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SPACE IN SPACE ARCHITECTURE: A CRITICAL APPROACH TO HEIDEGGER'S IDEA OF 'BUILDING AND DWELLİNG'

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ABSTRACT

In Heidegger's Building Dwelling Thinking section, we see that he examines the relationship between the two concepts in terms of space-dwelling-dwelling. One of the reasons Heidegger established this relationship is to examine the existence of man on Earth. For this purpose, he phenomenologically interpreted all kinds of object-subject communication that interact with human beings in daily life from different perspectives. However, when Heidegger made these interpretations, it coincided with a period when scientific research into space was gaining momentum. In this period, beyond the discussions about the existence of extra-terrestrial life, thinkers have started to be included in the scientific and intellectual infrastructure of laying the foundations of human life on other planets. As a result of this, a field to be called space architecture has formed the most basic keystone of this infrastructure. This study aims to discuss the validity of the discourses developed on the concept of space on the basis of this duality against space architecture. For this purpose, the technical and conceptual differences of the concept of space in space architecture are evaluated with a rhetorical approach through Heidegger's discussion of dwelling and building. However, the scope of this evaluation is within the possibilities of today's technology. This study, which is carried out without questioning what opportunities technology can give us in the future, has been designed based on the systems of today's space architecture.

Keywords: Space Architecture, space, heidegger, dwelling and building

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Introduction

The concept of space has been handled by many different disciplines using different meanings until today. The concept of space, which has found its place in political, sociological, philosophical, artistic, etc. meanings, has transformed both semantically and functionally with Heidegger's perspective. Until Heidegger, many approaches have dealt with space as dimensional, volumetric or mathematical and focused on the syntactic and pragmatic content of space. In the approaches shaped on Heidegger and his thought, the relationship between space-user-body-spirit and the tensions created by these relationships are discussed. These discussions have given different meanings and contents to the concept of space. The concept of space is not only physical but also sociological, psychological, historical, etc. It has been accepted as a concept that is evaluated with approaches. According to Soja, it was Lefebvre who paved the way for these discourses on space and was the first to focus on human spatiality by looking at space in a physical-mental-social context. (Soja, 1996:64,65). In this context, many philosophers of the 20th century, such as Soja's concept of primary, secondary and tertiary space, Auge's concept of place and non-place, Schulz's concept of genius loci, developed discourses on the semantic equivalent of space. It can be said that these discourses, which focus beyond the physical existence of space, focus on the concept of "place" related to human beings. Especially Heidegger, one of the thinkers of the 20th century, who reached a wide audience with his thoughts, discussed space with the concepts of dwelling/dwelling and building; he opposed the dimensional or volumetric understanding of space with the concept of place, which gained a semantic dimension with the relationship between body-space-memory. In fact, the concept of place "is often closely linked to everyday life, has a time-dependent depth, and is associated with collective memory and social identity" (Jessop, 2019: 36). For this reason, it is defined by the human act of acquiring and settling down, independent of physical space. In this framework, this study aims to discuss the dilemma between Heidegger's discourse of building and dwelling based on the concept of place and the modern understanding of space in space architecture.

The Idea of Space in Space Architecture

In our daily life, society is constantly transforming. Especially the change and transformation of social, economic, cultural, ideological, scientific and other practices that we cannot count from past to present directly affects design practices and fields. It can be said that the most important benefit brought by these changing, transforming and most importantly developing practices is that they facilitate the discovery studies that arise with the human sense of curiosity. Especially the sense of curiosity about the existence of extra-terrestrial life has led to the development of scientific studies on the concept of space. However, the source of ideas about the existence of extra-terrestrial life and planets is not only the human sense of discovery or curiosity. Inadequate natural resources and the idea that they will be inadequate, deterioration of ecological balance and deterioration of living conditions are among the reasons for the idea of reaching other planets. The curiosity to reach other planets and live there has led to the emergence of many space-related practices.

One of the most important practices emerging in relation to space is the field of space architecture, which seeks spatial ways for living beings to continue their vital activities. This concept can be briefly defined as the theory of designing and implementing habitable environments in space (Sherwood, 2006). In this context, the main focus of the practice is to create shelter for the physical and psychological needs of individuals in the extra-terrestrials atmosphere. In the most basic sense, space architecture should ensure safety, reliability and habitability. Designing the environments required by functions such as working and living in space-based facilities, non-residential facilities and habitats, transport vehicles, is among the most important goals of space architecture (Donovan, 2021). When evaluated from the perspective of safety and reliability, the most important function of this practice is to minimise the impact of extreme atmospheric events in space, to ensure the continuity of safe and comfortable environments. Designers and engineers who will ensure safety and reliability and perform this work; must understand the harsh and extreme conditions in the atmosphere (especially by experiencing pressure and antigravity environments), master all systemic parts of the compound or vehicle, and use all the possibilities of materials (especially light materials) and technology to the fullest (Finckenor & de Groh, 2015).

States, private sectors and research centres spend billions of dollars for space missions and journeys for which space architecture (space-spacecraft-rocket etc.) provides infrastructure; these structures travel millions of kilometres from the earth for these missions and journeys. The time it takes for this journey and mission to start from the project process on paper to the actual journey process takes decades. The purpose of all this labour, time and cost is to discover extra-terrestrial living conditions. For Connors, Harrison and Akins (1985), the high expenditure costs, great labour and time incurred without living in extra-terrestrial living conditions and physically experiencing these conditions are based on mathematical abstraction-

simulation and scientific knowledge.

According to Zubrin (1999), space architecture should design our Earth, which exists in space, more carefully and meticulously than the Earth where we continue our existence. The most important reason for this is the atmosphere we are not used to on Earth and the physical phenomena that even science cannot explain. Our space in space architecture should be planned more rationally and meticulously in the face of these atmospheric phenomena that we are not used to, for our functions such as breathing, drinking water and consuming food, which are our daily routine and have become ordinary. In other words, according to today's technology, life in space requires optimum isolation of the individual from the external atmosphere.

The concept of space in space architecture is an alternative formation that organises and includes the technology that can provide isolation from the extra-terrestrial atmosphere, minimises the physical and psychological pressure on the individual, and can be a source of signs of life outside the earth. The space in space architecture, which is the product of high technology obtained with strong theoretical connections in basic sciences such as mathematics, physics and chemistry, is an organisation of systems that takes a long time to construct and does not accept any error.

According to Williams (2020), in the design of spaces for extra-terrestrial planets, many intermediate design and architectural specialities are used to fulfil the vital activities of humans. Among these, there are design components and systems of intermediate specialities such as tiny house, small living spaces/houses, transportation vehicle designs (automotive, yacht design, etc.) and capsule hotels. There are many fields in space architecture, but in general, this field focuses on two specialisations: Planetary Architecture and Orbitary Architecture (Keve, 2022). In space architecture where there is a ground, the ground usually manifests itself as the surface of the Moon and Mars. Organised design structures applied on these surfaces within the possibilities of technology are planned to be protected from the external factors of the atmosphere. There are also differences in the designs of the structures according to the differences in the atmosphere of the surface. In the space void, in other words, the concepts of space stations and rocket designs come to the fore in architecture that has no contact with any planetary surface.

Heidegger's Idea of Space

Heidegger aimed to explain the concepts of space-architecture-place-building- dwelling and shelter with metaphysical and ontological foundations. His discourses on space and object are built on a human-centred understanding of existence (Balaban Varol, E., 2019). In particular, concepts such as space and place are explained through the way people exist in the world. It opposes the dimensional, volumetric definition of space brought by modern approaches with the concept of place. It makes an ontological expansion of the place through the concept of dasein, which is the state of being and being in the world, and the concept of dwelling, which meets the concept of dwell. In this approach, as dasein, "the meaning of being human is to live in a world, to live in a reality that is organised and gives spirit to the work of living" (Berger, Berger & Kellner, 1985). According to Heidegger (2018), place is a platform for human existence, experience and life; however, this platform is not stagnant or dead, but experiential. With this characteristic, space and place is an important art that allows humans to settle on the surface of the world (Ülger, 2016).

In his book Poetry, Language, Tought, Heidegger (1971) analysed the acts of dwelling and building in detail. In his evaluation, he questioned what dwelling is and how a building turns into a dwelling. Because the concepts of space and place have different semantic dimensions for Heidegger. According to Heidegger, the act of place and dwelling is possible with the semantic equivalent of structures; that is, with the effect and experience it leaves on human beings. Building, on the other hand, is related to the physical equivalent of structures and not every structure can be defined as a "place". The thinker elaborates and shares the most important difference between the two concepts through the bridge argument. "There are many points along the river that can be occupied by something before it becomes a bridge. One of these becomes a place, and it does so thanks to the bridge. Therefore, the bridge does not first occupy a place in order to stand there, on the contrary, a place is created only through the bridge" (Sharr, 2013: 54). As soon as a man-made thing becomes visible at a certain point on the riverbank, that point becomes a 'place'. The process that evolves from any point to a specific point actually describes the emergence of an architectural structure or 'thing' and the disappearance of uncertainty.

In the given example, the bridge does not only contain a physical structure or a coordinate, a location. For Heidegger, as in the case of 'things', the concept of place is also subject to transformation. For Heidegger, the bridge does not represent a mechanical architectural structure that connects the two banks of the river and provides passage. The structure contains an ontological meaning on the scale of dasein. Place develops according to human life and experience and positions itself in an existence. This is because "places come into

existence not through mathematically conceived 'space' but through 'place' conceived through experience" (Heidegger, 1971:154). In this context, people and place communicate and connect with each other, and this is how spaces become a meaningful ground (Cresswell, 2004). Although space has a physical volume and area, it carries a more abstract meaning than the concept of place. Place can also be considered as the spaces where many points between these physical and volumetric spaces are described and experienced.

"Space is the result of intellectual activities beyond being a shelter consisting of four walls and a roof. At this point, the motive of shelter, which is the basis of 'building and sheltering', and the actions aimed at building and sheltering that develop for this purpose are basically 'intellectual' activities" (Ülger, 2016: 119). Intellectual actions such as building and dwelling ground the individual's existence in the world. These actions find meaning and are connected to each other through the human being's relationship with 'place' and the things in 'place'. As in the story of the bridge, the moment when the bridge finds itself at any point is the moment when settlement is recorded in 'place' through building. There is no time sequence between these two concepts. Heidegger does not accept the idea that building takes place only once and then dwelling takes place after building. For example, after building, a house can change over time with additions and subtractions according to need and emotion. The location of the bookcase or the dining table can change with a movement. Physically and experientially, dwelling continues within building and building continues within dwelling. In short, there is no relationship between building and dwelling that we can characterise as completion. Depending on the feelings, thoughts or experiences of the individual over time, the act of dwelling continues continuously without interruption (Sharr, 2013: 43).

Conclusion and Discussion

When the Apollo spacecraft first set foot on the Moon in 1969, Heidegger's Building Dwelling Thinking and Building and Dwelling was two years away from publication. In Heidegger's work, it is mentioned that our model of understanding the world is realised through experience rather than numerical or mathematical abstraction (Sharr, 2013). The human utopia of establishing an extra-terrestrial dwelling in space and Heidegger's discourse of being in the world and settling down can be described as a dilemma. Heidegger's definitions of building and dwelling may lead to the idea that even if humans have the technology to build a building in space, they cannot acquire a place. When it comes to life in space, this situation may remind us of Antoine de Saint-Exupéry's story of the Little Prince who misses his planet. However, the building of settlement areas in an extra-terrestrial system does not mean that the discourse of experience-building and dwelling will not be completely valid for these areas. In other words, it does not mean that extra-terrestrial systems and planets will not be experienced through building and settlement. Although it does not fully fulfil the concept of settlement on Earth, a space to be built by humans in space will create very different semantic contexts for the experiencing human.

The concept of building in Heidegger's discourse has different equivalents when it comes to space and the conditions of space. According to Zubrin, Wagner and Clarke (2011), the first work in space architecture is the design of spacecraft and rockets, and the internal structure of these works is the space of space architecture. As stated in the section on the idea of space in space architecture, these structures isolate people, astronauts from the atmosphere of other planets, prevent damage and help them complete their missions and journeys. In this context, the building here is different from the forms that humanity is accustomed to in terms of its priorities. It is seen that the priority in the building of this space is not only shelter; the most important criterion is safety and equipment to ensure survival.

Space plays an important role for astronauts, technical personnel and passengers on their journey or mission to extra-terrestrial life. As well as protecting from different pressure dynamics and atmospheric conditions, it should allow missions and journeys to be completed both reliably and comfortably. However, the conditions of comfort and experience provided by the space in space architecture are limited by strict rules. In contrast to the perception of space on Earth, mathematical or volumetric experience comes to the fore. In other words, the location of the table and bookcase in the space on Earth can be changed according to the feelings and thoughts of the person; the wall of the house can be painted in a different colour, and the effect can be changed with different floor applications. Since the building process in space architecture is regulated by strict rules of mathematics and physics, the relationship between habitation and building is different from that on earth. Tables, chairs or any other equipment cannot be changed according to people's feelings and thoughts. Because there is a space organisation that is integrated with high-level technology units and details, and that can be limited or changed to a certain extent with automation systems (Zubrin, 1999; Zubrin, Wagner and Clarke, 2011). Smart and flexible furniture (folding tables, curtain panels moving on rails, etc.) for adequate working and living spaces developed for this space are designed to fulfil various

functions in the interior space and transform into private or common spaces (Wainwright, 2015). To some extent, the space is a mathematically produced rational structure that does not allow building activity and cannot be changed by the decision made by the person living in it. According to this approach, in which the extra-terrestrial life style is predetermined, space is a shell that is conceived as a volume and shapes human life within strict rules. However, when the cities planned to be built in space in the near future are constructed and human beings experience living in these spaces; the existence of the act of acquiring a place and settling down can be mentioned again. In such an environment, it is a matter of great curiosity whether people will look at the act of dwelling with Heidegger's approach or whether they will give a new definition to the concept of dwelling.

As a result, Heidegger's definition of building and dwelling focuses more on experience, it does not reject mathematical and physical (volumetric) perception, but the main thing is the emotions. The space is conceived in the primacy of emotions. When we prioritise mathematical or volumetric perception, it does not seem possible to reach the meaning and content of space. In this context, for Heidegger, space ceases to be a means like consumer goods, but becomes an end. In space architecture, on the other hand, space is a space consisting of high-tech units that serve more technical and functional purposes. It can be said that building in the space of space architecture is heavily dependent on mathematical abstraction and simulation according to the possibilities of technology, and that this space can be inhabited without the possibility of experiencing it before, and that the prerequisite of dwelling is to be able to build. However, in the future, with the possibilities of rapidly developing technology-science, the harmony in the process of building and dwelling in spaces can be experienced in a similar way as on earth. Heidegger's thoughts, published two years after Neil Armstrong set foot on the Moon, can be adapted to the conditions of the day depending on the possibilities offered by technology in the future.

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UZAY MİMARLIĞINDA MEKAN: HEİDEGGER'İN 'İNŞA VE İSKAN' DÜŞÜNCESİNE ELEŞTİREL BİR YAKLAŞIM

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ÖZ

Heidegger'ın İnşa ve İskan çalışmasında, iki kavram arasındaki ilişkiyi mekan-yerleşme-mesken tutma terimleriyle irdelediğini görmekteyiz. Düşünürün bu ilişkiyi kurmasının bir nedeni, insanın Dünya'da varoluşunun irdelenmesidir. Bu amaçla, insan ve insanla günlük yaşantıda ilişkiye giren her türlü nesne-obje-özne iletişimini farklı bakış açılarıyla fenomenolojik olarak yorumlamıştır. Ancak Heidegger, bu yorumlamaları yaptığında, uzaya yönelik bilimsel çalışmaların ivme kazandığı bir döneme denk gelmektedir. Söz konusu dönemde, dünya dışı yaşamın varlığı hakkındaki tartışmalarının ötesinde, düşünürler artık diğer gezegenlerde de insan yaşamın temelini atabilmenin bilimsel ve düşünsel altyapısına dahil olmaya başlamışlardır. Bunun sonucu, uzay mimarlığı olarak adlandırılacak bir alan bu altyapının en temel kilit taşını oluşturmuştur. Yapılan bu çalışma, bu dualiteyi temel alarak mekan kavramı üzerine geliştirilen söylemlerin uzay mimarlığı karşısındaki geçerliliğini tartışmaya açmak amacındadır. Bu amaç doğrultusunda, çalışmada uzay mimarlığında mekan kavramının teknik ve kavramsal farklılıkları, Heidegger'in iskan/yerleşme ve inşa tartışması üzerinden retorik bir yaklaşımla değerlendirilmektedir. Ancak, bu değerlendirmenin uzamı, günümüz teknolojinin imkanları dahilindedir. Gelecekte, teknolojinin bize verebileceği imkanların neler olduğu sorgulanmadan yapılan bu çalışama, günümüz uzay mimarlığının sahip olduğu sistemler ile kurgulanmıştır.

Anahtar Kelimeler: Uzay mimarlığı, mekan, heidegger, inşa ve iskan