

Qualities of Relations in Time and Space - Factors Shaping Time and Space in Architecture

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Abstract: This paper aims to discuss the relationship between space and time in architecture. It will explain how the aesthetics in architecture is presented from the perspectives of time and space. The discussion results will be further explained in combination with academic projects.

1 Introduction

Art experiences emerge from the interplay of various cognitive and affective processes [1]. However, how these processes unfold in time and how they relate to the act of viewing is still poorly understood. Space spans the entire world, time spans the entire world, and we tend to express time and space visually; visual exploration is an active and dynamic process of gathering information about the world. When humans explore an object visually, the time it takes to do so can inform its emotional relevance, its interest, and even its aesthetic appeal. Artistic experience is an experience that changes over time, involves a large number of mental processes, and is intimately tied to a specific space; for example, humans can have different emotions in mind when they are in an art museum and a laboratory at the same time. And a dwelling, a space where humans spend a lot of time residing, should be a place where people can be comfortable and can have strong resonance in their hearts.

Hölderlin writes in *Vision*, "When the habitat of human leads to a faraway place, there, in that faraway place, the grapes shine. That is also the empty fields of summer, where the forest reveals itself, with its ethereal images. Nature is filled with the image of time, nature inhabiting to stay while time glides fast. It all comes from perfection. Thus, the light of the high sky shines on mankind as the flowers brocade by the trees." [2]. And the same famous 19th century English novelist, Virginia Woolf also reminded women that to get what they want, they must have at least 'a house of their own,' perhaps indicating more specifically [3]. It is easy to understand that poetic dwelling is also a poetic life, and poetry is derived from the understanding and grasp of life, especially the inner peace and harmony, the longing and pursuit of a poetic life. When Hölderlin wrote *Poetically Man Dwells*, he was already poor, sick, and without a

fixed place to live, but with the intuition and sensitivity of a poet, he realized that with the development of science, today, industrial civilization would increasingly alienate people. To avoid being alienated, he calls for people to find their way home. Poetry is not like science; man cannot agree on what poetry is. It sounds like a psychological perception and a "mirror" sphere that allows people to see and discover the 'truth' (A right way to live). The Japanese writer Tanizaki also depicts the atmosphere of comfortable living in his book *In Praise of Shadows* [4], such as Japanese style houses, old and dark toilets that are swept clean, old candlesticks and lacquerware, 'saluting' the Japanese 'beauty of shade'. Beauty does not exist in objects, but in the ripples of shadows and light and darkness created by these objects. A luminous pearl can only shine when it is placed in a dark place, while a gemstone loses its charm when it is exposed to sunlight. Objects created with the development of science, such as electric lights, often deprive darkness of its beauty [4]. The author's praise in this way is a transcendence of the immediate reality, shattering the objectified objectivity in the social relations of the time and opening up a new dimension of experience for the reader to understand the Japan of the time. This essay will explore the nature of temporal relations in dwelling in terms of both poetry and light and shadow.

Poetic dwelling comes from Hölderlin's poetry, and therefore we must return to it if we want to understand its meaning. Hölderlin in his later years could no longer cope with his life. Closing his eyes to the reality, it is all but imaginary. For in the real world, almost all dwelling is incompatible with poetry. We receive the obsession of work, because the pursuit of profit and success, the residential dwelling becomes insecure. We likewise receive harassment from, for example, the media and entertainment industries. But what is certain is that poetic dwelling exists. Poetry exists in the unknown, in dreams, in literature. Poetry can be a description, an adjective, to

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modify the human behavior itself. It is not necessarily a fixed place, not necessarily a fixed house, as Heidegger [5] says, poetic dwelling can be understood as a state of meaning in which human beings stay somewhere. Just like the ancient Chinese literati who gathered in the mountains, inscribed poems, drank wine and had fun, there was no specific residence here, they just stopped for a while, but for these people, probably the stay at this moment can be described as poetic.

2 Poetic space

Poetic living can happen anytime and anywhere, in any time and space. Because it describes a certain state, not a particular house, or a particular time. Poetry happens in time and space, only because of the emotions in the human heart. Although most people today seldom feel "poetic living", "..... is full of values, but poetically speaking, people live on this earth... ..", when we associate poetry with inhabitation (worthy inhabitation and inhabitation on earth), Heidegger [5] claims that the essence of poetry is 'to inhabit', that poetry brings human beings to the earth, makes us belong to the earth, and thus inhabits us.

Poeticism can create a specific space and time in which everything is immersed and affects everything. A poetic space can be a starting point: people enter it and create activities and experiences with a certain imagination and memory. Terragni's Danteum is a fitting embodiment of poetic time and space. The building is a metaphor for the three parts of the Divine Comedy - Hell, Purgatory and Heaven. The Divine Comedy, written between 1301 and 1327, is a poetic narrative of Dante's journey through three worlds: 'Hell' (the abode of damned souls) (see Figure 1.1), 'Purgatory' (the abode of redeemed souls) (see Figure 1.2) and 'Heaven' (the abode of the Holy Spirit, where the light of God shines) (see Figure 1.3). Its purpose is a metaphor for each person's journey through the world, and the Dante Memorial in Trani is then used as an architectural tool to make this journey real and palpable. In this building, we can not only forget the poetic space and time, but we can also feel the different effects of light and shadow that call to our hearts.



Figure 1.1. Danteum, Giuseppe Trani, 1938, Hell

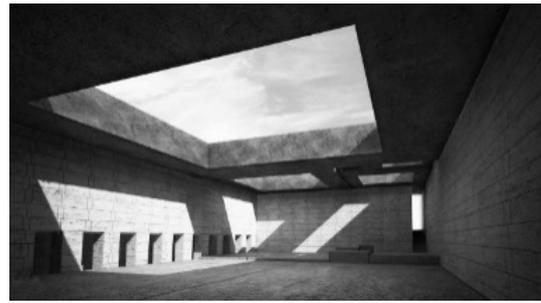


Figure 1.2. Danteum, Giuseppe Trani, 1938, Purgatory



Figure 1.3. Danteum, Giuseppe Trani, 1938, Heaven

3 Space with shadow

Changes in light and shadow often make the space more palpable, making the atmosphere brought about by architecture more resonant with the emotions of the human heart. According to Tanizaki [4], beauty exists in the ripples and shades of shade produced by things and objects, while some just the right amount of light attaches another film of beauty to things. Tanizaki's aesthetics of shadow defines an aesthetic of dwelling and evokes a way of living that can awaken one's inner emotions. For example, the toilet, a place that people usually talk about as a place of filth, is full of poetry in Tanizaki's eyes. The toilets in the temples of Nara and Kyoto are dark and ancient, clean and very elegant, with all the subtleties of classic Japanese architecture. Even the toilets in traditional Japanese houses are "built deep in the forest where the leaves are fluttering and moss is everywhere. When people go to the toilet, they can enjoy the light reflected from the thin, dark, slightly transparent paper windows, or they can look out the window in meditation and savor the sound of birds and insects and the seasons. When it is raining, people can listen to the sound of rain and feel more serene in the dim light. Western-style toilets are well-lit, illuminating the exposed parts and making people feel anxious, while traditional Japanese toilets are dimly lit, blurring the line between clean and dirty and giving people peace of thought.

Except for the toilets, whether it is a tall temple kind of hall or a field house thatched hut, its roofs are large and heavy and stacked high. These buildings are overflowing with darkness under the shade of the roof, so that people often cannot even see the interior walls, corridors and columns. But the faint golden sunlight that people see outside in the dark places where the sun does not shine, like a dream,

shows a kind of deep beauty, as if a layer of golden soft sand wall was specially painted for the living room,

and the afterglow or faint light on the wall is more beautiful than any decoration. The beauty of a Japanese apartment depends entirely on the intensity of the shade and nothing else. When a place is rendered by light and darkness, people living in it often have the feeling that they are secluded from the world. In conclusion, the beauty of shade is not unique to Japan, but the Japanese are good at summing up and transforming it into a recognized aesthetic common sense.

Thus, shadow and light can be equally used as an element that defines space and time. In Japanese architect Tadao Ando's Church of Light, there are no unnecessary embellishments in the building (see Figure 2), and long and narrow corridors are used to force people to walk long distances alone, then light and shadow effects are used to create a unique mood, and finally there is a very important view - sunlight and nature (see Figure 3). The solemn, serious and sacred light spills from the patio in the middle of the church, where people talk to their inner emotions and forget about time. At the same time, such an architecture can be defined as poetic in the same way. To sum up, poetry and shade can be understood in architecture as two elements that act together on human inner emotions.

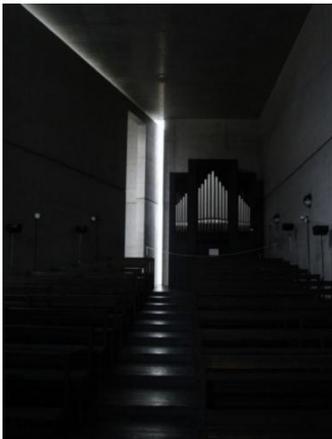


Figure 2. Church of Light, the cross



Figure 3. Church of Light, Interior space

4 Aesthetics in final year project

4.1 Brief introduction

This project wanted us to bring a new natural

environment to the crowded super-unit city, Barcelona. Unlike large green plantings, the theme aims us to create a new type of biophilic construction (A new language of biophilic architecture). Tectonics that allow it to permeate space - to go beyond the surface, to merge again with place and shelter, and to assume a solid at full depth: the challenge is now to reconnect with nature in a way that we can recover nature in a form that reconnects with it in 3+1 dimensions - thus entering into a biophilic tectonics. In the last century Barcelona has developed into the world's smart city, which is known worldwide for its unique super units. (Zelda's Planning). But the government wanted to solve the housing problem and the capitalists wanted more money, they overhauled part of the Zelda's plan, which also made the city overcrowded and lost its green space.

The project also needed to create a vision for the city of the future. It uses a new type of garden city as a concept to explore the integration of architecture with the natural environment. It starts with the design of building components that facilitate plant growth and climbing, columns, beams, walls, and floor slabs. These are composed of modular building components. We can understand these components as words and punctuation in a poem. Thus, the final project presents a poem of nature.

4.2 Proposal

In order to bring the building closer to nature (as if it belongs to nature), 'Natural ruins' became the main design concept of the project. The process of generating the project focuses on how the building is engulfed by natural elements. Moss and vegetation are essential in this project, they may grow from the land and climb up the building, or they may be microorganisms attached to the building, which happens through the rain and sunlight. What I hope is that human beings can fully feel the invasion of natural elements in the building, and feel the influence of time on the building, which will trigger the thinking and sentiment of the users.

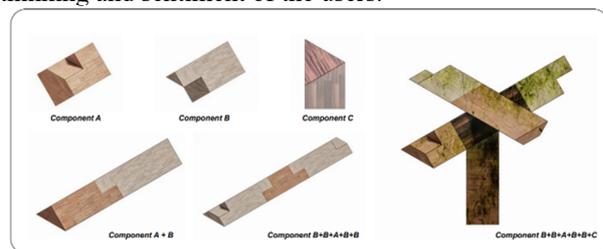


Figure 4. Tectonic components

The main architectural components used are wooden strips, could be divided into different units (see Figure 4), which can be put together with each other. The arrangement of these units creates random spaces, as if the building can grow and extend infinitely. 'Poetry' involves art with rhythm, emotional response and musical effect. Kant [6] believes that aesthetic art is directly related to pleasure. At the same time, the plants that grow through the gaps interrupt the continuity of the man-made object of architecture. This creation reveals a poetry that is produced by nature and architecture

together. According to Dewey [2]: First, all interactions that affect stability and order in the process of change are rhythms that will establish new rhythms to transcend limitations. Through this process, balance and harmony will be achieved; secondly, the intervals of rhythmic enjoyment, the rhythmic beats of desire and satisfaction, and the rhythmic crises all have interactions, effects and meanings. There is also the loss of integration with the environment and the restoration of the rhythm of alliance. If the constant rhythm is interrupted while the creature is interacting with its surroundings, then differences between aesthetic and intellectual emerge. The invasion of natural elements serves this purpose, as one navigates the architecture while contemplating the possibilities and importance of nature.

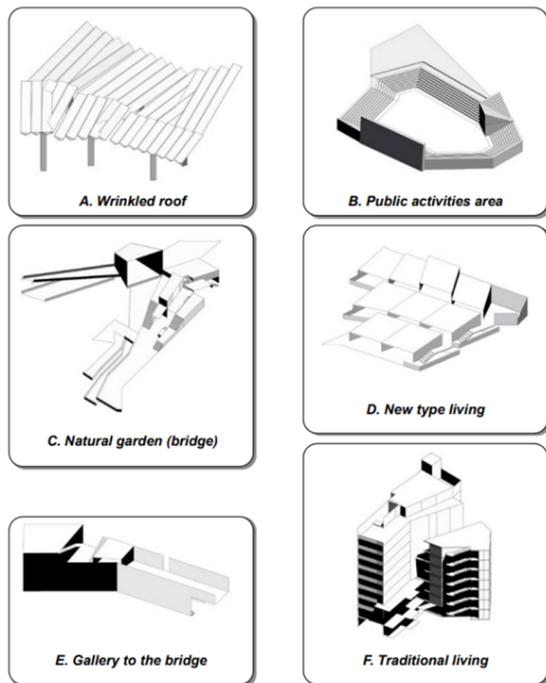


Figure 5. Programme of FYP

The project has three main components that function to bring poetic space and time (see Figure 5). The first is the pleated roofs (see Figure 5-A), which exist independently and envelop the space below, they are not built directly on top of the walls. On the one hand, there are many gaps in the pleated roofs for vegetation to grow, and this vegetation will receive the gravitational force to dangle downward. In this way, the green natural elements begin to invade the architectural space from above and below, acting as the natural deity in the natural garden, with the intention of evoking the yearning and desire for nature in human hearts. On the other hand, it is used to counteract the natural elements such as light and rain that may affect people's lives. Of course, rain and sunlight will still penetrate into the building space through the cracks, but this is a trace, which is a way of communication between human and nature, a gesture that a poetic life should have (see Figure 6).



Figure 6. Proposal – The pleated roofs

The second part is a bridge with a garden (see Figure 5-C), which is also a connection between the two sides of the site. It does not seem to be a constructed section, but more like a bridge growing out of it. Modular tectonic elements are superimposed here to create a folding, stepped garden. As Heidegger [5] states, humans go here and there. We just need a temporary shelter. This part is the product of the interaction between human and nature, providing a place for humans to stop, not a residence, but more like a pavilion, where people travel to, stop and observe the vegetation that drops and the moss that grows through the rain. It is creating a natural context that stimulates the human imagination and emotions - as if they were in the middle of a jungle, the building is providing them with a shelter to safely observe the nature (see Figure 7).



Figure 7. Proposal – Bridge & Garden

The last program is an experimental residential area (see Figure 5-D). This area can be accessed directly through the exterior or through the bridge that connects this area (the part where the garden is located). The new residences can be described as humble, they are different from the cage-like boxes built of concrete, they are permeable. The building components here are a combination of natural and artificial, with no definite windows or doors. The construction is done using wooden strips of different lengths (which are random), and through a variety of random arrangements, cavernous spaces are naturally created through which natural vegetation, in turn, enters the interior. This ambiguous nature provides a new spatial relationship. The composition of each wall, including each component of the roof, is altered and changed; each facade has a portion of void space; and each residential unit has a height difference to create some vertical connections. Because there are no actual windows and doors, light spills into the interior through the gaps in the random wooden strips, so the interior spaces are darker. This may sound like a bad experience for users, but as Tanizaki [4] says, a luminous pearl can only shine in the dark, and a

gemstone loses its charm when exposed to sunlight, and there is no beauty without the effect of shadow. An already open dwelling, shrouded by darkness, is both open and private. And some dark places and shadows are not just void, but active - an ambiguity that contains potential possibilities. Such a scenario contains the yearning and expectation for the possibility of a new human life (see Figure 8).



Figure 8. Proposal – New type living community

5 Conclusion

In conclusion, time and space are distinct but interacting concepts, which constitute the space of human existence and are the most essential elements of this world. The

article explains the essence of time and space and truth through two perspectives: poetry and light with shadow. They are complex and their images cannot be fully described. In the field of architecture, this essay illustrates how poetry and light with shadow work together in architecture itself through references and FYP projects. Through the modification of light and shadow, architecture becomes more poetic, and both of them work together to shape good space and lead human beings in architecture to feel their inner emotions.

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