International Journal of Architecture and Urban Development
Vol. 10, No.1. P 37-50. Winter 2020 E-ISSN 2345-2331

Spatial Transformation of Apartment-Type Housing Buildings
(Case Study: Gaziantep, Turkey)

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Recieved 05.04.2019; Accepted 25.11.2019

ABSTRACT: The aims of this study is to analyse the planning and design process, basic principles and the change-transformation process of the apartment type residential buildings in Turkey, Gaziantep city based on historical background. The scope of the research consists of residential buildings built in the city of Gaziantep, which were built in the post-Republican period. In addition, state-building maps, zoning-city plans and plan disclosure reports, photographs and other materials are among the other materials. In this research, a method based on the spatial usage of the apartment buildings constructed in Gaziantep and the changes in the housing plan schemes and the spatial usage of these buildings and the changes in the housing plan schemes were followed. These changes are evaluated from the analysis of a series of variables ranging from parcel level to plan schemes, access graphs to spatial size and ratios. As a result of the study, it was seen that the access graph and space sizes of the apartment-type residential buildings in the city of Gaziantep, which dates back to the 1960s, have changed. However, differences and variations are observed in the first plan typologies and it is noteworthy that this diversity is reduced and similar plan schemes are widely used.

Keywords: *Housing, Morphology, Gaziantep, Spatial analysis.*

INTRODUCTION

Multi-storey housing types formed after industrialization, today began to take place among the architectural and urban planning study. These buildings, which define the cultural identity and change of a period, also offer various clues about the structure of societies. Recently, researches on spatial-functional analysis and configuration of apartment buildings are increasing (Choi, 2013; Ryeung et al. 2014; Byun & Choi, 2015; Brkanić et al. 2018). The transition to the first type of residential buildings in Turkish cities can be considered as a reflection of the westernization movements that began in the last century of the Ottoman state (Arı, 1994; Ulusoy, 2006; Mutdoğan, 2014). While the industrial revolution was continuing in Europe, the Ottoman Empire was experiencing years of decline and decline. Therefore, the developments that started with the industrial revolution in Europe in the same period could not be followed in the Imperial environment. The continuation of the relations with the western countries of the minorities living in the Ottoman Empire caused a cultural exchange with the western countries (Görücü, 2018). This cultural mobility is also reflected in the housing culture. It would be more accurate to interpret the apartment building movements in this context. Due to the capital, the first apartment buildings in Istanbul started to spread throughout the country. The first apartment buildings in Istanbul were built in the 19th century. Later on, this construction has spread throughout the country, especially in the big cities. Examples of the first apartment before the Republic of Turkey Gumussuyu in Istanbul, Sisli and Beyoglu districts in were built by minorities (Ulusoy, 2006; Mutdoğan 2014; Görücü 2018). In Europe, apartment buildings were built due to the employment of factory workers. But in Turkey especially the city has attracted the attention of members of the upper income group.

The economic change that started with the transition to multi-

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party political life since the 1950s led to a rapid urbanization process. Population movements were experienced especially from rural to large cities and Gaziantep city was affected by this process (Balamir, 1994, Yenice & Karadayi Yenice, 2018). Rapid population growth led to housing problems. In this period, both the housing needs of the increasing population and the changes in the economic, social and cultural areas were brought to the agenda. However, since the condominium in law was not in effect in these years, the construction of these apartment buildings under the ownership of one person remained limited due to the severe economic conditions. The Property Ownership Law introduced in 1965 was a turning point in apartment construction. With this law, the housing presentation format in the cities has changed completely and apartment building has increased with the sharing of economic costs in housing construction (Gür, 1971; Keleş, 2000; Yenice 2014). In the aftermath of the 1980s, while new residential areas were opened, new buildings were started to be demolished. This ongoing transformation leads to the disappearance of these buildings, which are the architectural documents of a period. This situation has caused the need to bring attention to these structures which are important as an architectural document in terms of reflecting the socio-economic and cultural characteristics of a period.

The aim of this study is to analyse the planning and design process, basic principles and the change-transformation process of the apartment type residential buildings in Gaziantep city based on historical background. Within the scope of the study, it is aimed to examine the change-transformation process of the apartment buildings according to a series of variables ranging from urban building island scale to architectural plan and space construction and to analyse them in detail within the framework of typological analyses.

MATERIALS AND METHODS

The subject of this research is the apartments built in the city of Gaziantep (Turkey). Basic materials of the research; the building consists of building permits and architectural projects. However, state-of-the-art maps, zoning-master plans and plan disclosure reports and photographs are among other materials.

In the research, a method based on spatial usage and the size of these areas and comparative analysis of the changes in the housing plan schemes were followed. This method basically consists of two stages. In the first phase of the study; the development directions and periods of the city of Gaziantep were determined by means of urban development and development plans. In this context, the facade characteristics of the apartment buildings were determined and documented. License and architectural projects of approximately 47 apartment-type houses have been reached from the relevant municipal archives and classified according to their license dates. Determined apartment addresses and urban block, parcel information to determine the architectural projects in the archives of the Metropolitan Municipality Directorate of Zoning was researched. According to the license dates, projects were divided into 20-year periods from 1960 to today.

The second phase of the research methodology is based on the preparation of detailed analysis tables for 48 apartment-type dwellings with architectural projects and periodically comparative analysis. These tables consist of general characteristics of the houses such as block-parcel information, building order, and floor area number of floors, floor area number of floors and number of independent units (Table 1). In addition, these tables consist of space types, number of spaces, total usage areas, access graph and schematic diagram for the analysis of spaces. The aim of this research is to explain the transition conditions of the spaces by using the Access Graph method and to analyse the depth of the space according to the length of the path to reach the spaces. With the help of this graphic, it is understood that the process of gathering the spaces together, understanding the spatial relations and analysing the structuring structures. Spatial analysis is a numerical technique that allows to express and analyse the abstract characteristics of space. In this technique, the spaces are divided according to human experience and these parts are provided with maps and graphs and numerical analyses can be made on them.

It is an attempt to constitute a configurationally theory in architecture by generating a theoretical understanding of how people make and use spatial configurations, in other words, an attempt to identify how spatial configurations express a social or cultural meaning and how spatial configurations generate the social interactions in built environments. The most important point in gathering the spaces in the process of creating meaningful wholes is their relational structure.

Morphological studies are needed to understand the relational structures. Morphological characteristics of the plans are explained by this method developed by Hillier and Hanson and this method is used in comparing plan typologies in different periods (Arı, 1994). In this graph, spaces are shown by circling the initials of their names. In the access graph, the rooms at the depth equal to the starting point are positioned on the same horizontal line and the depth values are numbered from zero. The access graphs are named according to various parameters such as symmetric / asymmetric, distributed / non-distributed. If there is a symmetric feature in the access graph, there is equal access to many rooms from one room. Otherwise, the access graph is asymmetrical if it can be accessed from one room to another, but from several rooms respectively. In addition, there is a cyclical feature if one room is accessed from one room to another with only one path instead of multiple paths. The cyclic feature is divided into two, with and without distribution. In distributed graphics, the paths to the space are looped. In non-distributed graphics, it is a single straight line.

The analysis evaluations made within the scope of the research were evaluated within three time strings. The first period is the 1950-1980 period, characterized by the end of the Second World War, the transition to multi-party political life and the beginning of rapid urbanization. Especially the movements of the rural population to the city, the desire to meet the increasing need for housing in the cities, the Gecekondu Law for the

Table 1: List of Apartment Buildings

Registered parcel	Built year	Parcel area (m^2)	Building floor area (m^2)	Number of storey	Total dwelling	Number of room	Dwelling size (m^2)
1116/6	1968	600	296	5	12	3	142
1115/6	1969	600	324	5	14	3	105~95
506/68	1970	763	395	5	15	3	130~125
500/136	1970	563	268	5	10	3	135
499/154	1972	714	258	5	10	2	84~95
1115/1	1972	600	415	4	16	3	98
1120/2	1977	851	437	5	20	3 ~ 2	128~78
446/127	1977	382	206	3	6	3	97
386/148	1977	620	276	4	12	2	87
219/46	1978	513	284	4	8	3	129
1121/22	1978	533	255	5	14	3 ~ 2	86~75
499/174	1980	805	346	6	15	3 ~ 2	115~96
1122/77	1980	635	245	5	8	3	115
284/240	1982	972	334	5	12	3 ~ 2	123~79
1120/31	1983	720	358	4	12	3 ~ 2	129~86
387/139	1984	1322	335	5	15	3	106
388/153	1984	735	258	5	8	3	123
387/156	1984	1064	332	6	12	3	159
389/148	1984	1013	292	6	10	3	139
387/137	1984	596	330	5	15	3	106
388/155	1985	718	270	7	12	3	128
375/4	1985	928	268	5	8	3	129
488/6	1986	570	198	4	8	3	94
285/335	1986	1232	450	6	15	3	145
496/83	1986	653	276	4	8	3	132
397/22	1986	975	297	6	10	3	142
286/515	1986	733	268	4	6	3	128
1120/16	1987	704	370	4	12	3	125~116
386/160	1987	618	286	4	8	3	137
282/438	1987	977	332	6	15	3	108~105
381/165	1988	939	295	6	12	3	135
1122/78	1989	635	234	5	8	3	109
377/158	1991	1099	275	7	18	3	130
375/5	1991	770	284	6	10	3	139~130
286/515	1992	733	220	5	8	3	104
374/165	1993	818	275	6	10	3	131
376/1	1993	964	300	6	10	3	143
372/227	1994	981	360	5	8	3	172
392/115	1997	1100	273	6	10	3	129
398/173	1998	888	318	5	8	3	152
444/187	1998	412	267	5	8	3	127
2017/1	2002	1103	335	6	10	3	143
6918/3	2006	852	255	6	10	3	172

Continiue of Table 1: List of Apartment Buildings

Registered parcel	Built year	Parcel area (m^2)	Building floor area (m^2)	Number of storey	Total dwelling	Number of room	Dwelling size (m^2)
5127/1	2008	1603	478	8	28	5	129
3692/2	2009	1860	465	8	30	3-4	175~145
321/4	2012	1556	465	10	27	3-4	180~165
1357/1	2015	3000	840	14	52	4	198

solution of this need, the Law on the Ownership of the Property were prepared in this period and deeply affected the physical structure and transformation of the cities. Between 1950 and 1980, the acceleration of the construction of multi-storey houses reflects a period in which most residential buildings in Anatolia were first encountered. In the context of this content, this period is emphasized as a period of urbanization.

The second period describes the period between 1980 and 2000. The basic character of this period reflects a period in which the process of urbanization has partially reached its satisfactory level, cities have transformed into significant capital accumulation, and are trying to adopt liberal economic development in the national economic structure and to adapt to the world economy. Another important feature of this period is important in terms of redefining the powers of central and local governments. While local dynamics came to the fore with various legal arrangements allowing cities to produce their own plans, on the other hand, the establishment of the Housing Development Administration in order to meet the housing needs of the narrow-middle-income families and the aim of transforming the urban areas into residential-type housing areas and the development of land-building amnesties.

The third period includes the period evolving from 2000 to the present. In this period, during which the neo-liberal economic development model was adopted, it reflected a period in which the physical structure of the cities was reformed in the framework of urban transformation and renewal actions, while housing types and user demands were differentiated. Since the 2000s, the neo-liberal economy and the lifestyles directed by globalization have been influential in our country (Ulusoy, 2006).The meaning of the house has changed for the user. The house, which has become a status indicator, has attracted attention with its additional facilities rather than the interior organization and has become preferable. In addition to this, the housing, which is also seen as an investment tool in our country, has developed in this direction and has met with its user whether it can be a good investment tool for the future rather than the interior organization and the quality of life in the residence (Mutdogan, 2014).

RESULTS AND DISCUSSION

Gaziantep, 2017 Address Based Population Registration System (ABPRS) with a population exceeding 2 million, according to data from Turkey's eighth, is the largest city in the Southeast Anatolia Region (Fig.1). Gaziantep, textile and machinery industry-oriented industrial infrastructure, as well as the historical, natural, cultural and international levels is one of Turkey's tourism centres with cultural heritage values. The city has a very rich culinary culture and in 2016, UNESCO participated in the Creative Cities Network in the field of Gastronomy. Its values indicate that the city of Gaziantep is an urban settlement area that needs to be addressed in different scales and accompanied by special planning activities.

In the study, six different study areas were selected from the districts of Şehitkamil and Sahinbey in the city centre of Gaziantep (Fig. 1). The selection of these areas and the fact that they are located in the city centre and being one of the city's important settlement areas since the establishment of the city have been considered. As a matter of fact, the area defined as Study Area 2 is located in the urban development area of the Gaziantep Development Plan of 1955. The fact that it is close to the railway and station areas constructed during this period is among the factors that accelerate the housing development of the period. Similarly, other regions identified as new residential development areas during the 1970 and 1990 plan periods were also selected as the study area. In these elections, the transportation axes such as the Station Street, Ordu Street, Maresal Fevzi Cakmak Street, which describes the development axes of the city, are the main determinants of the regional elections. Apartments were selected from each study area.

Spatial Analysis between 1960 - 1980 Years

General Characteristic

The apartment type residences which were built between 1960-1980 years are generally in the structure of discrete structure and they are structured in single structure - parcel arrangement. (Fig. 2).

Structures usually occupy 40% of the floor area of the parcel. The buildings built in this period are usually 3-4 floors. The spatial characteristics of apartment buildings are summarized in the table below (Table 2).

Plan Scheme and Access Chart

The apartment type residences built between 1960-1980 years are generally based on 3 types of plan typology and access graph. The first one is the plan scheme that scattered from the room to the room. In this scheme, which resembles the middle-

Fig. 1: Location of the Gaziantep city and study areas of Gaziantep city centre and its surroundings

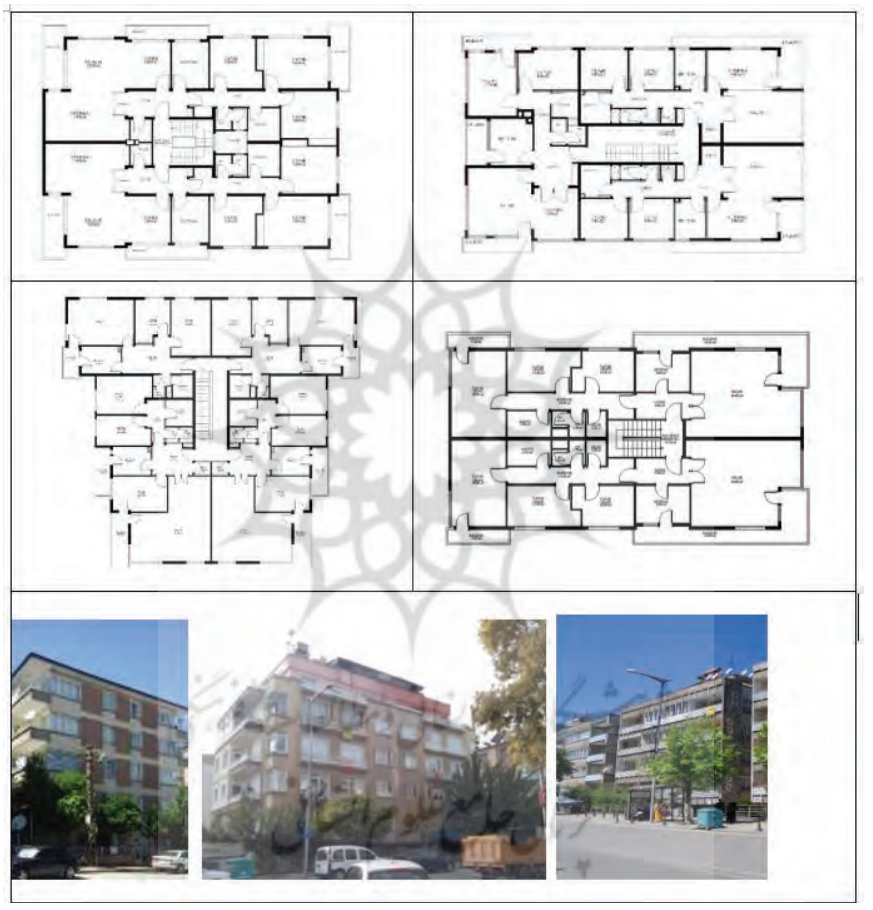


Fig. 2: Examples of apartment's plans and façade characters in 1960-1980 period

Table 2: Parcel and spatial characteristics of apartment buildings in the period of 1960-1980

	Min.	Max.	Avg.
Parcel Size (m²)	382	851	613
Building Floor Area (m²)	206	437	310
Base Area co-efficient	0,36	0,55	0,51
Floor Area co-efficient	0,8	2	1,7

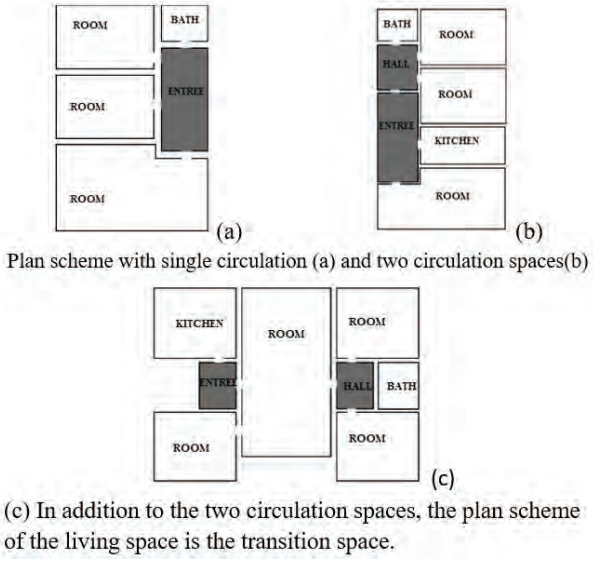


Fig. 3: Generally plan scheme and circulation connections of apartment buildings in 1960-1980 period

hall type of house in a traditional Turkish residence, the sofa is used as a common living area. Day and night hall separation is not clear (Fig. 3a). The second is the plan schemes which are the second circulation space after the entrance. Generally service spaces, wet areas and bedrooms are connected to this circulation. There is night and day hall separation. (Fig. 3b)

In the third plan, there is a living room connecting the entrance hall and the night hall. From the daytime hall to the night hall provides the living room (Fig. 3c).

As the access graphs are examined according to the plan schemes, the value of the access graph depth is seen as 3 of the single circulation plan scheme. It shows symmetrical features. In addition, because the value of privacy is directly proportional to the depth value, the value of privacy is low (Fig. 4a).

The depth of the access graph of the second plan type is 4. As the depth value increases, the value of privacy will increase, and this plan type has a higher privacy value than the first plan type. The deepest places are bedrooms and balconies (Fig. 4b).

The plan of the third plan scheme, which is the scheme of the transition from the living space to the other rooms, has a depth value of 6. There was a conditional transition from the living room to the night hall. The kitchen is accessible by passing

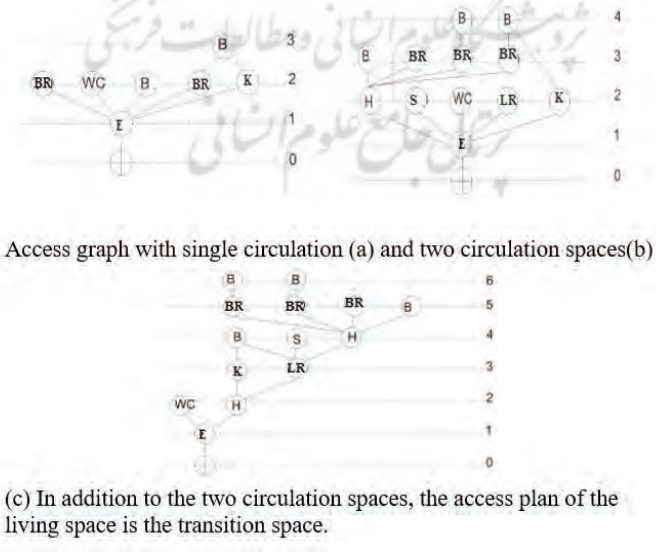


Fig. 4: Gaziantep 1960-1980 period apartment access schemes

Table 3: Spatial distribution of apartments in the period of 1960-1980 (%)

Criteria	Min.	Max.	Avg.
Common Area (%)	32	48	39
Kitchen (%)	5	7	13
Private Areas (%)	22	32	28
Service Areas (%)	4	14	17
Balcony (%)	10	14	12

through the hall. It shows asymmetric properties (Figure 4c).

Spatial Usage Size and Ratio

When the apartment buildings of the period of 1960-1980 are examined, it is seen that the kitchen usage area varies between 6 m² and 10 m². The average kitchen area is 8 m². The kitchen occupying a small area was not large enough to accommodate the family. The function of eating in the apartments of this period was designed separately in the living area. When the apartment buildings of the period between 1960-1980 years are examined, it is seen that the usage area of the living room is between 26 m² and 68 m². The average living room and living area were 45 m². In this period, the accommodation, dining and daily living spaces of the apartments were designed separately, but were thought to be related to each other in a single space.

When the apartment buildings of the period of 1960-1980 are examined, it is seen that the use of common space varies between 32% and 48%. The average percentage of common area use was 39. Kitchen use area ranged from 5% to 7%, private area use was between 22% and 32%, and service area usage was between 4% and 14%, and balcony usage ranged from 10% to 14%. The average kitchen area is 13%, the private area usage is 28%, the average service area is% 17 and the average balcony is% 12. (Table 3).

Spatial Analysis in 1980 - 2000 Period Apartments

General Characteristic

The apartments which were built between 1980-2000 years generally have the structure of discrete structure and single structure - parcel structure. The structures are generally 4-5 floors. However, at the end of the 1990s, 10-12-storey building heights were found (Fig. 5).

Structures usually occupy 40% of the floor area of the parcel. The features of the apartment buildings at the parcel level are summarized in Table 4.

It was observed that the size of the apartment buildings between 1980-2000 years varied between 570 m² and 1322 m². The average parcel size is 835 m². It was seen that the Building Base Area ranged between 198 m² and 450 m². The average building floor area is 303 m². The number of floors is between 0,25 and 0,55 while the average floor area is 0,4. While the floor area is between 0,40 - 5,6 and the average floor area is 2,2.

Plan Scheme and Access Chart

The apartment buildings built between 1980-2000 years are generally based on 3 plan typologies. The first is the plan schemes, which are the second circulation space after the entrance. Generally service areas, wet areas and bedrooms are connected to this circulation. There is night and day hall separation (Fig. 6a). The other is the plan scheme which has a circulation space other than the day hall and night hall (Fig. 6b). Thirdly, there is a space connecting the hall of night and day, and this space is the common area that is used as a living room. The passage from the day hall to the night hall provides the living room (Fig. 6c).

The access plan for the first plan type has a depth value of 4. The access graph shows asymmetric properties. Because the rooms located in the night hall and the rooms in the room are not equal access (Fig. 7a). The other plan type is the access graph depth values 4. There is an asymmetric feature (Fig. 7b). The access value of the third plan type is 6. The living room was the space providing the loop (Fig. 7c).

Spatial Usage Size and Ratio

When the apartment buildings of 1980-2000 period are examined, it is seen that the kitchen usage area varies between 9 m² and 24 m². The average kitchen area was determined as 14 m². When the apartment buildings of 1980-2000 period are examined, it is seen that the total hall - living area usage area varies between 32 m² and 89 m². The average living room and living area is 56 m².

When the apartment buildings of 1980-2000 period are examined, it is seen that common area usage varies between 27 and 33%. The average common area use was 30%. The average kitchen area is 9%.The use of private space ranged from 18% to 30%, service area utilization rate was between 6 and 7% and balcony use% 15 to 19%. (Table 5).

Spatial Analysis after the Year 2000 Apartments

General Characteristic

The apartment buildings built between 2000 and present period generally have the characteristic of building in the discrete structure and single structure - parcel layout. The structures are usually 5-6 stories. However, the housing types produced over 10 times and over are becoming widespread (Fig. 8).

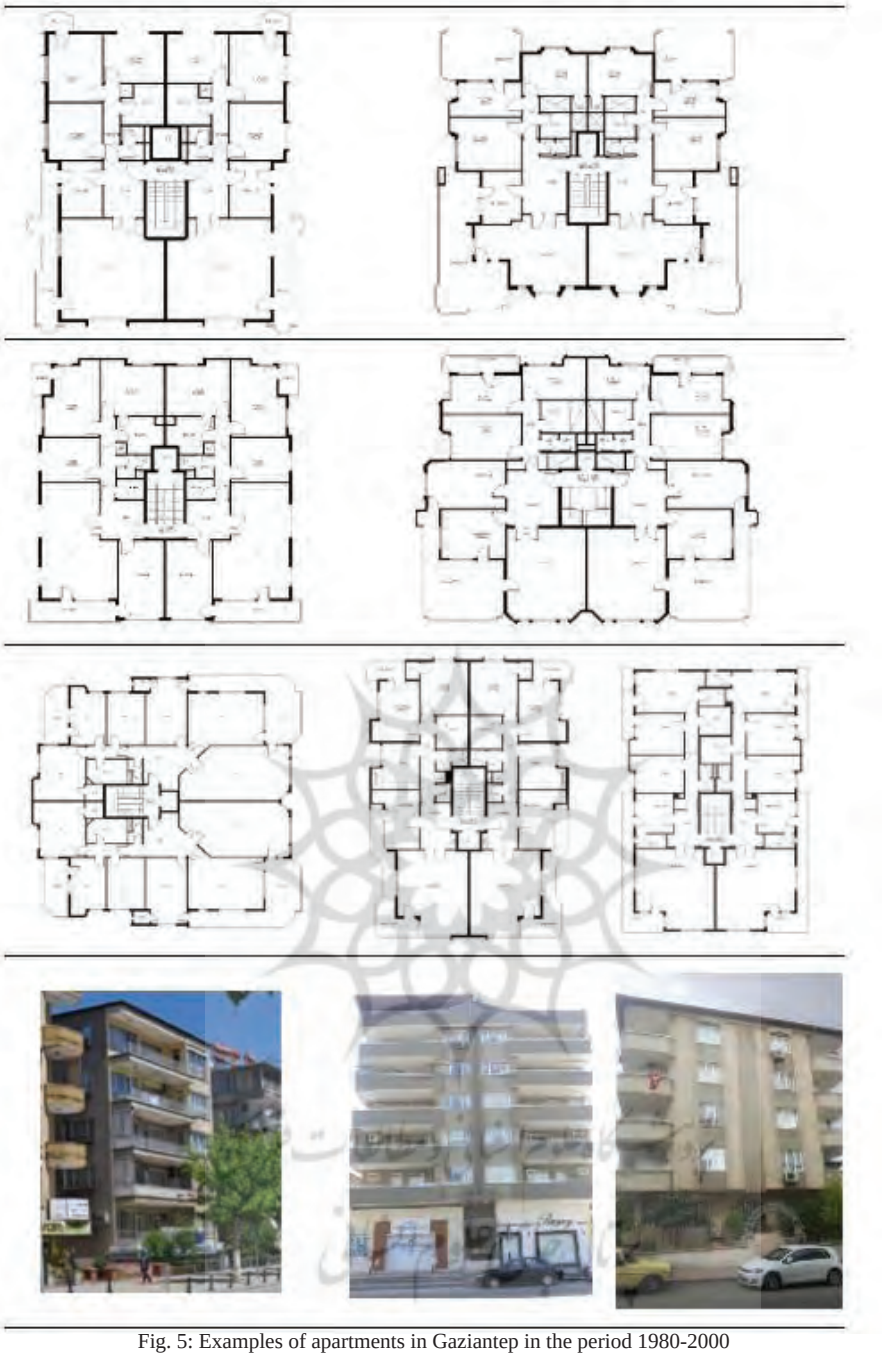
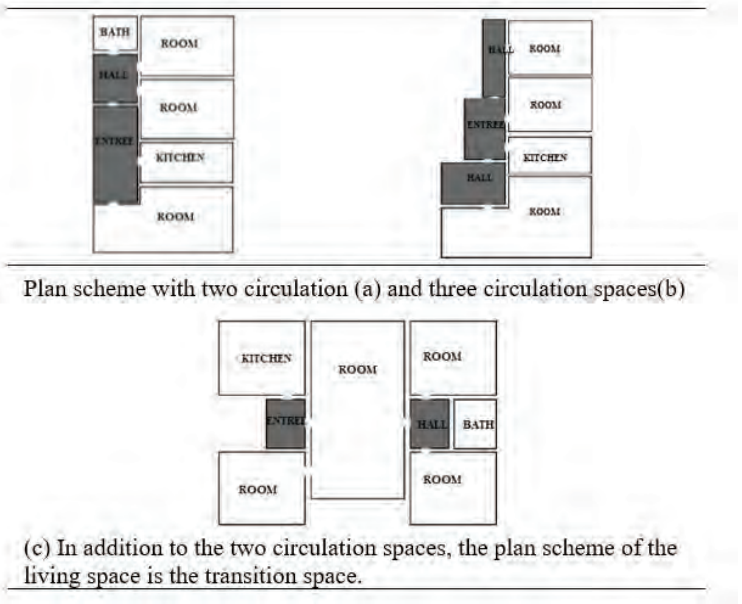


Fig. 5: Examples of apartments in Gaziantep in the period 1980-2000

Table 4: Spatial distribution of apartment buildings in 1980-2000 period (%)

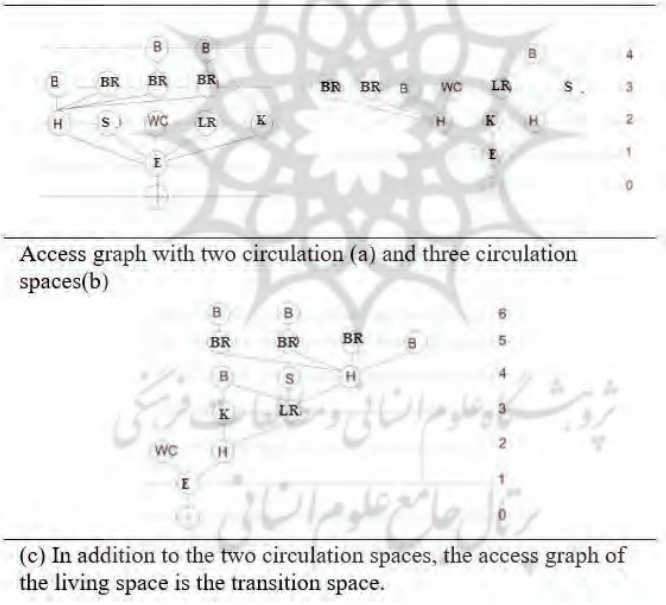
	Min.	Max.	Avg.
Parcel Size (m²)	570	1322	835
Building Floor Area (m²)	198	450	303
Base Area co-efficient	0,25	0,55	0,37
Floor Area co-efficient	0,4	5,6	2,2



Plan scheme with two circulation (a) and three circulation spaces(b)

(c) In addition to the two circulation spaces, the plan scheme of the living space is the transition space.

Fig. 6: Generally plan scheme and circulation connections of apartment buildings in Gaziantep 1980-2000 period



Access graph with two circulation (a) and three circulation spaces(b)

(c) In addition to the two circulation spaces, the access graph of the living space is the transition space.

Fig. 7: Gaziantep 1980-2000 period apartment access schemes

Table 5: Spatial ratios of 1980-2000 period

Criteria	Min.	Max.	Avg.
Common Area (%)	27	33	30
Kitchen (%)	8	10	9
Private Areas (%)	18	30	26
Service Areas (%)	6	7	7
Balcony (%)	15	19	17

Fig. 8: Examples of apartments in Gaziantep 2000 and later

Table 6: 2000 and later period parcel and location properties

	Min.	Max.	Avg.
Parcel Size (m²)	852	3000	1662
Building Floor Area (m²)	255	840	473
Base Area co-efficient	0,25	0,30	0,28
Floor Area co-efficient	1,2	2	1,5

Fig. 9: Generally plan structure and circulation connections of the buildings of Gaziantep in the year 2000s

Structures usually occupy 30% -40% of the parcel floor area. The characteristics of the apartment buildings at the parcel level are summarized in Table 18. It has been seen that the parcel size of the apartment type houses, which were built in 2000 and after, has changed between 852 m² and 3000 m2. The average parcel size is 1662 m². It was seen that the Building Base Area ranged between 255 m² and 840 m². The average building floor area is 473 m². The floor area has a coefficient of 0.28. The floor area is between 1,2 and 2, while the average floor area is 1,5 (Table 6).

Plan Scheme and Access Chart

The buildings built in 2000 and later period are based on two types of plan typology. The first one is the plan scheme that scattered from the room to the room. There is no discrimination between day and night (Fig. 9a). The second is the plan diagrams which are the secondary circulation space after the entrance, usually service spaces, wet areas and bedrooms are connected to this circulation. There is night and day hall separation (Fig. 9b).

The access plan for the first plan type has a depth value of 4. The access graph shows asymmetric properties. Because the rooms located in the night hall and the rooms in the room are not equal access (Figure 10a). The other plan type is the access graph depth values 4. There is an asymmetric feature (Figure 10b).

Spatial Usage Size and Ratio

When the apartment buildings were examined in the period

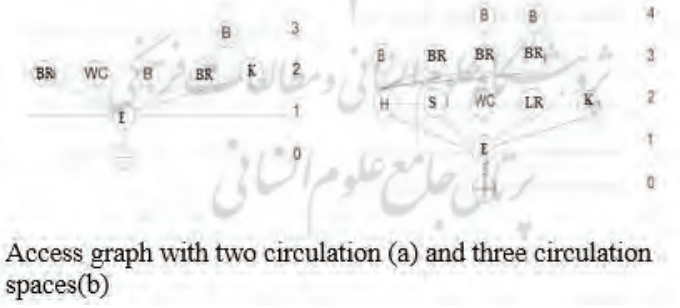


Fig. 10: Access graphs of apartment buildings belonging to the period of Gaziantep 2000

Table 7: Spatial proportions in 2000 and later period

Criteria	Min.	Max.	Avg.
Common Area (%)	25	49	35
Kitchen (%)	5	20	11
Private Areas (%)	19	31	27
Service Areas (%)	8	10	9
Balcony (%)	4	16	12

of 2000 and later, it is seen that the kitchen usage area varies between 6 m² and 10 m². The average kitchen area was 11 m². When the apartment buildings in the period of 2000 and later are examined, it is seen that the usage area of the living room is between 11 m² and 53 m². The average living room and living area is 25 m².

It is observed that the use of common area varies between 25% and 49% when the apartment buildings of 2000 and later period are examined. The average common area use was found to be 35%. The usage area of the kitchen is between 5% and 20%, the use of private space is 19% and 31%, the service area is between 8% and 10%, and the use of balcony varies between 4% and 16%. The average kitchen use is 11%, the average use of private space is 27%, the average service area is 9% and the average balcony usage is 12% (Table 7).

CONCLUSION

As a result of the findings, it is seen that the average parcel size does not change much when the parcel level features are examined. On the other hand, the ratio of the floor area of the zoning parcel in the building plot was 0.50 in 1960-1980 and then decreased to 0.40. It is possible to say that the emergence of these values, the provisions of the legislation and regulations in effect are effective. As a matter of fact, the maximum floor area usage in the 1980-2000 period is limited to 0, 40. This value was reduced to 0.30 towards the end of the 1990s. In 2000s, the maximum floor area utilization coefficient was increased to 0.4. In the context of this assessment, the value of the use of floor area in the parcel of apartment type houses indicates that the period uses the maximum criteria defined in the relevant regulation (Table 8).

When the plan schemes of the apartment buildings were compared periodically, 3 different plan schemes were seen in the apartments in the 1960-1980 period. The first is the housing, which is distributed to the rooms from the entree, and the second is the housing and the distribution of the hall. In addition to the entrance hall and night hall, the living room became part of the circulation.

In other words, there is a direct connection from the living room to the night hall. This structure can be found in traditional Gaziantep houses. Therefore, it can be said that the traditional structure has been maintained during this period. Compared to the previous 10-year period in the 1980-2000 period apartments, the day-night hall distinction was evident. In the period of 2000 and beyond, the flats in the apartment buildings in 1980-2000 period continued. Therefore, it can be said that this change on the other hand, indicates that the social structure has gradually evolved towards the core family structure.

During the 1960-1980 period, there are 3 different types of access graphs in apartments. The first one is the form that is distributed from room to room. The depth value is 3. Second, there are subjects which are distributed in the type of access graph, entree and hall. The depth value is 4. Privacy value is directly proportional to the value of depth can be said to increase the degree of privacy. These schemes show asymmetric properties. Because 2 steps are required to reach the bedrooms, 1 step is required for the kitchen. So the ways of accessibility vary. The third is the graphic which is formed by the entrance hall and the living room as part of the circulation. So there is a direct connection from the living room to the night hall. The depth value is 6. In contrast to the apartments in the 1980-2000 period, the day-night hall distinction is evident. The value of privacy is directly proportional to the depth value and the privacy level is 4. It shows asymmetric properties. Because

Table 8: Comparative analysis of changes at parcel level

Average Values	Periods		
	1960-1980	1980-2000	2000- Present
Parcel Size (m²)	613	835	1662
Building Floor Area (m²)	310	303	473
Base Area co-efficient	0,51	0,37	0,28
Floor Area co-efficient	1,7	2,2	1,5

Table 9: Comparative analysis of kitchen size (m²)

Periods	Min.	Max.	Avg.
1960-1980	6	10	8
1980-2000	9	24	14
2000-Present	6	10	18

Table 10: Comparative analysis of salon sizes (m²)

Periods	Min.	Max.	Avg.
1960-1980	26	68	45
1980-2000	32	89	56
2000-Present	11	53	25

2 steps are required to reach the bedrooms, 1 step is required for the kitchen. So the ways of accessibility vary. The access graph in the 2000-present period apartments has not changed.

The spacious size of the apartments examined in Gaziantep city provides interesting data when compared periodically. For example, kitchen use is one of the most striking areas. The kitchen areas, which range from a minimum of 6-9 m², have developed between 10-24 m². Although the minimum area size did not very much, the maximum size increased gradually until the last period. In the background of this increase, Gaziantep has a different culinary culture among other equivalent industrial cities. We see that this feature is continuing in Gaziantep while the kitchen is losing its importance and shrinking due to the core family structure and working opportunities in other cities (Table 9).

Another factor in interpreting the variability of these data is the income status. As a matter of fact, as the size of housing increases, the kitchen is increasing both proportionally and proportionally. This trend offers interesting inputs for studies to be carried out in similar scopes in the social and cultural area. A similar situation is reflected in the results of the living room or living room. The minimum hall sizes are between 11-32 m² and the largest ones are 53-89 m². These data are related to the level of economic income. As income levels and housing size increase, the size of the rooms is 45 m² and above. Contrary to this situation, the size of the living space decreases to around 11 m² (Table 10).

Finally, the findings of the study provide some clues for apartment type housing designs. These clues suggest that a number of variables, ranging from social, economic and cultural structures to regulations, are effective in changing the layout of apartment buildings. Plan scheme and access graph on the one hand, depending on the use of night and day space separations are separated from each other, while different typologies in the past period decreased by reducing the number of similar solutions are noteworthy. In other words, the alternative or variety encountered in the housing plan solution decreases or even developed within the framework of the same spatial fiction. In terms of area size, the increase in the share of kitchen and balcony areas in the total building area indicates that the usage opportunities and the time spent in these areas have increased.

Globalization refers to the unipolar world order in the political dimension, the dominance of international capital in the economic dimension and the cultural equalization in the cultural dimension worldwide. These research findings are evaluated within the framework of apartment buildings in Gaziantep. Research results provide important experiences for sectors that have a say in the design and production of housing in the near future.

AKNOWLEDGE

This research was prepared by the master thesis titled ‘Review of spatial changes in the apartment type of residences: Gaziantep example’ by the first author under the supervision of the second author in Hasan Kalyoncu University, Institute of Natural and Applied Sciences.

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