ISSN: 2538-3019, EISSN: 2676-4806
DOI: 10.30479/at.2020.13095.1490
Journal of Architectural Thought, Volume 5, Issue 9, Spring and Summer 2021

# Space Configuration Cognation in Contemporary and Traditional Housing using Space Syntax Technique (Case Study: Borujerd Sufian Neighborhood)

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Submitted: 2020-04-15

Accepted: 2020-07-04

## Abstract

Increasing trends in the design of architectural environments in the past, among art and architecture theorists, can be seen as the result of a change in the construction process from the past to the present. One of the methods that help to read and understand architecture from the past to the present is spatial configuration. Spatial configuration emphasizes the formation of coherent spatial relationships in a set to meet the needs of users and their comfort and convenience. Therefore, using the concept of spatial configuration, we can see the changes that have taken place over time in housing, as well as the evolution of housing from traditional to contemporary in a region and region. To understand and explain spatial configuration, one must look for a suitable method that meets environmental characteristics. To quantify and make a more tangible understanding of spatial configuration, the method of spatial arrangement is used. It is in this neighborhood over time the historical context of Boroujerd consists of four neighborhoods, including Dodangeh, Sufian, Qadqun, and Yakhchal. Due to its antiquity, Sufian neighborhood is the oldest neighborhood in the city and has the most historically qualified houses. For this purpose, ten houses in this historical context, which includes five Qajar periods and the other five are contemporary, were selected so that changes in the level of their spatial configuration can be recognized over time. The method of conducting this research is a combination and it includes descriptive-analytical methods and logical reasoning. In simple language, this research is divided into two main parts in terms of research method. The first part of the research, which has a qualitative approach, consists of two steps. The first step involves library and documentary studies. In this step, by referring to first-hand sources and documents, the concepts of housing, spatial configuration, and spatial arrangement method, as well as the research platform, which is the city of Boroujerd and the Sufi neighborhood, are identified. The second step also includes observation and the harvest is a field. In this step, according to the research topic, ten traditional and contemporary houses of the Boroujerd Sufi neighborhood have been randomly selected, of which five are related to the Qajar period and five are the number of the period. Contemporary and recent years have been selected. The second part includes a quantitative approach. In this section, the maps of selected houses on different scales are analyzed by space configuration. This method is obtained after modeling the maps in Auto Cad software, and the maps are entered into the UCL Depth Map 10 software. This software calculates the space configuration variables for each part of the house. Slowly and ultimately, using logical reasoning, the results are expressed. The research findings show that in public housing, public and private spaces have interfered with each other and are no longer separable and valuable. The former multifunctional rooms have been converted into single-function rooms that are influenced by individualism and the type of objects and furniture. The entrances do not create

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privacy as before, and the limited view from the alley into the interior has become a kind of communication space without details. This means that there are many changes in the contemporary housing of the Sufian neighborhood over time.

**Keywords:** Traditional Housing, Contemporary Housing, Spatial configuration, Space Syntax, Borujerd Sufian Neighborhood

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