

**From
Vernacular
to World
Heritage**

edited by

LETIZIA DIPASQUALE

SAVERIO MECCA

MARIANA CORREIA

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**ESG / Escola Superior Gallaecia,
Vila Nova de Cerveira, Portugal**

Project Leader and Director:
Mariana Correia

Scientific advisors: Gilberto Duarte
Carlos, José Vicente, Teresa Correia,
Goreti Sousa, Mónica Alcindor,
Rui Florentino, Damião Matos,
Henrique Silva, Emília Simão,
Ana Lima, Luis Paulo Pacheco

Researchers: Teresa Bermudez,
Marco Mourão, Sandra Rocha,
Jacob Merten

Project Partners

**Università degli Studi di Firenze, DIDA
Dipartimento di Architettura, Italy**

Director: Saverio Mecca
Scientific advisors: Letizia Dipasquale,
Alessandro Merlo, Massimo Carta,
Stefano Galassi, Giorgio Verdiani

Researchers: Lucia Montoni,
Francesco Frullini, Alessandra Manzi,
Gaia Lavoratti, Luciano Giannone,
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**Universitat Politècnica de València, Escuela
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Directors: Fernando Vegas, Camilla Mileto
Scientific advisors: Valentina Cristini,
Lidia García Soriano, Maria Diodato,
Juan María Songel, Guillermo Guimaraens,
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Researchers: Matilde Caruso, Alicia Hueto,
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*3DPAST Administrative coordinator
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Gilberto Duarte Carlos
Mariana Correia
Escola Superior Gallaecia

Letizia Dipasquale
Saverio Mecca
Università degli Studi di Firenze

Considering the built environment as the most enduring receiver of human behaviour, one can easily assume vernacular heritage as an objective consequence of the essential features of specific local communities.

As a form of cultural expression, vernacular heritage has the advantage of constituting a pragmatic testimony of the main subsisting activities and their geographical relation, balancing the focus within the social relationship of their community groups (Oliver, 2006). This local environment-human appropriation dichotomy is clearly expressed from the territory occupation to the applied technology (Llano Cabado, 1996). This symbiotic relation is often responsible for the reinforcement of the regional cultural identity, developing specific features that influence the consubstantiation of a particular building culture (Rapoport, 1972).

The resulting building environment comprises the natural resources management, the adaptation to the climate and to the environment conditions, and the inhabitant's technological knowledge. Vernacular architecture emerges from the synthesis of these conditions. When recognised as a heritage asset, its morphology becomes the fundamental material statement of the community's values, representing their main traditions and stating its collective memory.

It is within this approach of material statement recognition throughout morphologic interpretation that the 3DPAST research *Living and virtual visiting European World Heritage* was endured. The selection of World Heritage sites, which integrated vernacular built environments, emphasises the identification of their tangible exceptional features, promoting a more objective morphologic interpretation, resulting in a pragmatic characterisation and subsequent analysis of the sites.

The pursuit tangible dimension is therefore contained from the landscape perception of the place until the craftsmen's tools for the community activities.

The vernacular built heritage represents the physical link between these scales and the stated abstraction levels, conforming from the collective perception to the recognition of the place. The approach that was considered for the selected case studies followed a formal depiction method, developed within four general levels of scale classification.

Landscape and territorial scale

The landscape level regards the territorial occupation, reflecting the human appropriation and management of the natural surrounding elements. It is a direct reflection of the main structures and in-

opposite page
Pico's Island (© D. Matos, 2017)



**Settlement of Upper Svaneti
and the surrounding
mountains, Georgia**
(© M. Correia, 2018)

infrastructures locations, the settlement's distribution according to the natural resource's exploitation and their direct relations with other communities.

The consolidation of the territory features into what we understand today as cultural landscape, is directly related to the applied solutions for the local communities' survival, balance and prosperity activities. The analysis of this level allows understanding the main subsisting activities of the social groups that coexist in a specific region. It comprises the selected strategies to take advantage of the particular physical geography conditions and to attain the best possible outcomes.

It considers also the communication itineraries, the direct access to the local resources and the suitable structure accommodation considering climate, sun exposure and the geologic characteristic of the region.

The territorial occupation reflects the settlements relation towards the geographical context, usually classified as the physical support or 'super-structure' (Correia, Dipasquale, Mecca, 2014). The super-structure is constituted by the relief variations and the water lines and basins, conforming the main spatial delimitation of the vernacular built environment influence area.

Forest, pasture and extensive agriculture can be identified as the most common distribution soil system, conforming the first macro-scale landscape conception. The macro-connection system also plays an important part, as it is deeply related with the local communities' external relations. These relations comprise the foreign cultural ties of these settlements, representing their regional economic and political dynamics and affecting local characters such as trading, defensive and religious aspects.

The landscape preponderance is particular striking in places of rough natural conditions, such as the Upper Svaneti settlements, in Georgia. The Caucasian mountain atmosphere is the essential reason for the occupation of these extreme territories, in order to increase their defensive ability, as a regional enclosed redoubt. In these isolated villages, the management of the winter cycles and their relation to the natural elements is a matter of plain survival. From the communication infrastructure efficiency, to the melting snow water lines, everything contributes to the territorial appropriation strategies.

Settlement's urban layout

The settlement's urban interpretation configures the analytical depiction concerning the build clusters, their overall organisation and spatial structure. It concerns the relation between the collective domain and the private property, being special attention paid to the residential building aggregation.

Due to its nature, vernacular elements usually resort to organic layouts, strongly conditioned by the topographic support. The resulting overall shapes are usually consequences of dynamic aggregation logics, rather than hierarchic intentions, assuming informal and flexible patterns of irregular geometric forms. This is often interpreted as a reinforcement of the terrain configuration, but rather as a consequence than a voluntary act, since some of the urban layout solutions are a direct result of the available building technology, which can lead to very abstract configuration results (Oliver, 2006).

This is the case of Cuenca's location for the original 'skyscrapers' block aggregations, located precisely on the cliff that surrounds the settlement, emphasising its general defensive character, despite their residential use, acting as true urban element of collective purpose. The settlement's urban layout also responds to the social organisation of the inhabitants, enlightening collective rituals and behaviours, assuming their groups, bonds and tendencies into spatial differentiation or even segregation. This reflects the elected cadastre system and the internal access solutions, includes the main infrastructure boundaries and implies a relation with the main collective symbols, usually represented by exceptional built structures for communal support (Correia, Dipasquale, Mecca, 2014).

Architectural unit description

The study of the architectural element is mostly related to the identification and characterisation of the traditional architectonic typologies. Despite the informal aspect of the vernacular solution, it frequently assumes rigid logics of development, in which one can identify different phases and organisation settings, consolidated in stereotype models. Since they are related with empirical knowledge and regional restriction, these models accentuate the coherence of their variations, without significant ruptures in time, space and form. Therefore, less affected by cultural contamination and external technology, they tend to represent a morphologic continuation, stabilising architectural solutions and configurations into cultural patterns (Rapoport, 1972). This cultural pattern, of abstract perception, is widely associated with specific places and groups.

As it should be expected, concerning the vernacular built environment, the dwelling constitutes the major focus of study, dominating a great percentage of the concerning literature. This situation is related to the opportunity of the community's quotidian perception, throughout the domestic conditions expressed by the residential typologies.

Concerning the architectural unit scale, the study of the dwellings offers very objective premises in terms of family structure, reflecting matters of lineage or clan interactions. The partitions hierarchy and configuration, the segregation between intimate and collective areas, the separation and transition between



↑
Survey data sheet used in Gjirokastra, Albania
 (© Dar Med Lab, DIDA, UNIFI, 2019)

the social and the private domain, are all effects of architectural expression of high ethnographic significance.

There are visible cases where the main communal activities are responsible for the development of specific constructions completely differentiated from the residential use. But, with minor exceptions, they are always a complement to the anthropological shelter necessity (Oliver, 2003).

One excellent example is the case of the wine cellars of Pico's island, a vineyard cultural landscape listed as World Heritage since 2004. The wine cellar constitutes the fundamental cellule from which all the typological variations are generated. Nevertheless, this is a circumstance determined by their seasonable occupancy and their relative proximity to the villages, in which the inhabitant's main residences were located. These complementary buildings contain the understanding key to the inhabitant's labour and surviving strategies: from agriculture exploitation to fishing deeds, from cattle breeding to alimentary processing. These production utilitarian units are strongly connected to the natural resource's consumption and management.

Defensive, commercial, ludic or religious propensity are also traces to attain when studying the architectural traditional typologies, usually determined by historical episodes of intense or consistent impact that reflect a wider regional relation (Asquith, Vellinga, 2006). The Transylvania villages with fortified churches, a World Heritage serial property in Romania, are a good representative of this reality expressing the incursion and settlement of Saxon groups through eastern territories, constantly subjected to local and foreign disputes and migration movements. The circumstances defined the exceptional development of building solutions that expressed their religious identity and their adaptation to military protection.

Construction technology analysis

Regarding the building technology analysis, the vernacular built heritage can be synthesised as the crossing between available material resources and empiric knowledge. The building material is usually circumscribed within the conventional traditional alternatives, resorting to less transformation as possible, due to tools and energy restriction. This does not mean that the building solutions are not efficient and creative; on the contrary. The lack of technologic resources is usually compensated, according to Frey (2010), by extremely pragmatic and inventive construction solutions, providing the development of very peculiar systems and techniques. The cantilevered verandas of the 'hanging houses' of the World Heritage historical centre of Cuenca in Spain are a well-detailed example of such solutions, demonstrating an interesting articulation of wooden floor structure and stone masonry.

As it should be expected the observed building systems present a stone masonry predominance on the south part of Europe, with more presence of mortar on the regions of the Roman historic influence. Some of the driest climates also apply earthen construction systems, and some of the more populated locations also determine the use of firebrick building methods. The use of wood is transversal to all cases, particularly in the upper floor and roof support structure. However, its preponderance in other architectonic elements increases considerable, as one goes into the north of the European territory. The World Heritage site of Old Rauma's, in Finland, demonstrates the wood usage in its full potential, assuming it from the rough structure to the delicate finishing, and from the internal elements to the external coatings. Despite the objectivity of the data regarding the traditional building systems, the present interpretation is rather restrictive when there is limited documentation of the traditional building techniques and processes. Once again, Old Rauma constitutes an excellent example in the perpetuation of the building crafts, implementing mechanisms for local training and traditional architectural intervention support. In conclusion, for preservation and conservation matters, the collected data only makes sense if one can apprehend the local building culture essential characteristics, understanding as well the associated intangible knowledge, in order to perceive the site's authenticity. Accordingly, this is a premise that needs to be extended to all the morphologic analysis, from the territorial display to the construction detail interpretation.

References

- Asquith L., Vellinga M. (eds.) 2006, *Vernacular Architecture in the Twenty-First Century: Theory, education and practice*, Taylor & Francis, London.
- Correia M., Dipasquale L., Mecca S. (eds.) 2014, *VERSUS: Heritage for tomorrow, vernacular knowledge for sustainable architecture*, FUP, Firenze.
- Frey P. 2010, *Learning from the Vernacular. Towards a new vernacular architecture*, Actes Sud, Lausanne.
- Llano Cabado P. 1996, *Arquitectura Popular en Galicia: Razón e Construción*, Xerais de Galicia (ed.), Coruña.
- Oliver P. 2003, *Dwellings: The Vernacular Houses World Wide*, Phaidon Press, London.
- Oliver P. 2006, *Built to meet needs: Cultural Issues in Vernacular Architecture*, Architectural Press, Oxford.
- Rapoport A. 1972, *Vivienda y Cultura*, Editorial Gustavo Gili, Barcelona.