Original Research Article

Investigating the concept of spatial value in traditional Iranian house based on lifestyle and space differences: A case study of Afsharian House in Shiraz City

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Abstract

Spatial value is an expression referring to the relationship between spatial patterns and their function and reflecting the social-cultural dimensions of the society in the body of architecture. With this description, it can be understood that spatial value is directly related to spatial features on the one hand and how residents use it on the other hand. This leads one to the activity systems and behavioral patterns of different residents. Therefore, examining the behavioral patterns of people who use the constructed spaces can pave the way for the creation of desirable spaces that have the highest efficiency for users of that space. Although research has introduced the concept of "value of space" as a theoretical concept in the field of architecture, little attention has been paid to the objective aspects and how it is expressed in an architectural model. Accordingly, this research aims to examine the concept of spatial value in traditional Iranian houses, which have diverse and different values due to the variety of activities in their many spaces. The research strategy is of a survey type. First, in the city of Shiraz, as a case study, the lifestyle factor was investigated using historical and library sources and documents, observation and semi-structured interviews with professors and experts. Then, the space difference was investigated using the space syntax method by the E-GRAPH software and the DEPTH-MAP software. Then, it was possible to analyze the concept of spatial value for all the spaces based on the fuzzy logic in the content-syntactic hybrid approach and using the MATLAB software to determine the spaces of equal value. The results show that the social-cultural logic governing the spaces and the resulting deep effects on the structure of the space and the relationships between the spaces in each spatial configuration lead to the formation of activity systems and behavioral patterns of residents; due to the variety of activities in many spaces of the house, they have different spatial values.

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Extended Abstract

1.   Introduction

Analyzing the configuration of a space can reveal the quality of social-cultural relations of the residents of that space. This occurs in such a way that, by analyzing different spatial forms as well as the way of communication between micro spaces, it is possible to reach hidden and unwritten concepts related to that space. One of these unwritten concepts is "spatial value" which means the degree of importance and merit of a space in response to users' expectations of the space; The greater the capabilities of a space in meeting the needs of its residents, the higher the value of that space and the possibility of performing a wider range of activities in it. Although studies have introduced the concept of "value of space" as a theoretical concept in the field of architecture, they have focused little on the objective aspect and how it is manifested in an architectural model. This issue is important especially regarding the architecture of the house, where a wide range of activities are formed in its different spaces. Therefore, this research seeks to provide insight into the concept of spatial value in house architecture (with traditional pattern) and how it can be represented in its different spaces.

2.   Research Methodology

Through the content analysis approach, as a logical argument, the lifestyle factor is examined using historical and library sources and documents, observations and semi-structured interviews with professors and experts to clarify the performance of spaces. The factor of space difference is in fact the mere architectural information that leads to the extraction of spatial patterns. By analyzing the structure of space and understanding the relationships between spaces in each spatial configuration, one can achieve social-cultural relations of its inhabitants. First, by drawing a justification graph in accordance with the plans of the house using the E-GRAPH software and then with the theory of space syntax, the spatial organization of the house is analyzed from the perspective of three systems of movement, zoning and function. Accordingly, using the DEPTH MAP software, the accessibility component is examined, the loco motor system in space is analyzed, and, by specifying the type of space in terms of mobility (i. communication, connection and inertia and activity), the concept of flexibility of spaces in the house is analyzed. Then, by examining the depth component, the spatial zoning system is analyzed and, by conceptualizing the spaces (private, semi-private, semi-public and public), the concept of permeability of spaces in the house is explored. In the following, by examining the interconnected component, the functional system of the space is analyzed. Also, the service-serving and service-receiving spaces are defined and the depth component is considered to analyze the concept of separation and integration of spaces in the house. Then, based on fuzzy logic, which is a kind of multi-valued logic and a bridge between quantitative (space difference) and qualitative (lifestyle) methods, and using the MATLAB software as well as a combined content-syntactic approach, the concept of spatial value is studied from part to whole for all the spaces.

3.   Results and discussion

The results show that the social-cultural logic governing the spaces and the resulting profound effects on the structure of the space and the relationships between the spaces in each spatial configuration have caused the emergence of the concept of spatial value in line with the formation of activity systems and behavioral patterns. Therefore, the value systems of Afsharian House are divided into service provider, input, communication, workshop, residence, activity, rest, and cleaning based on the calculated order weights. As spaces of equal value next to each other, they shape the spatial value of the house. In the following, a house with a courtyard in a four-sided pattern in the "space movement" system has more accessibility and more flexibility. In the "space zoning" system, which was introduced with "permeability", it has a lower average relative depth and higher permeability. In the "functional space" system, which was introduced with "flexibility", it has more coherence and less relative order, more integration and less separation. Therefore, the components of "accessibility" and "flexibility" in the movement system of space, the component of "penetrability" in the system of staging space, and the components of "interconnection" and "integration" in the functional system of space are the positive indicators with increasing effects on the amount of spatial value in the house architecture. Also, the "average relative depth" component in the space planning system and the "relative order" and "separation" components in the functional space system have reducing effects on the amount of spatial value in the architecture of the house as negative indicators.

4.   Conclusion

The results show that the social-cultural logic governing the spaces and the resulting deep effects on the structure of the space and the relationships between the spaces in each spatial configuration lead to the formation of activity systems and behavioral patterns of different residences. Due to the variety of activities in many spaces of the house, they have diverse and different spatial values. Since the functional actions in each space have a direct effect on the functional efficiency and, as a result, the allocation of weights in the surrounding spaces, and since one of the spaces that has a significant effect on the changes of this amount is the yard, which is a combination of horizontal layers. the verticality of the space with different dimensions and heights and various private and public activities related to the way of life on each side of the yard have caused to build a house with a courtyard in a four-side pattern. The courtyard, as a main service space among other spaces, puts the spatial plan in the form of a hierarchical system and enhances the spatial coherence and homogeneity as well as the spatial value of the different areas of the building. In such a case, due to the accesses created between the spaces in the rings, it is possible to aggregate or separate them based on the wishes and needs of the users when necessary, which improves the functional efficiency of the spaces. Of course, it depends on their spatial value. Also, the three open, closed and semi-open-semi-closed spaces define each other in a combination. In the meantime, semi-open-semi-closed spaces (porches) that stretch along the yard assume the role of a passage through the open and closed spaces.

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