

Investigation of Formal Aesthetic Elements in Living Spaces

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ABSTRACT

Aesthetic is a natural factor, which is directly related to the emotions of human beings. Aesthetic can be a bridge between observation and emotions. It can easily effect the perception and cognition of users. Aesthetic have different elements which come together to create the sense of satisfaction for the viewers. The main elements of formal aesthetics are Form, Color, Texture, Lighting and Shadow. These elements can come together to create the sense of beauty but the way of using them are significant to achieve the correct solution.

One of the purposes of design philosophy is to increase the quality of experience of human beings to know the aesthetic. By utilizing the main elements of formal aesthetics, this purpose can be reach at the end of the design process.

In interior architectural spaces formal aesthetic elements can play an important role to give the sense of satisfaction and preference for users. The main elements are examined and emphasized in this study.

The problem of this study is, it feels that, the formal aesthetic elements cannot be seen clearly in the duplex houses of Famagusta. These elements are not organized according to the user's needs in most houses. The aim of this study is to discover the effects of formal aesthetics in living space organizations in duplex houses of Famagusta. By considering the values of formal aesthetics and different usage of formal aesthetic elements, this study will explore how formal aesthetic elements effect the living spaces of houses in Famagusta. Different methods used for this study are space syntax, classification technique, semantic rating scale and

observation to reach the conclusion of this study. Also, this study is going to be limited to the main elements of formal aesthetic which are color, form, texture, light and shadow. Other limitations of this study is the five different parts of Famagusta which are Walled city, Dumlupınar, Sosyal Konutlar, Gülseren and Tuzla.

In the first chapter of this study, the main problem of study mentioned is the lack of formal aesthetic elements in some design processes, which can affect the atmosphere in the interior spaces. The aim of the study is also covered in the first chapter, which is to discover the effects of formal aesthetic in living space organizations in the houses of Famagusta by considering the values of Formal Aesthetics. The main question of this study is: How formal aesthetic elements affect the living space of houses in the examples of Famagusta. Also limitations and research objectives took place in the first chapter, which is going to be explained further.

In the second chapter, general information about architectural space and interior space is considered in terms of open, close and functional spaces. At the same time, Perception, interior spaces and space organization, emphasized in second chapter. In third chapter general information about aesthetic and elements of formal aesthetics are emphasized. Also the usage of these elements in interior spaces is researched in this chapter.

In the fourth chapter, some duplex houses in different parts of Famagusta are selected as a case study. These cases are 20 duplex houses in the Walled City, Dumlupınar, Gülseren, Sosyal Konutlar and Tuzla. These cases are examined according to the different elements of formal aesthetic. The following techniques and scale measurements used for this study are:

1. Space Syntax: to find the location of living space in academic way of study. Also the connection of living room with the other functions examined in this method.
2. Semantic Rating Scale: which helped the study to find the LIKE and DISLIKE ideas of the users.
3. According to the results of the semantic rating scale, classification method was used to find the most and the least impressive elements of formal aesthetic
4. The last method of this study is observation in order to examine all the results. For supporting the observation method that is completed by the author, semantic differential is used by giving different adjectives to the formal aesthetic elements.

At the end of these investigations, this study reaches the answers of does people like these living spaces? If yes, what is their first preference? And finally, the study, focused on observation to support the results of previous methods to find the most impressive elements of formal aesthetic in selected living spaces.

According to the results, which are achieved at the end of the study, final conclusion can reach from this research. According to the findings, color is the first preferred element followed by form, then texture and the last one being lighting and shadow which users selected. Also about the existence of formal aesthetic elements in selected cases, it can be assumed that Tuzla has the most percentage of users using

these elements in living spaces shortly followed by Gülseren, then Dumlupınar, Sosyal konutlar and the last one was Walled City.

Keywords: Living Space, Formal Aesthetic (Form, Color, texture, lighting and shadow), Space Organization, Aesthetic Value

ÖZ

Estetik insanların duygularına doğrudan bağlı, doğal bir faktördür. Estetik, gözlem ve duygu arasında bir köprüdür, kullanıcıların algı ve düşüncelerini kolayca etkileyebilir. Estetik, izleyicilerde tatmin duygularını yaratmak için farklı öğeleri bir araya getirir. Biçimsel estetiğin temel öğeleri biçim, renk, doku, ışık ve gölgedir. Bu öğeler güzellik kavramını kişinin beyninde oluşturmak için bir araya gelebilir ancak öğelerin kullanılış şekli genel algıyı doğrudan etkileyebilir.

Tasarım felsefesinin amaçlarından birisi insanlardaki estetik algısı ve tecrübesinin niteliğini geliştirmektir. Biçimsel estetiğin temel öğelerin dengeli kullanılması ile bu amaca ulaşılabilir.

İç mekân mimarisinde biçimsel estetik kişilerde tatmin duygusu yaratma ve tercih edilebilirlik konusunda çok önemli roller oynayabilir. Bu çalışmada temel öğeler incelenmiş ve vurgulanmıştır.

Bu çalışmanın sorunu, biçimsel estetik öğelerinin, Gazimağusa'nın iki katlı evlerinde açık bir şekilde görülememesidir. Çoğu evde bu öğeler kullanıcıların ihtiyaçlarına göre organize edilmemiştir. Çalışmanın amacı Gazimağusa'da biçimsel estetiğin değerleri göz önünde bulundurularak, konut mekânlarının tasarımlarında biçimsel estetiğin etkilerini incelemektir.

Biçimsel estetiğin öğelerini ve bu öğelerin farklı kullanımlarını göz önünde bulundurarak, çalışma biçimsel estetiğin konut mekânlarını nasıl etkilediğini araştıracaktır. Çalışmanın sonuca ulaşması kapsamında mekân dizimi, sınıflandırma

teknikleri, anlamsal değerlendirme ölçekleri ve gözlem gibi farklı yöntemler kullanılmıştır. Ayrıca, bu çalışma biçimsel estetiğin temel öğeleri olan renk, biçim, doku, ışık ve gölge ile sınırlandırılmıştır. Çalışmanın diğer sınırlandırması ise Gazimağusa'da Kaleiçi, Dumlupınar, Sosyal Konutlar, Gülseren ve Tuzla olarak toplamda 5 bölgeyi ele almasıdır.

Çalışmanın birinci bölümü, bahsedilen çalışmanın ana probleminin, biçimsel estetik öğelerin bazı tasarımlarda eksik oluşu ve bu eksikliğin iç mekânlardaki atmosferi etkileyebilir olmasıdır. Çalışmanın amaçlarından biri de Gazimağusa'da biçimsel estetiğin değerleri göz önünde bulundurularak, konut mekânlarının tasarımlarında biçimsel estetiğin etkilerini incelemektir. Çalışmanın ana sorusu; Biçimsel estetik öğeleri Gazimağusa'daki örneklem evlerinde yaşam alanlarını nasıl etkilemektedir. Çalışma sınırlamaları Gazimağusa Kaleiçi, Dumlupınar, Gülseren, Sosyal Konutlar ve Tuzla mahallesinden pilot çalışma için seçilen 20 dublex evin yaşama mekânlarıdır.

İkinci bölüm, mimari mekân ve iç mekânlardaki açık, kapalı ve işlevsel mekânlar hakkında genel bilgi içermektedir. Aynı zamanda, algı, iç mekân ve mekân düzenlemesi ele alınmıştır. Üçüncü bölümde, biçimsel estetik öğeleri ve estetik hakkında genel bilgiler ele alınmıştır. Ayrıca bu biçimsel estetik öğelerinin iç mekânlarda kullanılışı etkileri incelenmiştir.

Dördüncü bölümde, Gazimağusa kentindeki bazı iki katlı evler vaka çalışması için seçilmiştir. Bu vaka çalışması Kaleiçi, Dumlupınar, Gülseren, Sosyal Konutlar ve Tuzla bölgesinden 20 ev içermektedir. Bu vakalar biçimsel estetiğin ana öğelerine

göre incelenmiştir. Çalışma sırasında kullanılan ölçme yöntem ve teknikleri aşağıda sıralanmıştır.

1. Mekân Dizimi: Yaşam alanının akademik bağlamda çalışılması için Mekân Dizimi kullanılmıştır. Ayrıca oturma odasının diğer işlevler ile bağlantısı da bu teknik altında incelenmiştir.
2. Anlamsal Değerlendirme Ölçeği: Anlamsal değer farkı kullanıcıların beğendikleri ve beğenmedikleri fikirleri çalışmada belirtmek için kullanılmıştır.
3. Anlamsal Değerlendirme Ölçeği sonuçlarına göre, sınıflandırma yöntemi kullanılmış ve bu yöntem sonucunda biçimsel estetiğin en az ve en çok sevilen öğelerinin bulunması amaçlanmıştır.
4. Son olarak gözlem yöntemi tüm sonuçları incelemek için kullanılmıştır. Yazar tarafından, gözlem yöntemini desteklemek için biçimsel değer öğelerine sıfatlar verilerek kullanılmıştır.

İncelemeler sonucunda, bu çalışma insanların yaşam alanlarını sevdikleri sorusunun cevaplarına ulaşmaktadır. Eğer cevap evet ise, bu kişilerin ilk tercihleri nedir? Son olarak, bu çalışma seçilen yaşam alanlarında biçimsel estetiğin en etkileyici öğelerini önceki yöntemlerde bulunan şekilde desteklemek için gözlem yapılmasına odaklanmıştır.

Çalışmanın sonucunda kullanıcılardan elde edilen verilere göre, en çok tercih edilen ögeler sırayla renk, biçim, doku, ışık ve gölgedir. Ayrıca seçilen bölgelerdeki evlerde, biçimsel estetik öğelerinin en çok kullanıldığı bölgeler bağlamında sırayla Tuzla, Gülseren, Dumlupınar, Sosyal Konutlar ve Kaleiçi olmuştur.

Anahtar Kelimeler: Yaşam Mekânı, Biçimsel Estetik (Biçim, Renk, Doku, Işıklandırma ve Gölge), Mekân, Düzenleme, Estetik Değer

*To my beloved parents,
Without whom none of my success would be possible*

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Chapter 1

INTRODUCTION

This study will explore the user preferences and the existence of formal aesthetic elements in duplex houses of five different parts of Famagusta, which are the Walled City, Dumlupınar, Sosyal Kontlar, Gülseren and Tuzla. In each part of the city, four different duplex houses are selected and analyzed according to the formal aesthetic elements. As (Capon, 1999) mentioned, these elements are form, color, texture, light and shadow. The existence of the formal aesthetic elements is going to be examined and analyzed in terms of usage and emphasize on the users preferences. This study tried to find out the most impressive element of formal aesthetic in both existence elements and user preferences. Also the user preferences of these elements are going to be considered and analyzed by different methods, which are the classification technique, semantic rating scale, space syntax and observation. The analysis of the living spaces are going to be explored by the space syntax method which is going to show the main connections and relations of the living spaces by different spaces of the houses. The existence of the formal aesthetic elements is going to be examined by the observation method and the user preferences of formal aesthetic elements are going to analyzed by the semantic rating scale and the classification technique. Also literature survey of this study is going to support the collected data to reach the conclusion of the study. The literature review of this study will be based on architectural and interior spaces then continue on aesthetic and formal aesthetic elements.

1.1 Space Organization and Aesthetic in Interior Architecture

Space means the emptiness that is covered by forms and walls around it. The subject of space can be observed in the detachment between two things, of a foundational or the insight of what has been shaped between or inside it. In the background of art, the difference of distance or size from one another creates a change or a difference in the arrangement and position. This is clarified in architecture with the detachments of openings from one another and the perception view. Forms demonstrate a lively role in the making of spaces. Space is an important factor in architecture due to the fact that it is the place in which people live and cooperate between one another. This is the place which most problems are faced such as work position, home, balminess, relaxation and comfort. When architects create space, they also create a meaning such as a purpose (Houtum & Kraamsch, 2005).

There are two types of space: Reality Spaces and Visual Spaces.

- Dense Spaces or Reality Spaces are distinct from solid objects, which form the spaces. The uses of such spaces are all formed within 3D forms. The practicality of this space is robust and architecture deals with solid and realism, which corresponds with this type of space (Ching, 2007).

- Visual Spaces are 2D shaped spaces such as printouts and images. This type of space is meant to satisfy the sense of sight for display purposes (Ching, 2007).

Space is a finite area that separates the inside from the outside. Spaces, according to desires, can have a specific purpose.

Spaces can be either limited, or unlimited 3D types where all actions happen and all matters are placed (İlgin, 2008). The definition of spaces comes from the capacity of the surrounding space. A lot of factors such as the sky, flowers, earth and trees contribute to the definition of spaces in terms of beams, planar walls, roofs and walls that are formed according to the geometrical necessities. Other factors such as the point, plane line and volume can define spaces (Çınar, 1994).

Aesthetic

Aesthetic is the extent of a natural condition that is influenced by science and art. It is a direct link between observations and the feelings of human beings. Aesthetics can vary between people according to their point of views and perceptions. This equates to some people having a connection with something while others may not. This means that something hideous may have a deep aesthetical value for many individuals while it has no effect on others (Faravar, 2010).

As Dr. Miller (2001) noted; aesthetic is a part of beauty and art, experiences of aesthetics have risen simultaneously with modern art. It is the aesthetics is the name of the logical study of natural beauty and art. It is a form of philosophy that is relatively new which has surfaced in the early 18th century and originated from Germany and England (URL1).

Aesthetic is an old topic, which usually takes current style through Kant who has been the primary philosopher that believes cosmetic as an impression associated with beauty. (Scruton, 1979).

Aesthetic theory

Beauty was an important way for architects to incorporate different ideas into their work. This way, all pieces of architectural work could have an aesthetic value which would define the defiance of art.

Architects such as Le Corbusier and Frank Lloyd Wright were not very fond of “beauty”. Aesthetics and its improvements in the 20th century indicate that the philosophy of aesthetics was not easily accepted (Faravar, 2010).

Formal Aesthetic

Formal Aesthetics is the pinnacle of aesthetics that can clarify the meaning of it in very simple steps, which are form, color, texture, shadow and light. These are the staples of the most important components in aesthetics, which influences the entire design. Aesthetic value is an emblem of beauty that communicates with the senses and emotions of people. This is a belief, which, simply put, is the meaning of aesthetic. The description of Aesthetic is Formal aesthetic that consists of the basic elements of aesthetic and the forms, which are shadow, light, texture and color (Öztürk, 2012).

(Kleiner, 1976), texture, color shape and line elements are non-existent in buildings by themselves. They must be incorporated to create patterns, balance, contrast, theme, proportion, unity and symmetry in architecture. It is essential for the elements to be balanced and blend with one another for the design to appear unified (Kleiner, 1976).

Formal Aesthetics elements are listed below;

1- Form

2- Color

3- Light & Shadow

4- Texture (Capon, 1999).

- **FORM** represents the 3D view of an object. It consists of both volume and mass, while shapes contain only mass.

- **COLOR** is an emotional element that can be identified via the environment. It can easily have an impact on people's emotions and senses, which also affects health and behavior.

- **LIGHT** demonstrates the depth of something and defines the volume of something. The difference in the light and shadow is how forms are defined. It gives 2d forms a 3d feeling.

- **TEXTURE** realism to surfaces. On 2D surfaces, feelings are altered according to the smoothness or the roughness of a surface (Capon, 1999).

1.2 Problem Statement

North Cyprus is a country that consists of many cultures from different nationalities. People from different states settled to this country with varying cultures, politics and life styles. These different matters are collected together and reside beside each other at the same time. As a matter of fact, this could affect the housing situation of the island. People with different ideologies prefer to construct and build their houses according to their needs. This can cause many different styles of housing in this

country. The space organizations of these houses are completely different when compared to each other. Buildings that were constructed before have cultural values but formal aesthetic value could not affect users in these houses. However, recently constructed houses are completely reversed. Cultural improvements of this country effect the space organization and formal aesthetic value of these houses. People recently tried to use formal aesthetic elements for organizing the spaces. This means that formal aesthetic is going to have a significant impact in today's housings.

When the cultural improvement of Famagusta is considered, it becomes obvious that the housing organization has been development accordingly, in terms of formal aesthetic.

The problem is the formal aesthetic elements cannot be seen clearly in the houses of Famagusta. These elements are not organized according to the user's needs in most homes. In some houses, all formal aesthetic elements cannot be clear enough or they are not combining well to each other to create a well design organization.

The importance of the formal aesthetic elements are different from each other and according to these differences, the value of the interiors can be changed. In this study, the importance of the formal aesthetic elements, which can affect the atmosphere of the interior, can be found. The classification of the formal aesthetic elements can help discover the most impressive and affective elements in selected cases.

1.3 Aim of Study

The Aim of the study is to discover the effects of formal aesthetics in living space organizations in the houses of Famagusta. By considering the values of formal

aesthetics and different usages of the formal aesthetic elements, this study will explore, how formal aesthetic elements affect the living spaces of houses in Famagusta?

By using different methods of research, several factors of formal aesthetic and space organization will be analyzed. By evaluating the results, this study will explore the classification of formal aesthetics on living space organizations in houses of Famagusta that were previously selected.

According to the pilot study, the classifications of the formal aesthetic elements that can be the quantitative part of study are going to be explored. In this part, the most impressive to the least impressive elements are going to be examined with the help of the semantic rating scale. The results are going to be studied deeply by using the ordinal scale, space syntax and observation, which can give the result of the details of formal aesthetic elements.

Users are going to select the most affective elements and the least affective elements and give the answers that can show the classification of these elements. This method can help us find the results to classify the formal aesthetic elements according to their importance and affect. By using some graphs and tables, this analysis can be finalized.

1.4 Research Objectives

How can formal aesthetic be used for living space organization?

What is the role of formal aesthetic elements related to interior designing of living space?

How formal aesthetic element can be used for designing spaces?

What are the characteristics and futures of formal aesthetic in living spaces?

Which elements of formal aesthetic is much more impressive in living spaces?

What is the relation between formal aesthetic and space organization?

1.5 Methodology

The methodology of this study is going to be based on literature surveys, which is a qualitative research that is supported by the case study.

According to the literature survey of this study, some of the duplex houses of Famagusta will be selected to be analyzed in terms of space organization by using space syntax and effective formal aesthetic elements of designing living spaces.

The most rudimentary way to approach spaces are by planning due to the fact that planning helps analyze the space and its requirements such as privacy, routing and the potential use, etc. such an approach is crucial in interior spaces where healthcare buildings, transport hubs, museums and galleries need important elements such as way finding. Space syntax is used by designers to demonstrate the relationship between sales per unit area, traffic flow and crime (Social effects) (Edwards, 2011).

Mostly in traditional and vernacular houses where samples seem different from one and other, syntax analysis can be used to study the patterns created by cultural aspects (Hanson, 1998).

Space syntax may very well be the best analytic-predictive theory – concerning the aspect of organization that has so far been developed within architecture. The advancements comes from the conceptual apparatus precision and the level of complexity of the techniques used in the analysis (Schumacher, 2011).

Space syntax enriches techniques and theories used in the spatial configuration analysis. Prof. Bill Hillier, Prof. Julienne Hanson and their colleagues at Bartlett, University College between the 70's and the 80's founded it. It was first founded to assist architects simulate project and designs' social effects that were created (Hillier, 1999).

Space Syntax provides calculated, evidence-based consulting services in economics, planning, design, transport and property development. Incorporating design decisions, planning and their substantial results would reveal the interaction and the movement of people in urban areas and buildings. Such results demonstrate the way environments and social places are optimized and enhanced (Hillier, 1999).

The purpose of such a method is for designers to create strategies to improve social meaning. To achieve this, the consequences of spatial configurations that show a social cultural meaning and how such arrangements interactions and connections in the environment are demonstrated (Hanson & Hillier, 1987).

Syntax research helps create strategies of description for configuring spaces that are being used so that their fundamental social meanings can be expressed. Developing such strategies helps create explanations on the effects of spatial configuration on some cultural or social variables. Another matter in space syntax research is to grasp the understanding of how the space was configured, to bring out the social meaning in the formative process. In short, this can show how occupants occupy and use the spatial space (Hanson & Hillier, 1987).

There is a difference in the long model role of space in instances where all is more of less stated and space is used to create something that is already present as opposed to the short model role of where space is used to allow a generative model of creating new things (Peressut & Basso & Postiglione & Forino & Cullica, 2008).

Space syntax claims that can calculate the social use and occupation patterns on the basis of analytical techniques that are able to take design drawings as input. The theory delivers a sound impact to the advancement of contemporary architecture's ability to grasp the problem of organizing complex communication processes and social institutions. Space syntax helps combat challenges along with organization that architecture faces (Schumacher, 2011).

Architectural aesthetics, form and composition are questions that are addressed by using morphological techniques that points the way forward. There are often protests about the restrictions of space syntax since it only offers 2D explanations of architectural occurrences where they are experienced as 3D realities (Hanson, 1998).

Below figure demonstrates various spaces of interiors with the Space Syntax method.

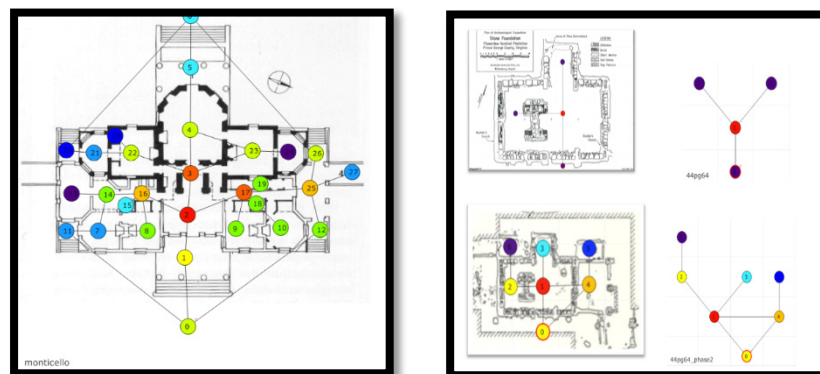


Figure 1. Space Syntax (URL2)

The initial study will be the classification techniques and preference lists, which is the quantitative evaluation part of this study.

Semantic rating scale and ordinal scales will be utilized where the rating will determine the like or dislike choices. Ordinal scale can help determine the classification of formal aesthetic elements according to the most affective and the less affective (Öztürk, 1987).

Final answer can be proven by discovering and classifying the preference lists according to the basis on the semantic rating scale as well as assess the semantic rating scale. Ordinal methods list helps determine and prove the final answer, which consist of classifying and determining the list of preferences according to the most impressive to the least impressive elements.

Some observation methods are going to prove the result of this study as well. Location and the effects of formal aesthetic elements are going to be emphasized according to the observation method. According to the formal aesthetic preference of users, which is one of the elements of formal aesthetic, some questions are going to be asked in detail of the selected elements that can support the observation part of this study.

The evaluations of formal aesthetic elements in living spaces can be considered according to the space syntax method. Space syntax method can help find the relations between the spaces in selected cases. These relations can support the observation part of this study.

1.6 Limitation

Famagusta is a large town in North Cyprus (Second Largest) with a population of roughly around 46,000, which is located around a quay that is named after the city at the eastern coast of the island. The city is located at the center of the eastern edge of the coast which is named mesaira that divides that Northern portion of the island and connects Güzelyurt, which is another urban center located on the west side of Cyprus with Famagusta (Boğac, 2009).



Figure 2. Cyprus Map (Boğac, 2009)

Newly developing regions of Famagusta are mostly growing around the common “Development Area” which consists of Salamis Rd, which also links the town of Famagusta to the other settlements to the north of the island such as Karpaz and İskele. Closer to the town, there are other settlements such as Yeni Boğaziçi village and Tuzla (The closest small settlement) (Boğac, 2009).

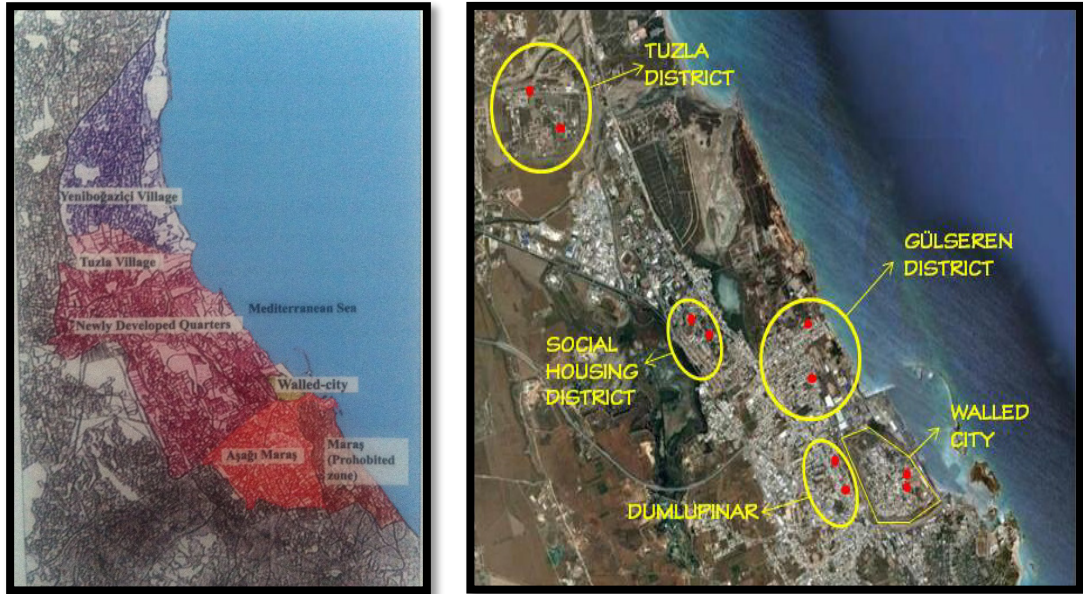


Figure 3. Locations of case study in North Cyprus (Boğac, 2009)

This study will not be considering anything other than Duplex Dwellings within Famagusta stretching from Tuzla to Famagusta Walled City. The houses that will be considered will be the recently built houses that are constructed on historical areas as well as the historical houses. 4 houses are chosen from each of these parts of the city. These parts begin from Walled City and continue past Dumlupınar, Sosyal Konutlar, Gülseren and finish in Tuzla. Totally, the cases of this study are going to be 20 duplex houses. The main limitation of this study is the main elements of formal aesthetic which are form, color, texture, light and shadow.

Chapter 2

ARCHITECTURAL SPACE AND INTERIOR SPACE

A lot of scholars and critics on design write about the space of architecture assuming that it is completely abstract. They converse about ideas such as color, rhythm, proportion and form as they were only used by design critics and designers. The spaces that are divided and enclosed transform into refined art that is treasured by the educated connoisseur. It is probable to distinguish a mere building and architecture to be two separate entities. If such a distinction is assumed, the building can only be considered architecture once it has sufficient traits that resemble art as well (Lawson, 2001).

“Architecture is the skill of space founded on positive physical and technical values and the conditions of the actual project.” A room cannot exist without the space being enclosed and is determined by the physical components. 3D attachments are the determinants of even a subtle separation of space. Constructional measurements of humans are what architecture follows throughout history. The invention of reinforced concrete, vaults, arches and beams are some of the things that has advanced architecture through different eras. Less important changes also take place in architecture such as ornaments and decorations (Ching, 2007).

Mass, Volume

In the planning of a visual building, a dimensional plane is what puts into perspective the boundaries of dimensions. The plane should be looked at as the main factor in architectural design if it deals with constructing 3D masses and space (Capon, 1999).

Volume

Variety in spaces is very important and forms such as spheres, cones and cubes add different forms to the space. Le Corbusier: “Architecture is the skilled, accurate and magnificent play of masses carried together in light... cubes, cones, sphere, cylinders or pyramids are great primary forms...they are beautiful forms, the most beautiful forms” (Capon, 1999) the differences between the space and volume is essential, if volume is the main tool of a sculptor, an architect uses space as his/her tool (Ching, 2007).

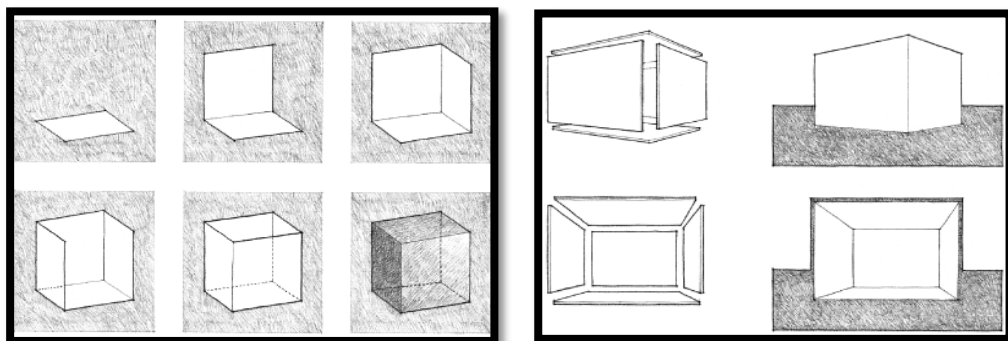


Figure 4. Kinds of Volume in architecture (Ching, 2007)

Today’s architecture can be understood much easier if it is put into a larger architectural context. To summarize briefly: 3 stages of development for architecture can be observed. 1st stage begins by incorporating interplay between volumes within a space. This stage is included in Greece, Sumer and Egypt architecture (Giedion, 1982).

It is believed that carved out spaces with interior spaces are synonymous with architectural space. These principles are based on the last 2000 years over the course of the development of architecture. Architecture is so familiar that it takes a lot of skill in order to see it for what it really is (Giedion, 1982).

Reproducing the historical past is not sufficient enough to determine what is stylish today. It may be sensible to develop current activities against historical developments. We observe them with the beliefs that we were brought up with. With all the beliefs, there is a strong indication that architectural space is the same as hollowed out spaces with inner spaces. This belief comes from the changes made within the last 2000 years (Giedion, 1977).

Spatial themes encouraged by ideas beyond architecture are what we look forward to. Ideas are transformed into expressions with the help of architecture with identifiable stages in civilization. Architecture is not only existent by itself, instead, it is the moving force behind common changes in taste and thinking, as little as they may be. In very small cases, architectural space may be the moving force behind social change (Ching, 2007).

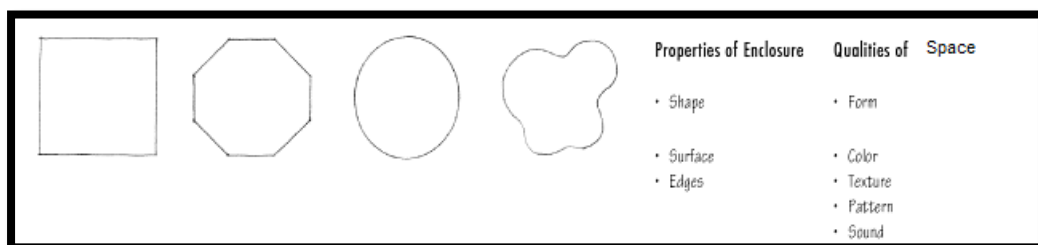


Figure 5. Different kinds of forms in architecture (Ching, 2007)

When space is mentioned in architecture, it is often implied that it refers to a space. “The presence or absence of a mere article determines whether we are referring to

infinite space, to a more or less contained space, or something in-between, neither endless nor contained” (Hertzberger, 2010).

A space is determined and is not infinite with materials that are housed inside it. Space is specifically constructed to either make a thing accessible or protect something. Function may be varied but nothing is made by mistake. Space can be referred to as “object like” whether it may be contradictory or not. In this sense, it can be referred to as a negative object (Hertzberger, 2010).

The elementary designs of planar and linear essentials that define discrete volumes of space, and the varieties of openings that serve to connect these spatial volumes to one other. The assets of an architectural space are much more abundant than what illustrations can demonstrate. The spatial qualities of sound, light, texture, scale and proportion rely on the variables of the enclosure of a space. Human observations of such qualities are a result of past experiences such as personal interest, inclinations, and culture (Ching, 2007).

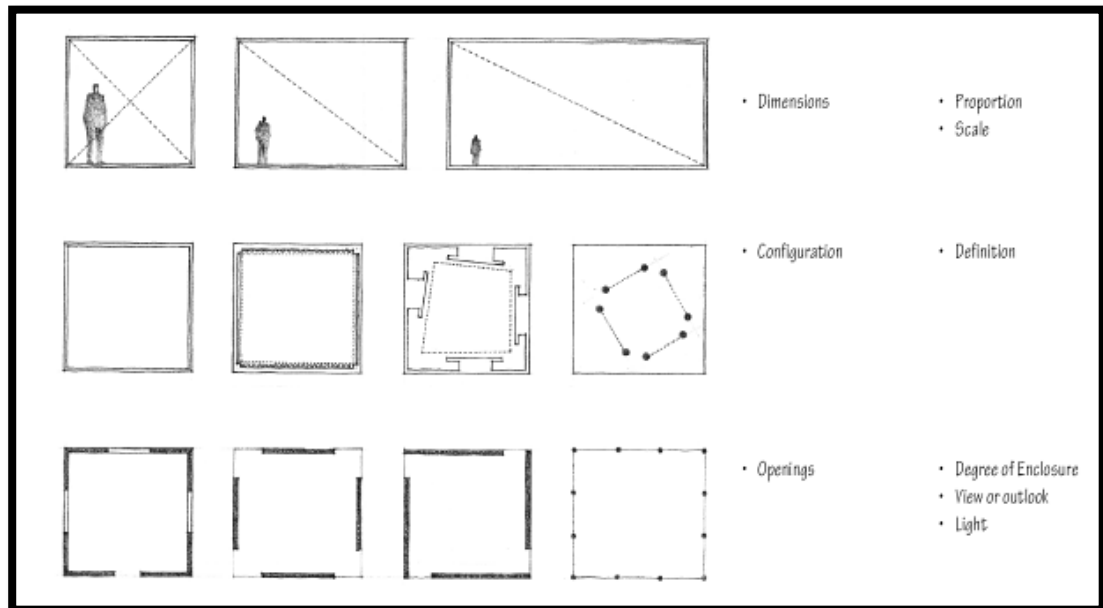


Figure 6. Dimensions, configurations and openings in architecture (Ching, 2007)

2.1 Types of the space

Architecture puts limits on limitless boundaries and the way a space is utilized can symbolize the organization of said space. The different types of spaces are influenced by culture and time (eg. Public-private space and inner-outer spaces). Spaces in architecture are thought out processes which are not natural. Although such spaces can be created by nature with the help of natural phenomena, architectural spaces are very apparent (Kent, 1990).

There are different kinds of spaces which are:

- Positive and negative spaces
- Personal spaces
- Private spaces
- Public spaces
- Directional and non-directional spaces
- Physical spaces

- Perceptual spaces (URL3)

2.1.1 Open Space

Gardens, community, streets, plazas and parks. The needs of people are expressed by what they look at doing in the open spaces. Function and basic level of support is provided by the needs in open spaces. The needs are the absolute must that has to be implemented in order to create the basis of design criteria and an enjoyable experience. These can vary from the need for active and passive engagement requirements. This simplified, basically means that the prerequisites may include a walking path or a place where users can enjoy their time by sitting and not being hassled (Francis. M, 2003).

Different user groups needs need to be addressed or conflicts can occur between the two groups. These conflicts can arise from the minimal access that is required for everyone such as a restrictive management. Problems can also arise if varying users have purposes that are opposing each other, which they attribute to that open space (E.g. Cultural background, Sex or Age). Even more problems may arise if users are not involved in the decision making process to input their ideas and needs. A better understanding of such conflicts and needs of users can help architects combat the issues before they become a problem (Francis, 2003).



Figure 7. Open space in architecture (URL4)

2.1.2 Closed Space

Closed spaces are limited spaces that can be defined by the utilization of design elements. This can be achieved with the use of divisions and partitions, which sort out the inner spaces. A closed space is limited in terms of view, volume and borders (Strand, 1999).

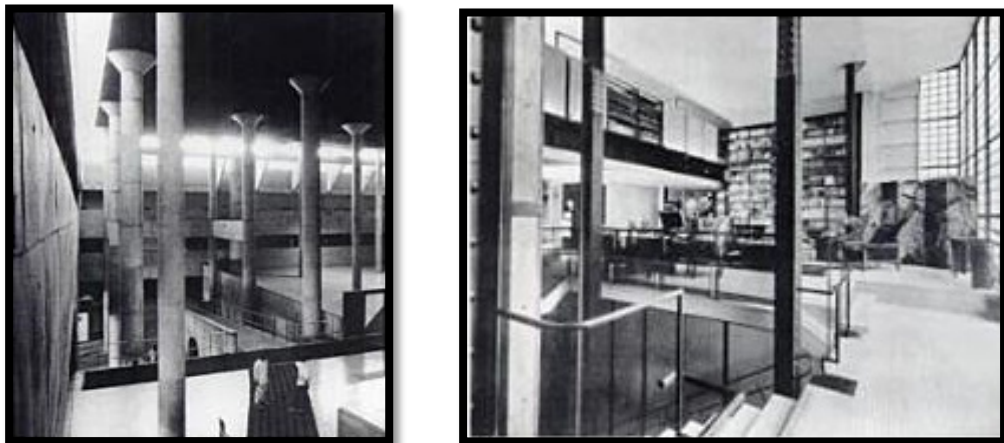


Figure 8. Closed Spaces in architecture (Strand, 1999)

All architecture comes from the need to enclose a space and protect it as well as isolate it which makes it the main object of building. Aesthetically speaking, closed

spaces are supreme. If a sculptor molds clay, an architect works with closed space and models it (Vidler, 2001).

Interior space is another reference to a closed space, which provides a sense of security. The incorporation of the supply of relations with nature and exterior spaces with shelter coverings in the interior spaces (Tuncel, 2007). The primary element of interior design is the planar element. First of all, points are created followed by lines and both are combined to create the final object, which are the planar elements. The elements are not restricted to 2 dimensions but can be 3 dimensional (Ching, 1987). Ceilings, walls and floors are the most essential values for defining interior spaces. Architectural and structural elements are what the design of interior spaces are based on (Ching, 2005).

The biggest part of people's lives are spent indoor such as restaurants, airplanes, trains, busses, schools, offices, factories, shops, houses or apartments. Spending time outside is only temporary. If these are taken into account, it is apparent that people are conducting most of their activities indoors (Pile, 2005).

Interior spaces are not only physical to humans but they can attach emotions to them. People's mood surrounds the interior spaces and the interior spaces affect the types of major activities performed in the interior environment (Wahl & Scheidt & Windley, 2003).

People structure their lives around interior spaces but the interiors may also be shaped by the users as well. Lifestyle choices have an impact on the building of interior spaces. Functions of the spaces depend on its users which relate to

requirements and the relationship (Wahl & Scheidt & Windley, 2003). This study will focus mostly on the closed spaces.

2.2 Functional Space

Design is all around us. We eat in places, which are designed, we play in them and we especially live in them. Although design is all around us, only a few get the privilege to design something. Happiness of people, the circumstances to relax, and health and work efficiency are structured around the interior spaces and whoever designs them. This is not only relevant for buildings, but also the equipment that we use (Grillo, 1975).

Design can be restricted to form and function as well as looking at the purpose, needs, ideologies and the implications of form. By grasping the function of form, designers can grasp the idea of how users are connected to one another in the environment (Bowers, 1999).

Forms have secondary and primary functions. Some forms make the functions rather obvious like the mechanical function of dividing piece of wood. In a 2D form, function can be more abstract and difficult to define (Bowers, 1999).

Form follows form is a saying that the quality of the space being built is a direct influence to the interior space. Form follows function means that first and foremost, the functionality of a space is prioritized and the form is influenced accordingly. (Brooker & Stone, 2007).

Function is a reference to personal, cultural, spatial and a practical use. Function is usually a part of 3D Design works such as architecture and industrial design. It is

also a major player in 2D designs where function is identical with purpose, with a form's intent (Bowers, 1999).

The role of a functional space is the importance it provides to rational and simple solutions that design problems have without the need for unnecessary decoration (Ballast, 2013).

This can be viewed by the 20th century modernism where there was an exponential growth of English arts and Crafts. Bauhaus School of Design is where modernism was developed and had grown, new upcoming technology was used to functionalize space create architecture and machine life objects. Interior design was minimalized into only what was absolutely necessary to fit the need of the function with no decorations (Ballast, 2013).

The most critical component of a great design is the functionality that provides all the needs and supports the lifestyle of the people living in it. a useful space without functionality does not make it a great design (Lamie, 2011).

The functionalist approach was clearly started by the architect Le Corbusier when he said: "a house is a machine for living in". The statement that he had made was to reflect his modernity theory where like himself and other architects, based their projects on designing a functional space without any beauty aspects to only perform what they were meant to do as well as reflect a design that requires elegance, simplicity and efficiency with a form consistent with its function (Ballast, 2013).

Function is what people call personal use, cultural, spiritual and practical form. Function is a part of 3-D designs for many different jobs, but can play a very critical role in 2-D designs as well in cases where function is identical to the form and purpose. For example, the AIDS symbol has the primary function of serving as an identifiable marking for an event (Bowers, 1999).

Even though functional requirements of a user must always be met in interior design, people require more than functionality therefore, the functionalism of an interior space must only be one aspect to a larger overview of a design (Ballast, 2013).

In Residential houses, each part of interiors has their own specific functions, these main functions can be:

- Kitchen
- Dining room
- Living room
- Bedroom
- Bathroom
- Balcony

Beside of these main functions, some other function can be seen in the houses according to the user needs and the situation of the houses, these functions can be corridor, staircases, courtyard and etc.

2.2.1 Living room

Most standard houses contain the living room as the center of their house so the shape, size, décor, locations and its function is vital and in most cases, affects the look of the whole home. Closed plan living rooms have been put into the backburner in recent years due to the fact that the popularity of great rooms in open plans (Helper & Wallach, 2012).

In most cases, the location of the living room is adjacent to the entrance door so that guests who come into a house will not have to pass through the house, which can sometimes be intrusive. Although it should be located close to the entrance, it should also be located in such a way that there won't be a need to pass through it in order to access the rest of the dwelling. Most designers tend to locate the living room a few steps under the balance of the house. Figure below demonstrates how to improve partitioning and to stop through traffic energy efficiency is an important factor when locating rooms. (Jefferis, & Madsen, 2005).



Figure 9. Dining room (Jefferis & Madsen, 2005)

The designer designs living area by first and foremost finding out the functions of the rooms according to the dwellers needs. The key design room is the living room due to the multifunction purpose of the room. The living room can be a dining room, social room, a library or an entertainment center. The function solely depends on the living habits of the residents so it should be designed according to the activities that will take place inside it (Helper & Wallach, 2012).

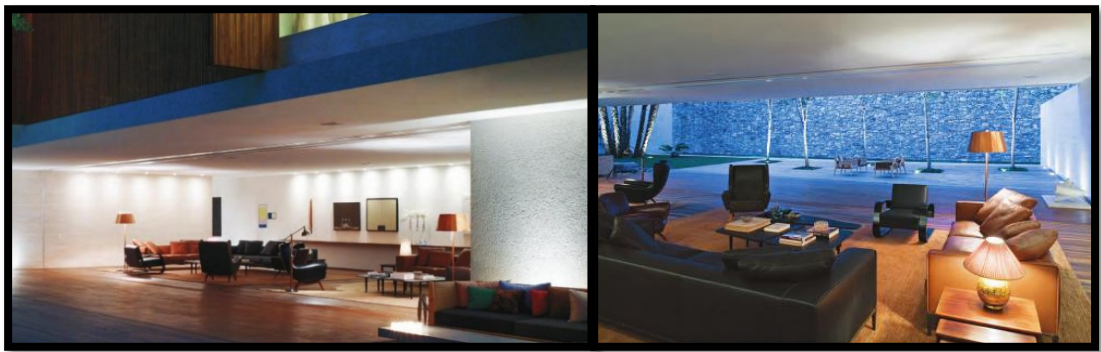


Figure 10. Living room, Casa Panama, By Sao Paulo, Brazil (Crafti, 2013)

Process of elimination can be used to design a room sometimes, which means that for example, there is no need to plan to have a television in the living room if there is a separate recreation room present in the home. Another function such as a separate study room may exist hence the need to design accordingly may be redundant. If all activities are going to be integrated into the living room, then a multifunction room can be designed (Helper & Wallach, 2012).



Figure 11. Living room (Crosbie, 2008)

Living room should be close to the entrance (Adjacent) and be centrally located. In small homes, it is acceptable for the entrance of the home to be facing the living room. This arrangement is however not optimal and if possible, should be avoided. If the living room is the only way to get to the other rooms, it generally implies that it is a poor design because such traffic could disturb the guests (Helper & Wallach, 2012).



Figure 12. Comfortable Living Rooms (Lynch, 2003)

An important attention must be paid to the placement of the living room in relation to other rooms and its surroundings. It should be oriented in such a way to effectively make use of the sun and have the best view. The living room is generally used during the evening or the afternoon so the sun's position should be facing the Southwest direction (Helper & Wallach 2012).



Figure 13. Windows Assembly designed to maximize the natural lighting (Helper & Wallach 2012)

The function of the living room changes according to the size of the dwelling as well as the preference of its occupants. An important consideration should be paid to the plan of the living room in order to incorporate how the room will be used, the type of furniture that it will have as well as how often it will be used (Jeffris & Madsen, 2005).

Perhaps the most satisfying part of forming new spaces is the part where new accessories, art and furniture is selected in order to bring character, function and form to the space. How the furniture is chosen and where they are placed determine the characteristics of the room, their activity areas as well as how comfortable they

will be. Such actions are critical to turning a boring space into a personal one. Although the living space may be the most public one, it still must reflect personal style so a user can feel comfortable. (Mee, 2005).

The living room could be used for noisy activities whereas some living rooms may be used for quiet activities. In dwellings that should plea to a wider array of activities, the formal living room should be considered as a multifunctioning room. If a house has both a family room and a living room, then the living room is usually the one where guests are entertained or where quiet activities are held. If the home has no family room, the living room will also need to provide room for recreation, hobbies and relaxation (Jefferis & Madsen, 2005).

The designer first and foremost needs to determine the reasons on how the living rooms will be used by the occupants. It is the key room in the design process because of the fact that it serves many purposes (Helper & Wallach, 2012).

Location of living room

Living room should be close to the entrance (Adjacent) and be centrally located. In small homes, it is acceptable for the entrance of the home to be facing the living room. This arrangement is however not optimal and if possible, should be avoided. If the living room is the only way to get to the other rooms, it generally implies that it is a poor design because such traffic could disturb the guests (Helper & Wallach, 2012).

Due to the family room being so popular, all previous rules about where the living room should be placed has been discarded. Such a huge shift in preference can be

traced back to just after the World War II where families were encouraged to grow. Such reproduction patterns are not non-existent in normal families which leads to the conclusion that family rooms may no longer be as important as they once were in a few decades. Several basic rules about its location should be applied and adhered to (Harrison, 1998).

Orientation

Orientation of the living room should be pointed towards the best looking view and take full advantage of the sun. It is desirable to point the room towards the southwest sky to receive the afternoon sun from that direction, as the room will be used mainly in the evening and the afternoon (Helper & Wallach, 2012).

Decor of living room

Taste, habits and personality of the occupant usually is the dependent factor in the general décor of the living room. Floor, window, ceiling and walls should be clean if the taste is contemporary with smooth lines, which are often present with contemporary architecture. If another style such as a colonial one is preferred by the occupant that should be the theme of the décor. The room can be inviting if the selection of ceiling colors, floor coverings and walls are tasteful and effective lighting is implemented. A great selection of fitting furniture contributes to the beauty of the living room as well as its comfort (Helper & Wallach, 2012).

A living room is usually connected to the building and in most cases the door opens directly towards the living room itself. The living room can be used for group activities, socialization, visitors, staff, family members as well as the residents. An

image is portrayed within living room and that image portrays the residents of that space. (Marsden, 2005).

Walls

Wall coverings are not the only factor that affects the appearance of walls. The implementation and the design of built in furniture, chimneys, fireplaces, windows and doors will change the room's appearance and should be integrated into the room. The designer with a combination of wall-coverings considers these features. Glass, paper, plastics, tile, stone, brick, wood paneling, wallboard, gypsum, and plaster are some of the material used for walls (Helper & Wallach, 2012).

Load-bearing or nonload-bearing partitions can be used as interior walls. Such walls consider the floor plan of the house. Studs from the floor to the ceiling are used for the partitioning frames. In most cases, no insulation is used but certain building codes must be met according to the rules and regulations. By analyzing the building blueprint, an appraiser can determine whether these requirements are being met (Appraisal Institute (U.S.), 1994).

Windows

As important as the window positions of walls in a living room are, it is equally important to have a great view, which should be a part of the living room décor. Just as the placement of a window in a living room wall should become an integral part of a wall, the view from the window should become part of the living room décor (Helper & Wallach, 2012).

Floors

It is ideal for the floor of the living room to mix with the color scheme overall style and the texture of the living room and reinforce it. Some materials such as polished flagstone, throw rugs, wall-to-wall carpeting, room-size carpeting and hardwood flooring can be used in the living room (Helper & Wallach, 2012).

Fireplaces

A fireplace is a very luxurious choice in adobe homes. Sometimes fireplaces are placed at the end of a living room or sometimes they are placed in all rooms depending on taste. (Newcomb, 1980).

Fireplace obviously functions to provide heat to the room. It can also function as a main decorative feature or as a partition. A chimney structure and the fireplace can cover the entire length of a wall, which becomes the focal point in the living room. A freestanding fireplace can partition rooms if the living room is an open floor plan. It is important for a fireplace to fit the design of the overall room (Helper & Wallach, 2012).

There are numerous different fireplaces to choose from but only the major ones will be listed below. Fireplaces that can be placed flush against the wall are referred to as wall fireplaces. Such fireplaces can occupy the whole wall or only a small part of it. (Newcomb, 1980).

Ventilation

It is not always necessary when there are large sliding glass doors but can be desirable to have cross-ventilation in the living room. 10% of the floor area should be

reserved for ventilation. It is important for a living room to have adequate ventilation if there is a fireplace present for both fresh air circulation and proper draw. A door is considered to be a part of the cross-ventilation of system because that also provides circulation (Harrison, 1998).

Occupants that have artificial warming ventilation systems in living rooms noted that it was often very dry compared to occupants without artificial ventilation systems. (Mlecnik, 2013).

Conversation area

A conversation area ideally consists of a 10-foot radius. Furniture should be closely grouped according to the measurements stated above. This is an optimal radius where people are most comfortable conversing in small groups with each other whether it be a small or a large room. “Within the 10-foot-diameter circle, they can see each other easily and communicate comfortably without shouting” (Harrison, 1998).

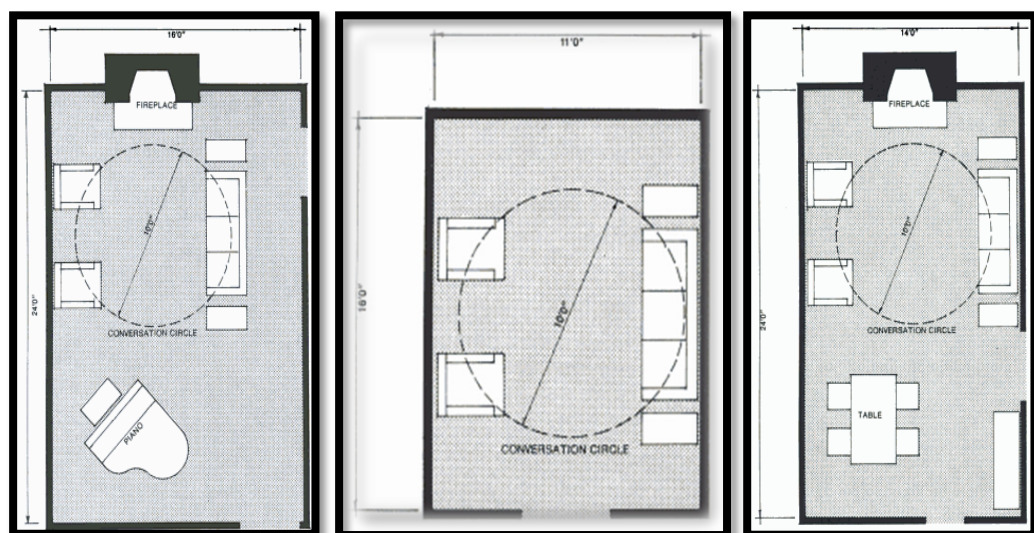


Figure 14. Conversation area of Living room (Harrison, 1998)

2.3 Interior Space

Space planning is the pinnacle of decorating and interior design a series of action which is a sound basis for setting up actions that come at later stages. Residential interior space planning involves wants, needs and the lifestyle of people who reside in the place, which is a professional skill. Trends and or any kind of disability calls for even greater details that are involved with the organization of spaces within the interiors of the particular place (Lamie, 2011).

A huge challenge that has always been dominant is creating warm conditions in winter, or vice versa as well as keeping a comfortable living environment. In the past, creating fires, storing ice or seeking shelter combated such conditions. Such approaches require excreting heavy loads of energy, which were labor intensive, which did not guarantee desirable living conditions. Nowadays, due to the advances, it takes less and less labor to provide adequate living conditions for people (Chen, 2003).

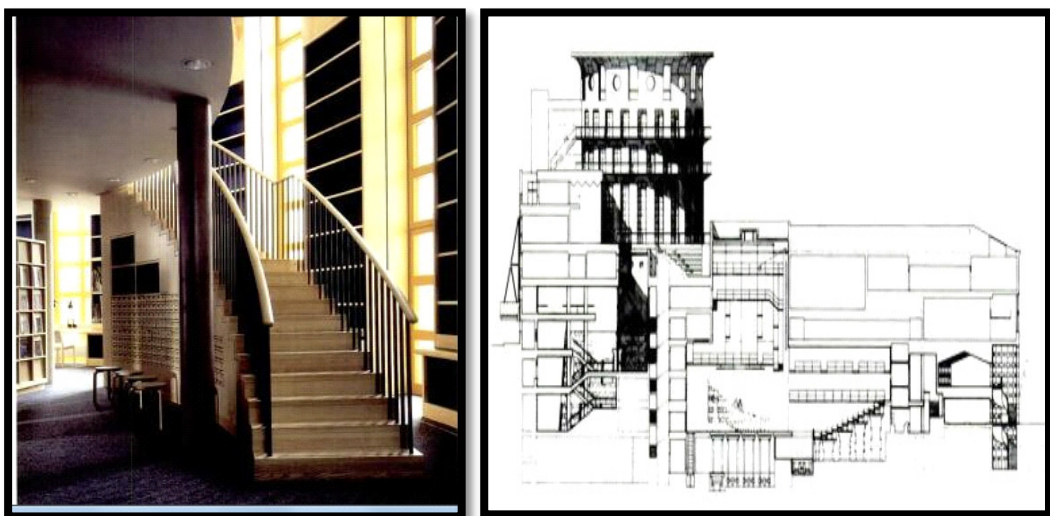


Figure 15. Interior of the Music School, Location: Stuttgart, Germany (Images Publishing. 1999)

It is imperative to have a sound comprehension about the principle of design and the elements in order to construct an effective design. Successful designs exhibit important ideas about design principles and design elements. Such important principles can be used in many different design fields including interior design (Lamie, 2011).

Interior Space Design (ISD) is one of the most successful and the most recognized planning organizations. Individuals are encouraged to position personal accessories, equipment or furniture in any way they feel in an interior space.

The mess that is created is quiet normal and civilized, which cannot be said about the projects that are done by offices (John, 2005).

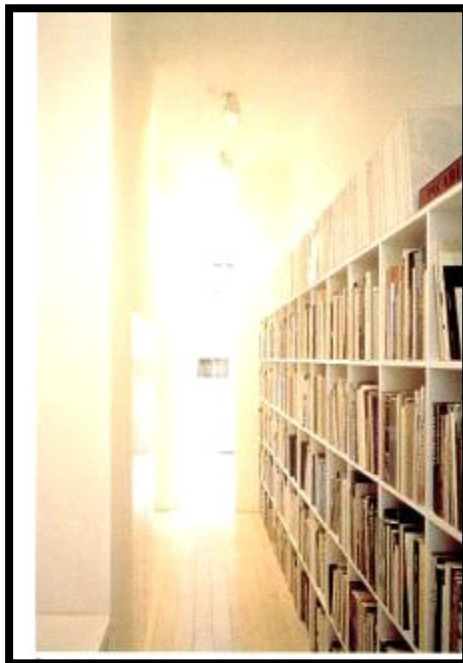


Figure 17. Michael Hue Williams Gallery Library Location: London

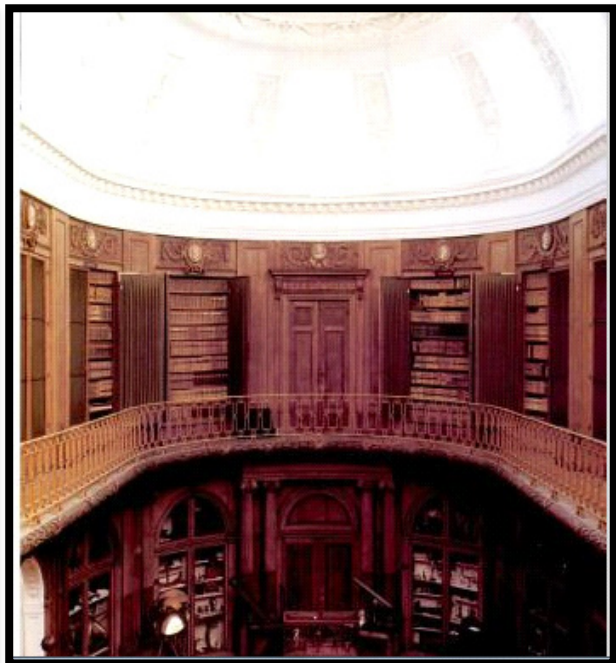


Figure 16. Teylers Museum Location: Haarlem, Netherlands (Images Publishing. 1999)

Housing has become the leading branch that transforms and identifies people's characters in the field of architecture design. In the past, modern movement theory, which was the leading concept of the movement, which is referred to as "Architectural Determinism", speculated critical revelations of the notion and how it is now. Such ideas only looked at the physical side of housing but ignored the psychological, cultural and social desires of humans (Sari, 2012).

Discussions that are brought up in the recent times regarding housing developments are mostly focused around the disputes of how a house becomes a home. There are many influences that affect this change but symbolic expression is and has always been linked to aesthetics and its theories (Sari, 2012).

Since the 1920's, housing was looked at as one of its major accomplishments. Many architects focused on the issue with the emphasis on the significance of the issue. As Geidion (1929) mentioned the current progress in buildings largely aim to focus on buildings which are for the common public (Schulz, 2000).

Interior design is a very different topic that differs from other principles of design. The interior is reliant on the function it will be used for. It's encased in buildings and is only contained within its context. The issue of existence is imperial to the process of design. The position of the interior inspired design which is the main factor of consideration compared to other factors. Other design fields such as industrial design, fashion and graphics must take into account the structure piece, qualities and the aesthetics. Although an interior designer must take these into account as well, they have to respond to the particular place that the interior inhabits (Brooker & Stone, 2010).

There is no running from interior design, it is everywhere and can be found in all aspects of life such as vehicles, hospitals, schools, restaurants, store, offices and relatives and friends homes. The requirements of interior spaces have obviously changed over time compared to the old times. Different lifestyles such as a lady in a mansion, a monk in a monastery, a king in a castle have all been influenced by different factors. (Pile, 2005).

“The interior can become part of the place; it can assemble meaning and also give value and consequence to a situation perhaps only installation art and architecture both subjects that interior are closely related to, are so closely associated with their individual location”(Brooker & Stone, 2010).

Interior design is considered to be artistic within rooms or spaces that introduce a unique personality that fits well into the current architecture. Interior decoration deals with materials, lighting, furnishing, soft, furniture, ornament, patten, and surface issues. It deals with very small structural changes within the building. Some positive examples are restaurant interior, hotel and domestic designs (Brooker & Stone, 2010).

2.3.1 Interior Space Elements

Elements, and the terms used to explain them are introduced in this section, which are paramount to not only understand, but also create interior architecture. The elements that will be introduced can portray the quality and the personality of an interior, which will also convey its atmosphere as well.

Plane

Plane is perhaps the most crucial component in interior architecture. Ceiling, walls and floors are used in the 2D forms to enclose an area and define the space within it. Smaller planar components contribute stairs, doors and various interior elements such as furniture and shelves. Plane becomes the area where color, texture and material are carried with an addition of lighting values and acoustic controls (Coles & House, 2007).

Plane is known as a long line, which contains length and width properties. It also contains position, orientation and shape properties as well. If looking at different ways to realize a plane we can start off with a simple model in which two parallel lines visually form a plane (Wiberg, 2011).

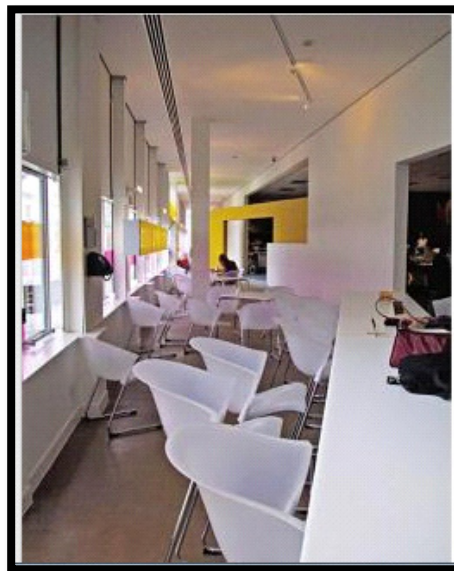


Figure 18. Plane in interior design. Thomas Cook, Accoladia, view of restaurant at office fit-out, Location: Peterborough, UK. Separation of activities and the use of plane elements are applied in the Thomas Cook Holidays restaurant. The perforations give clues as to what lies behind the plane (Coles & House, 2007).

As described by Ching (2007) a transparent spatial membrane can be stretched between them to acknowledge their visual relationship. The further the lines are, the weaker the sense of plane will be. If taking this example one step further, then a series of parallel lines, through their repetitiveness, reinforces our perception of the plane they describe. Such a notion leads us to believe that a sequence of planes will be considered as a whole and not separate entities. (Wiberg, 2011).

Scale

Scale is a term with 2 meanings for designers. First and foremost, it contains a technique for reducing the size of the buildings that can fit onto paper that is to be used. In order to achieve it, every part of the building to be drawn must be reduced according to a relative ratio. Different ratios are used for different size things. For example, if something large is being drawn, a 1:500 or a 1:200 ratio can be utilized which means that whatever is being reduced is done so by one five hundredth and one two hundredth respectively. Smaller drawings can be left at their original size or reduced a small amount like 1:5. 1:50 and 1:100 scales can be employed between the two extremes (Coles & House, 2007).

For sites as well as buildings, it is critical to include scale as it provides the right proportion. In a landscape such as that of the Palace of Versailles, there are spaces of both intimacy and grandeur the Baroque seems particularly adept at accommodating people singly and en masse (Adler, 2012).



Figure 19. Scale in Architecture Villa Arena Furniture Shopping Mall. Location: Amsterdam, Netherlands. “The atrium shown allows natural light to filter down into the circulation areas of this large shopping complex” (Coles & House, 2007).

Proportion

Proportion is achieved through geometry and it is a mathematical concept. It is considered to be a gate to the sciences as well as an opening to the world of art. (Colman, 2003).

Where scale defines the size of components associated to a specific measure, its proportion is the link between the elements of design referring to one another or from one to all. A small space with a low ceiling may feel adequately comfortable but the same height ceiling may feel very claustrophobic in a large plan area. High spaces generate elation and awe and are used in public buildings as well as cathedrals. The relationship between height of ceilings and the area are critical due to its significant ability to allow daylight into the space as well as its spatial effect (Coles & House, 2007).

Golden Section

If the line is divided with a ratio of 8:13, this generates a state where the relationship of the height and the width is almost the same to the relation of the height of the whole. The proportion has been used since the ancient times. The ratio resembles the Fibonacci sequence. Shapes defined by the golden section have been used for hundreds of years. The design and the use of the sequence dates back a long time and can be observed in the Greek temples, Egyptian pyramids as well as the Renaissance. This proportion is still being employed in today's design and architecture (Coles & House, 2007).

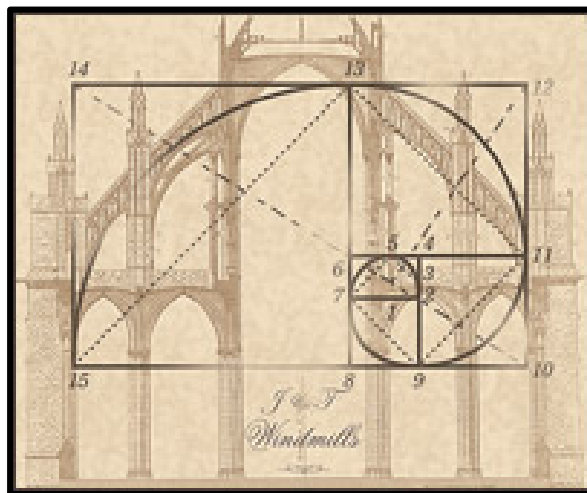


Figure 20. Application of Golden section (Joseph & Thomas Windmills Ltd) (URL5)

Vista

The form of a space is merely decided by the functions and requirements of a single isolated space. Many spaces must work together and the design should blend together between each other or even the outside world. "Vistas", a term borrowed from the vocabulary of the landscape designer, are devices often used to frame or extend the outlook from key viewpoints grand houses and their grounds (Wealleans, 2006).

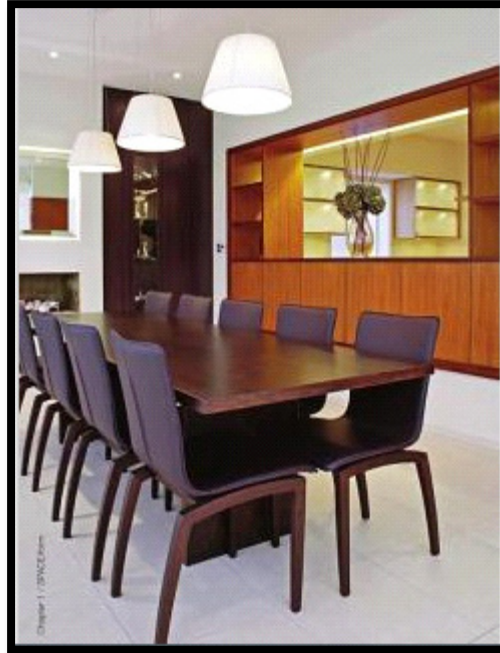


Figure 21. Vista in Interior Design. Hampstead House, dining area. Location: London, UK. Dining room in the building is in Hampstead that's linked to other environments (the adjacent room). Such an arrangement creates the feeling of a larger space and never limits its size (Wealleans, 2006).

Movement

Interior architects must consider the movements through the spaces and how they can actually create delight by doing so. Paths in a building can be done in many different ways especially if incorporating all 3 dimensions. The crucial roles played by lifts, escalators, ramps and stairs can also be used to intrigue people moving through the spaces (Coles & House, 2007).



Figure 22. Movement in interior architecture

(Convexities House was designed by Antonino Cardillo in Spain and was inspired by Flamenco dance) Antonio Cardillo says, "If architecture is music in stone can its "limbs" dance? Architecture only remains still in pictures. In real life its natural state is one of transition. Both man and light move within it." (URL6)

When an architect and interior designer collaborates, it is a harmonized system where they balance and check each other. A designer is handed a plan and they analyze the plan to check if all wall dimensions, window openings and door openings are balanced. They determine the movement ease through the spaces and if the spaces are well lit. (Sheridan, 2008).

Transition

Each day, occupants move from indoors to outdoors, room-to-room and space-to-space. Realistically, only narrow spaces is required to provide function but if needs are not considered but what can be achieved is looked at, a door opens to a whole lot of possibilities. Transitional spaces can be achieved in a way to become social spaces or individual spaces by considering the lighting, proportion and form. In order to achieve this, proportion of openings and the direction of movement must be considered (Coles & House, 2007).



Figure 23. Transition in interior architecture, MBAM (Marble Bar Assets Management) trading floor, view of corridor. Location: London, UK. Transient environment operate on the threshold between spaces. Corridors contain such characteristics and connect different spaces together within an interior. Corridors play a crucial role in the outline of a building even though they may be looked at as secondary spaces (Coles & House, 2007).

A lot has been discussed about the importance of main entry points of a domestic housing in terms of stipulating an emblematic transition space between private quarters and public quarters. Writing in a philosophy of interior design, Stanley Abercrombie states, “In our own culture, rather than plunge directly into the heart of an interior, into its living room full of conversation...we prefer some transitional area”. He also writes that entrances are “a physical transition point, obviously, and also a mental one, the entrant bringing into the interior memories of the exterior...” (Lauer & Pentak, 2008).

Accessibility

Interior must be accessible at all costs but until recently, spaces have been designed without the regard for any special needs of the occupants such as the needs of the

young, disabled and the elderly who cannot operate or use stairs, heavy doors and narrow openings which hinders their ability to use these spaces (Coles & House, 2007).

2.3.2 Interior Space and Aesthetic

An element of apparent understanding and intuition of when ‘something looks or feels right’ often influence the visual selections in interior design. Such an intuition is a sensory response and it may very well be a sign that fundamental anthropological needs are linked with tactile, visual and acoustic stimuli (Edwards, 2011).

Interior means not the outside world, not exterior. A crucial part of interior spaces is aesthetics. Simple integral design in interior spaces is what aesthetics is added to or onto. Interior space contains aesthetics to introduce a pleasing design into the space, unlike intellectual manner (Moore, 2012).

The part of an interior designers responsibilities are to practice their understanding and skills of the visual world to determine arrangements that blend through shadow, light, form, texture and color (Edwards, 2011).

Shadow, light, texture, color and form are some of the things that are blended together to create interior design with an aesthetic composition where each and every single aspect considers the functionality of the space according to what activities will be ongoing in it as well as reflecting the mood and personalities of the occupants (Moore, 2012).

2.4 Space Organization

Geometric principles or aesthetics are what architects are accustomed to when solving spaces. There is a lot of attention on organizational expressions of spatial

arrangements and there are some ways to define such strong ways of transforming spaces as shown below.

The career of design contains many ways to describe geometry and form.

Architects are regularly more familiar with portrayals of activity and relationship that bring about artifacts or forms inside discussions that support the designation of site as a solitary element. People tend to agree with nouns as opposed to verbs (Easterling, 1999).

Intuitive design principals are utilized by interior designers. Design elements are considered when selecting furniture (Such as scale, form, size). The word “Form” is how an object is shaped. Furnishings are selected according to scale to fit the desired space and match other furnishings around it. (Brown, 2002).

Efficiency is an expression connected to practically everything designed to be utilized, such as a dishwasher, a space or even a car. Absence of an efficient organization for the interiors of homes opens a gateway to nonfunctional spaces and chaos. The existing design or the organization cannot achieve the characterized function of space (Easterling, 1999).

Designers are using the word “efficient” in the description of the right way to arrange furniture. Some believe that space planning is simply the way furniture is placed, but that is not the case. Space organization is the way people organize belongings within a space, and “even when you organize items in a single drawer, in fact we are entering the act of space planning” (Easterling, 1999).

When architects and designers collaborate at the start of a project, the interiors are designed from two points of view. Although balance, scale, and proportion in the interior space are paramount issues for both, the architect focuses on the organization of space and the interior designer on the management of space. A space is observed with a different concept thus incorporating all points of view creating harmony and balance. (Sheridan, 2008).

If the principles of space planning is the only way to assure the most functional and efficient interior space including the smallest drawers all the way up to the biggest rooms available. Space organization is a solid basis and a critical part of decorating and interior design which will help all the other activities that are performed at later stages (Easterling, 1999).

The utilization and the organization of different kinds of spaces are reflected in communities across all cultures due to the relativity between them (Washburn, 1983).

Alternatively, principles, which determine the space that is decorative is not done randomly but has the influence of the community, based on the organization of the space and the basic structural pattern. The foundations of making use of social and environmental spaces as well as organizing them are also used in symbolic spaces in a community. Such principles are crucial to the foundations of a community and are present in symbolic spaces such as pottery, textiles, art, religion and rituals (Washburn, 1983).

2.4.1 Kinds of Space Organization in Interior Architecture

Interior architecture takes into consideration the examination and the knowledge of existing spaces and buildings, a deep understanding of the personalities of interior decoration and the qualities of the space. Form and Structure unveils the motion of redesigning and organizing spaces and will de-construct the practice into more manageable parts paying close attention to the problems associated with form and structure (Stone, 2007).



Figure 24. Space Organization in Living Room. (URL7)

Productivity can be crippled with some organization concerns, which are economic constraints, adjacencies, staff requirements, structure and hierarchy as well as images. A company can select an office with an attractive façade due to the fact that it can help improve the overall image of the corporation and can be further improved if the building is highly visible. The company image is not only affected with the exterior of the building, but the interior architecture of the building has a great effect on the corporate image as well. Materials in the public spaces are a great factor in the company image. Standard materials may be adopted for a low-budget insurance company whereas a high profile advertising company may require top of the line materials in their public space (Rappoport & Cushman & Daroff, 1992).

There are five kinds of space organization, which are:

- Centralized Organization
- Linear Organization
- Radial Organization
- Clustered Organization
- Grid Organization (Ching, 2007).

Centralized organization

A centralized organization is where there are smaller grouped spaces that are oriented around a large central space. Usually, the central space is large enough to house the smaller grouped spaces around its form. A centralized organization has a strong geometrical basis, the smaller groups of spaces are formed around the central organization by taking into consideration its closeness, shape, size or its requirements of the space. Spiral, loop or radial forms are adopted for the circulation patterns but will cease at the central organization (Goerge, 1999).

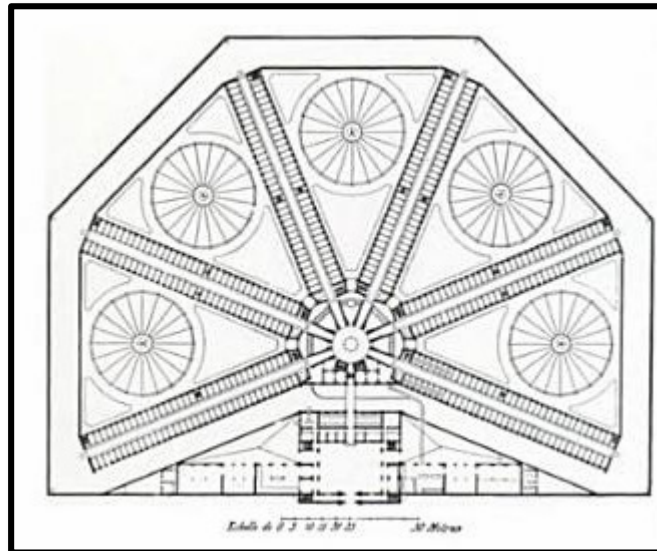


Figure 25. Centralized Organization (Meiss, 1997)

Linear organization

A linear organization is made up of a sequence of spaces. Such spaces can be connected via different linear spaces or directly linked to one another. Most linear organizations consist of similar sized spaces and forms as well as function. It is also common to see a linear space that has separate spaces branching off itself that vary in shape size or form and even function. No matter which case, the spaces are exposed to the outside. The most important spaces in a linear organization are defined by their size and form (Goerge, 1999).

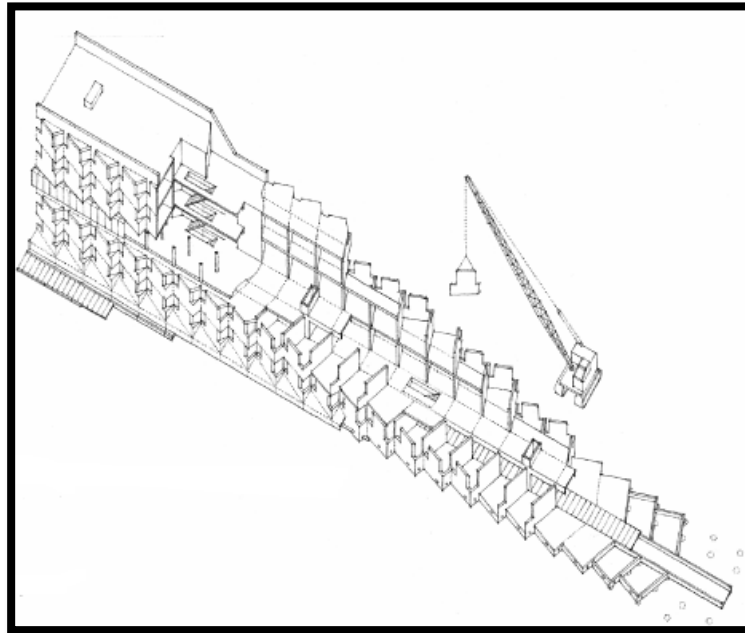


Figure 26. Linear Organization (Ching, 2007)

“A linear array organization can be viewed as linear organizations developed in two different directions.” A linear array organization houses spaces that are almost identical in both form and size. Such spaces can be modified to vary the design and form. Such additions or subtractions can be changed to fit the needs of the project or the environment. In order to house a feature or insert a special interest, the linear organization can be interrupted (Chen, 2011).

Radial organization

This kind of an organization mixes both the linear and the centralized organization together to form linear organizations around a centralized space discharging outwards. A centralized organization

A radial organization is the combination of both centralized and linear organization. It is a centralized space with a number of linear organizations radiating outwards. A radial organization inspires outward and inward movements while a centralized

organization only inspires an inward movement. The focus is not only centralized but also is radiated at the linear organization attached to it (Chen, 2011).

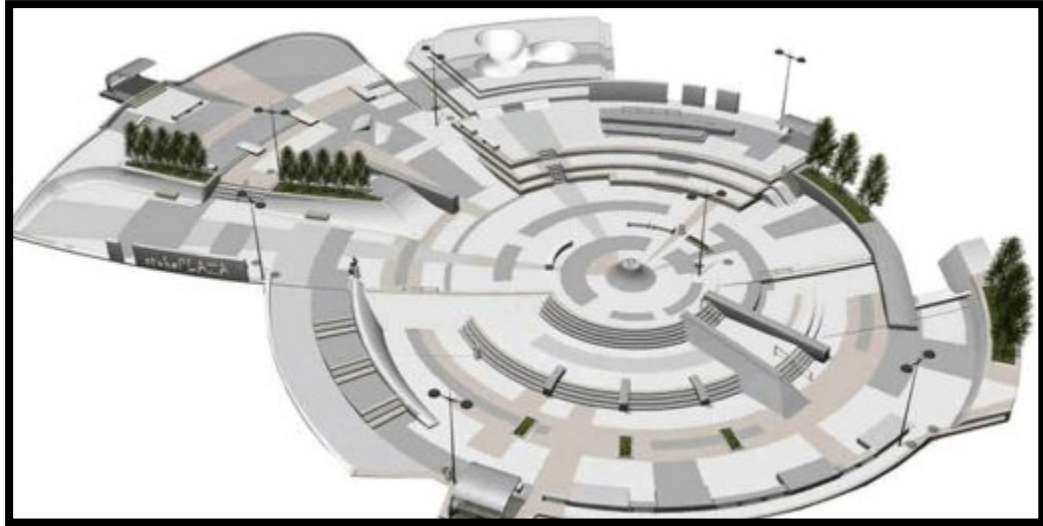


Figure 27. Radial Organization. (URL8)

Clustered organization

These kinds of organizations adjust their forms based on the shape, size or the requirements of the space. Clustered organizations can vary in shapes or size due to their flexibility as well as being able to morph into different orientations. Since such an organization is flexible, there are a few ways that they can be organized in (Goerge, 1999).

Table 1. Types of Clustered Organization (Goerge, 1999)

Clustered Organization		
<p>1. Attachments as limbs to a more spacious form or space</p>	<p>2. Relation by only the distance from each other is possible to attract attention to the volumes as single entries</p>	<p>3. Variety faces can be achieved by merging into a single form and interlocking the volumes</p>

The distance of the spaces what a clustered organization relies on. Spaces can either be varying forms or sizes or be the same form and size. This allows for more flexibility if compared with the rest of the organizations. Emphasis can be achieved by creating it in a special location, the orientation, form and a large size (Chen, 2011).

Grid organization

This type of organization uses more than a 2 conjoining parallel lines. With such a method, regular spaced points become present in a geometric pattern with consistent fields that look alike. A commonly used grid is the square shaped geometry. This is due to the bilateral symmetry and the uniformed shape. This type of grid is non-directional, non-hierarchical and natural. It can separate the overall surface into smaller units and allow for a more uniform texture. Uniformity can be achieved by placing several surfaces around each other with such geometry. The grid is versatile and can be separated to form other shapes and transformations. If a portion of the

grid is moved or changed, the visual aspect of the grid can be modified. The uniform pattern can be altered with a large space to bring out the features of the site. This also holds true for when portions of the pattern are moved, broken off and rotated to create other forms (Goerge, 1999).

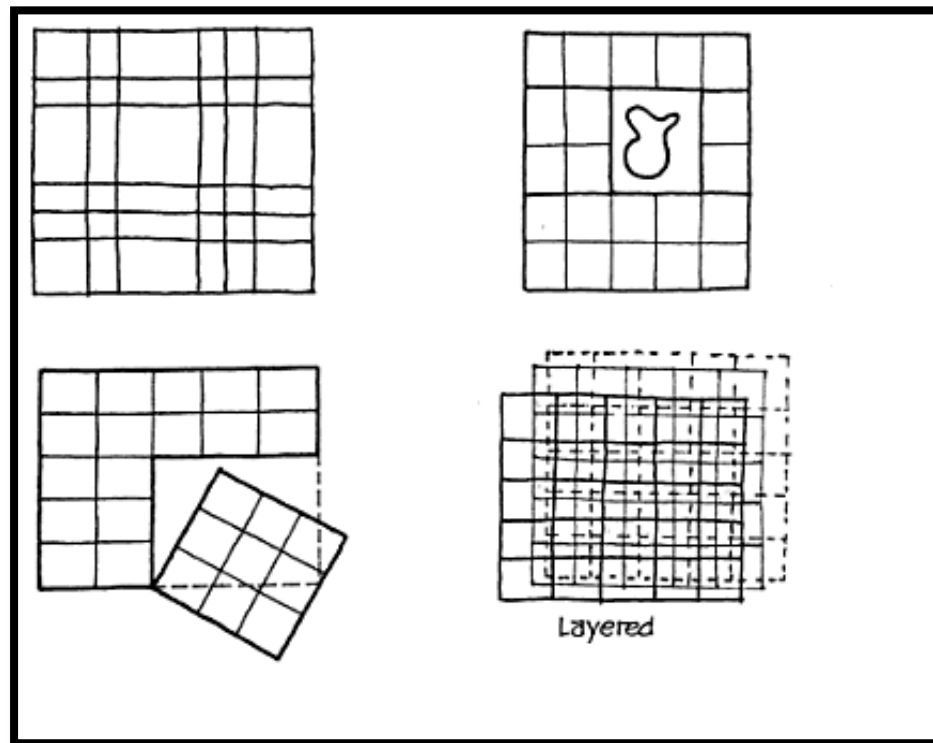


Figure 28. Grid Organization (Goerge, 1999)

2.4.2 Space Organization in Housing

Privacy is an important aspect and can be achieved by controlling all interactions with others. The layout of the environment to maximize privacy is important because privacy is a natural human desire. As Lang mentions, a single family home contains both a combination of public and private areas and ways to access them. Houses can be described as either public exterior or the close interior. Within those, there is private areas, semi-private, public and semi-public areas (Mitton & Nystuen, 2011).

Number of rooms and their shapes is what the space organization of the room is based on and the usual components of space organization can include furniture which creates social interaction places and the circulation (Mira, 2005).

Culture of humans includes symbolic representations, attitudes, values and the norms. Space organization of people can determine their position within a specific group, their relationship and their social statuses, which is manifested by culture. Social and cultural schemes are supported within the spaces which means that humans interact with one and other within the specified areas that are meant for such activities because that's how they have been defined. "Social and physical spaces are two dimensions of the same system and there is both continuity and change in these dimensions over time". People transform, develop and divide the space into different forms and claim it as their own, they are not only attached to it. They live in spaces that they create, claim and design (Low & Lawrence, 2003).

2.5 Perception of Space

The perception of space has been central to the analysis of perception in the 20th century. The progress of visual space and the discussion of its history and motion perception is a speculation. The most ideal condition would be to test blind subjects that have their sight restored surgically from studies of adult performance and philosophical conjecture as well as some questionable reports. The best possible case was the initial reports of possible ways to study perception in early infancy. "The ensuing three decades have delivered on the promise of those early reports to produce a scientific understanding of the origins of perception" (Epstein & Rogers, 1995).

As Alan noted the act of visual compensation or seeing is a function that is carried out by the human eyes who can decipher the blur of light coming into the retina by referencing them to the blurs of light that humans have already experienced in the past. There is a choice to be made which is the amount of concentration that is put into the detail that they perceive. (Holgate, 1992).

Vision is a crucial part of how people orient their movements because it provides the most apparent and thorough information to the brain about events, spatial layout and about objects. The development of space and motion perception has focused largely on the vision as a primary factor. Kinematic perception, spatial perceptions intermodal perceptions and auditory space perceptions are beyond the scope of this chapter. Important aspects of spatial and kinematic perception involving auditory space perception, vestibular influences, and intermodal perception are beyond our scope in this chapter (Epstein & Rogers, 1995).

2.5.1 Perception of Distance

Distance perception has fascinated beliefs for hundreds of years but it disappoints to resemble in any clear way to possessions of the retinal image and discloses perception to be a multifaceted attainments. It is naturally estimated that some no retinal source of data must be additional to the image to give complexity and distance. It is understood as the fact that the reduction of the size of the object correlates with the distance of the object that overrides any direct result junction might have on distance insight (Günçe, 2012).

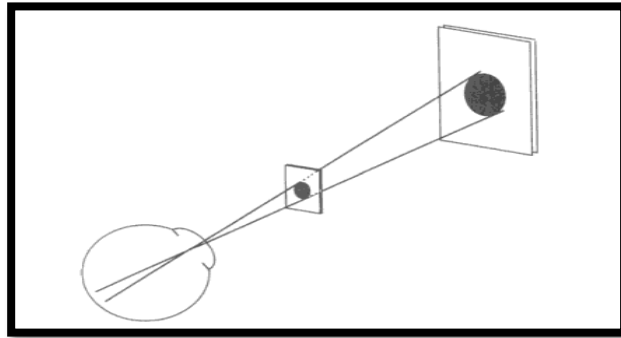


Figure 29. An image of constant visual angle (such as an after image) subtends and object in which physical size increase with distance from the observer (Ching, 2007).

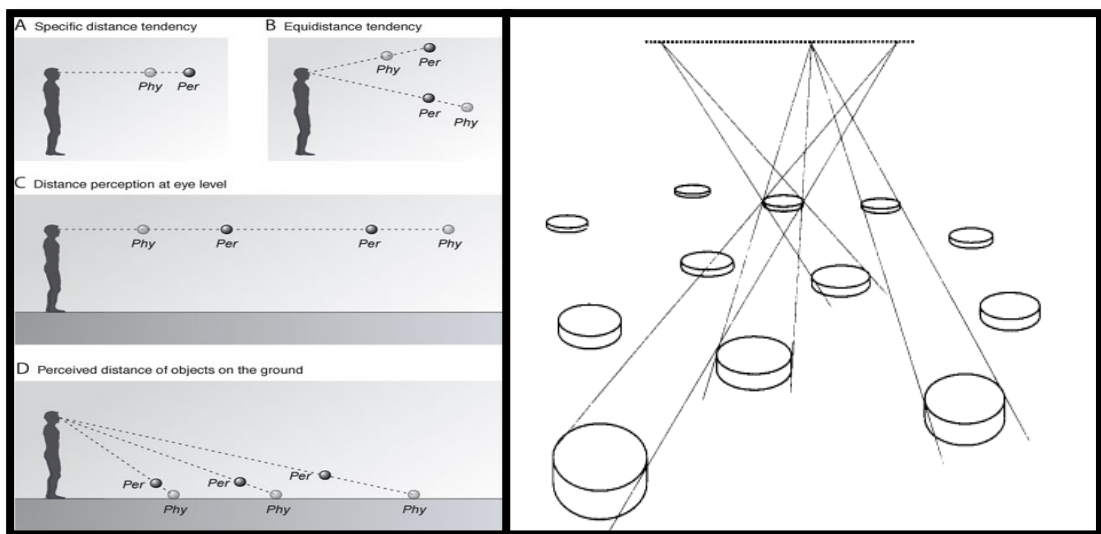


Figure 30. The vanishing points of lines joining any two objects form a horizon (Ching, 2007)

The presence of objects at a distance describes perspective as well as the consequence of the perception of objects at a distance (Lumumba, 2004).

The perception of the absolute distance of items and landmarks is important for an absolver's conduct, irrespective of its decisive role for other characteristics of layout perception (Epstein & Rogers, 1995).

It is not the same as relative distance perception as that perception is defined by and involves ratios and metric units. The focus of distance perception has been conducted

with an importance on looking at the accuracy with which it can be performed (Epstein, W. Rogers, S. 1995).

The Problem of Visual Space Perception to convey the knowledgeable functions of visual space to certain points of simulation and to processes happening in the visual system is what Visual Space perception is related to. The field of space perception must be split into distinctive ways in order to simplify the assignment of detecting these components. This can be split into different perceptions with either two eyes or one eye (Hershenson, 2000).

Chapter 3

AESTHETIC

The most obvious type of instrumental view is the significance of aesthetic in structures recognized with the form in terms of function. This translates into the meaning that the function that must be utilized has to control the design of the building.

“Form follows function” was once stated by Louis Sullivan. The understanding of function cannot be separated from the understanding of form due to the fact that aesthetically pleasing architecture shall also be functional and accurate in its aim (Faravar, 2010).

Aesthetic character of a surrounding can be described as when the sensibility of aesthetic understands the concern of particularity of the surrounding, specifically, the aesthetic qualities that set it apart from others (Carlson & Lintott, 2008).

Additionally, aesthetic concerns itself with the theory of beauty and the perception as well as the responses that it receives physiologically. It is a branch of philosophy. The question of why or how things that are visually pleasing is a subjective one because there are many values that determine what is or what is not attractive or aesthetic (Lance Bullard, 2006).

These responses demonstrate the function for the need for aesthetics. This study tries to look at the norms in interior designs in order to point out the standard aesthetic principles. In order to combat the varying standards, some suggestions can be made to define the meanings of aesthetic and beauty to be similar by the designer and the customer (Rutgers, 2004).

3.1 Beauty and Aesthetic in Architecture

It is mentioned that the long-standing belief in the uniformity of human minds is considered. In order for classicists to consider the notion that all people see the same beauty in all things, they had to accept that everyone's minds are wired the same way. It's said that each person's brain looks at things differently and considers their beauty in different forms according to their own personality. This holds true for when emotions and intuitions are evaluated above rationality and reason (Gelernter, 2001).

The real beauty is what people are able to see in things themselves. This fascination is a reaction of captivating people to stare at something beautiful for long periods of time. Beauty can bring out feelings that can make people feel depressed or extremely happy depending on the past experiences. Beauty is seen as beautiful due to the fact that inside whatever can be perceived is the answer of beauty (Richard, 2008).

Beauty is observed from the eye of the person looking at it. It relates to the way the world is perceived. This perception of beauty is what separates differences in peoples taste and sometimes, the object is not seen to be the beauty but what the object signifies is the beauty. The investigation of beauty has frequently happened in taking the meaning of beauty as a sensation for the sensation itself (Kirwan, 1999).

3.2 Aesthetic Order

This order is the way of sorting something in relation to formal aesthetics, which is considered to be characteristically in harmony, unity and variety.

Leatherbarrow & Mostafavi (2005) pointed out that, the features of harmony and unity may be interesting to consider in terms of music where it is the difference between singing in accordance and in harmony. Looking at the variety of need is also apparent in the observable relationships of parts with one and other (Faravar, 2010).

European modernism in architecture has introduced the aesthetic order and has given them definitions in three main principles. "Emphasis upon volume-space enclosed by thin planes or surfaces as opposed to the suggestion of mass and solidity; regularity as opposed to symmetry or other kinds of obvious balance; and, lastly, dependence on the intrinsic elegance of materials, technical perfection, and fine proportions, as opposed to applied ornament"(Guillén, 2006).

The subject of aesthetics is a very complex issue, but to attempt to clarify the subject, some categories are set forth to classify it in 3 sections;

- The study involving beauty has recently been wrong in a sense that it has been regarded as a sensation for itself.
- The importance of color and beauty in the early part of the century.
- Aesthetic theories: a quick examination of the best way the actual forms of the aesthetic theories could possibly be organized. ” (Capon, 1999).

3.3 Aesthetic Elements

“The word “aesthetics” specifically means (a) the study of the qualities perceived in works of art with a view to the abstraction of principles and (b) the study of the mind and emotions in relation to the sense of beauty ” (Burke, 1985). However, in general, meanings of the term aesthetics has been elaborated and different meanings have come about to cover the real visual qualities of objects. Scientific and philosophic studies have been conducted to reach these qualities. The term “Beauty” is commonly interchanged with aesthetics and is referred to as the certain quality in an object that provides unprecedented satisfaction to the person that is observing it. It comes from sounds, shapes and colors that arise from forms, patterns or designs (Burke, 1985).

A great importance is put on the visual analysis of design problems in both new and old programs that teach architecture design. These are done by looking at the different parts of structures in isolation to determine their characteristics and what they can contribute to a successful design. “In bridge design this means looking at structure types, spans, piers, abutments, and their primary and detailed components to see what the alternatives under consideration for the design of each will mean in visual terms ”(Burke, 1985).

How a design appears is to aesthetic design looks at. It is pleasant to observe only if it is aesthetically pleasing, otherwise it becomes aesthetically displeasing thus, becomes “ugly”. Although this notion holds true, it must not be forgotten that the definition of beauty is different for each person. One might find the aesthetics of one space pleasing but another may find it ugly. These characteristics of aesthetics

include but are not limited to images, richness, pattern and color (Trevallion & Strazzari, 2006).

“The level of aesthetics begins with Hobbes’s right that all social perception is self-absorbed” (Gaut & Lopes, 2005, P. 278). A lot of people are affected by Hobbes’s notion and however impartial people’s activities may be, they are complete for their own sake and are valued and liked as such. And one good subsection of this sort of neutral activities seemed to be people associated with art in addition to natural beauty. (Gaut & Lopes, 2005).

Denis Dutton classified aesthetic universals as:

- Special focus
- Imagination
- Imitation
- Criticism
- Style
- Nonutilitarian pleasure expertise (Gaut & Lopes, 2005, P. 278)

Combining different components that provide an aesthetic value in objects within spaces molds aesthetics. Such elements are considered by firstly, secondary, and formal elements (Günçe, 2012). These components of aesthetics are listed as below;

1. Unity
2. Variety
3. Harmony
4. Contrast

5. Repetition
6. Balance
7. Rhythm (Ocvirk & at all, 1990).

Circulation, fixture and furniture are critical factors, which effect the interior spaces. (Günçe, 2012).

3.4 Aesthetic Principle

The Greeks created Aesthetic Principles a very long time ago. In order to understand and perfect the principles, many public buildings were built within their society, which showed the progress to perfection. Beautiful proportions were established with the help of the principles (Boffrand, 2002).“Other principles, however, are based on consideration of decorum, commodity, safety, health and common sense.” The principles are the experiences of people as well as their thoughts. They determine whether a building shows good taste (Boffrand, 2002).

Different architects tried to incorporate different concepts into their designs in order to utilize beauty. All places had a definite attitude of art and an aesthetic value (Faravar, 2010).

There are some points to consider for good practice of architecture in the analysis of principles of architecture, which are as listed below:

Common sense, health, lists commodity, beauty, utility and solidity.

The above principles are all the stages of aesthetics (Boffrand, 2002).

3.5 Formal Aesthetic

In the philosophy of Bauhaus, Formal aesthetic was considered a fundamental in teachings (Naylor, 1985). The notion was coined by mainly the Gestalt psychology students which manage to describe the visual discernment just on the essential of geometric aspects of the shadow, illumination, color, the degree of complexity, scale, rhythm, proportion, environment and shape among others. Lang (1987) expressed that the Gestalt psychology methodology clarification of observation advocates that the type and line of building impart importance specifically through plane and line” (Lang, 1987).

A visual art such as sculpture and painting is what architecture is compared to. A creative process is used to design buildings in architecture where they create an aesthetic artistic element by manipulating components of art. A rudimentary difference between architecture and painting is that architecture will have a purpose, a function and safety must be incorporated into the design (Killory & Davids 2008).

A German philosopher named Alexander Gottlieb Baumgarten redefined “aesthetics” which originally meant the sense of beauty. He redefined it and drew importance to it in a modern sense. The ancient Greeks used the term for a different purpose such as the power to acknowledge stimulation coming from 5 different senses associated with individuals. Baumgarten defined taste in a broader meaning that taste is formed by senses instead of intellectually and that the feelings of satisfaction is the opinion of experience (Faravar, 2010).

3.5.1 Color

It is imperative to know about the theory principles of color in order to grasp the concept of using the full color spectrum in interior spaces. Only a sufficient knowledge is required to achieve fair results by planners and design professionals when designing interior spaces. The color theory was coined in 1919 by Wassily Kandinsky, a renowned Russian abstract artist. Since then, color theory hasn't been changed, only redefined (Marberry, 1995).

When working with color, it is important to understand that different cultures react different to the effects of color due to their background. Such cultural differences have varying effects on the effects of color on individuals. Some natural influences to how people act towards color can be drawn from the local customs of societies, varying traditions, political structures, religion, climate and geographical locations (Faravar, 2010).

If creating interior spaces, rather than using color solely as a means of decoration, basic color principles can be utilized to invent form. The color spectrum can be utilized to add proportion, balance and wellbeing. If colors are randomly chosen, it can result in uneasy feelings as well as create chaotic results. If full spectrum balance is not achieved, this can undermine the outcome of a design schemes success (Marberry, 1995).

Color rules human lives and is the main component that defines all objects around them. People have always been fascinated by color and even went as far as associating it with mysterious things and phenomena in the world (Birren, 1989).

Color is a crucial tool associated with interior design. It can make or break the look and feel of a space. It can have an impact on how small or large spaces look, how well lit or gloomy they appear as well. Satisfaction and pleasing sense of feeling must be considered when using colors within spaces. It is important to first of all find out what kind of mood the space will have when occupants step into it. These moods can be elegant, pretty, peaceful, gleeful, bright, fresh and cool, or warm and pleasant (Kerrigone, 1992).

Feelings in an environment are what motivate people to choose specific colors. Picking the right colors for the right room may be a daunting task. There is no single right color for the right space, nor any specific steps to choose the color. Before color selection, the function of the room must be present. What is the room going to be used for? What is the nature of the room? A lot of information can be gathered by asking such simple questions (Butterfield, 1998).



Figure 31. Color Wheel (Kerrigone, 1992)

Kinds of color combinations are:

Warm color

Pink, yellow, orange, red and reddish colors give the feeling of warmth and feel welcoming. Large rooms look smaller when warm colors are used but also look pleasant. If a room does not receive any sunlight, warm colors make it feel bright and homey (Wolfersperger & Carlston, 1992).



Figure 32. Warm Colors. (URL9)

Cool Color

Bluish colors such as violet, blue or green provide a cool feeling in spaces. If small rooms are painted with these colors, it helps the room feel large. In order to inhibit the feeling of coldness in the room, a lot for natural light can be used (Wolfersperger & Carlston, 1992).



Figure 33. Cool Color in Interior (URL6)

Neutral Color

The neutral colors such as black, gray, brown, cream or whites are very advantageous if certain colors are desirable to be mixed into the space. Such colors are referred to as “earth colors” or colors we naturally find outside in nature. Neutral colors can be mixed with more definite colors (Wormleighton, 2004).



Figure 34. Neutral Color in Interior (URL11)

Color tone

Color Tones to be utilized is very important depending on the specifications of the room. Different colors can determine if emphasis will be shown for dark or well-lit rooms. Rooms may not feel pleasing if one type of color is used such as pure light tones or dark tones instead of varying tones (Maryon, 1979).



Figure 35. Color Tone in Interior (URL12)

3.5.2 Form

The word form can be described in a few ways. One way is the manifestation of the form that a particular object may take such as the way water can take the form of steam or water as well as the actual forms that can be identified like the human body or a chair. “In art and design, we often use the term to denote the formal structure of a work, the manner of arranging and coordinating the elements and parts of a composition so as to produce a coherent image”(Francis & Ching, 2007).

The link between space and mass is known as the architectural form. Combining shade, color, material, textures and architectural forms creates quality of space. Involving such components in exterior and interior is how the quality of architecture is considered, Different kinds of that are utilized in interior design are:

- Regular forms
- Irregular forms
- Cubical forms
- Circular forms
- Triangular forms
- Axial forms
- Radial forms
- Linear forms
- Dynamic forms (Ching, 2007)

Table 2. Different Kinds of Forms in Interior Space

Different Kinds of Forms in Interior Architecture (Living Space)				
Regular	Irregular	Cubical	Circular	
				URL13
				URL14
				URL15
				URL16
				URL17
				URL18
				URL19
				URL20

Different Kinds of Forms in Interior Architecture (Living Space)

Triangular



URL21

Radial



URL23

Linear



URL25

Dynamic



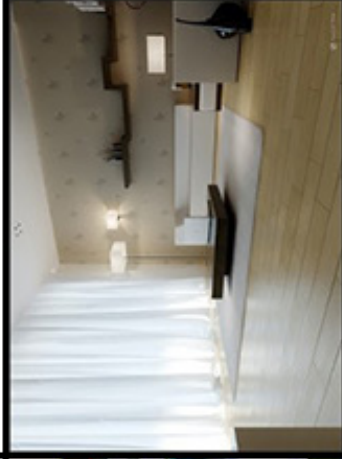
URL27



URL22



URL24



URL26



URL28

The term "form" is frequently connected to the points on a canvas and the mediating regions are looked at as the space. A few scholars can differentiate between "shape" & "form", characterizing form as the outline or a layout of the latter as the layout of an item (Holgate, 1992).

Principle that offers unity to both external and the internal structure is referred to as form. Form tends to present the feeling of a 3D volume or mass, and shape suggests the vital parts of what makes up the essential looks, relative disposition and the configuration that define forms. Components of form realistically are affected by the circumstances that people look at them under. If a person looks at a form from a different point of view from a great distance, this modifies the form and how it is observed from one person to another. Lighting is an important contributor to a form because the different lighting conditions modify the visual field, structure and how well it can be seen and identified by people (Francis & Ching, 2007).

3.5.3 Texture

Texture can be seen in "the families of light and the logic of sight. It can donate to the proof of identity of a place." It can be obtained by surface presentation of fabric, polish or shade. An obvious texture encompasses the design of the outdoor surfaces of objects and can be seen or sensed by the sense of visual image. Texture is used according to the function of a space, which is an important aspect in design, which makes spaces stand out, as well as businesses. The meaning of texture doesn't mean the repetition of shapes, but it is actually a characteristic that defines an objects surface (Groissboeck & Lughofer & Thumfart, 2010).

How much incident light is absorbed and which surfaces reflect what is also determined by texture (Francis & Ching, 2007).

It is difficult to find the texture of the material as far as how it is joined with the crude materials from which it is made without simply concentrating on the surface. The importance of texture has been shown in many areas. Texture is defined, as a condensed pattern where after condensation the pattern is no longer recognizable. Clarifying the representation of material as well as making it abstract all at once is what texture can achieve. Crude materials, although having certain textures by themselves, are not intentionally created with the design elements intact. The representation of material appear clear with the introduction of texture but may in some cases require clarification as well. “If texturation is about the design process of carefully considering the unique properties of a material and how it can be used to express a certain material more clearly then the representation of the material will become clearer”(Wiberg, 2011).



Figure 36. Usage of Texture in interior architecture (URL29)

Breakdown factors and structural features of varying sorts are required to achieve sensory valuations of texture. The arrangement of softness to touch, appearance, surface and color are big variants of how sensory appraisal of products are influenced (Rosenthal, 1999).


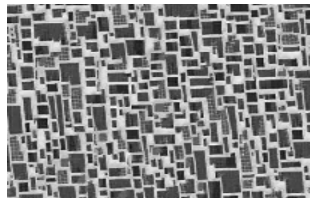
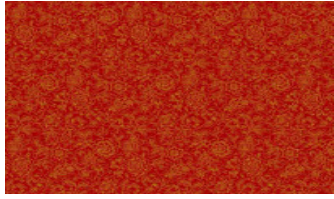
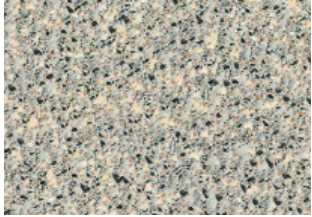

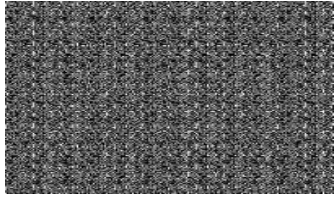
Table 3. Classification of the characteristics of textures (Szczesniak, 2001)

Mechanical characteristics		
Primary parameters	secondary parameters	popular terms
Hardness		Soft → firm → hard
Cohesiveness	Brittleness	Crumbly → Crunchy → Brittle
	Chewiness	Tender → Chewy → Tough
	Gumminess	Short → Mealy → Pasty Gummy
Viscosity		Thin → Viscous
Springiness		Plastic → Elastic
Adhesiveness		Sticky → Tacky Gooey
Geometrical characteristics		
Class	Example	
Particle size and shape	Gritty, Grainy, Coarse, etc.	
Particle shape and orientation	Fibrous, Cellular, Crystalline, etc.	
Other characteristics		
Primary parameters	secondary parameters	popular terms
Moisture content		Dry → Moist → Wet → Watery
Fat content	Oiliness	Oily
	Greasiness	Greasy

Sorting textures according to feelings requires the perceptions of varying patterns and colors that generate varying images within the technical process of applying textures. These emotions are divided into six basic adjectives, these are:

- (Like, Dislike)
- (Natural, artificial)
- (Elegant, non-elegant)
- (Rough, Smooth)
- (Simple, Complex)
- (Warm, Cold) (Groissboeck & Lughofer & Thumfart, 2010).

Table 4. Examples of different textures (Groissboeck & Lughofer & Thumfart, 2010)

		
<p>Gray level co-occurrence matrix features (88 in sum).</p>	<p>Neighborhood gray-tone difference matrix features (10 in sum).</p>	<p>Tamura features (6 in sum).</p>
		
<p>Fourier power spectrum energy (44 in sum).</p>	<p>Color features (9 in sum).</p>	<p>Gabor energy map features (31 in sum).</p>

3.5.4 Lighting

Lighting aids in seeing the visual environment clearly and is achieved by the reflection of light from objects that bounce into the eye. Psychology, psychophysics and physics are the 3 main categories of lighting and color (Faravar, 2010).

In architecture, concept of lighting is incorporated into it in 3 different ways:

1. Improving the designer's space that has been created.
2. By supporting the function of the space
3. Putting emphasis on areas that are meant to be emphasized and de-emphasizing passive areas of a space (Gordon, 2003).

Components of lighting are incorporated into a building in 3 ways:

1. Harmonizing the look of the design by including noticeable elements
2. Including unseen elements into forms and surfaces in architecture

3. Harmonizing mechanical and electrical systems (Gordon, 2003).






Figure 37. Subtle placement of light in composition (Michel, 1996)

Volume can be added to a room with the smart use of textured/colored materials applied to the surfaces as well as with the help of structural members. Daylight is incorporated with the help of artificial lighting, openings, skylights and windows. The resident of the space incorporates furniture of varying sorts. The owner, lighting designer, interior designer, engineer and the architect achieve the final result of the space (Michel, 1996).

The objective of planning an architectural lighting system that is aesthetically pleasing is to:

- Not have too much light that to bother the occupants within the space.
- Make sure the light provided is of quality
- Deliver variety and balance to the space that is being lit. (Wujek & Dagostino, 2010)

Table 5. Light and Shadow and proper lighting (Michel, 1996)

Light and Shadow		
		
Maximum brightness of the figurine. No additional light is necessary to create prominent figure ground in an isolated museum setting	Prominence of figure, while creating appropriate mood for the minstrel	Minimum brightness of the figurine. Less illumination would render the figure unacceptable for appropriate mood and detail recognition

Visual perception is externally oriented that happens when the person looking at it interacts with the visible surroundings. Light is reflected off surfaces in the real world and bounced off the retina in human eyes that excites the receptor cells within it. These excitations that occur within the cells is what the brain perceives as visual images. With the link between perception and object, is how humans can interact with their surroundings such as space (Michel, 1995).

There are four kinds of lighting in interior places which are:

- Accent Lighting
- Ambient Lighting
- Task Lighting
- Decorative Lighting (Mitton & Nystuen, 2007).

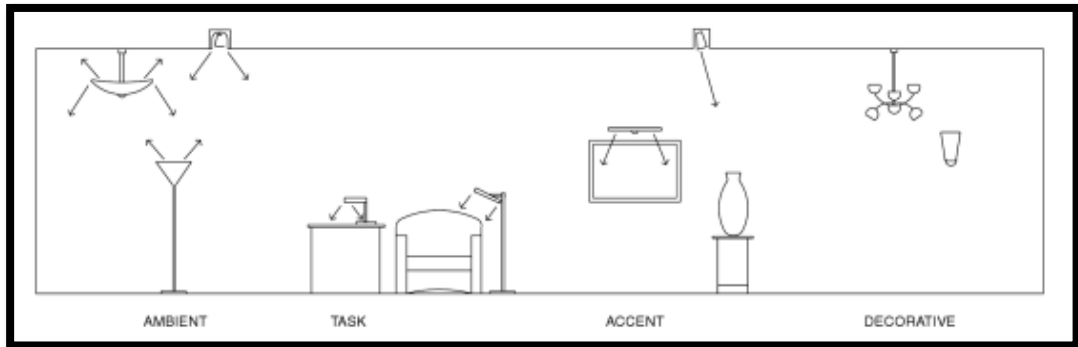


Figure 38. Different kinds of lighting (Mitton & Nystuen, 2007)

Ambient Lighting

The total lighting of the room is referred to as ambient lighting. It is not focused on a certain object in order to clarify it. It does provide a general source of lighting around space that can travel within it. Ambiance aims to describe the feeling of harmony within space and how things are incorporated within it. The ultimate aim of ambiance is to create a comfortable environment where people feel safe and invited. Spaces can either excite people or make them feel relaxes, but both types should make people welcome (McArthur & Etchells & Shepard, 2001).

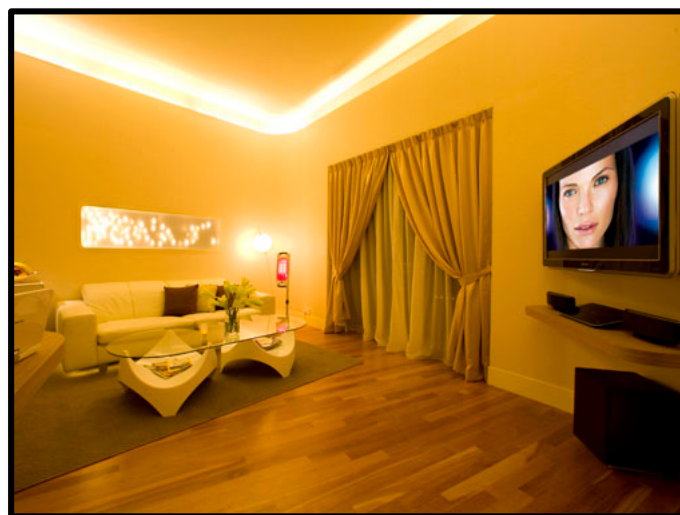


Figure 39. Ambient Lighting (URL30)



Figure 40. Ambient Lighting. (URL31)

Task Lighting

This kind of lighting is also referred to as mood lighting. It is a flexible source of lighting, which is beneficial for designers. Such sources of light emphasize certain objects while leaving the rest of the surrounding in darkness. They change the mood and the effect of the objects that they focus on. This kind of lighting is used to attract attention to the objects focused by the lights more than any other object in its surrounding (Karlen & Benya 2004).



Figure 41. Task Lighting. (URL32)

Accent Lighting

Accent lighting is typically used to emphasize pathways. Although that is the typical use of such lighting systems, they can be employed to stress the focus on central objects and features. Some occupants may choose to use such lighting systems to emphasize their most prized possessions on display and others may choose to emphasize their central features such as green areas or water features. Lighting systems help set the mood and atmosphere in certain spaces by adding these lighting systems. This type of lighting is utilized for defining walk paths (URL33).



Figure 42. Accent Lighting (URL34)



Figure 43. Accent Lighting (URL35)

3.6 Usage of Aesthetic Elements in Interior Spaces

In the chapters previous to this one, different methods were considered in space organization but in this part of the study, it can be emphasized that spaces can be sorted according to decorative and aesthetic elements, which in turn provide far more practical interior spaces. Structural designers and interior designers collaborate simultaneously in order to create a harmonized space in interior. Besides the concerns for safety and health of the occupants, factors such as accessibility and usability, work areas, storage, seating, acoustics and the amount of light needed is planned by the interior designers. Interior design components affect the auditory and visual senses of humans within the buildings. Form, alighting and the application of color increases the function of a space (Jefferis & Jefferis, 2013).

Designers must be well aware of the personalities of furniture within spaces and their many shapes and sizes. Some of the items that designers have a chance to select from are art, fixtures, wrought metal, glass, paintings or wall coverings, carpeting and lighting. The designers must also know many styles of design (Piotrowski, 2009).

The design of each space within buildings, design of surfaces and their furnishings all affect the usability of the structure and their areas within it is what textile considers. How echo is created and how the noise is coordinated with the space is what auditory design deals with. “An interior designer must have an aesthetic, practical, and technical appreciation for how people use and respond to these elements and how the elements interact with one another”(Jefferis & Jefferis, 2013).

Professionals in the field of interior design allow the creation of visually striking spaces for homeowners and business alike. There are different specializations that



designers may choose to become an expert in such as residence design, commercial interiors such as public and private facilities, offices, retail stores, hospitals and hotels. Such designs and their look and functions benefit society in many ways (Piotrowski, 2009).

The expert knowledge of interior designers help determine the best solutions for the welfare, safety, and health of the occupants within spaces. Today, furniture and other furnishings and aesthetic items are selected carefully with consideration to sustainable design and how it all comes together within a space. “A set of functional and aesthetic requirements expressed by client becomes reality” (Piotrowski, 2009).

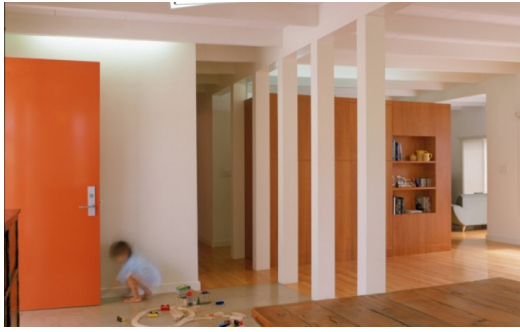
There is more than one option of organization which are open plan organizations and closed plan organizations. Open plan organizations are widely used nowadays which separate two spaces not with partitions but with design elements that are specifically created for that purpose.

Below images demonstrate the use of some elements with the function of defining spaces:

Table 6. Usage of Aesthetic Elements in Interior Spaces

Visual Example	Interpretation
<p>(URL36)</p> 	<p>This furniture is located at an open entry area and provides a space for guests to take off their shoes and leads them into other parts of the house. The open nature of this unit keeps the brightness from the window and sidelights on the door. This idea works great as a divider for other rooms as well. The most impressive elements of formal aesthetic is form in this interior</p>
<p>(URL36)</p> 	<p>Different texture and the tile configuration defines this foyer, makes way for the double doors and helps bring people into the hallway.</p>

(URL36)



A small area of tile and columns are enough to define the foyer in this house. Vertical forms are the elements of design in this place, which can divide spaces successfully. Forms are the most effective formal aesthetic elements in this interior.



(URL36)

In this photo, colors act as definition elements. This space is divided by the yellow colors from the other parts. Yellow color can act as an aesthetic element to define the spaces in this corner.

(URL37)



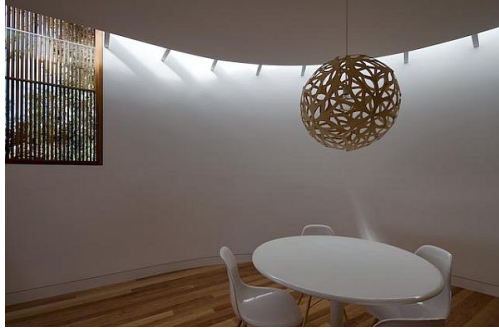
Aesthetic elements can be seen in this building. In this photo, different materials act as dividing elements.

Some esthetical partition walls can create semi open places.



(URL37)

Forms can be the dividers of this corner. Architectural forms like curves and linear forms can act as an aesthetic element to define the spaces.



(URL37)

Natural lighting here act as an aesthetic element. This corner can be defined by lighting.

Instead of artificial lighting, natural lighting is preferred for this corner to create a sense of nature besides the wooden texture of the floor.



(URL37)

Different textures and different forms are acting as a divider element in this corner. Aesthetic elements can be seen in this part of the house, which are forms, texture and lighting, which can define the spaces successfully.

Chapter 4

ANALYSIS OF FIELD STUDY

4.1 Background of Field Study

By stating the historic situation of Northern Cyprus, it can be agreed where there are some parts of the country, which are still under a historical position. According to the civilization of North Cyprus, some parts are totally historical, some parts are a combination of both historical and new buildings, and some other parts are completely new and recently constructed. According to the life style of the native Cypriot people, it is considerable that most of them prefer to live in duplex houses instead of flats. Mostly the villas of this country are duplex which are much more comfortable for people to live in. In this study, Famagusta is selected as a field of study, and the duplex houses from the historical parts to new parts of the city selected as the case study of this research. In total, Famagusta is limited to 5 main parts in this research. These parts start from walled city, which is the historical part of the city, second part is Dumlupınar which is next to the walled city, third one is Gülseren which contains both historical and new buildings, fourth part is Sosyal Konutlar which is located next to the university and the last part is Tuzla which is more modern and recent constructed than the other parts.

By considering the research, which is reached from the literature survey, it is significant to say that, the living room of the houses are one of the most important parts of the house. Living rooms are mostly at the center of the house in order to

have a connection with all other parts of the houses. Living rooms are also more socialized and friendlier for the users of the houses. Because of this importance, living rooms of duplex houses selected for the study of this research.

The methodology part of this study is based on four main methods which are space syntax, semantic rating scale, classification technique or ordinal scale and observation.

The first method is space syntax. By using the space syntax method, the location of the living rooms and other spaces of these duplex houses can be considered. This method can show the space organization of all spaces, which are located in the houses. Also, this method can help the study to simulate the social effects of the organization of spaces. Planning design can be much clearer by using this method in the selected houses. Also movement and interaction of people can be considered in the houses by using the space syntax method.

The second method is the semantic rating scale (SRS), which determines the negative answers and positive answers. This is a method that only provides answers such as dislike, like, yes or no. The answers help determine the results in more detail. This study focuses on using a semantic scale to determine the results. The right research spaces can be selected according to the likes or dislikes of users.

The third method, which will be utilized in this study, is the ordinal scale or classification technique. This method determines a way to classify certain things in the study that are selected. The classifications can be done according to preferences from 1 to however many objects there are. Such elements consist of shadow, light,

form, texture and color, which are all formal aesthetic elements. Users can classify them from 1 to 4 and with the sum of all numbers, the final results can be achieved. The less the number of the element, the better the preference of the user is towards that element. Such a method determines the list of preferences according to the least to the most effective.

The fourth and last method of this study is observation method, which is based on author observation and analysis. According to the answers of the classification technique, the most effective elements, which are chosen, are examined according to the different adjectives. The various adjectives contain the observation part to have certain answers of the results and analysis of the selected living rooms. Some tables can support this part of study, which are considered on our observation and users ideas in terms of selected formal aesthetic elements.

These four methods can support the study to find the final results. According to the results of these methods, the conclusion of the study can be reached.

In the table below, the case study, which consists of four villas in each selected parts of the Famagusta, can be seen.

Table 7. Selected cases in five parts of Famagusta

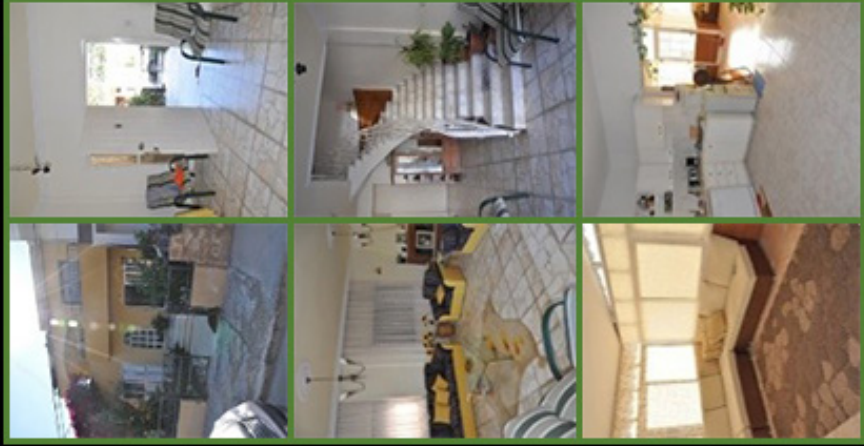
North Cyprus/Famagusta	
	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Villa 1</p>  </div> <div style="text-align: center;"> <p>Villa 2</p>  </div> <div style="text-align: center;"> <p>Villa 3</p>  </div> <div style="text-align: center;"> <p>Villa 4</p>  </div> </div>
Walled City	

North Cyprus/Famagusta

Villa 1



Villa 2



Villa 3

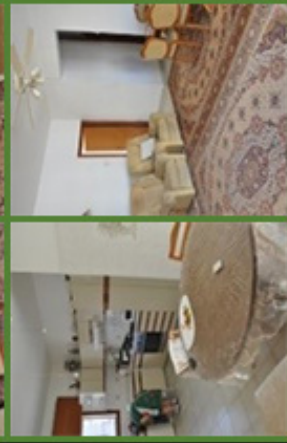
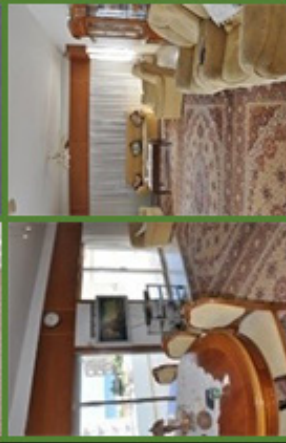


Villa 4



North Cyprus/Famagusta

Villa 1



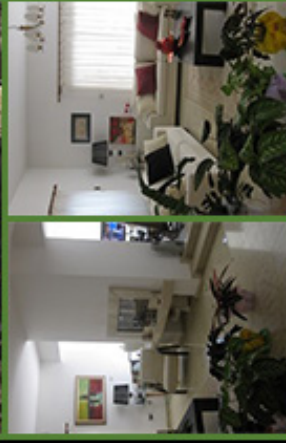
Villa 2



Villa 3



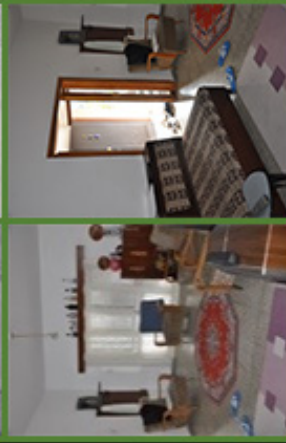
Villa 4



Gülseren

North Cyprus/Famagusta

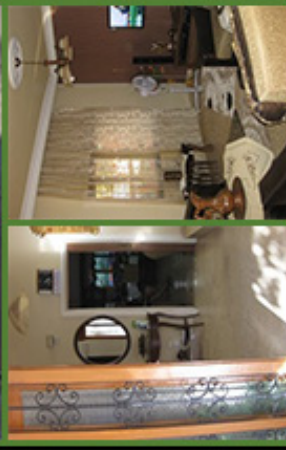
Villa 1



Villa 2



Villa 3

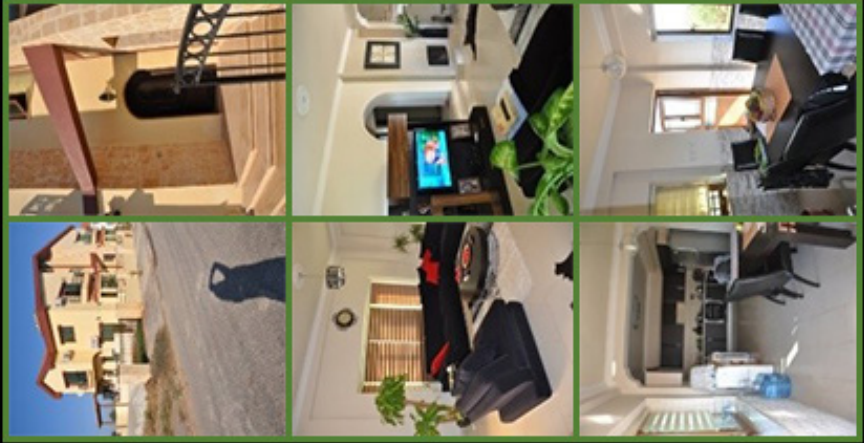


Villa 4



North Cyprus/Famagusta

Villa 1



Villa 2



Villa 3



Villa 4



Tuzla

4.2 Space Syntax Method

Firstly, space syntax method is used for analyzing the space organization and the location of the living room of selected villas.

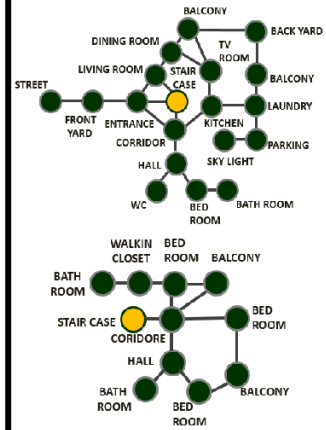
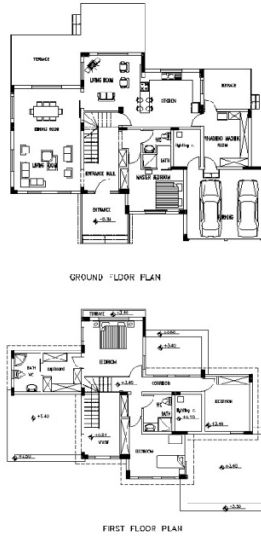
Table 8 Usage of space syntax of the selected villas in walled city

Space Syntax		
Walled City		
Villa 1		
Villa 2		

Space Syntax

Walled City

Villa 3



Villa 4

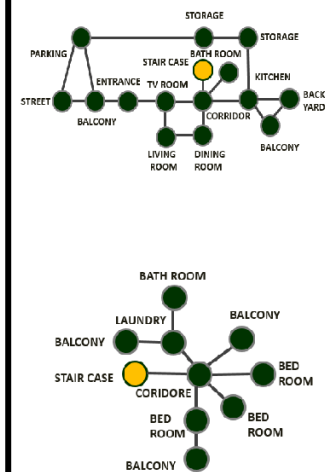
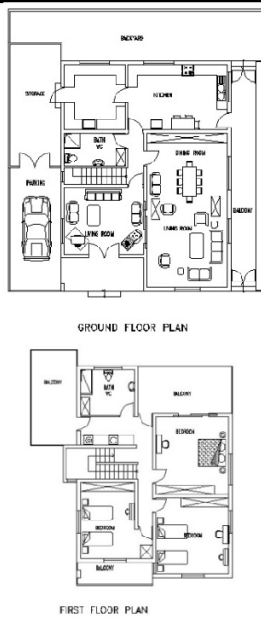

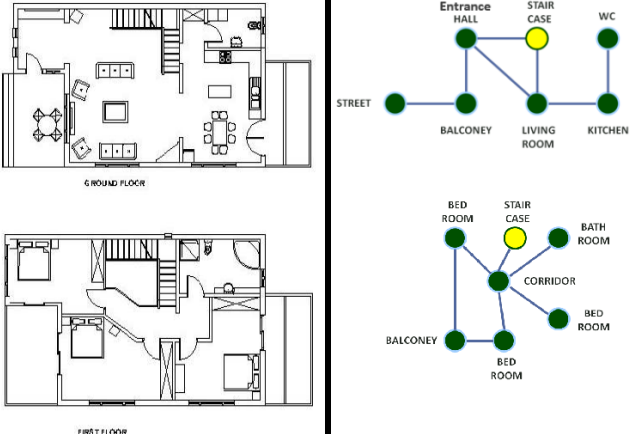

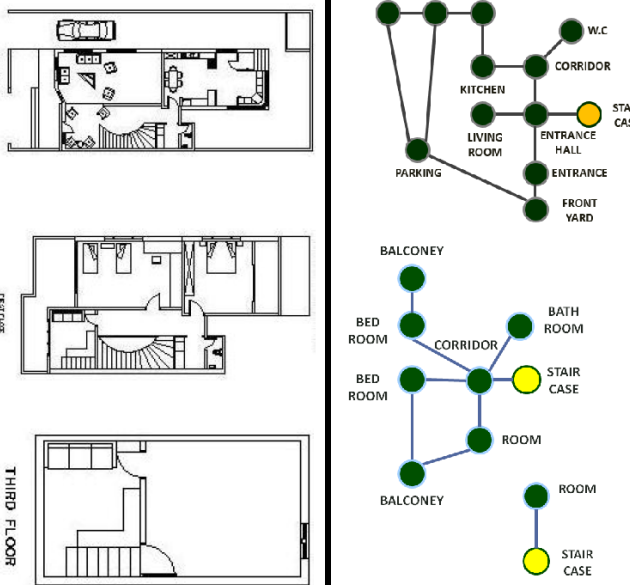


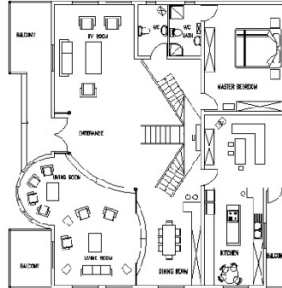
Table 9. Usage of space syntax of the selected villas in Dumlupınar

Space Syntax		
Dumlupınar		
Villa 1		
Villa 2		

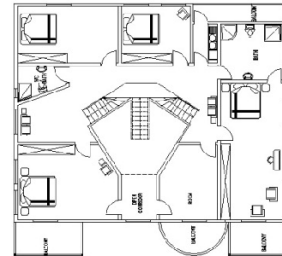
Space Syntax

Dumlupınar

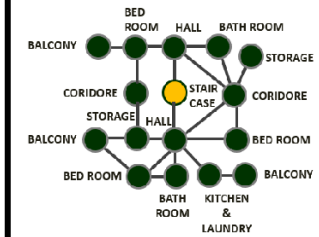
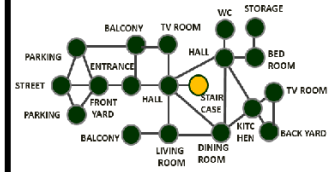
Villa 3



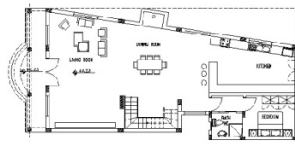
GROUND FLOOR PLAN



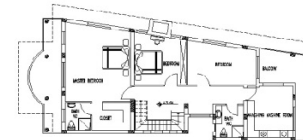
FIRST FLOOR PLAN



Villa 4



GROUND FLOOR PLAN



FIRST FLOOR PLAN

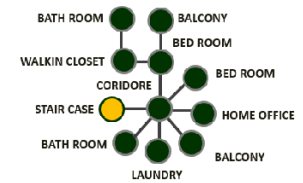
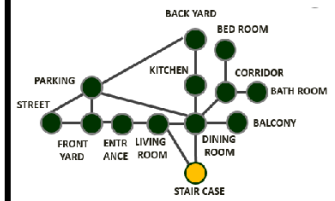

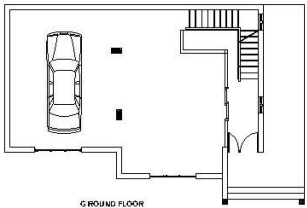
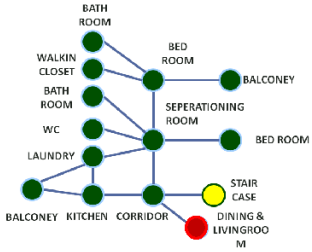

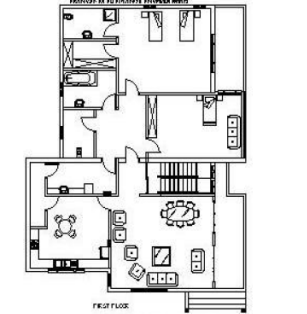
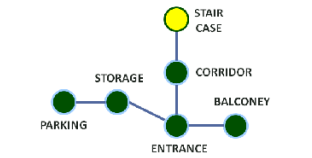

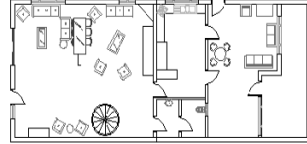
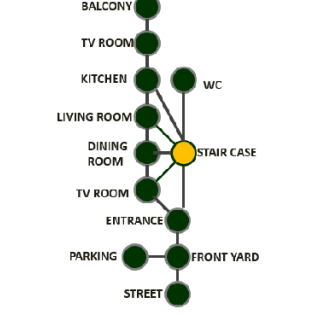

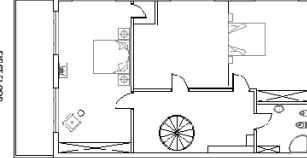
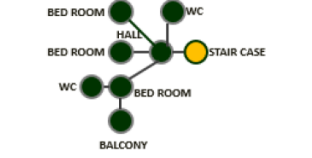


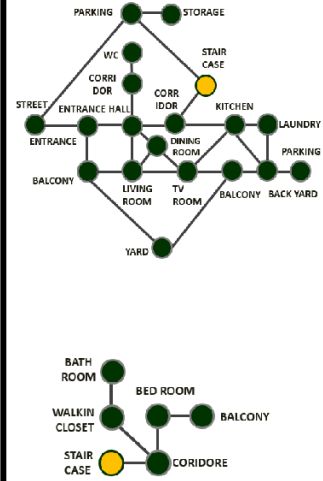
Table 10. Usage of space syntax of the selected villas in Gülseren

Space Syntax			
Gülseren			
Villa 1		 <p>G.ROUND FLOOR</p>	
		 <p>FIRST FLOOR</p>	
Villa 2		 <p>GROUND FLOOR</p>	
		 <p>FIRST FLOOR</p>	

Space Syntax

Gülseren

Villa 3



Villa 4

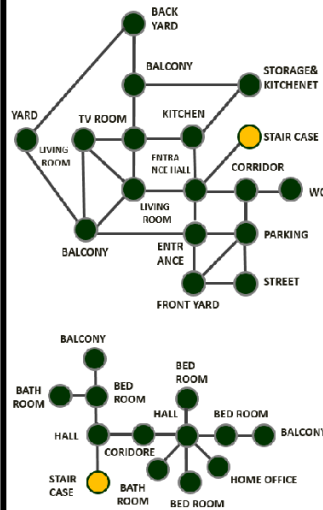
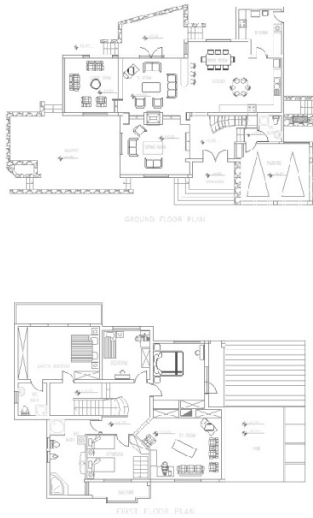


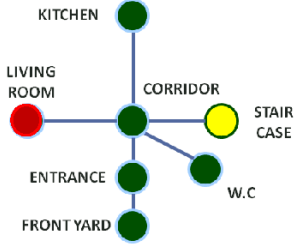

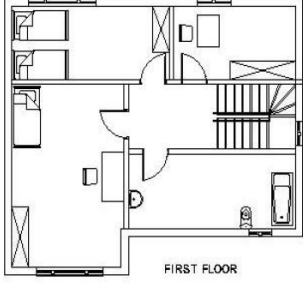
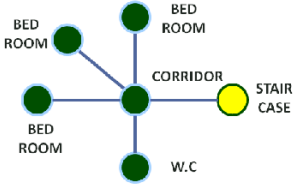

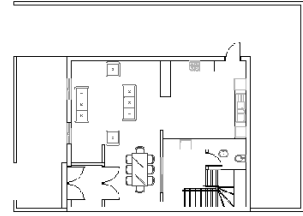
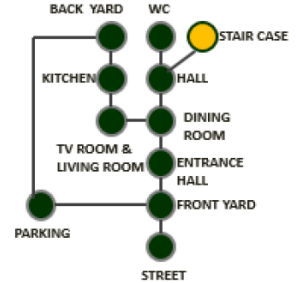

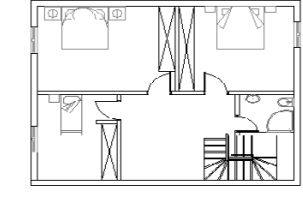
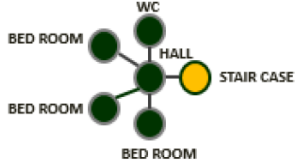


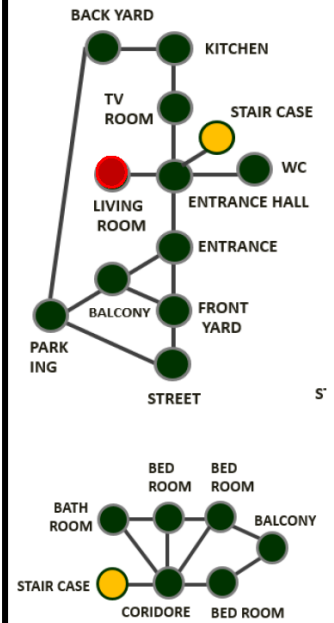
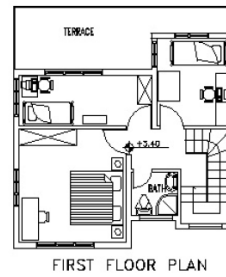
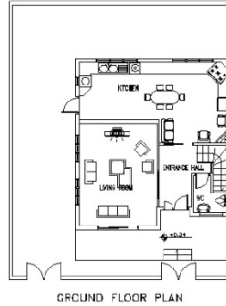
Table 11. Usage of space syntax of the selected villas in Sosyal Konutlar

Space Syntax			
Sosyal Konutlar			
Villa 1		 <p>GROUND FLOOR</p>	
		 <p>FIRST FLOOR</p>	
Villa 2		 <p>GROUND FLOOR</p>	
		 <p>FIRST FLOOR</p>	

Space Syntax

Sosyal Konutlar

Villa 3



Villa 4

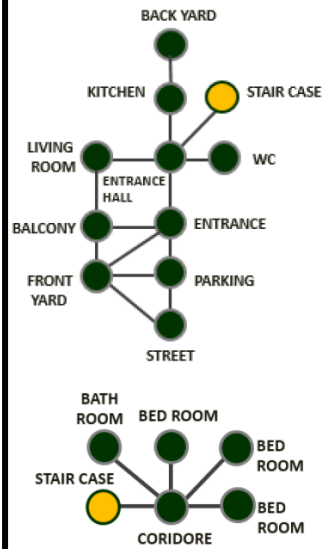
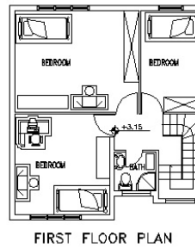
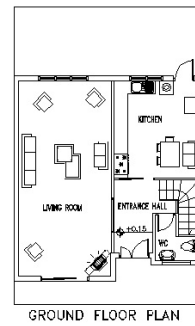

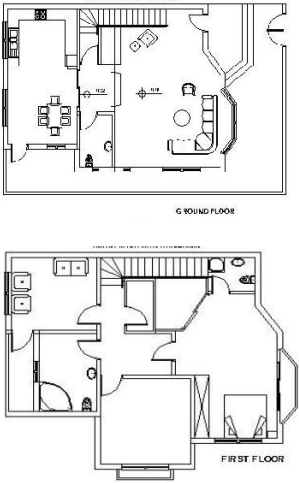
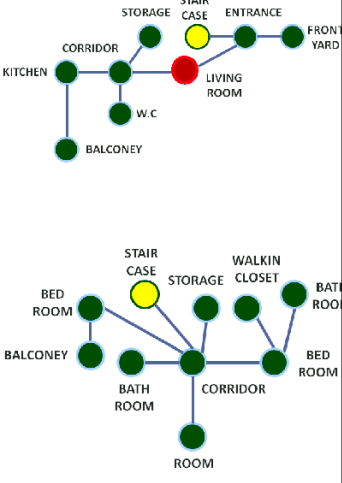

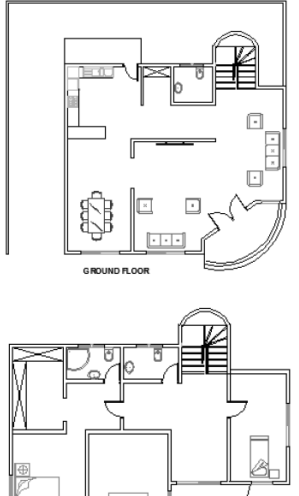
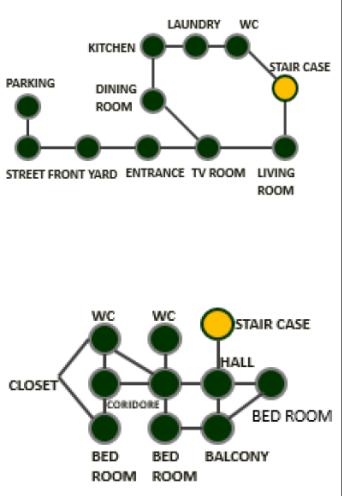


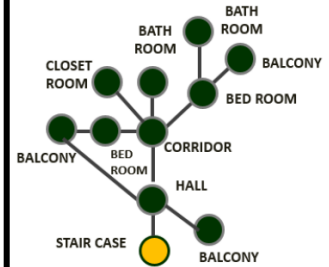
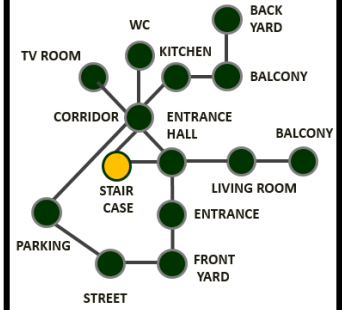
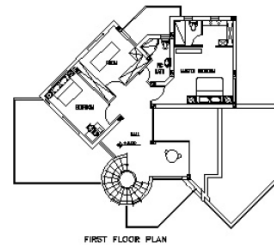
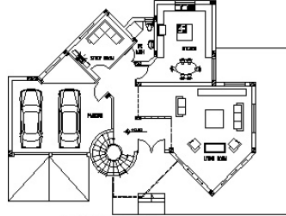
Table 12. Usage of space syntax of the selected villas in Tuzla

Space Syntax			
Tuzla			
Villa 1			
Villa 2			

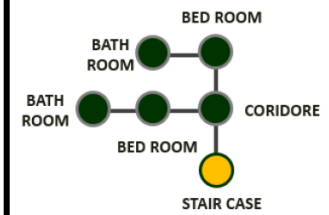
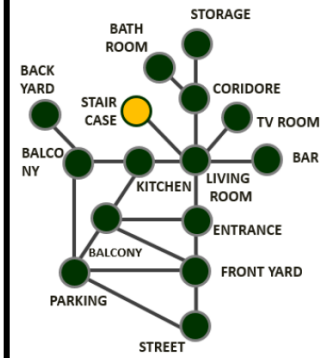
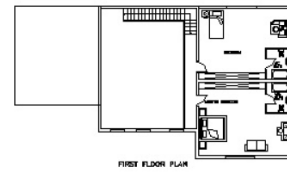
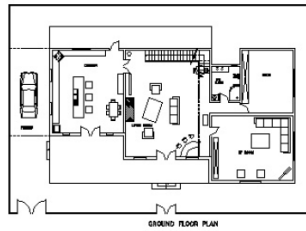
Space Syntax

Tuzla

Villa 3



Villa 4



Tables above can find the main connections of the living room with the other interior spaces of the villas by using the space syntax method. In the table below, the relations of living spaces with the other functional spaces of the selected duplex houses going to be displayed.

Table 13. Main connection of the living room with the other interior spaces in selected cases

The relations of living spaces with the other functional spaces of the selected duplex houses									
	Villa 1		Villa 2		Villa 3		Villa 4		Most Connection
Walled City	Living Room	-TV Room -Stair Cases	Living Room	-Kitchen -Staircases -Entrance	Living Room	-Dining room -Staircases -Entrance	Living Room	-TV Room -Dining room	Staircases
Dumlupinar	Living Room	-Kitchen -Staircases -Entrance	Living Room	-Entrance Hall	Living Room	-Dining room -Balcony -Hall	Living Room	-Dining room -Staircases -Entrance	Dining room Entrance Staircases
Gulseren	Living Room	-Corridor	Living Room	-Dining room -Staircases -Kitchen	Living Room	-Dining room -Entrance Hall -TV room -Balcony	Living Room	-Balcony -Entrance Hall -TV room	Dining room Entrance hall TV room Balcony
Sosyal Konutlar	Living Room	-Corridor	Living Room	-Kitchen -Dining room	Living Room	-Entrance Hall	Living Room	- Entrance Hall -Balcony	Entrance hall
Tuzla	Living Room	-Entrance -Corridor	Living Room	-TV Room -Stair Cases	Living Room	- Entrance Hall -Balcony	Living Room	-Entrance -Kitchen -Bar -TV room -Corridor -Stair Cases	Staircases Entrance TV room Corridor


By considering the connections of living rooms with other functional spaces of the selected villas, in most of the cases, living room has a strong connection with the STAIRCASE of the house.

By emphasizing the method of space syntax from the table above, the importance of the living room can be explored. Generally, living spaces are at the center of the selected villas to have a connection with many other functional spaces. Living rooms become the most social space for the users to easily reach the other spaces of the house.

Space syntax is used in this study to find the location of the living room academically in order to analyze the research according to the results of this method. Space syntax can give the definite results of the position of living spaces in each villa.

In following, the example of questionnaire forms, which were given to users, can be seen. With the results of these questions, the other methods are going to be examined.

Table 14. Example of questionnaire forms, which were given to users



Eastern Mediterranean University

SAYA KAYNAMA

SEX: MALE () FEMALE ()

AGE:

EDUCATION:

	+3	+2	+1	0	-1	-2	-3	
LIKE	()	()	()	()	()	()	()	DISLIKE
(Beğenmek)								(beğenmemek)

What are your preferences? Please classify the elements with numbering them from most impressive element to the least impressive element:

A-Form ()

B-Color ()

C-Texture ()

D-Light & Shadow ()

		+3	+2	+1	0	-1	-2	-3	
FORM	SIMPLE (sade)	()	()	()	()	()	()	()	COMPLEX (karisik)
	MEANINGFUL (anlamli)	()	()	()	()	()	()	()	MEANINGLESS (anlamsiz)
	MODERN (moderin)	()	()	()	()	()	()	()	CLASSIC (klasik)
	STATIC (statik)	()	()	()	()	()	()	()	DYNAMIK (dinamik)
	REGULAR (duzenli)	()	()	()	()	()	()	()	IRREGULAR (duzensiz)

		+3	+2	+1	0	-1	-2	-3	
COLOR	WARM (sicak)	()	()	()	()	()	()	()	COOL (soğuk)
	SIMPLE (sade)	()	()	()	()	()	()	()	COMPLEX (karisik)
	HARMONY (uyumlu)	()	()	()	()	()	()	()	CONTRAST (uyumsuz)

		+3	+2	+1	0	-1	-2	-3	
TEXTURE	SOFT (yumuşak)	()	()	()	()	()	()	()	ROUGH (sert)
	NATURAL (Doğal, asil)	()	()	()	()	()	()	()	ARTIFICIAL (yapma)
	UNIFORM (Muntazam)	()	()	()	()	()	()	()	DIFFERENT (çeşitli)

		+3	+2	+1	0	-1	-2	-3	
LIGHT & SHADOW	BRIGHT (aydınlık)	()	()	()	()	()	()	()	DARK (karanlık)
	NATURAL (Doğal, asil)	()	()	()	()	()	()	()	ARTIFICIAL (yapma)
	CONVENIENCE (Uygunluk, konforlu)	()	()	()	()	()	()	()	INCONVENIENCE (rahatsız, uygunsuz)

4.3 Averages of the user's ages

The first part of the questionnaire form is about the ages of the duplex house users. In this part of the study, each part of the city is examined in terms of the age averages of the users separately. The results of the ages can be observed in the graph below. From the graph below, it can be noted that, the averages of the ages of the users decrease from Walled City to Tuzla. It can be said that the users, which live in the historical parts of the city are older than the people who live in the recently constructed parts of Famagusta.

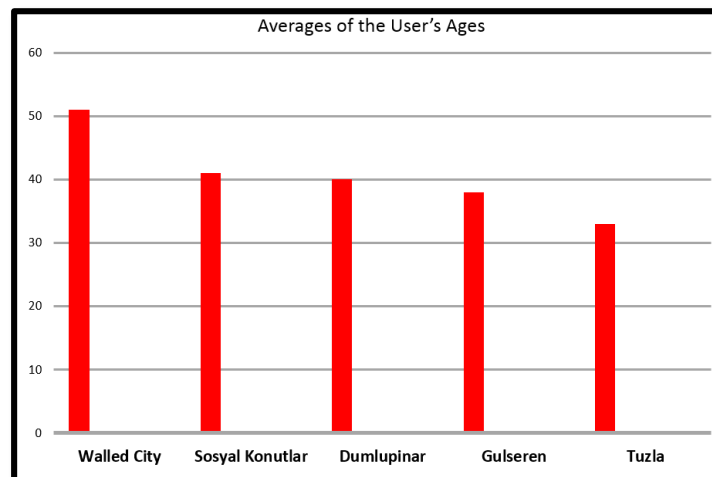


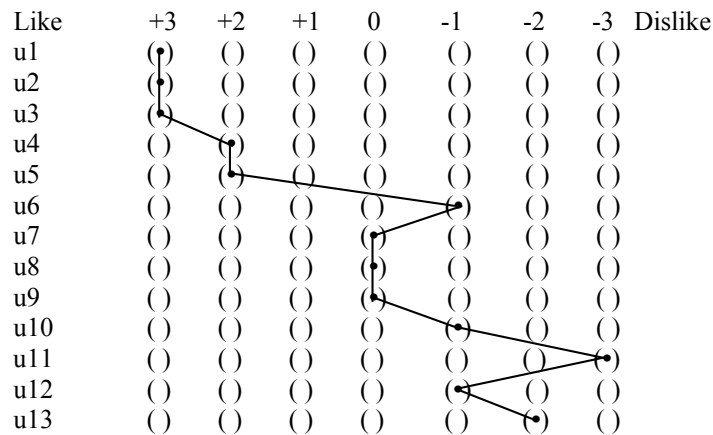
Figure 44. Average of the user's age in each selected part of Famagusta

4.4 Semantic rating scale (SRS)

Secondly, semantic rating scale method is used to find the positive and negative answers (“Like” and “Dislike”). Five main parts of the city, which are selected as a case study are examined separately by this method. This method will be supported by graphs. Five graphs are going to be prepared from each part of the city and finally, these results are going to give us a graph which can show the general answer of the like or dislike questions.

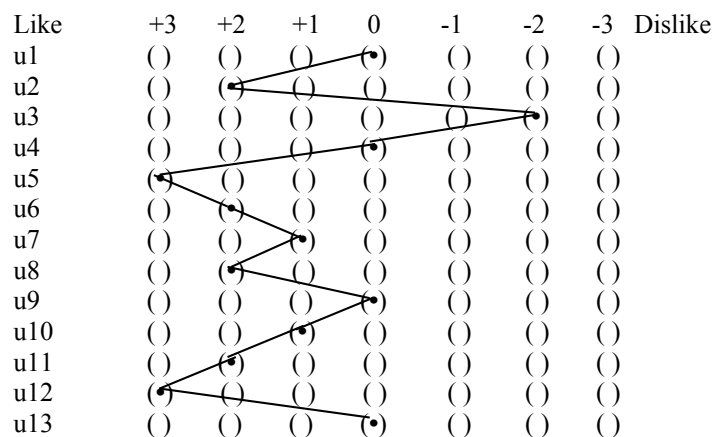
Giving consideration to the semantic rating scale method, both negative and positive results are obtained. The results below are derived from the questions asked about if the people inside their homes like or dislike the space that they currently occupy. If the graph displays answers above 0, then it indicates that users are generally happy with the space that they occupy, otherwise it indicates that people are not satisfied with the spaces that they live in. The graph below clearly shows that most of the answers are above 0 which indicates that most occupants are happy with their current living room spaces.

4.4.1 Walled City, (SRS)



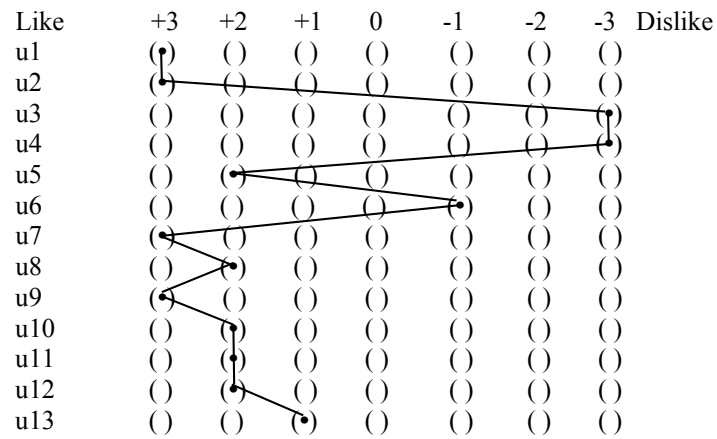
Total number: 5
Average: 0.38

4.4.2 Dumlupınar, (SRS)



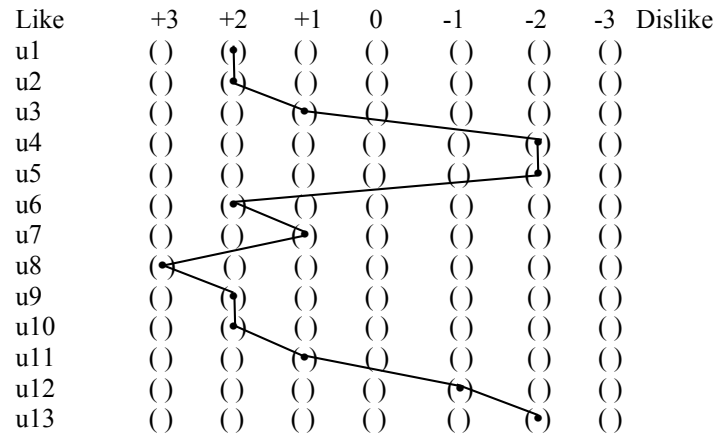
Total number: 14
Average: 1.07

4.4.3 Gülseren, (SRS)



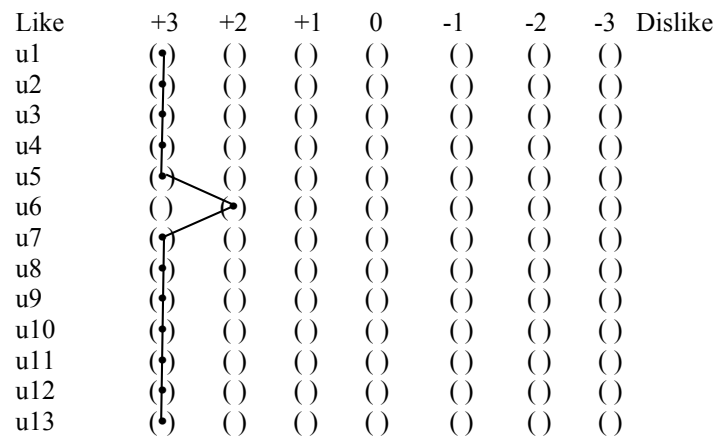
Total number: 16
Average: 1.23

4.4.4 Sosyal Konutlar, (SRS)



Total number: 9
Average: 0.69

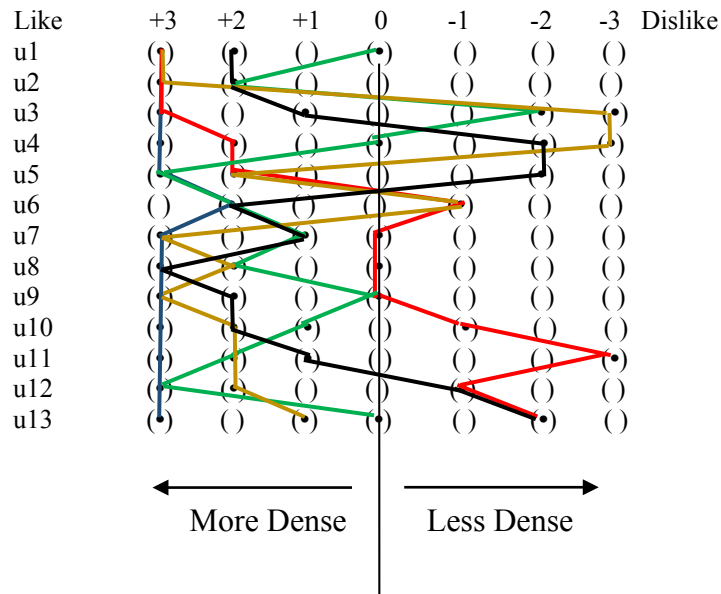
4.4.5 Tuzla, (SRS)



Total number: 38
Average: 2.92

According to the results of the semantic rating scale method, the selected parts of Famagusta are classified according to the answers. These classifications are started from Tuzla which got the most “like” answer of users, and continue to Gülseren, Dumlupınar, Sosyal Konutlar and Walled City which got the least amount of answer of “like”. These results are classified according to the average of the numbers, which were taken from SRS method. These results are explored as, Tuzla who reached 2.92 point, Gülseren who reached 1.23 points, Dumlupınar who reached 1.07 point, Sosyal Konutlar who reached 0.69 point and at the end Walled City got 0.38 points.

In the graph below, final version of the previous graphs is emphasized. Five graphs are combined to show the density of the positive answers of this method.



According to the results above, the chart below can be achieved according to the each case.

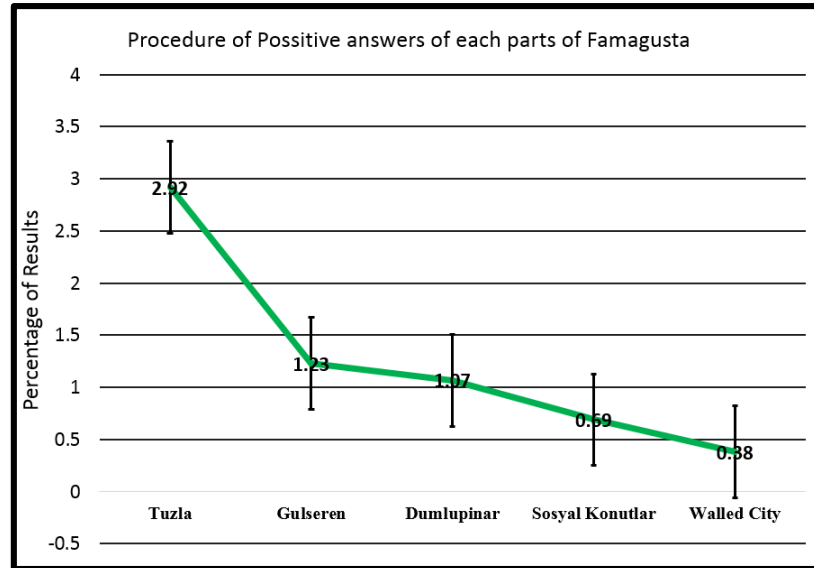


Figure 45. Procedure of Positive answers of each selected parts of Famagusta

4.5 Classification Method or Ordinal Scale

Thirdly, Classification technique is used for finding the first and least elements. In this part of study, formal aesthetics and their most effective elements were chosen by users and by realizing the average answers to the questions, will reveal the elements according to the most and the least impressive. Formal aesthetics elements are categorized from one to four according to user preferences. Category one is the most impressive and effective element according to the users. This method determines the user's personal preferences.

4.5.1 Walled City, Classification Method

A: Form

B: Color

C: Texture

D: Light & Shadow

Options:	A	B	C	D
u1	1	3	4	2
u2	3	1	2	4
u3	2	1	3	4
u4	2	1	4	3
u5	1	3	4	2
u6	4	2	1	3
u7	2	3	4	1
u8	3	4	2	1
u9	4	1	3	2
u10	3	1	2	4
u11	2	1	3	4
u12	1	2	3	4
u13	3	1	2	4
Total:	31	24	37	38
Average:	2.38	1.84	2.84	2.92

The final results obtained from the classification techniques of user preferences;

(Preference) : (B: Color)

(") : (A: Form)

(") : (C: Texture)

(") : (D: Light & Shadow)

4.5.2 Dumlupinar, Classification Method

A: Form

B: Color

C: Texture

D: Light & Shadow

Options:	A	B	C	D
u1	4	3	2	1
u2	2	3	4	1
u3	4	1	2	3
u4	3	1	4	2
u5	1	3	2	4
u6	4	1	3	2
u7	4	1	3	2
u8	1	2	3	4
u9	2	1	3	4
u10	4	3	2	1
u11	3	2	4	1
u12	1	3	2	4
u13	1	2	3	4
Total:	34	26	37	33
Average:	2.61	2.00	2.84	2.53

The final results obtained from the classification techniques of user preferences;

(Preference) : (B: Color)

(") : (D: Light & Shadow)

(") : (A: Form)

(") : (C: Texture)

4.5.3 Gülseren, Classification Method

A: Form

B: Color

C: Texture

D: Light & Shadow

Options:	A	B	C	D
u1	2	1	4	3
u2	1	2	4	3
u3	4	3	1	2
u4	2	3	4	1
u5	3	1	2	4
u6	4	1	3	2
u7	4	2	1	3
u8	1	2	4	3
u9	2	3	4	1
u10	3	1	4	2
u11	1	2	4	3
u12	3	1	4	2
u13	3	2	4	1
Total:	33	24	43	30
Average:	2.53	1.84	3.30	2.30

The final results obtained from the classification techniques of user preferences;

(Preference) : (B: Color)

(") : (D: Light & Shadow)

(") : (A: Form)

(") : (C: Texture)

4.5.4 Sosyal Konutlar, Classification Method

A: Form

B: Color

C: Texture

D: Light & Shadow

Options:	A	B	C	D
u1	4	1	3	2
u2	1	3	2	4
u3	1	2	3	4
u4	2	4	3	1
u5	3	2	1	4
u6	3	4	1	2
u7	2	1	3	4
u8	1	2	4	3
u9	1	2	4	3
u10	4	1	3	2
u11	2	1	4	3
u12	4	2	1	3
u13	4	2	1	2
Total:	32	27	33	37
Average:	2.46	2.07	2.53	2.84

The final results obtained from the classification techniques of user preferences;

(Preference) : (B: Color)

(") : (A: Form)

(") : (C: Texture)

(") : (D: Light & Shadow)

4.5.5 Tuzla, Classification Method

A: Form

B: Color

C: Texture

D: Light & Shadow

Options:	A	B	C	D
u1	3	2	1	4
u2	3	2	1	4
u3	3	1	2	4
u4	2	4	3	1
u5	4	1	2	3
u6	4	1	2	3
u7	3	1	2	4
u8	4	1	2	3
u9	4	2	1	3
u10	3	2	4	1
u11	1	2	4	3
u12	2	1	4	3
u13	3	2	1	4
Total:	39	22	29	40
Average:	3.00	1.69	2.23	3.07

The final results obtained from the classification techniques of user preferences;

(Preference) : (B: Color)

(") : (C: Texture)

(") : (A: Form)

(") : (D: Light & Shadow)

According to the results of the classification techniques, most impressive elements are selected as the first preferences. In most of the houses of each selected part of the city, color is the most effective element of formal aesthetic, and lighting is the least impressive element of formal aesthetic. According to these results, graph below can finalize these answers.

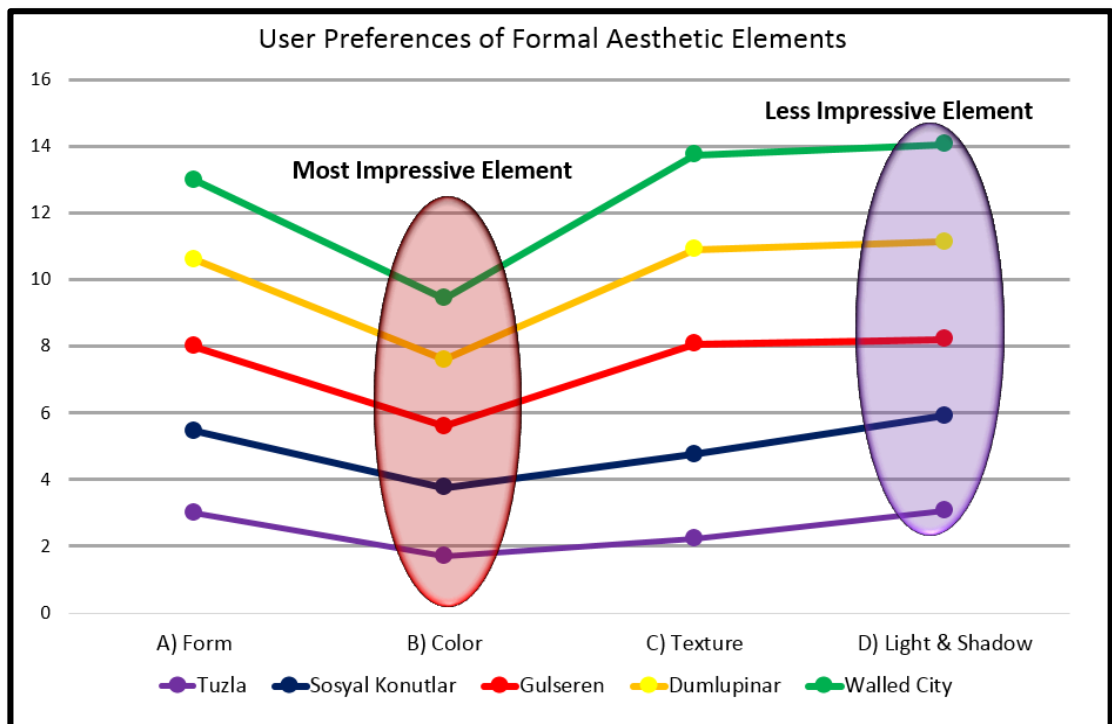


Figure 46. User preferences of Formal Aesthetic Elements in each selected part of Famagusta

According to the classification method and the final graph, the elements, which got less results, are more impressive than the elements, which got more results. According to the examination above, it can be emphasized that color got the least number, so it can be concluded that color is the first preferences of users, on the other hand, light and shadow got a high number which means that these elements are less effective than the others. The process of these elements is shown below:

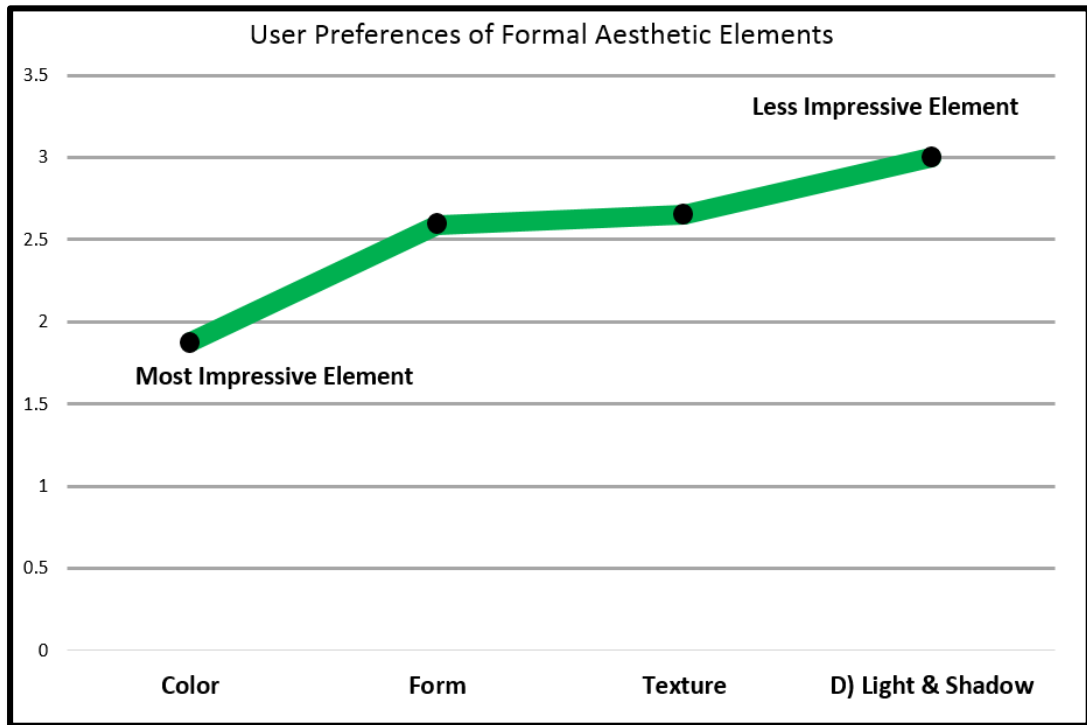


Figure 47. Usage Preferences of Formal Aesthetic Elements in all selected cases in Famagusta

By considering on the results above, it can be noted that the most impressive elements in the duplex villas of Famagusta is COLOR, and less impressive elements is LIGHT & SHADOW. This can give us a procedure like:

Table 15. Procedure of the Usage Preferences of Formal Aesthetic Elements in all selected cases in Famagusta



4.6 Observation Method

The final method of this study is the observation method which done by the author. This study is included as two fields, which are users of the houses and researcher's observation ideas. Some questions are also asked by people to help the researcher to support the study as well. According to the classification techniques, users select the most impressive element. By emphasizing the selected elements, some keywords or different adjectives of that specific element are asked from people. These keywords can support and help the researcher's observation in terms of analysis of living spaces.

Some tables and graphs are going to be used for supporting the idea of the method, which can be found in the following text. By using these tables, each parts of the city are analyzed in terms of each villa, which are examined one by one. Each villa is analyzed according to the usage of formal aesthetic elements, to find the most affective elements. And finally by achieving the results of villas, each parts of the city can get the final outcome.

Table 16. Observation method which used in selected villas of walled city


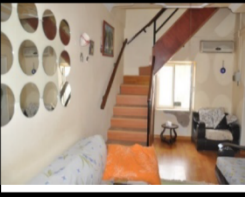









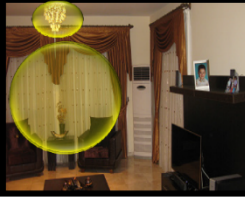




Walled City				
	Form	Color	Texture	Light & Shadow
Villa 1				
<p>Form: Cubical, circular, regular and linear forms. Color: Warm and neutral colors. Texture: Hard, warm, simple and elegant texture. Light and shadow: Natural, artificial and decorative lighting.</p> <p>According to the observation of the author the most impressive element of aesthetic is TEXTURE.</p>				
Villa 2				
<p>Form: Cubical, circular, regular and dynamic forms. Color: Warm and neutral colors. Texture: Hard, warm, complex and non-elegant texture. Light and shadow: Natural and artificial lighting.</p> <p>According to the observation of the author none of the aesthetic elements can be feel in this living room.</p>				
Villa 3				
<p>Form: Cubical, axial, dynamic forms. Color: Color tone, warm and neutral colors. Texture: soft, warm, simple and elegant texture. Light and shadow: Natural, artificial, decorative lighting.</p> <p>According to the observation of the author the most impressive element of aesthetic is FORM.</p>				
Villa 4				
<p>Form: Cubical and irregular forms. Color: Color tone and neutral colors. Texture: soft, artificial complex and non-elegant texture. Light and shadow: Natural, artificial, decoration and ambient lighting.</p> <p>According to the observation of the author the most impressive element of aesthetic is LIGHTING.</p>				

Table 17. Observation method which used in selected villas of Dumlupınar









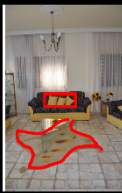



















Dumlupınar							
	Form	Color	Texture	Texture	Light & Shadow	Light & Shadow	Light & Shadow
Villa 1							
<p>Form: Cubical, circular and irregular forms. Color: warm and neutral colors. Texture: soft, artificial & natural, simple and elegant texture. Light and shadow: Natural, artificial and decorative lighting.</p> <p>According to the observation of the author the most impressive element of aesthetic is COLOR.</p>							
Villa 2							
<p>Form: Circular, irregular and axial forms. Color: warm and neutral colors. Texture: soft, artificial simple and elegant texture. Light and shadow: Natural, artificial and decorative lighting.</p> <p>According to the observation of the author the most impressive element of aesthetic is FORM.</p>							
Villa 3							
<p>Form: Circular, irregular and dynamic forms. Color: warm and neutral colors. Texture: warm, soft, artificial simple and elegant texture. Light and shadow: Natural, artificial, decorative and ambient lighting.</p> <p>According to the observation of the author the most impressive element of aesthetic is COLOR.</p>							
Villa 4							
<p>Form: Cubical, dynamic and regular forms. Color: warm and neutral colors. Texture: soft, artificial & natural, simple and elegant texture. Light and shadow: Natural, artificial and decorative lighting.</p> <p>According to the observation of the author the most impressive element of aesthetic is FORM.</p>							

Table 18. Observation method which used in selected villas of Gülseren















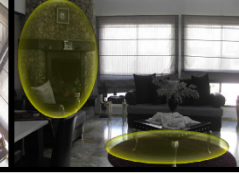









Gülseren						
	Form	Color	Texture	Texture	Light & Shadow	Light & Shadow
Villa 1						
<p>Form: Cubical, circular, dynamic and regular forms. Color: warm and neutral colors. Texture: soft, artificial & natural, simple and elegant texture. Light and shadow: Natural, artificial and decorative lighting.</p> <p>According to the observation of the author the most impressive element of aesthetic is COLOR.</p>						
Villa 2						
<p>Form: Cubical, linear, dynamic and regular forms. Color: color tone, warm and neutral colors. Texture: soft, artificial & natural, complex and elegant texture. Light and shadow: Natural and artificial lighting.</p> <p>According to the observation of the author the most impressive element of aesthetic is TEXTURE.</p>						
Villa 3						
<p>Form: Cubical, circular dynamic, radial and regular forms. Color: cool and neutral colors. Texture: soft, artificial & natural, simple and elegant texture. Light and shadow: Natural, artificial and decorative lighting.</p> <p>According to the observation of the author the most impressive element of aesthetic is COLOR.</p>						
Villa 4						
<p>Form: Cubical, circular dynamic and regular forms. Color: warm and neutral colors. Texture: soft, artificial & natural, simple and elegant texture. Light and shadow: Natural, artificial, task and decorative lighting.</p> <p>According to the observation of the author the most impressive element of aesthetic is COLOR.</p>						

Table 19. Observation method which used in selected villas of Sosyal Konutlar


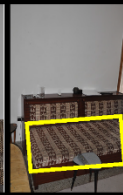






























Sosyal Konutlar								
	Form		Color		Texture		Light & Shadow	
Villa 1								
	<p>Form: Cubical, circular dynamic and regular forms. Color: Cool and neutral colors. Texture: soft, artificial & natural, complex and non-elegant texture. Light and shadow: Natural and artificial lighting.</p> <p>According to the observation of the author none of the aesthetic elements can be feel in this living room.</p>							
Villa 2								
	<p>Form: Cubical, circular dynamic and regular forms. Color: color tone, warm and neutral colors. Texture: soft, artificial & natural, complex and elegant texture. Light and shadow: Natural, artificial and decorative lighting.</p> <p>According to the observation of the author the most impressive element of aesthetic is FORM.</p>							
Villa 3								
	<p>Form: Cubical, dynamic and regular forms. Color: warm and neutral colors. Texture: Hard, artificial & natural, simple and elegant texture. Light and shadow: Natural, artificial and decorative lighting.</p> <p>According to the observation of the author the most impressive element of aesthetic is COLOR.</p>							
Villa 4								
	<p>Form: Cubical, dynamic and regular forms. Color: warm and neutral colors. Texture: soft, artificial, simple and elegant texture. Light and shadow: Natural, artificial and decorative lighting.</p> <p>According to the observation of the author the most impressive element of aesthetic is COLOR.</p>							

Table 20. Observation method which used in selected villas of Tuzla

Tuzla				
	Form	Color	Texture	Light & Shadow
Villa 1				
<p>Form: Cubical, circular, axial, dynamic and regular forms. Color: warm and neutral colors. Texture: soft, artificial, simple and elegant texture. Light and shadow: Natural, artificial and decorative lighting.</p> <p>According to the observation of the author the most impressive element of aesthetic is FORM.</p>				
Villa 2				
<p>Form: Cubical, circular and regular forms. Color: color tone, warm and neutral colors. Texture: soft, artificial, simple and non-elegant texture. Light and shadow: Natural, task, artificial and decorative lighting.</p> <p>According to the observation of the author the most impressive element of aesthetic is COLOR.</p>				
Villa 3				
<p>Form: Cubical, circular, dynamic, radial and regular forms. Color: Color tone, cool and neutral colors. Texture: soft, artificial, simple and elegant texture. Light and shadow: Natural, artificial and decorative lighting.</p> <p>According to the observation of the author the most impressive element of aesthetic is COLOR.</p>				
Villa 4				
<p>Form: Cubical, radial, axial, dynamic and regular forms. Color: Color tone warm and neutral colors. Texture: soft, natural, complex and elegant texture. Light and shadow: Natural, artificial, ambient and decorative lighting.</p> <p>According to the observation of the author the most impressive element of aesthetic is TEXTURE.</p>				

According to the tables above, the existence of the formal aesthetic elements in each villa is emphasized and the most impressive elements of formal aesthetics are considered in terms of author's observations. The most impressive element in

between these four elements becomes COLOR, which can support the result of the classification technique results, which are achieved from users of these houses. The percentage of existence of formal aesthetic elements can be demonstrated by the graph below.

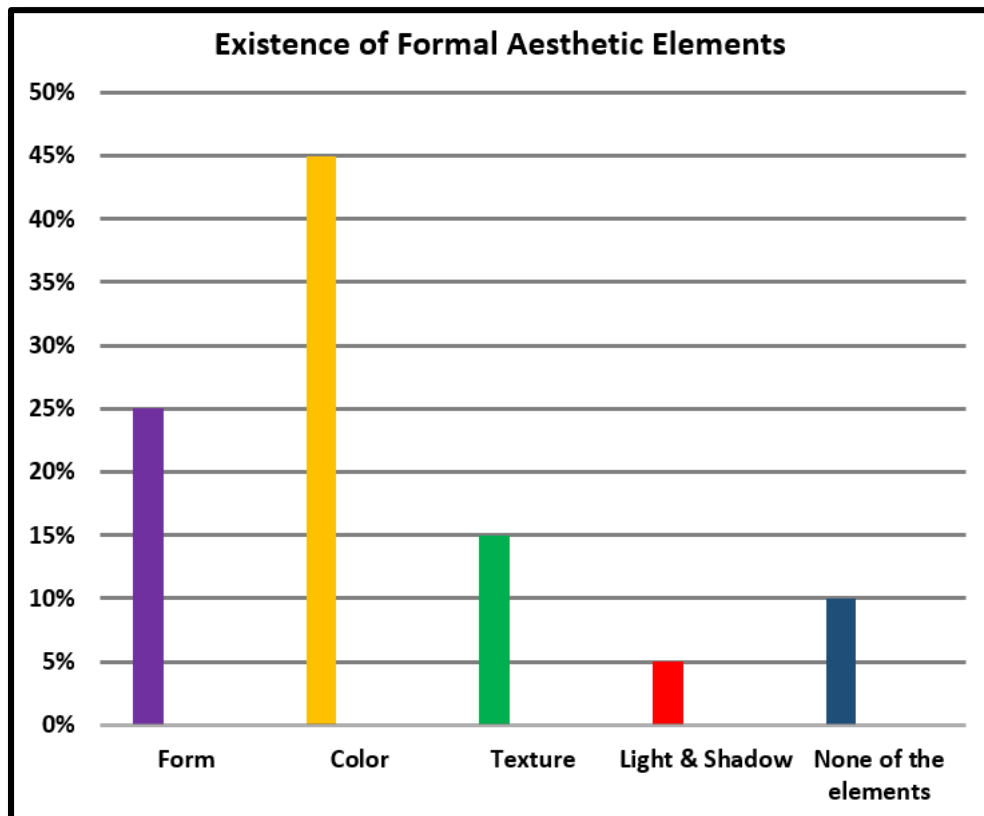


Figure 48. Existence of Formal Aesthetic Elements which achieved from observation methods in all cases

According to the results which are achieved from the tables and the graph above, positive and negative factors of affection of formal aesthetic elements are going to be examined. In the table below, the impression and the affection of each formal aesthetic elements are going to be considered which can give us the percentage of positive and negative affection of formal aesthetic elements in each of the villas. At last, the results can explore which part of the city has the most impressive elements of formal aesthetic.

Table 21. The percentage of positive and negative existence of formal aesthetic elements which achieved from observation methods in each selected cases

North Cyprus/Famagusta		Form	Color	Texture	Lighting	Percentage
Walled City	Villa 1	-	+	+	-	Positive: 43% Negative: 57%
	Villa 2	-	-	-	-	
	Villa 3	+	+	+	+	
	Villa 4	-	-	-	+	
Dumlupınar	Villa 1	+	+	-	-	Positive: 57% Negative: 43%
	Villa 2	+	+	-	-	
	Villa 3	+	+	+	+	
	Villa 4	+	-	-	-	
Gülseren	Villa 1	-	+	-	-	Positive: 75% Negative: 25%
	Villa 2	+	+	+	-	
	Villa 3	+	+	+	+	
	Villa 4	+	+	+	+	
Sosyal Konutlar	Villa 1	-	-	-	-	Positive: 25% Negative: 75%
	Villa 2	+	-	-	-	
	Villa 3	-	+	-	-	
	Villa 4	+	+	-	-	
Tuzla	Villa 1	+	+	+	+	Positive: 94% Negative: 6%
	Villa 2	+	+	+	-	
	Villa 3	+	+	+	+	
	Villa 4	+	+	+	+	

According to the positive and negative results of the affection of formal aesthetic elements which are achieved from the table above, the graph below going to explore it in another format.

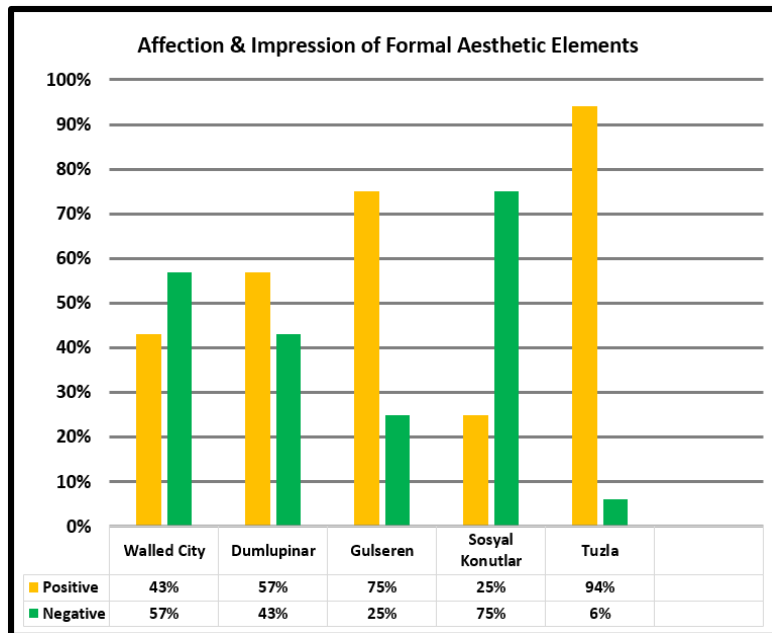


Figure 49. The percentage of positive and negative existence of formal aesthetic elements which achieved from observation methods in each selected cases

By considering the graph above, the positive and negative answers can be seen. The positive results show the existence of the formal aesthetic elements and the negative results can represent the lack of the formal aesthetic elements on selected living spaces. The procedure of percentages of positive results can be seen in graph below.

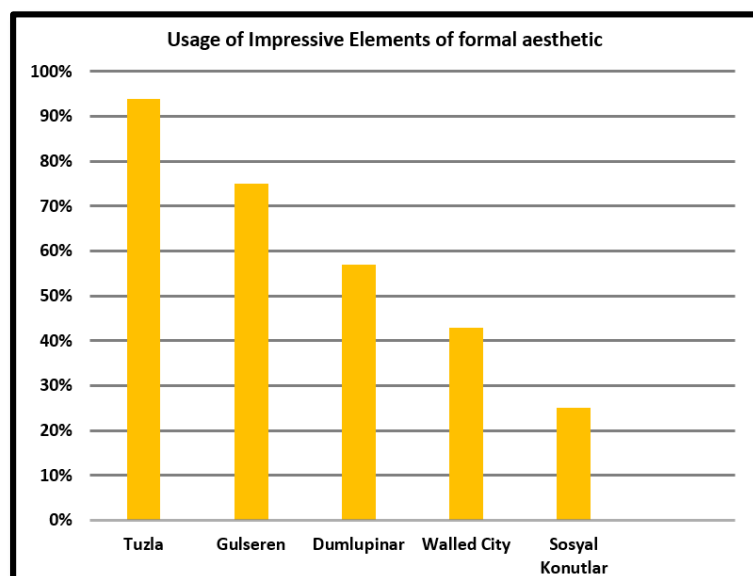


Figure 50. Usage of impressive elements of formal aesthetic which achieved from observation methods in each selected part of Famagusta

Chapter 5

CONCLUSION AND FINDINGS

5.1 Findings

Aesthetic is directly related to humans and is the art of beauty. All things are stimulated by an aesthetic importance. Theorists developed the idea of aesthetic and beauty in everyday lives of people. It is also significant that aesthetic may impact culture, life style, attitude and many other factors.

In fact, aesthetic is based on formal aesthetics, which is the basic component of aesthetic. These elements can call shadow, light, texture, color and form. With an insight to the principles of aesthetics, it is apparent that interior architecture and architecture both rely on those foundations.

Formal aesthetic elements are incorporated into one another in order to create formal arrangements in spaces. Such a process creates unity, theme, proportion, contrast, balance, symmetry, rhythm and pattern that may be the most effective and impressive elements in architecture.

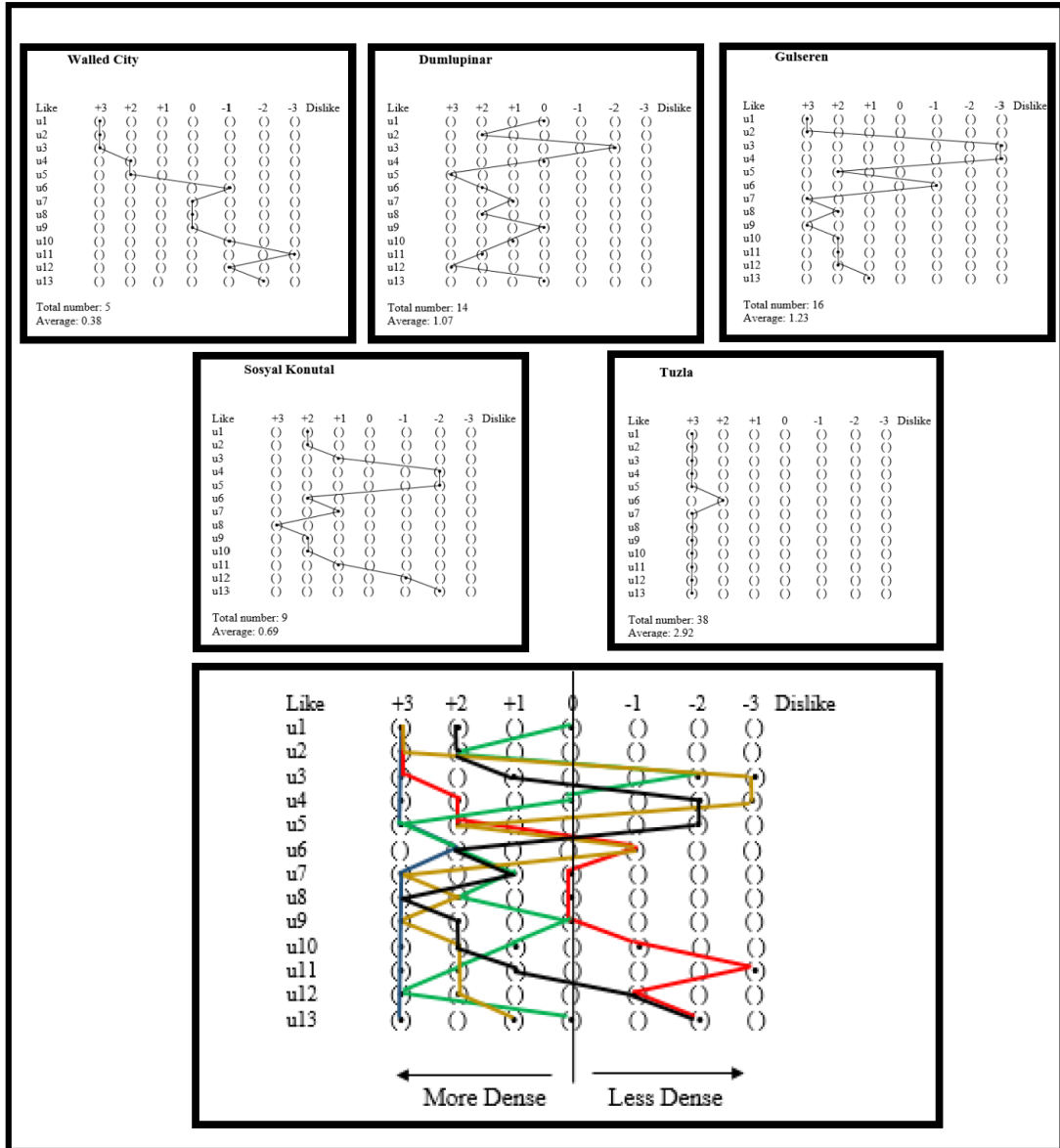
Formal aesthetic elements are the most effective elements in interior architecture. These elements simply can affect the mood or atmosphere of the houses. One of the most important spaces of houses is the living room, which are mentioned on the literature survey of the study. The living rooms selected for study in this research.

These living rooms are from duplex villas, which are located in different parts of Famagusta in North Cyprus.

This study is based on a kind of pilot study which consists of “like” and “dislike” ideas of the users in terms of living rooms and user preferences in terms of the main elements of formal aesthetics, which are achieved by a classification technique. The significance of these elements guides this study to have the investigation of the research. Also observation techniques used for analyzing the formal aesthetic elements in each villas support the results, which are reached by the user.

Below is the finalization of the results that are going to be mentioned as the conclusion of the study.

Table 22. Results of semantic rating scale



According to the results which can be observed from the table above, it is obvious that people who live in Tuzla or most recent constructed part of Famagusta gave the most “Like” answers, then Gülseren gave the second most likes followed by Dumlupınar, Sosyal Konutlar and at the end Walled City gave the least answers of “Like”. It means that people who live in Tuzla likes their living spaces more than people who live in the Walled City. Generally it can be said that, the most results of semantic rating scale is “Like” in all the cases.

When we look at the average of the ages of these villa's users, we can see how the age of people can affect their preferences or attitude of formal aesthetic elements. People who live in historical or old parts of the city consider the formal aesthetic elements less than the younger users, which live in new, constructed parts of the city. Comparison of two graphs below can support this procedure much more clear in terms of user's ages and formal aesthetic element's usage

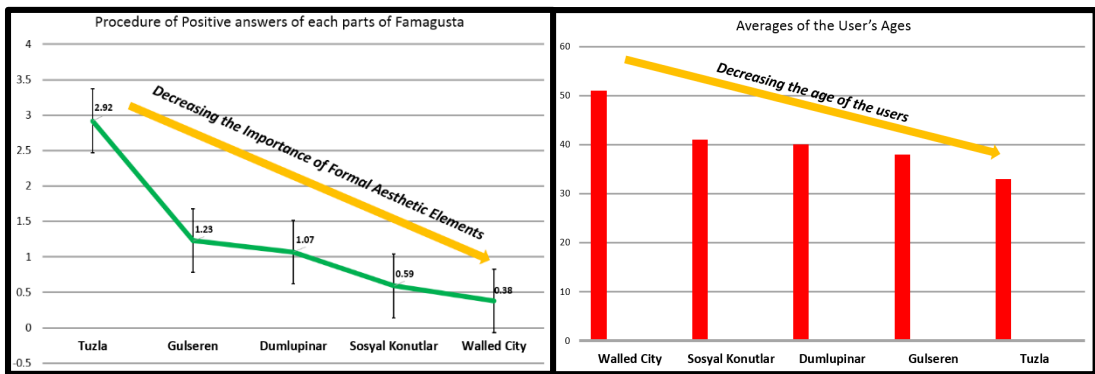


Figure 52. Procedure of positive answers of each selected parts of Famagusta

Figure 51. Average of the user's age in each selected parts of Famagusta

With the classification technique which is done by users, most impressive elements of aesthetic to less impressive element classified which gain the results that can be shown in diagram below.

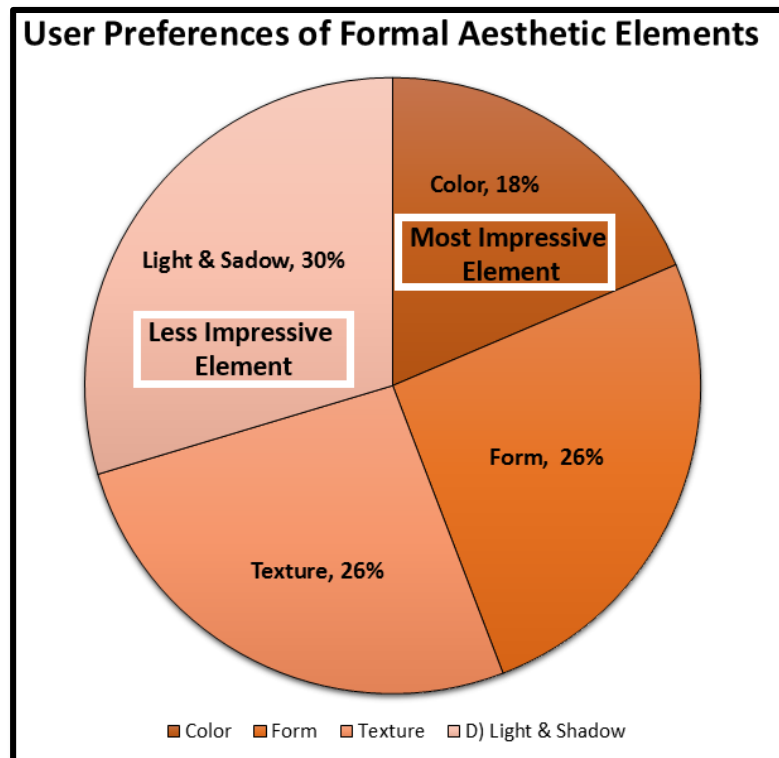


Figure 53. User Preferences of Formal Aesthetic Elements in all Selected Cases

Diagram above can give us the result of the percentage of impression or affection of formal aesthetic elements in selected living rooms in terms of user preferences. By considering the classification method, the high percentage of usage has a less impression of formal aesthetic elements and the less percentage has the most impression of these elements.

According to the classification method, the answer of “COLOR” got from each selected part of the city which can give us the result as the whole cases of study has the high consideration on color in terms of living spaces.

With the observation method, which was included in the analysis of formal aesthetic elements and existence of these elements in selected living spaces, the final result of the observation method is going to be shown.

Table 23. Positive and Negative Consideration of Formal Aesthetic Elements in each selected part of Famagusta

Positive and Negative Consideration of Formal Aesthetic Elements			
	Positive	Negative	Positive Percentages
Walled City	43%	57%	
Dumlupinar	57%	43%	
Gulseren	75%	25%	
Sosyal Konutlar	25%	75%	
Tuzla	94%	6%	
Tuzla → Gulseren → Dumlupinar → Walled City → Sosyal Konutlar			

By considering the table above, it can be noted that Tuzla, which is the most recent constructed part of the city, has the highest percentage of people emphasizing on formal aesthetic elements. It means that people, who are living in this part of the city, consider formal aesthetic element more than the other parts. After Tuzla Gülseren has the highest percentage of this factor, Dumlupinar and Walled city come after and at the end sosyal konutlar got the least percentage of this manner. It means that people, who are living in Sosyal Konutlar, consider formal aesthetic elements less than the other parts.

In order to finalize the analysis, which is considered in the previous part, the diagram below can show the relations between the existence of formal aesthetic elements, usage of impressive elements of formal aesthetic and the age of users.

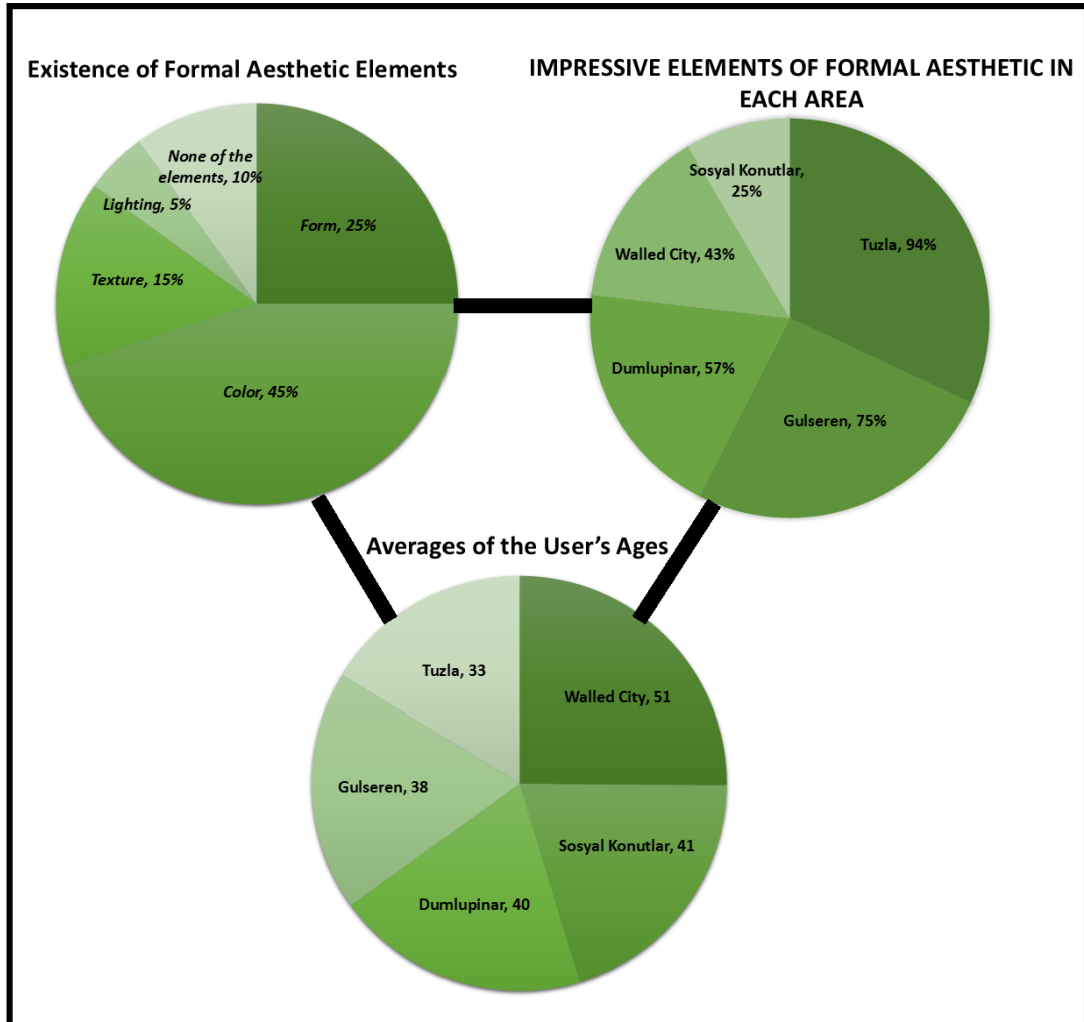


Figure 54. The connection between the result which achieved from methods of study

The table below can show the summary of the whole results, which are achieved from the methods of study.

Table 24. The finalization of the whole results which are achieved from all methods of study in each selected part of Famagusta

	Space Syntax	Semantic Rating Scale		Classification	Observation	
		Like	Dislike		Positive	Negative
		Average				
Walled City	Staircase	0.38		Color	43%	57%
Dumlupinar	Dining room Entrance Staircase	1.07		Color	57%	43%
Gulseren	Dining room Entrance hall TV room Balcony	1.23		Color	75%	25%
Sosyal Konutlar	Entrance	0.69		Color	25%	75%
Tuzla	Staircase Entrance TV room Corridor	2.92		Color	94%	6%

The Final result of the table above can give answers such as, most living rooms has strong relation with the staircases of the selected villas. Generally users gave the positive answers to the semantic rating scale which show that, they “Like” the existing living spaces. The most impressive element, which was selected by users, is COLOR that is achieved from the classification technique. And finally, the result of the observation may be a concern that, most of the villas are in the positive position

of usage of the formal aesthetic element in selected cases. These finalizations noted in table below;

Table 25. The finalization of the whole results which are achieved from all methods of study in the whole cases

	Space Syntax	Semantic Rating Scale		Classification	Observation	
		Like	Dislike		Positive	Negative
		Average				
Cases of Study	Staircase	"Like"		Color	58.8%	41.2%

5.2 Conclusion

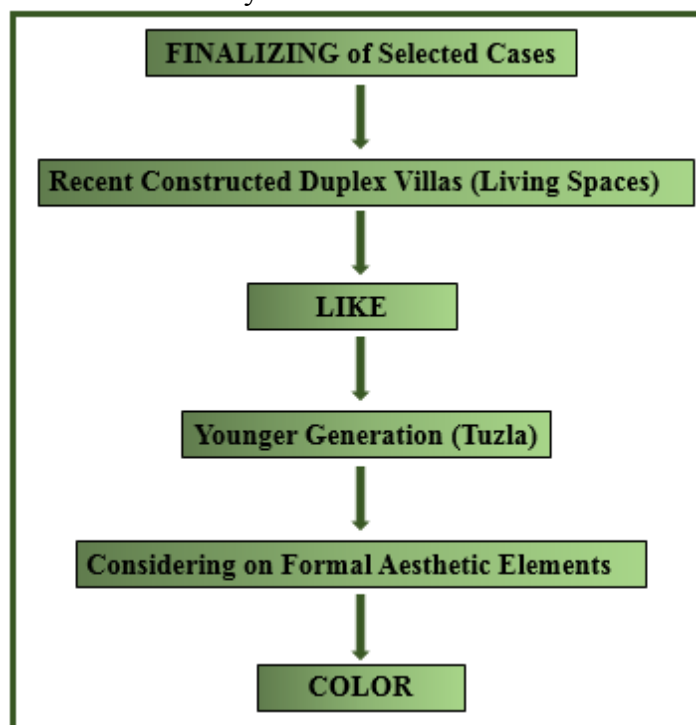
The results of the survey demonstrate that at the beginning, users enjoy the current spaces of the villas. At the next step, people were asked to prepare a list of classifications. The most preferred element was chosen to be COLOR. Among the other elements, color was chosen but this in no way means that the rest were not useful. In last step, these living spaces were analyzed according to the observation method, which gained us the results somehow, like people's ideas.

In short, it is not an unreasonable assumption to state that the mood and the atmosphere of the rooms were swayed by the use of COLOR. This element is a significant factor in controlling the quality of other elements. In addition, COLOR can regulate the effectiveness of other elements within the room. Color can make a living room seem bigger or smaller, friendly, comfortable and etc. This is a reason to why users choose color as the most preferred element in a space.

The consideration of formal aesthetic elements increase from historical parts of the city to new constructed parts, it means that new buildings have a high usage of formal aesthetic elements. When we emphasize on the occupants of the villas, it becomes obvious that the age of them decrease from historical parts, which can be the walled city to new parts, which might be Tuzla. These results can conclude that the procedure of increasing the usage of formal aesthetic elements is directly related to the user's ages. By decreasing the age, consideration of formal aesthetic elements increase in living room design.

Finally, it can be said that, formal aesthetic elements are considered by the younger generation of Famagusta these days. Users tried to use these elements in different ways of design, which affected by their own emotions. In between these elements, COLOR became the most impressive element for them, which can affect the atmosphere of the living spaces.

Table 26. Summary of Conclusion



5.3 Recommendation

This study can also be used in different kinds of interior spaces like shopping malls, restaurants, lobbies, cafés, libraries etc. These kinds of methods can be applied to all functions of interiors as well, such as kitchens, bedrooms, dining rooms etc. Furthermore, the results of this can change according to the age, sex, culture and etc.

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