



Analysis of Dwelling Patterns Using Cultural Codes; The Case of Konya

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ABSTRACT

Spaces, present some clues about lifestyles within the framework of culture and space relationship, might be used for transferring cultural values to next generations. Dwellings in which most part of daily life is spent as a unit of a settlement provide us significant data concerning social changes and cultural history. In this study, Konya province, as an important centre in Anatolia due to its geographical location and historical presence, has been chosen as research area. The aim of the study is to detect the cultural codes, formed the lifestyle of the period between 19th and 21th centuries, and through an analysis of the cultural changes occurred in the dwellings. Four Konya dwellings reflecting the features of the period have been selected. The analysis was performed over these samples using cultural codes. As a first step, cultural behaviour patterns that reflect the lifestyles of the period were studied and cultural codes containing iconic graphic expressions were determined and a culture guide was prepared using these codes. Secondly, spatial analyses based on cultural codes were conducted on the selected dwellings and cultural function diagrams were prepared. Dwelling structures changings related with lifestyle/cultural structure were presented. As results of the analyses, the cultural codes of the sample dwellings were evaluated and it is observed that the courtyard and life activities in courtyard were lost in traditional Konya dwellings through historical process. Life in courtyard was converted to a limited garden life and then completely lost with closed spaces. This changing mark is one of the major differences between traditional and contemporary Konya dwellings. Besides, it is observed that some cultural values have been preserved intact until present, while some values have been survived with changes and others were completely lost.

Keywords: Dwelling, Space, Konya, Cultural codes, Cultural function diagram.

1. INTRODUCTION

Housing practice that emerged simultaneously with the process of settled life is main element of in spatial organization of human settlements. With this aspect, it would be possible to assert that housing practices from early examples to developed period, construction of dwellings has close relations with geographical-climatic conditions and lifestyles of communities. Moreover, these dwellings carry some codes related to the cultural heritage of mankind that accumulated through centuries. In order to clearly determine cultural changes, it is very important to graphically express

these codes related to daily life and cultural heritage through symbols and diagrams containing formulation of cultural functions. Thus changes about lifestyles of societies have been examined and existing problems and positive developments related to these changes have been analyzed.

As a new analysis method, cultural codes have been used in this study. *Cultural code* might be defined as graphically symbolizing of behavioural patterns related to lifestyles that have formed culture of societies' in historical process. For instance, abstract graphical expressions/symbols that represent function of sitting in

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dwelling unit are a cultural code of that unit. (Fig 1). All the daily life activities in dwelling were listed and converted into abstract graphical expressions and cultural codes were formulated. Thus symbolic codes were assigned for all functions/daily life activities of individuals and these codes were defined as cultural codes. *Cultural function diagram* is an analysis of spatial and functional organization of a house via cultural codes. In other words, the cultural function diagrams for all units of whole houses' main and related activities have been shown in graphics. Cultural functions diagrams and cultural codes, displaying lifestyles of society and development of functions between dwelling units, were supported by a holistic reading related to periodically changes housing

problem in Turkey. Indeed, cultural function diagrams are also graphical expressions of reflections and summaries of individual's lifestyles and societies' common culture. (Fig 2).

Although numerous studies related to the relationship between housing units/dwelling and culture were made, this study could be called as a pioneering study related to symbolic expression of lifestyles and transferring lifestyles into cultural codes and to use these codes for obtaining cultural function diagrams. This study is an authentic and reliable research with different view of graphical presentation and symbolization of cultural structures related to dwellings.



Fig 1. The cultural code of sitting

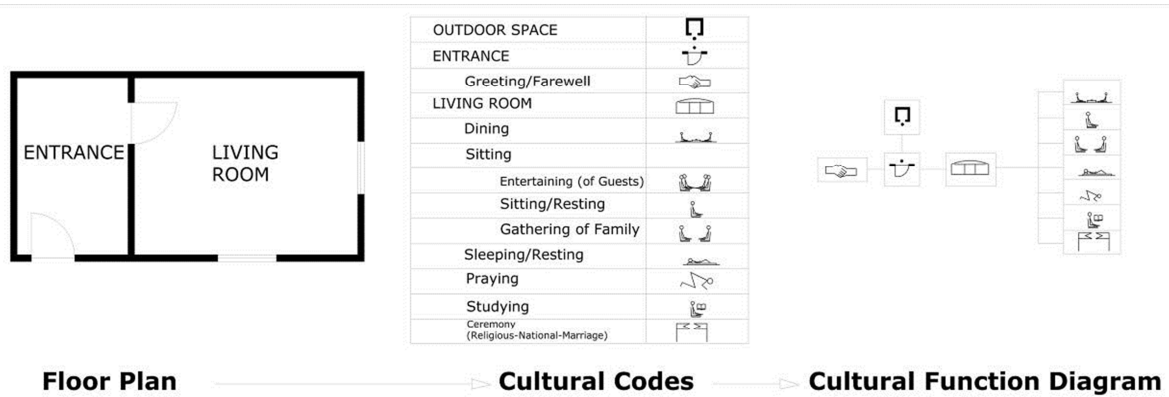


Fig 2. Cultural Function Diagram.

2. AIM AND SCOPE

The aim of this study is to concretely embody cultural changes through analyses carried out over dwelling spaces. Moreover, the relationship between culture and spatial formation in dwellings has been determined within the framework of space and culture. In other words, the aim of this study is to determine changings in dwelling units that shape lifestyles and their reflections on society culture between nineteenth and twenty-first centuries. These analyses were carried out using cultural codes and cultural function diagrams which employ graphical presentations and abstraction techniques. The terminology related to cultural codes and cultural function diagram are joined by the researchers. Konya province, one of the oldest settlements in Anatolia, was chosen as the research area due to its dwellings' typical characters. Be aware of dwellings reflect some features of their representative periods, sampling were selected from a number of

dwellings for case studies from Konya province. The cultural changes were analyzed using with data mentioned above. The samples have been selected among mainly urban dwellings inhabited by a vast majority of the population. In parallel to this understanding, different dwellings such as mansions, summerhouses, villas, luxurious apartments and residences have not been included in this study.

3. METHOD

In order to illustrate cultural changes comparative analyses were conducted on dwellings related to different periods using with abstraction and graphic methods. As a first step, functional activities of the sample dwelling types were listed, and then cultural codes related these functions were formulated. Thus all functional activities were represented by a cultural

code. Functional diagrams were built using these codes and analyses were conducted. Hence, cultural change and lifestyles in different periods in Konya were

presented thanks to a general panorama of differences between different periods. The method used in the study is summarized in Fig 3.

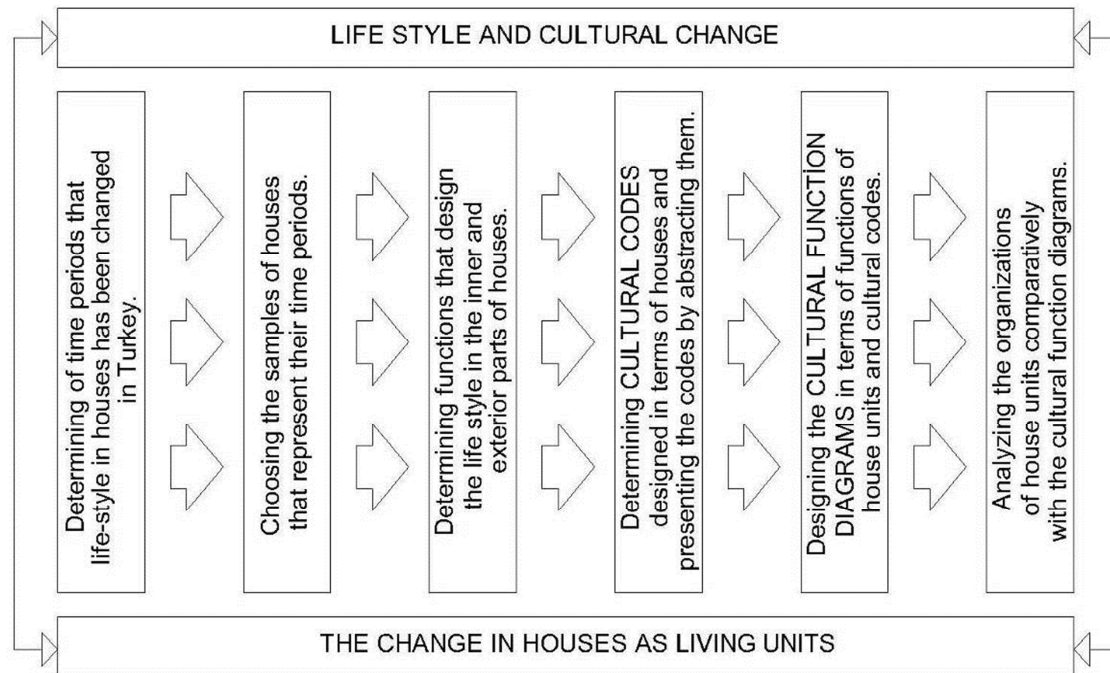


Fig. 3. Analysis process of dwelling using cultural codes.

4. PROCESS OF CHANGE IN TRADITIONAL TURKISH DWELLINGS¹

Turkish dwellings demonstrate a pattern of change based on different historical periods. These periods are determined according to important historical events. It is observed that changes in dwellings base on using patterns, new indoor equipment and technological innovations. In this study, limits of processes related to the dwelling structures were drawn from some effective factor related to evolution of Turkish housing. Clear-cut changes in dwelling units were not observed during

mentioned period. Changes generally take place over next period of time. The periods related to different dwelling structures used in our study are;

- I. The period of prevailing traditional dwelling forms,
- II. The period of transition from traditional dwelling to modern one [the periods of national architecture and laborer campuses],
- III. The period of urbanization, multi-storey buildings, property ownership, build-and-sell, and cooperative buildings,

¹There are many studies concerning dwelling types and changes starting from the traditional period. In this context, the process initiated by the studies of Eldem in typologising traditional dwelling structures were further developed by many others studying traditional dwellings under the title of dwellings. Berk's (1951) study concerning the determination of traditional housing types in Konya is one of the mentioned studies. This study is important for our research. The research presented in *Arkitekt* Journal pertaining to post-traditional modern dwelling units, especially those studying labourer campuses and many books on National Architecture periods are also important in terms of dwelling architecture. There are numerous studies concerning the apartment/multi-storey buildings produced after 1950s and the resultant change in Architectural Journals. The research conducted during the period cover shanty housing, social housing, building construction types, methods and legal infrastructure. In a similar vein, Alsaç's *Mimarlık Düşüncesi'nin Cumhuriyet Dönemindeki Evrimi* (1976) greatly contributes to the depiction of the change. The book regarding changing dwelling structures entitled *Tarihten Günümüze Anadolu'da Konut ve Yerleşme* (1996) edited by Sey which was published in the context of Habitat II provides valuable data on traditional and post-traditional dwellings. Another book edited by Sey entitled *75 Yılda Değişen Kent ve Mimarlık* (1998); concerns the debate on housing problems presenting the valuable contributions of Tekeli, Tanyeli, Bilgin, Şenyapılı and Kırar. The book entitled *75. Yılda Köylerden Şehirlere* edited by Baydar presents the evaluations of many researchers on the basis of social and cultural change. Another significant study concerning changing dwelling structures is Tekeli's book entitled *Konut Sorununu Konut Sunum Biçimleriyle Düşünmek* published in 2010. This study explores shanty houses, housing problems and housing presentation types on social, political, legal and planning axes. Moreover, there are several theses and dissertations focusing on the housing problem and change. Except for the studies on the traditional buildings in the research area the studies of Bakır (1986) and Ulusoy (1999) concerning the process of change in Konya dwellings are significant. Our research was carried out acknowledging the present studies yet limited room was reserved for the mentioned studies as they do not constitute the main axis of our study, they remain as tools within the construct of our research.

IV. The process of mass housing through the activities of big investors and the state institutions [TOKİ (*Housing Development Administration Office*) Applications, Municipalities and closed residences].

4.1. The process of traditional dwelling structures prevailed

The most important event in this period is the industrial revolution. With the effect of the revolution important changes took place in life. One of the important changes is mobility from the villages to the cities. These movements resulted in some changes related traditionally conceived of dwelling units. Changing family structure and understanding of dwelling caused to new approaches in architectural designs. Appearance of primal apartment examples in Turkey was the result of interaction with European cities [1]. "The transition to apartments might be interpreted as the spatial reflection of our inclination towards Western culture. Nonetheless, the large and spectacular earlier apartment buildings were built as multi-storey residences/mansions intended for the use of upper classes verify this fact." [2]

The long-lasting wars, changes in the economic structure and lifestyle during this period that covers the end of the Ottoman Empire and rise of the Turkish Republic influenced not only existing architectural understanding but also contemporary architecture, as well. The foundation of a new state changed housing policies. The migrations during late 18th and early 19th centuries and global trends have an important place in this change [3]. Especially in big cities, small-scale cluster housing was practiced for particular groups after second half of the 19th century. The influence of the West in this pattern was indisputable. Housing problems of the poor was an issue to be solved after proclamation of the republic [1]. During this period traditional dwelling structures did not change however furniture were started to use in rich urban dwellings.

4.2. The process of transition from traditional dwelling to modern dwelling [the periods of national architecture and laborer campuses]

The period after the proclamation of the republic marks as foundations of new country. Many innovations and revolutions took place at the starting of this period. The revolutions and changing life conditions dismantled traditional Ottoman family structure [4]. The family structure has greatly changed with premises like equality of genders, extension of franchise to women, and the right for women to work. The differences resulted in a change in both cultural and spatial structure. It is observed that there is stagnation in housing and large problems of public works and housing. This was caused largely by the long-lasting wars and its outcomes. The newly founded republic has many needs along with dwellings [5].

During the earlier years of the Republic, Ankara was very busy about new state buildings constructions and

no considerable constructions were made outside the capital city. The private investors focused on Ankara and İstanbul related to constructing small number of detached houses and apartment blocks. [6]. During the early years of the Republic developments were similar to Second Constitutionalist Period of Ottoman Empire were encountered and the concordance between the frame of mind and architectural structures became dominant. (First national architectural trend) This approach which was successfully applied in public buildings did not provide the same results in private buildings [7]. The ideology or dream of young Republic was to create modern individuals and society with modern dwellings. The textbooks and journals of those years are full of examples depicting ideological expectations behind domestic architecture. During following years such expectations came to an end but dwelling spaces and housing culture constituted the main symbols of modernization of Turkish society, [8]. The decade between 1930 and 1940 witnessed a dense period of architectural activity and building production. The buildings constructed during this period were mainly public buildings. Almost all large scale constructions until 1950s were either supported by the state or ethnic and religious communities or philanthropic enterprises. In this context, housing production under the framework of laborer dwellings occupied a major position among the aims of the government [9].

The state gave incentives to the private sector for constructing dwellings. The state facilitated taxation issues and procurement of materials for construction. This period marks as a re-urbanization and rehabilitation activities. During 1930s new building codes were enacted to ensure planned urbanization [10]. At the same time architects started to take more initiative in production of new dwellings. This well-organized development in dwelling construction was disrupted by WW2 (*World War 2*). In that period, an important issue related the housing was Workers inhabitation. The housing deficit concerning the workers of new factories was a major issue to be solved. New housings were constructed under very harsh circumstances. Thanks to the newly founded republic and new administration system, new lifestyle/western style spatial structures were observed in that period. Furniture became widespread, rooms were separated and technical and technological innovations (water and electricity installations) were gradually integrated to the dwellings. An important element of Turkish dwellings, the parlor, was replaced with lounges. However, cultural changes were not widespread in the community after the proclamation of republic.

4.3. The process of urbanization, multi-storey buildings, property ownership, build-and-sell and cooperative buildings

After 1950s, multi-party political system added new dimensions to the housing problem. Especially, the liberal economic decisions after 1950s were influential in housing constructions which caused unplanned

urbanization. Housing deficit highly increased because of migration to big cities. As a result, slum areas enlarged around the cities [11]. The measures taken by the state could not prevent the cities from enlarging slum areas. After the *coup de état* of 1960, measures concerning town planning were considered and “development plans” were made. These plans included solutions for slum areas, housing investment and presented alternative dwelling patterns.

Many laws were enacted in order to regulate this process that emerged after 1946. The first of these attempts was the Law of Property Loans Bank. The bank was founded with the aim of providing low-cost housing with long-term credit to those citizens who do not have house and also this bank provides some facilities related to payment options (long term installment) and some credit for construction materials to investors. One of the earliest applications of this bank was the Levent district in Istanbul of which construction was started in 1947 [1].

Building activities supported by Emlak Kredi Bank gained speed through the end of the 1950s. The first application having multi-storey buildings instead of garden houses was built in İstanbul at 4th Levent district [1]. The largest application of this bank was in Ataköy, İstanbul. While housing was a problem for the white-collar workers during 1930s it also became the problem of blue-collars in the 1960s. The solution for housing deficit was to build mass houses through the use credit for cooperatives in this period. Same periods, illegal housing prevention zones and prevention of disaster areas were constructed by state for provide love cost houses for community [2].

During this period, build-and-sell processes constituted another solution to overcome housing deficit. In parallel to rapid urbanization, some legislation was requiring for land and apartment flat ownership. In order to overcome this problem, the Condominium Ownership Act was enacted in 1965. After this law more than one person could be stockowner on a building which was built on same lot of land. The build-and-sell process resulted in a rapid transformation in the urban environment. The owners of urban houses with gardens, residences and mansions preferred to sign a contract with contractor for construction of new build-and-sell apartments on their lands. During those years the ideal dwelling for a middle-class family was a flat in an apartment [9].

During this period, urban areas displayed a variety of dwelling types (slums, detached houses, flats and luxury villas). This period marks as an important and rapid transition from traditional dwelling habits to new dwelling formations due to rapid growing urban population and increasing number of houses constructed. However, the dwellings built during this period also represent developed versions of traditional dwelling organization patterns.

4.4. The process of housing through the activities of larger investors and the state [TOKİ applications, municipalities and closed residences]

This period also started with a military coup which adversely affected the construction sector. Many solutions regarding housing problem were tried to solve and Housing Development Administration of Turkey was founded in these years. After 1980s, the most significant feature of dwelling production was the disappearance of small scale enterprises in the market. While the state facilitated large scale projects with loans given to cooperatives and contractors thanks to new legal tools and foundations. And also state involved in the construction business through Housing Development Administration especially in İstanbul and Ankara, and then following projects were conducted in other big cities [1]. With new enacted laws and taken measures, this period became the most active time in the history of the Republic [12]. The housing sector rapidly developed through cooperatives and active participation of contractors. There is a significantly new spatial organization in house production which surpassed the traditional patterns. The state determined housing standards however no alternatives were provided to prevent slum housing.

The most significant changes in production of houses and in their functions might be observed only by early 21st century. Municipalities have founded and supported to cooperatives in order to provide houses for lower and middle class families. Furthermore, the period marks as much effective organization of state to reach international standards. The ergonomic features of the houses were designed followed by human standards. In this period social stratification was clearly distinguished in housing. While luxury residences and protected buildings were used by higher classes, houses provided by Housing Development Administration of Turkey (TOKİ) generally for lower and middle class of society.

5. CULTURAL CODE ANALYSIS; THE CASE OF KONYA DWELLINGS

Settlement in Konya and its vicinity can be traced back to prehistoric ages. Neolithic-Calcholitic and Early Bronze age cultures are observed in Konya. Some archeological findings dated to the Neolithic age were discovered at Çatalhöyük. The Alâeddin Hill located at city centre is actually a 4000-year-old mound. The Alâeddin mound has been preserved because of its importance with changing functions throughout history. Konya was the capital of Anatolian Seljuk Empire. It was controlled by Karamanoğulları after Seljuk, Konya was incorporated into the Ottoman Empire by Murad II in 1442 [13]. Although Konya was a kind of regional capital during the Ottoman period there are not many urban traces coming from mentioned period today.

With rapid growing population after proclamation of republic, reflection of technological innovations in city life, rapid industrialization and growing economy have

been the main determinants of Konya development from past till now. Until 1950s the population of Konya was approximately 50.000 while it rose to more than 200.000 in 1960s. Nowadays, population of Konya has more than 1.000.000 person. The city has let in a large number of immigrants and has a rapid changes and development.

5.1. Historical development of urban dwellings in Konya

Located in the middle part of Anatolia and dating back to 7000 B.C. Konya has abundant samples of dwelling architecture. During this long historical period, spatial organization and new construction techniques supported with some changes in Konya with many cultural factors [14]. Central Asian Nomadic Turkic tribes which were based on livestock-raising lived in highlands in summer and inhabited plains during winter. This lifestyle entailed a tent culture due to its portability. In this culture, the tent contains all life activities and everything must be portable [15].

Turks established a new settlement type as they adopted a settled lifestyle and built traditional houses with parlours and “*eyvan*” (iwan). Especially in Konya, which was the capital of Anatolian Seljuk due to its conditions suitable for farming and livestock rising, the spatial organization of tent culture was applied to settle dwellings [14]. In patriarchal Seljuk and Ottoman societies, each family inhabited a room. That room was the house of the family. It presents all the facilities offered by the nomadic tents. Patios are very important in settled dwelling culture. The garden and the patio are indispensable member of houses [16]. These patios surrounded by high walls are called “*hayat*” (life). Many daily activities (cooking, water wells, lavatory, depots, etc.) take place in this space and it is a kind of social area for all family. Especially women spend most of their life in this space. The basement of house is named “*izbe*” and used as storage. Another part of the house is the parlour. It serves as transition passages between indoor and outdoor spaces. They might be closed, semi-open or open spaces [17]. This section which focuses on circulation also serves for other functions. The built-in wardrobes in the rooms linked to the parlour are called “*yüklük*”. These wardrobes also serve as bathrooms. This is a very important function. The rooms have seats slightly elevated and they are called “*sedir*” [18]. The Seljuk dwelling architecture continued during Ottoman period with very slight differences. The parlours in the dwellings were replaced by larger chambers called “*mabeyin*”. In other words the mabeyin are a sort of inner parlour used for circulation, sitting and residence purposes [18].

Some studies related to urban development during the republican period aimed to solve introduced problems of rapid urbanization. Rapid urbanization, growing population and westernization were main factors that were urgently solved by urban planning activities. Especially westernization has greatly affected dwelling designs. Changes in lifestyle of women, the

proclamation of the Republic, new laws, transition from larger family to nuclear family, developments in industry and economics led to bring changes in dwelling architecture. Such changes started in İstanbul and rapidly spread to entire Anatolia. With the effects of such changes typical dwelling were replaced with apartment buildings [19]. Traditional dwelling constructions continued until 1950s. After 1950s, new apartment building were observed in urban area. Effects of westernization have been also observed in Konya dwellings. As a solution for housing problems emerged with rapid urbanization, apartment buildings were preferred. It is observed that in earlier house plans, bay windows, parlours and wet spaces are incorporated into the dwellings and units of the houses has become much private than before.

The main idea behind building apartment buildings is their cleanliness and hygiene compared to traditional buildings in the same period [20]. Especially indoor water installations, central heating, appropriate ventilation and lighting combined with modern tools/gadgets attracted people to prefer flats. However, such tendencies among the elite classes distracted them from agriculture, social relations and traditional lifestyle. Similarly, rapid urbanization, increasing population through migrations, modern construction developments technologies and demand for reach contemporary comfort standards, and inclinations towards westernization brought changes in Konya apartments. During 1990s, as a measure against housing problems, such changes were applied in slum prevention zones. Because these periods witnessed to rapidly increase slum areas and necessary measures were adopted for slum prevention zones.

Especially after the second half of 20th century, spatial organization of dwellings attached certain features to the chambers (bedroom, living room, and bathroom). The traditional dwelling plans diversely changed. Not only plan schemes but technical tools and also lifestyles changed as well. However, this new pattern of housing brought some problems which were different from traditional lifestyle [21]. For instance, flats were generally designed for nuclear families not for large families. As a result of these developments, it might be asserted that development of dwelling in Konya rapidly increase thanks to some result of historical events in 21st. Hence, housing constructions have been continued under the influence of cultural and other factors.

5.2. Analysis of Konya urban dwellings using cultural codes

Examples are reflection of mentioned periods were determined and evaluated at the beginning of study. During the choosing process of examples concerning Konya dwelling culture literature revive was made including Berk 1951[22], Bakır 1986 [21], Ulusoy 1999[23], Uysal 1999 [24] and Süslü 2009 [25] and also some site observations were made for providing data to the study. This selection process focused on urban middle-class dwellings that are reflection of the

periods they belonged. In this context, a graph that shows the changes in Konya Dwellings was prepared

and the samples were chosen from this graph (Fig 4).

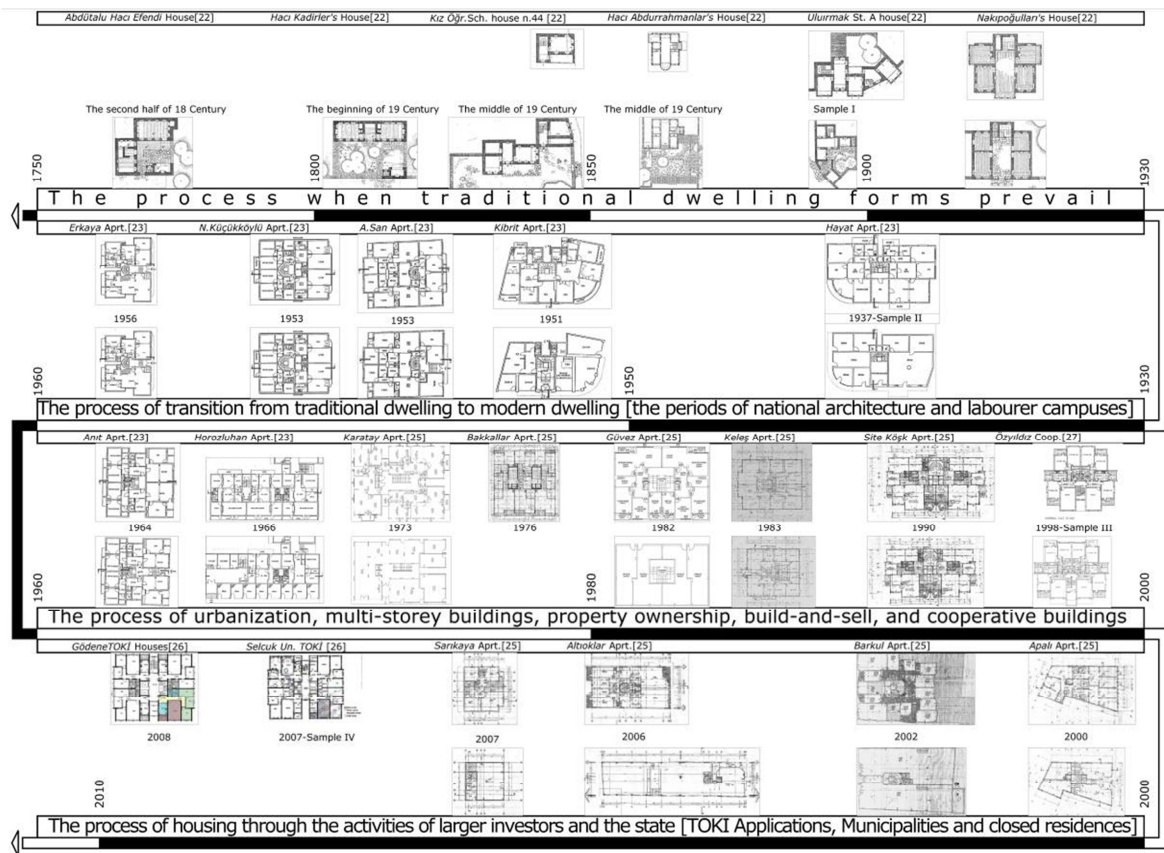


Fig 4. Graphic of Changing in Konya Dwelling

Dwelling samples belong to the periods were determined based on theoretical study. Living functions in all spaces in these dwellings were listed. The functions of all dwellings in their related time periods were presented. Abstraction and graphic expressions were used in the cultural codes that were formulated to explain the spatial functions of the spaces. Theoretical information was used when the cultural encoding related to the determined dwelling periods was made and functional styles related to life were coded [28]. The cultural codes and analyses related to the

mentioned functions are given in Table 1. The table presents dwelling samples and cultural codes related to all selected periods.

The relationships within the spaces (rooms) were explained in the cultural function diagrams (Table 2). Considering with the dwelling function diagrams derived from the cultural codes periodically formulated in Table 1. The mentioned cultural function diagrams enable and facilitate the reading and analysis of the cultural changes related to lifestyles.

Table 1. Cultural code analyses within the scope of space and function/living relationship in dwellings during the transformation process

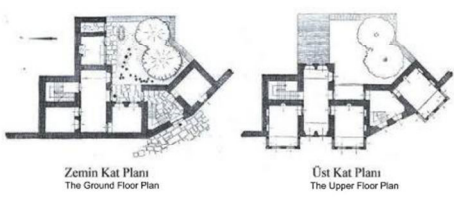
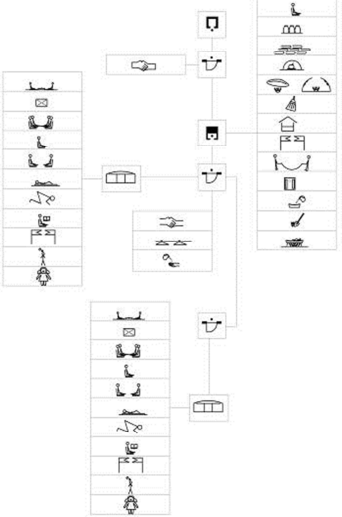
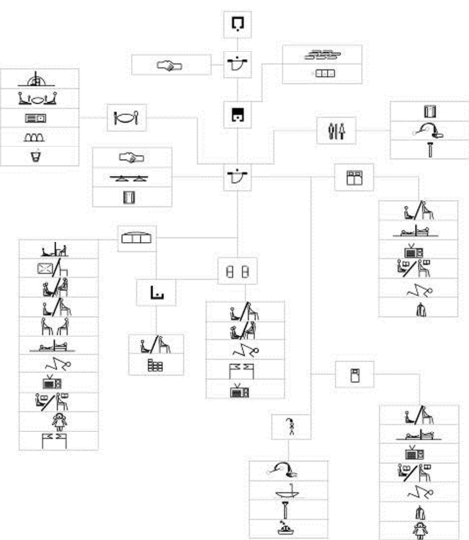
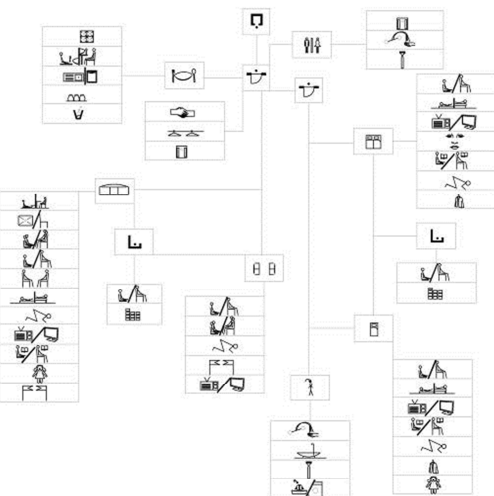
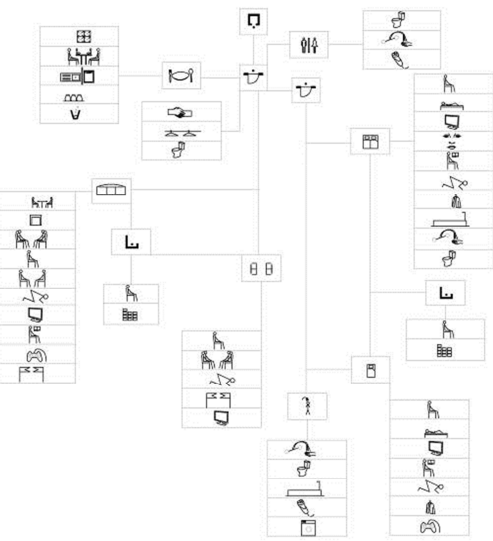
| The Schema of House Plan Belong to the process when traditional dwelling forms prevail | | CULTURAL CODES | | | | |
|--|--|--|-------------------------------------|---------------------------------------|-------------------------|---|
| A House with 'Hayat/ The life/Inner hall' in Uluirmak district [22] | | Traditional House Model | High-Density TOKİ Model (2000-2005) | Medium-Density TOKİ Model (2005-2010) | Cooperative House Model | |
|  <p>Zemin Kat Planı The Ground Floor Plan</p> <p>Üst Kat Planı The Upper Floor Plan</p> | PLACE/PART | EXTERIOR PART | | | | |
| | Function | ENTRANCE | | X | X | X |
| | Function | Greeting/Farewell | | X | X | X |
| | PLACE/PART | INNER COURT | | | | |
| | Function | Sitting/Resting | | X | X | X |
| | Function | Storage (For Food Supplies) | | X | X | X |
| | Function | Storage (For Firewood) | | X | X | X |
| | Function | Cooking | | X | X | X |
| | Function | Baking | | X | X | X |
| | Function | Sanitation | | X | X | X |
| | Function | Shelter for Animals | | X | X | X |
| | Function | Ceremony (Religious-National-Marriage) | | X | X | X |
| | Function | Playing/Game | | X | X | X |
| | Function | Wc | | X | X | X |
| | Function | Hand Washing | | X | X | X |
| Function | Vegetable and Fruit Growing | | X | X | X | |
| Function | Laundry | | X | X | X | |
| PLACE/PART | INNER PART | | | | | |
| PLACE/PART | ENTRANCE-SOFA | | | | | |
| Function | Greeting/Farewell | | X | X | X | |
| Function | Checkroom | | X | X | X | |
| Function | Hand Washing | | X | X | X | |
| Function | WC | | X | X | X | |
| PLACE/PART | ROOM I (LIVING ROOM) | | | | | |
| Function | Dining | | X | X | X | |
| Function | Sitting | | X | X | X | |
| Function | Entertaining (of Guests) | | X | X | X | |
| Function | Sitting/Resting | | X | X | X | |
| Function | Gathering of Family | | X | X | X | |
| Function | Sleeping/Resting | | X | X | X | |
| Function | Praying | | X | X | X | |
| Function | Tv-Radio | | X | X | X | |
| Function | Studying | | X | X | X | |
| Function | Playing/Game | | X | X | X | |
| Function | Ceremony (Religious-National-Marriage) | | X | X | X | |
| Function | Bath-Shaving | | X | X | X | |
| PLACE/PART | ROOM II (SALOON) | | | | | |
| Function | Sitting | | X | X | X | |
| Function | Entertaining (of Guests) | | X | X | X | |
| Function | Praying | | X | X | X | |
| Function | Ceremony (Religious-National-Marriage) | | X | X | X | |
| Function | Tv-Radio | | X | X | X | |
| PLACE/PART | ROOM III (BEDROOM FOR PARENTS) | | | | | |
| Function | Sitting/Resting | | X | X | X | |
| Function | Sleeping/Resting | | X | X | X | |
| Function | Tv-Radio | | X | X | X | |
| Function | Making-up | | X | X | X | |
| Function | Reading-Studying | | X | X | X | |
| Function | Praying | | X | X | X | |
| Function | Dressing/Undressing | | X | X | X | |
| Function | Bath-Shaving | | X | X | X | |
| Function | Hand Washing | | X | X | X | |
| Function | Wc | | X | X | X | |
| PLACE/PART | ROOM IV (BEDROOM FOR CHILD) | | | | | |
| Function | Sitting/Resting | | X | X | X | |
| Function | Sleeping/Resting | | X | X | X | |
| Function | Tv-Radio | | X | X | X | |
| Function | Making-up | | X | X | X | |
| Function | Reading-Studying | | X | X | X | |
| Function | Praying | | X | X | X | |
| Function | Playing/Game | | X | X | X | |
| Function | Dressing/Undressing | | X | X | X | |
| Function | Bath-Shaving | | X | X | X | |
| PLACE/PART | KITCHEN | | | | | |
| Function | Cooking | | X | X | X | |
| Function | Dining | | X | X | X | |
| Function | Dishwashing | | X | X | X | |
| Function | Storage(for food) | | X | X | X | |
| Function | Rubbish Bin | | X | X | X | |
| PLACE/PART | BATHROOM | | | | | |
| Function | Hand Washing | | X | X | X | |
| Function | Wc | | X | X | X | |
| Function | Bath-Shaving | | X | X | X | |
| Function | Shaving | | X | X | X | |
| Function | Laundry | | X | X | X | |
| PLACE/PART | WC | | | | | |
| Function | Wc | | X | X | X | |
| Function | Hand Washing | | X | X | X | |
| Function | Shaving | | X | X | X | |
| PLACE/PART | BALCONY | | | | | |
| Function | Sitting/Resting | | X | X | X | |
| Function | Storage | | X | X | X | |
| Note: Sanitation and Heating is general and they are for each unit of house. | | | | | | |
| Function | Sanitation | | X | X | X | X |
| Function | Heating | | X | X | X | X |

Table 2. Cultural function diagram analyses in dwellings during the transformation process

| Cultural Function Diagrams of Houses in Changing Process | |
|--|---|
| Cultural Function Diagram of House Sample from the process when traditional dwelling forms prevail | Cultural Function Diagram of House Sample from the process of transition from traditional dwelling to modern dwelling |
| <p>A House with 'Hayat/ The life/Inner hall' in Uluirmak district [22]</p>  | <p>Hayat Apartment 1937 [23]</p>  |
| <p>Cultural Function Diagram of House Sample from the process of urbanization, multi-storey buildings, property ownership, build-and-sell and cooperative buildings</p> <p>Özyıldız House Building Cooperative 1998 [27]</p>  | <p>Cultural Function Diagram of House Sample from the process of housing through the activities of larger investors and the state</p> <p>Selcuk University TOKI Houses 2007 [26]</p>  |

5.3. Findings

According to the results of the analyses and the cultural codes of the dwelling samples evaluation, it is observed that the patio and life activities in the patio were lost in traditional Konya dwellings through time. Life in the patio was converted to a limited garden life and then completely lost with closed spaces. These changes were determined one of the major differences between traditional and contemporary Konya dwellings.

The parlour which was main plan element in traditional Konya dwellings was transformed to an entrance hall. However, the functions remained almost the same with some differences. For instance, while hand-washing was possible in the parlour, in recent dwellings, new space (wc-sink) is designed for this function in entrance hall. The functions of wc-sink also represent differences during history. However, the differences are based on the material and accessories using in this space.

The fully functional rooms in traditional Konya dwellings were gradually converted to separate spaces and functions. For instance, in traditional Konya dwellings all the rooms contain sitting, sleeping, eating, washing and other functions but then through the historic process, different rooms were organized for different functions like living, sleeping and bathing. This marks the second major difference between traditional and contemporary Konya dwellings.

Traditional Konya dwelling underwent large cultural changes in the 20th century. These changes have directly reflected on spaces and functions. Lifestyles and space using patterns of family members constantly changed. Especially, dwelling types related to the fourth quarter of 20th century and first quarter of 21st century show differences in living behaviors even if space designs are almost similar. However, it might be asserted that some functions have sustained. (For instance, traditional Konya dwellings had bathrooms in each room and contemporary dwellings have en-suite bathrooms).

Lifestyles and dwellings are the most important elements that reflect cultural background. With developing industrial society, special spaces were designed for rituals and wedding ceremonies. While these functions took place within or around of the dwellings during the first three periods, nowadays these functions are taking place in common spaces (gardens or basements) of apartment blocks and especially in designed spaces.

The integrated functions of dwellings including cultural activities and oral cultural transfers (drinking parties and night dances) have been abandoned. Guestrooms still exist in the spatial organization of contemporary Konya dwellings. Guests are entertained generally at the parlour. Parlours are the most important spaces of Konya urban dwellings both in terms of cost and structure. The "evening strolls" with relatives, friends

and neighbours are still practiced however they are really different compared to old cultural experience. Urban lifestyle, communication technologies and working conditions exposed to isolated lifestyle in closed boxes.

6. RESULT AND EVALUATION

It is possible to assert that morphological changes related to dwelling in Turkey rests on many internal and external factors from end of Ottoman period and foundation of Republic of Turkey until the present day. After important events in history that can be call breaking points of history, some changings were observed in design, construction and functions of dwellings. This is related to common culture of the period. It might be asserted that culture had changed and was eroded during such periods. It should be accepted that dwellings as important components of daily life and culture underwent some changes and were worn out during such periods.

Konya preserves its cultural heritage that dates back to 10.000 BC. The dwellings as important elements of common culture have reached to present day changing with societies' lifestyle and culture. This study presents developments and changes in culture with specific emphasis on dwelling units belong to different periods. This study focused on sustaining, changed and exhausted housing culture. Hence, this study enables to adapt protected and sustained of cultural values to the related ages.

The cultural codes that match cultural values display changes in the dwelling spaces. Thanks to the cultural codes, historical changes in dwellings could be connected with related period in history as cultural values. This case study shows the way to researcher how cultural changes in dwelling could be associate with related historical periods using cultural codes. The noteworthy results have been observed during this study. It was observed that some cultural values were preserved without any evaluation till present day and some values sustained with changes and others were completely exhausted. The living indicator of culture is related to how this culture sustained itself in dwellings and how historic buildings conveyed historical knowledge via registered cultural codes.

When the dwelling cultural codes and cultural function diagrams are examined it might be observed that technical developments (electricity, water, and heating technologies) stimulated changes in the spatial organization of dwellings. However, even if developments in communication technologies (TV, internet) do not effect spatial organization, cultural changes occur rapidly in societies. Generally these changes affect dwelling spaces organizations and societies' lifestyles.

When the periodical cultural codes of dwellings are investigated, it can be observed that space functions generally changed and decreased. This means spatial

privatization (bedroom, living room) has occurred. Moreover, some activity changings are determined in dwellings due to new indoor accessories. These

changes confirm that cultural communication styles and codes have changed (Table 3).

Table 3. Cultural code transformation&Space interaction

| | EXTERIOR PART | | | INNER PART | | | | | | | |
|---|---------------|-------------|----------|-----------------------|-------------------|------------------------------------|---------------------------------|---------|----------|----|---------|
| | ENTRANCE | INNER COURT | ENTRANCE | ROOM I LIVING ROOM | ROOM II SALOON | ROOM III BEDROOM FOR PARENTS | ROOM IV BEDROOM FOR CHILD | KITCHEN | BATHROOM | WC | BALCONY |
| Greeting/Farewell | Di | Di | Pr | X | X | X | X | X | X | X | X |
| Storage | Di | Di | X | Ch | X | Ch | Ch | Ch | X | X | Ap |
| Storage (For Food Supplies) | Di | Di | X | X | X | X | X | Di | X | X | Ap |
| Storage (for food) | Di | Di | X | X | X | X | X | Ch | X | X | Ap |
| Storage (For Firewood) | Di | Di | X | X | X | X | X | Di | Di | X | Ap |
| Cooking | Di | Di | X | X | X | X | X | Ch | X | X | X |
| Baking | Di | Di | X | X | X | X | X | Ch | X | X | X |
| Sanitation | Di | Di | Ch | X | X | X | X | Ch | Ch | X | X |
| Shelter for Animals | Di | Di | X | X | X | X | X | X | X | X | X |
| Ceremony (Religious-National-Marriage) | Di | Di | X | De | Ch | X | X | X | X | X | X |
| Playing/Game | Di | Di | X | Ch | Ch | X | Ap | X | X | X | X |
| Wc | Di | Di | Ch | X | X | Ap | X | X | Ap | Ch | X |
| Hand Washing | Di | Di | Di | X | X | Ap | X | X | Ch | Pr | X |
| Vegetable and Fruit Growing | Di | Di | X | X | X | X | X | X | X | X | X |
| Laundry | Di | Di | X | X | X | X | X | X | X | X | X |
| Laundering | Di | Di | X | X | X | X | X | X | Ch | X | X |
| Checkroom | X | X | X | Di | Di | X | X | X | X | X | X |
| Dining | X | X | X | Ch | Ch | X | X | Ch | X | X | Ap |
| Sitting | Di | Di | De | Ch | Ch | X | Ap | X | X | X | Ap |
| Entertaining (of Guests) | Di | Di | De | Ch | Ch | X | Ap | X | X | X | Ap |
| Sitting/Resting | Di | Di | De | Ch | Ch | Ch | Ap | X | X | X | Ap |
| Gathering of Family | Di | Di | De | Ch | Ch | X | X | X | X | X | Ap |
| Sleeping/Resting | Di | Di | X | Di | Di | Ch | Ch | X | X | X | Ap |
| Praying | Di | Di | X | Pr | Pr | Pr | Pr | X | X | X | X |
| Tv-Radio | X | X | X | Ap | Ap | Ap | Ap | Ap | X | X | X |
| Studying | X | X | X | Ap | Ap | X | Ap | X | X | X | X |
| Reading-Studying | X | X | X | Ap | Ap | Ap | Ap | X | X | X | X |
| Bath | X | X | X | Di | X | Ap | X | X | Ch | X | X |
| Shaving | X | X | X | Di | X | Ap | X | X | Ch | Ch | X |
| Making-up | X | X | X | X | X | Ap | X | X | Ch | X | X |
| Dressing/Undressing | X | X | X | Di | X | Pr | Pr | X | X | X | X |
| Dishwashing | X | X | X | X | X | X | X | Ch | X | X | X |
| Rubbish Bin | X | X | X | X | X | X | X | Ap | X | X | X |
| Heating | X | X | Ch | Ch | Ch | Ch | Ch | Ch | Ch | X | X |

LEGEND Preserved Pr Changed Ch Decreased De Disappeared Di Appeared Ap

It is observed that the “hayat/patio” which was an indispensable space of cultural functions and an essential part of the lifestyle in Konya dwellings disappeared. This disappearing has caused to perish or partial abandon of some cultural codes (children's playground, weddings, ceremonies, neighbor communication, joint cooking, floor furnaces, tomato paste, bread and molasses preparation). These cultural codes carried by the hayat in traditional Konya dwellings are the most important factors that sustain a feeling of ownership for outdoor spaces, surroundings and streets. However, no cultural codes related to ownership of physical environment and senses of belonging were determined during other periods. These cultural codes were partially fulfilled inside dwellings or at around of flats. Recently, these spaces (bakeries producing village bread) have been built and sustained by municipalities. Moreover, the problem of lacking children's playgrounds that was situated at the hayat in traditional dwellings and played an important role in cultural transfer remains as an important issue to be solved. The playgrounds designed by local administrators technically exist on the urban space but

they do not include features that enable to transfer cultural knowledge. Though it is so rarely, Children are still playing traditional games on streets.

CONFLICT OF INTEREST

No conflict of interest was declared by the authors.

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