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# Study the functional aspects of architecture through the analytical survey of native architecture - case study: functional study of sedentary of Qashqai tribes housing

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## Abstract

This paper is an educational model of behavioral and functional aspects of architecture that based on the analytical study of native architecture. The main approach of this paper is the impact of human lifestyle on his functions and architecture. The case study of research is sedentary Qashqai tribe housing in southern Iran. The reason of choosing this case is the course of the life history of Qashqai migrant tribe. In this case, there is a potential study of architectural change progress from immigration to sedentary lifestyle that shows the human constant function in the variable physical framework. This study has been done by the aim of teaching behavioral and functional aspects of architecture for architecture audience that could be found in native architecture. In addition, practical aspects of this research have been considered in architectural design and architects in future career. The research method is qualitative research method that includes observing the exact behavior in natural and built environments by field studies. In field studies, two nomadic villages and examples of rural houses have been studied. Research instruments include in-depth interviews, taking pictures, architectural plans and models of human activities. The survey data is analyzed and presented in functional diagrams of the human domain, multi-functional space diagrams and diagrams of human settlement patterns. The main finding of this research is an approach to the field of education of architecture functional and behavioral aspects. In this field, architecture audiences are taught with the main architecture aspects such as human behavior and activities. The study recommended the architecture need to a deep and lasting education through the analysis of concrete experiences of man-made environment. Native man-made environments have a good quality for teaching fundamental aspects of the architecture. Also, the results of this research have a basic ability of architecture and urban design for the sedentary nomads.

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*Keywords:* Native Architecture, Education, Function

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## 1. Introduction and introducing case study samples

In the present paper, a case study has been carried out on several samples of rural architecture in the western part of the Fars province, in southern Iran. Different samples including two villages and several houses have been

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analyzed in this study. These samples have a number of particularly unique characteristics. The main characteristic of these samples is that their inhabitants are Qashqaiis with a nomadic background. Therefore, characteristics of a ranch life are visible in their houses. The hypothesis of this study is that building proper houses for the Qashqaii nomads should be carried out based on a thorough and adequate understanding of their life and culture, and using a local architecture.

The major spatial units found in the samples used in this study include the main living-room, the qapu, the kitchen, the granary, the sheep's covered corral, the lamb corral, the outdoor corral, the hayloft and the toilet. The qapu (outdoor intermediate space just in front of the main living-room that works about cartilage) serves numerous functions, and all the daily activities are performed there. Generally speaking, nomads use ceilinged spaces only when they are compelled to do so, otherwise, all daily activities such as sitting together, entertaining guests, preparing and eating food, washing, sewing, dyeing and weaving carpets are carried in outdoor spaces. Sample #1 is a house located in the village of Qezmazari, having the spaces mentioned above. Tropical regions are particularly conducive to the fast growth of Eucalyptus trees, one of which is planted in the qapu of this house. The walls of house are made of plaster and stone, while the ceiling is made of straw and wood as the region's local covering.

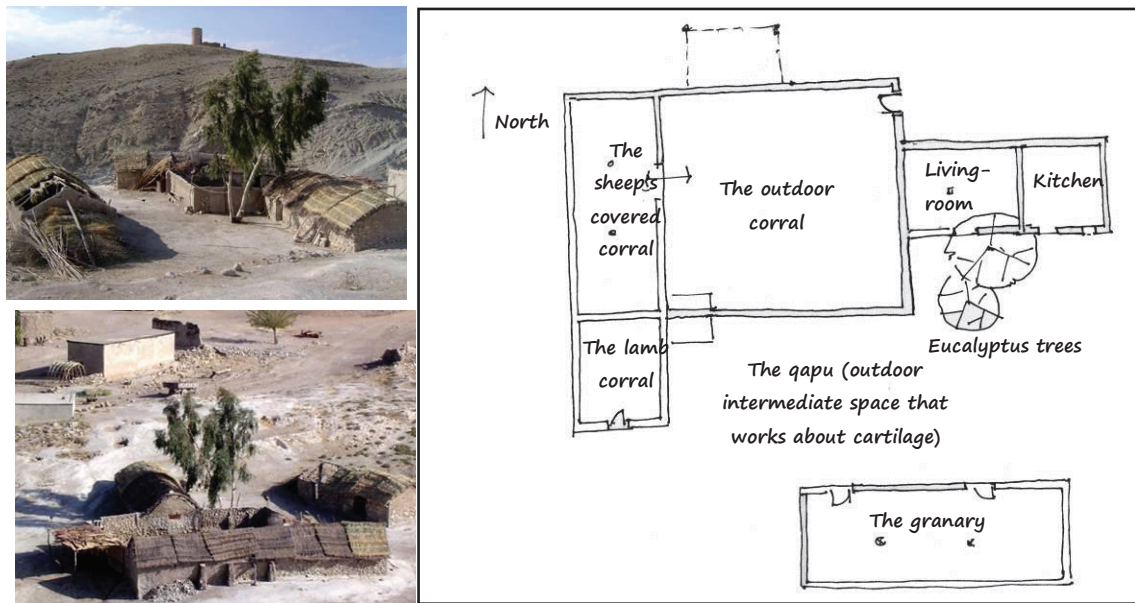


Figure1. (a, b and c) The plan of sample #1 and its east and south view

Sample house #2 is located in the village of Garmish. The qapu of this house has been built in a direction completely different from that of the animal domain. Here again, the ceiling is made of straw and wood, while the walls are made of plaster and stone. In this settlement, the cistern is located in such a sloping position as to provide the water needed for the toilet and the kitchen.

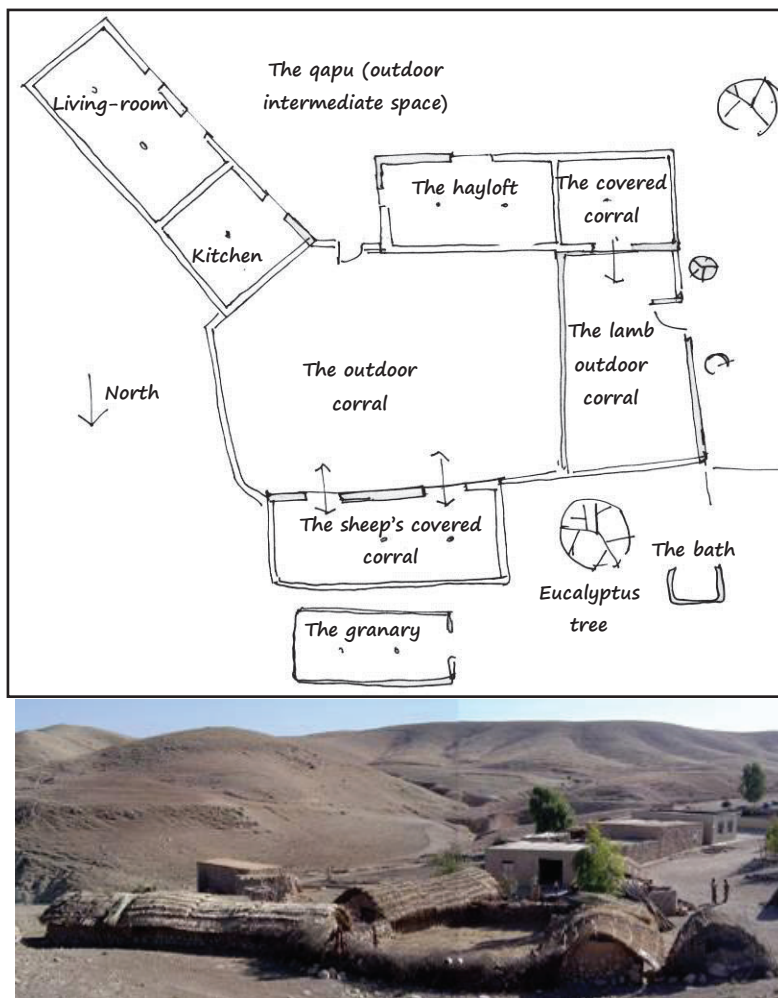


Figure2. (a and b)The plan of sample #2 and its east view

**2. Functional analysis of the studied samples**

In order to analyze, plan of functional spaces of studied samples were drawn to the functional diagrams that shows considerable points. The functional distinction between the animal and human domains is one of the most important functional characteristics of the studied samples. As can be seen in the following diagrams, these two domains are separated using an intermediate space.

Furthermore, the main living-room is placed in the center of the human domain, with the son’s living-room on the right side, kitchen on the left side and the qapu situated in front of it respectively. This arrangement is influenced by an attitude prevailing in nomadic life, and can be found in all the samples as a given feature. The main living-room is a major space with several distinct functions. These functions include sitting together, resting, entertaining guests, eating food, sleeping, doing other daily chores and occasionally weaving carpets. The significance of this space lies in the fact that it has been adopted from the pattern of the tent’s inner space among the Qashqaiis, and is considered as a major space in architectural planning.



Figure3. (a) A rural-nomadic house view and its closeness (b) Lunch in qapu

Based on the studied samples, intermediate outdoor space has been defined through a combination of the elements surrounding a building, trees and other natural elements in such a way as to create an intermediate space with the necessary degree of closedness. The indoor space is defined based on night-time security, winter rainfalls and summer heat, otherwise all the daily activities are carried out in the outdoor space if possible. Therefore, the direction of indoor spaces has not been paid much attention. The animals are kept in the corral during the night.

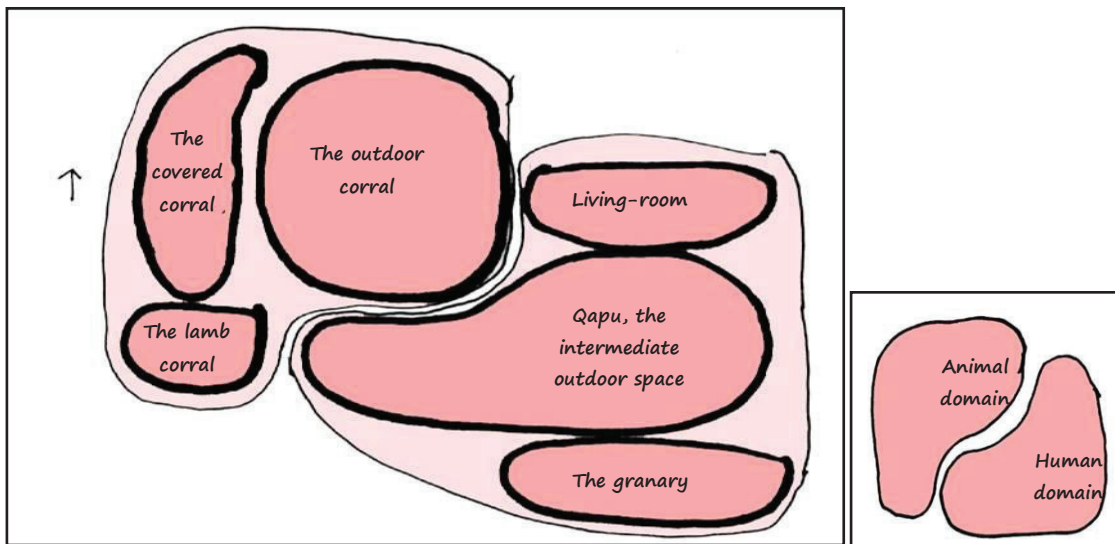


Figure4. (a) Functional diagram of sample #1

(b) Functional separation

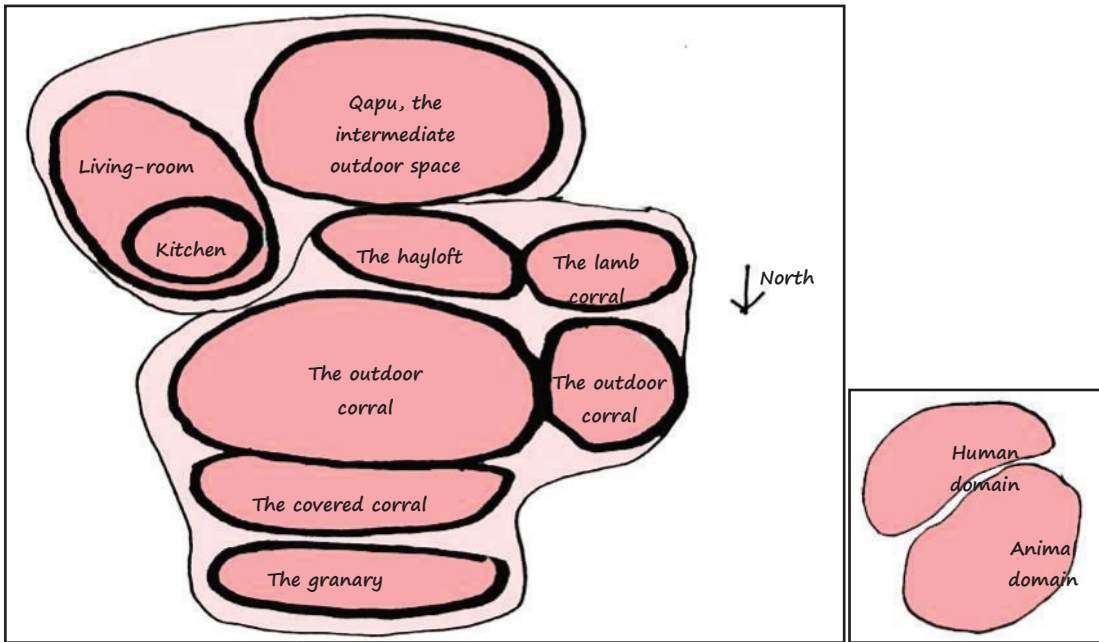


Figure5. (a) Functional diagram of sample #2

(b) Functional separations

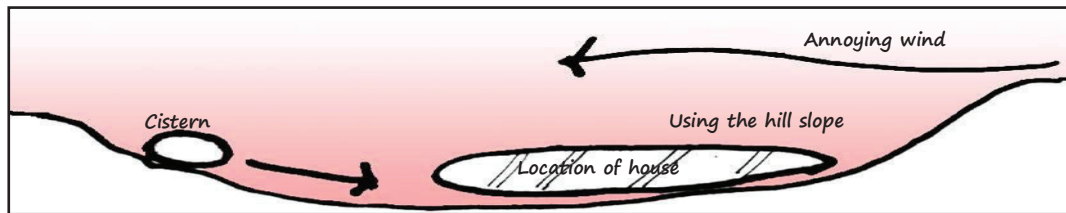


Figure6. The diagram of house position in topography

### 3. The optimal pattern of multifunctional relationship

Based on the studied samples, the functional spaces of a house include the living-rooms of the father and the son (in cases where the son’s family is living with the father), the kitchen, the qapu, the granary, the indoor and outdoor corral and the hayloft. The existing relationships among these functions can be optimally shown in the following diagram. The diagram can be divided into human and animal domain. For those houses without animals, we can cross out the animal domain and study the functions related to the human domain. Here, it should be pointed out that some orders can be formulated for architectural design capabilities that its functional aspects are visible in the following diagram.

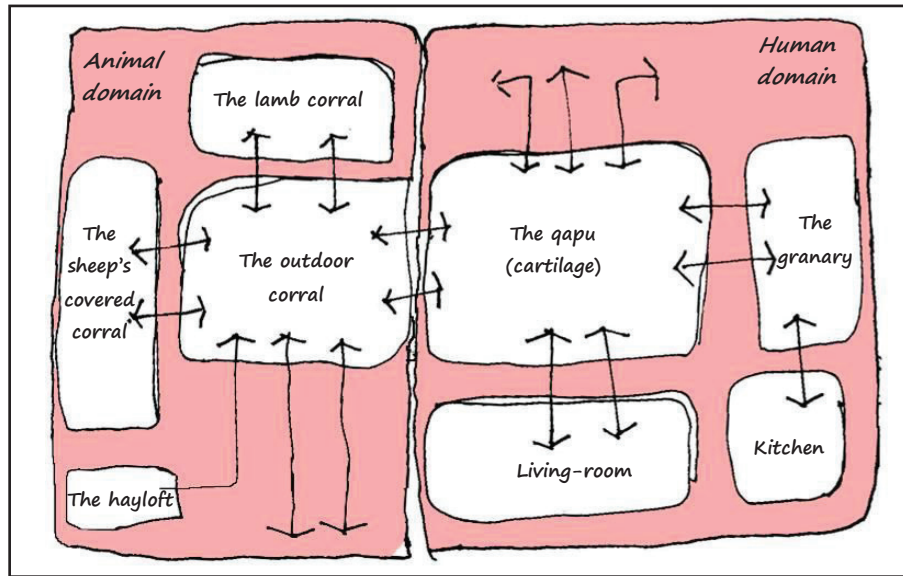


Figure7. The optimal pattern of functional relationship in a rural-nomadic house for practical architecture design

#### 4. Conclusion

As can be seen throughout the paper, the nomadic architecture of those Qashqaiis who have chosen to live in permanent settlements reflects the influence of the functions related to their previous lifestyle based on immigration. Also, the general combination of different parts of rural-nomadic settlement complexes has been influenced by the ranch lifestyle.

In this paper, by functional study of Qashqai sedentary houses, we tried to prepare the optimal patterns of functional relationship of their houses. This has great educational potentials for educating students of architecture, urban planning and rural studies. Through investigating the way this study has been conducted, students in these fields can understand how the culture and lifestyle of a group of people influence their built environment. The results of this study can further be used to develop a pattern for designing rural-nomadic settlements supported by the government. The present study can be extended in the form of an applied research project on designing nomadic rural settlements.