Designing with the Landscape

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Abstract. This paper argues that, while European legislative frameworks, assessment methodologies and systems of visual resources are invaluable tools for designing with the landscape and its contemporary connotations, it is difficult to 'unlock' the cultural properties of landscape without a creative choice of values made by the architect who designs with it. Architecture that evolves with the landscape—both natural and cultural—is a call to re-examine today's realities within the framework of climate change, limited resources and an unprecedented flow of migration around the globe. Landscape is investigated in its multitude and intrinsic nature, as imaginary locus, mindscape and landform. As part of the New European Bauhaus discussions which were conducted across Europe, landscape emerges as a significant driver for architectural aesthetics and life supporting designs, while it offers the context for reconsidering the true needs of existence. Furthermore, landscape is an important constituent of place making along the European South, where well-being and a sense of freedom stem from the moderate climate and the prolonged life outdoors. Natural environment, local materials and landscape are also discussed as the treasures of the Southern European cultural continuum where inherent values of heritage are preserved. Case studies of Greek architects A. Couvelas, B. Babalou-Noukaki and A. Noukakis are juxtaposed to landscape assessment methodologies in order illustrate the discourse presented here.

Keywords: Landscape · Architecture · Asset · Visual resource · Diatopia · Interpretation

1 Assessing Landscape

1.1 A Complex Continuum

The European Landscape Convention, also known as the Florence Declaration on Heritage and Landscape as Human Values (2014), states that landscape—urban or rural—is directly linked to harmonious development (2.1.a). It also suggests that the 'artificial segregation between conservation and innovation' should be abandoned in light of the challenges of climate change, risk management, biodiversity conservation and human well-being (2.2.c). It becomes clear that the protection of our environs cannot rely on quantitative methods only, as we are spiritually and emotionally invested in the landscapes we live in—as much as we depend on their material faucets to survive. A growing consensus in Europe has led to in-depth landscape assessment studies across the

European South, among them three case studies on in Valencia, Galicia and Catalonia [1], which call for public participation within the framework of the convention. A comparative study across Europe, in Catalonia (Spain), France, Italy, Switzerland, the Netherlands and the United Kingdom, confirms that governments and cultures vary considerably when they cater to the protection of European landscapes [2]. Nevertheless, the legal recognition of landscape implies rights and responsibilities on the part of all institutions and citizens towards their living environment [3]

As part of the New European Bauhaus discussions which were conducted across Europe, landscape emerges as a significant driver for architectural aesthetics and life supporting designs, while it offers the context for reconsidering the true needs of existence. This article discusses our collective, democratic commitment towards our shared heritage, which is the foundation of the existing EU legislation and methodology, as juxtaposed to architectural authorship—a different kind of responsibility towards landscape.

In order to protect our environment, a qualitative approach is sought in order for it to be regenerated, assimilated or solely maintain its qualities (Pearce and Turner [4]).

Sustainability is the way to ensure a renewable resource base so that the use of resources does not exceed their capacity to regenerate. It has been found that the depletion of the environment and its natural resources can harmfully affect the living standard. Hence it is important that the timeless character (which will be analyzed further as *diatopia*), the identity or genius loci of the surroundings where a settlement is built is preserved and that the bearing capacity of its ecosystem—both natural and manmade—is not overloaded. It is not possible to asses the bearing capacity of a cultural or environmental good by economic means only; in order to balance the assessment of values and qualitative parameters one must bring in intangible values, which are difficult to measure.

Such values are preserved by a holistic—and at the same time—site specific study of the inherent character of the continuum of a landscape (natural or/and constructed), its current physiognomy and the desired development in terms of sustainability and resilience against social and environmental threats. Such a study would take into account (i) a bottom up spatial approach, from edifice to landscape (ii) the implementation of projects based on true facts and not 'virtual' data (iii) a continuous survey of data and metadata so that all figures can be combined and assessed at the same time.

In the cases of cities and settlements, where there is no documentation in place, the following steps, in the order suggested, can facilitate the preservation of the landscape continuum:

- The compilation of the historical, spatial and typological analysis of the entity
- The establishment of GIS data frames as a basis for all following steps
- The inclusion of the existing heritage, both cultural and natural, in the developmental design as described in the Amsterdam Declaration so that the emerging surplus in societal, cultural, environmental and financial value is monitored.
- The definition of boundaries for settlements, networks of public spaces and land uses in order to ensure a balanced outcome for the local community and the place
- Linking spatial design with the framework for combatting climate change

Within this context, landscape functions as the unifying element of all the properties of a geographic region [5], bringing together social groups and their political choices. The protection, management and design of landscape cannot be approached separately, these processes are agents of a solid act of sustainable and balanced development. Categories of natural features, tangible and intangible heritage, infrastructure and services as well as spiritual, social and institutional properties are all interrelated by the term 'territorial capital'. The territorial capital of an area brings under one roof its financial, social and environmental components. Such components span "from geographical features of place to characteristics which are difficult to pinpoint, such as quality of life, relation structures, local mores, traditions and more" [6].

1.2 Visual Recourses

In order to utilize landscape as an asset there must be a pertinent framework defining its usefulness within its particular environment and in relation to a desired outcome. Indexes facilitate the transformation of such desired outcomes into normative rules. The research on landscape suggests that quality of life is intertwined with the visual environment of man [7]. The subsequences of economic growth for the quality of landscape led us to understand how important it is to include the visual dimension of landscape into the process of design.

Making visual resources part of the sustainability agenda ensures to a degree that what we (want to) see, including our collective memories of place, can be preserved and protected. Sustainable development professes the protection of visual resources as a dynamic process, and not as something decorative, through which the sources of information and inspiration can be saved. The utilization of spatial visual resources as a set of objectives in scenario analysis for management of networks of cultural identity, contributes to their preservation [8].

A visual resource can pertain to measurable features such as topography, water, flora, human presence, structures etc, but can also express the way such features interact. Hence the visual character of a landscape rests on the way its spatial elements are combined and synthesized. The description and evaluation of visual resources is based on how we decipher the visual organization of the environment which is studied, where the consequences of ecological, social, financial and cultural elements are all inherent traits of the landscape. The methodology for the implementation of visual resources focuses on the visual and geometrical orders and systems within the landscape examined.

In the framework of this landscape research and the evaluation of environmental "visual resources" as part of the present approach, landscape is viewed as an areal entity, where landform and landcover imply a distinct visual pattern, as well as a living organism, where the functional relations of its elements are also considered. Land cover comprises water, vegetation, and man-made development, including cities [9].

As architecture and built heritage are part of such visual entities, the built environment description and analysis are likely to be essential parts of the context of sustainable development. A system for portraying the "image" of a traditional settlement, which incorporates the decoding of the architectural patterns and identifies the architectural resources composing it, is considered one of the possible applications of the visual resource tool for the protection of landscape and heritage [10].

Systems for decoding visual resources, pertain—among other components—to what is called "decoding subjectivity": value judgements and responses are motivated by subjective attributes of the person/entity, as each person is subjected to a set of values (e.g. cultural, social, etc.).

Grasping the "subjective code" in the perceived message of visual resources is crucial. The development of a system for decoding the subjective element of perception when confronting a landscape is key for the process of architectural design. The value formation process which is incorporated in the mental structure employed by an architect is the foundation for the next steps when designing with the landscape.

2 Designing with the Landscape

2.1 *Diatopia* and the Question of Time

Landscape assessment may or may not hint towards its cultural context. Mitchell [11] speaks of landscape as a natural setting which is mediated by civilization, bringing into play the frame and what is framed, the real place and its idol. Integrating new architecture into the landscape largely implies that a new system is being placed into an existing one, after having comprehended the dynamics of the latter and while searching for new spatial dynamics. Nature and human works produce new concepts, symbols, values and meanings which transform spaces into landscapes. Through conscious and unconscious processes, we scan the system of a landscape forming a field of energy which delivers new stimuli to be read and perceived. A landscape can transform into a state of mind, fueling new concepts and ideas.

Landscape as the backdrop of the design process can be assessed and analyzed—as we saw—within a certain normative framework. Yet, such a framework cannot gear the design towards the cultural challenges to be confronted; in order to do so, the architect is called to choose and prioritize among the tangible and intangible values of the landscape. Such choices will give form to his or her design concept.

As landscape is the merger of place and time, an approach which can encompass time proves to be a significant driver for design. Such a contemporary approach is what has been coined as *diatopia* [12], p. 58 or inter-locality [13, 14], a canvas on which our contemporary spatial culture can best be synthesized. Diatopia absorbs what has been and what is, bringing the traces and anthropological marks into play.

With her 'House of the Winds' [11] Greek Architect Agnes Couvelas employs the *diatopic* method seeking to harmonize construction and traditional materials with landscape, in that case, the unique landscape on the island of Santorini. Santorini bears distinct traces of volcanic, aeolic and human activity so intensely that its landscape has also been described as 'an archive of the earth' [15], p. 18. More particularly, the remainders of fortresses and the natural composition of eroded rocks on the Vlychada shore of Santorini (Fig. 1) have been origins of design for Couvelas. The House of the Winds in the southern tip of Santorini takes on the debate of how to achieve balance when building in naturally and culturally unique environments, such as this volcanic corner of the Mediterranean.

A lone building, the house 'sits' heavily, firmly rooted in the ground so as not to be blown away by the wind, while another part of the building appears 'detached', as if it

Fig. 1 The shore of Vlychada, Santorini

has come from afar, like the enormous boulders hurled by the volcano. Together with the neighbouring columns of the veranda they recall the form of the cliffs on the seashore that stand precariously, their base undermined by the sea [16] Fig. 2. The openings are designed as windbreakers, according to the Bernoulli laws, protecting the indoors as a natural windshield Fig. 3.

Couvelas made a decisive shift by adopting both value systems—cultural and natural—into her architectural design with the House of Winds. The house's facades are informed as much by architectural evolution on the isle, as by forces of nature, like the wind and the patterns of erosion. Her design is informed by and also informs the cultural continuum, while using raw, natural elements like the wind to shield the interiors. Couvelas (re)turns to nature: the cliffs of Vlychada, a natural heritage site at the southern part of the island, lends a feeling of 'suspension' to her architecture [15, 17].

The discourse on *diatopia* or inter-locality takes on a new meaning if the natural environment, the local materials and the landscape are discussed as the treasures of the Southern European and Mediterranean cultural continuum, as masterfully described by Braudel [18], where inherent values of heritage and anonymous architecture are preserved. In Greece, the concept of landscape is no longer specified as solely a "beautiful landscape", as was the case until recently. Landscapes to be preserved according to Greek law 1650/86, as well as the Greek law 3937/11 for the 'preservation of biodiversity', now relate closer to the European framework and the idea that a landscape carries 'man made features' as well as cultural value.

Fig. 2 "Dug-out" mass on the rocks of Vlychada in both the cliffs and the house

Fig. 3 Wind deflectors at the northeast edge of the upper storey

2.2 Interpretation: The Question of Ancient and Contemporary

Greek architects Bouki Babalou-Noukaki and Antonis Noukakis, in their project for an open air sculpture exhibition space on the ancient site of Filopappos engage with a historical site of magnitude. The intervention is located the wider area of Filopappou Hill, including the Hills of the Nymphs and Muses at the foot of the Acropolis of Athens. At the south part of the Muses Hill there is an abandoned quarry. This area, even though it is located inside the archaeological site, it doesn't contain archaeological findings. The landscape has been altered through the extensive quarrying in the nineteenth and early twentieth centuries.

With the intention to capture and attribute the particular physiognomy of the place, the project investigates the relationship between landscape and cityscape; it sets out to restore the relationship between ancient and contemporary city; it features the historicity of place and its transformations through time. The Filopappou Hill Open Air Museum focuses on interpreting locus within the framework of historic time (Fig. 4).

Fig. 4 The Filopappou hill open air museum is based on the relation between space and time

The project confronts the area of the hills as a whole, taking into account the significance of its boundaries. The central idea of the design is the highlighting and the reconstruction of the "δια Κοίλης" (*Koile*) road as the most important ancient route of the site and as a functional and organizing axis of the whole area. The regeneration around the Long Walls gate is also proposed in order to make a direct connection to the neighborhood and the city, to create an alternate access to the site and to propose the restoration of the ancient route (Figs. 5 and 6).

Landscape is investigated in its multitude and intrinsic nature, as imaginary locus, mindscape and landform. For architects, the interpretation of landscape is geared towards new prospects and designs. There is no idle interpretation of landscape for architecture; revisiting a historic site and 'seeing through' its landscape, as well as constructing a narrative of one's own, are legitimate aspects of architectural authorship.

3   Conclusions

When assessing a landscape, rational approaches regarding the meaning of landscape are usually based on the classification of similar traits where the attributes of landscapes are analyzed. Likewise, methodologies may employ spatial entities such as spaces, subspaces, sites, microsites etc. Nevertheless, there is always the interpretative intention behind the formation of landscapes as an investigation into the natural cause behind the form which has resulted. GIS data and planning standards consist the foundation for all holistic, socially adept approaches aiming at societal and territorial cohesion as well as environmental protection. The Florence Declaration provides for geospatial data and terms of geographical and institutional definition.

Fig. 5 Plan showing the evolution of Athens since 338-86 BC. *Source* Travlos [19], p. 92 and in red the Filopappos ring road, in blue the ancient wall, in yellow the Koile road

Fig. 6 Athens today with the same diagram as Fig. 5

Interpretation of landscape may pertain to the perception of space as a delimited area of sensory—not geographical—boundaries. Furthermore, there is the correlation between ecological polymorphy and the visual complexity [20] of a landscape without the necessary overlapping the two. The visual quality of a landscape is often linked to its function and based on an ecological interpretation. The tangible and intangible values

contained in landscapes form the potential for designing with the landscape. When we design with the landscape, more often than not the anthropological—societal, historical, poetic—interpretation of the formation of the landscape remains latent and it is up to the architect to make the cultural choice that unlocks the potential of a landscape.

Based on EU preservation legislation, methodologies of landscape assessment and the systematic compilation of visual resources undoubtedly offer a sound foundation to architectural design, but, they cannot per se lead to it; both examples employed in this paper, the House of the Winds and the Filopappou Hill Open Air Museum, heavily rely on the architects' perception of what is important about the landscape and how the cultural continuum can be restored. In the examples showcased, the power of nature and the power of history are called forth as vital parts of the design, while the way architects designed *with* the landscape resulted to genuine architectural authorship.

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