

Culture mediterranee dell'abitare

Mediterranean housing cultures

a cura di / editor Adelina Picone



L'intento da cui il libro muove, a valle di un convegno internazionale tenutosi nel febbraio 2014, è proporre una riflessione scientifica sull'attualità delle forme e delle culture dell'abitare nei paesi che si affacciano sul bacino del Mediterraneo. Se da una parte l'idea di mediterraneità ha trovato una sua sistematizzazione grazie ad una serie di formulazioni teoriche tra cui quelle di Braudel e Matvejevic, dall'altra in architettura, a partire da Schinkel, Hoffman, e Loos, fino al dibattito razionalista, il novecento ha visto una chiara ricorrenza, figlia del "mito" mediterraneo, di tentativi di legare il progetto della casa ad una riflessione critica sulle architetture cosiddette vernacolari. *Modus operandi* evidente nell'opera di Giuseppe Pagano, di Edoardo Persico, di Giuseppe Terragni, nelle architetture di Luigi Figini e Gino Pollini, di Adalberto Libera, nel lavoro di Dimitris Pikionis, in quello di Hassan Fathy, nelle ricerche e nei progetti di Luigi Cosenza e Bernard Rudofsky nel golfo di Napoli. Un filo rosso che individua una chiara linea di pensiero. Il libro mette a confronto studi e ricerche in corso in diversi paesi appartenenti a questo ambito geografico, nei quali, in continuità con questa linea di pensiero, si intende attualizzare il percorso metodologico. Il confronto tra le ricerche intraprese nei differenti contesti restituisce un insieme di invarianti, ma apre anche ad una riflessione sulle specificità che le diverse "lezioni", derivate dallo studio dei sistemi tradizionali dei singoli contesti locali, consegnano alla contemporaneità. Il focus della riflessione è infatti tutto nella attualizzazione di quelle "lezioni" nel progetto della casa contemporanea, compendiandole con i temi-chiave dell'abitare nel nostro tempo: le questioni energetiche, la ricerca di sistemi costruttivi compatibili, le ragioni dell'economia, la nostra, specificamente contemporanea, idea di casa.

This volume, even thanks to the results of various researches presented in a conference held the last february, examines the forms and cultures of housing of the countries overlooking the Mediterranean. The notion of Mediterraneity has been addressed by theoreticians such as Braudel and Matvejevic. In the 20th century, architecture has repeatedly attempted, with Schinkel, Hoffman and Loos as well as the rationalists, to link the plan of the house to a critical reflection on so-called vernacular architectures. This approach inspires the work of Giuseppe Pagano, Edoardo Persico, Giuseppe Terragni, in the architecture of Luigi Figini and Gino Pollini, Adalberto Libera, Dimitris Pikionis, Hassan Fathy, as well as the plans and design of Luigi Cosenza and Bernard Rudofsky in the Gulf of Naples. This approach is the leading thread of the volume, which gathers the findings of ongoing studies by several authors from various regions of the Mediterranean and their different methodologies of analysis. The comparison between these studies produces invariants, at the same time inviting readers to focus on the unique elements of each instantiation deriving from the study of the traditional systems of the local contexts. The volume examines the way each of these elements emerges in the plan of the contemporary house and how they are embedded in the main themes of dwelling in the present: energetic and economic issues, the search of compatible building systems, our contemporary idea of house.

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euro 12,00

Collana

Abitare il Futuro / *Inhabiting the Future*

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a cura di / *editor* **Adelina Picone**



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permission in writing from the publisher
ISBN 978-88-8497-576-8

Editing
Anna Maria Cafiero Cosenza

Graphic Design
Costanzo Marciano

Collana / Book Series
Abitare il Futuro / Inhabiting the Future / 7
diretta da / *directed by* Mario Losasso

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Copertina / Cover image
Giuseppe Pagano, Procida, Corricella, 1938.

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A vernacular settlement interpreted throughout an urban sustainable approach

Gilberto Duarte Carlos, David Leite Viana, Francisco Fumega Piñero

Un insediamento vernacolare interpretato attraverso un approccio urbano sostenibile

Questo saggio persegue l'obiettivo di identificare un potenziale progetto urbano nelle forme di appropriazione spontanee del territorio, inquadrando l'insediamento vernacolare costruito alla scala dell'insediamento complessivo.

Il caso di studio individuato, insistendo precisamente in quell'area di transizione tra il Mediterraneo e la regione atlantica della penisola iberica, manifesta l'influenza di entrambe sia nei caratteri fisici che culturali. Pertanto, è possibile dedurre i caratteri, che ancora permangono nell'espressione urbana e architettonica delle comunità locali, che potrebbero estendersi da una tenue influenza islamica, passando per l'eredità romana resiliente alle tracce dei barbari del nord, senza grandi particolarità formali.

Il presente studio è stato originariamente sviluppato nel quadro della ricerca del progetto europeo VerSus.

L'obiettivo principale del progetto VerSus è di acquisire conoscenze delle lezioni e dei principi della architettura vernacolare fondamentali e di esplorare nuovi modi di integrare quei principi in moderni edifici sostenibili.

Il Montaria Village è stato analizzato dal team di ricerca scientifica del progetto, integrato negli esercizi accademici da studenti di architettura e oggetto di laboratori di documentazione professionale.

Il testo che segue costituisce una sintesi trasversale del risultato complessivo, la condivisione di un punto di vista scientifico, didattico e tecnico che si articola in un percorso di ricerca che vede i caratteri identitari dell'insediamento letti attraverso: l'adattamento alle caratteristiche geomorfologiche e orografiche del territorio; la forma dell'insediamento e le infrastrutture; i caratteri degli spazi collettivi e di relazione; la relazione tra le individuazioni catastali e gli spazi privati; caratteri specifici.

Lo studio ha condotto a verificare come gli insediamenti vernacolari e le loro variazioni formali siano la maturazione di un lungo processo empirico, inquadrato nelle logiche di produzione compatibili con il territorio e con il potenziale delle risorse locali, secondo i limiti energetici disponibili. Quando questi insediamenti sono interpretati attraverso la propria logica specifica, allontanando i rigidi modelli urbani convenzionali, possono costituire valide e interessanti alternative da re-interpretare negli interventi contemporanei.

Introduction

This paper tries to identify the urban design potential within informal appropriation forms of the territory, interpreting the vernacular built intervention at the entire settlement scale. The selected case study, standing precisely in the transition area between the Mediterranean and the Atlantic region of the Iberian Peninsula, exposes their both influence either in physical and cultural terms. Therefore, it is possible to deduce features, still prevailing in the urban and architectonic expression of the local communities, that could extend from the subtle Islamic influence, passing through the resilient roman legacy to the north barbarian traces, without major formal distinctions. The present study was originally developed in the frame of the research of the European Project VerSus. The VerSus project's main aim is to gain knowledge from the fundamental lessons and principles of the vernacular architecture and to explore new ways of integrating those principles into modern sustainable building (<http://www.esg.pt/versus/>).

The *Montaria Village* was analysed by the scientific research team of the project, integrated in academic exercises by architecture students and subject of professional documentation workshops. The following text constitutes one transversal synthesis of the overall result, sharing a scientific, pedagogical and technical perspective.

1. Adaptation to the territory

Montaria is a typical settlement of the Iberian Northwest deployed in a mountainous area of low altitude.

Its singular proximity to the ocean coast is responsible for a large rainfall value and the diminution of the overall temperature range. The settlement is located in a south oriented slope, thus taking advantage of a generous sun exposure, protected of the humid winds by the surrounding granite boulders. It was the abundance of this stone that determined the main material resource for construction (OA, 2004).

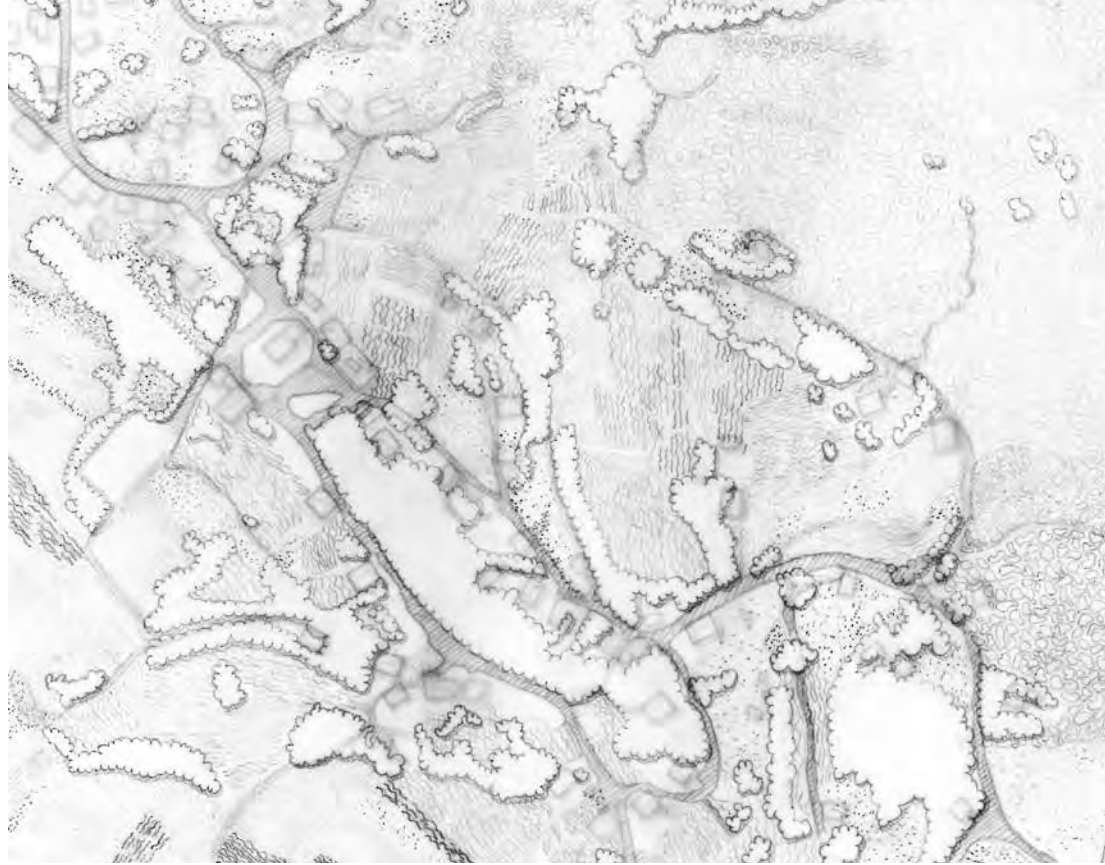
The settlement is strategically deployed at the hinge between the granitic surface soils and the high altitude valleys, where abundant waterlines permits permanent agriculture production.

The intensity of agriculture resulted in significant landscape changes, consolidated by several generations. The most evident is the construction of land terraces supported by retaining walls, in order to reduce the slope and extending the useful thickness of the soil, which quality was improved over generations by incorporating remains of organic materials. This resulted in the supplementary irrigation of the summer crops, essential

Fig. 1. Montaria's main structuring waterline.



Fig. 2. Montaria's academic documentation.
General plan by student Raquel Gonzalez.



to late cycle harvests, among which stands out the corn-maize, the main product of the region since the seventeenth century.

The bearing wall of granite emerges as a fundamental element of the landscape structure, modelling the natural topography. The roman rural patch revealing the *ager-saltus-sylva* is evident, small forest composed by oak, olive and pines are scattered between crop fields and pastures (Ribeiro, 1945).

The Montaria specific geography permits the coexistence between Central/Western Europe and the Mediterranean natural vegetation (*idem*).

According to some authors the presence of the oak and the alder is an indicator of the perfect synthesis between the European and the Mediterranean woodland, which explains the existence of strawberry trees.

Despite the existence of species that produce quality wood, the heterogeneity of the species and their relationship with the ecosystems always conditioned the development of timber construction. Despite its ductility, especially when compared to granite, wood is always used as a complementary resource, applied only in components where the lightness is a prerequisite, as in roofing, shutters or pavement structure elements (Llano Cabado, 1996).

The cluster takes advantage of a geographical converging area that enables the development of the three decisive stages of regional traditional production within the same community: the cereal production, their proper storage, and its processing. Despite its suitability for growing cereals the habitants also resort to livestock breeding. The surrounding areas of grassland located in the highlands, between 200 and 400m altitude, bordered by Atlantic forest fringes, allow reasonable access to pastures throughout the year, without the traditional long routes of transhumance practice. This enables a more intense appropriation of land near the building core and a regular maintenance of the common infrastructures. The family's small vineyard and the vegetable garden constitute the complementary element of the local original subsistence.

2. General form and infrastructure

Montaria constitutes a small-scale cluster of scattered buildings.

The proximity to other settlements of similar dimensions and production logics, suggests a tendency for a growth limit.

The village matrix follows the valley line, constituting an organic elongated shape absorbing the main waterlines, which runs from the North summit through two tributaries to the east direction. This area corresponds to a range of agricultural land and pastures, occasionally crossed by communications, establishing a longitudinal gap between the buildings and the granite slopes where the human intervention is minimal.

The circulation network has the same orientation, inserted inside the built cluster following the ridges. The articulation nodes are usual located in small peaks and ridge ends, where the spaces and equipment for collective activities are situated.

This fact is reinforced by the implementation of the threshing-floors and porches, conveniently facing south, exposed to the sun, currently articulated with the public domain as an extension of the church yard, which is established as the architectural reference of the village, where the scarce tertiary sector was implemented.

It can be inferred that the water lines are the main structural elements of the settlement. From them four complementary and interdependent systems are comprised: the water supply network for the milling mechanisms; the circuit of field's irrigation, the drainage of the building areas and the communication circuit with agricultural fields.

The first two shows the importance of preserving the path between the courses of the village and their retention basins and springs on top of the mountain. Although they can seem natural, their artificial control is crucial for the village entire system.

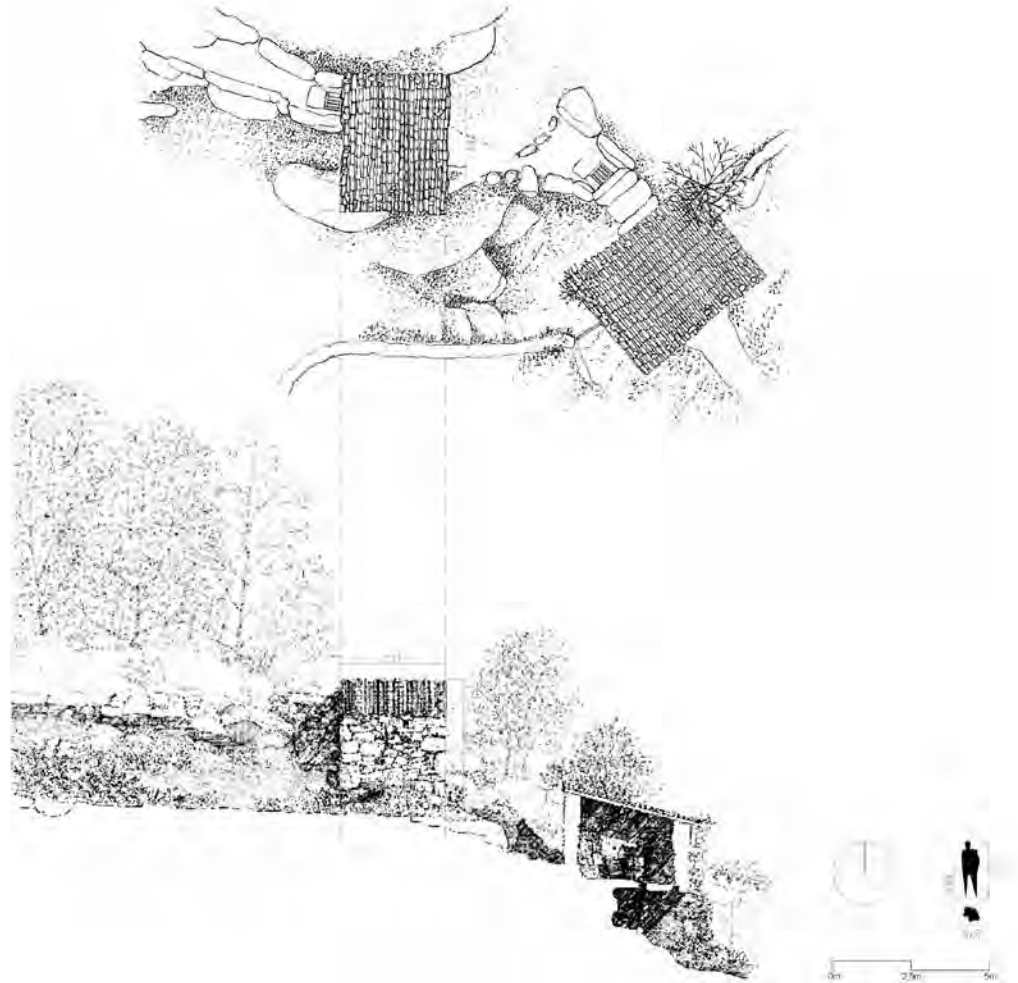
The maintenance of the surrounding vegetation must be ensured, as well as the surplus quantity conveniently diverted, to not impair their needs or to constitute a risk to the buildings areas.

The perpetuation of riparian vegetation that crosses areas of boulders, confining the water lines, also prevents the land slides by erosion effects, ensuring the maintenance



Fig. 3. Documentation Camp workshop (VernaDoc) in Montaria, 2013.

Fig. 4. VernaDoc Survey of Montaria.
Watermills by Nathatai Chansen & Gilberto
Duarte Carlos.



of the river line within reasonable limits. A set of fangs, floodgates, and channels arise not only to route the water to the desired destinations, but mainly as a way to prevent excessive flow causing damage to the structures.

The last two systems are a case of optimization between the logic output of the cluster and its compatibility with circulation necessities.

The accompanying drainage of parallel accesses, which flank the areas where is a lower water retention (such as alignments of buildings facades), which are thus paved in granite slabs, driving away the water form the houses by inclination, putting the buildings in a higher position.

The inclination is always oriented to parallel channels, usually using the walls of adjacent support, invariably converging to the dominant waterlines so that all the water that cannot be absorbed by the soil returns to the natural system. At the intersection points between the outline and these systems are located tanks and fountains for the community.

2.1 Collective and shared spaces

The elements of exception and representation that in the western urban context fit into the typology of square are thus replaced by community spaces, predominantly related to the local production and its resources. The Montaria displays four types, two of which arise from the local rural activity: Community threshing-floors (Eira) and points of water supply (ponds, fountains and dams), and two related to the religious influence in the local culture: The Church, churchyard and cemetery. The Eiras are situated in places to permit a higher exposure to the sun and dry winds, integrating rocky outcrops, on the edge of the housing areas. Its positioning comprises a series of larger collective facilities, which are arranged around it, without compromising sunlight.

The water points are also important elements of collective interaction both in resource utilization and in their maintenance activities. In these areas there is a broadening profile of the paths / roads to allow free use and to avoid conflicts circulation. They comprise fountains and tanks, separating the use for humans and animals purposes. Given the abundance of water resources, they also act as the channel of drainage, sharing the irrigation networks and the mills water supply, which in this case are integrated inside the settlement.

The Churchyard and the cemetery, which in the specific case is an outstanding unit in the topography, play a symbolic role that overlaps the natural logic of the settlement. Their position, obeying to liturgics features, is opposite to the sunlight orientation of the residential buildings, reinforcing it as a built formal exception. Their recognition as a visual reference in the specific context acquires a scale that goes beyond its own village, reinforced by their distance to other constructions, assuming a notable proportion, given to the small size of the cluster itself.

The common elements of integration are composed of organic paths that are linked hierarchically. They are, in this specific case, a pragmatic result of the combination between the agricultural spaces, the aggregation of smaller parcels used for housing and the necessity of circulation between them, avoiding the harshest slopes.

2.2 Cadastre and private space relation

The organization of private spaces is processed by micro sectoring, establishing smallholdings as the dominant type.

The agricultural system forces a land reparcelling in a mixed double solution, conformed by *agras* fields and banks-terraces plots. The first are privately owned and the second are managed in consortium of rotative use. The *agras* fields, constituted



Fig. 5. The agras system example.



by groups of parallel narrow strips, occupy the most barren and flat areas, along the prime waterlines, which are forced to ramify through a network of artificial channels and dams to ensure a homogeneous irrigation. The strips are perpendicular to watercourses, occupying the valley areas, as continuous units of intensive farming, dominating the cluster north boarder. The opposite area, which is located precisely on the southern slope of the main ridge, is structured through banks and terraces, running the transition to the steeper slope of the hill facing the sun exposure, establishing itself as the area preferred for the implementation of housing and its vegetable gardens (Bouhier, 2001).

The residential plots comprises the main building, usually of two floors, a patio that opens directly to the access, which may contain rural small equipment's.

They have no geometrical resemblance between them, besides a parallel orientation to the adjacent accesses, but present very similar dimensions. The plot is completely walled, and the system acquires a clenching great expression, usually articulated with the morphology of the residential building (Duarte Carlos, 2014).

2.3 Singular features

The case of Montaria acquires particular interest when these two different systems compose common elements, such as communitarian terraces or paths that end up establishing a subtle transition between them and with the original topography.

The overall tendency shows a resolution through the application of larger walls on the side of the *agras* units (which in normal circumstances presents only indicative closures), which acquire infrastructural functions, either in the conformation of access paths or integrating water channels, contributing to the morphologic balance between the adjacent bank walls and two storey house buildings.

Another, quite effective, solution of articulation is the suspended vineyard: the "trellis". The vineyard is assumed as a natural shading system, extending from the plots, to the adjacent roads and other communitarian spaces, which is something that increases the formal unit of village and its landscape impact.

The predominant use of granite, in irregular stone masonry, with very low aggregate mortar, due to the shortage of lime, which turns out to be recurrent in the walls, even in situations where houses already use a current building system, and the use of typological references of rural buildings, contributes to the enhancement of the structural unit of the territory (Llano Cabado, 1996).

The Vernacular settlements and their formal variations are the maturation of a long empiric process, framed by the possible production logics and the potential of the local resources, according to the available energetic limits (Ruano, 1999). When interpreted through their own specific logic, separately from rigid conventional urban models they can constitute valid and interesting alternatives to contemporary interventions (Lefavre & Tzonis, 2003).



Fig. 7. Vineyard trellis overs communal pond.

Fig. 8. Residential plot typology.

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Fig. 6. The bank-terrace system example.

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