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VERNACULAR HERITAGE: CULTURE, PEOPLE AND SUSTAINABILITY

Eds. C. Mileto, F. Vegas, V. Cristini, L. García-Soriano

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Vernacular architecture and written sources: the case study of the Tronto Valley

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Topic: T1.2. Urban studies of vernacular architecture

Abstract
Medieval archaeology has developed very effective instruments for investigating the smaller rural settlements and local production and construction techniques, on which the documentary sources are scarcely fluent. However, documents assure precise hints or general references to which archaeologists do not give up. In the same way, the most abundant, although indirect institutional sources, and the technical literature, from the Modern Age to the nineteenth century, are very useful to understand this kind of construction, with local materials and according to local models and practices – widespread in rural Europe until the early twentieth century. The historic villages of the upper Tronto Valley, near Ascoli Piceno, can offer a good example in a territory devastated by the 2016 earthquake in which material sources have been heavily depleted. The documents - although discontinuous - often explain constructive choices. The nineteenth-century literature describes the territory in a transformation phase, still based on the scarce local resources, and returns the mentality and the expectations of the contemporaries. Literature and documents contribute to consolidating the role of the built heritage as a historical source, highlighting both the cultural depth and the nature of housing resources that characterize the individual buildings and villages.

Keywords: *Modern Age, building techniques, Archaeology and material documents, Tronto valley*

1. Introduction

"Vernacular" are generally defined buildings realized with local materials, by relatively simple practices diffused within the corresponding geographical context, without referring to advanced cultural models or techniques. However, at least in Europe, building practices or even building typologies can be difficultly referred to clear geographic delimitations. Riegl's – and then, Dvorak's – considerations are still valid (Riegl, 1894, pp. 41-50; Dvorak, 1907, pp. XX-XXI). Folk art and local traditions were different reflections of a universal, common will of artistic expression (Vasold, 2004), both in the past or in more recent times, yet it does not make them less interesting, or forbids defining the identity and quality of single contexts. Riegl's *Kunstwollen* also included technical aspects. In this sense, he opposed the nationalistic "regionalism" of his time: in this perspective, the vernacular heritage was the root of national consciousness, and the best foundation on which a new architecture. should be build. Nevertheless, the "regionalism" also had anti-historicist and anti-eclectic components, which could be seen as rationalistic and progressive in some respects.[1] Several ambiguities can be solved by admitting that vernacular architecture

[1] The bibliography of the last thirty years is rich, even though the topic has a particular temporal and geographical ambiguity. The synthesis coordinated by François Loyer (Loyer 2001) is still useful, Storm (Storm 2010) treats a much more general picture. For these concepts, see also Riegl (Vasold 2004).

has its own history; it receives external influences and changes over time, and these transformations often happens at relatively slow paces, in ways that untrained eyes can hardly recognize. It must be considered that practices and models have significantly different durations, which characterize the definition of vernacular architecture itself, as its periods do not always coincide with the sequences of architectural history. Sometimes, the scene is even more complex due to the presence of real building fossils, such as the Venetian "casoni" (Tieto, 1979; Agostinelli, 2018) or the "loges" in Anjou Touraine (Epaud, 2014; Epaud, 2009). Perhaps they perpetuate millenary models, of which in the archaeological digs the postholes represent the only labile traces. Conversely, in 20th-century Italian culture, and in the legislation that still derives from it, the only discontinuity in local building traditions is seemingly represented by the industrial expansion at the end of the 19th century. In this view, "vernacular" architecture ends up coinciding with the so-called "typical local constructions", a category that is – not accidentally – fiscally favoured by the cadastral estimations of the '30s. This system of ideas overshadows the stratification and inhomogeneity of this heritage, whose constructions – or, at least, additions and reconstructions – are often relatively recent, dating back to the 19th or early 20th century. Hence, this attitude might hide the frailness of this heritage, which must be remedied for the sake of its protection.

2. A case study: Vernacular Buildings of upper Tronto valley (Ascoli Piceno, Italy)

The building fabric of villages and houses in the upper valley of the river Tronto, in central Italy, represents a good example to discuss these observations. During the late Medieval and Modern Age the valley was part of the Pontifical State, on the border with the Kingdom of Naples, and its history is described by the huge documentation produced by the papal administration. Except for churches and some fortifications, there are only a few fragments of the earlier periods, in particular with respect to the small centers on high hills and mountains. The area is characterized by frequent earthquakes: in 2016, historical dwellings in Arquata have been severely damaged or destroyed. Hence, repairs were performed frequently, and these continuous adaptions produced an intrinsic frailness, which led to the occurrence of partial collapses and consequent reconstructions in undisturbed years as well. To a certain extent, data detected from buildings correspond to historical records: this allows performing an absolute dating of transformations and acquiring information on local building techniques from indirect sources. The literature offers a useful frame. Filippo Re (Bonini & Pazzagli, 2016) realized a renowned inquiry on agriculture during the Napoleonic Age, carried out through questionaries sent to experts from each Department, and then published in "Annali dell'Agricoltura del Regno d'Italia" (1809 – 1814). After the national Unification (1861), an even more renowned report was realized, that is the Jacini agricultural inquiry[2], named after the President of the Parliamentarian Commission that coordinated it from 1877 to 1881. Both documents provide a very detailed description of this territory and realize a relatively wide coverage of rural dwellings. As Alberto Caracciolo (Caracciolo, 1958; Caracciolo, 1973, p. 90) comments, both are "*an essential historical source*" rather than "*a historical work…with easily acceptable, critically achieved results*". However, the two inquiries represent valuable support for the interpretation of the building heritage, as they contribute to – and oblige to – reconstruct the cultural and social context. The Canon Orazio Valeriani (1769-1841), professor of botany and agriculture at the Lyceum of Fermo (Mazzanti Bonvini, 1967), highlighted the radical difference between the

[2] The T. II and the T.II of volume XI of Atti (Atti 1881-86) concern the Marche region. The Marquis Francesco Nobili Vitelleschi was formally the rapporteur of the V disctict (Rome Grosseto, Umbria with Rieti, Marche). The research on these areas was coordinated by Ghino Valenti (Caracciolo 1968, 88-89), who partially published the first revised part (Valenti 1888). Giovanni Derio's thesis, "Le abitazioni rurali nell'Italia postunitaria. I dati dell'inchiestra Jacini" (Cagliari University) has tourned into a website: http://web.gioder.altervista.org/jacini/index.php?option.

rural buildings in the lower valley of Tronto,[3] made of bricks laid with earth, and those in the upper valley, made of stone laid with *"good lime"* mortar (Valeriani, 1812, pp. 132-134). The Canon recalls several literary references, and the principle of *"bienséance"* is almost literally drawn from Laugier; moreover, as a remedy to the defects of a building *"without an architect*", replaced by the farmer or by the owner, he suggests: "*May the architectural design spread in owners: and may they be bestowed by the idea of beauty, comfort and solidity*". In other words, he encouraged the diffusion of an acquired habit in aristocratic education that has produced a huge number of amateur architects among noblemen, especially in northern Italy. In the Papal State, we can cite as example Camillo Morigia from Ravenna and his designs of farmhouses (Pirazzoli & Fabbri 1976, p. 173). On the international scene, literates agreed that landowners should take care of design and construction of their farmhouses. Duhamel de Monceau showed his own interventions on his farmhouse in the second edition (1779) of the *"Elements d'agriculture"*. This is echoed by a vast literature that has acquired a significant publishing fortune since the half of the 18th century, to the first decades of the 19th century and has recently been rediscovered (E.g., Garric, 2014). Even though Valeriani probably did not obtain these publications in Fermo – where he could not find Petrarch's *De remediis utriusque fortunae* either (Valeriani, 1813, p. 179) – he could read their mentions in Filippo Re's bibliographies (Re, 1808-09). The great agronomist, while appreciating Morozzi's work (Morozzi, 1770; Re, 1808-09, T. III, p. 174), criticized earth constructions when reviewing *"an extract from Mr. Cointeraux's work*" (Del Rosso, 1793); yet he took a more cautious attitude – as often, with living authors – by reporting it under the name of the translator Giuseppe Del Rosso in the following volume (Re, 1808-09, T. II, p. 160 and T. III, p. 322). Cointeraux's work as well aimed to verify a vernacular practice and transform it on the account of new scientific knowledge. Hence, Valeriani adopted the illuminist approach toward practical knowledge from the past. Indeed, only the universal filter of Reason, which inspires the formation of owners and technicians, can select the local practices that will perpetuate within a different division of skills and work. Outlining a history of Picenian agriculture, Valeriani initially referred to greek and latin authors, as renowned authorities. Then, along his narration, he moved to a critical analysis of more recent literature. Following Muratori's example, medieval documents such as municipal statutes represent a testimony of actual life, in opposition with literary mediation making room for the new historical science. Hence, Valeriani noted that "*…roughly, barely two hundredths of the buildings of the Department were realized in past ages, two fifths were constructed during the 14th and 15th centuries and at the beginning of the 16th, the same or more in the 18th century, and the rest in the 17th, which was the least productive…"* (Valeriani, 1813, p. 162). These observations, written 200 years ago, reflect the current situation of the heritage of upper valley built prior to the nineteenth century.

3. Exchanges of local skills and resources

Valeriani was always a keen observer, and wondered to what extent cultural gaps lead to the backwardness of the building sector: "*... what has to do an uncultured worker, who is sometimes farmer? Yet many of them have been in Rome, but this is not enough…*" (Valeriani, 1811, p. 133).

The cause of backwardness is not isolation: the *Congregazione del Buon Governo* controlled municipal budgets and supervised public works, realized and maintained by the communities, and this produces intense correspondences, direct contacts and led many individuals among the local élites to travel to the Capital[4]. The

[3] "…Non vi è ornato alcuno; non vi è: né vi deve essere.Vi deve però essere convenienza; non vi è: vi deve essere bellezza comodità, solidità, niente per lo più…", Valeriani (1812) p.133.

[4] On activity of the Congregazione Tabacchi 2007 and index of its Archive in Lodolini 1956.

central administration fined them if their accommodation, economically sustained by the community[5], lasted too long; however, this did not prevent the formation of strong bonds.

Fig. 2, Rural house alonge the Tronto river, Trisungo, Arquata del Tronto, AP (Source: Grimoldi, 2018)

These were also generated by the shepherds' seasonal migrations to the Roman Countryside[6], and by the dynamic flows in the upper valley of the Tronto river, which moved along a route that connected the eastern coast to Rome, passing by Norcia and Spoleto, and are proved by Roman notaries' deeds. In Arquata del Tronto, which is the most internal town, a kind of capillary cultural mediation occurred thanks to many figures: the judge, Lieutenant of the Governor - Prelate of Norcia or "Prefetto della Montagna", the doctor, the schoolteacher, notaries who serve as chancellors for the community and, though to a lesser extent and by official duty, regular and secular clerics. Mobility also affects workers: a significant amount of workforce came from the Prealps after the 1703 earthquake, which severely damaged, in addition to Abruzzo, also the Apennines between Umbria and Marche. In Arquata, "Milanese master-masons" often served as community experts or public works contractors[7]. The origin of one of these families, Andreoni, is not even mentioned since the end of the 18th century[8]. Hence, material conditions appear to be the key factor behind constructive choices. There were no roadways, even Salaria is a network of trails. Stone, limestone and sand quarries, even forests where wood for construction is cut down, had to be close to the building site. In 1794-1797 sand transportation cost was the 5% of the cost of raw building, or a sixth of the cost of workforce[9]. Recent studies on mortars (Roselli, 2019) from four different locations confirm the difficulties in supplying good building materials. The lime sands were too fines and are one of the causes behind masonry disintegration. Anything available is used in constructions, even earth sometimes. Conversely, roof tiles, floor tiles and roof slates were widely used since the early Modern Age. In the Fortress, which was built during the 14th and 15th centuries and abandoned in 1655, the brickwork had progressively been taken from it and reused by inhabitants. The resistance of large load-bearing walls improves as the dimension of openings decreases. Valeriani confirms that "*on the mountains, windows are small, and there are few external doors*", and more in detail he highlights that "*at least is lacking one room equiped by good doors or windows*". Openings are small because they cannot be sufficiently protected by simple wooden shutters, while influential people's houses sometimes have glazed frames. Only one of this kind was documented, presumably dating back to the second half of the18th century, yet with several later additions (Zampilli & Brunori, 2020). Moreover, "two small windows and one big win-

[5] ASR, C.BG, II Serie, B 263, February 4, 1657; the Governor of Norcia Radolovici to the Congregazione.

[6] Valeriani, 1812, 73, and ASAP, Amministrazione provinciale, Ufficio Tecnico, B. 9-22. Many documents prior to 1860 report women and children doing heavy work due to the absence of men, who are in the Roman countryside with their livestock.

[7] ASR, CBG., II serie B.270; July 10, 1794; Stefano Scolari "milanese" established the estimate for the "pan venale" oven; September 19, 1795; the assessment of another "milanese" builder, Giacomo Scolari, about the works carried on.

[8] ASR, C. B. G, II Serie, B.265, February 6, 1766; Angelo Andreoni, "Milanese" mastermason, writes expertise for the construction of a boundary wall of the public road near Borgo d'Arquata; B.268, August 3, 1781, Giovanni Andreoni "de suburbio Arquate" estimated a municipalitie's house.

[9] Stefano Scolari, the same expertise of footnote 7.

dow" [10] with small glass sheets secured by lead-cames were realized in the Priory Palace in 1783, then in 1801 a woodworker received the payment for "renovating the window of the school by adding glass panes", in addition to placing 16 and 28 more sheets in other windows[11]. A similar glazed window appears in Ascoli, in the Governor's Palace, still in 1831, while glass panels exceeding the width of 40 cm had already been used[12] in Lombardy more than 50 years before. In 1817, the corps of *Carabinieri Pontifici*, recently established, resides in the province of Ascoli, in rented houses whose openings lack glazed frames. Even in city barracks "*most window frames are missing*" [13] . Glass is the first, consistent exception to the logic of self-production in the building site. The selection of raw materials and the complex equipment of furnaces require a high concentration, but however local manufacturers could allow a better distribution of goods for everyday use. In 1802, Pio VII had granted property rights for the construction of a glass plant in Ascoli Piceno (Barberi (ed.) 1846, T. XI, pp. 278-281) it could be the same plant noted as "*being subjected to a continuous development every year*" in 1865 (Annuario, 1865, p. 7). Galli, outlining a general picture of economy in the Papal State, among the 11 glass plants that produce windowpanes in the provinces, listed on the Adriatic side the plants in Ferrara, Rimini and Pesaro (Galli 1840, 245-246, 276-277). Another one opened in Ravenna in 1843 (Annali di Statistica, 1843 p. 7); the Marietti family from Milan operated in Murano since 1826 and sold a huge quantity of windowpanes at Senigallia fair. Their industrial-scale manufacturing process was powered by a steam machine introduced in 1853, as reported in Maestri's industrial statistics (Maestri, 1860, p. 231). These fragmented pieces of information confirm that the Picenian area experiences an increased production and a consequent fall in prices, just as it happened in more developed territories.

4. From early modern to Age to the nineteenth century: construction between permanence and change

This improvement in window protection allows widening and adjusting wall openings, by placing external frames from square sandstone blocks into the voids, or by reintegrating the edges, when performing a simple squaring. The stratigraphic traces of both operations are hardly visible in an ashlar masonry wall, with extensive grout lines filled with mortar, and often covered by an additional layer of plaster that follows the irregularities of stones. Since the half of the 16th century, this system has also replaced in churches and fortifications an accurate masonry walls with exposed stones and squared ashlars, which was on turn preceded by – or alternative to – small squared blocks. These characteristics can be found in a limited number of houses that have resisted over time, where frames of doors and windows follow simplified Renaissance vernacular models. Archaeological tools have a fundamental role; however, when using the simplest ones, such as chronotypology, which outlines time sequences in broad terms based on formal data, it is necessary to consider Tiziano Mannoni's "warnings", regarding both masonry walls and constructive elements[14]. Stone frames, in particular, show elementary, often repeated, profiles, and the execution techniques are fundamental to attribute to different ages buildings elements apparently similar. Despite the notable number of documents, they can hardly be univocally referred to buildings with a level of detail that allows an absolute dating of construction elements.

[10] ASR, C.B.G., II Serie, B.268, July 16, 1782; The *Vicario Foraneo* G.P.B. Amodio to the *Prefetto della Montagna* D. Campanari.

[11] ASR, C.B.G., II Serie, B.270, "Ordine dei pagamenti" of 1801, copy, July 10th, 1802.

[12] ASAP Delegazione Apostolica di Ascoli, 1831, B.27 tesoreria; August 31, 1831, Zacchei e Fazzini carry out an estimate, attached to the report of F. Prisciani for the *Delegato Apostolico.*

[13] ASAP Delegazione Apostolica di Ascoli, Istruzione pubblica militare 1817, B.13, Ascoli, no date, The commander of *Carabinieri Pontifici* of Ascoli sends a report on the conditions of five barracks in which his soldiers must live.

[14] The topic is explained in a very accurate repertoire of essays that provide further examples in Boato (2021).

In the countryside of the 19th century, construction techniques were rarely updated, nor did their quality increase over time. Instead, increases in housing demand and – relative – poverty resulted in shoddier works. Wood was no longer squared, masonry arches were always – in this area as well – substituted by wooden lintels; as some documents suggest, similar solutions in older contexts are presumably reconstructions. Even though Salaria was already carriageable a few years after 1860, new materials did not appear before the use of trucks, which made their transportation sustainable. In 1909, a well-documented house – as it was involved in a dispute with an adjacent one – was in stone masonry with wooden floors[15]. A vaulted basement, which serves as a foundation in the older buildings, is in this case missing. The documents produced by the Corps of *Ingegneri Pontifici* and then by the Public Works Office[16]provide accurate details on the costs and times of execution and on – strictly local – materials. However, it contains little information on techniques used for repairs, where no visible inhomogeneity can be detected, and for new constructions, mainly bridges and road works, inspired by scholastic models. Stones are placed according to a roughly polygonal shape (*opus poligonale)* when used in retaining walls, and according to a square shape, with raw surfaces, in small bridges and gutters. Instead, wood constructions, often documented by drawings, presumably had minor innovations. Hence, identifying 19th-century traces in the existing building stock is not an easy task. The cartographies from Pio VII's cadaster (1816), completed during Gregorio XVI's papacy (1835), and updated in the Kingdom of Italy (1881) – are not very helpful, as new buildings are rare, and often isolated, elevations or reconstructions are much more numerous. After incorporations or, more rarely, subdivisions, the resulting parcels represents the distribution of land property, rather than existing buildings. Fiscal documents do not focus on the buildings, as they do not represent a source of income outside main urban centers, but rather a burden. Conversely, in the framework of the agricultural inquiry, 2964 houses have been registered in the district of Arquata (Atti, 1884), which includes all the three towns in the upper valley – Arquata, Montegallo and Acquasanta –and out of these, 45 churches and 79 scattered houses, while 2.215 have been registered according to the number of the cadastral units in 1853 (Statistica, 1857, p. 179). At that time, population growth was equal to 30% of the inhabitants of the whole province over the last 30 years (ibidem, XXII). Over the following 30 years, the building stock would grow almost by one third, while population growth would be lower: 12.519 inhabitants (1853) increased to 14.216 (1881). The further increase to 18.709 inhabitants in 1911 leads to the registration of a certain number of buildings in the cadastral maps, before population decline reduce inhabitants to little more than one tenth, over one century. But the survey criteria and reliability are different (Bonelli, 1967, pp. 1-14); uncertainties on data processing can only be solved by an accurate analysis on the preliminary documents, and by a comparison with the existing buildings and the "*information handed out by the municipalities*" (Atti, 1883, T. II, p. 361) in the Jacini inquiry.

Fig. 3. Arquata del Tronto, Borgo, increasing in building construction (Source: AS.Roma, Catasto 1820-1881)

[15] ASAP, Prefettura, Culto, b. 12.

[16] ASAP, Amministrazione provinciale, Ufficio tecnico 1810-1910, BB.9-158.

Aside from numbers, these descriptions of the lathe nineteenth century echo Valeriani's more analytical ones, but the lack of a historical perspective, which is typical of Positivist agronomy and statistics, reduces them to mere, slightly impressionistic recordings of the state of fact[17]. The terrible building and hygienic conditions of rural houses on the mountain was related to the prevalence of small rural owners, who lack the necessary resources. Conversely, in the plains and in the lower valley, big owners have allocated significant investments to improve houses and farms. Rather than a description, this is a judgment that values a certain kind of "winning" agriculture and the corresponding social balances, while other scenarios appear to be backward and destined to abandonment.

5. Conclusions

Archival series we have exploited, and others, as the municipal statutes, albeit indirect, are abounding in details on other building elements, from vaults to wooden structures.

Fig. 4, House in Trisungo, Arquata del Tronto, AP (Source: Grimoldi, 2018)

[17] Description of rural houses in Atti 1883, T.II, 588-589, "*ve ne sono delle buone, rispondenti così alle prescrizioni dell'igiene, come alle necessità della famiglia, ma alla loro volta se ne incontrano delle pessime. Sono in maggior numero queste nella zona summontana e in genere nella provincia di Pesaro e in quella di Ascoli…si veggono case fabbricate di pietrame, e così mal costruite che la prima impressione che si prova in entrarvi è quella che da un momento all'altro il tetto debba cascarvi sul capo, il pavimento sfondarvisi sotto i piedi. Anguste, con finestre che molto più esatto è qualificare per buchi, e che nell'estate impediscono l'aereazione e nell'inverno vi espongono a tutte le intemperie*".

However, some aspects of the method are already clear. If we want to go further the description of the current state of the built heritage, to explain its genesis, we need to go back to the sources, and reconstruct with the available tools, very precise or more general, the world of the production and use. Geographers and ethnologists (Brigidi & Poeta, 1953, pp. 114-132), and agricultural historians (e.g., Paci, 1981; Anselmi Volpe, 1987), have studied the rural houses in their relationship with agriculture and its evolution over time, with significant results. However, archaeology integrates this aspect into a more general productive dimension, which also includes construction. If archaeology defined itself as a historical story through material sources, nevertheless, the comparison with the available documentary sources is continuous. By their twofold research, Medieval archaeologists have reconstructed, at different scales, the transformations of the territory and in particular the dynamics of the settlements. For the following centuries, the quantity and nature of information transmitted by literature, documents and constructions made the task more complex. The much greater amount of data is more difficult to reorder and reconnect, and the very detailed information on some cases makes even the gaps seem too large. However, only by insisting on attempts, perhaps not always lucky, to interpret the built heritage also through the most numerous written testimonies, by avoiding to be confined in the technique or figure, and trying to understand the construction in a broader horizon of knowledge, we can better define the research fields, refine the tools and improve the results.

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HERITAGE 2022 INTERNATIONAL CONFERENCE

VERNACULAR HERITAGE: CULTURE, PEOPLE AND SUSTAINABILITY

Eds. C. Mileto, F. Vegas, V. Cristini, L. García-Soriano

Vernacular architecture, tangible and intangible heritage of great importance to European and global culture, represents the response of a society culturally linked to its territory, in terms of climate and landscape. Its construction features are born from the practical experience of the inhabitants, making use of local materials, taking into consideration geographical conditions and cultural, social and constructive traditions, based on the conditions of the surrounding nature and habitat. Above all, it plays an essential role in contemporary society as it is able to teach us important principles and lessons for a respectful sustainable architecture.

Vernacular Heritage: Culture, People and Sustainability will be a valuable source of information for academics and professionals in the fields of Environmental Science, Civil Engineering, Construction and Building Engi-neering and Architecture.

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