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**Understanding Gaziantep's Traditional Spatial
Organization in the Context of Socio-cultural
Effects**

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Understanding Gaziantep's Traditional Spatial Organization in the Context of Socio-cultural Effects

Esra Gurbuz Yildirim

Abstract

Gaziantep city, which has a unique architectural style and urban pattern, shows Islamic traditions and Turkish culture in its built form. The city hosted many different ethnic groups like Jewish, Christian, and Armenian during Ottoman Empire period. This paper aims to understand spatial reflections of socio-cultural differentiations of these ethnic groups over naturally evolved traditional city pattern of Gaziantep with the help of space syntax. For this research old city map of Gaziantep, which was probably produced by architect Harutun Poladyan in 1920's, and redraw by Barsumyan and Nazaryan in 1950's will be used for axial and visual analysis of space syntax. With comparative and syntactic analyses of 3 districts; Bey (Armenian), Sekeroglu (Muslim), Dökmeci/Düğmeci (Jewish) and also whole old city, it is aimed to understand how the city and its street network was formed under socio-cultural effects and what was the logic of urban organization of the city. Main motivation of this research is to find some guidelines and clues for new designs in traditional patterns. The development of modern architecture in Turkey, also in Gaziantep caused a big gap between old and new city patterns. Discontinuity of architectural and urban pattern between the present city and the old city is a critical problem for Gaziantep. So spatial researches about the city in order to understand how it was formed is very important for interpretations and for future designs. Becoming aware of the richness of this historic urban environment is very important for sustainability of the configurational properties of naturally evolved urban patterns.

Keywords: Islamic culture, Privacy, Spatial pattern, Traditional architecture.

Introduction

Understanding the existing spatial network and social organization of a city is very important in order to make new and sustainable designs. Because this relational organization gives clues about the daily use of the city in different scales and in different circumstances, social and cultural background of the city, and spatial behaviors of users from different cultural background.

In Gaziantep there are many different factors like culture, religion, economy, topography and etc., which affected traditional urban structure and urban development as many naturally evolved cities in the world. Especially users and their socio cultural behaviors are very important in order to understand and read a city. Old city of Gaziantep hosted societies from different cultures during different time periods. In the scope of this paper mainly it was aimed to understand the richness of this urban environment and the potential of spatial organization of the city under the effects of different ethnic groups and their cultural background. In other words how society and urban form affected each other by time and how historic city was formed under these cultural effects of the society. As Hillier mentioned (1984), the cultural and social identity of a society and built urban form, have a compact relationship and they reflect each other. For example, in traditional urban pattern of Gaziantep mainly residential areas were developed under the effects of privacy and security needs of the society. A society shapes and forms architectural structure of the city, namely a city is formed socially and vice versa a society has spatiality. While local settlements' spatial and geometrical forming is related with socio cultural factors, similarities in urban fabric of different cities are caused by micro-economic factors (Hillier, 1984; 2001).

With the help of space syntax analysis it would be possible to interpret reflections of culture in built form in different districts of the city, which belongs to different ethnic groups and which have different functions. Also it is aimed to understand the spatial relationship and way of connection of each district with their immediate neighbors and with the whole city. Old city of Gaziantep may be seen as a whole visually and all districts can be perceived as similar in architectural manner, but with the help of spatial analysis we aimed to understand the logic of urban configuration, which cannot be understood at first glance.

While historic urban pattern of Gaziantep has its own self-organized mechanism, modern pattern of the city was formed under the effects of economic and external factors like modern urbanism rules that took center stage in the world, by the early twentieth century (Gürbüz and Kuyucu, 2016). Traditional historic center of Gaziantep lost its architectural and physical importance and relevance like many traditional cities around the world because of rapid modernization and changing needs of societies. After the movements of modernism for a long time the traditional urban and architectural culture was ignored in the city. Because of this ignorance there is a sharp distinction with the old and the new city in architectural and urban manner. As the urban renewal projects are popular topics for the city nowadays, there is a necessity to understand the importance of this urban

and architectural culture in order to integrate the historic city with new designs. For designing individual projects or local areas in the historic city or just in the immediate neighborhoods there should be an understanding of configurational properties of the historic patterns, which determines the characteristic of the city in urban and architectural scale. For a socially sustainable urban design we should consider and interpret traditional urban and social properties of the city.

In the scope of this paper old city map of Gaziantep, which was probably produced by architect Harutun Poladyan in 1920's, and redraw by Barsumyan and Nazaryan (soldiers) were used for axial and visual analysis. Whole city (old historic core), and 3 residential, different districts; Bey (Armenian), Sekeroglu (Muslim), Dökmeci/Düğmeci (Jewish) which hosted 3 different ethnic groups, are analyzed in order to understand cultural and spatial configurations. The results of these analyses will be a useful source for the understanding of old historic city of Gaziantep, its configurational formation process and will provide a general knowledge for new designs in the old city center.

City, Culture and Society

The phenomenon of the city is always a challenging subject for architectural and urban studies. Many researches are done in order to understand the relationship between urban form, culture and society with different methods. Related with these researches there are many different explanations about the city phenomena; for example Vaughan (2007) defined the city as physical city and the social city. She explains this classification of the city as 'A large collection of buildings linked by space, and a complex system of human activity linked by interaction' (Vaughan 2007). Hillier and Hanson (1984) emphasize that a city is formed with its users and their culture. A city's urban and architectural form reflects the cultural and social identity of the society who lives in.

'What kind of differences make cities different from each other?' is an essential question for researches about urban design and space syntax. Basically all cities are formed with few long and continuous streets and lots of short-end streets. But the configuration and the unity of these streets create differentiation and generate different morphological and syntactic properties, which mainly arise from cultural reasons. In Table 1 we can see the differentiation of syntactic values, which belong to USA, US, Europe, Saudi Arabia, Libyan and Gaziantep. Connectivity and integration, which are the most used measurements in space syntax, are related with pedestrian movements, potential destinations and accessibility. With these values we can interpret the street network and distinctive morphologies of the cities. For example connectivity and local integration values of Islamic cities are lower than the other ones mainly because of privacy and security needs. These socio-cultural needs formed these cities and especially residential districts with short-end streets and cul-de-sacs with an inward looking structure.

Table 1. *U.S.A., Europe, U.S. and Saudi Arabia were analyzed by Bill Hillier, Libyan by Faraj El Agouri, Gaziantep by Author*

| | INTEGRATION HH (Global) | INTEGRATION HH3 (Local) | INTELLIGIBILITY | SYNERGY | CONNECTIVITY | AXIAL SIZE |
|---------------------|----------------------------|----------------------------|-----------------|---------|--------------|------------|
| USA | 1.610 | 2.956 | 0.224 | 0.559 | 5.835 | 5,420 |
| EUROPE | 0.918 | 2.254 | 0.137 | 0.226 | 4.609 | 5,030 |
| U.S. | 0.720 | 2.148 | 0.124 | 0.232 | 3.713 | 4,440 |
| SAUDI ARABIA | 0.650 | 1.619 | 0.231 | 0.160 | 2.975 | 840 |
| LIBYAN | 0.904 | 2.061 | 0.192 | 0.369 | 3.530 | 1,416 |
| GAZIANTEP | 0.864 | 1.657 | 0.130 | 0.320 | 3.311 | 1,136 |

Source: Hillier, 2001 and Agouri, 2004.

In his book ‘Urban Space’, Krier (1979) analyzed cities over streets and squares in order to understand old cities’ urban patterns and urban configuration. The main reason of his research was his critics about similarities of new and modern cities. He emphasized that for new, sustainable and unique urban designs we should understand the old ones. Streets are the circulation networks between districts, which shape and form the structure of the city pattern. Hence understanding the logic of circulation networks is very important in order to interpret the city pattern. Krier (1979) underlined that street patterns of cities can be different from each other due to the pedestrians’ usage. For example placing the entrances of houses directly on the streets or leaving streets only for pedestrians or entering directly to the garages of the houses are all properties that can change the street network and the city pattern.

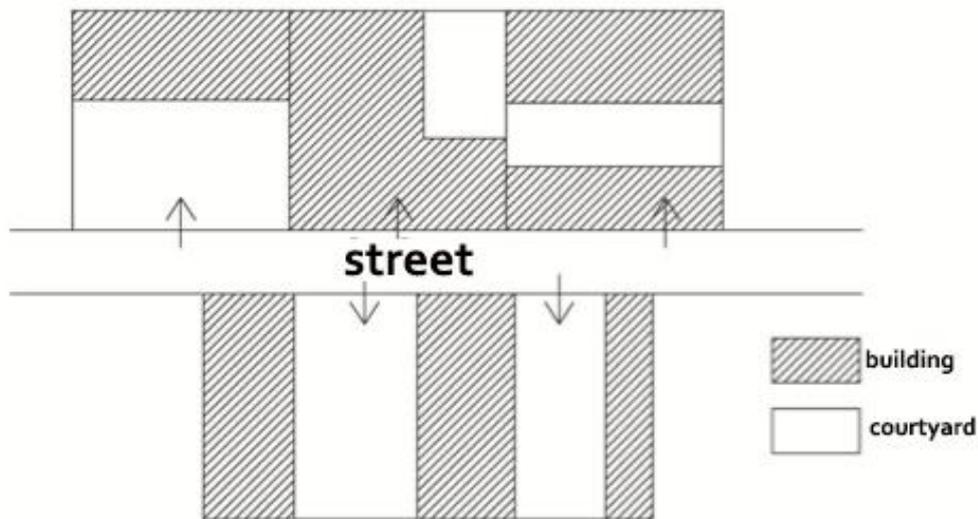
In traditional Anatolian and Islamic cities privacy is a social case, which deeply effects the morphological configuration of the cities. As mentioned above confrontation of strangers and locals in residential areas is an unwanted situation (due to privacy needs), the spatial configuration and street network generally do not led the strangers to reach into the residential areas. While cul-de-sacs are accepted as unsecure areas in European countries, in Anatolian and Islamic countries they are private and secure areas of the residential districts. So culture and users are the main factors, which give meaning to the cities and their physical and morphological properties.

Not only street network, but also built forms are very important components of the cities. The way of coming together all the individual buildings, streets, open spaces etc. form the morphology and the pattern of the city. So we should discuss each city with its unique street network, built

form, open and closed spaces as a whole. Especially in naturally evolved cities there is a compact relation between public and private areas, which arise from each other. Due to requirements of the society and daily use of spaces different public and private areas were generated in each city. For example while in European cities social activities took place in public areas, in Islamic cities (in historic periods) these activities took place in the houses. Because in Islamic and Anatolian cities generally women spend their daily life in courtyards of the houses and public activities took place in the courtyards of religious buildings. Hence these cultural and social differentiations directly affected the arrangement of open and public areas, street and built form relations of the cities.

In the traditional city center of Gaziantep generally all entrances of the houses were placed on the streets (see Figure 1). But most of these entrances were opened to a courtyard and some of them were directly opened to the houses (see Figure 1). All the courtyards and houses are separated with blank masonry walls from the streets because courtyards are the places where the privacy was in high demand. Women spent their daily life in courtyards and these courtyards should be separated from outside because of religious and socio-cultural beliefs. This social life configuration changes the meaning of streets and openings like courtyards. In Anatolian cities while streets are just for circulation, courtyards are the openings where all social activities took place for women.

Figure 1. A Diagram, which Shows the Relation of Street, Entrance and Houses



Source: Author.

Since the dwelling is one of the main needs of human beings it took many different forms according to the culture and users by time all over the world. Hanson and Zako (2007) analyzed different housing morphologies in historic patterns and showed that there are numerous types of different conceptions of movement, co-presence and surveillance. All these variations are formed due to the social patterns of the societies. According to Hillier and Hanson (1984), the spatial configurations of buildings and cities have a

direct influence on social life. In Islamic cities we can read socio-cultural effects especially in residential areas with the help of daily life, cultural behaviors and spatial organization. In the historic core of Gaziantep, housing zones and commercial zones were designed to minimize social contact and confrontations between strangers and locals. There is a naturally evolved interface between locals and non-locals, and so public space and residential areas do not offer the potential for unplanned interactions. Hence residential areas should be analyzed far beyond the physical and visual aspects of the individual houses.

In residential districts we can find architectural, social and physical aspects of the cities. Due to various sources Gaziantep traditional districts were developed in accordance with religious and ethnic groups. When a new group moved to the city, first they started to build their religious buildings and afterwards they settled down around these buildings. Not only religious buildings had an important role in the development process of the districts, but also they were public and administrative buildings during Ottoman Empire period. When we analyze the city architecture and urbanism we should consider that there was no governance in Gaziantep like other Ottoman cities. For this reason Gaziantep was a self organized city in architectural and urban development affairs. This also means that society and its culture was the main factor, which shaped and formed the city.

Case Study: Gaziantep, Turkey

Gaziantep, which has a unique architectural style and urban pattern, shows Islamic traditions and Turkish culture in its traditional built form. It is located in the southeast part of Turkey and has always been one of the most important territories for the southeastern region of Anatolia.

Because the city was located on one of the most important and dominated trade routes (Silk Road), it had an important role in the region. Since the first settlements were placed in the borders of castle, the trade axe of the city was started from castle and oriented through Aleppo (see Figure 2). Over time because of population growth housing patterns started to settle down around the castle and many khans were built on this trade axe.

sustainability of the city was disregarded. So these new circumstances led to the formation of new spatial and architectural models in the city. After the declaration of republic, Gaziantep city, which has a unique traditional urban fabric, has entered a new architectural formation process. New modern buildings, which are placed around the new boulevards and streets, have been accepted by the society quickly and the city has continued to grow rapidly.

While historic urban pattern of Gaziantep has its own self-organized mechanism and culturally specific urban pattern; modern pattern of the city is dominated by micro - macroeconomic and external factors like different model of urbanism that took center stage in the world, by the early twentieth century. The development of modern architecture in Gaziantep caused a big gap between old and new. So discontinuity between the present city and the old city in architectural and urban content is a major urban problem for Gaziantep.

Space Syntax Methodology, Analysis and Results

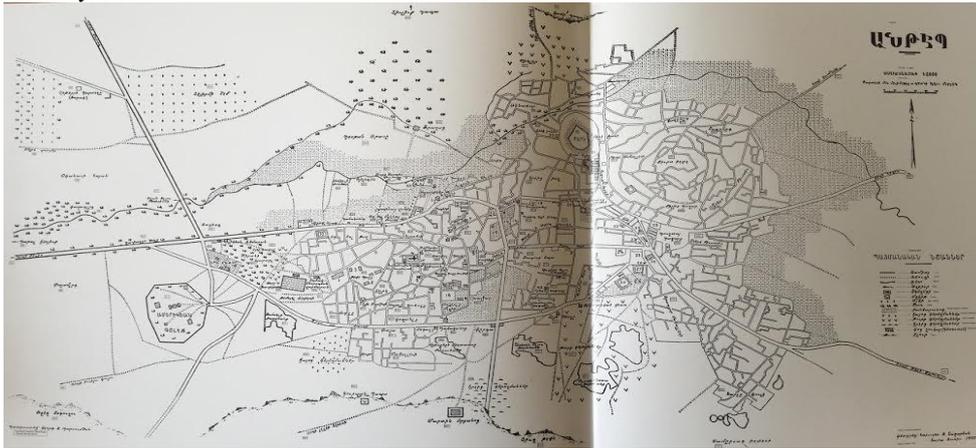
As the main focus of this research is explaining social or cultural meanings of spatial configurations of the traditional city pattern of Gaziantep, space syntax method was chosen for analysis.

Bill Hillier, Julienne Hanson and their team developed space syntax method in late 70's and early 80's, at the Unit for Architectural Studies, University College London. It was introduced as a technique, which can be used for understanding spatial and social relationship of cities, morphological analyses of urban patterns, building plans etc. This method can be used in many areas related with space, culture and society in other words for understanding and analyzing socio-spatial relations in built environment, landscapes and cities. The method was first used for understanding the development process of cities and natural movement of people related with social activities. Afterward many researches were done with this method for pedestrian modeling, criminal mapping and way-finding process in complex built environments (Hillier, 1996).

All axial and visibility maps of old Gaziantep were produced and analyzed by DEPTHMAP programme. Turner (2004) explained this platform as 'Depthmap is a single platform to perform a set of spatial network analyses designed to understand social processes within the built environment. It works at a variety of scales from building through small urban to whole cities or states. At each scale, the aim of the software is to produce a map of open space elements, connect them via some relationship (for example, intervisibility or overlap) and then perform graph analysis of the resulting network'.

As mentioned above, old city map of Gaziantep, which was prepared by Barsumyan-Nazaryan during Turkish war of independence (see Figure 4), was used for syntactic analyses. This old city map makes it possible to read traditional pattern and street network of the city.

Figure 4. *Old City Map of Antep, which was Prepared by Barsumyan-Nazaryan*



Source: Yakar and Uçaner, 2015.

First axial and visibility maps of Gaziantep’s traditional city core were drawn and then syntactic analyses were produced by DEPTHMAP program. When the maps of Gaziantep were drawn also Bey, Şekeroğlu and Dügmeçi Districts’ maps were ready too, but the analyses of each district and the city were done separately (see Table 3) With these maps axial integration, connectivity, mean depth, intelligibility, synergy and visibility relationships were measured (see Table 3) in order to put forward spatial and social similarities and differentiations. Also at the end of the analyses, colored syntactic maps of each measurement were produced and by this way it was possible to handle each axe of the patterns. In these maps while red and orange colors indicates high values, blue and purple colors indicates low values of measurements. Explanations of each measurement were done much more detailed in the analysis part.

Table 3. *Results of Axial and Visual Analysis*

| | BEY DISTRICT | SEKEROGLU DISTRICT | DÜĞMEÇİ DISTRICT | GAZİANTEP |
|-------------------------|--------------|--------------------|------------------|-----------|
| INTEGRATION HH (GLOBAL) | 1.07 | 0.86 | 1.04 | 0.86 |
| INTEGRATION HH3 (LOCAL) | 1.48 | 1.55 | 1.49 | 1.65 |
| MEAN DEPTH | 5.20 | 7.23 | 5.27 | 10.02 |
| TOTAL DEPTH | 571 | 1534 | 564 | 11395.6 |
| CONNECTIVITY | 3.00 | 3.33 | 2.83 | 3.31 |
| NODE COUNT | 110 | 213 | 108 | 1138 |
| INTELLIGIBILITY | 0.48 | 0.31 | 0.33 | 0.13 |
| SYNERGY | 0.82 | 0.57 | 0.63 | 0.32 |
| VISUAL INTEGRATION | 4.60 | 2.50 | 3.97 | 2.22 |

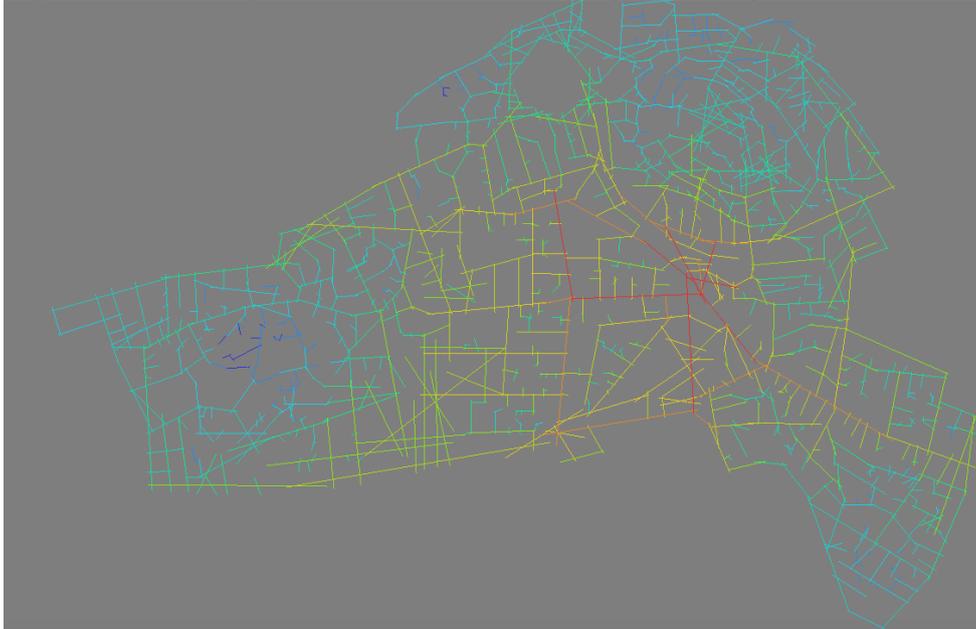
Source: Author.

Integration

Integration analysis, which is the most used syntactic analysis, shows cognitive complexity of reaching a street, pedestrian movements and potential

destinations in the system. This value indicates the average depth of a space to all other spaces in the system (Klarqvist, 1993). If integration value of a street is high then it shows that it is easier to reach that street and it is a popular street (Gürbüz and Kuyucu, 2016). Globally, Gaziantep has a mean integration value of 0.86, which is accepted as a low value. Because Islamic cities and naturally evolved cities are shaped with short and broken lines, generally their integration values are lower than USA and some European cities. We can see that integration core of the traditional city core (see Figure 5) is main trade axe which goes through southeast direction to the Aleppo. As these trade axes are the most integrated ones it is easier to reach these streets than the inner parts of the city. Also when we compare commercial areas with residential areas we can see that these integrated axes are the longest axes of the city. Because unlike residential districts (due to the function of these axes) there was no need of privacy, no problem about confrontation of locals and non-locals. Beside the trade axes also recreational areas, American Hospital and its neighborhood, which are located in the south of the city, are integrated districts of the city.

Figure 5. *Gaziantep Traditional Pattern's Integration Map*



Source: Author.

When we handle residential areas of different ethnic groups we can read and understand how privacy shaped the city. Residential areas are the less integrated zones (axes shown with blue and green colors) of the city. Generally all of them were shaped with short and broken lines and cul-de-sacs, which make these districts less integrated and less intelligible.

Deformed wheel shaped Bey District has central and borderlines (see Figure 6), which have high degree of integration value. Hence the inner axes of the pattern are shorter and cul-de-sacs are less integrated; they naturally avoid the accessibility of non-locals. These short lines of axes and cul-de-sacs have less integration potential but give great changes in direction of visual fields. So length and articulation of these lines are important parameters

for the whole system's spatial organization. The central axe, which is the most integrated and less broken one, connects the district with the monastery in the north and with the recreation area and windmill in the south. Also this axe hosted a church and an open-air cinema (both of them demolished now) namely a public function that we cannot see in Muslim districts. This most integrated axe makes the district more accessible and integrated with the city in comparison with Sekeroğlu District. In Bey District besides this main and most integrated axe, inner axes low integration values indicate the privacy necessity and spatial organization choices of that society.

Figure 6. *Bey District's Most Integrated Axe Shown on Axial Map and Barsumyan- Nazaryan Map*



Source: Author.

Even the most integrated axe of Sekeroğlu is the same with the main trade axe of the city; global integration value of Şekeroğlu Districts (0.86) is less than Bey (1.07) and Düğmeci (1.04). But it has the same value with the whole city (0.86). Even the most integrated trade axe of the city (Figure 6-right) is in the borders of Sekeroglu neighborhood; the district was not integrated with the city. This low value of integration indicates that locals of Şekeroğlu showed great tendency to privacy and segregation, confrontation of local and non-locals was an unwanted situation due to the cultural and religious beliefs. So while in Bey District axes are longer and less broken, Şekeroğlu District's (see Figure 7) axes are shorter and there are more cul-de-sacs. Mean depth of the district is higher which means that natural movement is more complicated and for strangers it is hard to penetrate into the pattern. High mean depth value shows that locals move from one place to other with higher number of turnings or changing of directions. Beside low global integration value, higher local integration (average depth in 3 or 5 steps) value implies that spatial interaction among neighbors is more possible in Şekeroğlu.

Figure 7. *Şekeroğlu District's Most Integrated Axe Shown on Axial Map and Barsumyan-Nazaryan Map*



Source: Author.

Düğmeci district's (see Figure 8) most integrated axe is the one, which hosts a synagogue and continues through the castle. When we compare with other districts we can see that there are more straight lines, which are oriented through the castle and less cul-de-sacs in Düğmeci district. We can interpret this morphology as less tendency of privacy, cultural and social behaviors of locals. For example with its social functions Bey District was more open to non-locals than Şekeroğlu. Bey and Düğmeci were more integrated with the city when we compare with Şekeroğlu District. In Bey and Düğmeci districts there are straight, main axes, which connect them with their neighbors directly and with the rest of the city.

Figure 8. *Düğmeci District's Most Integrated Axe Shown on Axial Map and Barsumyan-Nazaryan Map*



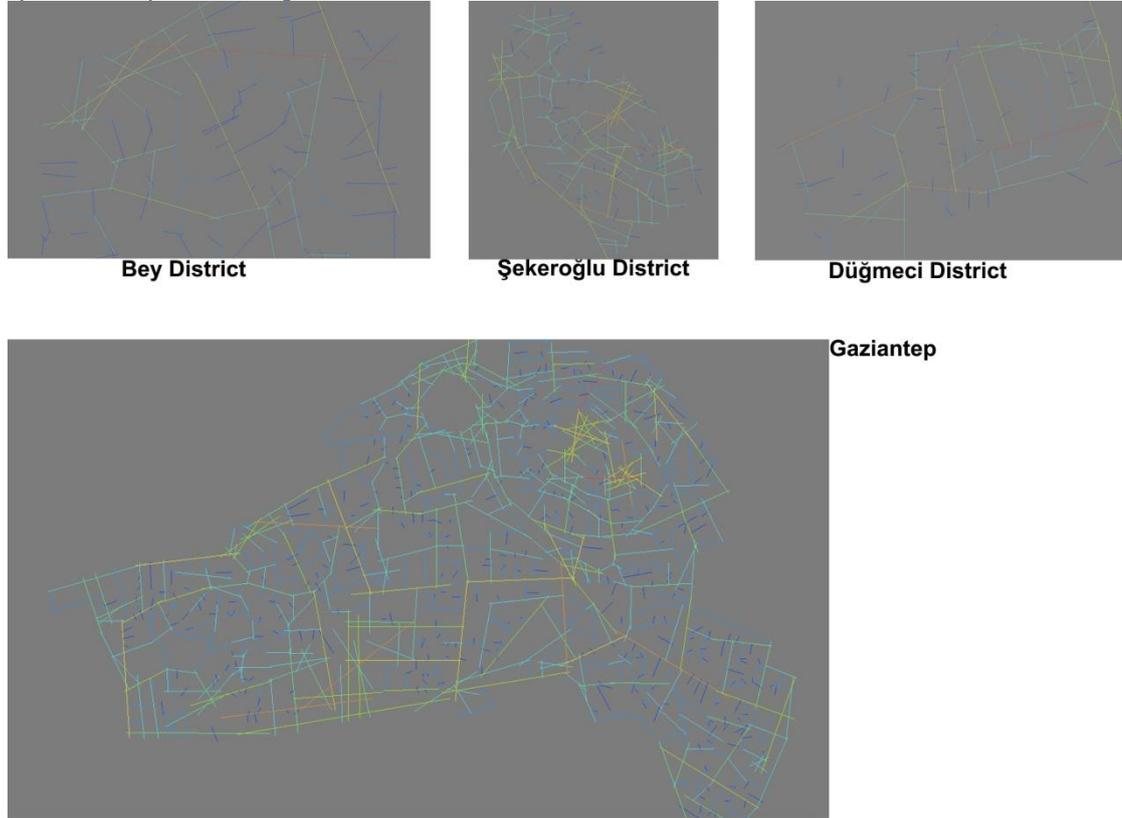
Source: Author.

Connectivity

This value implies information about accessibility, therefore it is also related with social interactions, communications and encounters in the spatial system. The connectivity value gives the number of lines that directly intersect the given line. So as the number of short and broken lines, cul-de sacs and mean depth increase, value of connectivity decrease. The low value of

connectivity is a specific property of Arab cities. In the settlements, where confrontation of users and foreign is an unwanted situation, low value of connectivity is an inevitable circumstance. So, especially the residential areas of Islamic and Anatolian cities are the most segregated parts of the cities because of security and privacy reasons. When we compare with Europe and USA, Gaziantep has a low value of connectivity.

Figure 9. *Connectivity Maps of Three Selected Areas and Traditional City of Center of Gaziantep*



Source: Author.

Between connectivity values of 3 districts (see Figure 9) and the city there is not a sharp difference. Düğmeci district's connectivity value (2.83) is lower than the other ones because of land use properties. Due to the closeness to the castle generally all streets were oriented through it and lands were designed in longitude orientation so the intersected lines are less than the other districts. And Şekeroğlu's value is a bit higher than the other districts because of the number and short and broken lines intersected with each other in all directions. This street network and connectivity value indicates the unwanted accessibility of strangers but the social interactions, communications and confrontations of locals in the system. As mentioned before these residential areas are the most segregated parts of the city because of security and privacy reasons.

Intelligibility

The correlation between axial connectivity and axial global integration gives the value of intelligibility. High degree of intelligibility shows that

whole can be read from the parts; users can understand the whole from the parts or vice versa they cannot understand the whole pattern when the correlation is weak. It also implies the way finding and spatial cognition processes of users; how permeable and intelligible a space is for its users. Numerous, broken axial lines and also cul-de sacs, which are specific urban characteristic of Islamic, organic cities, also affect the value of intelligibility. If an urban pattern's value of intelligibility is 1 it means that intelligibility is very strong, generally urban patterns have an average value like 0.45, less intelligible patterns have 0.2 or even less.

So the low degree of intelligibility of Şekeroğlu (0.31) indicates that there was a high degree of privacy and inward-looking structure. When we compare with other selected areas (Bey; 0.48, Dügmeçi; 0.33) we can interpret this low value again as a consequence of social behaviors and privacy needs of locals. Till now we have seen that due to these reasons Şekeroğlu district has a more inward-looking pattern. With its degree of 0.48 Bey District is the most intelligible one, which implies that users easily understand the whole from their experiences.

Synergy

The correlation between local and global integration (inhabitant/visitors, parts/whole) gives the value of synergy. Low degree of synergy shows that local patterns are globally segregated from the whole in other words this value describes how local structure reflects the whole or vice versa. Both synergy and intelligibility are related with spatial experience of users and visitors, which implies tendency of segregation and the level of privacy.

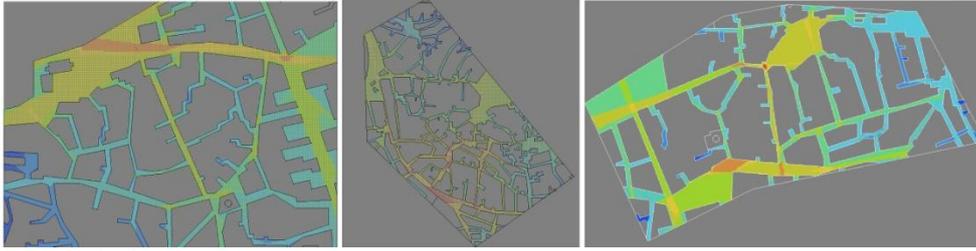
Due to the syntactic analysis Gaziantep's synergy value found as 0.32, and this value is higher than Arab cities (0.16). Between 3 selected areas, Bey district has the highest; Şekeroğlu has the lowest value of synergy. Bey district's high value of synergy shows that the district was well organized for the movement of users and visitors when compared with other districts. Şekeroğlu district's lower value of synergy implies that the district's local areas were segregated even they were closed to the integration core of the city and the users had a high tendency of privacy. Therefore the spatial structure of the district was organized to avoid the penetration of strangers; this instance was reflected to spatial structure as more indirect connections from main streets to local streets.

Visual Integration

Visual integration value shows visual distance from all spaces to all others (Hillier, 1996; Hillier and Vaughan, 2007). Many researches about this subject show that visibility and natural movement depends on each other. Hanson (1998), emphasized about this relationship that; "In moving around buildings, people orientate themselves by reference to what they can see and where they can go". Visibility implies what users can see and permeability implies where users can go. Also this relationship shows us privacy need, natural movement, perception and way finding related with the analyzed areas.

When we compare all selected areas and the city of Gaziantep; Bey district has the highest value of visibility, while Şekeroğlu have the least one. Gaziantep city (2.22) and Şekeroğlu (2.5) have similar values as in the other syntactic analyses. In Figure 10, 3 neighborhoods' areas, which have high visibility degrees, were shown with red and orange colors. Since Şekeroğlu district has the least visibility value, there are few red colored areas. In Şekeroğlu district users or visitor should make large number of turns in their journeys because of large number of broken and short streets and cul-de-sacs in contrast to Bey and Düğmeci Districts. Inward looking spatial structure and privacy needs of community of Şekeroğlu district make it less integrated visually contrary to other ones. As mentioned above although Şekeroğlu district was very close to the integration core of the city, visibility and permeability were unwanted instances for this area and their users.

Figure 10. *Bey, Şekeroğlu, Düğmeci Districts Visibility Maps*



Source: Author.

Findings/Results

The city of Gaziantep is a naturally evolved, traditional Turkish settlement with its short, broken and dead end streets and with an integration core in the center of the city. While residential areas of the city are segregated and show an inward looking structure –of course in different levels, commercial areas are the most integrated ones. Due to the several researches, which were done about history of the city, we know that each district in the historical city of Gaziantep was settled and formed independent from each other. As the city grew by time the gaps between these districts were filled with other ones. So the relation of districts with each other and with whole city is an important state in order to understand the morphology and social behaviors of societies.

With all these syntactic analysis it is seen that, even the historic city center of Gaziantep looks visually as a whole there are logical differentiations at the background of the development process. These differentiations mainly caused by societies' social behaviors and religious beliefs. For example while Armenian and Jewish districts are more open and integrated with the city, Şekeroğlu as a Muslim district shows more inward looking and less integrated spatial structure. So cultural differences and local rules of societies make each city unique. With syntactic comparisons we saw that Jewish and Armenian societies are more similar about the use of space and they are more integrated with city than the Muslim society. Especially in

Muslim districts because of social life and religious beliefs confrontation of locals and non-locals was an unwanted situation. Spatial structure of the settlements with short and dead end streets discourage non-locals to enter inner parts of the patterns.

Conclusions

In the scope of this research 3 different districts and the traditional city center of Gaziantep were analyzed in order to understand the logic of urban pattern. The results provide a general knowledge about the historic city of Gaziantep in syntactic and social manner. Also it is understood that that even a city looks as a whole visually, there may be many morphological and syntactic differences at all.

Each society reflects its own cultural and social life by architectural pattern and shapes the environment they live in. As Bafna (2003) declared, societies use space as a key issue and necessary source for organizing themselves. As a conclusion of these analyses it is possible to say that privacy need, which comes from the culture and religious beliefs, is a key issue for the spatial structure of the city of Gaziantep. These findings present very important sources for sustainability of urban and architectural structure of the historic city. It's very important to understand consequences and reasons of each formation in the traditional pattern to interpret these findings for possible urban design processes present and in the future.

Spatial configuration of the city has changed by time due to the several reasons like micro - macro economy, migration and modernization etc. In the modern pattern of the city, there is no shade of spatial characteristic of the historic city pattern and a sharp difference between traditional and modern. Because of the rapid modernization of the city, traditional core was isolated and lost its importance for a long time. Beside similarities of modern cities, traditional city morphologies, their diversity and architectural richness are important subjects for researches about urbanism and architecture. For sustainability of cities during new urban design processes especially in cities, which have a traditional urban fabric, we should consider existing morphology, users and their social characteristic beyond esthetical concerns. Becoming aware of the richness of a historic urban environment is very important for continuity of architectural and urban properties of naturally evolved urban patterns.

References

- Agouri, F. A., 2004. Privacy and Segregation as a Basis for Analyzing and Modelling the Urban Space Composition of the Libyan Traditional City. Case Study: The City of Ghadames. PhD Thesis. METU, Institute of Science.
- Bafna S., 2003. Space Syntax a brief introduction to its logic and analytical techniques. *Environment and Behaviour*, 35(1): pp. 17.
- Gürbüz, E., Kuyucu F., 2016. The Comparison of Traditional and modern Housing patterns of Gaziantep, ARCHDESIGN 16, 3rd Architectural Design Conference, İstanbul.

- Hanson, J., 1998. *Decoding Homes and Houses*, Cambridge University Press.
- Hanson and Zako, 2007. *Communities of Co-Presence And Surveillance: How Public Open Space Shapes Awareness and Behaviour in Residential Developments*, 6th International Space Syntax Symposium, Istanbul.
- Hillier, B., 1996. *Space is the Machine*, Cambridge, Cambridge University Press
- Hillier, B., 2001. *A Theory of the city as object or how spatial laws mediate the social construction of urban space*. Atlanta: Proceedings 3rd International Space Syntax Symposium.
- Hillier, B., Hanson, J., 1984. *The Social Logic of Space*, Cambridge: University Press.
- Hillier, B., Vaughan, L., 2007. *The City as One Thing*. *Progress in Planning*, 67 (3) pp. 205-230.
- Klarqvist, B., 1993. *A Space Syntax Glossary*, Nordisk Arkitekturforskning.
- Krier, R., 1979. First published in German in 1975. *Urban Space*, Academy Editions, London.
- Tatlıgil, F., 2005. *The analysis of traditional houses and alteration of socio-cultural structure of Gaziantep city*, Master Thesis, YTU Graduate School of Natural And Applied Sciences.
- Ünal, Z. G., 1998. *Creating a Computer Aided Historical Environment Information System and Sampling on Gaziantep Cultural Heritage Site*, Phd Thesis, YTU Graduate School of Natural And Applied Sciences.
- Vaughan, L., 2007. *The spatial syntax of urban segregation*, *Progress in Planning*, vol. 67, pp. 205-294.
- Yakar, H. İ. Uçaner, M., 2015. *Barsumyan–Nazaryan Antep City Plan*, Municipality of Şehitkamil Cultural Publication, Gaziantep.
- Yüce, B., 2010. *The Change of Architectural Texture in Gaziantep During Late Ottoman Empire and Early Republican Periods (1839-1950)*, Master Thesis. ITU Graduate School of Natural And Applied Sciences.