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Giuseppe Amoruso *Editor*

# Putting Tradition into Practice: Heritage, Place and Design

Proceedings of 5th INTBAU International  
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# Signs and Structures of Oltrepò Pavese: Summary for the Graphic Representation of the Traditional Cityscape

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**Abstract.** The present paper illustrates part of the project of methodological analysis, which focuses on the comprehension, and representation of the landscape of the Oltrepò region, in order to preserve and maintain its historic cultural significance. The census of the territory and its elements has allowed to obtain a complex and articulated fact-finding framework of the hinterland of Pavia, which is almost totally absent today. The test area on which to experiment with systems of interpretation and analysis of the site was chosen in an attempt to trigger a network that, starting from the case study of Barbianello, was able to extend to the neighboring municipalities the methodology documentation and the promotion of cultural traditions in that territory. The research activity has started a collaboration that, in 2013, saw the participation of the City of Barbianello and the Department of Civil Engineering and Architecture of the University of Pavia in actions for the protection and preservation of a highly identified landscape system.

**Keywords:** Traditional urban heritage · Landscape analysis · Digital database · Colour front · Design coding

## 1 Identifying Characteristics of the Oltrepò Territory [12]

The heritage of Pavia's Oltrepò territory has the ability to configure itself as an important attractive center, acquiring a specific and recognizable identity within the territory. The awareness of the value of Pavia's landscape is mainly due to the action of local economic activities, which are able to define a territorial structure organized by signs and traces on the agricultural land. In addition to these signs it is necessary to mention the peculiar identity aspects, constituting an architectural heritage of inestimable cultural and traditional value, too often hidden inside private courtyards which are carelessly abandoned and destined to inevitable disposal. For small towns such as Barbianello (880 inhabitants), these small local treasures imply a huge potential attraction. The community often perceives these urban systems, articulated in historical settlements, production areas and small localities, as places of restricted tourist interest. On the contrary, they are areas possessing a historical and monumental system of high

artistic and architectural value, examples of which can be found in the constructive methods of the monumental farms of San Re and Bottarolo, or within the same historical Barbianello city center, of which Palazzo Nocca and its Mannerist park are among the most eminent examples.

The growing awareness that the loss of this traditional and cultural heritage has produced in the country has produced from 2013 onwards a growing attempt to raise public awareness; said attempt resulted in a collaborative action between public institutions and universities, especially between the municipal administration of Barbianello and the Department of Civil Engineering and Architecture of University of Pavia. The project has involved the active collaboration between the two partners, promoted by the scientific manager, Professor Sandro Parrinello, in the research activities on the field of protection and preservation of the territorial system, at the heart of which lies the City of Barbianello (Fig. 1).



**Fig. 1.** Photography of the Oltrepò Landscape. On background, an example of Pavia traditional architecture in a state of abandonment (Photo by A. Dell'Amico)

### 1.1 Semantic Analysis and Graphical Summaries of the Territory

In order to develop a path of environmental knowledge, which could translate graphically the relations between spaces and specific elements, an analysis project of the signs that define the hierarchy between macro and micro structures that characterize the territory was prepared; the former analysis could then be able to influence the perceptive systems and dictate such specific reading parameters and criteria for heritage evaluation. The preparation of these methodological assets, which was able to determine the aspects that define the landscape, has considered both the metrically reliable data, obtained by the use of digital instruments, and the information arising from more

perceptive approaches to the site, or by investigations carried out on site and by the analysis of the reports obtained through the critical tool of the design.

The approached semantic interpretation has considered physical and perceptive limits, identified among the administrative border, infrastructure, waterways (divided among the small canals for irrigation and small rivers or natural ducts), the plantings, the open spaces and the different relevant points, identified as Landmarks that rise above the horizontal continuous front, privileged systems for guidance inside the place. For example, the high bell tower of St. George's church, symbol of a territorial system in the flat area of Barbianello.

The necessity to manage such a complex archive of acquired information, and to structure a valid graphic coding system for the synthesis of the results obtained, has made necessary the breaking down of the entire municipal system Barbianello into manageable and displayable areas, so as to facilitate critical reading and understanding of the spatial relations.

A first level of decomposition has concerned the identification of homogeneous areas (macro) that were classified for their territorial character. These areas are distinguished for possessing certain formal qualities, characterized by homogenous natural systems, or in any case classified within homogeneous sets, as well as being confined by physical or perceptive limits. The subdivision of the landscape in macro areas was necessary to arrange a spatial hierarchy that would facilitate the phases of analysis and categorization of the landscape.

The ways in which each macro-area has been divided required the detection of margins, centers, cores and blocks, in other words all portions of soil spatially identifiable by signs and punctual symbols. Through a linear schematization, the system of vehicular and pedestrian paths has been represented, defining for each of them not just the performance and the connections compared to the nodes and to the centers, but also the type of the trail and of the asphalt system, the state of conservation and the presence or absence of valuable views. Within each macro-area certain phenomena were identified that, although just visually perceived, determined further rules via which it has been possible to classify the components of the landscape. The identification of micro-areas, or sub-homogeneous systems defined, just like with macro-areas, by physical and perceptive limits, has allowed to extend the Landscape analysis to a deeper level, down to a greater amount of detail of the territory, for the investigation of the specific environmental elements and the mutual relations that characterize the physical space.

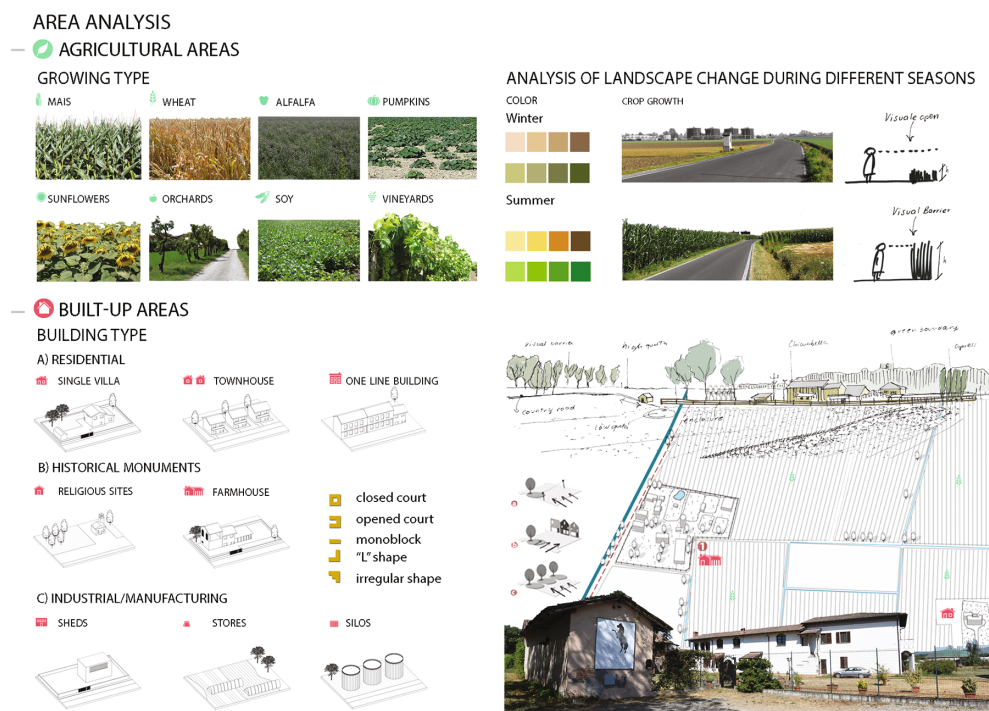
For each micro-area destinations of use, building typologies, agricultural areas and the cultivation types have been detected. The analysis of the detail has allowed to examine the color study of the built-up areas and open areas, highlighting the color of each urban front or valuable architectural complex, but also the changing of the agricultural landscape during different periods of the year.

The interpretation of the environmental signs has produced a landscape synthesis process, inside of which the signs have been translated into codes, which turned out to be useful for a symbolic representation of the discretized complex system. Each element of the macro-area and micro-area system has been represented through an extreme simplification of its shapes, in order to clarify the identity features and easily make it recognizable within the general representation of the territory. The use of a symbolic



representation language has been finalized to the systematization of a valid coding scheme, for each of the elements in which the system has been broken down, applicable to both the municipal area and to neighboring ones.

The information and analysis of the relations between the different areas identified were then synthesized into a single descriptive graphic of the different levels of interpretation. The analysis and the use of symbols for the synthesis of activities and the relations in the territory were necessary to achieve the comprehension of an environment and the relations that define its meaning. The understanding and the reconfiguration of the space complex into specific signs and symbols, through a critical drawing project, is the first and fundamental step for the study of the landscape. The interpretative process has produced a document that can be easily placed between the actual status and the project, a kind of methodological protocol, a proposal instrument for a higher awareness in territorial interventions, aimed at protecting the local traditional characteristics (Figs. 2, 3 and 4).



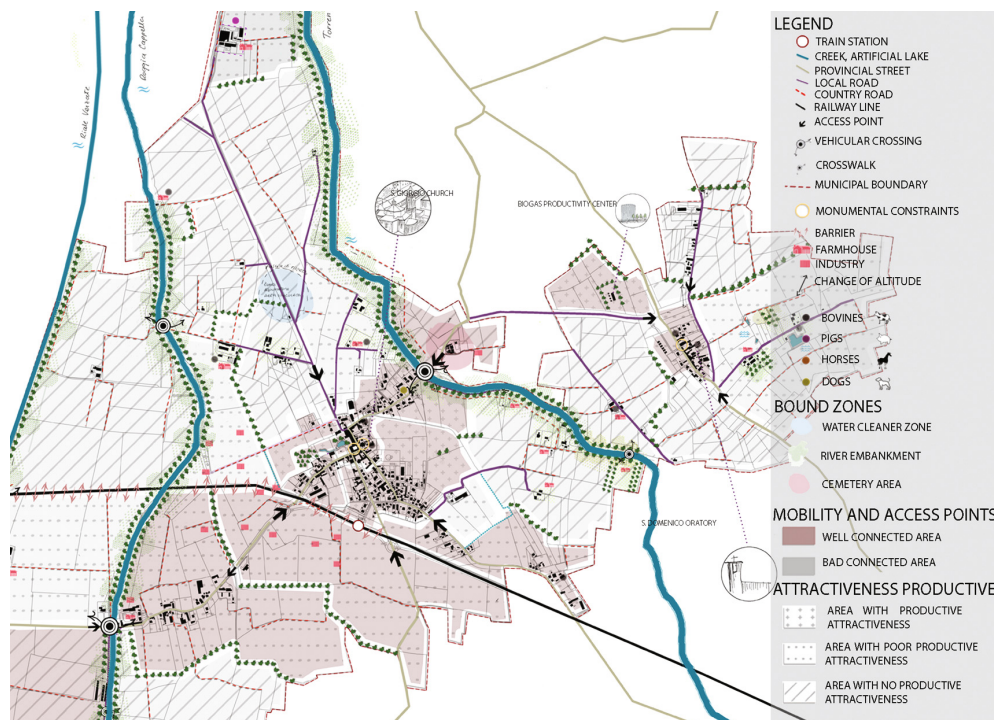
**Fig. 2.** Graphic summary of the analysis process for the different areas identified in the municipal area.

## 1.2 The Historic Center of Barbianello: Processes for Encoding and Enhancement

The municipal settlement system is made up of small agglomerations, which develop along the highways of the municipal area, to which a high number of farms spread all around the countryside is added. The urban fabric occupies the prevailing part of the urban agglomeration where historical constructions and recent expansion facilities coexist. This way, there is the alternation between isolated villas, small factories and



**Fig. 3.** Scheme of the macro-area of Barbianello's the historic center. To the right the division in micro-areas.



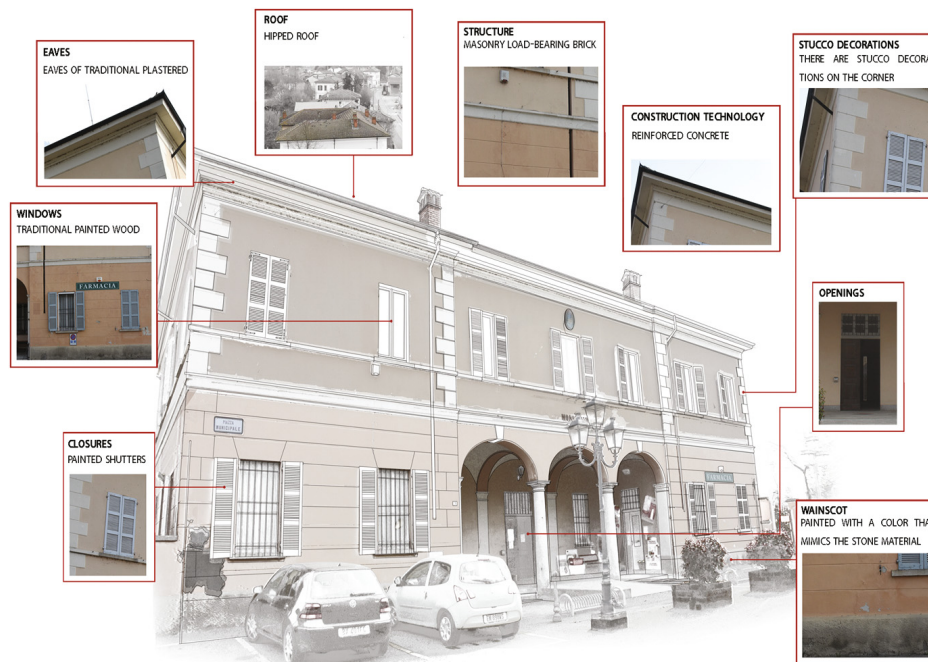
**Fig. 4.** Summary of the results that emerged from the analysis of different macro and micro-areas

villas built during the period after the war: because of this the image of the area has been often devalued. Another reason for this decline was an economic policy projected toward new construction rather than architectural restoration, altering the intended use of the buildings and the original planning systems of the territory. The issue of the land-use planning has led to a project for a database that can be seen as an organizational structure where to set up proposals for actions aimed at the preservation of the identity of Barbianello. The coding system developed to catalog in macro and micro areas the entire territory allowed to start the process of digitalization of the acquired information and to structure a database that provides the cartographic support on which referencing the data processed on each element of the urban system. For the recovery and enhancement of the urban image, a cataloguing of the major urban fronts has been provided and which is capable of developing thematic papers related to the state of maintenance of the urban fronts on which to plan following interventions of planning. In order to draft the thematic papers, it was necessary to decide in advance the items with attached lists of values that would allow a correct and complete evaluation of the conservation status of the front.

The investigation on each urban front has been integrated by the completion of descriptive drawings and a proper photographic campaign.

Each sheet describes the conservation of the main front of each building unit present in the municipality of Barbianello, identified by a distinct volume by type, use of the building, height, number of floors and architectural characters. The cataloguing of Barbianello's historic center has been organized in two steps: the first part, corresponding to the first page of the sheet, contains information about the building unit, while the second part, corresponding to the following pages, detailing the features of the main front. To get a methodical database and one that is easy to manage, each building unit has been named with a U.E. alphanumeric code and identified in the general plan placed on the top of each sheet. For each U.E code there is a description of: the volumes, indicating the number of floors and specifying if there were basements or volumes over the gutter level. As often is the case with small urban areas, the inner urban fabric is frequently characterized by buildings whose intended use is commercial on the ground floor and residential on the upper levels; for this reason an individuation of the U.E use of the building divided by floors it has been foreseen. In order to have an overview of the state of conservation of the entire urban center, each U.E. was evaluated by assigning a scale of values between excellent and bad, on the basis of the state of degradation of the elements that compose the front (facade, windows, roof, lifts, facilities, entrances and staircases). It's also important for the conservation, to define the U.E architectural significance in relation to the urban fabric. In the municipality of Barbianello, a number of significant type characters were detected: "Monumental", buildings protected by the Ministry of Culture, "Historic", having precious architectural elements but not protected, "Common", that could have precious architectural elements and frequently found within the urban fabric, and lastly the case in which the building is wrongly inserted inside the urban context and devoid of precious architectural elements: such type has been classified as "Null". In the second part of the cataloguing the different elements of the front unit were analyzed. As in the case of the U.E, it has been encoded through a progressive numbering (COD.FRONT) and for each element that is part of the front the following information is indicated: the amount, the type, the type of

material, the color, and the state of conservation of the front among the date of the census, and an evaluation of the degradation of the elements (Fig. 5).



**Fig. 5.** Analysis diagram of a unit construction, in which they highlight the different elements in the surveyed database sheet.

During the compilation of the sheets the color of the fronts and the presence of decorative elements/urban furniture is surveyed in order to draw up a “color plane” face to guide future interventions in urban areas of ordinary and extraordinary maintenance, restoration, recovery and restructuring building. The problem of the coloring of urban fronts is extremely current; often, because of the bad management at planning level, there are chosen materials for the works of maintenance and restoration that are not very congruous with the identity of the place and as in the case of Barbianello, it can lead to the loss of the original image of historic buildings. For this reason, it is important to focus future action on collecting data on the colors congruous by iconographic evidence and photographs and the weak traces of tints that have survived, thus directing future interventions with a proper color palette of the old town.

In the case of Barbianello the tints of the visible facades have been detected through the use of a chromatic reference panel. The model for said detection is a X-Rite Color Checker Classic type with 24 colored patches, made with very stable pigments, which allows color calibration through the use of specific software. The color is detected approaching the panel to the facade, and taking a photograph in RAW mode, in order to be able to control all the shooting parameters and to calibrate the color to ensure adequate fidelity of the data. Then the detected colors were catalogued through the use of alphanumeric codes and synthesized in a palette on the basis of a chromatic scale. Both for the color plane, which for the cataloging of the buildings is necessary to carry out an action of synthesis of the information collected by drafting tables thematic able



to render immediate reading of the actual state of the urban center, underlining, where there are, the critical areas on which it will be necessary to act. Within a research project aimed at protecting the image of a traditional old town and restoring its identity values to the urban landscape, thematic drawings are a key document:

- they are necessary for the preparation of a cognitive framework, the basis of conservation and land management;
- they describe and represent the historical built environment system;
- they describe the heritage of the center, highlighting its specific characteristics and peculiarities;
- they are an effective tool for the immediate reading of the urban aggregate.

The following items were consequently represented: the typological individuation, the number of floors, the plaster painting of the fronts, and the general state of conservation of the main front (Fig. 6).



**Fig. 6.** Examples of synthesis of the census thematic maps of the urban fronts of historic Barbianello.

## 2 Conclusion

The product of the landscape territorial analysis research method, integrated with a census of urban fronts of the historical center of Barbianello, consists of a database that contains in itself a large amount of data of different kind: from those describing the metrics and morphological characteristics of a particular element, to those capable of analyzing the material and qualitative component of each individual component of the wall's surface or space of the examined system. The product thus formed is capable of

offering a useful tool in the design phase, which covers different levels of investigation and that, in accordance with the purposes required, can allow a discretization of the elements from the large-scale up to the maximum level of detail. The product obtained, can form a description of the current state in which the historic center lies, but especially it can become the basis for further specific investigations, related to the restoration of the decorative elements or to the diagnostics of structures or facings, in order to preserve the state of conservation of architectural surfaces and to allow widespread disclosure for the preservation of cultural and identity memory.

**Acknowledgment.** The research project for the study of historic city center of Barbianello (PV) and of Palazzo Nocca and its monumental park documentation is part of a research topic towards the protection of architectural and landscape heritage of Oltrepò, that started in May 2013 by the Joint Laboratory Landscape, Survey and Design and the Dada Lab, of DICAR, Department of Civil Engineering and Architecture of the 'University of Pavia, in collaboration with the municipal administration of Barbianello. The project, which is responsible Prof. Sandro Parrinello and coordinated by Dott. Francesca Picchio, involved the cooperation of students and Ph.D in educational activities and educational seminars organized within the university courses of survey' Architecture and Survey and Restoratio of Prof. Parrinello, in the Bachelor's degree in Engineering/Architecture, University of Pavia.

Is due to Francesca Picchio the drafting of paragraphs 1, 1.1; and to Anna Dell'Amico the paragraphs 1.2, 2.

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