme tecniche*, L'Arte tipografica editrice, Napoli 1967; Aveta A., *Materiali e tecniche tradizionali nel napoletano. Note per il restauro architettonico*, L'Arte Tipografica editrice, Napoli 1987; Cennamo M. et al., *op. cit.*

planking with the "panconcelli" or "chiancarelle"²¹ with lime and volcanic inerts (Fig. 9). The covering structures, as we can see, have a double pitch, supported by wooden trusses of simple palladian type and with a mantle of brick tiles. Rare are the cases of vaulted roofs extrados in beaten lapillus²².



Fig. 8. Fortified house Casillo. Detail of the tower on the southern side. The wall structure is also visible here, with irregular stone elements of different shapes and the use of abundant mortar (Source: Ragosta, 2022).



Fig. 9. Fortified house Casillo. Wooden ceiling with chestnut beams and second-arybeams ('chiancarelle') and flooring stratigraphy (Source: Ragosta, 2022).

3. Conclusions

The state of preservation of these buildings is quite critical for both structures and finishes. The roofs are affected by partial or in some cases total collapses, following the eruptions of Vesuvius and the earthquake of 1980. The intermediate floors present almost total collapsing, except for the case of the masseria Casillo, and the turrets of the masserie Fasano and Scozio, as mentioned, present important crashes. Some buildings have been abandoned for years, others are still used as storage of agricultural tools for cultivation. The lack of awareness of the presence and the value of the rural heritage of the Somma's mountain is gradually leading to the disappearance of a significant and unique heritage of the material culture of Campania. The first steps of the research document the importance of a rich rural building heritage of particular historical-architectural but also anthropological significance. In its remainingness, it constitutes a material trace of that micro-history, resulting from social, political and productive dynamics, which have occurred over the centuries in the shadow of Vesuvius.

The international guidelines that define rural landscapes as dynamic systems, repositories of methods, techniques and traditional knowledge emphasize the need to link the criteria for action to the understanding, protection, sustainable management and transmission of rural landscapes and values related to them, in a perspective of conservation and dissemination of material and immaterial heritage.

The Vesuvius National Park, active as authority for almost thirty years, recognizes in the system of farms a fundamental repertoire of historical anthropization processes, proposing, as part of a strategic project, the redevelopment for forestry, agricultural, naturalistic and scientific research activities. With regard to this prospect is

²¹ Cfr: Aveta A., *op. cit.*, pp. 164-170.

²² This type is less frequent in inland areas and is typical of rural coastal architecture, particularly on the islands of Campania, where

wood for the construction of pitches was more difficult to find. For further information cfr. B. Gravagnuolo, *op. cit.*; Pane R., *Architettura rurale campana: con 53 disegni dell'autore*, cit. pp. 5-6.

necessary a thorough interdisciplinary knowledge of these artifacts part of a piece of the built historical vernacular Vesuvian. It is essential, through a broad interpretation of the value system and the material authenticity still recognizable and following a methodology in line with the most recent reflections in the field of rural heritage²³, to configure guidelines for their restoration in the framework of an optimization of the planned tourist routes but above all recovering the multidimensional perceptual values of the landscape and the micro-history that the stones of these manufatti still keep alive.

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²³ See for example: Mileto, C.; Lidón de Miguel, M.; García-Soriano, L.; Trizio, F., *Balancing Tradition and Development? Early Trials of a Methodology for Studying Vernacular Architecture and its*

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