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## Spatiality and Bodily Awareness: Rereading the Concept of Space in Architectural Experience Case Study: Tehran Museum of Contemporary Art\*

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### Abstract

**Statement of the problem:** The variety of space-place experiences can be regarded as a feature that differentiates modern men from traditional men. Man's existence across natural and social realms, not only has a theoretical and epistemological history but also various distinctive perceptions of experiencing natural and social places. Throughout history, distinctive perceptions have had a unique spirit on one hand and a common spirit in human body on the other. Nevertheless, body and its corporeal and physical characteristics have not been given their due attention in dominant architectural discourses. Body has always been considered a passive object.

**Purpose:** The present study aims to investigate bodily perception as a source of inspiration for redefining the concept of space in architectural experience. The secondary purposes of the study include examining the manifestations of reading space by incorporating bodily perceptions, as well as scrutinizing the integration of human senses in space perception.

**Methodology:** The current study is qualitative and uses a hermeneutic phenomenological-philosophical approach. The study is "interpretive" in terms of research "purpose", and aims to produce new insights so as to use the findings to improve the existing knowledge about the topic of interest. Hence, the "results" are "pure". The "logic" of the study is "inductive." In the present study, a deep interview was conducted to infer and extract the "subconscious" from the responses of interviewees. The data analysis method includes qualitative content analysis via open and axial coding.

**Conclusion:** The results suggest that phenomenal reading of spatial perception experience can be categorized into three levels of complete perception, dynamic perception of space through senses; space as a medium for perceiving collective nostalgia, and space as the possibility of intuition and perception of the other.

**Keywords:** *Embodiment, Experience, Perception, Senses, Space.*

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## Introduction and Statement of the Problem

The existence of any human is accompanied by his/her body and perception. Bodily perception is a mental matter that is also accompanied by concentration and being conscious of the human spirit and emotions, that is accomplished by the movement of the body in the environment, giving meaning to the environment; which makes the subject understand his surrounding environment. This perception can also be correlated with the individual's connection to and understanding of the environment. Space-place is perceived and given meaning by human presence (Gallagher, 2005, 43). Since a human's five senses are his/her only means of communication with the other world and experiences, questioning the mechanisms of the five senses is considered important in understanding the built environment (Akbari, 2016, 2). Therefore, body-perception becomes meaningful when they are not separated (Gallagher, 2005, 43). Discussing and understanding the body, bodily perception and the architectural space is thus essential, and requires attention. Ignoring it, however, is to ignore a reality that has been buried under modern rationality and ignorance of emotional-bodily aspects. Paying attention to this matter is meant to extract human aspects that have been neglected for a very long time. The subject of the present study is based on qualitative observations existing in a particular domain of space built by man, which includes human emotional experiences, imaginations and mental representations resulting from encountering the living environment. This study therefore tries to study bodily perception as an inspirational source for redefining the concept of space in architectural experience. The main purpose of this article is to study the "nature of space according to bodily perception and embodiment", as well as "representations of spatial reading through inserting the bodily perception element" as the study's secondary objective. Therefore, the main question of the study is, "What role does bodily perception play as a source of inspiration for redefining the

concept of space in the architectural space?"

## Methodology

This study is qualitative and has a hermeneutic philosophical-phenomenological approach. It is also interpretive in terms of purpose. Its results are therefore pure and its logic is inductive. "Using the hermeneutic phenomenology approach in this study is significant, since its general orientation is based on the premise that all understandings of fluid cultural phenomena are transient and historical, and there is no final and non-reinterpretable understanding of texts. In other words, understanding the text is an unending task (Norouz Borazjani & Javadi, 2016, T). Qualitative study is a method of understanding and perceiving individual or grouped meanings in subjects correlated with society or the human individual. The present study's procedure includes the emergence of questions. As is common, data is gathered in a collaborative process with participants and paraphrased through inductive reasoning. Then the researcher interprets the meanings available in the data and the final report has a flexible structure (Norouz Borazjani, 2018, 77). "Studies related to the mutual impact of 'the environment's spatial features and behavior' also use behavioral maps. First, maps or plans are produced from different parts of the sample, and each space or its parts are identified using abbreviations. Then, various observers use maps and behavioral lists to observe and complete while in different spaces" (Mortazavi, 1988, 31). Since the present study is related to experiences, it was preferable to use deep interviews to infer and extract the "subconscious" from the body of interviewees' responses. The interview was therefore conducted in a semi-structured manner. The semi-structured, or to an extent planned interview is one that is not as close ended and predefined as structured interviews, and also not as open as unstructured interviews. The interviewer first carefully takes notes from questions and topics that he intends to investigate, but doesn't present them in a way that directs the interviewee to an unwanted answer (Ibid, 239).

In order to find answers to research questions, 20 museum visitors were selected as the sample for interviews. Interviews were then conducted and analyzed for qualitative content. Texts prepared from the previous part for describing and clarifying topics in data were first coded. “Taking notes on the sides of the text to clarify key terms was the next step referred to as “open coding”, which begins with taking notes and coding titles on the sides of the text to gather and organize them, so as to summarize the generalized content. The next step is to list the concepts represented in notes and coding sheets for each source. Then, categorizations begin according to previous coding and concepts. Categorizations can be based on topics, observations, concepts, or a theoretical outlook. After this stage, the researcher can expand categories and specify subcategories. In the next stage, general categorizations can be narrowed down by a short description and explanation for each category. That is, similar concepts are gathered under one category to reduce the number of categories. Topics are generally separated this way and then placed together in a meaningful way (axial coding). In a phenomenological study, it is possible to link categories generally” (Ibid, 261). The study’s general structure is explained in Fig. 1.

**Theoretical foundations and literature review**

**• Understanding space in architectural experience - The concept of space**

There have been many studies on the subject of phenomenology in various domains, especially humanities. The combination of bodily awareness, space and architecture in this study can be more universal and, together with phenomenology, presents a new concept to this field. Table 1 presents previous related studies. Space is one of the most fundamental concepts. “According to Aristotle, space is a collection of places. He describes space as the vessel of all objects” (Zarghami, 2015). In architecture, the word ‘space’ was coined at the end of nineteenth century in Germany with Samper’s volumetric theories, where aesthetic theories were derived from. It was then enriched by initial modernist thinking, and opened itself up finally to the English world by Gideon (Bokharaee, 2015, 11-12). “Architects and thinkers of the architectural world have for long presented different interpretations with regards to this concept. “Some of these definitions mention the role of man in perceiving the surrounding environment, while others mention the impact of the surrounding environment’s design on how humans perceive it. What most theoreticians

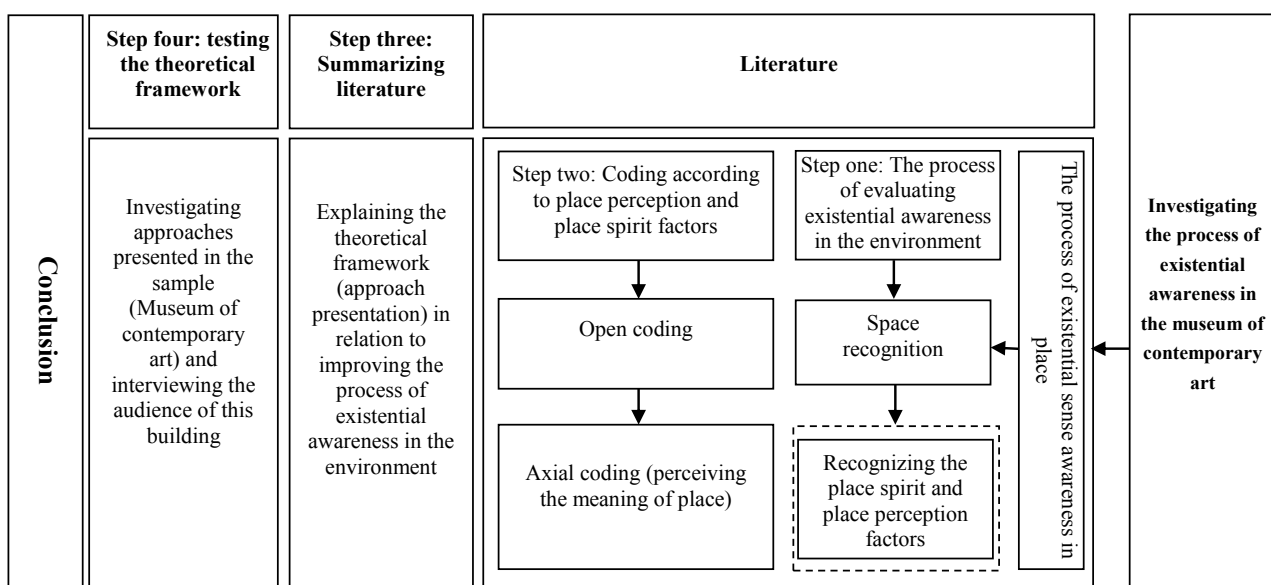


Fig. 1. The general structure of the study. Source: authors.

agree on is a definition of space that contains both elements of human and the surrounding environment. It is a definition that considers space to be a result of interaction between man and his surrounding environment, or between subjectivity and objectivity

(Sohangir & Nasir Salami, 2014, 65). The present study considers space through this concept.

### - The Individual, Society and Space

Space in the initial explanation, contains the concept of perceptive environment awareness, and it then gets

Table 1. Review of Literature. Edited by authors.

Year	Researcher	Subject/Type of Study	Conclusion
2017	Dodd	Phenomenology, Architecture and the Built Environment Exercises in Philosophical Anthropology (Article)	This study attempted to emphasize the value and significance of phenomenological explanations and analysis in explaining the philosophical significance of architecture (Dodd, 2017).
2016	Shirazi	Toward an Explanatory Interpretation of Architectural Phenomenology (Article)	Emphasizes the potential of phenomenology as a practical method of interpreting human connection with the built environment. Study sample, Langen Foundation Museum (Shirazi, 2016).
2013	Snodgrass	Interpretation in Architecture: Design as a Way of Thinking (Book)	Explaining the connection that should be established in practice between phenomenological-theoretical academic topics and the flow of architectural speech (Snodgrass, 2013)
2013	Tymieniecka	Phenomenology of Space and Time (A Collection of Articles)	A collection of articles which have focused on using phenomenological concepts such as intentionality, embodiment, existential forces, etc. to analyze the connection between man and the surrounding environment, especially the modern world (Tymieniecka, 2013).
2007	Catelli	Merleau-Ponty and Biological Philosophy Residing in the Area of Thinking (A Collection of Articles)	Proposes the “eco-phenomenology” concept to emphasize the approach’s importance and necessity for achievements, and potential of phenomenology in encountering the living environment (Catelli, 2007).
2016	Khabbazi Kenari & Sebti	Embodiment in Husserl, Merleau-Ponty, and Levinas’ Phenomenological Approach (Article)	Objective: How the embodied subject perceives itself, the world and the other. This article tries to answer researchers’ questions with a phenomenological approach using a descriptive-analytical method and by critically comparing philosophers (Khabbazi Kenari & Sebti, 2016).
2016	Daem Jozpiri &	Creating Architectural Space in the Iranian Civilization with a Phenomenological Approach (Article)	Redefining and analyzing Alvar Aalto’s Villa Mairea, Tadao Ando’s Water Temple, Reza Daneshmir’s Vali Asr Mosque, and Alireza Taghaboni’s House of Aristocrats by relying on the comments of Juhani Pallasmaa and Peter Zumthor (Daem and Jozpiri, 2016).
2017	Yazdaniyan & Dadashpour	The Issue of Presence in Space: Awareness and Spatial Agency	Discusses in detail the issue of individual presence in space, factors producing and reproducing urban space, and its mutual connection with representations of power in the urban space; time, experience, spatial self-awareness and the subject’s presence and resistance in the environment (Yazdaniyan and Dadashpour, 2017).

shaped by the human who does or does not understand it. A human effort - which depends on the presence of individuals in space, more than anything else - extracts the public space from its preexisting physical and human state and in return, frees individuals from functional passivity and turns them into spatial agents through engagement with communicative areas. Humans shape the space through social relation, action, and social significance (Casey, 2012, 38). Fundamentally, man creates a connection between himself and his surrounding objects and environment; that is, he himself physiologically adapts and connects with objects and body masses, and creates meaning. In a definition that considers space as a fundamentally social construct, one can say that there is no space without social connections and relations. It is through this interpretation of space that emphasizing spatial aspects makes it fundamentally possible to theoretically understand concepts such as agency, awareness, power, etc.

#### **- Agency and Structure in Space**

The space has a 2-dimensional social nature; meaning that on the one hand, the individual relates himself to the space and places himself within it, faces his immediacy as well as his identity, appoints himself as the subject at the center of the space, measures himself, and uses himself as a measure for giving the space meaning and form. On the other, space has a mediation role.

The human tries to understand the subjective-spatial position in which he is placed, more so than any plain or complex and ambiguous object. This turns the social space into a transparent mediator, which is alone occupied by light, presence, and influences; therefore, on one side, the place has various aspects, bodies and things, neural activities and exciting energies, and hidden and invisible spaces. On the other, space presents a collection of subjects, as well as object coherence (Yazdani & Dadashpoor, 2017, 74-75).

#### **- Spatiality and Bodily Awareness**

Spatiality is one of the sensual meanings of space which individuals associate with it according to their

capacity, and perceive it through sensory perception of space. During this process, the individual is placed in a space and receives its sensory information (sensory perception of space) and compares it with his mental forms (logical perception of space), and concludes whether the perceived space possesses the spatiality attribute. Many factors affect the judgment of individuals during the perception and meaning evaluation process, especially the emotive meanings of space: Physical features of the geometric space, the perceiving individual's conditions, spatial function, the individual's expectations while encountering the space, as well as the physical features of spaces perceived before entering the present one (Bokharaee, 2015, 12-13).

#### **• Embodied Perception in Architecture**

##### **- Embodiment**

Merleau-Ponty invites us, before all phenomenological thinkers, to ponder a concept called "embodiment". According to Merleau-Ponty, the human is present in the world and perceives it, becomes one with it and is assured of his own presence by it. We are present in the world with our own body. Not only is the body the source of our understanding of the world, but is itself a factor in setting boundaries in the personal and public domains. Perhaps the main application of architecture in all of history was to prepare a scene for cultural connection, speak with actual (embodied) awareness in a thinking, sensitive way, and reveal places that are in harmony with valuable human reactions.

##### **- Body, Perception, and Creating an Architectural Space**

According to De Vignemont (2014, 36), the most universal investigation of embodiment phenomenology in the emotive-movement approach can be found in Merleau-Ponty's perception phenomenology, although this view is strongly affected by Husserl and Gorovich. The sense-movement approach can be explained in three related claims:

1. The body is not an object that can be represented;

2. The body exists in the world and 3. The body that we experience is a functioning one (Akbari, 2016). Merleau-Ponty, who places action at the core of bodily awareness, started the old tradition of phenomenologically studying bodily awareness, as well as recent sense-movement theories regarding awareness. Merleau-Ponty explains the living body through the concept of action, instead of “reduction to a representation of the body”. The living body is understood by its actual encounter and confrontation with the world. Bodily space is for actions that have existential meaning, for object-centric existences. Body schema is therefore a function related to the movement sense, not a sense-movement representation (Gallagher, 2005). The unity of living body is achieved through universal bodily objectives (De Vignemont, 2014, 38). Therefore, perceiving space requires presence in space, as well as human experiences and actions in that space (Akbari, 2016). According to Merleau-Ponty, the body is not placed in space, but resides in it (Merleau-Ponty, 1945, 174). We know the world, objects, others and ourselves as the mediators of the body. The body is the abode for any meaning (Mahdalickova, 2015, 38) and the source of any expression, and it provides a place for any meaning (Merleau-Ponty, 1945, 183). Merleau-Ponty believes that the relation between perception and body is neither causative nor conceptual, since it is not just through these two factors that compatibility and dependencies between the body and the perceptive experience is understandable to us (Carmen, 2011, 125). We possess a pre-interactive understanding of our experience, according to which, the experience has no causative or conceptual relation with our body, but is consistent with our body’s mutual excitements. Saying that perception is naturally and necessarily material is akin to saying that the individual is not and cannot be understood from its additional material conditions. One can say that the perceptive structure is exactly the body structure. In Merleau-Ponty’s interpretation, the body is the man’s window to the world (Carmen, 2011, 125).

### • Theorizing in Regards to Bodily Phenomenology and Architecture

In this section, the views of theoreticians in regards to bodily phenomenology and architectural perception are briefly explained, which could lead to understanding the role of senses in perceiving architecture through body. The comments posed with regards to this area are elaborated as follows (Table 2).

### Introduction and Case Study

This study attempts to represent the concept of embodied perception as a source of inspiration for redefining space in architectural experience according to mental understanding and the interpretations and definitions of actors from this concept. The Tehran Museum of Contemporary Art was therefore chosen as the case for this study. The sample size was chosen purposefully based on the principles of theoretical saturation. 20 museum visitors were interviewed. After reaching theoretical saturation, data analysis was performed through the schematic method (theme analysis) common in phenomenology.

Case Sample: Tehran Museum of Contemporary Art Designing and building the Tehran Museum of Contemporary Art is one of Kamran Diba’s most important and prominent works. Designing and building the museum took approximately nine years in an area of about 5000 square meters. The design of the project borrows from works such as Louis Kahn, Le Corbusier, and Frank Lloyd Wright, accompanied by the important role of Josep Lluís Sert, and influenced by roof designs in Iran’s desert regions. The museum is built on the eastern side of North Kargar Street and next to the Laleh Park in Tehran. Laleh Park and the Honar Market are this museum’s northern and southern neighbors. This building has two entrances. Its main entrance is located on the western side of the building from the Kargar Street, and its second entrance is for services and located on the side of Laleh Park. The building museum is located on the southern side of the design, and the open space statue garden is located on the north (Bani Masoud, 2011, 328). Various parts of

Table 2. The views of contemporary theoreticians regarding bodily phenomenology and architectural perception. Edited by authors.

	Theoretician	View
Body	Edmond Husserl	<p>Area of Absolute Perceptive Attachment</p> <p>The means of taking other objects and the mediator for experiencing the world in two dimensions:</p> <ol style="list-style-type: none"> <li>1. It is the focal point of senses and perception.</li> <li>2. Revealing objects to the subject through location and by the direction of the body's movement members</li> </ol> <p>The body's sense and movement abilities are all at the disposal of the subject's mental awareness of the world (Akhtar, 2010, 88-91).</p>
	Emmanuel Levinas	<p>In his book "Totality and infinity," he describes the body from the aspects of "need" (the aspect of needing embodiment with another matter) (Mathews, 2008, 79) and "desire", both of which are interwoven with subject embodiment (Levinas, 1969, 117). The subject's relation with the world, while contact another, is established through the human body; he is neither the subject itself nor the object, but the other that calls the subject (Levinas, 2012, 74).</p>
	Maurice Merleau-Ponty	<p>Merleau-Ponty's point of departure in discussing perceptive embodiment is sensitive perception, which is a bodily phenomenon (Merleau-Ponty, 2005, 236).</p> <p>Each of us, before being aware, is a body that receives and shapes the world (Merleau-Ponty, 2012, 17).</p> <p>Understanding the world by living between objects and individuals</p> <p>Pre-perceiving the world according to a fluid and sensitive body, will fulness toward objects</p> <p>Our connection with the world (Taylor and Hansen, 2012, 111).</p>
Space	Martin Heidegger	<p>For Heidegger, the point of departure and the fundamental origin, is that the world is not the space, but the space is the world.</p> <p>He thinks space frees place from its restless and rebellious nature, and gives it a living aspect (Heidegger, 1996, 133).</p>
Place	Christian Norberg Schulz	<p>Schulz presents her theory based on a new architectural definition called "space phenomenon" (Schulz, 2002, 22).</p> <p>Shultz views man as a thing among things who uses them (Schulz, 2010, 236).</p>

this building are introduced in Figs. 2-12.

**• Spatiality and Bodily Awareness According to Interviewees**

In this part of the study, the experiences of visitors and actors are explained under the general title of “Space-Action”. The principle that is important and worth considering, is reconstructing and perceiving

architecture not as a soulless body of material, brick and cement, but as a foundation for creating an interaction and further facilitating human perception of a space that willingly or unwillingly enters the experience.

Architecture minus human, perception and understanding is nothing but an occupied space inside its boundaries. Therefore, the phenomenological



Fig. 2. The location of the museum and the statue garden in the plan and analysis of the complex plan. Source: caoi.ir.



Fig. 3. Museum Entrance. Source: caoi.ir.



Fig. 4. Location of Gate and the statue garden. Source: caoi.ir.





Fig. 5. Location of the Complex. Source: www.googlemap.com.



Fig. 6. Complex in 3D. Source: caoi.ir.



Fig. 7. Location of Gate and the statue garden. Source: caoi.ir.



Fig. 8. Yard Collection. Source: caoi.ir.



Fig. 9. Location of Gate and the statue garden. Source: caoi.ir.



Fig. 10. The location of the Restaurant and the statue Garden. Source: caoi.ir.



Fig.11. Ramp. Source: caoi.ir.



Fig. 12. Sitting space. Source: caoi.ir.

curiosity of authors in the process of understanding and perceiving the environment is presented as headlines that have been extracted from the heart of actors and interviewees' responses. What is important for any qualitative study is to understand the phenomenon from the conversation and behavior of experiencers, who are immediate experiencers of the phenomenon and talk to the researcher about this experience. The audience enters the space, the entrance experience is turned into a meaning, and this built meaning is recorded in memory (Fig. 13). Therefore, this study looks for a missing link, buried between the space and action, and between the work, and the human experience of that work. In this regard, one should keep in mind that the lived experience talked about in interviewee conversations, more than representing their perception of the engaged space, can show the threads of their social life on a greater foundation. When the interviewee points to "security, originality and a bed of comfort" as their experience

of being placed in the location, more than discussing the type of perception from such a space, one should mention that such factors have been lost in his social life. Humans are not devoid of any preceding perception or prejudice as they step foot in such a space carrying a load of lived social experiences and affected by economical, political and cultural forces. All of these lived factors will influence their perception, and the quality of the space.

Therefore, bodily perception can be categorized according to factors that were obtained from an axial coding of the study as follows:

Bodily perception includes a mental-internal and a physical-external part. These two parts influence perception. This study divides bodily perceptions according to factors.

Moving body: A body moving in the environment and affected by physical information

Sensitive body: A body moving in the environment and affected by the five senses







Personal body: A body moving in the environment and affected by personal experiences, memory, and imagination of the environment

Social body: A body moving in the environment and affected by spiritual, cultural and social values

## Conclusion

Questioning our perception and understanding of space can point us to a classic and two-dimensional relation of space-perception. On one side of this continuum, the subject of human is ever present; a human who is a social, historical creature with different and varying perception, and a space opposing him as an object. He/She perceives the space and gives it meaning, and this meaning is engraved on the space's forehead. This classical process recreates an acting and meaning-giving human being from space perception, who is struggling with a space that is always stable and unchanging. What resulted from space perception, the study, and conversations with visitors was that such an approach and understanding of perception and communication cannot be a suitable answer to our understanding of experienced

Table 3. Investigating the factors of the study's approach to the Museum of Contemporary Art. Source: authors.

Factors	Representation in Case Sample	Illustrations
<b>Space Experience</b>	<ul style="list-style-type: none"> <li>- Space Nostalgia</li> <li>- Cultural Consistency</li> <li>- Different Combinations of New Material</li> <li>- Different Perception of Space by Moving Inside it in a Ramp (Space Dynamicity)</li> <li>- Walking Inside the Building, Engaging the Five Senses, and Perceiving the Space</li> <li>- Becoming One with the Built Space Through a Ramp</li> <li>- Slow Movement in the Space Through a Ramp</li> </ul>	
<b>Bodily Perception</b>	<ul style="list-style-type: none"> <li>- Individual Curiosity</li> <li>- The Space Ruling over the Individual</li> <li>- Engaging Senses in the Building to Understand Spatial Relations According to Different Elements Engaging with the Audience's Senses</li> <li>- Differences in the Material Used and Environmental Perception</li> </ul>	
<b>Sense of Place</b>	<ul style="list-style-type: none"> <li>- Mental Engagement with the Nostalgic but Modern Space</li> <li>- Recollecting Memories of Old Buildings by Combining Modern Materials</li> </ul>	
<b>Event Space</b>	<ul style="list-style-type: none"> <li>- Welcoming the Collection by Secondary Events</li> </ul>	
<b>Social Interactions</b>	<ul style="list-style-type: none"> <li>- Establishing Social Connection</li> <li>- Gathering Individuals and Groups</li> <li>- Friendly Encounters and Visits</li> </ul>	
<b>Consistency with the Background</b>	<ul style="list-style-type: none"> <li>- Becoming One with Nature</li> <li>- Connecting with the Environment</li> </ul>	

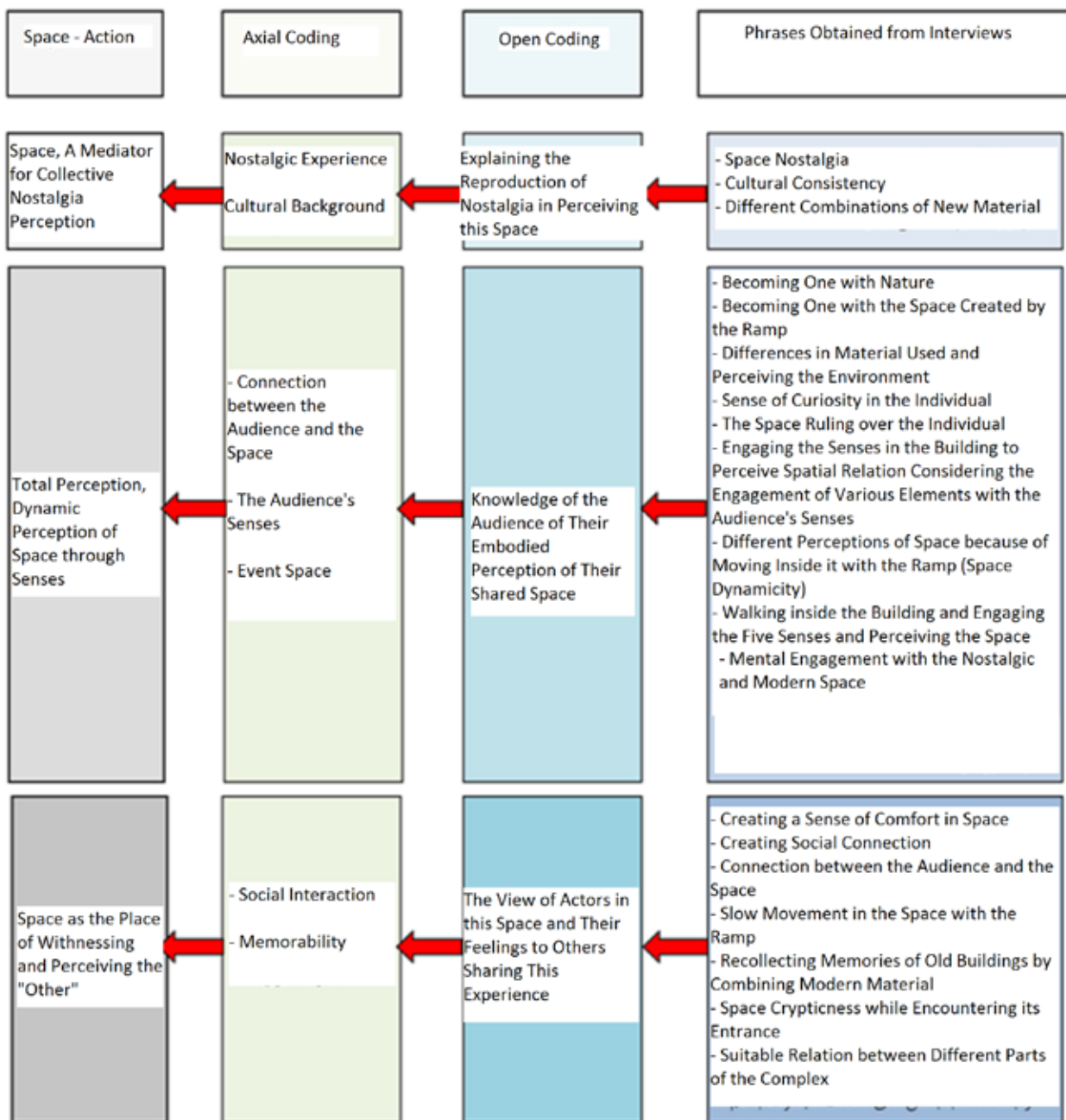


Fig. 13. The Conceptual Model Resulting from Visitors' Space Perception Experiences. Source: authors.

spaces. In our view of the process of perceiving, forming and experiencing, there is a collection of historical and social factors involved that neither consider the perception process to be a fixed and stable one, nor believe that perception is an always changing historical and dynamic process reliant on a lived experience. Discussing the body as a mediator, and its role in our perception and experience, confirms the fundamental principle that this

mediator is itself a social, historical phenomenon. On the other side, bodily perception can be affected by cultural backgrounds and fundamental design features that bring about the understanding of the design background and foundation. Embodiment can create a subtle connection between human conscious and subconscious, so that it receives and understands features of the environment and uses mental processes, including spiritual and cultural

values, memory, imagination and the five senses, to perceive and change them. Therefore, mental processes in the environment increase meaningful interactions between the human and the environment. These interactions cause one to perceive the concept of environment according to bodily movements (Fig.14).

One can respond to the main question of this study by stating that a phenomenological reading of space can be divided into three categories: Space, a mediator for understanding collective nostalgia, total perception, dynamic perception of the space through senses, and the space as the ability to witness and perceive another.

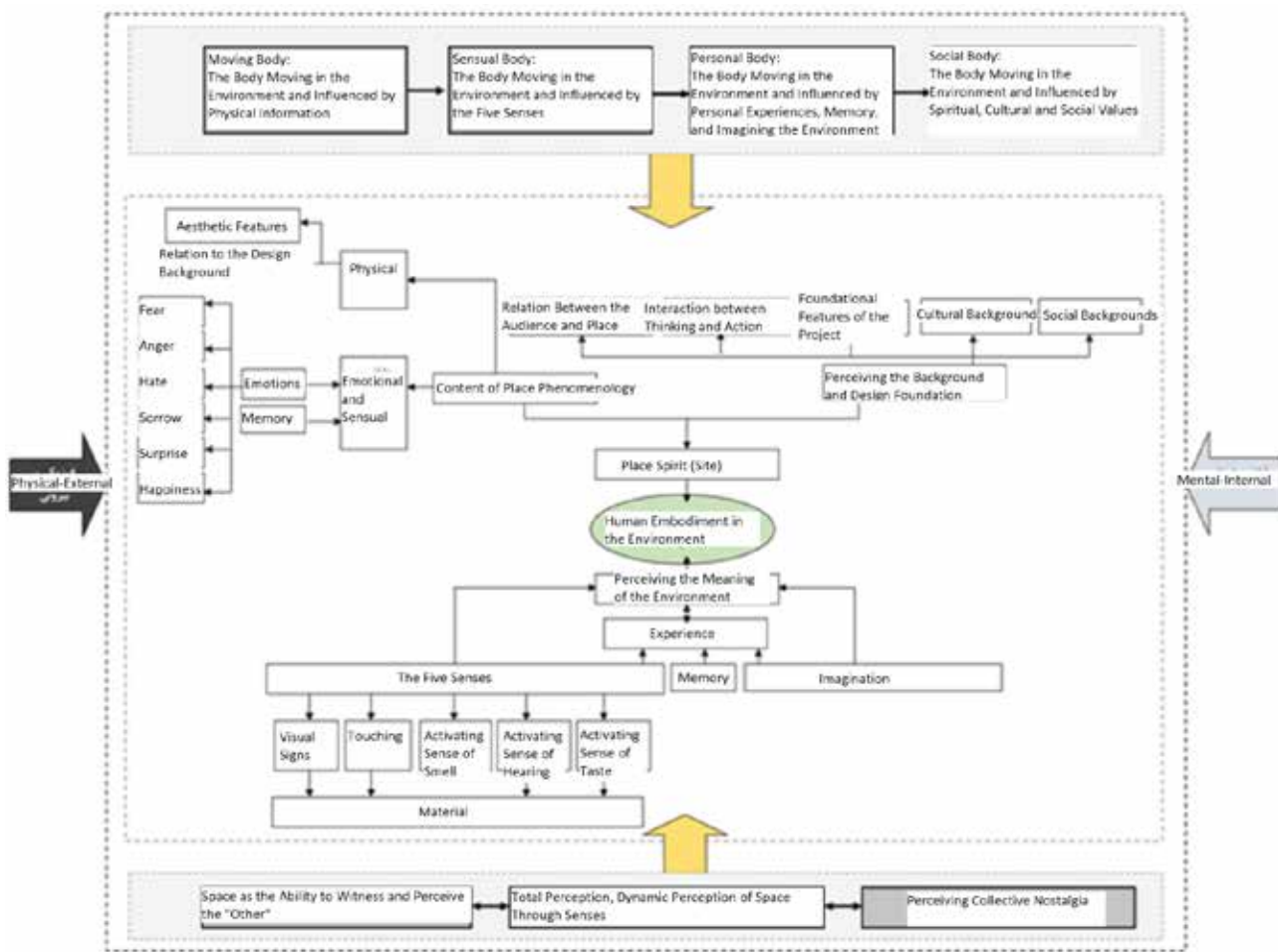


Fig. 14. Reading the concept of space in architectural experience through open and axial coding. Source: authors.

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