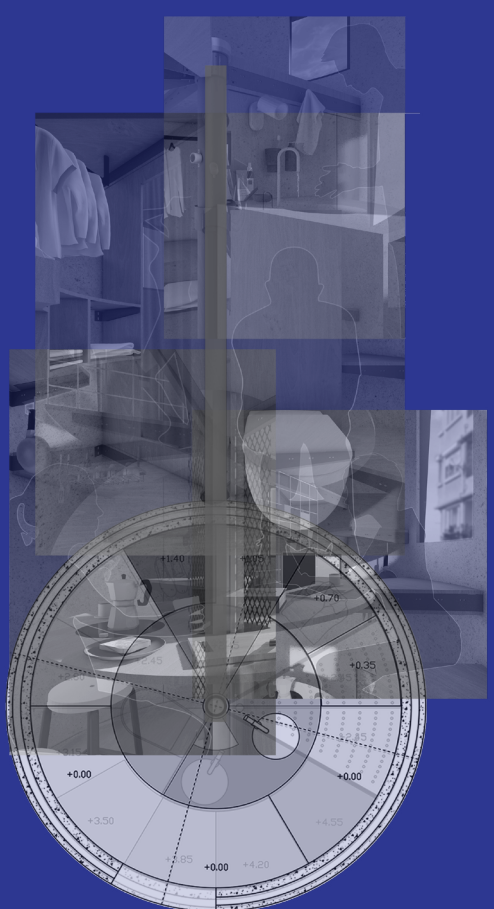
Mef University
Faculty of Art, Design and Architecture
Alternative Architecture Practices

Enmeshed Experience Through Existential Characteristic of a Micro Living Unit Volu-te



Zeynep Ulusoy
2022

I would like to thank my dear advisors Ayşe Hilal Uğurlu and Ozan Avcı, who did not withhold their valuable thoughts, interest and support from me. I would like to thank my teammates that I worked with throughout graduate education and our project coordinator, Oral Göktaş, who always encouraged us to explore and discover more. Finally, I would like to thank my family and friends for their support and understanding during this challenging and enlightening amount of time.

Abstract

This thesis focuses on the unity of body and space within the scope of the notion, experience. Revealing the experience of architectural space through its characteristics has been questioned. In this context, the definitions of body and space were examined from a phenomenological perspective and the relationship between subject and object is questioned. With the concept of "experienced space", the space is positioned at the centre of the experience. Since the subject and the object create each other, the perception of the body through the senses has been questioned. Thus the reading of the space was done through the sensation. The thesis argues that the "existential characteristics of the object" should be examined to reveal the experience. In this context, the micro-housing unit called Volu-te (designed and produced during the graduate program Alternative Architectural Practices) has been discussed as an architectural object. It has been aimed to start a discussion on the experience from the perception of Volu-te by deciphering the existential characteristics. During this discussion, the spatial perception of which these characteristics provide to the subject has been emphasised. In order to express the experience revealed in Volu-te, a terminology of Steven Holl was used. "Enmeshed Experience" is a concept that used to express an urban perception that has been redefined over the micro-housing unit. In this way, the possibility of revealing the experience has been explored.

Key Words: Experience, Enmeshed Experience, Body, Space, Experienced space, Perception of Haptic Senses, Existential characteristic, Volu-te

Source Code: 80107

Özet

Tez kapsamında yapılan araştırma deneyim nosyonu üzerinden beden ve mekan birlikteliğine odaklanmaktadır. Mimari bir mekanın deneyiminin, mekanın özellikleri üzerinden ortaya çıkarılması problem edilmiştir. Bu bağlamda fenomenolojik bir bakış açısıyla beden ve mekan tanımları irdelenmiş ve birbirleriyle olan ilişkileri sorgulanmıştır. "Deneyimlenen mekan" kavramı ile mekan kavramı deneyimin merkezine konumlandırılmıştır. Fakat objenin ve nesnenin birbirlerini var ettiği göz ardı edilemeyeceği için, öznenin mekanı duyular aracılığıyla algılama biçimi sorgulanmıştır. Bu sayede mekanın okuması duyular üzerinden gerçekleşmiştir. Tez asıl olarak mekanın deneyimini ortaya çıkarmak için, "Nesnenin varlık karakteri"nin irdelenmesi gerektiğini savunur. Bu bağlamda mimari nesne olarak (AAP yüksek lisans sürecinde tasarlanıp üretilmiş olan) Volu-te isimli mikro barınma birimi ele alınmıştır. Volu-te'ün varlık karakteri deşifre edilerek, açığa çıkan deneyim tartışmaya açılmıştır. Varlık karakteri tartışılırken, özneye sağladığı mekansal algı ile birlikte ifade edilmiştir. Volu-te içerisinde açığa çıkan deneyimi ifade etmek adına Steven Holl'ün terminolojisinden yararlanılmıştır. Kentsel bir algıyı ifade etmek için kullanılan "İç içe geçmiş deneyim" kavramı, mikro barınma birimi üzerinden yeniden tanımlanmıştır. Bu sayede genellikle öznel bir bağlamda karşımıza çıkan deneyim kavramının nesnelliği ve açıklanabilirliği keşfedilmiştir.

Anahtar Kelimeler: Deneyim, İç içe geçmiş deneyim, Beden, Mekan, Deneyimlenen mekan, Dokunsal duyuların algısı, Varoluşsal karakter, Volu-te

Bilim Dalı Sayısal Kodu: 80107

Table of Contents

List of Figures

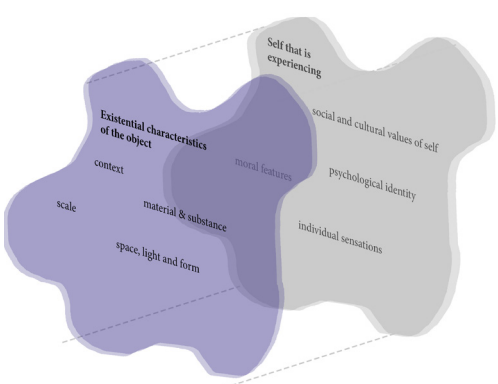
Introduction

1. The diagram is created for this thesis by Zeynep Ulusoy. From this point, it should be considered that the unspecified diagrams have been created for the thesis.

2. "A thing which appears, or which is perceived or observed; a particular kind of fact, occurrence, or change as perceived through the senses or known intellectually; esp. a fact or occurrence, the cause or explanation of which is in question" Phenomenon OED Online. March 2022. Oxford University Press. https://ezproxy.mef.edu.tr:2313/view/Entry/142352?redirectedFrom=phenomenon#eid (accessed at march 23, 2022)

The process of perceiving the environment of conscious beings is called experience. In the architectural experience, the environment represents the space, and the conscious being stands for the body. Architectural experience emerges as a result of the unity of body and space. The consciousness, which we can call experience, is related to the experiencing self. Body experiences space through its existence and memory. For this reason, the concept of experience often appears as a subjective notion. On the other hand, the body is not alone in the experience. The space gives the material to the body and it shapes the experience. The object that architecture provides is a medium of possibilities. The product of architecture (space) re-creates the subject with the condition that it provides. Experience is attributed not only to the subject but also to the object (Figure 1). It establishes a direct relationship with the existential characteristics of the object. The concept of existential characteristics of the object is based on the composition of elements that create the product of architecture, such as; context, scale, material and substance. The elements that serve haptic senses create a base for the experience. Accordingly, the idea of reading the experience through the object's existential characteristics has emerged. In this context, the possibility of revealing the experience through the architectural object has been questioned. "Can we reveal the experience of an architectural object referenced to its existential characteristic?" With this question, research was started on the concepts of body-space and experience that constitute the main structure of the thesis.

Figure 1: Subject and Object layers of the experience.[1]



Experience is the primary subject of various subfields of philosophy, including the philosophy of perception, the philosophy of mind, and phenomenology. In the thesis, the concept of experience is being studied from the perspective of phenomenology. According to the Oxford English dictionary, Phenomenology is a thing or a fact that is perceived through the senses.[2] Phenomenology has been defined as "the study of structures of consciousness as

experienced from the first-person point of view"[3]. Phenomenology is based on the experience of phenomena and it tries to interpret the sense of these experiences. It is a system of thinking that the famous German philosopher and mathematician Edmund Gustav Albrecht Husserl (d.1938) founded. However, it has been discussed for many years, based on the idea of Descartes: "I think; therefore I am"[4], within the framework of the philosophy of consciousness. Phenomenology in architecture has been investigated starting from the 1950s with Steen Eiler Rasmussen (d.1990). In his book, Experiencing Architecture, he explains how people perceive things surrounding them. Researchers such as Schulz, Rasmussen, Pallasmaa and Merleau-Ponty have produced studies in this field.

Phenomenology indicates that experience is a two-sided notion. Half belongs to the subject, and the other half belongs to the object that creates the medium for the experience. Ponty puts forward the idea of "Chiasm" against the traditional subject-object duality. According to this idea, what is perceived is called a property of the object, not an element of consciousness. In this framework, the perceived object's characteristics will be investigated as "existential characteristics" throughout this study. The existential characteristic becomes an important parameter that shapes the experience.

Pallasmaa carries Ponty's phenomenological approach to architectural experience. He argues that architecture discusses human understanding over infinite time and space. By positioning the body at the centre of the experience, he argues that the interaction with the environment occurs through the body's sensory system. So it is possible to say that body and space have a symbiotic relationship with each other rather than being independent, and therefore they create the space itself together. In the light of this information, the first chapter of this thesis investigates the relationship between body and space through a theoretical approach. Afterwards in the "perception of haptic senses" chapter, the bodily perception of the space through the senses is studied. Thus, the journey of the body in experience has been tried to be understood and narrated.

Within the scope of the thesis, the question of whether the architectural object's experience can be revealed through its existential characteristics has been opened to discussion. In this context, Volu-te, which was designed and produced in MEF University's master's program Alternative Architectural Practices (AAP), has been used as an architectural object. AAP is a master's degree that contains 4 semesters: research, design, build and thesis.

3. Barry Smith and David Woodruff Smith, eds., The Cambridge Companion to Husserl, Cambridge and New York: Cambridge University Press, 1995.

4. Rene Descartes, *"Discourse On The Method",* trans. Ian Macnellan, New York: Oxford University Press Inc., 2006, 73.

In the first semester of the program, a research process of “micro living” was completed. The outcome of this group research was a book titled “Small Scale Decent Change”. The research begins with a timeline that reveals the local and global thresholds that triggered the birth of micro life units. Then there is the “Structural Strength” section, where the relationship of existing small-scale units with external forces is examined. In the “Technology” section, alternative building materials, construction systems and modes of transportation are examined, while in the fourth section, research on the ecological cycles of existing samples is carried out. Finally, in the “Ergonomics” section, the relationship between body and space is examined by re-questioning the architectural standards formed by the systematisation of human movements and accepted by the majority. The examined relationship between body and space in the micro-spaces forms the start point of this thesis research.

In the second semester, Volu-te was designed in the light of this research. Volu-te is a compact micro-living unit designed for megacities like Istanbul. Volu-te has a cylindrical form with a diameter of 2.4 metres and a height of 6 metres. Within the Volu-te, essential functions such as sleeping, eating, resting and cleaning can be performed. Throughout the thesis, the experience that Volu-te provides is going to be revealed. To define the experience Volu-te provides, the term “Enmeshed Experience” has been used.

Enmeshed experience is a term Steven Holl imparts as an urban scale condition. In enmeshed experience, human perception merges the fragmented views in the city and creates a holistic experience. Merleau Ponty’s discourse describes the enmeshed experience as overlapping spaces, materials, and details. The terminology used to describe the enmeshed experience and the experience revealed in Volu-te shares similarities. In Volu-te, the essential elements for basic actions are overlapped, which leads to a loss of clarity on the boundaries. The fragmented views in Volu-te merge through the material and movement of the subject’s body in the space. Volu-te also offers a sensory experience to the subject regarding its existential characteristics. The non-continuous field of vision enables other senses to perceive more. For these and many reasons, to express the experience that is revealed in Volu-te, the term Enmeshed Experience has been used. An urban term has been redefined in micro scale layout. Based on this context, the existential characteristics of Volu-te and its experience going to be investigated by focusing on subject-object coexistence.

7. Amet nulla facilisi morbi tempus iaculis urna scelerisque eu ultrices vitae auctor, sapien eget mi proin sed libero enim sed.

8. Fernanda Eberstadt, “Gone Guy: A Writer Leaves His Wife, Then Disappears in Greece,” review of A Separation, by Katie Kitamura, New York Times, February 15, 2017, https://www.nytimes.com/2017/02/15/books/review/separation-katie-kitamura.html.

9. Kory Stamper, “From ‘F-Bomb’ to ‘Photobomb,’ How the Dictionary Keeps Up with English,” interview by Terry Gross, Fresh Air, NPR, April 19, 2017, audio, 35:25, http://www.npr.org/2017/04/19/524618639/from-f-bomb-to-photobomb-how-the-dictionary-keeps-up-with-english.

10. Lind, “Moving to Canada.”

11. Vinson Cunningham, “You Don’t Understand: John McWhorter Makes His Case for Black English,” New Yorker, May 15, 2017, 85.

12. Cunningham, “Black English,” 86.

As seen in Figure 2 the thesis investigates the subject-object coexistence through experience from a phenomenological perspective. The subject layer focuses on how a subject perceives the space through the senses. Therefore, the concepts of sound, scent, taste, touch, movement, and time are examined. On the other hand, the object layer in the experience focuses on the object's properties such as;context, light, material, detail, substance, and scale through the existential characteristics. The last chapter of the thesis discusses Volu-te's experience through the perspective of the unity of body and space. The term "Enmeshed Experience" is used to describe the experience that is revealed in Volu-te. In order to reveal the experience in Volu-te, it is important to understand the design strategies and context of the architectural object. In the next section, Volu-te is going to be explained through: context, scale, space, form, material and substance.

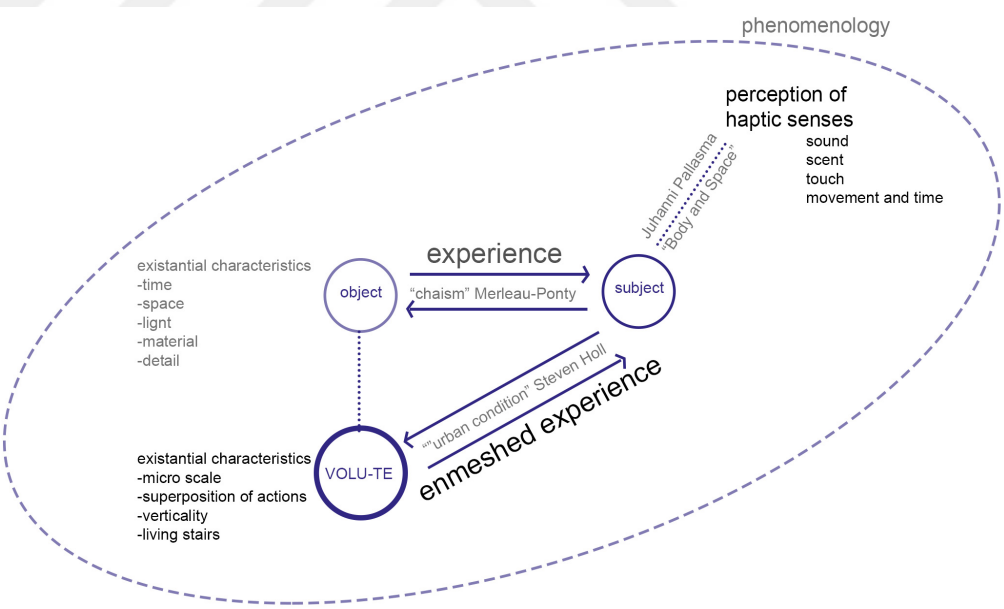


Figure 2: The Notion Network of Thesis

What is Volu-te?

Volu-te (Figure 3) is a micro living unit that provides temporary accommodation for young adults in the city. Volu-te serves all the essential functions of a shelter, such as eating, cooking, working, cleaning up, and sleeping. The product aims a low carbon footprint by providing optimum indoor conditions with its vertical and prefabricated system. With an advantage of a base diameter of 2.42 metres and a height of 6 metres, it could easily be placed in the left-over areas of megacities. Volu-te aims to search for the potential of micro living in megacities. Although it does not claim to be the unique solution to the accommodation problems, it is a proposition of an alternative to the temporary accommodation in today's megacities.

Figure 3: Volu-te (Source: https://www.alter-8.com/circular)

Volu-te is fabricated, and it could easily become mass-produced. With this potential, Volu-te is an architectural product that has been manufactured through a certain standard with an affordable price. The project aims to create a safe, durable living unit that provides optimum comfort conditions. It has smart home technologies through the mobile application, and access to the module is provided with the QR code defined. Unlike the common tiny house approaches, Volu-te is designed for urban areas. It settles on the left-over areas of megacities such as Istanbul.

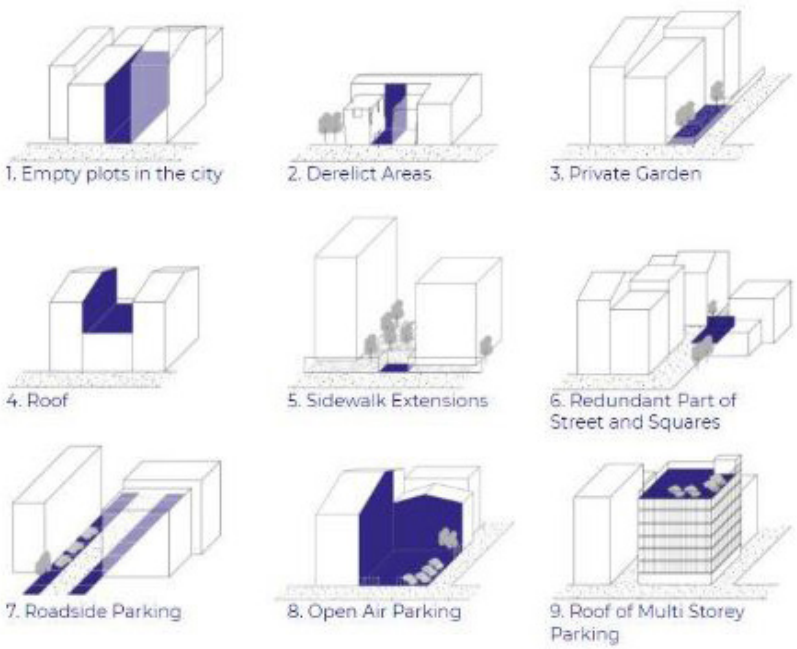


Figure 4: Left-over spaces that Volu-te could be placed in İstanbul, Alternative Architectural Practices Volu-te Design book,16 (Available at: https://www.yumpu.com/en/document/read/65263933/aap-volute)

Volu-te is fabricated, and it could easily become mass-produced. With this potential, Volu-te is an architectural product that has been manufactured through a certain standard with an affordable price. The project aims to create a safe, durable living unit that provides optimum comfort conditions. It has smart home technologies through the mobile application, and access to the module is provided with the QR code defined. Unlike the common tiny house approaches, Volu-te is designed for urban areas. It settles on the left-over areas of megacities such as Istanbul. Istanbul is constantly changing and transforming with each intervention. By settling individually in existing gaps such as derelict areas, empty plots and private gardens in densely populated cities such as Istanbul, it aims to occupy as little floor space as possible in the limited and valuable spaces within the city(Figure 4). By this way the left-over spaces can be re-used with a new purpose. At this point, small-scale interventions can act as a catalyst, revealing the potential of these gaps. Micro living; is a lifestyle that aims to sustain life on the planet with “less space” and “the minimum”. In some urban scenarios, it becomes a necessity. In a way, it tries to consume less by getting rid of excesses. On the other hand The “minimum” concept also reflects and affects the interior scenario. The standardised ergonomics had to be questioned to create well-functioning interior space.

Ernst Neufert[5] standardised the ergonomics of architectural elements and body expressions in his book Architects Data. From a Cartesian point of view, the body was evaluated as a measurement tool in this book. The characteristic of the space has been defined with dimensions, and the boundaries have become more apparent. In the design process of Volu-te, the human body was not considered with a Cartesian approach. Concept that changes and moves with the body is designed. First of all, the actions that the subject may need in his daily routine were determined: cooking, eating, working, resting, urinating, cleaning up, and sleeping. The body's movement was read through the determined actions, and the space design was shaped accordingly. Later on, a holistic setup that will serve these actions was created on the Y-axis. The privacy and spatial separation required for the actions are provided by level differences. Considering that, the new ways of relationship between space and body movement were sought in the design process of Volu-te, as seen in Figure 5. It was designed based on volume rather than area through the vertical layout. Based on their relationship, determined actions were superposed on levels instead of floor setup.

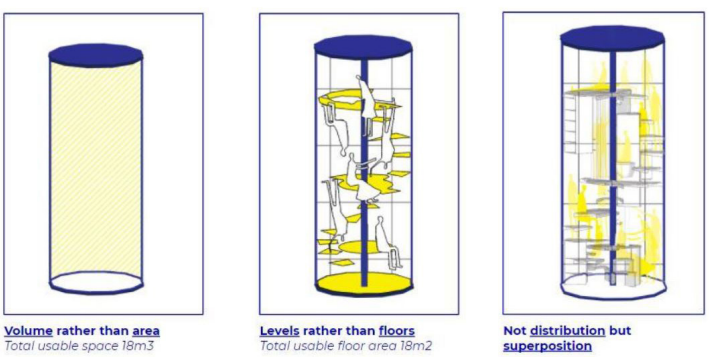


Figure 5: Design Principles of Volu-te, Alternative Architectural Practices Volu-te Design book,25 (Available at: https://www.yumpu.com/en/document/read/65263933/aap-volute)

With the body's movement in a microstructure, boundaries of ergonomics are questioned. In Volu-te, the movement of the human body during the daily routine generates a base for space creation. The volume occurs by the superposition of the combination of body movement. During the space configuration according to human movement, Volu-te operates due to different spatial elements. The spatial configurations that separate each function as a single room can maximise the use of floor area. Rather than organising rooms function by function with conventional ergonomics, Volu-te aims to experiment with how the actions can intersect and merge in a vertical layout. (Figure 5).

5. Ernst Neufert (1900-1986) was a German architect who was a student at Bauhaus. Neufert studied Architectural Standardization in Germany. He is especially known for his reference book Architects' data that was published in 1936. Which is a source for initial design of buildings by providing extensive information about spatial requirements through illustrations and technical drawings.

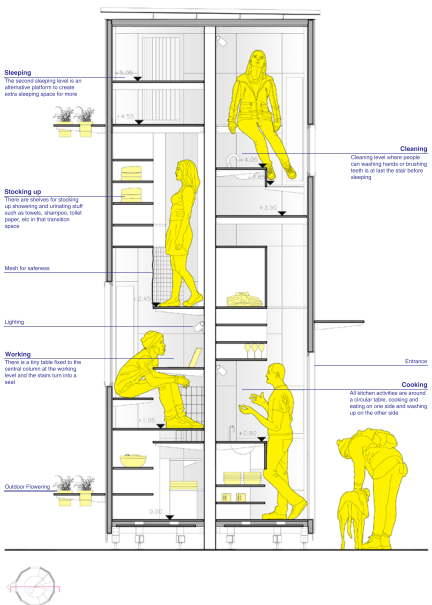
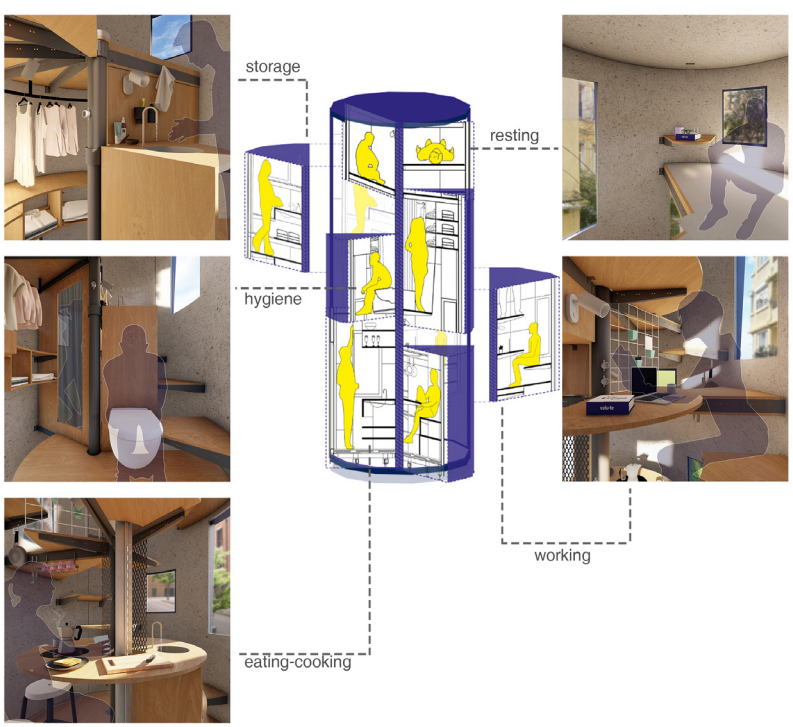


Figure 6: Sections Alternative Architectural Practices Volu-te Design book, 32-33 (Available at: https://www.yumpu.com/en/document/read/65263933/aap-volute)

Figure 7: Utilisation Diagram of Volute, Alternative Architectural Practices Volu-te Design book (Available at: https://www.yumpu.com/en/document/read/65263933/aap-volute)

As for the materials used in the design, Volu-te has a 60 mm fibro concrete shell. In Fibro Concrete, fibres are used to strengthen the concrete instead of the reinforcement in the concrete. In this way, the load bearing structure is slim in the section. 14 joineries in 2 different sizes are (40x40 cm and 40x60 cm) designed on the shell. In areas where privacy is essential, the material used for openings changed with a light-permeable, image-proof corrugated polycarbonate. In the interior, the galvanised sheet is used for the bearing beams and the column is located in the middle. Plywood is used for steps and separators, as seen in Figure 7. In vertical layout, stairs become the essence of the design process. In this case the term stairs was redefined. Standard equation for the calculation of stair dimensions[6], was manipulated and different ratios were explored for the Volu-te. In the new combination , the riser is 35 cm in the and the tread is 50 cm. A new ratio rather than standard ladder equation was studied because stairs are no longer just a tool for vertical movement. In addition, steps are defined as spaces with a function.



6. 2H+G= +-64 cm
H= Step height/Riser G= Going/Tread

Volu-te was designed in the Alternative Architectural Practices graduate program due to the collective work of a team of 10 people, including me. The graduate program, which has a design-build system, brought partners from the industry and us together for Volu-te's construction. Currently, the concrete shell of Volu-te has been produced. The assembly of the metal beams continues. On the other hand, the CNC cutting of plywood has been completed, and its assembly has not started yet. The construction of the unit continues in the Fibrobeton factory (Düzce). It will be placed in the MEF university when the production is completed. In this way, university students will be able to experience Volu-te.

The characteristics of Volu-te have been narrated through context, scale, material, texture, and form. The importance of terms such as verticality, microscale, superposition of actions, and living stairs to the context of Volu-te are indicated. The information in this section is essential for revealing the existential characteristics of Volu-te. The experience of Volu-te will be revealed through the thesis based on subject-object coexistence. In this case, because Volu-te is an architectural object, the subject-object coexistence has been read through the concept of body and space in the next chapter.

Figure 8: Construction of Volute (Photograph by Nur Gülgör, 25.07.2022)

Body and space

01

‘What is the relationship between?’

In studies carried out to date, the relationship between body and space has been explained and understood with some concepts such as cartesian space, lived space and relational space. In some of these studies, the existential characteristics of space are examined over the relationship between body and space. On the other hand, in some examples, space is structured or based on producing disembodiment. Studying these concepts among many space definitions is to express “Experienced Space” clearly. The concept of experienced space is used to define the understanding of body and space unity in the thesis. The cartesian space describes almost the opposite approach to the experienced space. In addition, the concepts of living space and relational space contain discourses that enable the concept of experienced space to be understood clearly. Within the scope of the thesis, it is argued that the characteristics of the space shapes the experience. For this reason, the relationship between body and space has been read through the definitions of space.

Space is neither an external object nor an internal experience. Believing in the necessity of understanding space before defining it, Heidegger describes it as an inseparable whole of the existence of man and his world with the idea of being in the world. “Being in the world” transforms the tendency to see space as a pure structure and considers the fundamental human dimensions. Through the many definitions of space, it can be seen that space is a dynamic, transforming, imaginary structure as a result of multidimensional behavioural layers and reveals from relationships. As Heidegger mentioned, there is an inseparable relationship between space and body. Just as it is not possible to talk about a space without a body, it is also impossible to talk about a body without space. Relationships in the space are recorded in time and embody the space with the unity formed in mind.

With the formation of analytical thinking and widespread use of perspective, the space started to be discussed with its physical qualities and objective features. Just as the concept of the body has been redefined, also space has been redefined. Space is defined as the output of spatial relations rather than the biological nature of the body. Just as our perception of our

7. Such as: Maurice Merleau-Ponty, *Phenomenology of Perception*, trans. Colin Smith, London: Routledge, 2008, 3-14, 283-347.
Peter Zumthor, *Atmospheres Architectural Objects Surrounding Objects*, Germany: Birkhauser Verlag AG, 2006.

8. For examples on disembodied space see; *Machine Landscapes*: Architectures of the Post Anthropocene, Architectural Design,89 (2019).

9. *n. in theories and clinical approaches derived from existentialism, the particular type of being characteristic of humans, in contrast to the type of being of nonhuman animals, inanimate objects, or abstractions. The term is roughly synonymous with Dasein, the term used by German philosopher Martin Heidegger (1889–1976).* APA Dictionary of Psychology (accessed at April 25, 2022).

10. Martin Heidegger. Poetry, Language, Thought. New York: Harper & Row, 1975.

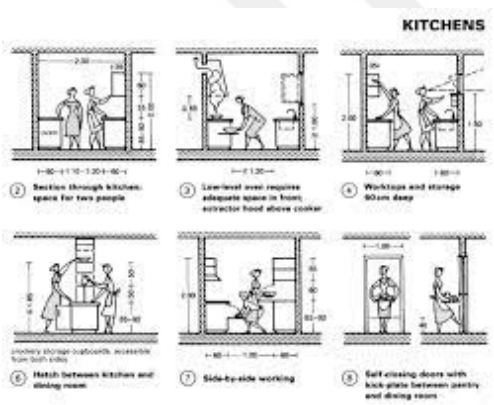


Figure 9: Neufert's Kitchen, Space Requirements (Ernst Neufert, Architects Data, Oxford: Blackwell Publishing,2012, 51)

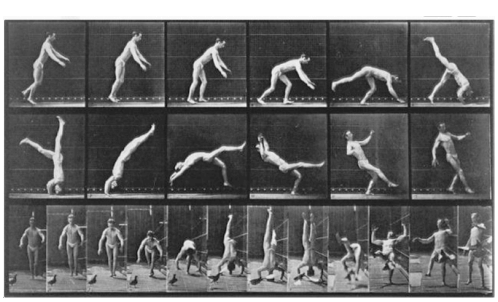


Figure 10: Handstand in Motion (Photograph by Eadweard Muybridge, Human Figure in Motion, NewYork : Dover Publications Inc., 2000)

own body, our understanding of the environment creates a new body image. Therefore in our perception of space, the relations of the elements existing in the space create new spatial images.

In the cartesian understanding, space is treated as an objectively organised space. By alienating the subject's independence and complex structure, space is constructed on mathematical principles. In the Cartesian system of thought, space is considered a geometric extension.The acceptance of Cartesian space also reduces spatiality. By alienating the space from the body and its movement, the space separates from time and turns into a static structure. In this case, the body acts as a subject in space. The body appears as a concept discussed with quantitative measures in the design understanding dominated by a cartesian thought. In cartesian thought space is created with the physical properties of the body. The biggest problem of Cartesian space lies in treating movement and time, and therefore relations occur as if they were outside the space. For example Neufert's work in Architect's Data is based on the standardisation of the architectural space. The sizes of the human body become the data for creating space. Although the human body based measure is important in architectural design, it should not be forgotten that the body is a complex organism.

Cartesian space traps the body in a capsule by reducing human beings to thinking in form, order, and proportions.With the development of photography in the 1870s, photographers such as Eadweard Muybridge and Etienne-Jules Marey tried to analyse the body's movements quantitatively. These artists, who tried to explain the vital activities of an organism with mechanical rules, that is, with biomechanical science, led to the emergence of the science of chronophotography. The Muybridge photographs (Figure 10.) allow us to see the space created with the body's movement. The movement has been of long-standing interest, not solely as a gestural set of movements, but as something capable of being measured based on the size and shape of the body and through repetition.

Just as there cannot be space without a body, it is not possible to speak of the existence of a body without space. Pallasmaa states this as follows: "The percept of the body and the image of the world turn into a single continuous existential experience; there is no body that is separate from its domincle in the space, there is no space unrelated to the unconscious image of the perceiving self."[11] In body and space, it is a matter of being together by producing each other rather than being independent of each other. Accord-

ingly, the concepts of body and space can be explained based on experiences. Various studies have been carried out in many areas for understanding space. The space has been loaded with functions and meanings such as a scene where events take place, a system of symbols, a space that gives the person his identity and has certain codes. On the other hand, the experience itself is a space that reveals the perception according to studies of thinkers such as Maurice Merleau-Ponty, Martin Heidegger, Gaston Bachelard, Henri Lefebvre and Otto Friedrich Bollnow.

Otto Friedrich Bollnow was a German philosopher who worked on Human space with the philosophy developed under Heidegger's ontology. Bollnow names **Living Space** that expresses life, movement, or a moving body. Bollnow defines mathematical space as homogeneous and without any chosen direction or defined point. According to this definition, the presence of the body in mathematical space does not have any connection with space. The body is an object in space and is independent of space. Body and space have separate existences, but they are brought together. Bollnow opposes the terminology of mathematical space to "living space". The zero point in the lived space is always the body, which perceives and moves. As Bollnow mentioned, the coordinate system passes through the body in living space. As the body moves, the coordinate system moves with it.

Edward Soja[12] expresses living space together with perceived space and conceived space. He defines three separate spaces; and these spaces are perceived space, conceived space and lived space respectively.[13] The perceived space is more subjective and imagined, therefore it is the space of representations. It is related to the cognitive, conceptual and symbolic worlds rather than the materiality of the perceived space. If "perceived space" is one's primary empirical text, then "conceived space" represents thought's substantive and ideological discourse. It is an abstract space that is expressed through representations. The living space is simultaneous. It has been presented as the starting point of new research, a strategic meeting place for collective political movements. The living space is a way of looking, explaining and acting. It is a whole and most comprehensive description of spatiality. As in Bollnow's definition, the body has an important role in lived space. Lived space exists with the body and body is the centre of the system. Soja describes living space as follows:

11. Juhani Pallasmaa, The Eyes Of The Skin, Chichester: Wiley-Academy, 2005, 51

12. Edward Soja is a postmodern political geographer and urban theorist that received his PhD from Syracuse University. He did his initial research on urban planning in Kenya and later served as a professor of urban planning at the University of California for many years. Soja, one of the world's leading researchers in city planning, political geography and urban theory, has focused on the post-modern critical analysis of urban spaces and societies.

13. Edward William Soja, Thirdspace: Journeys to Los Angeles and Other Real-and-Imagined Places, Oxford: Blackwell Publishers Ltd., 2000, 25-30.

Third space as living-space; multifaceted and contradictory, overwhelming and liberating, ambitious and routine, known and unknown. "Third space" is the space of radical openness, resistance and struggle, multiplicity of representations, it can be studied in a direction where binary oppositions exist but the "other" is always present. It also includes "other" possible spaces, heterotopologies and paradoxical geographies. It is a meeting ground, a site of hybridity, and it slides beyond established boundaries. It is a boundary where ties are dissolved and also new ties are formed. It can be mapped but never grasped by conventional maps; It can be imagined creatively, but its meaning is grasped only when it is fully experienced and lived.[14]

Any space that is not a lived-space is disembodied. As there can be no space without the body, it is not possible to discuss the existence of the body without space. Experience is the key to the body and space being together as one. New relations occur, and the notions of body and space redefine with this unity.

Instead of seeing space as an absolute concept independent of matter, David Harvey creates the idea of **Relational Space** as a view of relative space existing through relations between objects.[15] Harvey states that considering different human practices create different concepts of space, the meanings of both society and space can be deciphered by investigating the forms of social behaviour and questioning the relationship between daily social practice and spatial form. Christian Norberg-Schulz defines space as an "emotionally charged place" where people communicate with their environment. According to Schulz, while the concept of 'space' is an abstract definition, 'place' describes all concrete forms in which this material, shape, texture, colour and light are integrated. In experiencing the space, the person perceives the space with some of its qualities. By studying spatial relations, the person perceives the objects in the space and determines his/her position in the space based on these objects.[16] Relational space explores different experiences by activating the senses rather than functionality. There is no meaning that the place wants to convey. Space begins to gain meaning from the moment it communicates and interacts with the body.

In the late twentieth century, along with the progressive discussions, the concept of the body emerged as a complex system that perceived the space with senses and experiences. In this way, the experience of space has

14. Edward William Soja, Thirdspace: Journeys to Los Angeles and Other Real-and-Imagined Places, Oxford: Blackwell Publishers Ltd., 2000, 28.

15. David Harvey, Social Justice and the City, Cambridge: Blackwell Publishers Ltd., 1973.

16. Christian Norberg-Schulz, Genius Loci: Towards a Phenomenology of Architecture, London: Academy Editions, 1980.

become an important fact besides physical space. “This captive or natural spirit is my body, not that momentary body which is the instrument of my personal choices and which fastens upon this or that world, but the system of anonymous ‘functions’ which draw every particular focus into a general project.”[17] The living body is a way of being that exists with the things around it, evolving in a system of exchanges. In Maurice Merleau-Ponty’s phenomenology, the body is the core of the perceptual field. The body is not a perceptible physicality but a purely sensory solid. The skin is a constantly sensing barrier. The body keeps things around it in a circle around itself as it moves, objects become an extension of the living body. Thus, objects have passed into the body and included in its holistic definition.[18] The body evokes space with its existence. It is not possible to mention experience in a disembodied space. The body connects the space to itself through its movement and interaction. Objects that surround the skin, consciously or unconsciously hit, press, and shape the body.[19] This coexistence enables the body to be redefined.On the other hand, the body does not communicate with space only through the presence of the body. The five senses play an important role in the perception of space. The body is a system that perceives space through senses, perceptions and experiences.

The term Experienced Space is used to explain the concept of body and space expressed in the thesis. Experienced space is perceived by the body and felt through the senses. In experienced space the relationship of the space with the body is dynamic. Notions complement each other and, at the same time, ensure that they are separated in meaning. It means that the architectural space cannot be separated from the human body. Space exists with the body. In The World of Perception, Merleau-Ponty describes the “embedded” inseparable relationship between space and the body as “a body, a being who can only get to the truth of things because its body is, as it were, embedded in those things.” Merleau-Ponty argues that not only space but all external objects can be reached through the body.[20] The experience of space depends on the qualities of the elements that create the space. Moreover, the behaviour and movements of the subject against these qualities affect the experience. For this reason, it is necessary to rethink the design methods of space, leaving aside the basic relationship of architectural elements. Because the body can transform the space with many layers of behaviour. Reading through the historical process, it can be seen that the experience in architectural space is different and prominent compared to other branches of art. Space is not just

17. Maurice Merleau-Ponty, Phenomenology of Perception, trans. Colin Smith, London: Routledge, 2008, 283-296.

18. Maurice Merleau-Ponty, Phenomenology of Perception, trans. Colin Smith, London: Routledge, 2008, 296.

19. Lili Zarzycki, “Body Dwelling: Amassing an Interior,” Architectural Review, June 24, 2020, https://www.architectural-review.com/essays/body-dwelling-amassing-an-interior.

an object to be watched. It needs interaction. Experienced space is open to multidimensional perceptual experience with its features that can be entered, walked, reached, touched.

Pallasmaa criticises the excessive prominence of sight over other senses in architectural design. He expresses that the image of space is realised by transferring all the senses to the experience. Pallasmaa states that "the architecture of our time is turning into the retinal art of the eye."[21] He defends that buildings suffer from a loss of tactile and architectural details that engage the body in spatial experience.[22] Architecture is amongst the most permanent expressions of culture; the built environment can give us insight and connect us with our past. Instead, our contemporary buildings and structures are primarily creating objects of visual seduction. By rejecting the vision-centred perception, Pallasma emphasises the multi-sensory holistic perception and states that the sense of sight is the evolution of touch. Experienced space also criticises the vision-centred perception. It is a space for a multi-sensory holistic experience. The body is not at the centre of experience through this thesis, as in Merlau Ponty's philosophy. Instead of the body, the architectural space is centred. However, the body plays an active role in space beyond its physical presence. The body creates the experience by coexisting with the space through its multi-sensory holistic perception. The body and its actions activate experienced space. Experienced space serves the senses and enables the body to navigate.

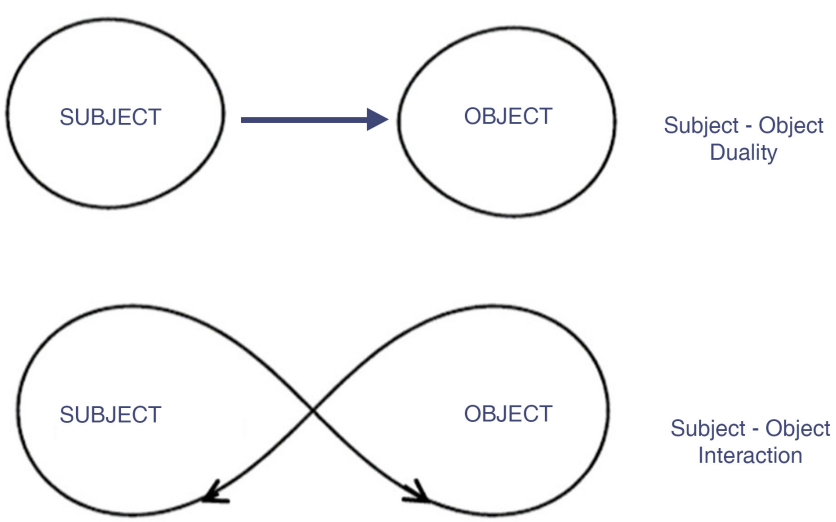


Figure 11: Diagram of Chiasm

20. Maurice Merleau-Ponty, The World of Perception, trans. Oliver Davis, Oxfordshire: Routledge, 2004, 56.

21. Juhani Pallasmaa, The Eyes Of The Skin, Chichester: Wiley-Academy, 2005, 36

22. Juhani Pallasmaa, The Eyes Of The Skin, Chichester: Wiley-Academy, 2005, 36-38.

23. Maurice Merleau-Ponty, Phenomenology of Perception, trans. Colin Smith, London: Routledge, 2008, 5.

On the other hand the term Experienced Space embraces the Chiasm theory of Merleau-Ponty. According to Merleau-Ponty, perception is not only an "instrumental function" that "the sensible" is perceived through senses but a human way that requires a human perceiving with senses. Merleau-Ponty suggests his idea of "chiasm", objecting to the traditional mind-body, subject-object, or self-other dualities. He says when someone presses two hands together, the roles are interchangeable. The touched and the touching can be either of them. This vague emergence forms a new setting as his "chiasm" idea where the perceived and the perceiving are not two completely separate things. Ponty explains: "But red and green are not sensations, they are the sensed (sensible), and quality is not an element of consciousness, but a property of the object. Instead of providing a simple means of delimiting sensations, if we consider it in the experience itself which evinces it, the quality is as rich and mysterious as the object, or indeed the whole spectacle, perceived."[23] Ponty explains the chiasm theory as the complex interplay between the sensation and the sensed. In the experienced space the relationship between subject and object is smilar to the cpmlex interplay between sensation and sensed as in the chiasm theory.

Based on Ponty's approach, the properties of the space create an infrastructure for the experience. It offers sensitivity to the subject along with its spatial features. The features such as scale, material, and texture (Figure 12) of an architectural object are called the existential characteristics of the space throughout the thesis. Subject perceives the senses in line with the sensible presented. In this case, the existential characteristic of the space guides the subject during the experience.

The concept of space plays an active role in the experienced space. In the chiasm theory, the touched and touching are replaced or transformed when the subject and the object coexist. In this context, architectural objects are not neutral things to observe; experienced space needs interaction. The existential characteristics of the architectural object provide a field for the subject to perceive. The existential characteristics of space are the features that can be perceived by the five senses such as; scale, form, material, detail, texture, light and shadow (Figure 12). Considering that the existential characteristics of the space lead to the experience, it cannot be said that the space is subjective and imagined as it is perceived space. In experienced space, the subject's existence and perception are not denied. It is argued that the perception of the body does not differ that much. Thus, it is argued that the

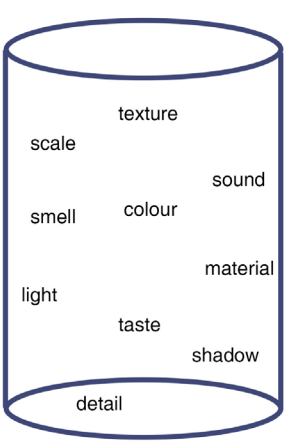


Figure 12: Existential Characteristics of an Object

experience becomes far from subjectivity, and the existential characteristics of the object could define the experience.

The human factor is not left out within the framework of existential characteristics of the space. Space coexists with the body; a disembodied space cannot go beyond representation. As in relational space, the communication and interaction with the body activate the space. The body acts as a catalyst by moving through space and initiates the experience. In this case, the bodily perception becomes essential for the experienced space. The Perception of Haptic senses section discusses how space is perceived through the senses. In this way, the interaction provided by the architectural object with the body was questioned.

Perception of haptic senses

Experience emerges from the relationship between the subject and the object. Experience is a process that progresses through perception rather than scientific reality. The relationship between object and subject creates the delusion of experience. The material and structure of the object serve for the senses of a person to perceive. On the other hand Merleau-Ponty indicates that "From the point of view of my body I never see as equal the six sides of the cube, even if it is made of glass, and yet the word 'cube' has a meaning; the cube itself, the cube in reality, beyond its sensible appearances, has its six equal sides."[24] Accordingly, the object and perceived object could differ from each other. As the form and material scale of the object differs, it is perceived differently from the existing object in the mathematical space. However, the characteristics of the object shapes the perception. The subject perception depends on the object and it does not differ radically. When the perception of the body is engaged, the subject and object gain a new self through experience.

The individual's diverse experiences require a more comprehensive perspective than the dimensional expression of the right-angled Cartesian space that can quickly be produced, easily measured and represented. Therefore, it is necessary to question the dominant optical approach of architecture which keeps the sense of sight superior to other senses. Contemporary architectural discourse suggests considering the influence of various senses on our understanding of space.

24. Maurice Merleau-Ponty, Phenomenology of Perception, trans. Colin Smith, London: Routledge, 2008, 235.

Senses work together as a whole.[25] The separation of one from the other affects the unity of the system. When a person tastes onion without smelling and seeing it, the experiment shows that it tastes like an apple. Therefore, we might say that in the absence of a few senses, the whole perception gets affected and misled. A human is a living being with senses and they experience space with the whole body, not just through the eyes of the mind.[26] Pallasma indicates that the unity of senses leads to the enhancement of reality feeling and architecture is an extension that strengthens the experience. "Instead of mere vision, or the five classical senses, architecture involves several realms of sensory experience which interact and fuse into each other."[27] The fact that the architecture serves a multi-sensory experience has also affected the approach of the upcoming chapters.This chapter discusses the characteristics and significance of spatial perceptions gained by touch, sound, scent, taste, movement and time. Although the perception of the senses has been discussed separately, it has been evaluated as a whole. In addition to theoretical research, contemporary architectural examples are used to reveal the spatial perception of senses. With the selected examples, Volu-te's perception through haptic senses has been opened to discussion. In this way, it is aimed to reveal the sensory experience that Volu-te offers to the subject.

25. Polyphony of the Senses Gaston Bachelard, The Poetics of Reverie, Beacon Press, Boston, 1971, 6.

26. *"If seeing or hearing involved extricating oneself from the impression in order to lay siege to it in thought, ceasing, that is, to be in order to know, then it would be ridiculous to say that I see with my eyes or hear with my ears, for my eyes and ears are phenomenology of perception themselves entities in the world and as such are quite incapable of maintaining on the hither side of it that area of subjectivity from which it is seen or heard."* Maurice Merleau-Ponty, *Phenomenology of Perception*, trans. Colin Smith, London: Routledge, 2008, 290.

27. Juhani Pallasmaa, The Eyes Of The Skin, Chichester: Wiley-Academy, 2005, 41.

28. Ashley Montagu, Touching: The Human Significance of the Skin, New York: Harper & Row, 1986, 3.

Space of touch

In tactile perception, the stimulus of the sense is the touch of the skin. Tactile perception occurs through pressure, force, roughness or thermal stimuli. With these stimuli, we realise what we touch. The primary limbs are the hands. According to Montagu, "The skin is the oldest and the most sensitive of our organs, our first medium of communication, and our most efficient protector. Even the transparent cornea of the eye is overlain by a layer of modified skin. Touch is the parent of our eyes, ears, nose, and mouth. It is the sense which became differentiated into the others, a fact that seems to be recognized in the age-old evaluation of touch as "the mother of the senses".[28] With this quote, Montagu emphasises the importance of touch and encompasses other senses. The sense of touch is our sense that integrates with the tissue, "skin". As the element that covers our body, our skin is the sheath and frame of our physical existence. The skin is also the limit of the body.

Therefore, it has an essential role in our relationship with the world through our bodies. So touching is related to the whole body as well as the hands. By touching, people become able to question their existence in the world. By touching, human beings both integrate with other beings and realise that they are different.[29]

Figure 13: Ching Gallery, (Peter Zumthor, Pavilion for Ching, a sculpture by Walter de Maria, project, Dia Centre for the Arts, Beacon, NY USA)

Pallasmaa discusses tactile sense as the opposite of vision. As the vision requires a certain distance, touch requires certain proximity. Texture, material, shape and geometry characteristics of the architecture, temperature, light and sun, wind and other climate characteristics of the place can be perceived by touch. Pallasmaa says: "The eye is the organ of distance and separation, whereas touch is the sense of nearness, intimacy and affection"[30] . Pallasmaa points out that touching needs a particular connection and proximity, whereas vision needs separation and distance. In Figure 13, the distance is expressed through visuals. The optic senses become essential, colour and light become prominent.

Disobedient (Figure 14.) is Studio INI's kinetic installation at London Design Biennale 2018. Design morphs around the bodies of visitors passing through it and challenges the very static understanding of architecture. Project questions with its principles that how buildings shape around us. Alongside with the sense of touch, movement and time, becomes a substantial factor through this installation. The body's movement through time becomes a design parameter for the installation. It can feel like the entrance to a narrow space looking through Figure 14. At this point, material and texture gain importance. It can be perceived that wooden planks with protrusions touch the body, and the warmth of the wood can be felt. Thus, the duality emerges from whether the body touches the space or the space touches the body.

29. Micheal Serres, Five Senses: A Philosophy of Mingled Bodies, trans. Peter Cowley and Margeret Sankey, London: Continuum International Publishing, 2009.

30. Juhani Pallasmaa, The Eyes Of The Skin, Chichester: Wiley-Academy, 2005, 46.

31. Martin Heidegger, Poetry, Language, Thought. New York: Harper & Row, 1975.

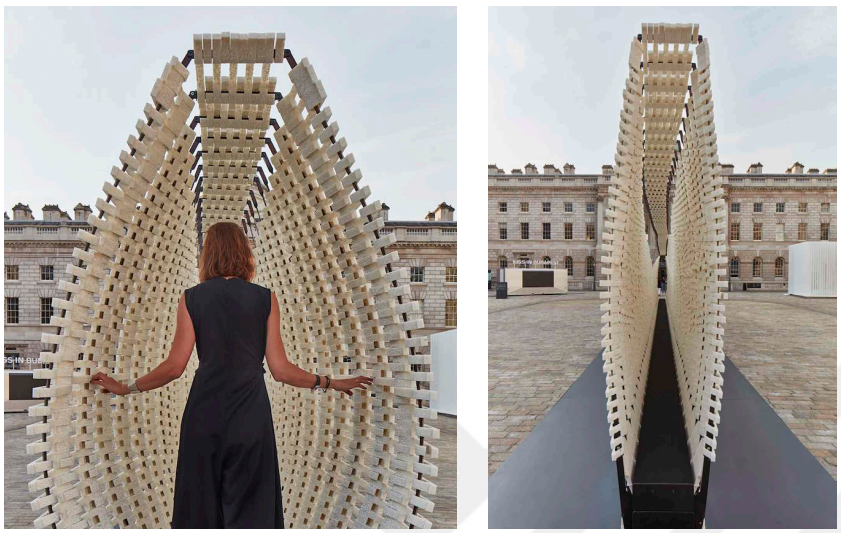


Figure 14: DISOBEDIENT, StudioINI, London Design Festival 2018, Photograph by Ed Reeve

Merleau-Ponty's chiasm theory indicates that when one hand touches the other, touched hand and touching hand becomes uncertain. The difference between subject and object becomes blurry. As Heidegger states, the disappearance of the border between subject and object transforms an entity from an "object" at sight to a "thing" at contact distance.[31] Touch is more than just a mechanism that allows us to perceive our environment. It is a two-way process that enables complex human interaction. Touch enables the establishment of relationships and instant dialogues. We touch to experience and learn. Touch makes the boundaries between subject and object ambiguous and shifts them into each other. It is the sense of touch that fuses the space and body. Touching the space involves interacting and integrating by entering into an effective relationship.

In terms of sensation touch, the materials used in Volu-te becomes the parameter of the experience. The plywood composition and concrete shell close contact with the subject due to its microstructure. The warm thermal characteristic of plywood and cold thermal characteristic of concrete creates a contrast in the perception. On the other hand while climbing steps our hands and body interact with the rough texture of concrete and feets touch the smooth surface of plywood. Wooden steps and fibre concrete façade texture serve the sense of touch. According to physiological observations, touching a wooden surface gives people a feeling of safety and being close to nature.[32] Accordingly, the constant contact with wooden materials in Volu-te is expected to increase the subject's aforementioned feelings. In Figure 15, the

32. "It is especially interesting that the feel of wood is softer than other materials, not only experientially but also physiologically," (Marjut Wallenius, a Docent and Doctor of Psychology at the University of Tampere.) In studies, for example, touching aluminium at room temperature, cool plastic or stainless steel caused a rise in blood pressure. Touching a wooden surface, however, did not cause such a reaction. In a comparison of different work rooms, stress level, measured as the skin's capacity to conduct electricity, was lowest in a room with wooden furniture. Not even plants brought into a room fitted out in white had the same effect. (accessed at march 23, 2022, https://woodforgood.com/news-and-views/2014/05/15/wood-construction-reduces-stress-and-offers-a-healthy-living-environment/#:~:text=According%20to%20observations%20made%20in-,also%20physiologically%2C%22%20says%20Wallenius.)

Figure 15: Space of Touch in Vou-te

materials in Volu-te and their textures are represented. The proximity to the materials leads to the border between the touched and the touching becoming blurry as expressed in Figure 15. The architectural space contributes to the experience by communicating with the subject. Body is constantly interacting with the space and they redefine each other through this interaction. Architectural space is activated by the movement of the body, and what is touched transforms from what is touching.

Space of Sound

The subject can interact with the sounds we hear in the space or by drawing the boundaries of the space. Alternatively, we lose the boundaries of the space by interacting with the sound in the space. In experience, the sense of sight can outweigh the other senses. The body mostly navigates with the sense of sight. Although it begins to perceive with other senses as dominant as when vision decreases. “One who has half-risen to the sound of a distant train at night and, through his sleep, experienced the space of the city with its countless inhabitants scattered around its structures, knows the power of sound to the imagination; the nocturnal whistle of a train makes one conscious of the entire sleeping city.”[33] As Pallasmaa mentions at night, when the dominance of optic senses decreases, the sound helps habitants navigate or perceive the city’s boundaries. On the other hand, the sound might lead to the loss of boundaries. For describing objects, sound becomes an essential input. Michael Snow reveals the piano’s character through the 4-channel video installation “Piano Sculpture” (Figure 16). A piano is an object that exists through its sound. So Snow has spatialized the sound of the piano with an installation.

Figure 16: Piano sculpture, Micheal Snow 2009

We can perceive the borders and characteristics of space with the help of sound. In this way, the sound becomes an essential part of the experience. The walls of space become surfaces that the environment’s sound hits and is involved through the experience. “Sound is a spatial event, a material phenomenon and an auditive experience rolled into one. It can be described using the vectors of distance, direction and location. Within architecture, every built space can modify, position, reflect or reverberate the sounds that occur there. Sound embraces and transcends the spaces in which it occurs, opening up a consummate context for the listener: the acoustic source and its

surroundings unite into a unique auditory experience."[34] As the quote says, sound creates a spatial experience. It is a material phenomenon that leads to an auditory experience. Sound can be described as using direction and position vectors to navigate a space. The form, scale, depth and height of the space can be perceived by the echo of the sound. In architecture, each built space can modify or position the sounds there.

In the "Hearing Architecture" section of Steen Eiler Rasmussen's book "Experiencing Architecture" Rasmussen describes the importance of sound on the body and describes the acoustic perception and thus the experience in the underground tunnels of Vienna in Orson Welles' film "The Third Man": it takes on both its length and its cylindrical shape." Rasmussen explains this as the architecture does not produce sound; therefore, it is mainly considered that the architecture cannot be heard.[35] However, as we see the reflections of light in an architecture that is not radiating itself either, we hear the sound reflections from architecture and experience the form, the volume and the material of architectural work.

Zumthor describes interiors as large instruments which collect sound, amplify it, and transmit it elsewhere.[36] Interiors might not be the source of sound by themselves but have a significant role through diffusing the sound and integrating it into the experience. Sound waves encounter the materials of the space and come back to the source as mutated. In this way, the perception of the scale and material of the space through sound expands through different senses. As Pallasmaa mentions in the Eyes of the Skin, "The echo of steps on a paved street has an emotional charge because the sound reverberating from surrounding walls puts us in direct interaction with space; the sound measures space and makes its scale comprehensible. We stroke the boundaries of space with our ears."[37] On the other hand Bernard Leitner states that the ear is not the only body part that can hear. "I can hear with my knee better than with my calves."[38] Leitner studies the relationship between sound, space, and body. Since the late 1960s, he has been working between architecture, sculpture, and music. Leitner conceives sound as constructive material and architectural elements that allow a space to emerge.

"For the viewer, who has to interact like a user sitting, lying, standing, walking - within the sound-space-sculptures and sound architectures in order to have this experience it is an unique and hardly ever before experienced moment. Vaults, curves, spirals, planes are thus not only visible, but also audible in their proportions and thus also from a distance haptically noticeable."[39]

33. Steven Holl, Juhani Pallasma. Alberto Perez-Gomez, Questions of Perception Phenomenology of Architecture, San Francisco: William Stout Publishers, 2007, 30.

34. Pnina Avidar, Raviv Ganchrow and Julia Kursell, "Immersed. Sound and Architecture," OASE, May 1, 2009, https://www.oasejournal.nl/en/Issues/78/Editorial.

35. Steen Eiler Rasmussen, Experiencing Architecture, Cambridge: MIT Press, 1993.

36. Peter Zumthor, Atmospheres Architectural Objects Surrounding Objects, Germany: Birkhauser Verlag AG, 2006, 29.

37. Juhani Pallasmaa, The Eyes Of The Skin, Chichester: Wiley-Academy, 2005, 51.

38. Helga De La Motte, Norbert Miller, Franz Schuh u.a., contributions by Ulrich Conrads and Bernhard Leitner, Bernhard Leitner Sound : Space, Ostfildern: Hatje Cantz, 1999.

39. Helga De La Motte, Norbert Miller, Franz Schuh u.a., contributions by Ulrich Conrads and Bernhard Leitner, Bernhard Leitner Sound : Space, Ostfildern: Hatje Cantz, 1999.

Leitner worked on building architectural spaces with sound. As shown in Figure 17, a cylindrical space is defined by placing the sound sources. In this way, besides studying the sound within the architectural element, it suggests a different perspective on the definition of sound in an architectural space.

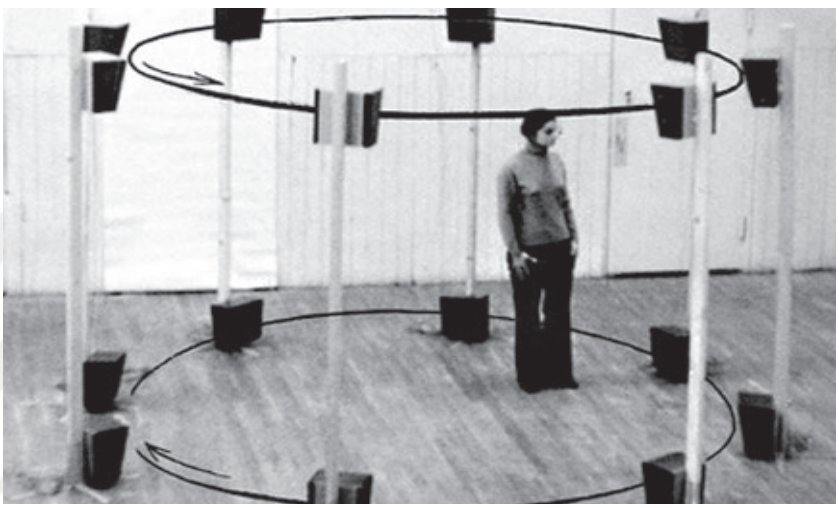


Figure 17: Cylinder Space, Bernhard Leitner, 1974, Atelier Leitner (Available at: https://www.bernhardleitner.at/works)

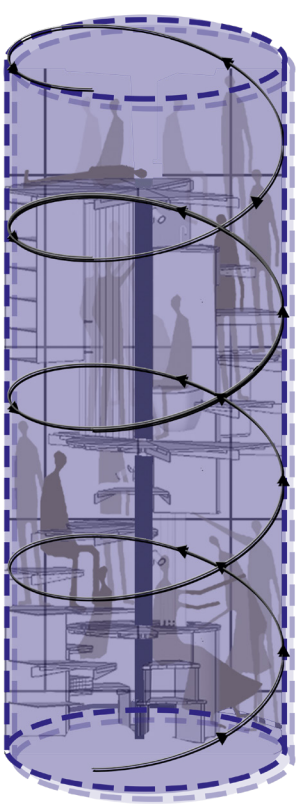


Figure 18: Space of Sound in Vou-te

Sound becomes a tool that enables us to perceive the boundaries and scale of architectural space. Cylinder space example also strengthens this argument. After leaving the sound source, the reflected sound returns to the subject and interacts with the architectural space. However, in Cylinder Space, space is defined by the sound emanating from the sound source. As a result, while sound helps the subject perceive the space, its boundaries and features, it also enables the subject to navigate within the space, especially when it comes to the haptic experience where visual perception is reduced.

The partial images in Volu-te allow the sense of sound to come to the fore in order to define the space and perceive its dimensions. Even if the sound does not define the space, as in Cylinder space, the sound produced by the movement of the subject enables the perception of the space. Acoustic waves from the source help the subject to perceive Volu-te's height, depth and cylindrical shape through reflecting by the boundaries of architectural objects. As in Figure 18, the sound produced by subjects' movement reflects and helps the subject perceive the space's height and form. Volu-te becomes a large instrument in which the subject interacts with the architectural object with his whole body. Echo of wooden steps become the natural compass of the body to navigate. As Leitner said, subjects begin to feel acoustic waves with their whole body.

Space of Scent and Taste

Before sight, hearing, and even touch, the sense of smell developed so that living things could react to the chemicals around them. Seeing is possible with four light sensors in the human eye. The cells here, acting as receptors, convert the light into electrochemical signals in a language that the brain could understand.[40] The sense of touch depends on at least four types of pressure and various receptors that perceive heat, cold, and pain. However, these are overshadowed by the sense of smell.

The strongest memory of space is the scent. The scent could remind us of a childhood memory or a space where we have been in before. Walking through space with our Olfactory memory, we can detect the characteristics of space. Even then, it is not quite a sense that smell remained in the background compared to the other senses. One of the reasons that scent remains secondary compared to other senses is that it lacks its language. It explains itself in words borrowed from other senses. For example, a sweet scent, a heavy scent. However, the sense of smell is the sense that most clearly expresses emotions. An object whose odour is disliked is generally not liked, even if it is not noticed. Despite the lack of language, odour opens doors directly into our brain and strengthens the experience and perception.

One can argue that the materials are part of the architecture with their odours but not the functional smells like the coffee or the food. However, Rasmussen said that architecture does not produce any sound or radiate any light, and this does not mean we cannot hear the reflections of sound or see the reflections of the light.[41] It is the same for the smell. Even the architecture does not have any particular smell; the odours that the space's functionality brings are a part of it. They reflect the functionality of the space and should be considered a part of the architectural experience. The other important point about the sense of smell is that it is a trigger to the memories.

The smell stimuli are directly transferred to the brain differently from senses like vision or hearing. Moreover, where the stimuli reach in the brain is just next to the hippocampus, which is crucial for creating new memories. The smell triggers the memories. Therefore, the smell of the space leaves a mark in our mind that is to remember. With the materials, functionality and the trigger of the memories, the smell certainly creates an identity for the architectural space. Through Figure 19, our brain can perceive the intense smell of bread in the place. The smell of the hot bread through the street reveals

40. There are more than 1000 receptors that enable people to smell. These receptors are renewed throughout our lives and change according to the scents we are used to. This complex structure allows us to distinguish a large number of different odours..

41. Steen Eiler Rasmussen, Experiencing Architecture, Cambridge: MIT Press, 1993.

Figure 19: Breadhouse in İstanbul, Tarihi İsmail Has Ekmek Fırını, Çengelköy, Photograph by: Rabia Koyuncu (Available at: https://www.themagger.com/rabiakoyuncu/)

the sense of familiarity. Although the subject has not been in that place before, the scent introduces the place through memories. Besides, the smell of a bread shop is significant for the urban characteristics. Scent is a determining factor in urban space. Through a smellscape mapping, characteristics of cities can be deciphered.[42] The streets passed could be defined by the smells emanating from the shops and restaurants. A city like Istanbul where the sea plays an active role, can be matched with the smell of iodine. On the other hand, Pallasmaa reads scent in cities through the subject's connotations.

> And what a delight to move from one realm of odour to the next in be narrow streets of an old town; the scent sphere of a candy store makes one think of the innocence and curiosity of childhood; the dense smell of shoemaker's workshop makes one imagine horses and saddles, harness straps and the excitement of riding; the fragrance of a bread shop projects images of health, sustenance and physical strength, whereas the perfume of a pastry shop makes one think of bourgeois felicity.[43]

The sense of taste works together with the senses of touch and smell. There is a delicate transfer between tactile and gustatory experiences. Sight is also transferred to taste; certain colours and fine details evoke oral sensations. Our sensory experiences are born in the inner sense of the mouth, and the world returns to its oral origins. Many places described by smell are also associated with other sensations, predominantly the sense of taste: such as coffees and restaurants. According to Pallasmaa[44] the most archaic architectural space originates in the oral cavity and, for example, the tongue unconsciously senses a delicately coloured shiny stone surface. Tanizaki's description of a soup bowl supports Pallasma's idea with the following quote.

> "With lacquerware there is a beauty in that moment between removing the lid and lifting the bowl to the mouth when one gazes at the still, silent liquid in the dark depths of the bowl, its colour hardly differing from the bowl itself. What lies within the darkness one cannot distinct,rush, but the palm senses the gentle movements of the liquid, vapour rises from within forming droplets on the rim, and a fragrance carried upon the vapour brings a delicate anticipation .... A moment of mystery, it might almost be called, a moment of trance."[45]

42. Kate McLean is a designer and creative mapper. She examines qualitatively-perceived spatial and temporal characteristics of the olfactory landscape, hereafter known as the smellscape, through mapping practices. https://sensorymaps.com/projects/page/2/ (accessed at may 23, 2022)

43. Steven Holl, Juhani Pallasma. Alberto Perez-Gomez, Questions of Perception Phenomenology of Architecture, San Francisco: William Stout Publishers, 2007, 32.

44. Juhani Pallasmaa, The Eyes Of The Skin, Chichester: Wiley-Academy, 2005, 59-60.

45. Tanizaki, Jun'ichiro. In Praise of Shadows, Cenn: Leete's Island Books, 1977.

Figure 20: "We stopped just here at the time", Ernesto Neto, 2002, Photograph by Yann Caradec (Source: Extrait du catalogue Collection art contemporain - La collection du Centre Pompidou)

Existing recorded odours correspond to recordings with certain tastes, again in the memory. Therefore, one reminds and influences the other. When considered in this context, the intertwining and unity of the senses are apparent. Ernesto Neto, Brazil's leading stage artist, imposes his sculptures with olfactory and tactile elements. His entire work is an invitation to participate in a sensorial experience. We Stopped Just Here At The Time (Figure 20) comprises an installation fixed to the ceiling of soft and transparent fabric in which some parts are filled with spices in warm colours and hang through ceilings. The various spices such as cloves, cumin, pepper and curcuma fill and structure the forms of the sculpture, which gives the installation a multi-sensorial dimension. These shapes, vivid colours and fragrances arouse the senses of sight and smell through the spices, which feel familiar through taste. Smell and taste are senses that support and enhance each other. When perceiving the space, the smell becomes a more dominant receptor than the sense of taste. While the smell of the materials used adds a certain identity to the place, it triggers the memory. The experience can easily settle in the brain through the sense of smell and re-emerge with a sniff.

The familiar materials used in the Volu-te trigger the memory, such as; plywood, concrete, and galvanised metal. These materials have common use in the concept of home. The image of home often triggers positive feel-

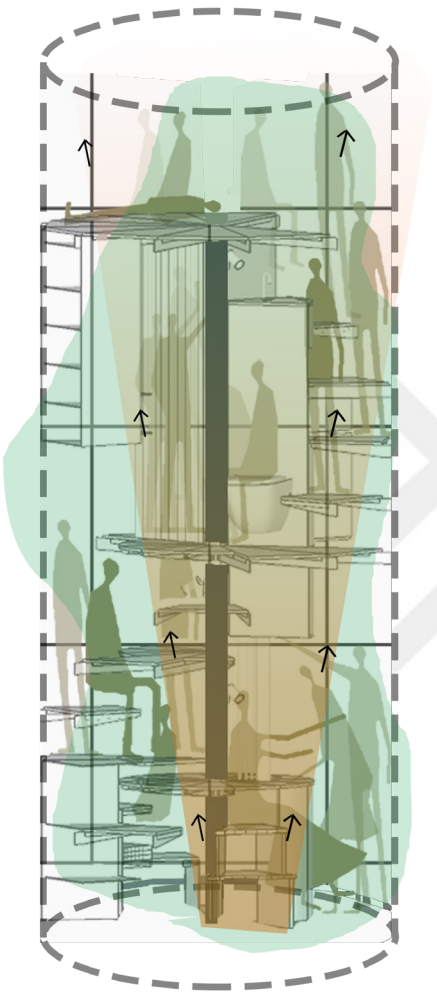


Figure 21: Space of Scent and Taste in Vou-te

ings. In this way, feeling familiarity can affect the subject. Familiar textures and scents come together in an unfamiliar configuration, leading to a holistic and haptic experience. It was mentioned that touching wood gives a feeling of safety. The scent of plywood made from pine trees can be evocative of the forest and nature. In a large volume, the smell of the material may not always be dominant, but in close contact with the object, the scent of wood appears as a determining layer in Volu-te. The dominant scent of pine plywood represented in Figure 21 through the colour green. On the other hand, besides the scent of existing materials, the scents that the subject creates affect the experience. For example, the smell of coffee can easily spread through space within the convection[46] principle (Figure 21). The vertical layout of Volu-te leads to the spread of scents and creates a holistic experience.

Space of Movement and Time

Movement is essential for the body to communicate with space. The collective movement of the body in the space is highly effective in interacting with the space. When it comes to movement, the notion of time is directly involved. Pallasmaa describes the buildings as the instruments of time. Pallasmaa[47] says architecture enables humans to experience the flow of time. We can infer that with the movement of the body, the space turns into a dynamic structure based on time and performance. However, with design methods focused on architectural elements and ergonomic principles, adhering to templates moulding from the dimensions of body, movement and space confine the space to a three-dimensional rigidity.

Pallasmaa says matter, time and space merge within the architecture. Therefore, the encounter with the architecture contains the sensibility, space, and time, creating a unique expression of being human. Within the architecture, space and time are domesticated and gain continuity exceeding the limits of human existence. Pallasmaa calls architecture “the art of permanence” gives a sense of self. He criticises that modern society of today, loses the context of time together with its sense of self, also criticises modern architecture, as it loses its sensibility with the use of “flat and immaterial” surfaces and becomes more about the abstract geometries and the conceptual volumes rather than the time and spaces it contains. He describes the situation as collapsing simultaneously into the present.

46. “The action of carrying; conveyance; spec. the transportation of heat or electricity by the movement of a heated or electrified substance, as in the ascension of heated air or water.” Convection OED Online. https://ezproxy.mef.edu.tr:2313/view/Entry/40672?redirectedFrom=convection#eid (accessed at march 23, 2022) March 2022. Oxford University Press.

Time solidifies within the space and physical being of the architecture, representing the generation, the life, the concerns it has been built to address, and in this way, the limitless time becomes more human and understandable for us. Zumthor describes this as the "atmosphere"[48]. Space, materiality, time and place all come together and form a unique breathing identity that moves humans when they experience architecture. All of these come together and create one integrated experience of architecture.

Figure 22: Your Turn, Schweder+Shelly Aldrich Contemporary Art Museum, Ridgefield, George Brenner

Your Turn[49] (Figure 21) is an installation created by performance architects Alex Schweder and Shelly. As they explained, the installation combines wood, metal, household items and two people for ten days. In this work, Schweder and Shelly lived on either side of a wall (twenty feet by twenty-three feet). The wall was penetrated by architectural elements that suggest six sliding domestic activities. These were kitchen, bathroom, bed, dining room, office and chair. Through the time specified as ten days, the body's movement created an experience for the audience as well as Schweder and Shelly. Space is a sequence of spatial sensations in this example, an essence and event of time. Space unfolds in time; it is developed, repeated, and transformed. Looking through Your Turn (Figure 22), Disobedient (Figure 14) and Volu-te; in the experience, the subject and object are not two different separated beings anymore. Within the moment of the experience, the architectural object and subject meet and intertwine.

Like the example above, Volu-te triggers the subject's movement with the perception over time and provides a holistic experience. Like Your Turn, Volu-te tests the body's movement by combining daily routine actions at home with a vertical configuration. Volu-te stimulates the brain through the

47. Juhani Pallasmaa, The Eyes Of The Skin, Chichester: Wiley-Academy, 2005, 51-54.

48. *"We perceive atmosphere through our emotional sensibility, a form of perception that works incredibly quickly, and which we humans evidently need to help us survive. Not every situation grants us time to make up our minds on whether or not we like something or whether indeed we might be better heading off in the opposite direction. Something inside us tells us an enormous amount straight away. We are capable of immediate appreciation, of its spontaneous emotional response, of rejecting things in a flash. That is very different from linear thought, which we are equally capable of, and which I love: too thinking our way through things from A to B a mentally organised fash."* Peter Zumthor, Atmospheres Architectural Objects Surrounding Objects, Germany: Birkhauser Verlag AG, 2006, 13.

49. "Your Turn" Alex Schweder Studio. http://www.alexschweder.com/your-turn/ (accessed at February 24, 2021)

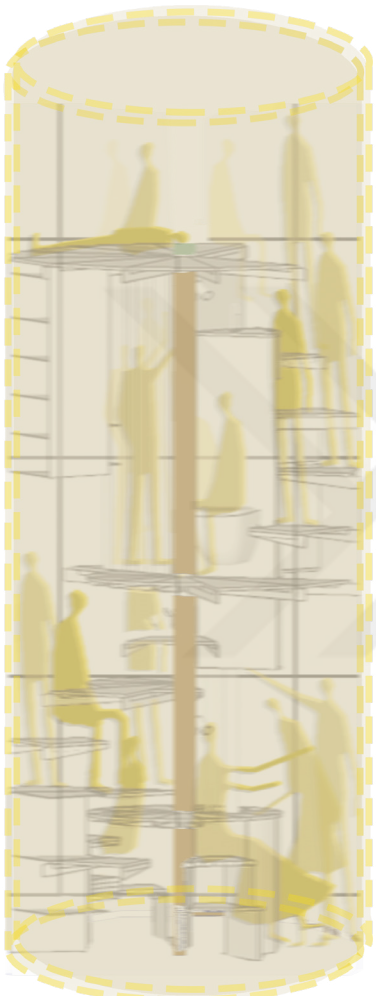


Figure 23: Space of Movement and Time in Vou-te

body, testing the limits of the movements we perform in our daily routine. Figure 23 tries to represent that within the body's movement, object and subject are intertwined and become a whole through the experience. The subject's and objects' borders have become blurry. The act of climbing can remind the body of playgrounds in childhood. In this way, the space can become the playground of the body. In this way, the subject communicates with the space through the body's movement.

However, the concept of movement cannot be reduced to just climbing or body displacement. It can be said that the touching and smelling is also a movement of the body. Movement is the body's way of communicating with space. Movement appears as a concept that unites all the senses. When time combines with the body's movement, the experience of the architectural space reveals. Since the purpose of the thesis is to reveal the experience of an architectural object, the previous discussions and theoretical background of experience become important. In the next chapter, the notion of experience is discussed through subject-object coexistence in terms of sensation.

Experience

02

‘Knowledge of events’

Sensations, such as sight, touch, smell, and hearing, cannot be separated from each other with certain lines. Each sensation turns into an emotional meaning with the essence of the other sensation. With this emotional meaning, the emergence of a new unfamiliar event from a familiar situation creates the experience. Experience is the process of conscious beings perceiving the environment. In the Oxford English Dictionary experience is stated as “The actual observation of facts or events, considered as a source of knowledge.”[50] So it can be said that experience is the knowledge of events that occur during the unity of body and architectural space.According to Merleau-Ponty, our body is more than a singular object in the world; It is a living, breathing, and experiencing being. Therefore, Ponty argues that every theory of the body must consider the theory of “The World of Perception.”[51] He does not discuss the body only as a tool but instead considers it a form of existence by articulating, “I am my body.”[52] As in the “Chiasm” theory, the whole states of both touching and being touched simultaneously constitute perception and experience. So experience is formed by the unity of body and space. The body defines space with its existence. Thus, space enables the body to relate to its environment.

Pallasmaa takes the phenomenological approach from Merleau-Ponty into the architectural experience. Through “Eyes of the Skin,” Pallasmaa explores the phenomenology in architecture while including consciousness and sensational involvements. He associates the meaning of architecture with the consciousness of being in this world, as he points out architecture creates a measure for human understanding above eternal time and space. Pallasmaa takes the body into the centre of the experience, as he explains that the interaction with the environment happens through the body’s sensory system. It is our window opening to a multi-sensory experience. He states: “Our bodies and movements are in constant interaction with the environment; the world and the self inform and redefine each other constantly. The percept of the body an the image of the world turn into one single continuous existential experience; there is no body separate from its domicile in space, and there is

50. Experience OED Online. March 2022. Oxford University Press. https://ezproxy.mef.edu.tr:2313/view/Entry/66520?rskey=AIPBBV&result=1&isAdvanced=-false#eid (accessed at march 23, 2022)

51. Maurice Merleau-Ponty, The World of Perception, trans. Oliver Davıs, Oxfordshire: Routledge, 2004, 56.

52. Maurice Merleau-Ponty, Phenomenology of Perception, trans. Colin Smith, London: Routledge, 2008, .

no space unrelated to the unconscious image of perceiving self." [53]

The architect and theorist Juhani Pallasma defines the importance of experience and understanding with the body expresses the multifaceted affective state of understanding. "As we open a door, our body weight meets the weight of the door; our legs measure the steps as we ascend a stair, our hand strokes the handrail and our entire body moves diagonally and dramatically through space."[54] Pallasmaa emphasises the quality of the experience. Since every space is experienced, the quality of the experience becomes an indicator of the quality of the space. The space allows interaction with the subject, and the sensitivity to the experience can be read in even the smallest detail becomes very important for experiencing.[55] The experience of the human body in space has become the focus.

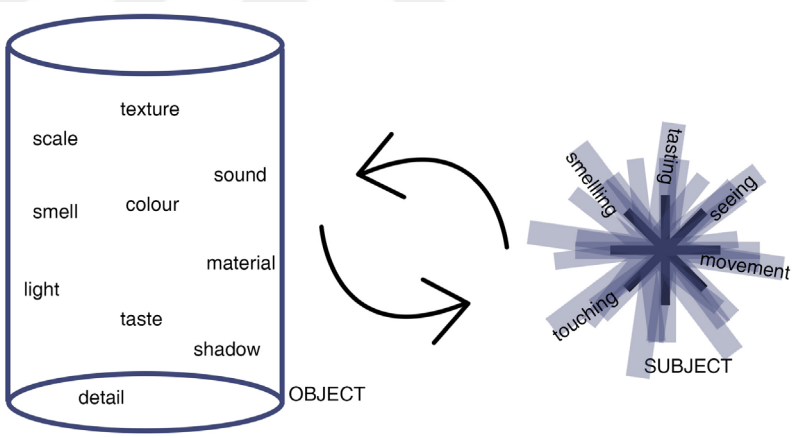


Figure 24: Subject Object Coexistence

The relationship between body and space is not an abstract existence; this relationship is formed by experience. Our experience of space takes place through the interaction of the body with space. The more the body interacts and communicates with the space, the easier it is for a person to understand his relationship with his environment. Many other qualities that cannot be perceived visually in space are perceived by the position of the moving body in the space before it is even realised. This perception of location based on movement offers a more complex geographical experience beyond the visual space perception. It is a multi-layered spatial experience that emerges with movement in space, including location awareness, balance, sound, movement, and memory.[56]

Through Figure 25, the concept of experience can be called the reaction of subject and object were narrated. In this process, the existential

53. Juhani Pallasmaa, The Eyes Of The Skin, Chichester: Wiley-Academy, 2005, 40

54. Juhani Pallasmaa, The Eyes Of The Skin, Chichester: Wiley-Academy, 2005, 11.

55. Juhani Pallasmaa, Embodied Image: Imagination and Imagery in Architecture, Chichester: John Wiley and Sons Ltd., 2011, 36.

56. Máire Eithne O'Neill, "Corporeal Experience: A Haptic Way of Knowing," Journal of Architectural Education 55, no:1, March 12: 3-12.

57. Such as Maurice Merleau Ponty, Juhanni Pallasma, Alberto Perez Gomez, Peter Zumthor and Semra Aydınlı

characteristic of the object is as important as the body, movement, memory, and perception of attention. In the Experienced space section it is stated that, the existential characteristics of the object includes features such as the scale, colour, material, texture, and context of the architectural object. The object's boundaries become blurry as the subject navigates through the object (Figure 25), and the experience unfolds. Experience is a phenomenon that emerges from the relationship between object, subject, and time. It is a perceptual whole that reveals with simple sensations but cannot be reduced to them. Within the scope of the thesis, the experience is discussed through the unity of body and space. To reveal the architectural experience, the existential characteristics of the space are predicated. In this case, space takes the centre of the experience through the thesis. On the other hand, it cannot be denied that the body, which Pallasmaa advocates, activates the space and reveals its experience. In order to describe the experience, the existential characteristics of the object were read through the senses. At this point, Steven Holl's description of architectural experience resembles the approach of the thesis.

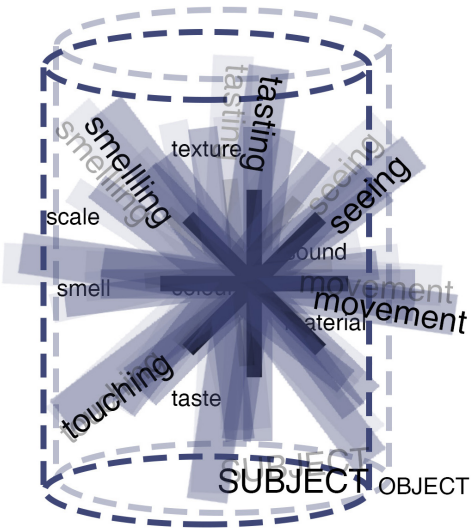


Figure 25: Subject Object Coexistence in Experience

According to Holl, architecture can be understood by combining partial experiences. In the "Phenomenal Zones" text, as in many of his other articles, he examined partial experiences. Partial experiences, according to Holl, correspond to the perceptual phenomenon of the senses. In other words, it expresses that the mind is felt through the body and cannot be separated from sensations in the visual field where subjective gazes increase. Therefore, many philosophers and contemporary architects[57] like Holl argues that situations involving all kinds of life can see, hear, touch, smell, taste, sense, understand or live in, and situations concerned with space could not be separated from their architecture. The union of body and mind might be achieved with the architectural experience offered by the space. According to him, the dimensions of perception; Include holistic experience of colour, light, sound, time, detail, and proportion. Holl's approach is essential for architecture as a sensory experience. The essence, odour, texture, warmth, and tactility of the material power its existence every day. The use of materials, the combination of details, colours, light, and shadow effects trigger sensitivity in the architectural experience. Enmeshed experience is a term that reflects the approach of Holl in architectural experience to urban conditions. The holistic perception over sensation leads to enmeshed experience. According to Holl the characteristics of the architectural space or modern city triggers enmeshed experience. The notion of enmeshed experience is important for the thesis, because

it is essential for describing the experience in Volu-te. Due to its existential characteristics the experience in Volute is fragmented and stimulates the sensation. Steven Holl's definition of enmeshed experience describes the experience that is revealed in Volu-te from a different perspective. From this point of view in the next chapter, the term enmeshed experience has been studied.

Enmeshed experience

Enmeshed experience is a definition that Steven Holl uses to express an urban experience in his book Urbanism. Holl describes the experience in the modern city as partial and incomplete. In an enmeshed experience, space is intertwined with views and overlapping perspectives. Instead of apparent objects, we perceive certain areas as a whole. The foreground, middle ground, and distant view, which are resolved by the speed and angle of the movement, combine through fragmented views to form a new kind of whole. Holl describes the enmeshed experience in the following quote. "When we sit at a desk in a room by a window, the distant view, light from the window, floor material, wood of the desk, and eraser in hand begin to merge perceptually. This overlap of foreground, middle ground, and distant view is a critical issue in the creation of architectural space. We must consider space, light, colour, geometry, detail, and material as an experiential continuum. Though we can disassemble these elements and study them individually during the design process, they merge in the final condition, and ultimately we cannot readily break perception into a simple collection of geometries, activities, and sensations."[58] The elements in the architectural space overlaps with the perception and create a new kind of a whole.

Semra Aydınlı reads the concept of enmeshed experience over Galata Bridge and Istanbul. Aydınlı states that time, space, light, material, and details are interlocked in a complex within the architectural framework and form a whole. Aydınlı reads these concepts through the senses as the whole body experience.[59] She expresses enmeshed experience as a way of thinking and seeing the world as a connection of a flowing and interacting body subject.[60] Accordingly, instead of considering the notion only as an urban perception, enmeshed experience could be sought in spaces with which the body interacts through senses.

Enmeshed experience is the process of endless or single-purpose connections and articulation. In some spaces, experience is a formation that constantly generates new events and develops a new kind of sense. Therefore, every perception event opens to its world. Ponty indicates that enmeshed experience is a time or flow of formation of the whole interaction. This phenomenon leads to dialogue and long-term interaction that proceeds both as a process and a product. Prolonged perception or dialogue can be thought of as an intertwined experience that triggers imagination, motivating to rethink how existing relationships can be carried into the future; It opens up new ideas for future configurations. Merleau-Ponty's phenomenology of perception is therefore embedded in the praxis of enmeshed experience, which means thinking about the past now, carrying them intuitively into the future, timeless paths in nonlinear relationships.[61]

> "Our perception ends in objects, and the object once constituted, appears as the reason for all the experiences of it which we have had or could have."[62]

Merleau-Ponty indicates that experience relies on the structure of space. The material given by the object is an important parameter. Through the phenomenological perspective, experience is not just attributed to the subject, and the object has an essential role in the experience. Experience and the existential characteristics of the object has a direct relationship. While defining the enmeshed experience, the characteristics of the experienced space are expressed beyond the perception of the body. This concept places spatiality at its centre without rejecting the sensation. Accordingly, not every place leads to an enmeshed experience. The existential characteristics of the space defines the experience. Therefore, this thesis declares that the existential characteristics of Volu-te provide for enmeshed experience.

In the light of information above, enmeshed experience is a holistic experience which combines architectural materials through sensation. Both Semra Aydınlı and Steven Holl argue this term from an urban perspective. However, the thesis discusses enmeshed experience in an interior concept. In comparison, modern cities have a macro or even a mega spatial structure. Volu-te contrasts with its vertical structure and micro scale. On the other hand, regarding its structure, Volu-te creates partial images in a different perspective. The material continuity gathers the partial images and creates whole in

58. Steven Holl, Juhani Pallasma. Alberto Perez-Gomez, Questions of Perception Phenomenology of Architecture, San Francisco: William Stout Publishers, 2007, 44.

59. Semra Aydınlı, "Enmeshed Experience in Architecture: Understanding the Affordances of the Old Galata Bridge in Istanbul", A.-T. Tymieniecka (ed.), Phenomenology and the Human Positioning in the Cosmos, Analecta Husserliana 2013, pp. 141-151 Springer Science + Business Media Dordrecht , 2012, 2-6.

60. Semra Aydınlı, "Enmeshed Experience in Architecture: Understanding the Affordances of the Old Galata Bridge in Istanbul", A.-T. Tymieniecka (ed.), Phenomenology and the Human Positioning in the Cosmos, Analecta Husserliana 2013, pp. 141-151 Springer Science + Business Media Dordrecht , 2012, 8.

61. Monika M. Langer, 1989, Merleau –Ponty's Phenomenology of Perception, London: The Macmillan Press Ltd., 1989, 25-174. 2012, 8.

62. Maurice Merleau-Ponty, Phenomenology of Perception, trans. Colin Smith, London: Routledge, 2008, 77.

Volu-te. It can be said that both architectural objects use partial images for the body to perceive the space as a whole. At the same time, the perception of senses has an essential role in arguing the enmeshed experience. Again, due to its spatial configuration, In Volu-te the visual perception decreases and provides other senses to become dominant. By this way haptic experience is revealed in Volu-te. For the aforementioned reasons to express the experience that reveals in Volu-te, the term enmeshed experience is enlightening. It should be indicated that the experience of every architectural object is not an enmeshed experience, but the experience revealed in Volu-te is. At this point, the argument is based on the enmeshed experience in Volu-te. In the next chapter, urban terminology is redefined in micro-scale. Existential characteristics of Volu-te discussed through concepts, such as; context, scale, material, detail, and substance in terms of sensation.

Existential characteristic of Volu-te

03

'Reveal of the enmeshed experience'

The existential characteristics of Volu-te are determined as micro scale, verticality, superposed actions and living stairs. Existential characteristics have been studied through the work on behalf of the elements that affect the perception of space discussed in the perception of haptic senses chapter. In this chapter, the listed characteristics of Volu-te and their reflection on the experience have been studied. The clues of holistic experience have been discussed by establishing relations between concepts through sensation. In the diagram below (Figure 26), the relationship between the concepts specified as the existential characteristics of Volu-te is visualised. The circumstances revealed by the existential characteristics are indicated as intersection points. The diagram enclosed in a frame to emphasise that the concepts have been read through sensation.

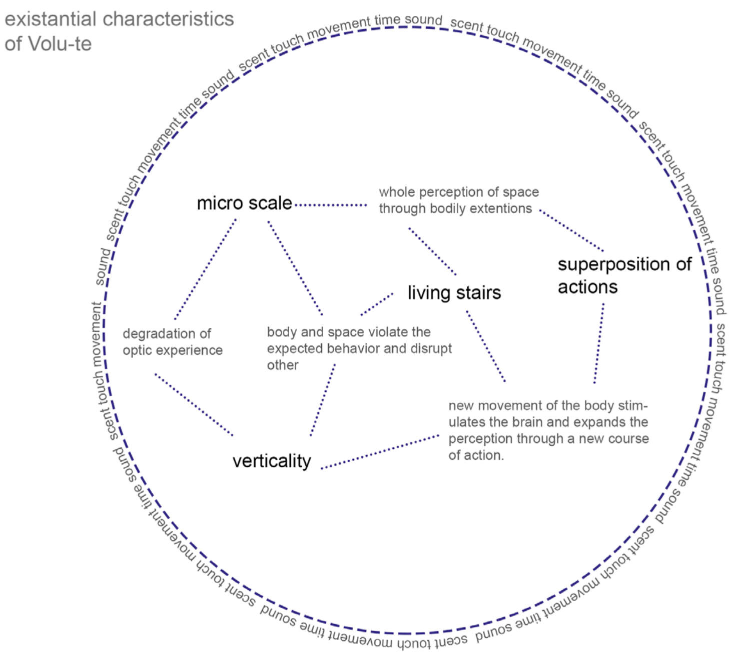


Figure 26: Existential Characteristics of Volu-te and its Spatial Contribution to Experience

Micro living can be an obligation for urban conditions, but it also suggests getting smaller and taking up less space in the world. It is not only about putting more people on limited land. Living in a micro-unit can describe a different way of life. This living scenario that proposes to leave a minimum mark on the planet is not a new invention. The "Minimal Existence"[63] concept was developed to access appropriate social housing between the Wars. It could be expressed as a minimum subsistence dwelling to build quickly. The aim was designing a space-efficient low-cost home typology that ensures minimum quality standards. This concept has started discussions about the minimum and acceptable standards to access fresh air and daylight. Over the last decade, there has been a growing interest in alternative design solutions and minimum living alternatives, such as micro-housing and collaborative housing models. After the cabin culture became popular in rural areas, people preferred to spend their weekends in tiny cabins in nature to forget the weary city life. However, the temporary tiny living practice did not continue in the city, and people turned back to their spacious houses formed by extra rooms or a big living room. That discussion adds a new vision to the Minimal Existence concept with current living practices of the 21st century. Volu-te contributes to the context as the discourse of a temporary micro-living unit.

In Volu-te, we encounter a space that surrounds us. Through the micro scale, space becomes a unit that we can measure with our bodily extensions. We can measure the height with our legs and depth with our voice. It is an unconscious measure that projects one's bodily scheme on the space in question. Body is constantly interacting with the space and they redefine each other through this interaction. It is an unconscious, natural process. Pallasma explains this natural process as a single continuous existential experience. "The perception of the body and the image of the world turn into one single continuous existential experience; there is no body separate from its domicile in space, and there is no space unrelated to the unconscious image of perceiving self."[64] Pallasmaa also argues that the body and space exist together, as in the quote. At this point, the body is a layer of experience and has an equal role with space. In Volu-te, the body becomes an organism that moves with the architectural form.

As in Chiasm theory, roles can be transferred to each other when object and object come into contact. Boundaries between subject and object can become blurry. Touch makes the boundaries between subject and Volu-te ambiguous and shifts them into each other. Touching the space involves inter-

63. For the emergence of the concept "minimal existence", see:
Eric Mumford, The CIAM Discourse on Urbanism 1928-1960, Cambridge: MIT Press, 2000.
Walter Gropius, Die soziologischen Grundlagen der Minimalwohnung für die städtische Industriebevölkerung (The sociological foundations of minimum housing for the urban industrial population), 1930. Paper presented at the CIAM II: Die Wohnung für das Existenzminimum, Frankfurt.
Ernst May, Die Wohnung für das Existenzminimum (The minimum dwelling), 1930. Paper presented at the CIAM II: Die Wohnung für das Existenzminimum, Frankfurt.

64. Juhani Pallasmaa, The Eyes Of The Skin, Chichester: Wiley-Academy, 2005, 40.

acting and integrating by entering into an effective relationship. When Volu-te and the subject contact, the duality of whether the object touches the subject or the subject touches the object emerges. In Volu-te's experience, the subject and object are not two different separated beings anymore. Within the moment of the experience, the object and subject meet and intertwine.

In addition to its micro scale, Volu-te reduces visual perception due to its verticality. It leads to a degradation of optical experience. If we refer to the Perception of haptic senses section, distance is required for the eye to perceive. Vision requires a certain distance, and touch requires certain proximity. More proximity and contact with the space leads increase tactile perception over visual perception. It can be stated that Volu-te's existential characteristic leads to a haptic experience. At this point, the subject is in direct contact with the materials used. The subject gets support from the concrete shell while climbing the wooden steps. Close contact with the space increases tactile perception and ensures that the texture and thermal characteristics of the material gain importance. As mentioned in the Space of touch chapter, the smooth texture and warmth of the plywood evokes the sense of safety and familiarity. On the other hand, the cold and rough state of the concrete creates a contrast and surprises the subject.

Close contact with the space indicates the subject's relationship with the materials used in the space. In this way, the smell of the material used serves the perception as well as the texture. The smell of wooden steps becomes a significant factor in the experience, and it triggers the olfactory memory of the subject. The smell of the plywood obtained from pine trees becomes a defining element for the description of the space. In addition, the spread of the smell in the space is essential for the sense of smell. The scent tends to move vertically in Volu-te based on the convection principle. Accordingly, the smell of coffee or food made on the lower levels becomes perceptible from the whole place. The characteristics of verticality have an essential role in a holistic perception of scents in Volu-te.

Vertical living in architecture primarily refers to dense urban areas where elements of architecture come together in the Y-axis. The lack of land and space needed in metropolitan areas emerges as a growing vertical city. As a megacity, it is not different in İstanbul. Designing a microstructure in the context of Istanbul land prices per square metre and density of urban texture becomes an essential input through the vertical layout of Volu-te. Verticality becomes an essential concept in architecture to describe the image

of a house. In phenomenology, philosophers such as Martin Heidegger and Gaston Bachelard emphasised verticality to define concepts such as dwelling and house. Martin Heidegger has discussed dwelling through a vertical conception from a phenomenological perspective.[65] Such as in the reading of Heidegger, the fourfold[66] the term appears as "gathering" of earth, sky, mortals, and divinities that come to constitute. It pervades dwelling in its whole range. This range manifests itself when the thought of humans consisting of dwelling appears. Indeed, dwelling in the sense of the stay of mortals on the earth. "On the earth" already means "under the sky." These also mean that "remaining before the divinities" and include a "belonging to a human being with one another." The four-earth, sky, divinities, and mortals belong together by a primal oneness.

On the other hand Gaston Bachelard describes the house as a vertical being in The Poetics of Space. House rises and differentiates itself in terms of its verticality. It is one of the appeals to our consciousness of verticality. Verticality is presented to the reader by the polarisation between the attic and the cellar. This way opens a different perspective to the phenomenology of imagination and reading through the home. It collides with the roof's rationality against the cellar's irrationality. He explains that the roof protects humanity from the natural events he feared within the framework of its existential feature.

In the quote from Bachelard, he rereads a passage from Bosco's book as a cosmic daydream by portraying a perception of verticality. ""A very narrow, steep stairway, which spiralled as it went higher, had been carved in the rock. I started up it"[68] . By means of this gimlet, the dreamer succeeds in getting out of the depths of the earth and begins his adventures in the heights. In fact, at the very end of countless tortuous, narrow passages, the reader emerges into a tower. This is the ideal tower that haunts all dreamers of old houses: it is "perfectly round" and there is "brief light" from "a narrow window." It also has a vaulted ceiling, which is a great principle of the dream of intimacy. For it constantly reflects intimacy at its centre. No one will be surprised to learn that the tower room is the abode of a gentle young girl and that she is haunted by memories of an ardent ancestress. The round vaulted room stands high and alone, keeping watch over the past in the same way that it dominates the space."[69] The vertical movement is described as an adventure. The main effect is that vertical movement enhances the experience. Being a perfectly round and narrow description in the quotation matches with Volu-te

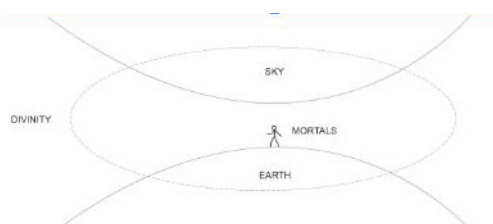


Figure 27: Martin Heideger's concept of dwelling[67]

65. Martin Heidegger. Poetry, Language, Thought. New York: Harper & Row, 1975.

66. The Fourfold was developed after a course on Friedrich Hölderin that Heidegger presented in 1934-1935. Hölderin was a German poet who lived from 1770-1843. Heidegger was influenced by his poetry about nature and beauty, which in turn led to the way Heidegger characterised the Fourfold. For more information on the development of the Fourfold, see Jussi Backman, Complicated Presence: Heidegger and the Post-Metaphysical Unity of Being, (Albany, 2015)..

67. Indah Widiastuti, 8. "Notions of dwelling", Martin Heidegger, Architecture and Culture. https://indahwidiastuti.wordpress.com/2010/07/07/8-introduction-of-phenomenology-in-architecture-2/ (accessed at march 20, 2022)

to a certain extent. Climbing a spiral staircase unites with partial images and it increases curiosity. As the vertical movement continues, the heartbeat accelerates, and it causes the adrenaline release. This movement brought to daily actions enables the subject to perform daily actions with unfamiliar feelings.

Visual perception is fragmented and incomplete in Volu-te. Nevertheless, enmeshed experience indicates a holistic perception. Elements such as materials, details, light, and sound in the architectural space merge these partial images and lead to a holistic perception of the subject. For example, Volu-te has a 6-metre height and cylindrical form. However, due to its spatial organisation, it cannot be recognized by visual perception. The sense of hearing becomes substantial for perceiving the height and form of Volu-te. The echo of sound leads the subject to perceive the architectural form. Partial images merge through the subject's perception with echo and material continuity. In this way, perception of a new whole emerges. The unity of the space is provided by the characteristics superposition of actions as well as the aforementioned features.

Volu-te questions conventional ergonomics through, centering the human movement in vertical spatial organisation. To minimise the floor area and effective use of volume, the daily actions are superposed in continuity. The microstructure leads to an open plan that combines daily routine actions and integrates the senses. In this configuration, the stair becomes the core of the design. Vertical living has been generated to minimise the floor area. Volu-te aims to experiment with how the actions can intersect and merge in a vertical layout. Considering that, new ways of relationship between space and body movement were established. Ergonomics have experimented with the body's movement in a microstructure. In Volu-te, the movement of the human body during the daily routine generates a base for space creation. The space occurs by the superposition of actions instead of the distribution as in a conventional space setup.

Daily routine actions are arranged vertically which leads to a continuous movement . An uninterrupted unity is designed between the actions. In this way, the holistic perception of Volu-te was enhanced. Volu-te operates different spatial elements during space configuration according to human movement. The body tends to create its moment by disrupting the spatial order imposed on it. On the other hand, space activates the body in accordance with itself and manages its perception. Both components tend to violate the expected behaviour and disrupt another. The unexpected character of struc-

68. Henri Bosco, L'antiquaire, Paris: French & European Pubns,1979,155.

69. Gaston Bachelard, Poetics of Space, trans. Maria Jolas, Boston: Beacon Press books, 1969,24.

ture opens questions in terms of housing. The ergonomics encountered with residential architecture take apart and reunite in the micro-scale conditions. This leads to the rewrite of physical memory that the subject had before. Changing the movement of the daily routine from vertical to horizontal is a whole new experience. A new movement of the body stimulates the brain and expands the perception through a new course of action. The superposition of actions in a vertical layout of Volu-te leads to spatialization of the stairs and strengthens the relationship between body and space.

The spatialization of the stairs in Volu-te defines the living stairs term. "It would appear then that it is the experience of movement guided by sight which teaches the subject to harmonise the visual and tactile data: he becomes aware, for instance, that the movement needed to reach his legs, hitherto a movement 'downwards', makes its appearance in the new visual spectacle as one which was previously 'upwards'."[70] It can be stated that the living stairs notion brings a new layer to the experience. In Volu-te, the space can be perceived as downwards as upwards, which is stated in the quote of Ponty. As a result, Volu-te offers the opportunity to see and experience the spaces or actions we are accustomed to from a different perspective.

In Cambridge dictionary stair is defined as "a set of steps that lead from one level of a building to another:"[71] Stair is an architectural element that provides a connection between levels. Koolhaas remarks the stair as one of the leading architectural elements.[72] In Volu-te, stairs become more than an architectural element that provides transportation in space. In this situation, the element of architecture generates the space. It creates levels that the actions and events occur. In Volu-te, the spiral form of stairs generates a base for daily actions. The staircase is separated from its technical meaning, changes its accepted ergonomics, and becomes the main structure. In Volu-te, almost every step is assigned with a different function. Actions in daily routine are disintegrated and superposed in a layout of stairs. The vertical organisation of Volu-te makes the subject move vertically and climb to experience the unit. Vertical movement of the subject leads to using more muscles and experiencing the space with physical effort. The new movement of the body stimulates the brain and expands the perception through a new course of action. The movement of the body is key to the experience in Volu-te. Body's movement triggers the experience and the existential characteristic of the space shapes the experience. The enmeshed experience reveals through Volu-te's existential characteristics, when the body integrates with the space.

Figure 28 aims to visualise the concepts of existential characteristics and the enmeshed experience. The figure tends to emphasise the subject-object coexistence. Within the scope of the visualisation, concepts such as microscale, verticality, and superposition of actions are represented together. The intertwined actions that seem to be independent of each other through experience is meant to be represented. Through the intervening process, boundaries become blurry. The characteristics of Volu-te are studied through the perception of senses, for this reason it can be said that Volu-te enhances haptic experience. Optical experience appears to be diminished within Volu-te. Consequently, the senses such as touching and hearing become more substantial. Therefore, the new movement of the body stimulates the brain and expands the perception through a new course of actions. The movement emerges from the vertical layout visualised within the framework of the diagram. In Volu-te, body and space violate the expected behaviour and disrupt each other. It can be stated that the whole perception of space through the senses occurs. Within the moment of the experience, Volu-te and the subject meet and intertwine.

70. Maurice Merleau-Ponty, Phenomenology of Perception, trans. Colin Smith, London: Routledge, 2008, 286.

71. Stair OED Online. March 2022. Oxford University Press. https://ezproxy.mef.edu.tr:2313/view/Entry/188744?rskey=xIg6P2&result=1&isAdvanced=-false#eid (accessed at march 23, 2022)

72. *"The diktat of the fifteenth-century architectural theorist Leon Battista Alberti-''The fewer staircases that are in a house, and the less room they take up, the more convenient they are esteemed'-has proved to be a prophecy for the contemporary condition. The staircase is considered dangerous- safety requirements limit architects' ambitions- and is possibly endangered, only still in existence in order to fulfil the requirement of having an exit strategy, though the stair may be making something of a comeback as an aid to fitness.''* Rem Koolhaas, Elements of Architecture.

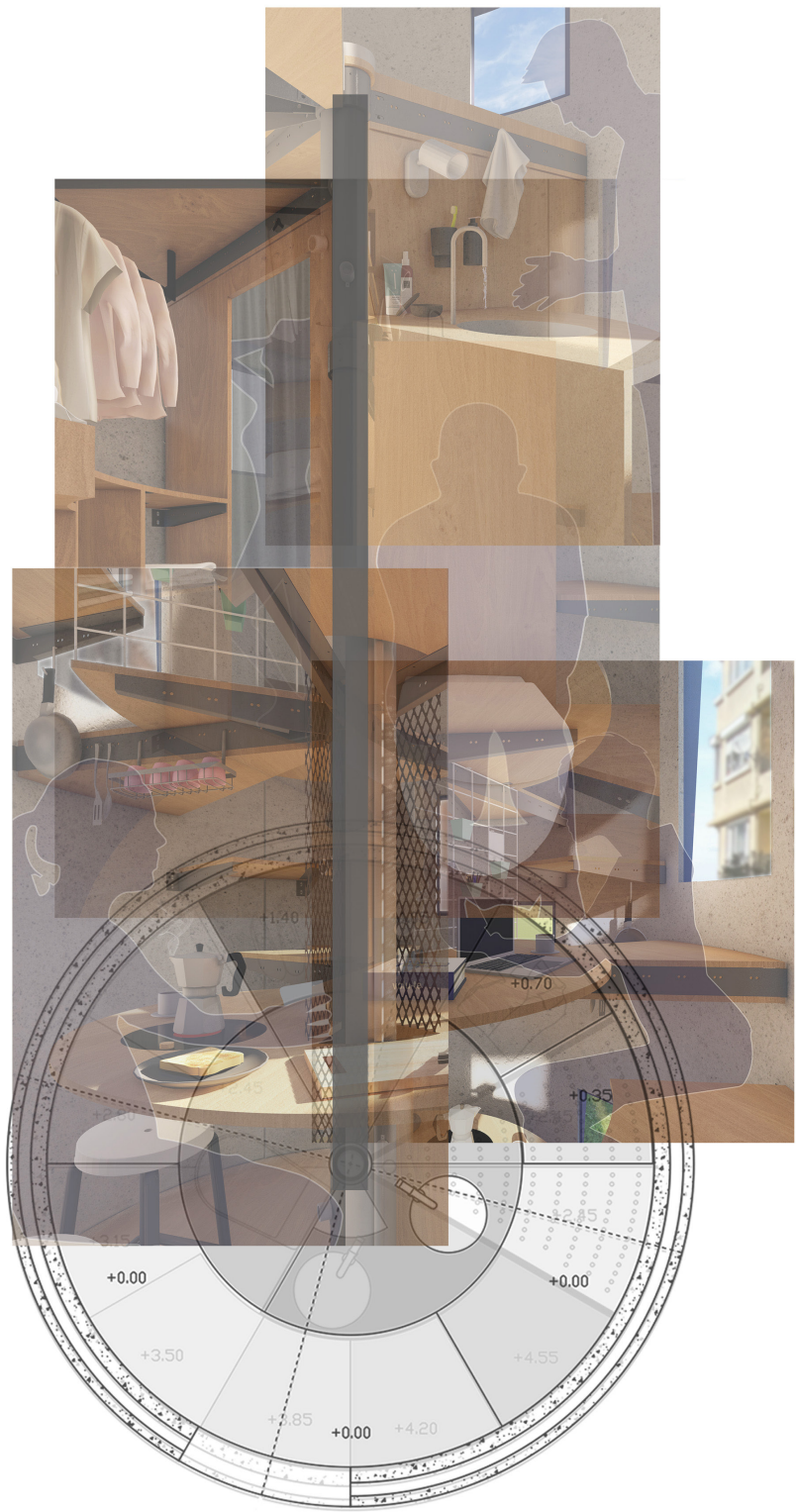


Figure 28: Enmeshed Experience in Volu-te

Conclusion

The relationship between body and space becomes explicable through the concept of experience. Experience is the process of conscious beings perceiving the environment. Experience is generalised as a concept that changes depending on the subject. However, the object's existence is undeniable during the experience. The space turns into an experience with the perception of the body and emerges with a perceptual phenomenon. Architectural space is open to multi-dimensional perceptual experience with its features that can be entered, walked, seated, reached, and touched. Throughout the thesis, the argument has been generated from a phenomenological perspective as discussing the existential characteristics of space can be helpful for revealing its experience.

For this reason in the thesis, the concept of space and its existential characteristics of an object is in the centre of the experience. The unity of body and mind takes place with the architectural experience offered by the space. Therefore, the architectural space enables the experience through bodily perception. The space creates the groundwork for the architectural experience. Moreover, the existential characteristic of the space shapes the experience. In experience, the terms body and space are inseparable, so the concept of the body is not ignored. As Merlau-Ponty conveys in his theory of Chiasm, the unity of subject and object creates a new whole. Thus the perception of the sensation and sensed becomes undetectable. The study discussed the term body beyond being just a physical entity. The body is studied through a holistic approach that perceives space through senses and perceptions. The bodily perception is used as a tool to reveal the experience. The way the five senses perceive space is questioned through modern architectural examples. Considering bodily perception, the sensory data that architectural space presents to the subject is examined.

The possibility of revealing the experience through the existential characteristics of the space is the main question of the thesis. The micro hous-

ing unit Volu-te is considered as an object to strengthen the study. The existential characteristics of Volu-te are defined as verticality, microscale, living stairs, and superposition of actions. The existential characteristics of Volu-te have been read through their relation to each other through their theoretical background. A holistic discussion was carried out by including sensation in the relationship between the characteristics. Volu-te offers a holistic spatial experience to the subject. Volu-te has a vertical layout with fluid transitions between actions. Due to its microscale and vertical spatial configuration, the optic experience reduces. Thus, it offers the subject a haptic experience. Considering all this, Holl's enmeshed experience notion used to describe the experience revealed in Volu-te.. Enmeshed experience is a whole of creation by the complex interlocking of time, light, material, and detail. "Beyond the physicality of architectural objects and practicalities of programmatic content, enmeshed experience is not merely a place of events, things, and activities but something more intangible, which emerges from the continuous unfolding of overlapping spaces, materials, and detail."[73] In the Questions of Perception, the existential characteristic of architectural space leads to enmeshed experience through sensation. It describes a functional organisation of architectural elements that overlap in a continuity. The existential characteristics of every architectural object do not lead to an enmeshed experience. Moreover, not every haptic experience can be called an enmeshed experience. Therefore, the claim is that the existential characteristics of Volu-te leads to an enmeshed experience.

The experience of Volu-te includes scents, sounds, light and shadows, repetition and rhythm. Through the subject's experience, the senses, time, and space melted into each other. A holistic and intertwined experience emerged with the existential character of Volu-te. It can be seen as a manifestation of Merleau-Ponty's chiasma theory. As he claimed, the roles of perceiving and being perceived were interchangeable. Many attributes were interchanged and often overlapped, proving that these overlapping attributes required a multi-dimensional view. Different relationships of senses have been resolved through existential characteristics of the object through thesis. Volu-te serves the senses and enables the subject to navigate through space. The whole body begins to communicate with the architectural space. While the legs measure the stairs, with the help of concrete texture, the hand begins to define the space. While the scent represents a close interaction with the material, on the other hand, it provides continuity by ensuring the over-

lapping of the actions in the space. The material's scent triggers the memory and reveals senses such as safety and peace. Touch also represents a close interaction with the material. The material continuity in space merges the fragmented perception and it creates a new kind of whole. With echo's help, sound allows the subject to perceive the size and form of the space that we cannot perceive through partial images and discontinuous perspectives. In the particular case of Volu-te intertwined with many other elements such as spatiality, time, and haptic senses through experience.

Volu-te does not correspond to the conditions of the dominant visual understanding of architecture. Through its vertical spatial configuration and micro scale, Volu-te presents fragmented and incomplete views to the subject, as Holl mentioned in the quote. "... As we move through these partial views and overlapping perspectives our experiential qualities are of enmeshed space; instead of distinct objects, we understand distinct fields as a new type of whole....."[74] In Volu-te these fragments are connected through the materials and detail. Living stairs intertwine the incomplete fragments and create a new type of whole. The stairs add rhythm and continuity to the experience. This rhythm and continuity lead to the merging of fragmented perceptions. The subject begins to move together by integrating with the space. The roles between Volu-te and the subject are becoming interchangeable, and the boundaries lose their clarity. The senses such as touching and hearing become more substantial within Volu-te. Therefore, the new movement of the body stimulates the brain and expands the perception through a new course of actions. In Volu-te, body and space violate the expected behaviour and disrupt each other. Hence, the whole perception of space through the senses occurs. Within the moment of the experience, Volu-te and the subject meet and intertwine.

Within the scope of the research, the question of "Could we reveal the experience of an object through its existential characteristics?" has been sought. In this process, the relationship between body and space and the role of space in experience are discussed. Considering the role of the body in the experience, the readings are carried out through sensation. Finally, the existential character of Volu-te as an architectural product, was revealed, and the experience has been discussed with the concept of enmeshed experience. Thus, it has been pointed out that although experience is stated as a subjective notion, it can be revealed by deciphering the architectural object's existential characteristics.

73. Steven Holl, Juhani Pallasma. Alberto Perez-Gomez, Questions of Perception Phenomenology of Architecture, San Francisco: William Stout Publishers, 2007, 44.

74. Steven Holl, Urbanisms: Working with Doubt, New York: Princeton Architectural Press, 2009, 26.

As a result, a project of a graduate program, Volu-te has been reconsidered through a theoretical reading. The theory and practice were read together through architectural experience. During the design process of Volu-te, it was planned to carry out the daily actions of the subject in a micro space. However, it has not been carried out to create an enmeshed experience in Volu-te during the design process. While the experience revealed in Volu-te was deciphered during the thesis process, the experience revealed in it was associated with the term “enmeshed experience”. Accordingly, if Volu-te had been associated with the concept of enmeshed experience from the beginning of the design process, the experience that emerged in it could have turned into a dynamic structure by crossing the borders. In this way, the experience could go beyond just being an indoor experience and establish a relationship with the urban space.

The experience of Volu-te, in which I was a member of the design team, was deciphered through the existential character of the architectural object. A reading was done with sensation over features such as material, form and detail. The experience that was revealed in Volu-te is a speculative reading. However, as mentioned in the introduction, Volu-te is under construction and is planned to be completed within a year. Volu-te will be placed in MEF University and provide temporary accommodation for the students. Accordingly, the experience speculated in the thesis can be confirmed through the user experience. User experiences can be learned through interviews. Comparing the speculated experience and user experience could create new readings based on this thesis. At this point, with the user experience, the thesis can open different perspectives for Volu-te.

References

Avidar, Pnina, Raviv Ganchrow and Julia Kursell. "Immersed. Sound and Architecture," *OASE journall*, May 1, 2009, https://www.oasejournal.nl/en/Issues/78.

Aydınlı, Semra. "Enmeshed Experience in Architecture: Undertanding the affordances of the Old Galata Bridge in Istanbul.", A.-T. Tymieniecka (ed.), *Phenomenology and the Human Positioning in the Cosmos*, Analecta Husserliana 2013, pp. 141-151 Springer Science + Business Media Dordrecht , 2012.

Aydınlı, Semra. "Mekansal Deneyimin Bitmez Tükenmez Yolculuğu" *Betonart,* no:67, 2020.

Bachelard, Gaston. Poetics of Space, trans. Maria Jolas, Boston: Beacon Press books, 1969.

Bachelard, Gaston. Poetics of Reverie, trans. Maria Jolas, Boston: Beacon Press books, 1971.

Bosco, Henri. L'antiquaire, Paris: French & European Pubns,1979.

Smyth, Bryan A. Merleau-Ponty's Existential Phenomenology and the Realization of Philosophy, New York: Bloomsbury Academic, 2014.

De La Motte, Helga, Norbert Miller, Franz Schuh u.a. contributions by Ulrich Conrads and Bernhard Leitner. Bernhard Leitner Sound : Space, Ostfildern: Hatje Cantz, 1999.

Descartes, Rene. Discourse On The Method, trans. Ian Macnellan, New York: Oxford University Press Inc., 2006.

Descartes, Rene. The Geometry of Rene Descartes, trans. David E. Smith and Marcia L. Latham, New York: Dover Publication, 1954.

Dufrenne, Mikel. The Phenomenology of Aesthetic Experience, trans. Edward S. Casey, Albert A. Anderson, Wıllıs Domingo, Leon Jacobson, Evanston: Northwestern University Press, 1973.

Harvey, David. Social Justice and the City, Cambridge: Blackwell Publishers Ltd., 1973.

Heidegger, Martin. Building, Dwelling and Thinking, Ed. In N. Leach, Rethinking Architecture a Reader in Cultural Theory, London: Taylor & Francis e-Library, 2005.

Heidegger, Martin. Poetry, Language, Thought. New York: Harper & Row, 1975.

Heidegger, Martin. What Calls for Thinking: Basic Writings, Thought. New York: Harper & Row, 1977.

Holl, Steven, Juhani Pallasma. Alberto Perez-Gomez. Quetions of Perception Phenomenology of Architecture, San Francisco: William Stout Publishers, 2007

Holl, Steven. Anchoring, New York: Princeton Architectural Press,1991.

Holl, Steven. Urbanisms: Working with Doubt, New York: Princeton Architectural Press, 2009.

Husserl, Edmund. Thing and Space, trans. Richard Rojcewicz, SpringerScience+Business Media.B.V., 1907.

Jun'ichiro Tanizaki, In Praise of Shadows, Cenn: Leete's Island Books, 1977.

Koolhaas Rem, Elements of Architecture, Venice: Marsilio Editori Spa, 2014.

Langer, Monika M. 1989, Merleau –Ponty's Phenomenology of Perception, London: The Macmillan Press Ltd., 1989.

Lefebvre, Henri. The production of space, Oxford: Blackwell Publishing, 1991.

Merleau-Ponty Maurice. Phenomenology of Perception, trans. Colin Smith, London: Routledge, 2008.

Merleau-Ponty, Maurice. The Visible and the Invisible, Evanston : Northwestern University Press, 1968.

Merleau-Ponty Maurice. The World of Perception, trans. Oliver Davis, Oxfordshire: Routledge, 2004.

Montagu, Ashley. Touching: The Human Significance of the Skin, New York: Harper & Row, 1986.

Norberg-Schulz, Christian. Genius Loci: Towards a Phenomenology of Architecture, London: Academy Editions, 1980.

O'Neill, Máire Eithne. "Corporeal Experience: A Haptic Way of Knowing," *Journal of Architectural Education 55*, no:1, March 12: 3-12.

Pallasmaa, Juhani. Embodied Image: Imagination and Imagery in Architecture, Chichester: John Wiley and Sons Ltd., 2011.

Pallasmaa, Juhani. The Eyes Of The Skin, Chichester: Wiley-Academy, 2005.

Perrera, E. "Verticality and its Manifestation in Architecture, an Examination of its Symbolism and Language Used" Master's thesis, University of Moratuwa, 1999.

Rasmussen, Steen Eiler. Experiencing Architecture, Cambridge: MIT Press, 1993.

Serres, Micheal. Five Senses: A Philosophy of Mingled Bodies, trans. Peter Cowley and Margeret Sankey, London: Continuum International Publishing, 2009.

Smith, Barry and Smith,David Woodruff, eds., The Cambridge Companion to Husserl, Cambridge and New York: Cambridge University Press, 1995.

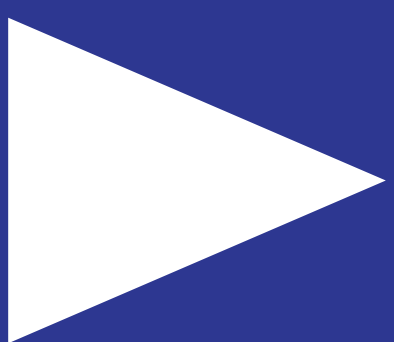
Soja, Edward William. Thirdspace: Journeys to Los Angeles and Other Real-and-Imagined Places, Oxford: Blackwell Publishers Ltd., 2000.

"Your Turn" Alex Schweder Studio, accessed February 24, 2021, http://www.alexschweder.com/your-turn/

Zarzycki, Lili. "Body Dwelling: Amassing an Interior," *Architectural Review,* June 24, 2020, https://www.archtectural-review.com/essays/body-dwelling-amassing-an-interior.

Zumthor, Peter. Atmospheres Architectural Objects Surrounding Objects, Germany: Birkhauser Verlag AG, 2006.

Zumthor, Peter. Thinking Architecture, Basel: Birkhauser Verlag AG, 2006.



MEF
ÜNİVERSİTESİ
Öğrenmeye Sınırsız Özgürlük