

# Investigation of Spatial Changes in the Context of Cultural Sustainability

Aslı Taş, Şebnem Ertaş

**Abstract**—Culture consists of material and spiritual values adopted by the emerging societies during the historical and social processes and continues to exist from past to present by being transferred through generations. Culture and cultural sustainability are interdependent concepts. Cultural sustainability exists when the requirements established cultural expression are added to the social life as lifestyle and habits. However, sustainability renders change inevitable. Changes that take place in the culture of a society also shows the impact in the daily life places. Functional changes occur in the spaces in order to adapt particularly to cultural change that appear in the aftermath of the user change, to modern technology and living standards. In this context, in this study, it was aimed to investigate the effect of the time-dependent functional changes that took place in the housing where non-Muslim population who was subject to population exchange and Muslim population lived after the population exchange in the vacated housing in Sille. Therefore, the changed and newly added venues in the house belonging to Ali Oğuz in Hacı Ali Ağa Street were investigated over the generated graphic in order to clearly perceive the cultural exchange on the housing and settlement and the functional changes were demonstrated.

**Keywords**—Culture, house, spatial changes, sustainability.

## I. INTRODUCTION

CULTURE is the most important item that forms the life, way of life, beliefs, traditions, briefly, and the whole of material and nonmaterial values. Culture is the things that human beings learn as long as they exist, and the fullest extent that they maintain and apply, and it is an inevitable case that culture shows an alteration within the scope of this continuity during this process. The concept of time is the most important factor among this alteration process [1]. Although culture is strong enough not to change easily under natural conditions, cultures change in the course of time in order for complying with natural environment. Architecture, that is one of the most important items that reflect culture, is also affected by this change. In architecture, characteristic features of current cultural identity are generally observed in buildings where daily lives have been pursued. For this reason, along with social, communal, economic, etc. changes that take place in progress of time, form and function of the buildings also change [2]. Therefore, it is seen that terms of culture and housing are closely interacting, sometimes drawing the lines of each other, giving tips and evaluating facts in associated with the quality and quantity. [3].

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In history, while cultures change, housings perform continuity while it performs changes in their forms and functions with social, communal, economic and technological changes. Within the scope of this continuity, it develops its conceptual infrastructure by assimilating it; it is abstracted from lacks of necessity, and adapts itself to innovation in compliance with the changing community structure, way of life, meanings and needs. It is available within its nature and is a must for its existence [4]. As well as there are natural changes in a culture that are in relation to time, there are also compulsory socio-cultural changes such as wars, earthquakes and exchanges. Those occurred changes also affect the formation of the housing [5].

Sille that is 8 km away from the center of Konya on North West of the city is a residential area where Muslim and Non-Muslim folks live together, that is a different place in terms of its traditions and habits, way of life and geographical structure. In this concept, within the scope of a study, a housing that belongs to Ali Oğuz, is located in Sille where socio-cultural and religious changes occurred many times, has been discussed. The relation between spatial continuity and cultural changes are examined and the effect of these changes on domestic areas are observed. Functional changes that were occurred as a result of cultural changes are analyzed on graphics and relative findings have been demonstrated.

## II. CULTURAL SUSTAINABILITY / CHANGE

Culture that is a tradition indicates continuity transferred from the old generation to the new generation. Continuity is not a factor that characterizes itself. However, maintainability of an existence, a meaning or a system is something that can be talked about. Because “Continuity is the quality of the continuous” and it means that there ongoing conditions that qualify the system within the scope of system integrity [6]. Within the scope of this sustainable condition, questioning of cultural maintainability is quite possible. Culture and cultural maintainability are concepts that are in relation with each other. Cultural maintainability exists when it is added to communal lives as necessities of cultural expression, way of life and habits [7]. However, continuity makes change inevitable. In relation to this topic, Güvenç states that the only unchanging rules of life and cultures by the beginning of creation are changes and maintainability [8]. At the same time, he defends that individuals and communities, tribes and states are temporary while cultures and civilizations keep their sustainability, and states that they manage it due to changes, and expresses that the term of maintainability is procured only with the way or process of the term of change.

Cultural change basically refers to the changes that occur due to various reasons of culture. Culture adapts itself to the surrounding environment and changes and this process of changing responds to the needs of individuals. Thus, the fullest context of regulations and rules that were procured in order for solving the problems of individuals makes new regulations while conditions and individuals change, in order to solve their problems again in order to maintain its continuity. Since the period of existence of humanity, those cultural changes have been experienced within the borders of each era. While societies used to change each other with wars and trade, they change each other by global economy and communication in our days.

Turhan divides cultural changes in terms of change types as natural cultural change and compulsory cultural change [9]. According to him, natural culture alteration is the changes that partially occur within the scope of the structure of this society without any internal or external pressure, when this society constructs a relationship with another communal group or community that owns a foreign culture. Compulsory culture alteration, moreover, is the changes that occur in the cultural structure of one of two different societies that own different cultures performs pressure to the other in order for making it accept its own culture or a part of it. On the other hand changes that occur as a result of one society's administrator forces this society for accepting the other society's culture or a part of it [10].

Belief, tradition, behavior, way of life, standards of judgment, the actions and ideas that form social life, that can be listed as the factors that form the concept of culture are the determinants of the environment of human beings from ancient human beings to modern human beings [11]. When all of these factors that determine culture are taken into consideration; it is seen that culture is a concept that performs changes and maintainability in due course.

### III. CULTURAL SUSTAINABILITY'S IMPACT ON SPATIAL VARIATION OF THE HOUSING

Housing is the most specific type of building directly affected by the changing values and intercultural comparisons can be made. They address many purposes. Because housing is a cultural phenomenon and is largely influenced by the cultural values of the society. In the first period, housing ceased to be just a place to shelter for people, it has also become a place where a lot of physical activity takes place [12].

Turgut explains the interaction with cultural change in housing. "Housing space in the process of culture-space interaction carries the temporal qualities reflecting the dynamic and changing relationship between humans and the environment. Cultural components having dynamic structure are subject to change with acculturation effects over time and change accordingly in behavioral and spatial properties." [13], [14]. Therefore, first, it is understood the personality and character of a culture; it is acquired its values and it reveals a form of housing that responds to both cultural and physical needs. Another issue to be considered in housing design is to

take into consideration the prominent features of the culture of the region. Because of these properties has an impact on the housing organization. Sometimes, though very distinctive features, culture prohibits certain factors overt or covert manner [12].

Housing formation and use is characterized by spatial processes of change because of inability to fulfill the required performance characteristics depending on cultural factors change over time. As Rapoport points out, the people and their surrounding social, cultural, economic and physical factors' change has led to the formal change in housing. These changes reveal the spatial processes of change in the housing [12], [15]. Community-mentioned social, technological and economic characteristics are subject to change over time, are differentiated and change or addition of function can be defined as suitability terms of use and operation are unavoidable [16]. The main function varies due to the interaction with the environment of housing and the change occurs due to the added or removal of certain functions in the space. The formation of functional changes may be due to many reasons. Among these reasons, first, the user and his needs are considered and in addition, the planning scheme, the quality of the circulation elements, color, size and shape features of the materials especially used in wet areas, are effective [16].

There are several objectives of the functional changes that occur to ensure the sustainability of spaces. One of these objectives is to change the purpose of making the building; the another is to change the reasons for use of the rooms of the building.

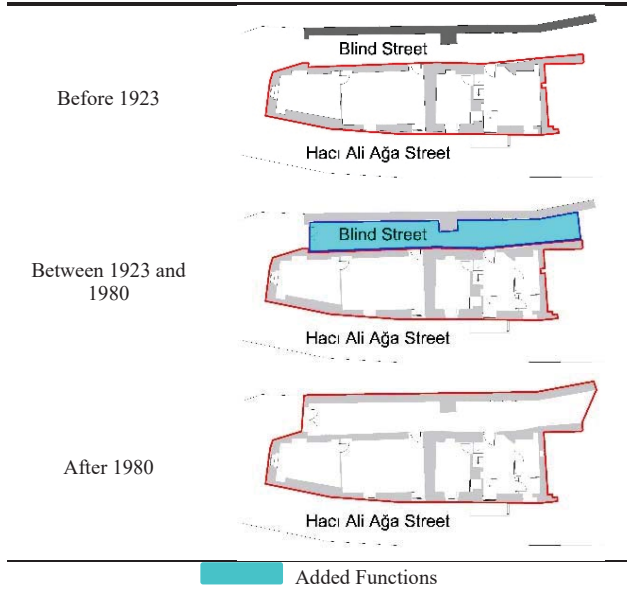
- The change completely of main functions: It used in the sense of totally change the intended use of the building. It is inevitable that the function change occurs depending on the intended purpose without altering the form of the space in the time because of the differentiation of the users or economic reasons. When the new request and the requirements resulting from social, economic and technological changes comes to be compensated, it is installed new functions on the building [17].
- The constant of main function and the modification of some space functions; It is used in the sense of giving a new function to replace the old function as a result of family structure or cultural exchange changing the past into the future providing the intended use of the structure being constant. Thus, the use of space in the structure shows change. It is given a new function instead of not used function nowadays [17]. For example, in the past when the cattle breeding was intense, a space was used as barns; it lost its function and was used as woodshed or warehouse.

### IV. RESEARCH METHOD

In the survey carried out to determine the effects of spatial continuity of cultural exchange. it is discussed housing we spend the most time in our daily lives, in architectural structures that reflect the life style of a society and are the most important elements. In this context, as a result of

research, Ali Oğuz's house suffered socio-cultural and religious changes many times has been identified as samples. Because that it is perceived clearly the impact of cultural exchange on the housing and settlement. Analysis tables for the study of functional changes occurring in housing types were created.

TABLE I  
 CHANGE ANALYSIS OF THE MAIN FUNCTION



#### A. Creating Analysis Table

While creating the analysis tables examined the culture change time-dependent, it has been identified three periods as before 1923, between 1923-1980 and after 1980 appeared to be important in terms of culture change in Sille. As a result of population exchange that took place in 1923 in Sille, Muslim people were placed in houses Greek people have left by keeping the forced migration of Non-Muslim people. Until 1980, local people living in agricultural settlements have not developed enough in itself in agriculture, trade and craft; and have begun to socio-economic decline. As a result, local people began to migrate to the big cities. Functional change is discussed in terms of the reasons of the spaces' use by the inclusion of housing and changing the function of street adjacent to the housing in the specified time interval.

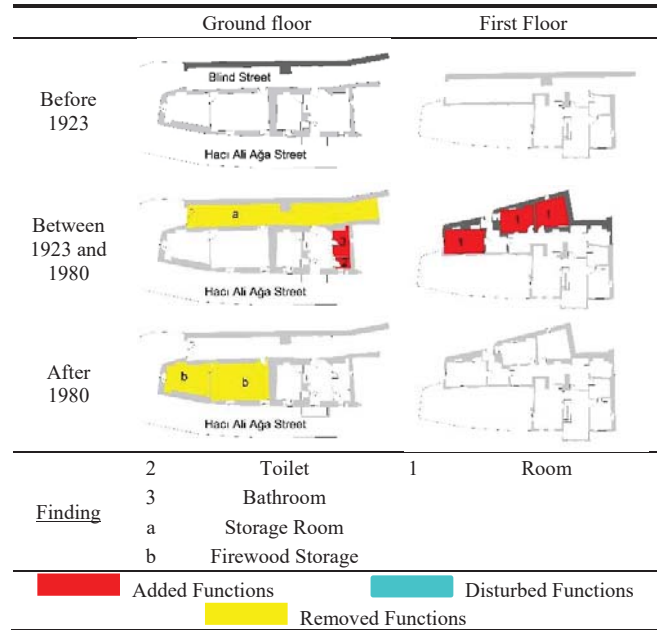
The three main changes are considered to express functional change as a result of cultural changes in the analysis tables. These are added, removed or disturbed in the building. As a consequence, streets and places changed function have been illustrated with certain colors used in the created chart; and it is intended to facilitate the understanding of changes in the table as giving numbers and letters on the plan. The resulting change is illustrated by coloring method.

#### V.FINDINGS

The building, which belongs to Ali Oğuz, consists of first floor over basement. When the scheme of the plan is examined it is observed that the building had an inner anteroom but the

scheme of the plan had changed by making some gradual additions. In the north region of the first floor there is a thin long corridor lying on the east-west direction and there are various rooms at the west of it. The most remarkable part of the building, on which different plans were applied, is that the blind street, which was at the back before 1923, was covered on top in between 1923-1980 and hence the first floor of the house was enlarged towards the north. So that the main function of the street was modified to be a part of the house as a result of being included in the building (Table I).

TABLE II  
 CHANGE ANALYSIS OF THE FUNCTION IN INTERIOR SPACE



Between 1923-1980, new room functions were added on top of the blind street at the first floor of the building. These modifications in the house were made because of the increase in the number of people in the family. Especially the marriage of the family member and their settlement in the house with the spouse created the requirement of a new room, and hence the plans of the houses were modified. Moreover, it is observed that the toilet and bathroom functions in the basement were included in the house by being adapted to the conditions of the era. The places on the basement, which were used peculiarly as barns, were modified after 1980 and started being used as firewood storage rooms (Table II).

#### VI.CONCLUSION

Culture is the whole of material and moral values that belong to a society. Culture, which is directly in connection with people, is a concept that shapes the lives of people and holds them together. There are many factors that constitute culture such as language, religion, tradition, custom, behavior and life style. These factors have persistence in time from generation to generation and while preserving their persistence, they change adapting to the life styles and behaviors of people.

As the concept of culture, which is formed by people's life styles, structure of families and religious beliefs, is influential on setting the life standards, it also plays an important role on shaping the architecture. The houses, where daily life occurs intensively, reflect the traits of the cultural identity that exists in architecture clearly. Thus, houses are the places where cultural change is seen most effectively. As cultures change because of the changes in natural conditions throughout the history, the shapes and functions of houses also change persistently in accordance with social, communal, economic and technological developments.

TABLE III  
GENERAL ASSESSMENT OF SPATIAL PROCESSES OF CHANGE

	Added	Removed	Disturbed
Entrance			
Room	X		
Kitchen			
Bathroom	X		
Toilet	X		
Balcony			
Firewood Storage	X		
Barn		X	
Storage Room	X		
Blind Street		X	
Shop Store			

Housing zones, where we spend most of our day, are designed according to the cultural information that is inherited from the past and requirements of today. That's why it is possible to observe different approaches, construction styles and area designs in each era. Thus while cultural change is ongoing with pace in time, the impact that it makes on houses gives us the ability to have knowledge about the cultures that had lived in that region. So culture is the whole reality, which contains people in every stage that it has and changes persistently. In this context, for the purpose of investigating the effect of cultural change on residential buildings occurring in different time periods, the topic of how changing cultures and changing functionalities effect these buildings have been examined over the building, which belongs to Ali Oğuz, in Sille.

Finally,

- When the specific plan schemes of the examined house and area designs of today are compared, it is detected that functional modifications were made by making additions and alterations at the places.
- Social changes that take place in time such as cultural change, change in family structure, the increase in the number of family members with time have affected the utilization conditions of the houses chosen. Functional modifications have affected the building form. It is observed that additions were made as well as some reductions. Including the blind street in the house and transforming the barn to firewood storage room are examples to this.
- Bathroom, toilet, room, firewood storage room and storage room are added to the house. It can be considered

that changing living conditions and the increase in the number of family members have caused these additions (Table III).

- It is observed that there have not been functional changes in the house because of alterations.
- In the buildings there are areas that reflect the traits of Muslim and non-Muslim societies. These places have changed as people have changed. After the leaving of non-Muslim people from Sille, the utilization functions of some places have changed.

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