MONITORING THE TRANSFORMATIONS OF URBAN AND NATURAL LANDSCAPE IN MEDITERRANEAN CITIES BY PROMOTING LANDSCAPE SETTING ARCHETYPES

Ana Sopina, Bojana Bojanić Obad Šćitaroci

Abstract: The research phenomenon of the 'urban and natural landscape relation' as the landscape setting of cities testifies to 25 centuries of urban culture in the Mediterranean. The holistic understanding of the landscape relation as a multidimensional changeability process presents a challenge for its application in spatial planning. The research hypothesis introduces landscape archetypes as a conceptualisation principle for developing an interdisciplinary and comprehensive approach to landscape.

The review of landscape dimensions and the three natures theory is used to set spatial planning, collective psychology, and art photography as the main research fields for establishing the landscape setting and landscape transformation archetypes. These landscape archetypes are verified by comparing the Mediterranean cases of Livorno, Ancona, and Dubrovnik.

Landscape archetypes aid in dealing with the complex nature of landscape relations by acknowledging the values found in each landscape. Spatial planning, collective psychology, and art photography contribute to raising collective and individual landscape consciousness and foster a holistic approach to monitoring landscape transformations.

Keywords: spatial planning, collective psychology, art photography, Tyrrhenian Sea, Adriatic Sea

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Introduction

The research phenomenon of the 'urban and natural landscape relation', which is identified as the landscape setting of cities, testifies to 25 centuries of urban culture in the Mediterranean. It is a multidimensional changeability process that integrates the spatial, temporal, and perceptive character, as well as functional and holistic principles fostered by the spatial planning point of view (Sopina, 2024). The phenomenon of the landscape relation is a layer of the *Urbanscape Emanation* concept (Obad Šćitaroci and Bojanić Obad Šćitaroci, 2019), understood as the impact of the city system on its landscape. The research[1] premise considers spatial planning of landscape transformations as a necessary tool (Council of Europe, 2006) in making natural and urban conditions more holistic, resilient, and sustainable.

Determining the landscape relation as a multidimensional phenomenon and a changeability process implies the need to involve various scientific and art disciplines. Establishing the need for a comprehensive approach to landscape presents a challenge for its application to spatial planning, which raises the research questions - How to address the complex phenomenon and process of the landscape relation in an interdisciplinary (scientific and artistic) manner? How to overlap different approaches to landscape settings for spatial planning enhancement?

A comprehensive conceptualisation of landscape (Council of Europe 2000, 2008) defies precise definition, categorisation, and delineation. The nature of landscape exists equally in reality (physical) and representation (metaphysical dimension) (Pedroli and Van Mansvelt, 2002; Azzena, 2011; Taylor, 2012), which raises awareness of various landscape values (and encourages different levels of landscape consciousness). The hypothesis introduces landscape archetypes (Cullum et al., 2016) as an approach that moves between various fields of research, theoretical frameworks, empirical observations, collective perceptions, and classification rules upon which landscape research, management plans, and art are based. Landscape archetypes are used as conceptualisation principles that embody the (metaphysical) representation of landscape within (the reality of) the physical world with constant landscape change. The research objectives are: (i) to determine the research fields that unite the reality, representation, and changeability of the landscape relation to be addressed in spatial planning and (ii) to establish landscape setting archetypes for monitoring the transformations of urban and natural landscape.

A research approach that integrates scientific methods of literature review, field research, and case study comparison is applied by identifying landscape archetypes that enhance spatial planning. The expected scientific contributions promote landscape archetypes in dealing with the complex natures of the landscape relation and in monitoring transformations of urban and natural landscape.

[1] The research is carried out as a part of the postdoctoral research on *The (Peri)Urban and Natural Landscape Relation of the Mediterranean*, which is a part of the *Urbanscape Emanation* research project, conducted at the University of Zagreb, Faculty of Architecture, led by prof. Bojana Bojanić Obad Šćitaroci, PhD until 2023 and by asst. prof. Tamara Zaninović since 2023.

Methods and materials

The research approach is based upon the literature review method in order to set the main taxonomy and determine the main research fields that foster a holistic approach to spatial planning. Conceptualisation and synthesis of the main research fields in the review of landscape dimensions and the three natures theory are used to identify the landscape archetypes that enhance spatial planning practices.

These theory-based landscape archetypes are verified within the Mediterranean cases of Livorno, Ancona, and Dubrovnik, representing the intensive encounter of urban and natural landscape on the East Tyrrhenian, West Adriatic, and East Adriatic Coast. The three case cities are compared by the four natures of landscape transformation that integrate landscape dimensions and the three natures theory.

Figure 1 – Historical illustrations (up) and contemporary photographs (down) as the representation of the urban and natural landscape relation of Livorno (left), Ancona (center), and Dubrovnik (right). Source of historical illustrations: Livorno[2], Ancona[3], Dubrovnik[4]. Author of photographs: A. Sopina, 2019 – 2024.

Theoretical framework

Setting the main taxonomy of the research establishes an absolute view of landscape as a holistic approach that explicitly addresses the subjective landscape (soul) by taking the inter-subjective landscape (mind) and the objective landscape (body) as starting points (Pedroli and Van Mansvelt, 2002). Thus, landscape expresses and reflects relations that drive the ongoing process of place-making where change is an essential property of landscape dynamics (Azzena, 2011) and landscape transformations. The landscape setting of a city, town, or settlement is

[2] https://www.ribapix.com/View-of-Livorno_RIBA16555

[3] https://www.gettyimages.com/detail/illustration/historical-view-of-ancona-italy-wood-royalty-free-illustration/1219161358

[4] http://arhinet.arhiv.hr/_DigitalniArhiv/GrafikeHrvatskihMjesta/DubrovnikPogledIstok.htm

determined by the mutual influence, transformation, and co-development that form the (inter)relation between urban and natural landscape. This inter(relation) connects spatial, perception, and identity constituents with a specific landscape setting (Sopina, 2024) - urban location and its natural landscape. Landscape archetypes involve constant and recurring models and symbols of landscape - abstract exemplars of groups, classes, landscape types, and values.

Landscape setting archetypes

The spatial, perception, and identity constituents of the landscape setting originate from the spatial, societal, and symbolic landscape dimensions. These threefold landscape dimensions are identified in various research approaches focused on perceiving landscape identity (Relph, 1976; Montgomery, 1998; Parris, 2002; Lucas, 2009; Bell, 2002) and spatial relations (Guattari, 1989; Foucault, 1980; Lefebvre, 1991; Soja, 1996) (Table 1).

Table 1 – Dimensions of the urban and natural landscape relation. Based on Sopina, 2024.

Identity of place (Relph, 1976)	Physical features and appearance	Activities and functions	Meanings and symbols
Sense of place (Montgomery, 1998)	Physical form	Activity	Meaning
Visual perception of landscape (Parris, 2002)	Structure	Function	Value
Criteria for the assessment of heritage landscape (Lucas, 2009)	Visual experience	Existential experience	Spiritual experience
Landscape patterns (Bell, 2002)	Ecological patterns	Patterns of human use	Aesthetics of nature
Three ecologies (Guattari, 1989)	Environmental ecology – material environment	Social ecology – social environment	Mental ecology – human subjectivity
Spatial discourse (Foucault, 1980)	Space	Power	Knowledge
Trialectics of social space (Lefebvre, 1991)	Perceived space	Lived space	Conceived space
Thirdspace (Soja, 1996)	Spirituality Physical space	Sociality Social space	Historicity Mental space
Dimensions as setting of the urban and natural landscape relation	**Spatial dimension**	**Societal dimension**	**Symbolic dimension**

Just as the goal of an individual is to achieve a sense of cohesive self, thus the aim of a holistic approach to planning the urban and natural landscape relation is to simultaneously involve the spatial, social, and symbolic landscape dimensions (Figure 2). This is achieved by complementing the spatial planning field (Sopina, 2024) with collective psychology (Jung, 1959) and art photography (Wells, 2011) in order to establish landscape archetypes that integrate landscape representation and reality with landscape change. What confirms the spatial, societal, and symbolic

landscape dimensions (Table 1) as the landscape setting archetypes is that the three dimensions can be represented and applied in various research fields as well as in their levels (Figure 2).

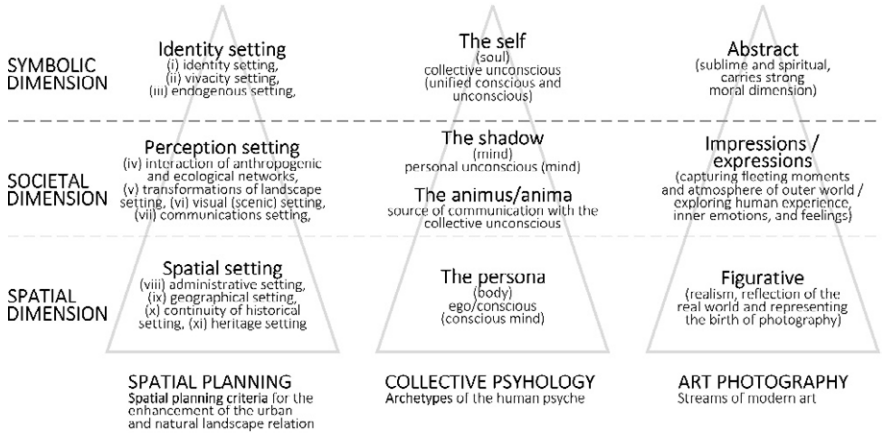

Figure 2 – Integration of (spatial) planning, (collective) psychology, and art (photography) in achieving a holistic approach to the urban and natural landscape relation.

Landscape transformation archetypes

Landscape transformations involve and intertwine urban development with the evolution of natural landscape. Inherited values of landscape continuity and constant landscape transformations are embodied in the natures of landscape where nature is understood as the essence of landscape that is equally applicable to the urban, coastal, and mountain landscape of the Mediterranean cases.

The Three natures theory by Cicero (2008) was updated by Hunt (2000), expanded by inherent aspects of all the phenomena (Garfield, 2002) that evoke the integrity of landscape setting/dimensions, and translated to the landscape scope by the typology of cultural landscape (UNESCO WHC, 2023). The interpreted natures of the primeval, transformed, and planned landscape are complemented with the fourth nature of the deprived landscape recognised as Terrain Vague (de Solà-Morales Rubió, 1995). This fourth nature is identified in spaces that have lost their identity, but where nature emerges spontaneously as new wilderness (Kowarik, 2005, 2013), wild city (Metta and Olivetti, 2020), hybrid natures (Metta, 2022), and novel ecosystems (Hobbs et al., 2006) facilitating dynamic ecosystems and social uses (Bakshi and Galagher, 2020).

What confirms the types of landscape natures as the archetypes of landscape change (Table 2) is that the archetypes of pristine, transformed, designed, and deprived landscape reveal the stages of landscape transformation that can be applied to various types of landscape – equally to natural, cultural, mountain, urban, and other landscape. In this manner, the values found in various types of landscape can be equally perceived, read, and respected.

Table 2 – Landscape transformation archetypes and landscape natures present the constant change of the urban and natural landscape relation. Based on Sopina, 2024.

Three natures (Cicero, 2008)	First nature (wilderness)	Second nature (agriculture)	Third nature (landscaping)	/
Three natures (Hunt, 2000)	First nature (wilderness)	Second nature (countryside)	Third nature (gardens)	/
Vasubandhu's Treatise on the Three Natures (Garfield, 2002)	Imaginary nature is non-existent emptiness	The dependent nature is the existent emptiness	The perfect nature is the ultimate emptiness	/
Cultural scape (UNESCO WHC, 2023)	Associative cultural landscape	Organically evolved landscape	Intentionally men-created landscape	/
Terrain vague (de Solà-Morales Rubió, 1995)	/	/	/	Terrain vague, landscape identity loss
Landscape transformation archetypes	**Pristine nature** of the primeval natural landscape	**Transformed nature** of the cultural landscape	**Designed nature** of the planned landscape	**New nature** of the degraded landscape

Verification of landscape archetypes in Mediterranean case cities

The Mediterranean case cities are compared by landscape transformation archetypes of the primeval, transformed, planned, and deprived nature, where each of the natures is presented by the matrix of landscape photographs of the coastal, urban, and mountain setting (Photographs tables 1, 2, and 3). In this manner, each case city is presented by photographs of the urban and natural landscape relation that also carry archetypes of the spatial, societal, and symbolic landscape setting.

(Second) Transformed and evolved nature of landscape heritage

The organically evolved nature of landscape is presented by the cultural landscape that is transformed over a period of time in harmony with nature where (most of) human interventions acknowledge and emerge in line with the natural landscape. These are identified in the accessible coast of beaches, bathing sites, seaport coves, seacoast promenades, and coastal woods integrated into parks and gardens. Spontaneously developed neighbourhoods, traditional settlements, and manor houses of Livorno, Ancona, and Dubrovnik that have gained heritage value are examples of the organically evolved nature of the urban landscape. The cultivated landscape of agricultural fields, forests kept for wood, meadows maintained by livestock breeding, and the network of dwellings and infrastructure in mountains and hills represent the organically evolved natural landscape that is found in the hinterland. The approaches of adaptation, renewal, and/or revitalisation have to be applied to transformed and evolved areas to be developed as urban and natural landscape heritage**.**

Photographs table 1 – Landscape transformation archetypes as four natures (rows) of coastal, urban, and mountain landscape of Livorno. Photographs: A. Sopina, 2022 – 2024.

Coastal landscape	Urban landscape	Mountain landscape
		
		
		
		

(Third) Designed nature of the planned landscape

The designed and planned nature of landscape is both materialised in the planned urban landscape of cities and coastal infrastructure as well as in the designed natural landscape of parks and gardens. A built and developed coast of industry, ports, shipyards, and infrastructure (Livorno, Ancona, Rijeka), as well as an urban seafront and promenade (Livorno) represent the planned coastal landscape. A historicist centre of block matrix, residential neighbourhoods, industrial, commercial, and tourist zones, as well as designed public parks, cemeteries, and urban walkways represent the designed nature of the urban landscape. The planned nature is rare in the mountain landscape and identified in historical structures (Livorno) while in other cases it is mostly developed without respect for the setting and included in the (fourth) negated nature. The planned landscape that is already identified as heritage has to be protected by spatial planning, while other planned landscape has to be developed in a way to become landscape heritage.

Photographs table 2 – Landscape transformation archetypes as four natures (rows) of coastal, urban, and mountain landscape of Ancona. Photographs: A. Sopina, 2019 – 2024.

Coastal landscape	Urban landscape	Mountain landscape
		
		
		
		

(Fourth) New nature of the degraded and deprived landscape

The negated and deprived landscape includes both urban and natural spaces that have lost their inherent identity, urban landscape that lacks respect towards the natural setting, as well as natural landscape that has lost its values by human interventions. An abandoned and neglected industrial coast, inaccessible coast occupied by port infrastructure, infrastructure-burdened coastal landscape (road and train routes, parking, temporary trade), coast disconnected by train and road infrastructure, and sprawl of coastal settlement developed by secondary houses represent the deprived coastal landscape. The negated and deprived urban landscape is identified in the residential, commercial, and industrial sprawl occupying slopes, natural water flows, and agricultural land, scattered and informal settlements and suburbs developed by secondary housing, as well as in service- and parking-burdened public spaces. Landfills and quarries, unsuitable secondary housing, degraded woods, infrastructure-burdened and fire-devastated natural

landscape represent the negated nature of mountain hinterland. These degraded and negated landscape are places for new nature, spontaneous wilderness, and ecosystems adapted to the anthropogenic setting. This needs to be addressed by spatial planning and focused in landscape design to integrate the aims of habitat restoration and societal use. The equilibrium between nature protection and urban development has to be achieved in order to equally raise the quality of the ecosystem and the quality of life.

Photographs table 3 – Landscape transformation archetypes as four natures (rows) of coastal, urban, and mountain landscape of Dubrovnik. Photographs: Sopina, 2014 – 2024.

Coastal landscape	Urban landscape	Mountain landscape
		
		
		
		

Contributions of landscape archetypes to strengthening spatial planning

The application of landscape transformation archetypes and landscape setting archetypes to case study cities verifies urbanscape and natural landscape as prime landscape archetypes. Urban and natural landscape as well as spatial, societal, and symbolic landscape dimensions and primeval, transformed, planned, and deprived

natures of landscape exist only as an abstract conceptualisation because in landscape reality, representation, and change, each of them consists of the constituents of the other. A holistic approach to awareness, reading, and planning of the urban and natural landscape relation and the interventions in it introduces constitutional, transformation, and creative elements (Table 3) to be applied in scientific, professional, and educational fields of spatial and landscape planning.

Table 3 – Contributions of landscape transformation archetypes and landscape setting archetypes to strengthening spatial planning.

Natures of landscape **Landscape transformation archetypes**	First nature **Pristine / genuine landscape**	Second nature **Transformed / evolved landscape**	Third / forth nature **Planned landscape** **Deprived landscape**
Landscape setting archetypes	**Identity**	**Perception**	**Territory**
Landscape dimensions	Symbolic Intangible Metaphysical	Societal Communal Collective	Real Tangible Physical
Energy bodies of people	Soul/spirit	Mind	Physical body
Landscape scope	Landscape representation	Landscape change	Landscape reality
Temporal context of landscape research	Landscape past	Landscape present	Landscape future (landscape plan)
Stages of the spatial planning process	Re-evaluation stage Preparation stage	Decision stage	Intervention stage
Intervention types	Protection Activation	Adaptation Revitalisation	Introduction Addition
Identity maintenance	Highlighting existing identity	Restoring neglected identity	Bringing back lost identity
Stages of the design process	Context	Concept Idea	Realisation Expression
Landscape elements in spatial planning	**Constitutional** Landscape continuity	**Transformative** Landscape change	**Creative** Landscape planning/design

Identifying the origin, transformation, planning, and deprivation in both urban and natural landscape (Photographs tables 1, 2, 3) confirms that human development can contribute to the quality and diversity of natural landscape just as natural landscape contributes to the quality of cities and the quality of living. This can be achieved by identifying constitutional, transformative, and creative elements in spatial planning practices that respect landscape context and promote creative concepts and ideas for landscape realisations.

Conclusion

Landscape archetypes aid in dealing with the complex natures of the urban and natural landscape relation by acknowledging the values found (in different intensities) in all landscapes. The spatial (planning), art (photography), and

(collective) psychology fields promote landscape quality and the quality of life, contribute to raising collective and individual landscape consciousness, and foster a holistic and resilient landscape approach for sustainable development. The variety of urban development and the natural landscape evolution as the landscape transformation archetypes (primeval, transformed, planned, and deprived natures of landscape) equally involve the landscape setting archetypes (spatial, societal, and symbolic landscape dimensions).

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