Threshold as a Thickness of borders

Revealing a vision of threshold through the conversation of theories, projects, and people's movement

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ABSTRACT

Borders affect both spatial properties and human behaviors. The way people experience spaces determines the thickness of borders, and the thickness is the space of threshold. This paper aims to clarify the people's perception of their surroundings in a movement, providing insights for the functions of threshold and its importance is explained in the spatial configuration. The paper explores the ways and feelings in which people experience thresholds in spaces of different scales and properties. How do the thresholds as an architectural concept mediate the spatial properties and people's movement? Movement of people is a basis, while the several projects provided descriptions about how threshold interact with space and people. The paper also analyzed the architectural and philosophical discourses and established observations on Putin's walk through the several threshold ideas drawn from the theories and project studies; to determine how events, movement, and spatial sequences perceived and reacted to the thickness of borders. Based on visitors' and observers' views, several conditions for the functions and construction of threshold are proposed. The paper concludes with a reflection and a new insight of threshold, giving designers another way of thinking about borders in this rapid-changing world.

Key Words – threshold, movement of people, sequence, transition, architectural elements

Meanings of the research – the relevance is to make a conversation with designers through several perspectives from which to examine the relationship between threshold and spatial sequence in design practice. This paper explores how spaces are shaped by underlying people's movement, and vice versa, contributing to the quality of border thinking between two spatial states, whether public or private, inside or outside, visible or invisible.

Introduction: One and another. Ways of seeing an environment

Do you remember how many doors you have walked through in a day? It is a curiosity came to my mind one day. In the architectural career, everything about construction must be considered on the drawings, such as walls, doors, columns. However, when people are in a state of movement, their behaviors are engraved in memory through the accumulation of experience. The hippocampus manipulates memory capacity. If we have an experience of opening a door, the series of the movement is recorded by the sensory cortex. Next time, the perceivers know intuitively how to open it even if they watch a door in a film. Such fixed patterns of behavior allow doors and windows to be understood as functional objects, and our interaction with them is instantaneous. Nevertheless, if the logic is reversed, that is, a field is not designed already, but it is shaped by behaviors?

We experience different kinds of movement every day, vertical, horizontal, at different speeds; they are sequential movements. When the field is constructed by a series of images that the individual perceived, it becomes a personal and unique presence. Thus, the city is a collection of images of places such as my home, streets, corners, and sky. The connection between the images is attributed to a process of movement. Also, the walker is aware of the presence of the others, which is in the images.

In fact, the urban environment has been changed by superimpositions of history and global deterritorialization; various things are composed. Within the interweaving of scales, the scale of bodies is a minimum to measure the spatial environment. There is a concept of the nature of organisms, called *Umwelt*, which is established by a biologist, Jakob von Uexküll. Different creatures receive different levels of information from their surroundings. All of them live in a subjective world consists of species-specific perceptions.

How can movement be read? Movement is linear, much like language; it can be deconstructed into many images and slices of time. The collective behavioral experience can shape the collective memory of a city. Similarly, spatial design can also disturb behavior patterns. Both are interchangeable. In that sense, threshold could be regarded as an action (intangible) or a door (tangible).

The methodology of this paper begins with architectural and philosophical discourses for understanding the relations and meanings of in-between and threshold. With the two roles, participants and designer, to clarify the thresholds in several projects involving a single or dual nature; and unfolding the new ways of approaching our surroundings through the various ideas of thresholds.

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¹ Mallgrave, H. F. (2018). From Object to Experience. Bloomsbury Visual Arts. (p.79)

Chapter 1: Narratives of thresholds

1.1 In-between and threshold

This paragraph essentially discusses the understanding of the concepts of in-between and threshold in the context of Grosz's argument. She was inspired by philosophical theories which are related to in-betweenness, identity, and difference. Also, she took the approach of thought discussed in philosophy to ask how to keep architecture open to its outside? How to force architecture to think? What is exteriority? After that, she declared the concept of in-between and the relationship between nature, culture, architecture, and power.

She believed that for Deleuze, the middle is always the privileged starting point, from which ideas begin, at the intersection of two series, events or processes.² And thought is something between one and another, as there is a binarized thought between the outside and the inside. However, the outside and the inside are not necessarily opposed; the outside can be a mutable inside, and the inside can be a fold of the outside.³ Concerning in-between, Grosz quoted Plato's idea that the space of in-between is a strange space because it does not have its boundaries and position, yet, its boundaries and position are determined from outside.⁴ Hence, it has the potential to allow all things to exist, like a void space. More precisely, the space of in-between can be a place for mediation of identity since it is unknown. Its openness to the future transcends cohesion, giving rise to the possibility which we can predict things based on time.

The notion of difference becomes a reference for us to think the outside; for example, Grosz mentions that the binary exists when one defines the others (the city or another person) in one's image. Once the idea of 'in-between' corresponds to the notion of 'I and the other,' 'The in-between is what fosters and enables the other's transition from being the other of the one to its own becoming, to reconstituting another relation, in different terms. '5Also, the change of identity fragment and complicate time and space. As a result, the space of in-between is futuristic, dynamic, and temporal.

Besides, within the concept of the structures of binarization, she discussed culture and architecture, which have oppositional pairs. It means the two realms can sometimes be proposed to merge or incorporate the other according to one. Nature is at the center of the understanding of culture and architecture. As a response to what is the status of the natural? She argues that bodies are natural.⁶ The body is a base for explaining the relationship between culture and architecture, the living and nonorganic. The interaction of the body redefines and regulates the field of architecture and culture, which two are the outcomes of natural manipulation. In my opinion, the body is the medium for

² Grosz, E. (2001). Architecture from the Outside: Essays on Virtual and Real Space. The MIT Press. (p.69)

³ Grosz, E. (2001). Architecture from the Outside: Essays on Virtual and Real Space. The MIT Press. (p.68)

⁴ Ibid. (p.91)

⁵ Ibid. (p.94)

⁶ Ibid. (p.98)

triggering the relationship.

Nevertheless, architecture forms the interface between culture and nature. Is this interface in-between or threshold? As Grosz considered, the in-between is an 'outside' capable of dealing with various complexities; it is a state of transiting and transforming information. It is similar to the discussion in the architectural concept of threshold: a change from one to another. In contrast, in her perspective of building, the in-between lacks a fundamental identity, lacks a form⁷, and is a space without a position. From my view, such a state gives the potential to the notion that people's movement could shape a field. How can the in-between spaces be designed? Shall we focus on the design of its exterior? I summarize that the in-between is static and influenced, while the threshold is active and transgressive. Adding the two prerequisites of spatial design, environment, and users, the space of the threshold can engage and mediate the movement of people and sublimate the in-between into space with a position.

1.2 Thresholds in architectural discourses

What is the definition of threshold in general? Changing from one to another implies movement, transition, crossing, and the object framed in a door frame. This object includes different meanings in cultural aspects; for example, the height of the threshold is about forty-five centimeters installed in the door frame of Chinese temples; people must behave the action of bowing their heads while entering. Besides, in Japanese culture, the door curtain is an object which changes behaviors and conveys time. As it is hung on the door frame to signify a shop's opening, people bend down and lower their heads to pass through the door. In these two cases, do the objects enhance the feeling of crossing when people feel unfamiliar and non-conventional with the way they experience doors? More precisely, people would become aware intensely that they move from one space to another, although it is in a few seconds.

There are two architects who discussed threshold and movement in their discourses, Le Corbusier and Aldo van Eyck. Firstly, in Le Corbusier's notebooks of *The Voyage d'Orient*, the threshold is a sequence consisting of doors and their extended thickness, which the authors called it 'configuration of a threshold.' The threshold, such as stairs, passages, and corridors, is a mediation. Moreover, Le Corbusier declared buildings and cities are constructed within the framework of a unified order; between them, the ideas of 'Externalized interior' and that of 'interiorized exteriors' are mentioned in several cases. The latter is exemplified by two staircase types, one as a connection which allows accessing external spaces; the other is an extension of outdoor landscapes. From my point of view, Le Corbusier described the former more in terms of externality in architecture. The threshold is related to the sequence where the threshold can internalize the exterior, turning it into an internalized exterior.

⁷ Ibid. (p.91)

Fontana, M. P., Mayorga, M., & Roa, M. (2016). *Le Corbusier: urban visions through thresholds*. Journal of Architecture and Urbanism, 40(2), 87-98. https://doi.org/10.3846/20297955.2016.1196541

Particularly, the position of the observers, inside or outside, determines the perception they feel from outside. The threshold becomes a space that frames the environment so that it forms a sequence. For instance, in the sketches, the colonnade he depicted is a threshold. With the different exterior spaces observed from an interior space, the threshold acts as an extension of the external series of views. Also, he indicated that 'the thresholds show a relation between various exterior spaces take on particular importance.' Hence, the function of the threshold is not only to provide varied options for physically entering a courtyard but also to thicken the spatial sequence between surroundings and the place you stay. For me, the threshold can be a kind of window, bringing its outside in.

Secondly, the representative of Structuralism, Aldo van Eyck, argued that thresholds provide a critical role in the transition between the public and private spheres. *The 'threshold' is also called the 'shape of the in-between.'*His theory of in-between was inspired by philosopher Martin Buber's perspective about human relationships. Martin demonstrated that the interval between I and You forms a duality; dialogue is the basis of life. Both of being given and being received presence in the 'in-between' simultaneously. Base on it, Van Eyck mentioned this relativity that man breathes in and out, but can architecture do the same? From a structural insight, a building should present a resemblance to a human being. Therefore, integrating his theories and works, for instance, Sonsbeek Pavilion and Wheel of Heaven Church, I believe that In-between is a condition between A and B. The relationship between A and B can be the same layer (part/whole) or in opposition to each other (public/private). The relationship between A and B can be the same layer (for instance, part and whole) or in opposition to each other (public and private). As mentions above, spatializing the in-between relation of A and B creates a threshold. The threshold is a whole space which can activate in-between conditions of various forms, such as linear or central spaces, where people meet, stay, interact, and leave.

In contrast to Le Corbusier's theory of the sequence of thresholds and external/internal environment through the lens of the observer. Aldo van Eyck who claimed that returning to humanism within architectural design, focused more on the constitutive significance of in-between conditions and man within them. Similarly, both stated the 'in-between' in the period of Modernism and Team10, respectively. Van Eyck even declared that space and time need to be replaced by place and occasion. They all discuss the four dimensions, human, time, space, and environment, which are essential under their theories with different focuses.

Threshold as a mediation. It mediates difference, contrast, interior and exterior, city and building, communication between people, and the rhythm of walking. The following paragraphs will focus on

⁹ Fontana, M. P., Mayorga, M., & Roa, M. (2016). *Le Corbusier: urban visions through thresholds. Journal of Architecture and Urbanism*, 40(2), 87-98. https://doi.org/10.3846/20297955.2016.1196541 (p.93)

¹¹ Strauven, F. (1998). *Aldo van Eyck: The Shape of Relativity*. Architectura & Natura. (p.355)

¹² Teyssot, G. (2011). *Aldo van Eyck and the Rise of an Ethnographic Paradigm in the 1960s.* Joelho, no. #02 (2011): 50-67. https://doi.org/10.14195/1647-8681 2 5 (p.54)

people's movement and how the projects affect perception; through the three types of walking according to scale. The following three sub-chapters correspond to the projects, the bridge (1869) of Carlo Scarpa, the house (1931) of Le Corbusier and his wife, and KAIT Workshop (2008) by Junya Ishigami respectively.

1.3 Walk at the detail and home

The small pedestrian bridge of Fondazione Querini Stampalia is a threshold space in detail scales. Notably, the notion of asymmetry is displayed at its height, steps, and handrails designs. In the following description, the height and steps are taken as an instance. The height requirements are reflected underneath and above the bridge, allowing gondolas to pass and keep a distance with the lintel of building entry.¹³ The bridge has the ability to serve as a connection, but it makes two distinctions in response to the needs of the surroundings—both connected and separated. Furthermore, the delicate arrangement of the steps subdivides the rhythm of treading. It makes an ambiguity with the dual functions, a span across the river, and a threshold.¹⁴ Thus, in this view, this bridge enhances the various experiences of the crossing. In addition to visual experiences, tactile sensation also shapes memory. In the experiment of observation of touch, even an inanimate object touches another inanimate object, the displacement of the touch causes activation in a shared neural circuitry.¹⁵ The detail design of the bridge embodies the haptic composing of materials touching each other.

Secondly, walking at home, the threshold plays a vital role in constructing a narrative in domestic spaces. Regarding the penthouse, Le Corbusier, and his wife's house, the façade is parallel to the street while the mat well on the ground is skewed slightly. It implies that people can subconsciously perceive from the front door through once's feet and eyes about the direction of the route. Notably, it is meticulous that this small act of how to open a door has been designed, considering the behavioral continuity and perceptual order. Moreover, in the one part of the following sequence, Le Corbusier wanted to indicate a deep threshold through a vast door (a door with a wardrobe) located at the ends of the vaults, connecting their private and public room (bedroom and dining room). With this spatial configuration, the threshold creates an intense sensation of depth, which is coherent with the surrounding architectural elements and shadow. In this relation, the threshold is constructed as an outcome of thickening doors.

¹³ Frampton, K. (2001.) *Studies in Tectonic Culture: The Poetics of Construction in Nineteenth and Twentieth Century Architecture.* The MIT Press. (p.302)

¹⁴ Ibid.

¹⁵ Mallgrave, H. F. (2018). From Object to Experience: The New Culture of Architectural Design. Bloomsbury Visual Arts. (p.127)

¹⁶ Samuel, F (2010). Le Corbusier and the Architectural Promenade. Birkhäuser. (p.130)

¹⁷ Samuel, F (2010). *Le Corbusier and the Architectural Promenade*. Birkhäuser. (p.136)

1.4 Blur a difference

The notion of relativity and duality is mentioned in van Eyck's theory, also in the chapter of Le Corbusier on the externalized interior, and interiorized exteriors. Japan gives another duality, between natural and artificial. In Japanese culture, the atmosphere of in-between and ambiguous presence in life. Yoshinobu Ashihara mentioned 'Japanese gardens at first glance look very natural; on closer examination, however, they reveal themselves to be very elaborate, man-made miniatures of nature and to be different from Negative Space, which is true nature.' Obviously, Japanese architects have been exploring the boundary between nature and architecture and the ambiguity for a long time.

Is it nature in architecture, or architecture in nature? I believe Ishigami is the representative architect. In the KAIT Workshop, which is a whole transparent interior without toilets, the columns are arranged like trees placed on the landscape, providing circulation and different activities. The workshop building is a threshold which frees the walk from the planned outdoor paths. Each visitor can create their route within the boundary of the façade.

On the other hand, the walkway of the Water Garden is planned in between the ponds which the water levels are precisely controlled. The experience of movement is purified in this garden which behind the logic of architectural design but seemingly looks natural. To sum up, both projects blur the threshold by a consistent spatial hierarchy. The movement of people allows the building and the garden to become the threshold which transcends interior's scale.

1.5 Types of thresholds

Compared to these projects, two main types of thresholds can be distinguished clearly. Firstly, the threshold is a space that conveys a present moment that exists through the enhancement of sense and emotion. It mainly focuses on the feeling of being present in the moment. For instance, most indoor circulation guides the users to feel the view, the light, and a series of 'objects that provoke a poetic reaction' in the penthouse. They were designed as if a scenario that arranges the view of corners, rooms, and the ways of entry for each encounter carefully. Based on it, curiosity or determination would drive people to experience further. Secondly, the threshold is a space of a non-present moment that exists through the evocation of memory and imagination. There is a link to past or traditions. For instance, a subconscious sense of culture is concealed in contemporary Japanese architecture. This threshold can trigger nostalgia, a collective memory, and includes an ability to recall memories.

¹⁸ Ashihara, Y. (1981). Exterior Design in Architecture. Van Nostrand Reinhold. (p.25)

¹⁹ Fontana, M. P., Mayorga, M., & Roa, M. (2016). *Le Corbusier: urban visions through thresholds. Journal of Architecture and Urbanism*, 40(2), 87-98. https://doi.org/10.3846/20297955.2016.1196541 (p.139)

Chapter 2: Indoor movement and public interior

2.1 Privacy, culture and palace as a public interior

The public interior is a space which transitions people's perceptions of spatial states, involving the degrees of public and private. It creates a mental state of having a realm, and visitors can behave as if they were in a public place, but there are still subject to some restrictions.²⁰ People intuitively associate it with rooms when it comes to the word Interior; many of which constitute a building that can be regarded as a miniature city. The palace is such a place with complex structures and functions, for instance, Palazzo Ducale.

While experiencing interiors, the places they are visiting are planned. The power or authority of the owner is clearly felt, and one never feels a sense of belonging.²¹ However, due to transformation or contemporary tendency, the type of palace has been added with different functions, such as theatres and museums. Its role has also changed; it partly transited from an individual or royal power, which is entirely representative of the host, to a public interior that interacts with visitors. Once the transition occurs, the threshold is placed between the public and the private. The visitors would expect the secrets of the country's history, architectural elements, and the palace's imaginary life to be revealed.

I admire what Jacques Herzog mentions in the interview²² about the turbine hall in the Tate museum. They transformed the public interior because Londoners are used to the density of tourists and scale of cathedrals; thus, the high hall would not frighten the visitors. Notably, this view considers the cultural nature of the locals, or rather a collective memory. That is one of the threshold types discussed in chapter one. Besides, what about Russian culture? Is it possible to understand cultures and architectural aesthetics through languages? Ryue Nishizawa shared his view about verbal contexts in the film *Tokyo Ride*, that "The European architecture belongs to the continent culture, Chinese too. For me, they are really like 'noun.' Their language is really made of nouns, like bricks stuck on each other. It's very logistical. But Japanese and South Asian architecture is more like 'verb.' I think. The language that they use is more elusive. More like a moving feeling." However, the notion of privacy is not a part of Russian culture; there is no word in Russian for characterizing the spaces that should be private for people.²³

²⁰ Pimlott, M. (2016). *The Public Interior as Idea and Project*. Ram Publications. (p.10)

²¹ Pimlott, M. (2016). The Public Interior as Idea and Project. Ram Publications. (p.59)

²² Kuo, J. (2016). Space of Production: Projects and Essays on Rationality, Atmosphere, and Expression in the Industrial Building. Park Books. (p.110)

²³ Trubetskoy, S. (2015). *Russian has no word for "Privacy"* Retrieved January 03, 2021 from https://sashamaps.net/docs/writings/russian-privacy/

2.2 Walk in a palace, Putin's Walk and power

In addition to the transformation of the palace, the palace motif was followed in infrastructure. The subway stations of the Soviet Union were designed as 'people's palaces' during Stalin's tenure, which is a way of commuting for the working class and a medium for conveying patriotism. As the times changed, art, politics, dreams, and hopes are all displayed in this transportation system. Palace exists in Russian history and culture. It has been transforming from a mysterious and undisclosed building to a concept that can be integrated with publicity. This building type is diverse, which even in modernism, constructivist architecture somehow is regarded as a kind of palace.

Additionally, as a medium of communication and interaction, the media affects the spread of information in small ways and international change in large ways. It exposes personal privacy or disguises humanity as a tool for political propaganda. The media also allows us to become an observer, watching Putin's walk in the Kremlin from a third-person perspective. In 2018, a film was funded by the Russian government called *Putin's Walk*, which presents a series of scenes of his walking from his office to the Kremlin podium on the inauguration day. This chapter discusses his walking process through the threshold ideas mentioned before which are established based on the fundamental condition of threshold: from one state to another. The relationship between several elements is juxtaposed with it, the power of people, architectural elements, and spatial configuration.

A few scenes after leaving the office, Putin walks in the middle of the narrow corridors in which the scenery paintings, storage cabinets, doors, and windows are allocated on both sides of the walls. After that, there are two domes in-between the corridors and the exterior. At the first dome, Putin walks down the staircase located at the edge; the centricity is a void space, and the threshold is embodied at the edge of the dome. However, after he reaches the ground floor, he becomes the center of symmetry. The vaulted structure of the second dome forms eight routes that spread out from the center, strengthening the walker's sense of orientation. In this sequence, the second dome is regarded as an entrance that returns his position from an eccentric state to a central state. Thus, it seems that the entrance is a threshold which involves a function of re-orienting the directions for the walker. Besides, the openings and paintings on both sides introduce two sorts of exteriors in the corridors; a fixed landscape spread throughout the country and the actual landscape outside the palace. The routes convey the ambiance of the present and history as if it is a slideshow. Walking from the linear room (the corridor) to the symbolic room (the dome), the interior spaces framed by the camera lens will inspire audiences to think about Putin's awareness of his identity.

After he arrives at the other building by car, the others intervene in the scenes; the sense of ritual becomes more intense. The interface between the exterior and the interior is a cubic entrance, with rows of columns serving the same function as the arches of the second dome. The columns manipulate the movement of people from randomly to being guided into the big staircase. In this case, the entrance

space acts as a threshold for orienting.

After that, he walks on the routes surrounded by the soldiers who are lined up. Going upstairs from the ground floor to the first floor which with a mirror and a huge painting hanging at each end of the staircase, every object in the palace seems to let People imagine its corresponding symbolic meaning. Is the big staircase a threshold? Excluding its functionality, the rest of the conditions make the staircase an extended thickness of floor opening. The thickness includes transitions to other rooms and possibilities of allowing others and events to engage, not just as a connection. Finally, the inauguration is set in the luxurious interior where the positions of the golden doors and the citizens confine the movement within the grand palace to a linear route with a red carpet. It is an axis leading to the stage. After the first golden door is opened, two kinds of power appear; one is individual power reinforced by objects: the height and symmetry of the doors, chandelier positions, and windows; the other is collective power. A public notation generated from the audience and the ritual itself; the events, in turn, give the palace building collective power. Palace not only on behalf of an individual. Therefore, how to use doors is no longer a focus; spatial constraints and movement apparently make an interior inflexible, but practically it is a careful arrangement on the placement and time of architectural elements and power appearances.

Consequently, the threshold can be understood as a transitional space which imposes meanings on a blank. Events give the intention a temporal dimension, and threshold allows the blank (the place where the events take place) temporarily becomes another type of space, such as a public interior.

2.3 New views of thresholds

The scenario of the film begins and ends between two similarly scaled functions: the office and the stage, which characteristic is not private entirely and is temporary respectively. If 'the absence of absolute privacy' can be the cultural context of contemporary Russia, the palace will become a kind of public interior with interventions of activities or media. The Kremlin is a city without absolute privacy; it only has two states, one is not revealed, and the other has already been revealed. Within urban scales, does threshold have the potential to become a disclosure between the known and the unknown? For instance, to expose foundations of ancient walls or a roof of palace, where the people's movement cannot reach easily.

Conclusion

In December 2020, the Earth reached a time when human-made materials outweigh the total mass of all living biomass.²⁴ I wonder if it is necessary to construct new buildings. Difference shapes border thinking. It generates collision and interweaving of forms which is the relations that threshold is explored in architectural theory and design. "We now understand that the 'global' has become an unattainable ideal." which is a statement of the exhibition, You and I Don't Live on the Same Planet.²⁵

Borders affect spatial properties and human behavior. The way people experience place determines the thickness of the borders, which is also the threshold space. Threshold and movement of people are mutually dependent on each other. Movement and perception shape the threshold, while the space provides various possibilities of movement.

The threshold is a space with multiple configuration possibilities. There is a wide range of compositional elements such as a subtle design of joints and materials, architectural elements that stimulate perceptual behavior, and free plans. Furthermore, it can be a temporary place triggered by events or activities, where the threshold adds additional characteristics to an existing interior. To sum up, the threshold can challenge a fixed definition of borders in a city or reveals the existing but invisible border state.

In a city, there are dualistic spatial relations. It is significant to think of urban conditions through the palace building as a miniature city model. It assumes that public space is no longer built from an empty land but instead deals with the relationship between borders and interfaces within existing conditions, such as an active, mobile environment. Does the threshold have great potential to become an activating space for urban living?

²⁴ Elhacham, E., Ben-Uri, L., Grozovski, J. et al. *Global human-made mass exceeds all living biomass.* Nature 588, 442–444 (2020). https://doi.org/10.1038/s41586-020-3010-5

²⁵ Taipei Biennial (2020). *You and I Don't Live on the Same Planet*. Retrieved January 03, 2021 from https://www.taipeibiennial.org/2020/en-US/TB20/Intro Content (The curatorial statement of the exhibition. Curators: Bruno Latour, Martin Guinard, and Eva Lin.)

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