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Architectural Space Affordance of Iranian Traditional Houses in Response to Levels of Physical and Spiritual Human Needs

(Case studies: Boroujerdiha house in Kashan and Zinatolmolk house in Shiraz)

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Abstract

According to researchers in the field of environmental design, contemporary architecture lacks the comprehensiveness required to create the appropriate affordances to respond to diverse needs of humans. This study selected Iranian traditional houses have relatively been successful in satisfying the needs of users and influencing their behavior. Accordingly, it followed recognition affordances of the architecture of these houses and their impact on the behavior of their users. Then by using analytical-deductive method, these affordances that correspond to the physical, biological and spiritual needs of human that are the most important factor influencing user behavior have been categorized.

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Keywords: Architectural space affordance; physical and spiritual needs; human behaviour; traditional houses

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1. Introduction

It should be noted that one of the most important factors affecting the human behaviors in an environment is their needs. In order to define precise relationship between human and the environment, it is necessary to answer these questions: What are human needs? What affordances does the environment have to make foundations for responding to human needs? Hence, the main issue of this study is to recognize the architectural space affordances of Iran's traditional houses in responding users' needs and conducting their behavior. Accordingly, taking into account various human needs, architectural space affordances of Iran's traditional houses in making foundation to respond to these needs have been studied and categorized in this study to be able to evaluate the impact of the architectural space affordances on users' behavior. It seems that this element has a significant role in the effectiveness of these houses and satisfaction of their users.

2. Literature review

2.1. *The relationship between human behavior and architecture*

Numerous studies have been conducted about the relationship human behavior and architecture Such as (Lang, 1974; Proshansky, 1976). It was almost fifty years ago that Goffman (1963) Broadly (1966) and Hall (1966) drew attention to the multi-faceted social dimensions of architecture. Canter (1974) wrote extensively to introduce psychology to architects. More importantly, Rapoport established the relations between house form and culture (1969) and has since been consistently showing how environment-behavior research is so relevant to architecture. Alexander (1977, 1979) has articulated ways of producing architecture in response to social needs through pattern language. More recently, Hillier et al. (1984), Shah et al. (2007) and Lockton (2012) among many others have pointed out ways and means of producing research, and work-out methods that may be adopted in engaging environment-behavior research into architecture (Ranjith Dayaratne, 2013).

Having reviewed the ideas, it can be said that four approaches are recognizable on the relationship between human and the environment: free-will approach, possibilistic approach, probabilistic approach and deterministic approach (Porteous, 1976, refer to (Lang, 1987)). The theoretical approach of the current study is close to the possibilistic approach that proposes that the environment is a set of behavioral opportunities, based on which the action might have taken place or not.

2.2. *The relationship between human needs and architecture affordances*

According to James Gibson (1979), the environment affordances are those that the environment proposes and suggests to the living creature. "affordances theory" unlike other theories of environmental perception in psychology like form perception theory in Gestalt psychology that refers originality to form perception, emphasize the perception of an object function instead of its form. It believes that human perceptual intellectual system that consists of visual, auditorial, touch, smell, taste and muscular senses is accounted for as the most primary inborn human talents to comprehend physical phenomena as well as psychical events. In fact, a living creature (human or animal) apprehends objects meanings through perception of their affordances by perceptual and intellectual system. For example, a glass wall offers or prepares the vision function through itself but it doesn't supply passage of the people. Likewise, a cloth curtain provides passage of a person through itself, but it doesn't provide vision possibility. Based on the researchers' opinion of this field, although there are several potential affordances in various levels of architectural space, using these affordances depends on the users' spiritual, psychical and skeletal characteristics. It should be pointed out that in the built environment especially in architecture; there are various levels of environmental affordances with regards to human needs that can be identified. Numerous studies have been conducted in this area. For example, Motalebi has stated that three different levels of affordances in a built environment and architecture are separable and recognizable by a person to understand (Motalebi, 2001, 100). 1- Affordances that are needed for people to interact physically with the environment. This physical or skeletal interaction provides people with the basic necessities such as walking, eating, sleeping, etc. 2- Affordances that are needed for people for social relations and interactions and intra-individual relationship. In this level, affordances of

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