

Place Identity Graphic Assessment and Post-disaster Reconstruction



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Abstract Natural disasters and degradation phenomena interrupt the organic evolution of a place; this phenomenon invests, therefore, a vulnerable and weakened system, which inevitably becomes exposed to risk, within a territorial context already characterized by high seismicity or reduced resilience. The research identifies the tools to assess values and meanings of a territory, that have to be appropriately documented and communicated in order to inform decision-making process for conservation or reconstruction. Landscape documentation and its graphic transcription, according to new technology applications, provide a cognitive framework but also an operative vision to regenerate places and buildings according to local traditions. The research proposes the integration of models, representations and visualizations based on repertoires, high-iconic databases and predictive simulations. Promotion of local identity and psychological and environmental wellbeing requires the definition of tools for collecting and documenting local characters: analysis of urban patterns, construction techniques and tonal analysis of the urban environment, classification of architectural and landscape vocabulary.

Keywords Decision-making process · Resilience · Place-making · Landscape · Survey · Local character assessment · Representation

1 Putting Tradition in Practice

Natural disasters and degradation processes interrupt the organic and natural evolution of a place that is the material and immaterial expression of a vast heritage; this phenomenon of degeneration generally involves a highly inhomogeneous system in terms of types and construction technologies, vulnerable and weakened in its settlement infrastructure. Inevitably, exposure to the calamitous phenomenon, in this context of reduced resilience, produces greater damages than those reasonably

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acceptable and that in the perception of the population, actress, author and victim, are incomprehensible.

The integral knowledge of values and meanings of a territory, appropriately documented and shared within a community through digital systems, is the cornerstone for informing every decision-making process that intends to repair it, transform it or rebuild it. From the assessment of the post-emergency phase of recent earthquakes, for example that of 2009 in L'Aquila, it emerges that it is urgent to deal not only with reconstructing the architectural character but also with the intangible substance of which the community is constituted.

Italy was the first country in the world to establish that the protection of the landscape and the artistic-historical heritage of the nation should be included among the fundamental principles of the State as stated in the art. 9 of the Constitution (1947). In a country like Italy where populations historically coexist with the "earthquake's damn" it is paradoxical how any culture or, at the very least, awareness of the minimum precautions related to the maintenance and adaptation of traditional construction technologies for avoid serious damage to things and people has been lost.

In *Cerreto Sannita: un modello di ricostruzione post-sismica* (Cerreto Sannita: a model of post-seismic reconstruction, NT) Billy Nuzzolillo, describing the case of Cerreto, hit by the 1688 earthquake of Sannio, writes "... we want to have all the knowledge available, we want it to be permanently pursued and generated new knowledge, we want this knowledge to be transformed into competence, professionalism, rooted earthquake culture and widespread in those who govern, in citizens, in those who work in security, in those who defend our monuments and our history, in those who plan cities, in those who build roads, bridges, schools...NT" [19].

This study identifies the operational and cognitive tools for the benefit of assessing the social and environmental resilience of a place; this process generates new skills, culture and a practical thought to be shared within a community.

The research proposes the integration, in decision-making processes, of territorial models and visualizations based on repertoires, high-iconic databases and predictive simulations. Promotion of local identity and psychological and environmental well-being requires the definition of tools for local characters documentation: analysis of urban patterns, construction techniques and materials, the tonal characteristic of the environment in relation to a sequence of units of landscape that constitute the urban habitat. The documentation of the local identity and the creation of a renewed common awareness, after the emergency phase, must then deal with pragmatically some issues that seem inevitable and no longer postponed.

What are the principles on which a resilient community is based? How assess the vulnerability or resilience of a cultural landscape, a territory and a community? What can be the resilient communities to be taken as reference if they exist? What are actions, processes and constructive systems that can influence the maintenance or creation of resilient capacities within a community?

These issues were addressed by the international meeting, *Heritage, Place, Design: Putting Tradition into Practice*, hosted by the Milan Polytechnic in 2017 and promoted by the *International Network for Traditional Building, Architecture*

and Urbanism. After the visit of the Prince of Wales to Amatrice (April 2017), a symbol of the devastation of the recent Italian earthquake, the meeting presented practical solutions for giving back to places and communities cultural and technical tools to reconstruct the traditional landscapes [2], in a global society that has recently suffered serious losses: the destruction of the triumph arch of Palmira (October 5, 2015) and the earthquake in Italy (in the period 24 August 2016–January 2017). This last “natural” event, in its dramatic and human implications, involves very close the topics presented in this essay: in the next years and decades Italy will have to face a challenge of considerable economic and social commitment and the it will only be able to overcome if it adopts appropriate practices at the local level, innovative in the cultural approach and in the application process.

2 Landscape as an Expression of Culture, Memory and Local Character

According to the *European Landscape Convention*, signed in Florence in 2000, “Landscape” is defined as an area perceived by people whose character is the result of the action and interaction of natural and/or human factors.

The *Convention* applies to the whole territory and concerns natural, rural, urban and suburban spaces, including land landscapes, inland waters and marine waters; it is addressed both to landscapes that can be considered exceptional, to those of everyday life and degraded landscapes. This last statement is of great importance since in the past, for example in Italy, already Benedetto Croce and other European intellectuals such as Georg Simmel in Germany and Charles Lalo in France, observed that the landscape is not nature but history and therefore we perceive it through the filter of literature and art.

In fact, the first Italian law for the protection of the landscape is due to Croce (Law n.778, 11 May 1922), while Italy was the first nation in the world to place it among the foundations of the Republican State (Article 9, paragraph 2: *La Repubblica tutela il paesaggio e il patrimonio storico e artistico della Nazione* -The Republic protects the landscape and the historical and artistic heritage of the Nation, NT) and to make constitutional the principles of the two Bottai laws, one on the artistic heritage and the other on the landscape, both approved in June 1939, during fascism.

With Croce there was established a model of beauty “connected with civil and literary and pictorial history”, “panoramic natural beauties” and “landscapes of great interest”, that is landscapes and cities that resembled a postcard or a picture as also addressed from the Law of protection of ‘39 (known as Bottai law), created to protect only “those natural beauties considered as paintings”. This concept had a long tradition, rooted in Roman law and also with some precedents in the *Rescripts of the King of Naples*, which protected the views of Mergellina for example; certainly an aristocratic law that operated in legal continuity with the other previous laws. As Alfonsino Piscicchio reminds us, in the *Manifesto* for the regional law on

beauty of Puglia, “this beauty had to do with the allure of the past and the “ruins” but not with the living people and their ability to build, with the ingenuity and work, other beauty. Therefore, to overcome this idea of beauty as “ornament”, the Constituents, during the discussion of what was then the art. 9 of the *Constitution*, they put in the field an idea of beauty based on human work and on a so-called “minor” art, handed down for generations by master craftsmen, teachers who worked together with brain and hands. They had forged, always on the long duration, a diffused beauty that, as Concetto Marchesi said, was the very sign of identity, of memory and of national cohesion” [20, 6].

In 1992 the *World Heritage Convention* became the first international legal instrument to recognize and protect cultural landscapes. The *Convention* acknowledged that cultural landscapes “are cultural properties and represent the combined works of nature and of man”, as designated in Article 1 of the *Convention* and they are illustrative of the evolution of human society and settlement over time, under the influence of the physical constraints and/or opportunities presented by their natural environment and of successive social, economic and cultural forces, both external and internal.

The Committee in 1992 adopted guidelines concerning their inclusion in the *World Heritage List*. The World Heritage Committee has identified and defined several specific types of cultural and natural properties and has adopted specific guidelines to facilitate the evaluation of such properties when nominated for inscription on the *World Heritage List*: (a) Cultural Landscapes; (b) Historic Towns and Town Centres; (c) Heritage Canals; (d) Heritage Routes.

Cultural landscapes belong to three main categories (*Operational Guidelines 2008, Annex3*), namely: (a) The most easily identifiable is the clearly defined landscape designed and created intentionally by man. This embraces garden and parkland landscapes constructed for aesthetic reasons which are often (but not always) associated with religious or other monumental buildings and ensembles; (b) The second category is the organically evolved landscape. This results from an initial social, economic, administrative, and/or religious imperative and has developed its present form by association with and in response to its natural environment. Such landscapes reflect that process of evolution in their form and component features; (c) The final category is the associative cultural landscape. The inclusion of such landscapes on the *World Heritage List* is justifiable by virtue of the powerful religious, artistic or cultural associations of the natural element rather than material cultural evidence, which may be insignificant or even absent [28].

The *European Landscape Convention* defines “landscape protection” as actions to conserve and maintain the significant or characteristic features of a landscape, justified by its heritage value derived from its natural configuration and/or from human activity, and “Landscape management” as an action, from a perspective of sustainable development, to ensure the regular upkeep of a landscape, so as to guide and harmonize changes which are brought about by social, economic and environmental processes. Finally “landscape planning” is defined as a strong forward-looking action to enhance, restore or create landscapes.

In 2008, the *Committee of Ministers* awares that landscape contributes to the formation of local cultures and that it is a basic component of the European natural and cultural heritage, contributing to human well-being and consolidation of the European identity, released a *Recommendation of the Committee of Ministers to member States on the guidelines for the implementation of the European Landscape Convention*. The fundamental principle considers the territory as a whole, meaning that the “convention applies to the entire territory and covers natural, rural, urban and peri-urban areas. It includes land, inland water and marine areas. It concerns landscapes that may be considered outstanding as well as every day and degraded landscapes”. Another important topic is the role of knowledge that has to be recognized and characterized: “The identification, description and assessment of landscapes constitute the preliminary phase of any landscape policy. This involves an analysis of morphological, archaeological, historical, cultural and natural characteristics and their interrelations, as well as an analysis of changes. The perception of landscape by the public should also be analyzed from the viewpoint of both its historical development and its recent significance” [21].

The *European Landscape Convention* gives a relevant address through the definition of fundamental actions to be taken on landscape: protection, management and planning actions. The process is based on four steps and has to start from the accurate knowledge of the landscapes in terms of identification, description and assessment.

In 2011 UNESCO released a further document on landscape approach, the *Recommendations on the Historic Urban Landscapes*, the first instrument on the historic environment issued by UNESCO in 35 years.

The historic urban landscape (HUL) is the urban area understood as the result of a historic layering of cultural and natural values and attributes, extending the “historic center” or “ensemble” concept to include the broader urban context and its geographical setting.

Historical urban landscapes are complex systems that are generally perceived as environment with high-level presence of diffuse heritage; the whole concept goes beyond the specific materialization of the local culture but also highlights subjects who through their image and identity require special strategies of valorization and fruition. The 2011 *Recommendation* says also that “The historic urban landscape approach is aimed at preserving the quality of the human environment, enhancing the productive and sustainable use of urban spaces, while recognizing their dynamic character, and promoting social and functional diversity. It integrates the goals of urban heritage conservation and those of social and economic development. It is rooted in a balanced and sustainable relationship between the urban and natural environment, between the needs of present and future generations and the legacy from the past.”

The *Recommendation on the Historic Urban Landscape* don't replace existing regulations or conservation approaches; rather, it is an additional tool to integrate policies and practices of conservation of the built environment into the wider goals of urban development in respect of the inherited values and traditions of different

cultural contexts. This tool, which is a “soft-law” to be implemented by Member States on a voluntary basis.

The historical urban landscape is therefore the material representation of regional cultures and traditions that have developed in relation to the geographical and climatic conditions of the territory and the availability of local resources and materials. A habitat matured over the centuries, rich in history, heritage, social significance, crafts and traditions.

This was what Johann Wolfgang von Goethe wanted to summarize when he talked about the Italian built environment, a territory rich in beauty, the result of the incessant work of man down through the centuries: “I went up to Spoleto and I was also on the aqueduct.... ..The architectural art of the ancients is truly second nature, which works according to the uses and the civil purposes This is how the amphitheater, the temple the aqueduct arise...”. In his extraordinary journey in Italy he describes our landscapes as a kind of widespread miracle, able to add to the “beauty of the first nature” the beauty of a practical art and a landscape of “everyday life” that has become a true “second nature” [11].

Also in the same territory, between 1292 and 1296, a pictorial cycle of 28 views called the *Stories of St. Francis* was painted in the lower part of the Basilica of Assisi. Going beyond the artistic question and the attribution of the work to Giotto, it is important to underline how it is a narration of the Italian medieval landscape imbued with devotion to the Saint Francis, of sacredness and of a Christian universe in perfect harmony with every earthly reality. The cycle is characterized by an innovative layout where the pictorial space interprets and suggests a three-dimensional volume where the characters of the *Stories* are naturally inserted into faded architectures and perspective wings that create practicable spaces. It can be affirmed that they represent the landscape and the contemporary environment with all its peculiarities and at different scales; a Middle Ages characterized by specific typological and environmental, civic and sacred elements: loggias, walls, porticoes, towers, city and church, individualism and communities of different scale and proportion, colored plasters, stone churches and wooden houses. The frescoes of Assisi represent a landscape not only rural and in opposition to the city but as an expression of a mental form, shared perception and figurative memory to share that reflects the society and culture of that historical era. According to Salvatore Settis, “the landscape is the historical form of the territory, the sedimentation of human presences in their interaction with nature”, a balanced, integrated and organic expression of the relationship between city and countryside [24].

Umberto Eco reminds us that memory is “a faculty by which both individuals and communities base their identity (amnesiac no longer knows who he is)” [10].

In *The Invisible Cities*, Italo Calvino faces an exploration between imagination and imaginable through the description of some cities; it is a dialogue, in the form of a story, between Marco Polo and the Emperor of Tartars Kublai Khan. Calvino builds literary places, real landscapes with a conceptual structure, known as combinatorial literature, which manifests itself according to the “local” characterizations: to be precise, 55 cities, divided into 11 groups of 5 cities each where the first group it is dedicated to “city and memory”: Diomira, Isidoro, Zaira, Zora and

Maurilia. In Diomira, the first invisible city, memory is the foundation of knowledge and the basic condition of the recognition of places and their peculiarities. According to the story, the traveler recognizes on his arrival what is known to him. “All these beauties the traveler already knows for having already seen them in other cities”. The characteristic of Diomira is that “... he is envious of those who now think they have already lived an evening like this and have been happy that time”. The bitter disappointment lies in the fact that it envies those who feel or those who can still feel sensations, in the face of an absolutely normal situation. The memory is therefore between the expression of an emotional mode and the memory itself, which becomes the object of suffering. Marco Polo writes: “Even cities believe they are the work of the mind or chance, but neither one nor the other is enough to keep up their walls. Of a city you do not enjoy seven or seventy wonders, but the answer you give to your question” [7].

In this work the influence of semiotics is evident, a discipline that analyzes signs and the way in which they make sense, and therefore deals with studying the phenomena of signification. By signification, in fact, we mean every relationship that links something materially present to something else that is absent. It is well known that our brain, on the other hand, needs to exercise and process memories through material expressions, rituals and symbol recognition.

Amnesia, which in medical literature is described as a disturbance of long-term memory, is linked to the inability to remember even ts. Johannes Spangerberg in his *Libellus Artificiose Memoriae*, among the causes that lead to forgetfulness, indicated the corruption or diminution of faculties through old age and illnesses. Techniques for memorization cannot counteract this decline, but could offer practical expedients to prevent or reduce corruption, or so-called “forgetfulness of past species.”

The art of memory is a practice that, following a precise system of rules, is aimed at the preservation and the fruition of information for the benefit of civilization and citizens [10]. This practice seems to be no longer useful whereas in the past there was nothing to rely on but an ability to store a huge amount of data (names, concepts, arguments) and consequently to develop memory techniques. Latin sources, including the *De oratore* by Cicerone and the anonymous *Rhetorica ad Herennium*, report that memory was one of five parts in which rhetoric was divided - formed as a whole by *inventio, dispositio, elocutio, memoria, pronuntiatio*—and allowed the orator to remember his own speech by associating the various parts with a series of “places” and “images” imprinted in the mind. Frances Yates writes that the solution to remembering was to organize memory spatially: a large house or city divided into a series of architectural environments—palaces, rooms, gardens, vestibules—where to place, with imagination, what had to be recalled. The exercise consisted in retracing such rooms mentally and then finding what needed to be recalled in the different places where memory had been subdivided. This practice allowed to call a *locus* and to associate and place *imagines*, easy-to-remember pictures that had to address the memory of “things” (*res*) and “words” (*verba*).

The unknown extensor of *Rhetorica ad Herennium* took care of distinguishing between two kinds of memory, a natural one, to be considered as an innate faculty

and an artificial one, to be strengthened and consolidated through education. Images allowed us to remember arguments and concepts, the real subject of the discourse, while *imagines verborum* were used to remember every single word: that is, the language with which to communicate the subject. These were both a kind of artificial memory, or *memoria artificiosa*: *memoria rerum* and *memoria verborum*. A rule, often used to support speech, was to leave an imprint in the mind through an image of extraordinary beauty or ugliness (*imagines agentes*), a way to cause indelible emotion in memory [30].

These brief concepts give us back the importance of knowledge to understand the complexity of the built environment; developing knowledge is the only way to subtract the memory of places, in its tangible and intangible characters, to oblivion. The concept of heritage cannot remain only a special episode in the passive exercise of memory, since part of the cultural identity of a society is constituted by the places in which it resides.

The historical urban landscape can also be considered as a cultural landscape [23], a material expression of the models of adaptation to different sites and of environmental resilience, in which each element can be identified and documented; this landscape can be described graphically as a catalog with multiple levels of information developing appropriate semantic models [1]. Direct analysis, digital technologies and transcription methods offer tools for the innovation of the process of knowledge and conservation of this heritage, already applied in numerous international contexts.

The documentation of landscape meanings and semantic characters makes it possible to apply tools and processes for the characterization of the so-called “proximity landscape”: an innovative concept that considers the landscape as an evolving organism strongly linked to its traditions that highlight the widespread and immaterial value of a community through its constructive characteristics and its relationship with environmental and natural aspects.

3 Reconstruction Practice. Building for the Future and Resilient Communities

The reconstruction of territories and cities as a result of epochal and rare events, is more often a constant practice due to the multiplication of wars, earthquakes, natural disasters and the impossibility of the inhabitants affected to manage independently the phases following the destruction. Reconstruction practices, in addition to representing perhaps the only moments of reflection on the future of cities, have provided an exceptional wealth of technical and cultural experiences related to new ways of living, the preservation of monuments, the preservation of urban identities and territorial and, more recently, adaptation to climate change climatic conditions.

In the current context historic urban landscape beauty or sites listed by Unesco as *Outstanding Universal Value*, unfortunately coexist with sprawl and degradation of territory, with environmental resources waste, and the ignorance of traditions that constitute the tangible and intangible heritage: signs, memories and projects that do not belong to the individual but represent the whole community. According to Settis, the beauty of our landscapes cannot be of any benefit if actions are not carried out to save beauty itself: first of all defining it, defending it, creating it, as the architect is called to do by the very nature of his craft [24]. In a post-emergency phase, among the many solutions, which ones can guarantee the durability, resilience and popularity requirements that an urban settlement must have? The concept of resilience has become increasingly important to the process of sustainable planning policy and practice according to recent and past reconstructions. Resilience means the overall goal of decreasing human vulnerability: an ability to remain in existence, to sustain a period of hardship or difficulty, and the capacity to recover quickly from unavoidable consequences of disasters. The main message is that built heritage is one of the main assets that communities recovering from disastrous events wish to rebuild. The ability to reconstruction planning is a key to becoming a more resilient city. Social networks as well as place attachment and place satisfaction could make people more resilient and more able or willing to rebuild their previous lives and homes. The first decision made by survivors following a disaster is whether to stay and rebuild or relocate. The mental costs to remaining in a damaged community and trying to rebuild can be very high. That is why individuals with more social capital are more likely to stay in damaged areas and work with neighbors to rebuild. Those with fewer connections, who feel less of a sense of place, are more likely to exit [12]. Looking at the diverse examples and emerging theories of urban resilience, it is possible to review a range of urban heritage conservation practice which provided effective and sustainable answer to disasters.

In the Italian scenario, the reconstruction after the earthquake of Friuli in 1976 (magnitude 6.5 of the Richter scale) is considered a virtuous case of response to one of the worst Italian disasters. In 2017 Venzone, a village in the province of Udine rebuilt after the earthquake, has been voted the most beautiful village (*Il Borgo dei Borghi* competition) because it represented “one of the most extraordinary examples of architectural and artistic post-earthquake recovery”. The historic town centre reconstruction was finished in 1990 according to its original style and reusing almost 10,000 stones from the demolished buildings.

Resilience measurement is a fundamental prerequisite for systematic development of communities over their lifecycle. Resilience assessment systems measure resilience as performance (past incident and the urban system’s reaction in that) or resilience as competence (city’s perceived capability to adapt, recover and benefit of shocks). Such knowledge is the starting core of each reconstruction practice, addressing the principle of building back better and safer in carrying out sustainable reconstruction and recovery interventions of historic areas. Targets are to practice according to a holistic approach, socially, economically and environmentally resilient communities and also including proactively residents so that they will better

cope with future disasters. Any action that improve the sense of ‘preparedness’, in case of loss, is important to preserve their identity and economic, social and environmental practicality and to seamlessly transmit their heritage to new generations. Knowledge- and evidence-based approaches to improvement of resilience and reconstruction principles square measure required to extend the cost-effectiveness of those activities from the total life cycle perspective. The conventional approach to natural disaster recovery is based mostly on post-impact reaction instead of risk reduction policies: prevention, preparedness, and mitigation, cultural resilience have to be embodied in the place-making process. For several decades, UNESCO’s World Heritage Committee (WHC) generally promoted the opposition to reconstruction of town after a disaster. The first exception was made in 1980 for the historic centre of Warsaw, whose massive rebuilding was accepted by UNESCO as a symbol of “the inner strength and determination of the nation, which brought about the reconstruction of the heritage on a unique scale in the history of the world” [29]. Other exceptions included the listing of the Old Bridge Area of the Old City of Mostar which was justified on the basis of the restoration of cultural value, an intangible dimension of the property, and the Tombs of Buganda Kings at Kasubi, Uganda, which were destroyed by fire in 2010 and were gained provisional approval for reconstruction on condition that the new structure was based on sound documentation, traditional forms and techniques, and continuing use [8].

The current version of the *World Heritage Committee’s Operational Guidelines for the Implementation of the World Heritage Convention* still echoes the *Venice Charter* when it states: “In relation to authenticity, the reconstruction of archaeological remains or historic buildings or districts is justifiable only in exceptional circumstances. Reconstruction is acceptable only on the basis of complete and detailed documentation and to no extent on conjecture” [8]. However, in light of recent extremists’ attacks on heritage places, like the willful destruction in 2012 of the Sufi mausoleums at the Timbuktu World Heritage Site in Mali, decisions of the *World Heritage Committee* reflect a shifting attitude towards reconstruction which is now cautiously accepted if it seeks to reflect a pattern of use or cultural practice that sustains cultural value. The justification for this shift is based on previously mentioned exceptions and ideas published in the *Nara Document on Authenticity* in which the broadened use of intangible attributes makes a stronger case for reconstruction [27].

The professional historical investigation based on scientific grounds helps to establish a hierarchy of values and valorizes space, while social participation—in both spheres of identifying and conserving built heritage—enhances the sustainability of the process negotiated within the community. In a dynamic environment of today, more importantly than ever before, historical and traditional forms of architecture may reflect the meanings and values that people hold from the past and want to preserve, adapt, restore, reconstruct or even reinvent. Recreating cultural complexity, adequacy, and character of a townscape is possible if one builds on a historic layering of cultural attributes and forms. People and communities differ in their capacity to combat disasters because of certain pre-existing factors such as

having the proper institutional and financial mechanisms in place to execute preparedness and recovery plans. Despite these differences, societies around the world are on almost a level-playing field with regards to building and maintaining at least some degree of architectural resilience. Successful community-driven historical reconstructions of European cities prove that reconstruction of architectural assets—especially when smartly combined with technical improvements of living standards—helps people to reconnect with their past, or, if those places are new to them, to understand places they are going to live in [8]. The assessment of previous experiences shows that practice has to enhance resilience and reduce vulnerability of historic areas through holistic approach reconstruction and economic and social recovery of historic landscape by local authorities and communities taking advantage of the use of new knowledge and tools.

4 The “Observational Technique” for Place-identity Assessment

The urban landscape represents a complex relational system that manifests itself mainly through the material expression of the meanings and of the spatial and social relations. In *The Architectural Tuning of Settlements*, Leon Krier, architect and piano player, explains concisely through a set of small drawings that good architecture and good settlements, like good music, can be made when the component parts are understood. A matrix of nine possible character-types of cities and towns, formal (classical), informal (vernacular) and a combination of both architecture and urban context presents the three right “tunings” that all of us can easily recognize in our living environment. Krier also addresses other characteristics of buildings and urban design; they play a specific role and, like music, there is more to a note than its pitch because duration, intensity and feeling matter. Buildings have uses (civic, private, and commercial), scale, and proportion and these qualities need to be tuned correctly within the environment [13]. The documentation of the different identities and morphological relationships, and their graphic transcription, also thanks to new technologies, provides a cognitive framework necessary to plan the regeneration of living and building according to local tradition. The cultural system should be understood as a cognitive, social and symbolic area of a territory and a community: from traditional, artistic, demographic, anthropological, monumental and environmental heritage to the territorial and urban systems.

In the UNESCO *Recommendation on Historic Urban Landscape*, at article IV, a series of innovative tools are presented: “The approach based on the historic urban landscape implies the application of a range of traditional and innovative tools adapted to local contexts. Some of these tools, which need to be developed as part of the process involving the different stakeholders, might include:

(a) Civic engagement tools should involve a diverse cross-section of stakeholders, and empower them to identify key values in their urban areas, develop

visions that reflect their diversity, set goals, and agree on actions to safeguard their heritage and promote sustainable development. These tools, which constitute an integral part of urban governance dynamics, should facilitate intercultural dialogue by learning from communities about their histories, traditions, values, needs and aspirations, and by facilitating mediation and negotiation between groups with conflicting interests.

(b) Knowledge and planning tools should help protect the integrity and authenticity of the attributes of urban heritage. They should also allow for the recognition of cultural significance and diversity, and provide for the monitoring and management of change to improve the quality of life and of urban space. These tools would include documentation and mapping of cultural and natural characteristics. Heritage, social and environmental impact assessments should be used to support and facilitate decision-making processes within a framework of sustainable development. The process of analysis and mapping of the places is the necessary prelude to a design action oriented to their modification, and also includes the emotional and perceptive dimension of involvement of the senses aimed at the representation of space through visual thought and the production of graphic materials.

“The eye does not see things but figures of things that mean other things” Calvino writes in *The Invisible Cities*. The mapping process consists in the formation of “images”, first of all mental concepts that are then interpreted and transcribed in relation to a more or less sophisticated code. The images “build” a shape, reproduce itself through their geometric, typological, aesthetic structure and give evidence of the structural and functional relations between the components.

For example, Attilio Marcolli considered perceptual phenomena related to color as manifestations of a color-space topology; the interaction between the built and the unbuilt environment creates the “color-city”, where conditions of color and shade are integrated in the spatial and topological conditions, forming a city that can be defined as a *tonos-topos* combination [16]. Still on the subject of spatial relations and the chromatic environmental component, the color designer Jean-Philippe Lenclos, investigated on regional color atlas as well as studies on traditional colors of different French cities and landscapes. One of his most famous projects was his concept of *Geography of Color*. Lenclos and his wife Dominique published their first book *Couleurs de la France, Maisons et Paysages* in 1982 [14, 15]. Cities are systems that express multiple chromatic identities. Each urban area has its own “chromatic spatiality” as well as that morphological one that depends on many factors: brightness, materials, colors and contrasts, type of space, size of buildings; color therefore represents an attribute that explicitly represent the spirit of place.

The interventions on the historical urban landscape include methodologies, tools and project techniques [17]. To develop new knowledge on the settlement, typological and morphological characteristics of the widespread heritage, the tools and techniques for landscape representation that document the landscape units and the single minimum units are used; moreover, it is necessary to direct the meta-planning area to the recognition of the value of places. Other identifying characteristics are recurrent and can be found in different landscape units where the

strong relationship between urban space and its chromatic component and the processing of local materials is evident. It is therefore necessary to promote operational methods to rehabilitate and reconstruct the physical and human condition, deeply investigating the representation and enhancement of cultural heritage and historical urban landscapes, according to the definition of UNESCO, but linking the cognitive action to the subsequent methodologies of placemaking and strategic design [3].

The British society was the first to experience rapid and problematic industrial growth leading to the emergence of neighborhoods for workers and immigrants and creating a machine for the production and distribution of products. In this context the first philanthropic movements were born, which dealt with creating harmonic communities and social services such as schools, hospitals and health centers. Among all the movement formed around the figure of Ebenezer Howard who with his manifesto *Tomorrow* proposed a practical model for investors and landowners aimed at the construction of industrial urban villages based on mixed and integrated functions. Patrick Geddes, a contemporary and also a supporter of Howard, advocated the civic survey as indispensable to urban planning: his motto was “diagnosis before treatment” addressing practical techniques for regional survey, analysis and planning. Such a survey should include, at a minimum, the geology, the geography, the climate, the economic life, and the social institutions of the city and region. His early work surveying the Old Town of Edinburgh became a model for later surveys. He was particularly critical of that form of planning which relied overmuch on design and effect, neglecting to consider “the surrounding quarter and constructed without reference to local needs or potentialities”. Geddes encouraged instead exploration and consideration of the “whole set of existing conditions”, studying the “place as it stands, seeking out how it has grown to be what it is, and recognizing alike its advantages, its difficulties and its defects”. Geddes believed that cities should be seen as continuously evolving organisms, setting great worth on the continuity of tradition and physical characteristics of a place. Once the essence of a place was understood, he believed, it could be given a new lease of life through good design and by targeting detrimental elements [22]. Drawing on the scientific method, Geddes encouraged observation as the way to discover and survey with the relationships among place, work and folk (or family). In 1892, to allow the general public an opportunity to observe these relationships, Geddes settled a laboratory called the *Outlook Tower* that documented and visualized the regional landscape according to a sociological approach. In keeping with scientific process and using new technologies, Geddes developed an *Index Museum* to categorize his physical observations and maintained *Encyclopedia Graphicato*, which utilized a *camera obscura* to provide an opportunity for the general public to observe their own landscape to witness the relationships among units of society. Geddes’s lesson teaches that a widespread cultural asset, like a historical center, is the main element of the identity of a territory and an expression of its community; through the peculiarities of a place, its specific traditions and the historical memory that resides in its physical resources, it is possible to design a planning matrix that links the diffused environmental values to the natural scenery, to the traditions of

building and use of local resources; in this paradigm there are the meanings linked to the habitation and the form of the agrarian landscapes and of the urban structure that influences the sociality expressed by traditions, gastronomy and craft.

In the characterization and representation of a landscape of proximity it is important to proceed by highlighting the characteristics of stability and continuity and also making the parameters of unitarity and difference recognizable. The concept of place is inextricably linked to the concept of limit and boundary, spatial relationship and connotation, which intertwine with a physical-perceptive delimitation and give a representation of its soul. The place is a set of identities with boundaries, in which there is always a link between the subjects and the space. It is therefore something specific, with its own character, which identifies it and, at the same time, makes it unique. Therefore, operational actions on the territory should: develop, deploy and validate tools, information models, strategies and plans for enhancing the resilience of historic areas to cope with disaster events, vulnerability assessment and integrated reconstruction.

Also according to the aforementioned UNESCO recommendation on Historic Urban Landscape, It further recommended to identify the critical steps to implement the Historic Urban Landscape approach, which may include the following: to undertake comprehensive surveys and mapping of the city's natural, cultural and human resources and to reach consensus using participatory planning and stakeholder consultations on what values to protect for transmission to future generations and to determine the attributes that carry these values. A further step is to assess vulnerability of these attributes to socio-economic stresses and impacts of climate change and to integrate urban heritage values and their vulnerability status into a wider framework of city development, which shall provide indications of areas of heritage sensitivity that require careful attention to planning, design and implementation of development projects.

The research defines a graphic-design standard for the promotion of architectural and urban quality. The urban and morphological code establishes the graphic conventions to support the urban design process: a set of principles, rules and expectations to represent a building concept.

This is possible because codes constitute the vehicle for translating design issues into a built form but at the same time they are also instruments of representation and communication of types, materials and lexicon. The design information is collected through synthetic graphical tools organized in the form of graphic parallel of templates, so it is possible to define a graphic vocabulary and the drafting of appropriate glossaries called *Typological Code-Pattern Book* [12]. This document addresses the understanding of the local code and identity through: the documentation of its urban patterns and building techniques, increased knowledge of the value of its vernacular architecture and urbanism.

Ray Gindroz, author of numerous books on the use of pattern books, wrote: "They were the direct descendants of the books used since Roman times, the means by which architects have passed along their knowledge of design to builders in remote places. From Vitruvius, to Palladio, to Asher Benjamin, to the American Vignola, architects provided helpful guides for the building industry. In the second

half of the nineteenth century, Pattern Books became part of builders' marketing programs. These attractively designed books were easy to understand. Their pages combined realistic drawings of houses along with floor plans and important details. There were many choices of floor plans and arrangements of architectural elements, but all using details and proportions to the style. Pattern Books set the rules, but each builder found ways of interpreting them, elaborating them, or even bending them. The result is the balance between individual expression and unity found in traditional neighborhoods. The patterns and elements of style were expressed differently in each region and often elements were "cross-bred" across different styles. They represented a consensus among architects, builders, realtors and home buyers on the way to design buildings and communities" [26]. The pattern book is associated with typological representations for landscape sections, both urban and extra-urban, which describe the change in the image of the territory as it passes from the rural to the urban context, describing the structuring and characterizing elements of the different parts of the territory [9]. According to the *European Landscape Convention*, "Landscape" designates a certain part of the territory, as perceived by the populations, whose character derives from the action of natural and/or human factors and their interrelation. Therefore it is necessary to identify their own landscapes and their articulations and units, on the whole of their territory, analyze their characteristics and evaluate them, taking into account the specific values attributed to them by the subjects and the populations concerned.

The knowledge of a territory considers a vast field because the single landscape units coexist organically, in proximity and integrating according to a system of associations of urban and natural elements. Familiar to the discipline of ecology, the transect is an ordering system that arranges a sequence of natural habitats. It has proved a particularly useful way to detect transitions and distribution patterns. The transect can be extended to the human habitat as a means of creating a coherent rural-to-urban gradient. In addition to providing a system of classification, the transect is an instrument of design upon which the usually specialized urban components can be correlated. The idealized geographic continuum of the transect can be divided into locally-calibrated tiers that are distributed from natural to urban core; in actual application is often manifested as a mosaic of areas [18].

5 Conclusions

If buildings and cities are a portrait of human condition, scholars and citizens, according to their skills and their expectations, have to invest resources to let this heritage to remain alive. Cultural heritage in general is made up of the products and processes of a culture that are preserved and passed on through generations through the regeneration of memory.

Moreover, the *Convention for the Safeguarding of the Intangible Cultural Heritage* (2003) defines the *Intangible Cultural Heritage* (ICH)—or the living heritage - as the protagonist of the cultural diversity of humanity and its

maintenance a guarantee for continuous creativity. Intangible cultural heritage indicates practices, representations, expressions, knowledge, skills - as well as tools, objects, artifacts and associated cultural spaces—that communities, groups and, in some cases, individuals they recognize as part of their cultural heritage. This immaterial cultural heritage, transmitted from generation to generation, is constantly regenerated by communities and groups in response to their environment, their interaction with nature and their history and provides them with a sense of identity and continuity, thus promoting respect for cultural diversity. and of human creativity.

Natural disasters periodically invest landscapes or historical centers, putting their organic nature in crisis and making them fragile. Such places, so beautiful as to be defined as “city-nativity scene” had first been depopulated, in this case we speak of abandoned villages especially in the internal areas of Italy, and then they became comfortable aggregates for second homes and therefore usually non-recipients of investments structural changes by the institutions. The economic balance based on the farm and on the passive maintenance of the distinctive, typological, figurative and constructive characteristics of the architecture has actually become a superficial, banal and compromised by alien constructive systems and by the vague alibis of cultural or gastronomic tourism. The maintenance of memory and cultural identity must now be supported no longer in a mono-functional but organic, conscious, economically articulated and respectful manner of architectural traditions.

The analysis of the current planning processes has led to the evaluation of alternative solutions to the conventional cultural approach that has caused the inevitable expansion of the suburban fabric around the inhabited centers and the erosion of the natural territory and of the traditional built heritage with a strong loss of quality urban and environmental. It is essential to direct research to review, map and systematically characterize existing experiences and good practices in Europe and globally, through evidence and common metrics to evaluate and establish their replicability conditions, and recommend how historic areas can be rendered more resilient and better prepared to face future disaster events.

A “practical” research on the landscape must also deal with the legal systems and overcome “the absurd laws that ruin cities” as recalled in a recent Settis writing [25] reaching a structured knowledge of the historical and environmental context. The survey of urban and environmental characteristics is also aimed at highlighting the indicators of the quality or degradation of public spaces and of the fabric built to allow the recovery and enhancement of inhabited areas and places of historical and artistic interest, the improvement of quality architectural and the recovery of the landscape value of the territory also through the elimination of incongruous works and regulatory instruments [4, 5]. This process of integrated knowledge provide science- and evidence-based guidelines and models to local authorities for carrying out sustainable reconstruction within a participatory and community-based context.

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