THE IMPORTANCE OF MINERAL-VEGETAL RATIO IN STRUCTURING THE LANDSCAPED SPACE OF SOME IASI CHURCHES

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Abstract

The church, as interface element between sacred and profane, is the only architectural program capable of illustrating the complex relationship between matter and spirit, between aesthetic experiences and rational solutions. Faith acts as the binder of this cohesion, the structure materializing the sacred, while the related arts that accompany it confer aesthetic meanings. By maintaining the specific traditional spatial organization of such places unchanged, the churches and monasteries of Iasi have remarkable landscaping designs as an important element of their representative value system.

This study looks at the quality factors that govern the relationships established between the component elements of landscape architecture, elements that define the value of the ecclesiastical assembly. The research is based on the analysis of univocal relations established between all elements of the architecture-art—landscape ensemble, being focused mainly on quality factors pertaining to these connections: architectural object—landscape design, vegetation-mineral (pavement, decorative items, artwork, elements of signage, lighting, urban furniture, utility items, etc.), vegetation-aquatic facilities. It also analyses the relationships system based on quality criteria established between the components of the landscape designs of the most valuable ecclesiastical architectural ensembles of the city of Iasi: Golia Monastery, Three Hierarchs Church, Saint Sava Church, The Metropolitan Church, and Saint Nicolae Domensc Church.

Keywords: symbol, architectural syntax, ecclesiastic, design

1. Introduction

Iasi, as the capital of Moldavia and leading cultural centre, is the keeper of some ecclesiastical assemblies of exceptional value, churches and monasteries of great significance for the history of Romania and for the history of the Romanian Church. Maintaining the specific traditional spatial organization of such places unchanged, the churches and monasteries of Iasi have remarkable landscaping designs as an important element of their representative value system.

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Landscaping generates a communication processes through a varied repertoire of signs (indices, icons, symbols), a complex ensemble of signs and meanings which are communicated through an appropriate and specific language. The signs and meanings are assembled by specific codes determined by the culture that produced them. It should be noted that all these elements have temporal and progressive dimensions, as emerging and transforming the landscaping system.

The second goal of this study was to recognize and interpret the symbolic elements specific to the architectural Orthodox worship space, metaphorical images of the architectural space, which can be found in related landscaped sites. The symbols have been identified on formal, mineral and vegetal level. The aim of this approach was the attempt to prove the hypothesis that these spaces, intermediary zones, transition zones between sacred and profane, have the ability to engage, illuminate and transform, while reintroducing and repositioning the mediating role carried out by symbol in the landscaped environment can inspire the shaping of aesthetic meanings with different cultural and psychological connotations. Does beauty, harmony and expressiveness generate visual, psychological and emotional comfort towards the landscaped environment?

The theoretical researches in the field of Architecture, Landscape architecture, Theology and Semiotics, next to the analytical methods and photomontages, have eased the reduction of the landscape under study to its constituents. "By reference to an image, the analysis and evolution of landscape are by nature imbued with subjectivity. Evaluation of landscaping involves aesthetic judgments that may vary depending on social groups, ages, etc. Consequently, there is no fixed standard or absolute measurement of aesthetics of a landscaped area. The existing methods for assessing the landscape, and so by default evaluation of landscaping, have raised and will raise critics for a long time, occasionally powerful, going up to denying the possibility of landscape quality assessment." [1]

2. Landscaping the Orthodox space: case studies

The following ecclesiastic places of Iasi, true milestones in the history, architecture and culture of the city, have been chosen as case studies: Metropolitan Church, The Three Hierarchs Church, Saint Sava Church, Saint Nicolae Domnesc Church and Golia Monastery.

2.1. (Hi)story and architectural syntax

Built by Stephen the Great, Saint Nicolae Domnesc Church is the oldest Orthodox Church in Iasi, kept until today [2]. Built near the princely court of Iasi, from where it owes its name, the church impresses with its simplicity and frankness, but without missing its greatness.

Over time, the monument has undergone numerous interventions and restoration works. It is assumed that around the year 1593, the bell tower and the extended porch were attached [2, p. 46], elements that no longer exists today. In the late 19th century, in 1884 [2, p. 49], restoration works took place under the leadership of André Lecomte du Nouy, which changed irreparably the monument.

The Three Hierarchs Church and Golia Monastery, built by Prince Vasile Lupu, are representative key monuments of Moldavian feudal architecture from the first half of the 17th century. In that period, there was a new direction in ecclesiastical architecture, due mainly to influences of the architecture of Wallachia, but also due to the new decorative forms of Oriental origin (Georgian or Armenian) or Western origin, passed through the sphere of influence of Poland and Russia [3].

The Three Hierarchs Church (1637–1639) is a combination of Wallachian style (found in plan form and in major forms of the composition of the facades) and Oriental style (found mainly in the detailed decorative elements). The plan of the Three Hierarchs initially meet the dedicated organization of a Romanian monastic establishment: a rectangular precincts, surrounded by a 4 to 5 m high stone wall, provided on one side with a bell tower that housed the main access gate [2, p. 177]. The church is centrally located, and around it there is a series of annexes, of which the most representative of historically and artistically point of view is the refectory, with its gothic hall, now used as a museum. Unfortunately, the French restorer Lecomte du Nouy, irreparably changed the original structure of this monastic establishment. The restoration works developed between 1882-1890 aimed the total replacement of the interior painting of the church, following the painting pattern from Curtea de Arges, making volumetric changes on the church spires and on their shape and also on the roof covering [2, p. 191]. Further changes made by du Nouv included the abolition of some annex buildings (abbot house, cells) and of the precincts walls together with the bell tower, and finally, the entirely restoration of the refectory with keeping its style, but amplifying its dimensions [2, p. 182].

The last foundation of Vasile Lupu, the church of Golia Monastery, (1652–1660) [4] is entirely distinguished from the specific Moldavian Orthodox churches, both as construction method and as architectural form. The very large plan of the church follows the same principles as the plans of some former churches. The novelty is the exterior building architecture [4, p. 351]: the facades are constructed in size stone and are decorated with a series of classical pilasters with Corinthian capitals, simple (on the apse and porch) or grouped in pairs (on the main body), with large arched windows between them, framed by pilasters crowned with triangular pediments and supported by consoles.

The Church became monastery around the year 1604, without being sufficient proofs regarding the date when the precincts wall or the entrance tower were constructed [3, p. 198]. The present form of the monastery walls is the one resulted from the 1900 restoration work. Even today, inside the monastery there are located several annex buildings, of which the most important is a former abbot's house, dating from the 18th century and built after the pattern of the mansions of those times.

The architecture of the first half of the 17th century includes in its evolution, alongside the two landmark elements mentioned above, the Three Hierarchs Church and Golia Monastery, other several buildings, quite numerous, many of them vanished, ruined or rebuilt today. Of these, the Church of Saint Sava ensemble sets the tone for a "unique moment in the entire Moldavian architecture" [2, p. 340]. Entirely different from the monumental plastic arts of the previous Moldavian churches, the overview of the monument "combines Byzantine, Gothic, Oriental and even Moldavian elements" [3, p. 168]. Although in the early 18th century, the Saint Sava Church was still maintaining the specific planning of a monastic settlement, now, the fortified walls and other elements specific to such places have disappeared, standing only the church and a small percentage of the original site.

The 19th century brings in the architecture of Romanian churches a unique feature, seen at that time as a renewal. The Metropolitan Church of Moldova, although built over a long time and without a predetermined plan, presents a striking stylistic unity, all buildings being instances of Neoclassical style, a representative style for the modern era.

Since 1761 [5] the Old Metropolitan Church, raised in classic style mixed with baroque elements, has served as Moldova's Metropolitan Cathedral until the completion of the current Metropolitan Cathedral, in 1887 [5, p. 189].

The New Metropolitan Church, built in a mature Neoclassical style, which seems to be defined in more than half a century of construction time, dominates today the cornice of the Bahlui River, giving a touch of authenticity to the city's silhouette.

Located in the central area of Iasi, in a mixed urban texture, the studied areas of the ecclesiastical places have lost over time their territory in favour of the city, so that today only the Golia Monastery maintains its precinct close to its original form. On the other hand, the garden of Saint Nicholas Church seems to have lost the most in favour of the urbanization process, being currently reduced to a minimum size, limited by just a few columnar vegetal elements and some fragments of the original precincts wall. The precincts of the Three Hierarchs Church and of the Saint Sava and the Metropolitan Ensemble seem to have established mediation in fighting urban transformations, their actual sizes allowing deciphering their original arrangement.

2.2. Ratios: mineral-mineral, vegetal-vegetal and mineral-vegetal

Mineral elements (walls, gates, architectural objects, urban furniture, roadside crosses, crosses, tombstones, alleys, etc.) shape and organize the studied precincts. Without the mineral, vegetation can't fulfil its binder role: connecting the constituent parts of ecclesiastical ensemble. The mineral divides, structures, defines and limits the space, while vegetation maintains, stresses and sometimes replaces it.

The limits of a space, horizontal or vertical, physical or virtual ones, represent particularly sensitive areas. The visual limits are generated by everything that represents an obstacle for sight. They mark and close spaces, thus defining the space perceived by the observer. The physical limits are real limits; the virtual limits do not form obstacles, but stimulates the curiosity and the desire to discover, exerting an undeniable psychological attraction.

In the garden of Saint Nicholas Church, the mineral, present in site through the adjacent streets, limits the space only on a horizontal plane. On a vertical plane, the presence of tree species with different heights, generates limits, induces a sense of bounded, defined space (see Table 1).

Table 1. The analysis of the studied precincts limits.

				The Metropolitan ensemble	Saint Nicholas Church	Golia Monastery	Three Hierarchs Church	Saint Sava Church
Precincts limits	physical	horizontal	mineral	-	X	-	-	-
			vegetal	-	-	-	-	-
		vertical	mineral	Х	-	х	х	х
			vegetal	Х	х	-	х	х
	virtual			-	X	-	-	-

The precincts of the Three Hierarchs Church, the Saint Sava Church and the Metropolitan Church are limited by fixed, transparent, low height, metal made, urban furniture elements, which are flanked by medium and high alignment plantations, being intended to establish and define the limits on sensorial level. The precinct of the Golia Monastery still retains its original organization specific to a monastic settlement: a rectangular shape, bounded on all four sides by high stone fortified walls, provided on each corner with circular guard towers (Table 1).

The studied ecclesiastical landscape designs follow a simple composition, developed along a main axis which is always defined by the entrance gate and the entrance of the church located on the south facade (Three Hierarchs, Golia, Saint Sava) or the west facade (Saint Nicholas, Metropolitan Church). The main entrance gate in the church's precinct is not always present in physical constructed form. If in the case of Golia, the bell tower includes the main entrance gate and the main axis of the composition is defined and marked at its both ends. In the case of the Three Hierarchs Church, the Metropolitan Church and the Church of Saint Sava,

the main gate is present as a transparent, low height and metal made object, determining the ambience of the space.

The planimetrical composition (Table 1) is subordinated to the compositional centre of the whole ensemble, the church, main axis, being backed up by a series of less important, linear, secondary axes, connecting the secondary centres of interest, materialized in the church's annex buildings.

In the majority of the analysed landscape compositions the main axis is sustained on one side (in the case of Saint Sava Church) or on both sides (the Metropolitan Church and the Three Hierarchs) by alignment plantations which emphasizes the importance of walking on the route entry-church, ban the lateral sides and maintain the visitor's attention, directing, even forcing the walkthrough towards the centre of interest (Table 2). In the case of Golia Monastery, this rule seems to be intentionally forgotten. This time the alignment plantations exist, but they accompany the secondary alleys of the garden, while on the main direction a wide perspective opens up so that the church is entirely perceived. Backwards, the lateral alignment plantations guide the sight, and involuntarily the whole walkthrough, strictly towards the exit, narrowing the perspective more and more, like a funnel.

Table 2. The analysis of planimetric composition for the studied precincts.

				The Metropolitan Ensemble	Saint Nicholas Church	Golia Monastery	Three Hierarchs Church	Saint Sava Church
Planimetric composition	main axes	marked by	church	X	X	X	X	X
			gate	X	-	X	X	X
		sustained by vegetation	on one side	-	-	-	-	X
			on two sides	x	-	-	x	-
	secondary axes	marked by mineral		X	X	X	X	-
		sustained by vegetation		X	X	x	X	-

A particular case is represented by the immediate space of Saint Nicholas Church. The urban development in the last decades has led to a dematerialisation of the vertical physical limits, of the 'precinct wall', also determining the absence of 'the gate'. The main axis, in this case a concrete alley, exists only on the horizontal plane, without being supported by vegetal elements (Table 2).

Common species, spread throughout the urban area of Iasi, vegetal elements which are present in the studied ensembles, structure spaces, both in the physical sense but also spiritual, the main purpose being that of emphasizing the key element of these gardens, the church.

The existing vegetal arrangements (Table 3), developed in an open landscaping style, are scattered with elements specific to the classical, geometrized style: different shrubs are shaped in elementary geometrical forms (sphere, cube) or grouped in rectangular compositions (courtyard of the Saint Nicholas Church, courtyard of the Metropolitan Church), circular (courtyard of the Metropolitan Church) and compositions in the form of cross (the Golia Monastery courtyard).

Table 3. The analysis of vegetal composition for the studied precincts.

		The Metropolitan Ensemble	Saint Nicholas Church	Golia Monastery	Three Hierarchs Church	Saint Sava Church
Vegetal composition	elementary geometrical forms	X	X	X	X	-
	rectangular composition	X	X	X	-	-
	circular composition	Х	-	-	-	-
	cross composition	-	-	х	-	-

Table 4. The analysis of urban furniture elements present in the studied precincts.

		The Metropolitan Ensemble	Saint Nicholas Church	Golia Monastery	Three Hierarchs Church	Saint Sava Church	
	metal be	ells	X	-	-	x	-
	metal bell boards		X	-	-	-	x
	lighting poles and reflectors		X	X	X	x	x
	wooden benches		X	-	X	X	-
Urban	metal statues		X	-	-	X	-
furniture	water fountains		X	-	-	-	-
	wells		X	-	Х	x	-
	outdoor altars		X	X	-	-	x
	crosses	metal	-	-	-	-	х
		stone	X	X	X	ı	-

The vegetal compositions highlight different perspectives, points or areas of interest. These vegetal composition contain, as appropriate, vegetal species of all levels of high: flowers, lawn, ornamental grasses, shrubs and trees, climbing plants. Vegetal backgrounds provide contrast, or a needed separation between important areas of the composition: varied vegetal formations, with a touch of volume and high contrasts or harmonic colour composition, enhanced by uniform in shape and colour vegetal backgrounds.

The presence of urban furnishing elements embedded in the landscaped space (Table 4) determines or structures the entire garden of the church, defining the attractiveness of the studied places: urban furniture for shelter and rest (banks), cleaning and food (garbage bins, fountains, etc.), public circulation (pavements, urban floors, curbs, manhole, drains, etc.), street lighting (high medium or small lamps reflectors), decorative items (pots, statues, fountains and water games), urban communication (boards, public clocks), fences, stairs and railings, etc. These are made of different materials (wood, metal, stone, glass, concrete, etc.): metal bells (the Metropolitan Church, the Three Hierarchs Church), metal bell boards (the Metropolitan Church, the Saint Sava Church), lighting poles and reflectors, wooden benches and metal statues (the Mihai Eminescu's statue in the courtyard at the Three Hierarchs Church), water fountains and arrangements including water (the two fountains in the courtyard of the Metropolitan Church and the fountains

inspired by vernacular architecture present in the courtyard of the Metropolitan Church, the Three Hierarchs Church courtyard and in the backyard of Golia Monastery), outdoor altars (the Saint Sava Church and Saint Nicholas Church) and crosses of stone (the Metropolitan Church, Saint Nicholas Church and Golia Monastery) or of metal (Saint Sava Church).

The texture can be defined as being the perception we have on the surface of an element of the landscaped space. It changes over seasons, thus the perception of rhythm. Material gets their plastic values according to the light that covers them. The intensity and the incidence angle of light rays, light quality and its dissemination angle confer expression to materials. The qualities of materials are enhanced by the interplay between light and shade. A smooth surface shines under the action of light; a rough surface vibrates; depending on light intensity, the colour of materials glows or fades [6].

The mineral, by its textures, convey ideas and feelings, generates ambience and enhances the aesthetic value of landscape designs. The colour and texture, depending on the way how light is absorbed or reflected, generate visual and tactile sensation (cold or heat, hardness or softness). Effects of stability, security, solidity are offered by hard, coarse, grained, cold materials: concrete, stone, mosaic. Effects of relaxation, quietness, rest, meditation can be offered by soft, warm, smooth, pleasant to touch materials (wood, ceramics) while effects of aesthetic satisfaction, generating delight, joy and optimism are given by harmonious combination of textures with the context [7].

Raw, unpolished materials generate organic arrangements that seem to be the pure creation of nature, without human intervention, while treated and processed materials are the result of the harmonious relationship between man, technology and nature.

3. Symbolism: a method for uniting the seen and the unseen

A place full of meanings and symbols, meeting place between the faithful and God, the church represents the transposition into tangible of the complex relationship between rational solutions, aesthetic meanings and religious experiences. Through symbols and meanings, configured spatial and volumetric, the architecture of the built and landscaped environment addresses both the intellect and the affection. Vegetal and especially mineral elements materialize the sacred while assigning it symbolic meanings and aesthetic valences.

Saint Ioan Damaschin states: "In the divine Scripture we find many anthropomorphic, analogical and symbolic expressions, as our human way of thinking. Being dressed up in a thick body, you have to know that we can't understand and express the divine activity without employing images. By our way of thinking, all that were told express God in an anthropomorphic way and are spoken analogical and symbolic, all having a heightened sense because divinity is simple, formless, nameless, so we are faced with expressing the things that are above us in our way of being." [8]

Man creates the microcosm of the built environment in which one exists by three ways: by visualization complementary and symbolization.

"The receiving of the aesthetic messages depends on their value, but is also marked out by subjectivity, fashion, and tastes, by the preferences for different styles or by the psychological predisposition to certain shapes, colours, materials, or textures." [9]

The symbol, always reported to present reality, expresses the relationship between the divine and the world, being an indicator "to what is beyond it, it isn't reality for itself, but it is required to be compared to another reality, which he sends for." [8]

The Holy Fathers identified in their teaching about divine reasons the whole world as a symbol. Each symbol is a microcosm, an entire world, his perception being subjective, everyone sees and understands what can and wants to see and understand. "...the intelligible world presents itself mysteriously imagined in the symbolic faces of the sensible world, for those who have eyes to see; and the entire world sensible, if studied with a mind fond of knowledge, in its very reasons being included the intelligible world." [8]

The open space, without limitation, generates insecurity, fear, chaos. "...a well-defined space [....] is made up of three parts: THE WORLD AXIS, THE ORDERED SPACE and THE BORDER. Beyond BORDER there is CHAOS." [10] Once its limits are perceived, it begins to be perceived and understood. This is why the Paradise is imagined as an enclosed garden: "And the LORD God planted a garden" (Genesis 2.8) in which the primary essential elements are ordered around the Tree of Knowledge.

Transitional space between the faithful world and the church, the precincts of the ecclesiastical spaces seem to be a reinterpretation of what the Holy Scripture describes as "garden eastward in Eden" (Genesis 2.8). The Church, centrally located, seems to subordinate the whole precinct's composition, just as "the tree of life also in the midst of the garden, and the tree of knowledge of good and evil" (Genesis 2.9). Extrapolating, we can say that the metaphor of the 'tree of knowledge' is represented on several levels. The central vertical axis of a church, defined by the nave and the dome on the central tower, support of the painting of Jesus Pantocrator, represents the image of an Axis Mundi, the link between the realm of death (horizontal plane, the floor of the church), the terrestrial world (space defined by the church walls) and the realm of promises (everything that is above). In the same way we may consider the church itself as an object, as a representation at the scale of the whole ensemble of this 'tree of knowledge', and further, even at a larger scale, the whole ecclesiastic ensemble as an Axis Mundi for the landscape, through its privileged position, always in strategic places that dominates the immediate forms of human settlement.

In landscaping compositions, the language of the geometrical forms contributes at shaping the concepts and meanings, its own symbolic meanings being easily transferred to the constructed space. The human mind always seeks to simplify the environment and to decompose the perceived objects in primary geometrical forms and figures: square-cube, circle—sphere and cone, triangle-

pyramid. Landscaping compositions are even easier to perceive and understand, as the component elements are simpler and more regular.

The square, an anti-dynamic figure, symbolizes "stoppage or ripped off moment"; it involves stagnation, solidification [11]. Due to the number 4 (4 sides, 4 angles) the square signifies the universality and stability, fixation in space and time, resistance and permanency [12].

The circle is the symbol of homogeneity, of perfection, of unchangeable and eternal motion, "of time and eternal recommencement" [12, p. 35]. "In Christian iconography, the circle symbolizes the eternity: three welded rings evoke the Trinity of Father, Son and Holy Spirit." [13] On cosmic plane, the square symbolizes the Earth, as opposed to the circle, a symbol of Heaven.

The triangle, also considered a primary geometrical figure, takes almost entirely the symbolism of the number 3: divinity, harmony, proportion [12, p. 189]. Symbol of spiritual elevation and divinity, the triangle shape has on the inside stability and tension, and on the outside it imprints dynamic movement directions.

Important symbol of the Christian religion, of the divine sacrifice and of human rescue, the cross, sign of orientation with synthesis and measuring function, is the basis of all orientation symbols [11]. "Of all the symbols, it is the most universal, the most totalizer. The cross is the symbol of the intermediary, of the mediator, of the one who is, by its very nature, the permanently bringing together of the Universe, and the communication between Earth and Heaven, from top to bottom and from bottom to top." [11]

Symbolizing tradition and rootedness, natural materials - stone, brick, wood, inspires warmth and vitality, preciousness and nobility.

"By excellence matter" [13, vol. II, p. 209], the wood, regardless of its raw or processed form, "retain something from the significance of the sacred tree and the symbolic forest" [12, p. 88]. A traditional and modern material at the same time wood generates a feeling of warmth and protection, remakes the inner forces, confers rest and calmness [7], and emphasizes the role of housing of some elements of the landscape.

Stone, a symbol of "solidity, strength, steadiness and durability" [12, p. 139], absorbs strains and inside agitation, induces quietness and meditation [7], creates order and stability, beautify and ennobles the built environment, often being a strong element of local identity. By processing and grinding, raw stone becomes the symbol of a "cultural transmutation, similar to the demiurgically act, the transition from darkness to light" [12, p. 140], "the transition from an obscure soul to one enlightened by divine knowledge" [13, vol. III, p. 82]. After the tradition of the Bible, although it has an immutable character, stone symbolizes wisdom. It is often associated with water or bread. Moses, leaving the desert, hits a rock from which then water springs "and thou shall smite the rock, and there shall come water out of it that the people may drink. And Moses did so in the sight of the elders of Israel." (Exodus 17.6)

Concrete, artificial stone, which inspires durability and hardness, stimulates and confers security [7]. Apparently, an impersonal material without aesthetic qualities, but easily moulded into amorphous and fluid shapes, reinforced concrete

generated, in the modern and contemporary times, new forms and spatial and constructive solutions.

The synthetic materials - concrete, metal, glass - "placed into practice are opposed to natural, to random and symbolize human control, human rationality, on the environment (...) these materials don't know - are not allowed to grow old in the way stone, wood, raw or burnt earth do" [14].

Concrete stimulates and confers security, while glass drives away fatigue, cools down and refreshes us, and metal confers the sensation of force and increases the psychic resistance to negative shocks [7].

4. Conclusions

The mineral-vegetal relationship has a valorising, evolutionary and cyclical character and generates strong landmarks (in mass, volume, perception, and orientation) and immaterial landmarks (spiritual, aesthetic and evolutionary). The vegetal enhances the mineral, with it generating structured and structuring spaces, both on local (on site, yard, garden) and on urban level. The garden is thus a combination of vegetal and mineral elements connected to each other so that they form a unified and coherent whole in terms of formal, spatial and spiritual.

In conclusion, the value of the completely architectural ensemble is based on a system of quality factors of the landscaping, dosed to generate a coherent landscaped system and adapted to emphasize the value of the ecclesiastical space.

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