Space Transformation and Change in Mass Housing In Nicosia, North Cyprus

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ABSTRACT

Throughout history housing has been a basic human need in the environment. In time, due to the modernazition in the world, social, political, economic changes and ever growing population, altered housing concepts and mass houses have started to appear. Today, houses are not only shelters for human beings as they gain more meaning together with their habitants. Concordantly, housing and habitants are in interaction with each other and houses represent a huge variety according to their users' identity.

Mass houses are constructed in Cyprus as well as in the world. During the history, many civilizations ruled the island and left their cultural heritage to the island. Mass housing constructions are one of the significant examples for such heritages that were left by different civilizations. Most of the mass houses were constructed by different civilizations from 1878 especially in Nicosia since it was the capital city of Cyprus. These mass houses have survived until today. Nowadays these mass houses are used by different groups of people in comparison to old times. This has affected the space of mass houses and consequently significant changes have been observed.

Life style, family size and economic status of the users of mass houses have been a sign of societies' habits and traditions. The most important issues with the changes in a community are families' daily lives and the way of using the houses. Housing form and its spaces are the symbol of habitant's identity. During the time, changes in

habitants' profiles have affected the identical mass housing form and caused space transformation on mass houses.

The main purpose of this research, which is basically composed of five chapters, is to identify the space transformation and changes in mass housing in Nicosia (which were constructed in different time spans over the time) from the original context in terms of its habitants together with the explanation and reasons for alterations.

In this research, for achieving the results, time span is separated into five periods and mass houses are selected from five different period spans. In total, fifty five mass houses are selected and analyzed in terms of spatial, functional and formal transformations based on different habitant profiles who have variety of socio-cultural backgrounds.

After the analysis of current criteria, mass houses in Nicosia are compared to each other and according to the findings, evaluations and comments are made on them. Eventually, transformations/alterations have been found in the mass houses which have standard architectural structures. Accordingly, these mass houses are observed to lose their original identity.

Keywords: Mass Housing, Socio Cultural Factors, Space, Transformation, Space Syntax

ÖZ

Konut insanlık tarihinin en önemli temel ihtiyaçlarından biridir. Toplu konut ise modernleşen dünyada değişen sosyal, politik, ekonomik ve artan nüfusa karşı insanlara barınak sağlamak için grublar halinde inşa edilen bir yapı türüdür. Konut sadece etrafı örülü, fiziksel elemanlar ile oluşan bir yapı değil, kullanıcısıyla can bulan, şekillenen mekanlar bütünüdür. Bu bağlamda konut, kullanıcısıyla bire bir ilişki içinde ve kullanıcıya özel farklılıklar gösterebilmektedir.

Dünyada olduğu gibi Kıbrıs adasında da toplu konutlar inşa edilmiştir. Tarih boyunca adada birçok farklı medeniyet hüküm sürmüş ve her medeniyet kendi kültürünü adaya miras bırakmıştır. Toplu konut mimarisi de buna bir örnektir. Özellikle adanın başkenti olan Lefkoşa' da 1878 yılından günümüze kadar farklı medeniyetler tarafından bir çok toplu konut inşa edilmiş ve günümüze kadar gelmiştir. Söz konusu Lefkoşa' da inşa edilmiş toplu konutlar, günümüzde farklı sosyal kültüre sahip kullanıcılar tarafından kullanılmaktadır.

Toplu konutta yaşayan ailenin, yaşam şekli, büyüklüğü ve ekonomik gelir seviyesi kültürel yapının bir göstergesidir. Toplumsal değişimin en belirgin ortaya çıktığı yer ailenin günlük yaşamı ve ev kullanımı olarak değerlendirilebilir. Konut şekli ve mekanları konut kullanıcı kimliğini ifade eder. Zaman içerisinde değişen konut kullanıcı kimliği, birbiriyle özdeş olan toplu konut mekan diziliminin ve şeklinin değişime uğramasına sebep olmaktadır.

Çalışma beş bölümden oluşup, ana amacı, tarih boyunca farklı kültürleri barındıran adada temel gereksinimler doğrultusunda farklı dönemlerde inşa edilen toplu konut mekan formlarının ve mekan organizasyonlarının değişimini, sebepleri ile incelenmesidir.

Bu çalışmada sağlıklı bir sonuç elde etmek için zaman aralıkları beş farklı döneme ayrılmış ve her dönemden örnekler seçilerek farklı sosyal kültüre sahip olan farklı kullanıcıların yaşadığı toplam elli beş toplu konut mekansal, işlevsel ve biçimsel değişiklikler acısından analiz edilmiştir.

Lefkoşa'daki toplu konutlar, söz konusu kriterlerle incelenmesinden sonra birbirleriyle karşılaştırma yöntemiyle değerlendirilmiş ve elde edilen bulgular doğrultusunda, değerlendirmeler tartışılmış ve yorumlanmıştır. Sonuç olarak standart yapıya sahip olan toplu konut biçimlerinin kullanıcı etkisiyle transformasyona/ değişikliğe uğradığı ve bunun sonucunda öz kimliğini kaybettiği tespit edilmiştir.

Anahtar Kelimeler: Toplu Konut, Sosyo-Kültür Faktörler, Mekan, Transformasyon, Mekan Dizilimi

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Dedicated to all who believed in and supported me with all their hearts...

This thesis would be incomplete without mentioning the

support given me by my family...

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Chapter 1

INTRODUCTION

The notion of housing is explained in a different way by researchers during the time. Housing is one of the basic needs of human beings. However, in uncivilized times basic needs of human being literally defined as a sheltering need which is to protect human beings from the environmental disasters. Nowadays it can be mainly defined as set of spaces which have been also affected by socio-cultural differences of habitants.

In other words, in the modern world housing is not only a shelter. It is a combination of need for shelter, comfort, security, socialization and self-identification etc. which are the basic human needs. These needs generally cause transformations as a result of dissatisfaction of habitants.

On the other hand, as well as socio-cultural factors of the owners, housing is an architectural product where people live in and that is formed by various material and structural elements. As Çobancaoğlu (1998) and Kuban (1998) mentioned, housing is the reflection of both social and physical issues of society.

In time, events that happened in the world such as the First and Second World War, Industrial Revolution and Communism Movement caused the movement of

population and this increased the housing needs. With these movements people started to migrate from rural to urban areas. Some of the people moved to developed regions, due to the Industrial Revolution, for more job opportunities or they migrated to safety areas for protect themselves in war time. Due to rapid developments in population, numerous mass houses which consist of the same plan scheme with each other were constructed. Therefore, the understanding of housing have changed and mass houses started to appear as a solution for the demand on housing.

As well as in Europe, these movements affected the understanding of housing in Cyprus. In history, various civilizations occupied the island. Depending on this, mass houses were constructed in different periods by various cultures. Each culture reflected their identity to the architecture. During the history many mass housing areas were constructed in Nicosia and they survived until now including different habitant types.

Nevertheless, changes in habitant profile have given reason to progressive changes in mass housing and altered the original plan organizations of mass houses. Original spaces of mass houses started not to satisfy the basic human requirement of habitants. Therefore, mass houses began to change or transform in parallel with different user profiles.

1.1 Problem Statement

In uncivilized ages first shelter was built by people to protect and rescue themselves from bad and desperate conditions. In time, human beings improved and changed the understanding of housing layout from shelter to housing which would satisfy various basic human requirements in time.

Mass houses in Nicosia were constructed in different periods and used by people with various socio-cultural backgrounds. Socio-cultural issues which are related to human needs can change from person to person and never remain constant. According to this alteration some differences in the original plan organizations are observed as well.

With the changing habitant profile and needs of households caused dissatisfaction with original spaces of mass houses. As a result spaces started not to answer the basic human requirements and households desires.

Users did not prefer to fit in original plan organizations. For this reason, original plan scheme of mass houses altered and transformed according to their needs. This led the loss of identity of original mass housing form. This is the main issue with space transformation in mass housing.

1.2 Aims and Objectives

It is clear that houses which have importance for society in historical, cultural and structural means, is worn and vanished through a long-time of usage for different reasons. Mass houses could not answer to the up-to-date needs and requests which arose from the changes in socio-cultural factors.

This study aims to critically examine that space transformation on mass houses taking Nicosia as an example since it is the capital city of North Cyprus. Plan configuration of mass housing is examined and mentioned how socio-cultural factors are caused transformations in original plan organization of mass houses.

The main questions which this research intends to find answers are as follows:

- What is the main reason behind the transformation of mass housing form?
- How socio-cultural factors are affecting space configuration?

1.3 Research Methodology

Concerning the literature, qualitative data collection method was used on the selected cases to achieve the purpose of this research. In this case transformed mass houses (row and semi-detached) in Nicosia were selected from different periods and compared to each other and analyzed the changes in space of mass housing. As a method of analysis, space syntax technique was used to examine space speculation, functional changes and formal changes on selected cases. As well as plan drawing, three dimensional drawing techniques, photographs are used together with documentation and examination in the spatial transformations on selected cases.

1.4 Limitations of the Study

This research focused on Nicosia as it is the capital city of the island and most number of mass houses were constructed there. Concerning the limitation of the study three socio-cultural approaches which are family size, economic status of family and life style of family are used for analyzing spatial, functional and formal transformations of mass housing units. One or two-storey Row type and Semi-detached type mass houses in Nicosia are analyzed. Mass construction periods are divided into five different time spans according to historical events such as Period between 1878-1960, 1963-1974, 1974-1983, 1983-2000 and After 2000 Period. Selected cases are analyzed based on these different time spans. Totally fifty five mass houses are analyzed and except Public Police Row houses and Private Yenikent houses five cases are selected for each mass housing group. One case is analyzed from the Public Police Row houses and four cases are analyzed from the Private Yenikent houses.

1.5 Background of the Study

Literature survey constructs a large part of this study. As it is stated in the research method section, publications about Housing in general, mass housing in general and North Cyprus, Space organization and transformation of building form and Evaluation of Mass housing in North Cyprus are investigated in this literature survey.

Unfortunately, there was not sufficient detailed information about the Space Transformation of Mass Housing from the British Period to Recent Days in Nicosia,

North Cyprus. All researchers worked on general mass houses in North Cyprus or focused on part of the period.

Related to thesis, especially Rappaport's (1969) ''House Form and Culture'', Teige's (2000) ''The Minimum Dweling'' was read to gain information and general review on housing/mass housing in general and and housing forms.

Zevi's (1957) "Architecture as Space" and Ching's (1996) "Form Space and Order" and Clark & Pause's (2012) "Precedents in architecture: analytic diagrams, formative ideas, and parties" are other considered fundamental sources about space, form and transformations of the form.

The book, which is named Gür's (2000) ''Sample Housing Culture from Eastern Blacksea'' is provided to get information about socio-cultural factors affecting households. This is one of the determinant factors that led transformations in the housing form. In addition to this for methodology Hillier's (1996) Space syntax method was examined.

Other articles such as Atun and Pulhan's (2009) "Learning from Housing: A. Retrospective Narrative of Housing Environments in North Cyprus" provided information about mass houses in Nicosia during the history.

Özderen's (2001) ''Transformation and Change in Social Housing in North Cyprus'' unpublished master thesis helped to get particular information about social houses.

In the light of discussions above, it is understood that there is limited detailed studies about the Transformation of Mass Housing from the British Period to Recent Days in Nicosia. In this study both exterior and interior spaces of the buildings are analyzed in detail. Evidences are also given for spatial, functional and formal transformations in all cases with drawings, photographs, three dimensional drawings and interviews with house users. In this respect, this research is developed to fulfill the necessities in this field.

Chapter 2

GENERAL DISCUSSION ON MASS HOUSING

In this chapter general information about mass housing and evolution of mass housing will be discussed and factors that determine building form will be investigated by referring to the factors that affect housing and mass housing form for defining differences between housing and mass housing.

2.1 Housing and Mass Housing

Throughout history, there exist many definitions about housing. According to Dostoğlu (2000), housing is a shelter that meets basic human needs.

In other words, human is a sociologic, biologic, psychologist living being. Therefore, people are in need of indoor spaces. Due to this reason housing is a first type of structure from past to present (Salihoğlu, 2006).

From past to present, sheltering action made different progress for achieving recent housing concept (today's housing understanding). Sheltering started when first communities of human beings started to select caves and it continued until today.

Following the historical development, housing consisted of communal living requirements such as effect and structure of nature, manufacturing type of society. As

a result; sourcing, distribution of income, population growth, speed and type of urbanization, family structure of society and developed until today (Dostoğlu, 2000).

Defining housing as an only shelter is meaningless. Housing is a not only shelter. It is considered in detail all socio-cultural and environmental factors without imitation. In fact, it is a significant factor in regards to recognition of a society's success among nations (Erginbaş, 1961).

As Rapoport (1969) mentioned formation of housing is not only result of physical effects or impacts, it is a result of all socio-cultural factors. At the same time housing is considered a physical mechanism which created and reflected world view. While discussing about the factors which affect housing forms, component of physical environment must also be taken into consideration.

Sheltering began due to human beings' need for protection. Although in the beginning shelters were only used for protection, requirements of civilizations have increased as human beings gradually developed. After they gained security through shelter, other vital factors appeared such as eating, studying, resting etc. These factors have altered depending on cultural, regional and customs of societies. Accordingly, number of requirements that people need increased and built new shelters (Gür, 2000).

2.1.1 Evaluation of Mass Housing

Following the socio-economic and political transformations, housing layout has also changed. Rapid growth of population is considered the basic factor that constructed mass housing in the world.

According to Paralı (1993), mass housing is a massive approach of sheltering requirements for great number of family. Requirements of humans started to increase following the progress of civilizations . Population growth created a need for more housing. As a result, mass housing is regarded as the ultimate solution.

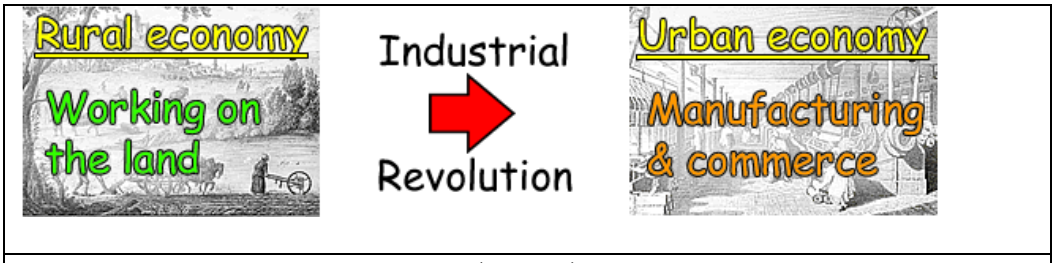
As mentioned above, mass housing has been called to a group of houses that are planned in accordance with their physical, environmental and social issues on a piece of land (Ana Britannica, 1992).

In history there are three significant movements/events that initiated the construction of mass housing. One of them was the Industrial Revolution, and the other was the World Wars (WW1 and WW2) and third one was the wave of Communism.

Industrial Revolution started in the second half of the eighteenth century, beginning in Western Europe and centered in the UK. As a result of this technological advancement, new machines were invented; which are considered a more efficient way of producing products/materials. These developments created a need for an increase in manpower and more people were required to work in factories. Following this changes, people started to immigrate from rural to urban areas for job

opportunities. Hence, the number of population increased in industrialized regions and need for more housing appeared (Pitts, 2004).

As it is mentioned above, machines replaced human power to a great extent. While people were working on lands before industrial revolution, after the revolution products started to be produced by machines in factories in urban areas.



(URL 1)

Figure 1. Economy Before Industrial Revolution and After Revolution

Mass housing appeared in industrializing regions of Europe where number of population increased in 19 cc. Mass housing developments were very economical to construct which came as a solution to shelter to meet the demand from an ever growing population. Production of standardized materials in factories and numerous mass housing areas were constructed as technology progressed. Architectures designed mass houses for working class to provide sheltering for them.

Le Corbusier's mass housing project is one of the examples of solving housing needs of society. Mass houses were models of mass housing projects that constructed with standardized mass produced materials. Today, it can be observed that mass houses of 19 cc have carried their standardization such as standard measurement of rooms, door, window etc. to contemporary mass housings.

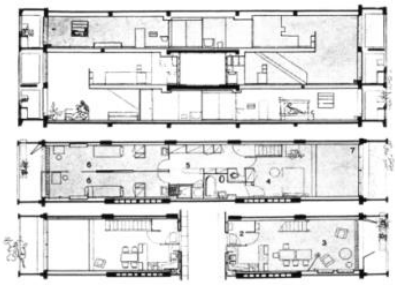
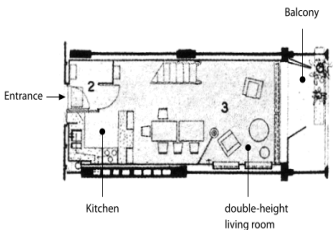
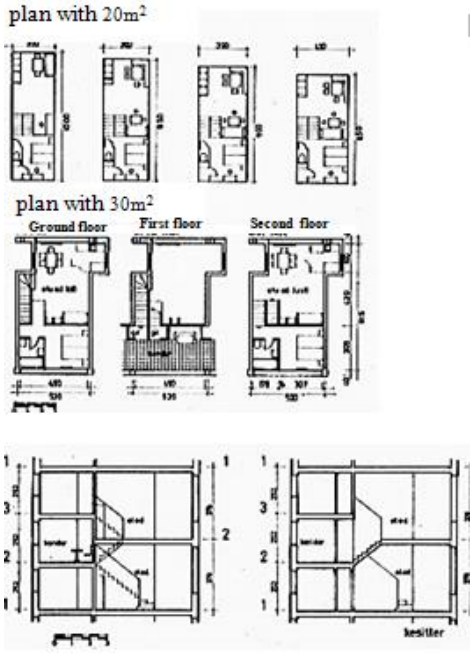
		
View of mass housing	Section& Plan	Plan
URL 2 (Le Courbusier's mass housing project)		

Figure 2. United Habitation in Marseille

As mentioned earlier, it is possible to say that today's housing concept started from the nineteenth century and survived until today. Many architects worked on mass housing projects with the help of advancements in technology and mass produce building materials. As well as other architects, Walter Gropius and Bruno Taut worked together to develop a new type of housing and they designed mass houses in order to solve the problem of housing for ever growing population in Germany.

The idea of mass housing became a solution to rapid urbanization in industrial revolution in order to meet the human aspects of the living conditions. Some philosophers suggested the idea of communal life in 19 the century. For instance, in the beginning of 20th century in the Soviet Union, after the revolution in Russia, the number of housing stock was not met housing needs of people due to the civil wars. Following this situation, architects started to look for solutions and they designed prototype mass houses. Therefore, mass houses were emergently designed in a short time for providing housing demand (URL 3).



Prototype Housing Units Design By Guinzbourg
(URL 3)

Figure 3. Example of Prototype Mass Housing Units Design By Guinzbourg.

In mass housing projects (figure 3) designers intend to keep the costs low by reducing floor space and placed central heating, washing machines, bathrooms and modern kitchens and number of bedrooms in a house are also decreased.

Communism Movement is another important factor which affected the evaluation of mass housing in the world. Communism is a political action based on common land ownership. The aim of this action was to create a classless society. Based on this action, in the 19th century, in Britain; Owen, in France; Saint Simon, Fourrier, Godin, Cabet and Considerant were recognized as social idealist pioneers of communism movement. These people organized and built 'commune mass houses' as a solution to class inequality in society (URL 3).

The main aim was to create mass houses for people with low income and eventually achieve common/equal living conditions among people from different economical social classes. Architects who support communism supported the idea that everyone should have equal living conditions even if they come from a different social class such as low, middle and high income class.

A Settlement of the Dnieprostroi Combine: housing, clubs, theaters, cinema, baths. Row housing system in Moscow.
(Teige, 2000)

Figure 4. Development of Mass Housing in Soviet Union.

All mass housing constructions are classified/ranged in accordance with the needs of humans as follows:

- To provide decent living conditions for rapidly growing population
- To introduce a new way of life (such as communal living)
- To construct low cost buildings to meet the requirements of new Industrialized society
- To provide new techniques and materials; inclined to Standardization and prefabrication

In addition to this, during the communism action, mass housing and mass housing layout appeared with the living and working areas. In that period, many architectural

buildings were constructed which were called ‘communist architecture’ in communist countries such as Prague, Russia, China etc. These structures are more than ten floors and its length is approximately hundred meters. According to some thinkers these row social houses which have huge square middle of the houses and highest buildings are represented power of the society (Arabacıoğlu, 2011).

	
horizontal mass houses	Vertical mass houses
(Arabacıoğlu, 2011)	

Figure 5. Examples of the Mass Houses from the Communism Movement in Prag.

World Wars (WW1 and WW2) also resulted in over growing of population and considered another factor which increased the construction of mass housing. The First World War (1914 – 18) occurred between 1914 and 1918. Between these years people started to immigrate to safer areas. In this period, most buildings were demolished and hence the number of homeless increased (Golland, et al 2004).

Following WW1, Second World War took place between 1939 and 1945. Like the WW1, immigration continued in the WW2. And the number of destroyed buildings also increased at the same time (Serageldin, 1988). As a result of these issues mass housing areas became shelters for homeless people.

2.1.2 Types of Mass Housing

The term of housing and mass housing and the basic reasons for constructing mass housing were previously explained. Although mass houses had common function (sheltering function) for human being, there are different types of mass houses. Over time, movements had an effect on formation and transformation of housing forms. Various types of reasons (Rapid population growth, in accordance with gathering people under the one unit etc.) are considered as the causes of development of housing form vertically and horizontally.

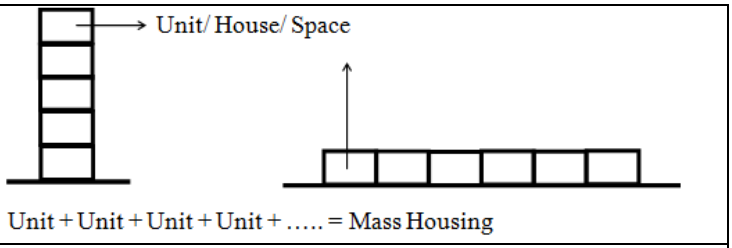


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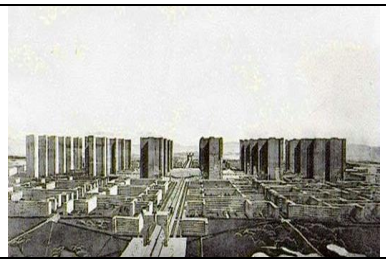
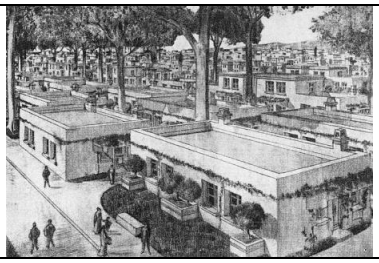
Figure 6. Vertically and Horizontally Attached Units





Le Corbusier's Vertical garden city | Tony Garnier's detached houses

(Teige, 2000)

Figure 7. Vertical and Horizontal Mass Housing Form

While mass housing form is classified into two groups (vertical and horizontal), there exist variety of typology of mass housing types which will be explained now.

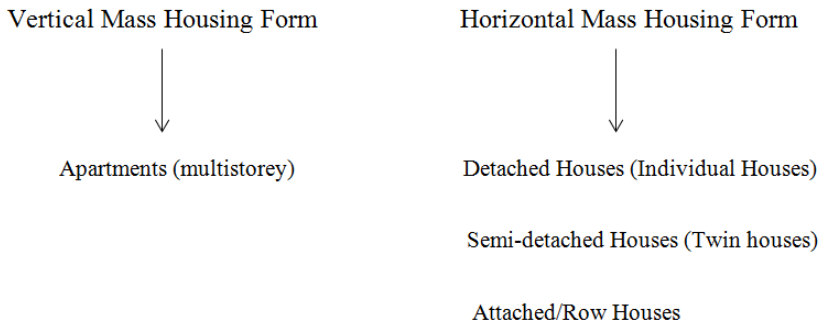


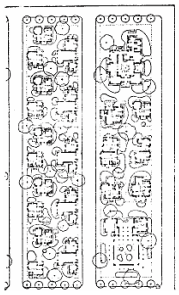
Figure 8. Types of Mass Housing

Through history, a variety of mass housing typologies were designed in different manners for solving housing needs and provides liveable space for society in the world. In this research, horizontal mass housing form (detached, semi-detached and attached/row mass houses) are discussed.

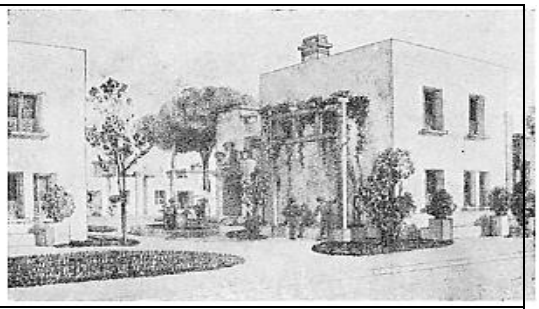
2.1.2.1 Detached Houses

Detached house or free-standing house is one of the mass housing types. This type of houses are free standing on the urban area. For this reason, they are called free-standing houses as well (Hoşkara, at all, 2009).

Detached houses can be single storey, two storey or three storey houses. One storey residential houses, duplex houses and triplex houses are examples of detached houses. This type of houses is surrounded by courtyard. Generally each unit has a garage in the lots. In comparison to other types of houses, detached houses are more comfortable than other types. Due to their independent construction style, free standing location of units, allow to use open space according to user desire. According to Teige (2000), in earliest time people were using open space as agricultural space for supporting family income.



Side plan of detached houses



View of detached houses

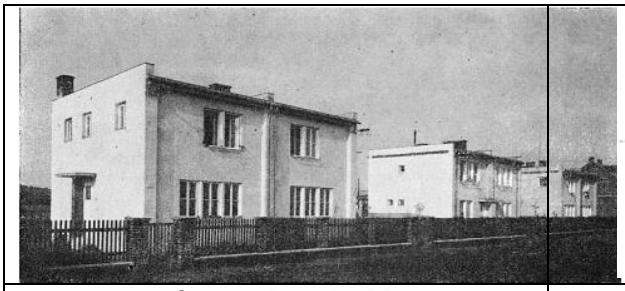
Proposal for an Industrial City of 35,000 Inhabitants by Tony Garnier. Housing District with Detached Family Houses.

(Teige, 2000)

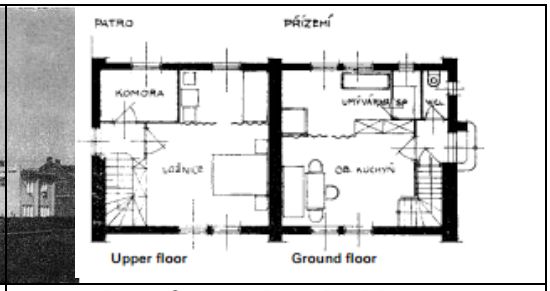
Figure 9. Example of Detached Houses

2.1.2.2 Semi- Detached Houses

Semi-Detached or twin houses are two identical houses shared by a common wall or space between two units. These kind of houses are composed of a pair of houses which are located side by side. It is possible to say that each unit is a mirror of one another. It has open spaces on all three sides of each house.



View of semi-detached houses



Plan of semi-detached houses

Semi Detached Houses in 1929 by Jan Vannek

(Teige, 2000)

Figure 10. Example of Semi-Detached House

2.1.2.3 Attached/Row Houses

Attached houses are categorized in two types such as row houses and apartments. According to their spatial position they might be vertically or horizontally positioned.

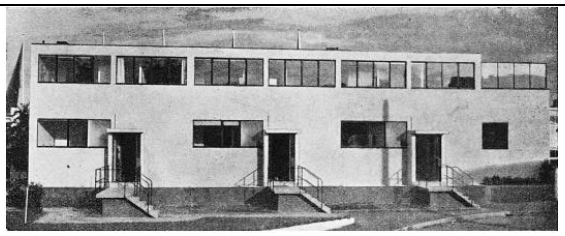
While apartment blocks are attached vertically, row houses are linked horizontally to each other. Each unit is divided by vertical or horizontal walls/slabs to each other.

Row houses in Frankfurt

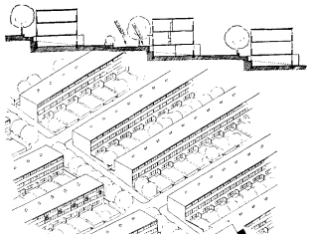
(Teige, 2000)

Figure 11. Example of Row Houses in Praunheim in Frankfurt

Horizontally located row type of houses are ranged side by side and seperated wall or common space such as garage, laundry. This type of row houses terraced houses can be single,double or three storey and each unit has open spaces.



Front Façade of Row House



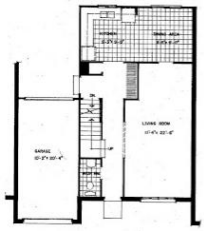
Section&side view of row houses

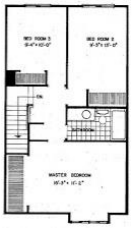
(Teige, 2000)

Figure 12. Example of Three Storey Row housing in German

While row type of houses three storey, it could be two storey or one storey as it mentioned above. As well as differences number of storey in row houses, plan organization of houses could differ from one other.

As can be seen in figure 12 above,row houses are three storey. Plan organization of house is laundry in basement, hall toilet, kitchen and livingroom on ground floor; closets and 3 bedrooms on upper floor (Teige, 2000).





Front facade of Row Houses	Groun Floor Plan	First Floor Plan
URL 4		

Figure 13. Example of Row Houses Which is Shared by Common Space to Each Other.

Whilst its plan organization is organized over and over, in this example of row house, loundary or garage could be common space which is located inbetween two units.

2.2 The Factors that Compose of Building Form

Forms are one of the most significant architectural elements that formed main dwelling. More than one form attached to each other and formed a building. In other words, housing is composed of small units which are called spaces. It is based on ‘’Unit to Whole’’ logic. While these units are coming together some factors are supported and gave shape to formation of house and housing form.

Factors that determined building form are played important role on identity of building form. These factors are influenced on both mass housing and individual housing form. In this section, determinant factors of housing and mass housing form

will be discussed for understanding differences between factors that affect housing and mass housing form and how these factors played important role on procession of building forms in built environment.

2.2.1 Factors that Determined Building Form

Dwellings are part of the mechanism of built environment. Forms found its shape in human environment. Progression of forming house resulted from the complexion of forms due to effects and factors that determine the building form. Günçe (2008) classified factors that determined dwelling forms into two groups such as Environmental and Socio-cultural factors. These factors are played important role on structuring of a dwelling.

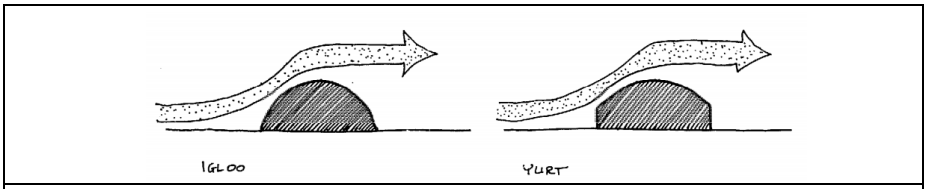
While Environmental Factors include climatic, topography, environmental texture, materials and building techniques; socio-cultural factors include life style, economic structure, relation with relatives/neighbors, beliefs, traditions, social-cultural values, ideology that defined housing form (Rappaport, 1969).

Environmental factors	Climate
	Topography
	Environmental texture
	Materials and building techniques
Socio-cultural factors	Style of living
	Economic structure
	Family structure
	Relations with relatives/neighbours
	Beliefs/Religion
	Traditions
	Social cultures values
	Ideology
Developed based on Rapoport :Developed based on Günçe	

Figure 14. Determinant Factors of Building Form (Günçe, 2008)

Parallel with this classification Özay (1998) classified these factors into four groups such as Environmental factors, Economy, Available Building Materials and Technology, Cultural factors that determined building form.

Environmental Factors are related to the geographical situation of countries which is not possible to change in the future. All physical and natural factors such as climate, topography, environmental texture, materials and building techniques are formed in this group. Building forms are taken its form from this factor. For example climate is one of the important factor that caused formation of building forms. As showed figure 15 below people gave shape to building form for protection against cold wind. From this example it is easily understood that building form is taken its form from environmental factors.



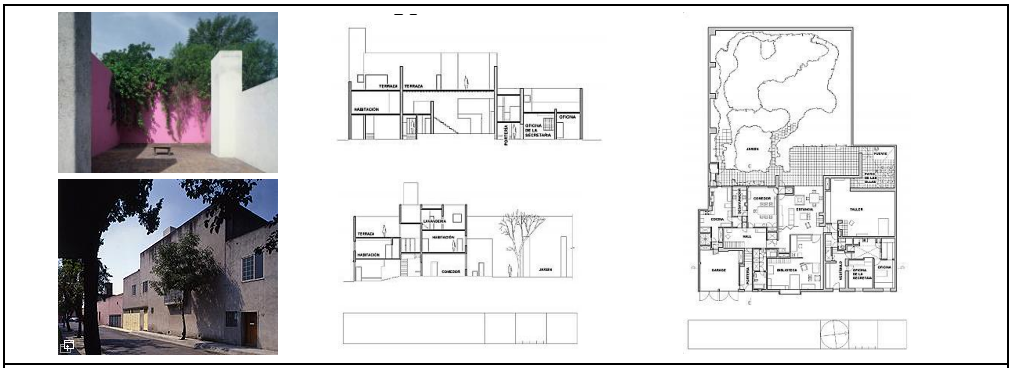
(Rapoport,1969)

Figure 15. Environmental Factor (climate) Affect Building Form.

Throughout history, development of civilizations affected the structure of housing. Housing started to become a combination of spaces for answering the human needs. Therefore, environmental factors are effect plan organization and relationship between interior/exterior space while housing is formed (Özay 1998).

For example in Environmental factors such as climatic factors play an important role on configuring inner and exterior spaces. Especially, countries which have hot

climate need exterior space for refresing in that area. For example in Mexico because of hot climate almost house have a courtyard. The relation between living room and courtyard can be an example. As can be seen below in figure 16 Luis Barragan' s house could be shown as a good explanatory example of these factors. Because of hot climate, architect designed the inner courtyard.



Luis Barragán's house and studio in Mexico (URL 5)

Figure 16. Relationship Interior and Exterior Space by Considering Environmental Factor.

Along with environmental factors, socio-cultural factors are also considered as effective on dwelling form. While environmental factors are effective on arrangement of spaces, socio-cultural factors such as lifestyle, culture etc. issues shape housing form. According to Rapoport (1969) culture is an intangible norm where the human activities acted within the various cultural factors. These factors appear to have various building form and plan organization. This difference is attributed to cultural values. From this point, cultural factors became effective on building form (Rappaport, 1969).

Cultural factors are formed by style of living (life style), economic structure, family structure, relations with relatives/ neighbors, beliefs, religions, traditions, social

cultures values and Ideology (world view) of society. It is the best evidence of understanding distinctive features between different societies.

It is possible to say culture is related to the ethnic group. Each ethnic group has specific characteristic in their geographic region. Variety of identity of society caused different building form in built environment. Therefore all these factors are showed as a variation between each other depend on human behavior (Kent, 1993).

Everyone eats, sits, sleeps etc. (basic human activities) but the way of doing these activities are different for everyone. All factors interact with each other.

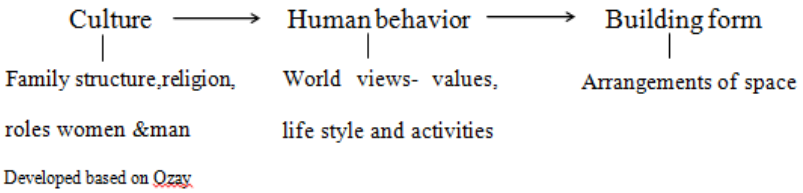


Figure 17. The Relation Chamber of the Culture with Human Behavior and Building Form.
(Özay, 2008)

It is possible to observe that different building form from different user which is in a different cultural group. Cultural Factors are defined in detail within the next theme in terms of space transformation (2.3.2.2 Social Factors Defined Space).

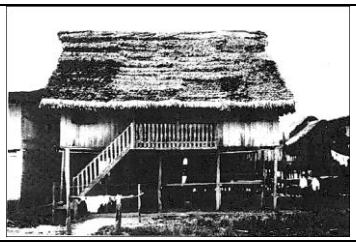
RELIGION AND HOUSING FORM	CLIMATE AND HOUSING FORM
	
a)Use of solid walls for privacy, the major change from house.	b) Typical open house in jungle near Iquitos, Peru.
(Rapoport, 1969)	

Figure 18. Relationship Between Religion and Housing Form (a) and Relationship Between Climate and Housing Form (b)

As can be seen figure 18 privacy is played an important role on building form. Because of privacy reasons, user used solid walls around the space. Another example of environmental factor is shown in figure 18-b. Because of hot climate user did not prefer to bond a wall around the space. They only designed the roof for shading.

The economy, available building materials & technology also play an important role on building form. Level of these criterions has shown variety depending on the characteristic feature of countries. As new and various materials appeared, housing construction also rapidly increased.

The mass production resulted in an increase in the rates of manufacturing. Because of mass production, cost of materials were also reduced. Therefore construction of building form was made easier. Architectural building symbolizes the power of a country. If it is developed and has a good economic fund, it can reflect the conditions of the country. Economically developed countries are having many opportunities to constructed building that have various form. It is possible to observe different building forms in developed countries.

2.2.2 The Factors that Affect Housing and Mass Housing Form

As it mentioned above factors are effective on building form. At the same time all factors are showed variety according to its individual characteristics. As well as these factors played an important role on mass housing and individual housing form. Environmental factors, socio-cultural factors and economy, available building materials and technology are also effective decisive factors of individual housing and mass housing form. Each factor show differences from culture to culture or place to place.

In general, while individual housing constructed considering the environmental and socio-cultural factors, in mass housing construction these factors are considered less than individual housing construction.

Generally causes of differences between mass housing and individual housing form are stated below:

- While individual houses are designed, architects organize spaces according to environmental factors such as direction of sun, wind, good view etc. (Environmental Factors)

- In contrast with it, mass houses are identical to each other. Mass produced building materials are fixed to each other and created same units. Because of mass production, all units has to be same to each other in terms of size of

openings, materials, plan organizations etc. (Economy, Available Building Materials & Technology)

- In general, mass houses are fixed, spatial organization; location of space is not emphasized. Therefore mass houses lack identity when compared to individual houses. (Economy, Available Building Materials & Technology)

- While individual houses are constructed, user profile is emphasized. Use of space, number of space, family structure, life style, culture etc. are considered before the housing design. (socio-cultural factors)

As it is explained above these factors affect the form of both building types. It is possible to say that individual housing form might be called a unique form, mass housing form might be called as identical form.

Individual houses	Mass houses
Considered the environmental factor	Not considered
Considered the socio-cultural factor	Less considered socio-cultural factor
Considered Economy, Available Building Materials & Technology	Considered Economy, Available Building Materials & Technology
Have identity	No identity
Considered user profile	Less considered user profile

Figure 19. Comparison of Individual and Mass Housing Forms in Terms of Factors

It is noted that, although, there are unsuccessful mass housing constructions, there are also good examples of mass housing constructions in the world.

2.3 Definition of Space and Space Configuration of Mass Housing

2.3.1Term of Space

‘Space is the protagonist of architecture’

(Zevi, 1957)

‘Space is the machine’

(Corbusier, 1922)

As stated above, there are many definitions available on the meaning of space. According to Hillier ‘Space is the machine’. With this statement, Hillier is against Le Corbusier’s machine definition which is ‘House is a machine for live in’. Hillier assimilated the word ‘machine’ to ‘space’ because space is systematically work as a machine (Hillier, 1996).

Space is a place where a group of people or a person live in. It is a gap that is comprised of human relation and equipment in certain organizations of human (Gür,2000).

In general, space is a compressive notion. Actually space is a gap in infinity. Basically, it is a kind of layout that surrounds the environment (Şensoy, 1976-77). On the other hand,space is the core of architecture and more than a simple volume that surround. First, it has its physical form that can be easily decoded and described by its concrete characteristics such as length, width, scale, geometry and also texture,

color, light, etc. Second, it has other characteristics that are abstract and complex which is called nature such as cave.

All living creatures take place in space. Even plants have space that have a volume on the earth and under the earth for surviving (Güner,1976-77)

	
Shadow of Umburella defined space	Family created space by using and limiting matling
(Şensoy,1977)	

Figure 20. Example of Creating Spaces

According to Rapoport (1969) human and built environment are in a relationship between each other. Human beings differ from other living beings because humans have the ability to think.

Over time, natural conditions keep changing and human beings have to keep up with conditions for their survival. Ability to think directs people to create their own environment to 'protect' themselves from external factors and this instinct created the need for what is called a space. Hence, this 'protection' instinct played a significant role while creating the space in building environment (Güner, 1977).

In history, architecture is modified with its form and expression. Accordingly this, architectural spaces are altered in the same manner. Architectural form and expression is impressed by technical inventions, socio-politic revolutions, and philosophic alteration. But architectural space has continued to alter in history. Actually, space is a significant component that connects to past and future of architecture which is coming from different culture and period (Gür, 1996).

Everybody eats, sits, or sleeps, but the way of doing and places where these activities are performed change accordingly. Each human activity takes role in different spaces. Spaces can be classified in to three main parts which are closed, semi-open and open spaces. On the other hand, it can classify in to two such as indoor space which is called closed space and outdoor space that is called open space (Günçe, 2008).

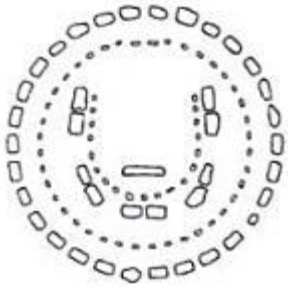
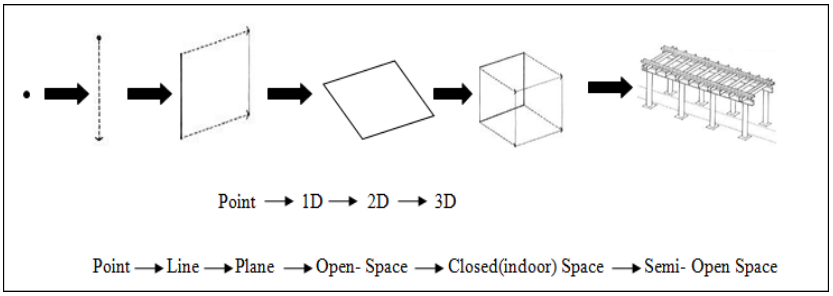
		
Plan of Stonge Henge	Front elevation of Stone Henge	View of Stone Henge
(URL 5)		

Figure 21 Example of Forming Space by Using Vertical and Horizontal Natural Element (stone).

Architecture is consisted of spaces. It is the result of human needs. In earliest times, caves occurred as a respond to various human needs. As mentioned earlier, caves were the first shelter for human being. It is occurred by enclosing space. In contrast, in earliest settlements such as Stonehenge (figure 21), shelters composed of semi open spaces are observed. Vertical and horizontal natural elements called stones were used for creating shelter (Ernest, 1934).

As it is understood or analyzed from the earliest settlement; space is defined by architectural elements. Space is composed of primary elements which are point, line, plane, volume in built environment. It is starting from point. Point is extended and become a line than transformed to two dimensional elements which is called plane. Planes are extended and become volume which has length, with, depth properties.

Space is occurred from point. As can be seen in figure 22 it is evolved in time and become tree dimensional architectural element which is called space.



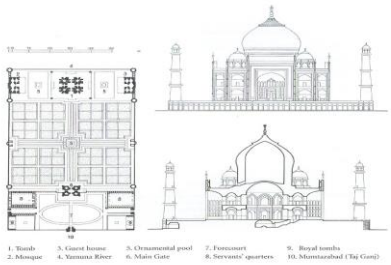
Process of Evolution of Space
(Ching, 1996)

Figure 22. Process of Evolution of Space

Point has no dimension. For this reason, it is visible on the plan drawings as can be seen figure 22. Two points are connected to each other and described line. To visible

points in space it must be projected vertically in to a linear form such as column, tower. Linear elements add meaning to the space. It creates a transparent volume of space, defined edges of space, provide support for an overhead plane as a structure element of space. As can be seen below figure 23 show how the linear elements defined space. In the figure there are 4 columns around it and surrounded main building. Columns are created space and define the edges of the building.

Southern view of the Taj Mahal in India

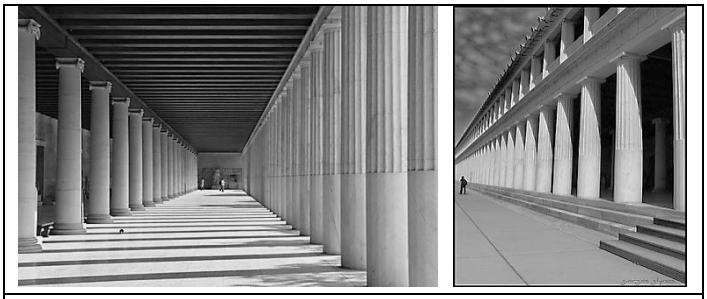


Plan, elevation and section of Taj Mahal

(URL 8)

Figure 23. Defined Space By Architectural Linear Elements

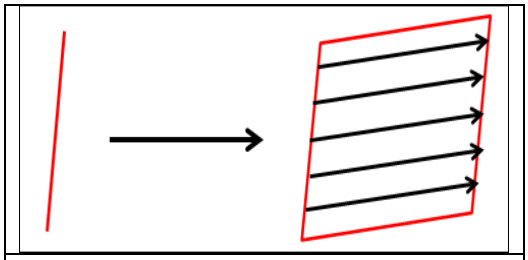
As well as exterior spaces, these elements (linear elements) define indoor space and semi open space. Linear elements are ranged together to define planes. A series of parallel lines create space. Figure 23 shows how linear elements define space and give meaning to the space. In this figure columns are defined plane. Row columns are oriented orderly and defined semi open facade plane. In addition, columns are used for supported element as a structure of the plane. As it mentioned before architectural elements should be functional and meaningful. In this figure 24 linear elements (columns) are created texture on the floor by using natural lighting and defined circulation area of the building. These shadows are a visual reference for defining space.



The inside of the restored Stoa of Attalos
(URL 8)

Figure 24. Series of Parallel Lines Created Space

Line is a significant primary architectural element for defining space. Horizontal lines increase the length of the space while vertical lines increase the height of the space. It is extended vertically or horizontally. Line becomes a vertical linear element or a horizontal linear element in three dimension. Planes are another component of the space. Line is extended and becomes plane. Therefore, these elements are defined open, semi-open, closed space by using these elements. It is clear that line plays an important role on defining the space.



Line to plane

Figure 25. Formation of Line to Plane

2.3.2 Elements of Defining Space

The spaces are defined in two groups such as Physical (physical elements) and Socio-cultural Factors. These factors play an important role on space transformation as

well. Factors might be fixed or flexible. Fixed ones are physical elements such as vertical and horizontal elements (wall, slap etc.) that cannot be changed. The flexible factors are socio-cultural factors such as family size, economic status of the family, and life style of the family.

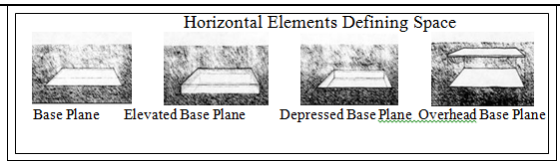
Physical Factors (Physical elements)	Vertical architectural elements
	Horizontal space defining elements
Socio- Cultural Factors	Family size
	Economic status of the family
	Life style of the family

Figure 26. Defined Factors of Space

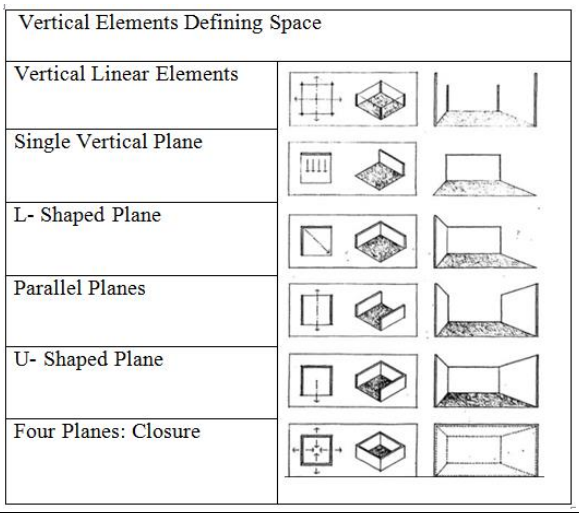
2.3.2.1 Physical Factors Defined Space

As explained previously, housing is comprised of physical components such as natural elements (stones, ground) or wall, floor, slab, window etc. It is possible to mentioned, trough the history horizontal and vertical physical elements are formed and defined space as can be seen hedge stone which is the first ages settlement.

In architecture, physical elements are considered one of the space defined factors that give shape to space. Ching (1996) defined these architectural elements in to two groups such as vertical and horizontal architectural elements. While base plane, elevated base plane, depressed base plane, overhead base plane are horizontal elements, vertical linear elements, single vertical plane, L shape planes, parallel planes, U-shape planes, four planes are vertical elements that defined space. Each element played significant role on while identifying the character of space.



Horizontal Elements Defining Space
(Ching, 1996)



Vertical Elements Defining Space
(Ching, 1996)

Figure 27. Horizontal and Vertical Defining Elements of Space

2.3.2.2 Socio-Cultural Factors Defined Space

'Space is meaningless without socio-cultural factors.'

Space is not only gained meaning from physical factors. Cultural factors are made sense to space. As Rapoport (1977) sad changing socio-cultural components are provided to achieve intangible data about space.

Social factors are a mirror of the civilizations. Therefore, it is the most important factor that determined the effect of user profile on spaces. All factors showed changes due to various identity of family structure. Beside affecting the space design,

it indicated the building form as well. For this reason it is showed similarity in between social factor that affect building form (mentioned in 2.2) and socio-cultural factor that defined space.

Socio- Cultural Factors	Family size
	Economic status of the family
	Life style of the family

(Gür,2000)

Figure 28. Socio-Cultural Factors that Defined Space

As a concept, family has a wide meaning. It might be social group (in terms of relationship between family members), unity (in terms of economy and social issues), social organization which is consisted of systematic rules for satisfying human needs (Nirun, 1994).

In other words, family is a community that live together and interacts with each other (Sahinkaya, 1990).

Although family is a universal corporation, differences vary from culture to culture in terms of statue and responsibility of user. Family size, economic status of the family and life style of the family play an important role on defined of space in housing.

Family Size is related with family structure and dimension of houses. With the increase in number of family members, space needs to increase accordingly. For this reason, form of a building represents the variation of one family to another. Canan (1995) stated that world view of society is effective factor while determined size of

the building. In Islamism, a building program started from family size of housing. This is an evidence that family size has an effect on housing.

While 80 m^2 spaces is satisfied family members, spaces which have same square might not meet human needs to another family member. It is related to the needs of family or user profile of household. Actually user needs should be considered while designing houses. Family size is important from this point of view.

For instance, an example from the world could be illustrated as follows; while French and Japan workers were satisfied with houses which are 35-45 m^2 space, Turkish workers were not satisfied with the houses which is 80 m^2. Due to large size of Turkish family, such space is does not meet their needs. As it is understood from these examples variation of cultures appear with different family sizes and this causes a variety in building form (Gür, 2000).

At this point family structure should be considered. Family structure is classified in two groups. It might be nucleus or multi-nucleus family structure. Users who have different family structure such as nucleus or multi-nucleus family structure are play an important role on building form. While family structure changed, space and building form showed changes as well (Bilen, 2004).

Furthermore, there has been many investigations carried out about family structure. For instance, concept of living together in multi nucleated family structure is based on protection, safety, social, economic and religion reasons (Engel, 1986).

Multi-nucleated family structure is one of the family structures which is large size of family and formed grandparents, mother, father, uncles, aunts, cousins with their parents and children. They lived together at the same house.

With the developing industrialization, because of job opportunity rapid immigration rural to urban region changed family structure. Rapid changing of living conditions affected family structure as well. People who immigrated to industrialized areas started to get jobs and create their own family apart from other family members. As a result of these social and economic factors, multi nucleated family size decreased and nucleus family structure started to form. With changing living conditions, economic levels of users increased and nucleus family structure replaced multi-nucleated family structure (Erol, 1992).

Nucleus family structure is a simple family type that included mother, father and child which is composed of closed relationship between family members.

Types of families determine the identity of user profile of housing. Hence, family members used spaces according to their needs. With the changing of family structure, spaces are changed or transformed in terms of user requirement of family members. Therefore family structure has shaped the housing form (Bilen, 2004).

Economic status of the family is another effective socio-cultural factor on housing form. It is directly related with income, education and profession level of user. Socio economic statuses are classified in to three groups such as low, middle, high income

level. People who have different income level might have different requirements to each other. It is strongly specified social statue of family.

As well as family size, economic status of family is also parallel with building size. With the increasing human needs new spaces appeared in houses. For example, people who are in high income class might have different needs, hobbies according to their desires. This led the formation of new spaces on the building form.

Life Style of Family, is related to the socio-cultural aspects. it is the most comprehensive factor that affects building form. Each factor is inseparable from the whole life style.

The meaning of life style is a combination of activities, interests and opinions or the way of life of users according to their culture. It is played important role on for understanding human behaviour (Wedel and Kamakura, 1998).

The concept of the style is a very huge subject which plays significant role in the architecture. It is examined in interior space as well. It is the one of the distinctive fact on the cultural differences.

In addition to this, social habits and traditions shape the life style. The most important places of community improvement are family daily life and house using style**.** Housing forms are the symbols of family's identity and social statue. Space arrangement is the evidence of the effects of life style in interior space. Different

users which have different cultural background are had different space organization of housing form.

As it mentioned above human behavior is caused appeared variety human requirements parallel with their culture. Cultural diversity is basic reason that observed differ characteristics of life style. Therefore human requirements or needs showed changes.

According to Maslow (1987) human needs are classified in five groups such as physiological needs, safety needs, needs of love, affection and belongingness, needs for esteem, needs for self-actualization. Based on Maslow's hierarchy of needs, it is understood that housing needs started from protection need. Through this, when human being was completed and achieved these basic requirements, they started to create or need spaces in term of their life style.

Pryamid of Maslow Hierarchy
(Maslow, 1987)

Figure 29. Maslow's Hierarchy Prymid

Cultural diversity manifested itself on building form as can be seen figure 30 Because of privacy of Muslims, Ottoman houses are designed taking privacy into consideration. Closed balcony which is called 'Cumba' (which is the projection at the

upper floor) is formed based on cultural aspects of society. The logic of the form is influenced from culture (Pulhan and Numan, 2001).

Cumba of Ottoman Houses
URL (9)

Figure 30. Reflected Lifestyle and Privacy of users.

As well as transformations on the exterior facade of the building, lifestyle of people is considered important on interior spaces parallel with culture. As Özay (1998) stated, through the history, at the different time span, socio-cultural factors are become effective on interior spaces. Therefore, spatial organization of spaces are interpreted differently. While Japanese sit on the floor when they have tea ceremony, British people sit on chairs while they meet at home. Daily activities might be similar, however, the way people use spaces vary according to their cultural back grounds.

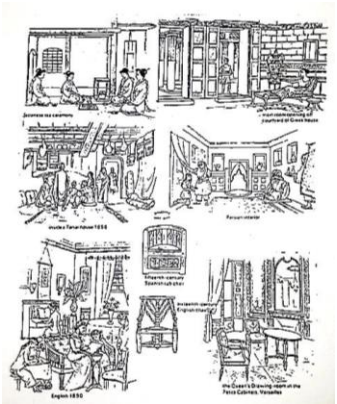


Figure 31. Different Interior Space from Various Cultures and Period (Alsaç,1996)

2.4 Organization of Form and Space

In this section general information about spatial organization is discussed and mentioned spatial relationships between spaces.

2.4.1 The term of Spatial Organization

‘ A good house is a single thing. ’

(Moore et al., 1974)

While space is formed by horizontal and vertical elements it is consisted of order in itself. It had organized in itself. As it mentioned before, spaces are composed of architectural element and more than one space put together and generated single thing which is called house. Each unit are assembled and combined to each other. Results of this, units are formed. It has a unit to whole process. As Moore (Moore et al. , 1974) sad a basic parts of a house which is called space such as rooms can be put together in orderly well organized for achieved a good building. The important thing is to create a livable area and established a meaningful pattern inside the spaces.

Each unit (space) had certain logic in it. Disorganized spaces are meaningless. Space is not only formed by physical structural elements. It should be functional and meaningful. First of all functional elements or materials (architectural elements) are assembled in to a space that worked for well-defined purpose. Second, socio-cultural aspects of users such as culture or styles are given character to space. It is clear that space organization is played significant role on generating building (Hillier and Hanson, 1984).

Space is a not only a structural element. It is composed from dimensions, width, length, height. But, it does not mean that space is sum up these criteria. Space is a living area that human beings live in and meet own requirements in it. Facade of space can be seemed well from outside or building proportion can be suitable in the surround environment but it means not that interior space is a well-organized in itself. Interior is the hard of the building. While buildings are constructed or designed, interior space should be considered before the exterior space of the building. It should be followed interior to exterior process (Zevi, 1957).

The success of design of a housing is associated with spaces, in the right place, at the right time, for right person. Socio-cultural factors are the main parameter that achieved successful product (Gür, 2000).

2.4.1.1 Types of Space Organization

As it mentioned before units are come together and composed of main form of the building. The unit to whole relationship is a significant formative idea that related units to other units which is called space. Spaces are should be in order or self-organized in itself. At this point space organization is considered (Clark & Pause, 2012).

Space organization is a group of spaces that are formed whole space which is related to each other. Many architect defined space organization in a different way. Spaces are organized considered with social (culture, life style, religion, world view etc.)

and physical (climate, topography, technology etc.) factors. As well as Physical factors, social factors are largely effective on organization of space.

Social factors are vital to space. As Rapoport's (Rapoport, 1977) description social factors such as, culture, worldview, life style, and human activities are played important role on space organization of the building form. Each phenomenon showed distinctive properties from different culture to another culture. Various space arrangement of the building is finest evidence of this difference in indoor spatial configuration.

According to Ching (1996) space organization is classified in five groups such as; Radial, Centralized, Linear, Clustered, Grid organization. Depending on physical and social factors spaces come together and form main artefact according to Ching's (1996) spatial organization. All classifications are aim to create functional and useful building for human needs.

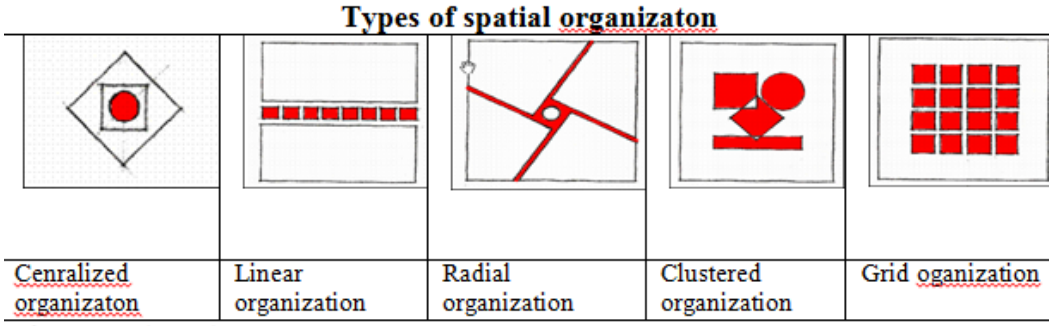


Figure 32. Types of Spatial Organization
(Ching, 1996)

In other words, spaces are formed by human requirements. Space organization depends not only on rules or principles of architecture but it takes its form from the

human or its users. Different civilization created different user profiles. As a result of this variety, user profile different space organization was occurred. Human requirements is one of the significant factor that forming or organizing of spaces. As Gür (1996) sad spatial organization is a way that understanding differences between user profile which is coming from different culture or origin.

Everyone sits, eats, sleeps or did similar daily activities. However, because of different culture, life style, human requirements the way of use is different from people to people. Both users and spaces are organized by human requirements or needs. As Author defines it in figure 33 space and user are in a related to each other. Users are combined individual properties with spaces. In turn, spaces are organized in a different way.

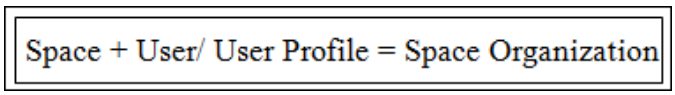


Figure 33. Evolution of Space Organization

While Rapoport (1977) and Gür (1996) emphasized or focused on culture that greatly effective factor of the space organization, Hillier (1996) is mentioned space organization is existed when space are functional and accessible. According to Hillier (1996), spaces should have easy access one spaces to other space and in a relationship between each other. Accessibility is made space useful and meaningful.

Overall, as it mentioned previous sections socio-cultural and environmental factors are significant agents than embodied spaces of building form while it is designed. In addition to this, user profile is gained meaning to space when spaces are arranged.

2.5 Transformation of Space

Through the time, changing user profile acted important role on transforming building form. Due to effects of socio-cultural factors, transformation occurs at the housing units within the time. Spatial, Functional and Formal transformations are three significant transformation of spaces.

2.5.1 Meaning of Transformation

All things are in the act of becoming, an endless cycle transforming one form into another. Clark and Pause (2012) described transformation as a process of changing form.

There are many definition of transformation in a different field such as biology, psychology, policy and architecture etc. The meaning of transformation is changing something into something else.

Built environment created by human being and changed through the human needs. Changing process is resulted transformation in society. As well as built environment, it affects human behaviour. Changing needs caused various transformations in built environment. Thus, it caused changes in spatial organizations of interior space and building form.

As Özderen (2001) defined transformation might be two direction such as upward, by adding floors or horizontally by adding spaces to housing in urban settlement. As it is

understood from this definition transformation is affect spaces when it is combining with socio-cultural factors.

In addition, while building forms are transforming, use of space (spatial organization/function) is changed as well.

2.5.2 Types of Transformation

Transformation can be classified into three main types as spatial, functional, and functional transformation. Also Spatial Transformation can be divided into four groups such as Space within a space, interlocking spaces, adjacent spaces, spaces linked by a common space. Formal transformation can be divided into three types such as additive, subtractive, and dimensional transformation.

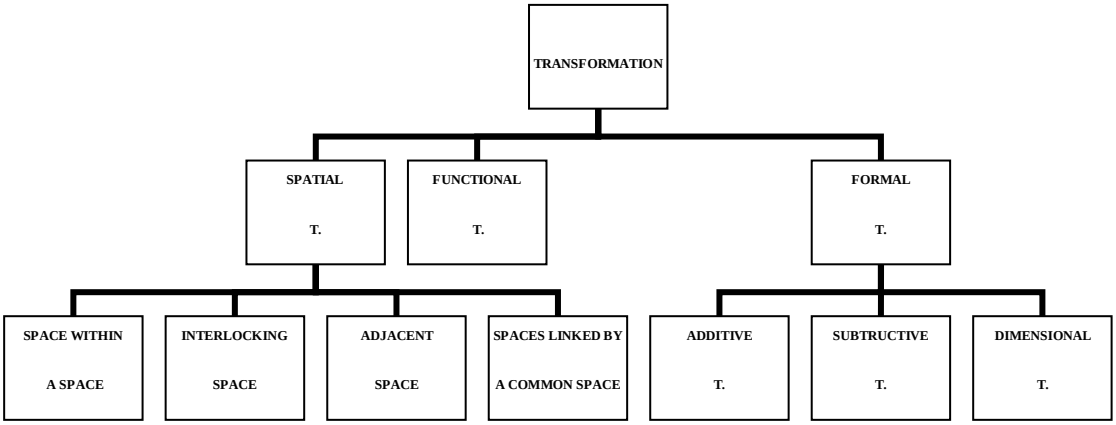


Figure 34. Classification of Transformation (Types of Transformation) (developed based on Ching, 1996)

2.5.2.1 Spatial Transformations

Up to now reasons of space arrangement of building form are explained in terms of factors that it defined above. This part is illustrated relations between spaces.

Architectural design process is a progression of space organization. During this process the most important point is that methods of used while configuring and creating relationships between spaces. Created space should have a proper geometric form which is a livable space for human being. Therefore it is possible to mentioned geometry in terms of relations of space.

Through the human needs geometric forms are clustered and formed composition. Due to geometric forms are created livable space. Two or more than two spaces may be related to each other in several fundamental ways. Evensen (1997) described this relationship in four groups such as spatial juxtaposition/addition, spatial integration/penetration, spatial division and space in a space.

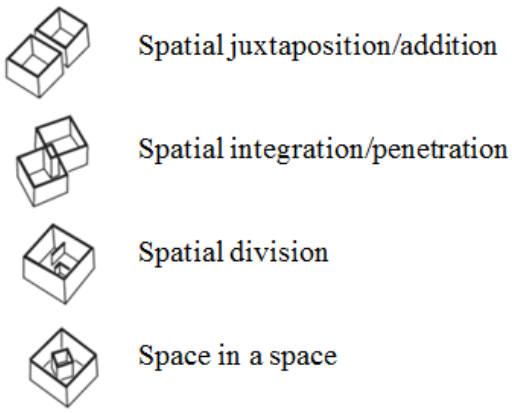


Figure 35 Methods of Spatial Relationship
(Evensen, 1997)

Parallel with this approaches Ching (1996) defined relation of spaces in four groups such as space within a space, interlocking spaces, adjacent spaces, spaces linked by a common space.

- Space within a space: in this kind of relationship space is placed in space as a sub-space. Size of space are smaller than main spaces as showed in figure 36

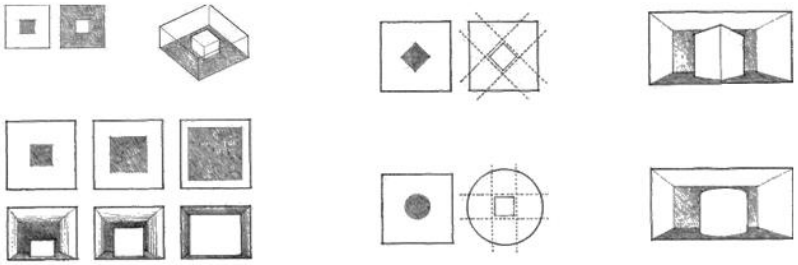


Figure 36. Space within a Space and Types of Relations
(Ching, 1996)

- Interlocking spaces: In this kind of relationship two spaces are overlapped and formed space. Interlocked spaces might share equally by each space or merge with one of the space and become an integral part of its volume or portion might developed its own integrity as a space that serves to link the two original spaces.

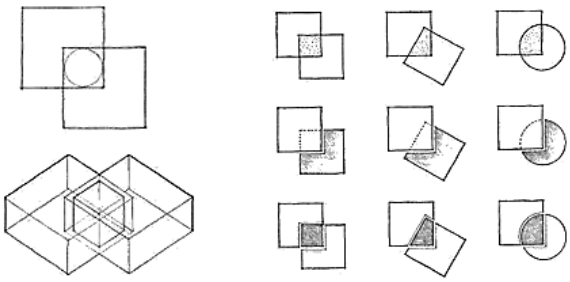


Figure 37. Interlocking Spaces and Types of Relations of Interlocking
(Ching, 1996)

- Adjacent spaces: It is the most common type of spatial relationship. It allows each space to be clearly defined and to respond, each in its own way, to specific functional or symbolic requirements. The degree of visual and spatial continuity that occurs between two adjacent spaces depends on the nature of the plane that both separates and binds them together (Ching, 1996).

In addition, it can be opening between space such as door, division wall which is free standing architectural element, vertical linear elements for separated spaces or level differences between spaces (figure 38).

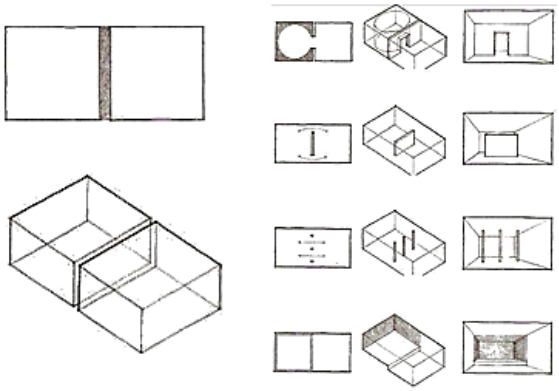


Figure 38. Adjacent Spaces and Types of Relations of Adjacent
(Ching, 1996)

- Spaces linked by a common space: in this kind of relation two spaces are linked by third space as can be seen in figure 39 it is the linkage between spaces (Ching, 1996).

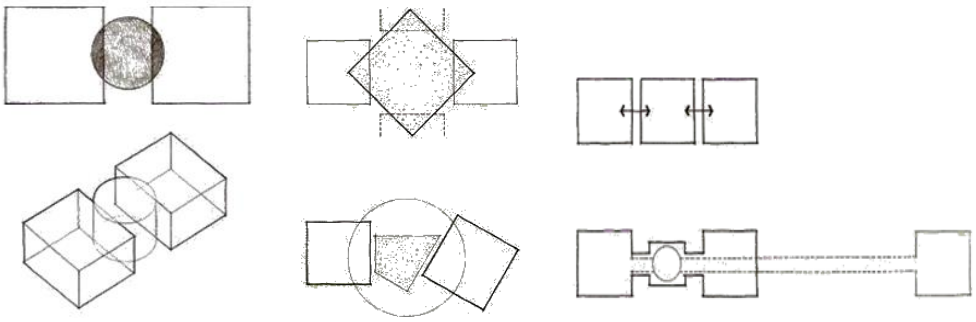


Figure 39. Spaces Linked by Common Space Types of Relations
(Ching, 1996).

2.5.2.2 Functional Transformation

Function of space is a significant factor for human being in housing. Louis Sullivan (2004) who is mentor to Frank Lloyd Wright emphasized that in architecture, form should followed function. With this sentence of him he is noted that importance of use of space in housing.

However, a configuration of functions in housing is differed from person to person according to social issues of them. In this case, spaces might transform due to household's need.

With the different user profile, user might change use of space in terms of their lifestyle. In determination of functional transformation of housing socio-cultural factors, especially daily life activities such as sleeping, hosting, eating, cooking habits, sitting, studding, washing, and socializing are played important role on functional transformation.

As it mentioned before in sub chapter 2.3.2 it is related with socio-cultural factors. The way of life, culture, lifestyle etc. are occurred space organization of housing. With the changing of demand of user, use of space transformed at the same time.

People always want to have more living space that is comfortable. Thus, households make transformations to obtain the adequate spaces. While housing is difficult to change in a short period, in contrast user and user needs might change in short time. For example, while owner of house arranged his housing according to his desire, his renter (assume to rent house someone) might change form or function of space in terms of his requirements. This changing of user profile represented transformation in housing.

2.5.2.3 Formal Transformation

It is a formative idea that developed from the additive and subtractive process. As it mentioned before space is composed of architectural elements and result of this, forms which volume has occurred in this progress.

While Clark and Pause (2012) classified transformation into two groups such as additive and subtractive, Ching (1996) developed this formative idea and added dimensional process. According to him, transformation is classified into three groups such as additive, subtractive, and dimensional transformations.

Additive transformation is the one of the effective transformation on the building form. In additive transformation, new elements or forms are added the mass or form.

This action is defined new space in the building due to human requirements. Subspaces created during the transformation progress (Ching, 1996). As it showed in figure 40 new forms are added to the building. Addition part of the building might be extension of the exist room or might be space which has a different function apart from exist space.

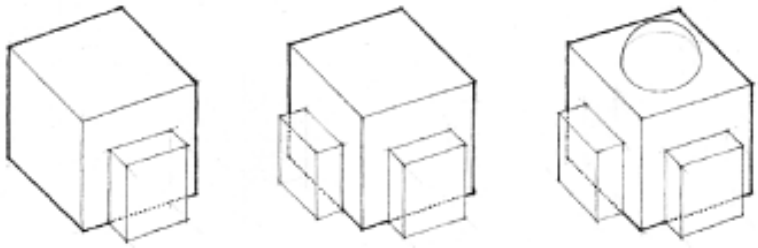


Figure 40. Example of Addition of Form
(Ching, 1996)

Depending on socio-cultural factors such as size of family; size of building form might be changed. All social factors are effective on additive transformation.

While forms are enlarged in addition transformation, forms are retained its initial identity or transformed in to a different form in subtractive transformation (Ching, 1996). It might define entrance of the building, created semi open space such as courtyard, inner courtyard, balcony, and terrace etc.

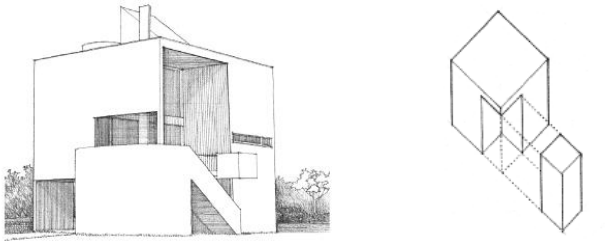


Figure 41. Subtractive Transformation Creating Volume and Space
(Ching, 1996)

Additive and subtractive action is an effective transformation movement for forming the dimensional transformation. Both transformation progresses are played important role on dimension of the form. While additive transformation caused enlarged (vertically or horizontally) of the building or form, subtractive transformation might cause made smaller of the form. These actions are acted through the human requirements (Ching, 1996).

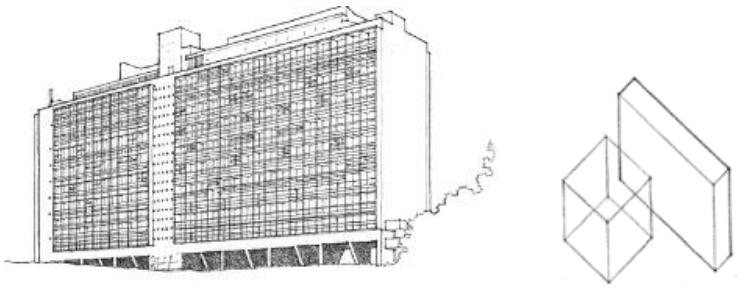


Figure 42. Example of Dimensional Transformation of a Cube into a Vertical Slab (Ching, 1996)

To sum up, as it is understood from the explanations above, all types of transformation are the hint to understood distinctive user profile of housing. With the identity of user, both interior and exterior spaces are transformed.

Chapter 3

IDENTIFICATION OF MASS HOUSING IN NICOSIA, NORTH CYPRUS

In this chapter general information about historic background of Cyprus will be given. Then general evolution of mass housing in North Cyprus will be investigated and focused on mass houses in Nicosia in terms of different time span.

3.1 Historical Background of Cyprus

Cyprus is relatively large (9250 km^3) and third biggest island of the east Mediterranean after the Sicilia and Pelargonium Island. Due to its strategic significance, island is influenced by powerful civilizations such as Phoenicians, Assyrians, Egyptians, Persians, Hellenics, Romans, Byzantines, Arabs, Franks, Genoeses, Venetians, Ottomans and British as the rulers of the island throughout its history (Butzer, et. al., 2007).

Cyprus is located as one of the most important locations of petrol line of the Persian gulf- strait of Hormuz-the red sea- Cretan-Malta-strait of Cebelitarik. As well as it is closed to Turkey and Syria coast and Egypt and Suez Canal in terms of entry and exist to the Aegean Sea. Thus this, many civilizations wanted to conquests to the island throughout the history.

In 1571 Cyprus Island was under the control of Ottomans in 1571 until 1978. Because of getting economic benefit from immigrants who wanted to settle to the island, Ottomans were provided equality in the island. Due to equality, Ottomans secured the justice between different origins. Nevertheless this system, with the starting of the Ottoman and Russia war, Orthodox (who live in the island) were took advantage of this situation and started to complain Ottoman administration to British council. At the end of the war 3 March 1978 Ayastafanos agreement was signed between Ottoman and Russia and Russia was gained strength from the island. Thus, Russian could get benefit from island's strategic power. Ayastefanos agreement was provided opportunity to Russia to get the control of Balkans, Istanbul and straits (Thubron, 1986).

British Empire is another powerful country in that period as well. To maintain its power Cyprus could be a good opportunity to get benefit from the island. Unfortunately, Cyprus was ruled over by Ottomans and after the Ayastefanos agreement Russia gets the control of Balkans, Istanbul and straits. As a result of it, Black Sea was becoming as Russian lake. With this agreement, Ottoman Empire stayed in a difficult situation (Zia, 1975).

This situation scared the British Empire. Because of the conquest of Russia in East Anatolia did not benefit the British in the Balkans, East coast of Mediterranean and Asia. In response to this, British Empire suggested particular support to the Ottoman Empire. Ottomans lost power and accepted British Empire's help suggestion and 4 June 1874 agreements was sign between Ottomans and British. According to the

agreement ,British Empire would protect to Ottomans from other powerful countries and Cyprus Island would be informally British Empire. The main aim was British Empire completely conquest to Cyprus island. In 12 July 1978 British flag was hoisted in the island and it was the starting of the British administration in the island (Schaar et all, 1995).

In 1914-1918 First World War, Ottomans became at war with Great Britain alongside Germany. Due to this reason Cyprus was given to Britain Empire. Until 1925, British Empire administrated with high commissioner to the island. After 10 March 1925 Island was posted as a British Colony by British Empire and started to assign governor to the island. Following this, secretary of governor, lord advocate, were instituted. In this period island was assigned to six administrative regions, which were Nicosia, Famagusta, Larnaca, Limassol, Bafhos and Kyrenia (Serter, lecture book of history of Cyprus).

During this period, still Greek Cypriots were realizing Enosis. In 1931, while tax issue was discussion, Greek Cypriots were alleged about tax issues and complaining with British administration. This event known as the Revolt of 1931. During the event, government house was burned as well. At the end of these events, many rebels were arrested. Therefore British suppressed the revolt in a short time (Serter, lecture book of history of Cyprus).

In spite of attitude of Greek Cypriots, after the rebellion Turkish Cypriots started to organize to defend their rights.

With the concluding treaty of Zurich and Londra agreements, foundation of Republic of Cyprus was started. 16 August 1960 agreement was signed and island became independent republic. According to agreement while Greece became guarantor of Greek Cypriot, Turkey became guarantor of Turkish Cypriot. In newly formed government Primate Makarios was selected president of the republic and Dr Fazıl Küçük became vice president of Republic of Cyprus. During this period Turkish and Greek Cypriots were living together (Serter, lecture book of history of Cyprus).

However, after the establishment of Republic of Cyprus government, there was inter-communal strife in Cyprus between Turkish and Greek Cypriots. In 1963, due to inter-communal strife in Cyprus many Turkish Cypriots were exposed to attack from the Greek Cypriots. Attacks were continued by Greek Cypriots during this period. 21 December 1963 was the starting of the massacre of Greek Cypriots in the island. Collisions are starting 1963 up to 1967 in different regions such as Nicosia, Larnaca, Limasol, Baf, Geçitkale-Boğaziçi. For this reason, many Turkish Cypriots are started immigrate to safety areas (Serter, lecture book of history of Cyprus).

In response to this offensive dealing, Turkish Cypriots are established the Turkish Cypriot administration for defensing their rights. While Turkish Cypriots are protect themselves, Greek Cypriots were not abandoned their main idea which is the Enosis. Whenever possible they attached to Turkish Cypriots. For reconciliation bilateral and quintet discussion accrued but not brings to successful conclusion.

The main aim of Greek Cypriots was uniting the island with Greece. In 15 July 1974, once again they attempted to assault. This time, Greek Cypriots are associated with Greece for achieving their main ideal. As a result of this behavior of the Greek and Greek Cypriot, Turkey conducted with England and offer to interfere with British to island. British Empire was not accept this suggestion and then Turkish Military interfered (under the provisions of the Treaty of Guarantee of the Republic of Cyprus) alone.

With Turkey's invasion in 1974, island Turkey occupied the northern part of the island. After the 1974 peace operation, Turkish Federated State of Cyprus was declared as a first step towards a future federated Cypriot state in 13 February 1975. It was the turning point of the Turkish Cypriots.

During the time, negotiation process between Turkish and Greek Cypriots was progressed. However Greek Cypriots are not compromised association. In 13 may 1983, Greek Cypriots went to United Nations parliament with the one-sided decision. This situation became break point of Turkish Cypriots and decided to established independent Turkish Republic Northern Cyprus government. Island divided in to Turkish-Cypriot North and Greek-Cypriot South and then Turkish community formed Turkish Republic of Northern Cyprus (TRNC) in 15 November 1983
(URL 11).

After the declared Turkish Republic of Northern Cyprus (TRNC) dialogue and negotiations between Turkish and Greek Cypriots unified the North and South before

EU entry. After 30 years borders open between North and South Cyprus on 23 April 2003, following the Turkish-Cypriot Authorities' ease the border restrictions. Following this process, twin-referendums on uniting the island under the UN Annan's Plan and accepted by Turkish-Cypriots, but rejected by Greek-Cypriots. Island (effectively Greek-Cypriot Southern Cyprus) becomes a member of the EU (URL 11).

3.2 Development of Mass Housing in North Cyprus

In history, island was controlled over by various civilizations as it mentioned above. With the industrial revolution in the world, rapid growth population caused housing need in the island as well.

British period was the break point of the mass housing development in the island. In that period the first mass housing project developed which is called Samanbahçe Urban Dwelling in Nicosia. Along with this project William Caruana's Row Houses for Subsidized Workers (Standard Kaymaklı Houses) in Nicosia, Police Public Row Mass Houses in Kaymaklı and CMC workers' housing was built in Lefke (Hoşkara et. all, 2009).

CMC Mass Housing in Lefke

Figure 43. CMC Mass Housing in Lefke

Republic of Cyprus was established first rule and plan in 1960. In this period government constructed apartments but big part of the housing construction constructed by private sector (Özderen, 2001).

Due to war, between 1963-1968 construction activities was decreased from Turkish Cypriot. People started to immigrate to safe areas. Immigrants who are immigrated from south to north part of the island demanded housing. For solving homeless issues in 1965 Refugee houses which are known Göçmen houses are constructed (Orçunoğlu, 2006).

In addition to this, according to data from Gazioğlu (1996) during this period (war period) some people immigrated to other countries. Although this, some of them stayed in the island and immigrated to Nicosia, Famagusta, Kyrenia, Larnaca, Limassol, Paphos. This situation appeared housing demand in the island.

In order to this, Refugee houses started to constructed for upgrading living conditions in between 1965-1971 at Nicosia, Famagusta, Kyrenia, Larnaca, Limassol and Paphos for refugee families. There are 1,513 units are constructed; 247 of them have one bedroom while the rest have two bedroom. Area of these houses are ranged 46m^2 to 70m^2 (Gazioğlu, 1996).

Table 1. Houses Built for the Refugees (by Year)

Years	**1966**	**1967**	**1968**	**1969**	**1970-71**	**Total**
No. of Units	130	206	512	424	241	1,513
(Gazioğlu, 1996)						

Table 2. Houses Built for the Refugees (by Type)

Floor area (m2)	70	60	54	53.5	46	46	Other	**Total**
No. of Bedrooms	2	2	2	2	2	1	2	
No. of Units	8	580	133	110	392	247	43	1,513
(Gazioğlu, 1996)								

Table 3. Houses Built for the Refugees (by District)

Districts	**Units**
Nicosia	901
Famagusta	33
Kyrenia	111
Larnaca	116
Limassol	120
Paphos	232
Total	1,513
(Gazioğlu, 1996)	

After wars (1963-1974) island was divided in to two (Greek-Turkish Cypriot). The political division of the island is caused immigration again. While Turkish Cypriots are immigrated south to north, Greek Cypriots are immigrated north to south. This situation is caused population movement and housing need on both sides. The number of Turkish Cypriots (immigrants) is less than number of the Greek Cypriot immigrants and thus, little new construction was build late 1970 and early 1980. Turkish Cypriots are settled in North part of the island in time (Gazioğlu, 1996).

Immigrants who Immigrate during the War

(from Esentepe archive)

Figure 44. Photographs of Immigrants

Main development of mass housing construction started after 1974 when Turkish Cypriots established their government in 1983. There are many mass housing units were constructed north part of the island (Hoşkara, 1999).

Changing needs (social, economic and cultural) are changed housing understanding accordingly social, economic and cultural differences in society. It caused housing need in North part of the island. Therefore in 1978 government was forced intervene in housing market and introduced a 'Social Housing Law' in this period. After 1980's there are many social housing project constructed as mentioned before. Social housing projects in Nicosia, Famagusta, Kyrenia and Güzelyurt are significant examples of the mass housing developments in the island. In addition, with the 'Social Housing Law' more than 3,000 social housing units are constructed by both government and housing cooperatives in the North part of the island (Gazioğlu,1996).

		
Social Housing in Kyrenia	Social Housing in Famagusta	Social Housing in Güzelyurt
Department of Social Housing, Nicosia, TRNC		

Figure 45. Social Houses In North Cyprus

Development of housing has become second turning point of mass housing development after the Social Housing Law which is enacted in 1978 in North Cyprus.

After Turkish Cypriots established the Turkish Republic of North Cyprus (TRNC) in 1983, government wanted to reorganize political, social and economic context of island. Accordingly this, changing societal, political and economic phenomenon is caused housing need in society. Government constructed mass houses for low income people for covered housing demand. State social houses are constructed between 1984 and 1992 for solving this issue. Mass houses that built between 1984 and 1992 in order to income level of people and new couples for preventing urban-rural immigration by government (Gazioğlu, 1996).

According to income level of people, houses which are built in 1986 are designed tree types such as 100 m^2 ,85 m^2 and 60 m^2 for provided ease of rent payments (Hoşkara, at all, 2009).

Beside this, number of universities were established in the major settlements of North Cyprus such as Nicosia, Famagusta, Kyrenia for development of Northern part of the island in order to economic, social, political facts. Therefore demand for housing and accommodation was increased and number of houses was constructed for students and low and middle income people (Yorucu & Keleş, 2007).

According to Gazioğlu (2007) government was not constructed mass houses from 1980 until June of 1998. Mass housing projects are built by cooperatives and TRNC Ministry of Housing between these years. Totally 3372 mass housing units constructed in between 1980-1998 by co-operative and TRNC Ministry of Housing Department. 2722 mass housing units constructed by TRNC Ministry of Housing and

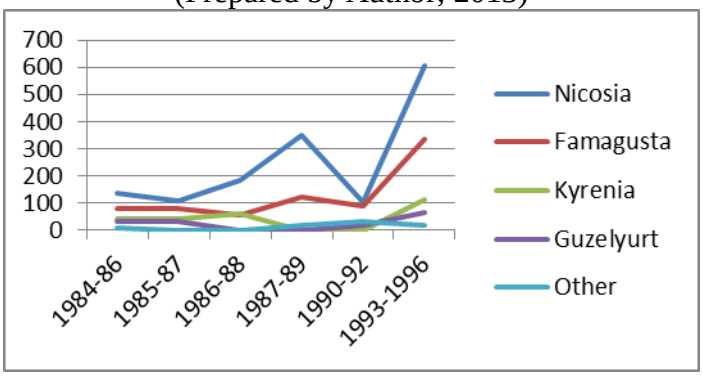
650 units are constructed by cooperatives such as Türk-Sen, Teachers' cooperative, Police cooperative, Security Forces cooperative and Soyak cooperative.

Table 4. Social Housing Schemes by Cooperatives in Nicosia

Name of Cooperative	**Construction Period**	**Duplex**	**Apartment**	**Total**
Is-Coop & Türk-Sen	1983-89	330	30	360
Teachers' Coop.	1983-85	136	32	168
Police Coop.	1984-86	40	-	40
Security Forces Coop.	1984-86	-	32	32
Soyak Coop.	1989-1890	-	50	
TOTAL	**556**	**94**	**650**	
Department of Social Housing, Nicosia, TRNC.				

As it is understood that from British period until war there was rapid acceleration the number of mass housing. As well as in 1980 until 1998 mass housing construction increased after war or established of TRNC in 1983. The main difference was in British period when all units were constructed by government. In contrast after 1980's units were constructed by both cooperatives and government.

Table 5. Distribution of Number of Mass housing in Settlements of North Cyprus. Based on State Social Housing Projects in North Cyprus
(Prepared by Author, 2013)



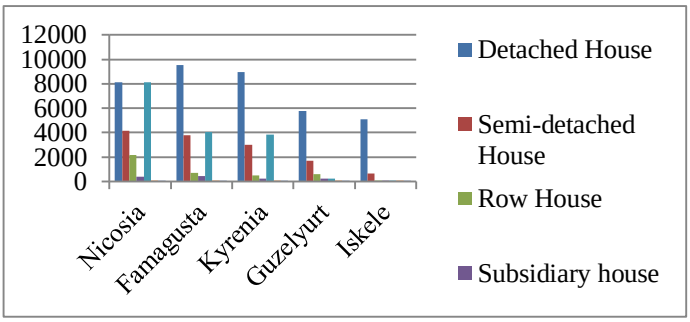
It was clear that mass houses constructed in each districts especially main cities of the Northern part of the island. During the periods the great number of mass houses constructed in Nicosia from 1984 until 1996. As it is understood from table 5 the number of mass houses are almost redoubled in Nicosia when it is compared with other region in North Cyprus.

Table 6. Distribution of Housing Units by the Construction Period

Period	Rate %
British Period (before 1960)	% 19.0
Cyprus Republic Period(1960-1963)	% 03.8
1963-1974 Period	% 12.7
Cyprus Turkish Federation (1974-1983)	% 08.9
TRNC Period (After 1983)	% 55.7
(Keleş, 1998)	

Over the time, number of types of mass houses are increased as well. In the beginning the first mass houses (Samanbahçe) was row type of mass houses. In time, it developed and took different form such as detached, semi-detached etc. in the island. Until 1980's (before 2000) mass houses are designed row type, semi-detached type or apartment. For example while mass houses are row type in Nicosia (Samanbahçe), after 1980 mass houses are constructed both row and semi-detached type such as Türk-Sen mass houses (semi-detached type) and social housings (row type). As can be seen in table 7 there are different types of mass housing units constructed in North Cyprus during the history.

Table 7. Number of Housing Units By their Types in General Today
(Prepared by Auothor,2013 based on Turkish Republic of North Cyprus, Department of Interior-2006 census data results)



During the late 1990 and 2000's housing understanding was changed. Especially after Annan plan (which was first introduced by the United Nations in 2002) period the number of mass houses are suddenly increased. Almost mass houses are constructed by private sector. As Hoşkara and Hoşkara (2007) mentioned this action is caused 'explosive construction boom'. Because of political rules, economic values etc. constructors are aimed to construct many mass houses. This situation caused a major impact on the construction sector, as well as the property and housing market in Northern Cyprus.

3.4 Evaluation of Mass Housing in Nicosia

Each civilization is contributed architectural development of island. During the time because of the capital city of island mass houses are built in every period. According to Özderen (2001) from the British period up to TRNC goverment 41.8 % mass houses constructed. After TRNC period mass housing construction is continoued up to date (2000's years).

According to data (table 14) the most mass housing construction was built in capital city of Nicosia. Due to the most developed city, this is significant point that observed evoluation of mass housing construction in North Cyprus. For this reason evaluation of mass housing in Nicosia is essential issue for achived hard evidence.

In this section generally mentioned mass housing project in Nicosia through history and than focused on semi-detached and attached/row mass houses with the giving detail information about semi-detached and attached/row mass houses.

3.4.1 Period Between 1878 – 1960

In this period, British rule had control over in the island. It is possible to evaluated two parts in order to the first (1878-1930) and the second British Periods (1930-1960) during the British Period. In first part of the British period British Colonial life style was dominated until 1920's. There were significant economic changes which is resulted transition in agricultural to commercial economy (Pulhan & Atun, 2009).

As well as building architecture, these socio-cultural and technological transformation played an important role on human environment. With the development of technology administrative and new public offices were built. It caused immigration from rural to urban areas. Urbanization of the city effect socio-cultural structure of society as well. Transformations took place with different user profiles in society.

According to Salihoğlu (1996) with the urbanization of city bureaucrats such as police and soldier middle and high class society started to come to island. However,

generally Cyprus culture and architecture was not changed by the British Culture. Only old buildings which were constructed in Ottoman period and other periods were repaired and made addition. British started to construct bureaucrat dwellings/administrative offices which is coming from middle and high income group such as polices.

In this period user profile was more social than previous period. Human requirements were increased and this alterations were reflected to indoor spaces of housing as well.

Transformations played a significant role on development of mass housing construction in Nicosia. There were two mass housing projects construced in this period. One of them Samanbahçe Urban Dwelings, the other one is Standard Kaymaklı Houses.

Samanbahçe Urban Dwelling is the first mass housing development in the island as well in Nicosia. Mass houses are started to built in Ottoman period. With the changing government of the island British are controlled over on the island. In the early British Colonial period Samanbahçe mass houses are developed 1930's by the British (Vehbi & Hoşkara 2009).

This urban dwelling was constructed for low-income families for covered their needs. There are 70 one-storey units,to complete the blocks eight units were added later,in 1950's with slightly different space organization. These units are arranged four larger

and three small blocks along narrow street. Units are arranged arround the fountain as can be seen figure 46.

Plan organization of houses are single storey row houses that consist of two rooms around the enterance hall and kitchen, (hamman) bathroom and WC are at the outside near the courtyard.The total area of each house is 85 m^2.

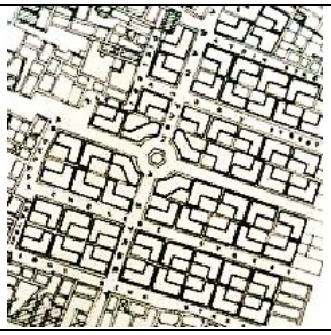
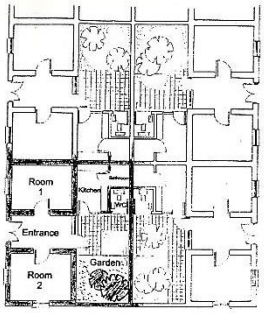
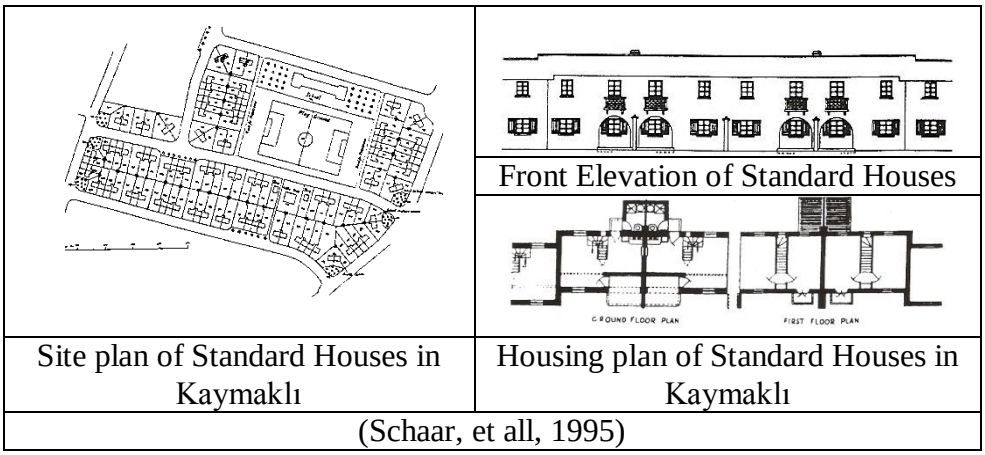
	
Site plan of Samanbahçe Social Housing	Housing plan of Samanbahçe Social Housing
(Oktay, 1999)	(Efkaf)

Figure 46. Site Plan and Housing Plans of Samanbahçe Row House

Standard Houses in Kaymaklı were another mass housing projects in British period. It was constructed in 1946 by the Public Works Department by William Caruana who was an architect of PWD. Houses were construced for government employees and workers such as policies (Schaar, et all 1995).

As mentioned above, during the urbanization development, administrative offices were built in Nicosia. Due to Standard houses were designed for housing need of workers who were working in administrative offices.

According to Özay (2005) British empire reflected modernist life style with designing functionalist houses. As well as houses, social facilities such as school, coffeehouse, park etc. was designed for users in this area support with new technology and new materials.



	Front Elevation of Standard Houses
Site plan of Standard Houses in Kaymaklı	Housing plan of Standard Houses in Kaymaklı
(Schaar, et all, 1995)	

Figure 47. Site Plan, Housing Plans and Front Elevation of Kaymaklı Standard Houses

Typology of houses are classified into two such as attach (row) houses and semi-detached houses in this urban area. Row houses designed two types such as six standard block attached to each other and four blocks attached to other. Another type is a semi-detached (twin) house which is two identical blocks attached to each other. Each unit has open and semi open space such as semi open enterance due to climatic conditions.

	
Attached/Row Houses	Six units attaced to each other
	
Attached/Row Houses	Four units attaced to each other
	
Semi-Detached houses	Two units attaced to each other

Figure 48. Types of Standard Mass Housing form in Kaymaklı

Plan organization of houses, are double storey attached/row or semi-detached houses that consist semi-open entrance hall, living room, kitchen, bathroom/hammam and toilet and forecourt and backyard on the ground floor. There are two bedrooms and one of them has balcony on the first floor plan. The total area is each houses 90 m^2.

	
Front facade of House	Back Facade of house

Figure 49. Original Building Form of Standard Houses

Form of the Mass Housing, all units have standard size and compact form.Therefore it is called standard houses.

Following these mass housing projects, in between 1950-1957, British Government constructed Police Public Row Houses in Çağlayan for Turkish and Greek Cypriots.

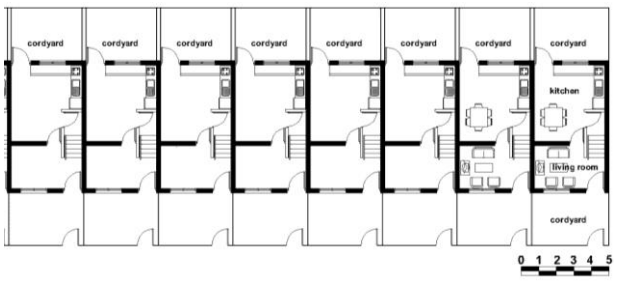
Typology of houses are two storey row type mass houses. Each unit has courtyards (foreyard and backyard). Two linear forms which is consist eight units are located opposite to each other.

Public Polis Mass Houses in Çağlayan

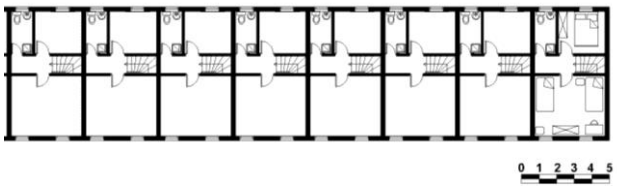
Figure 50. Public Police Mass Houses in Çağlayan

Form of the Mass Housing, all units have standard size and compact form. Eight units are attached to each other.There are totaly sixteen units of houses.

Plan organization of houses are two storey attached/row houses that consist living room, kitchen and courdyards at the ground floor.Two bedrooms (one of them master room) and bathroom with toilet.Total area is 90 m^2.



Ground floor Plan of Police Public Row Houses



First floor Plan of Police Public Row Houses

Figure 51. Original Plan of Public Police Houses

3.4.2 Period Between 1963-1974

In this period, due to opposite view of the both Greek and Turkish Cypriots resulted separation of settlements of each society. Due to inter-communal disputes, forced to Turkish Cypriots to move their house. People started to immigrate safety area which is enclaved by the Turkish Cypriots. It was the first immigration movement of society in the island (Atun & Pulhan, 2009).

During this period poverty was dominated in society (Turkish Cypriots). People who immigrated to their house were temporarily living in tented, warehouses, school or other govenment buildings.This situation affected user profile as well. Low income group such as immigrant people was started to appear. Dweling was became shelthering function for society. Because of wars the first aim was survived for the society. For this reason social activities are not important for people.

Due to high demand of housing needs Turkish Cypriots are started to organize politically and socio-economically organization. Thus, established Turkish

Communal Chamber. The aim of the organization is to demand housing needs to refugees (Gazioğlu, 1996).

As well as other region of the island Refugee Houses (Göçmenköy Row Houses) was constructed for demanding housing needs to Refugees in Nicosia/Göçmenköy. Because of emergency housing needs and economic blocade imposed of Greek Cypriot primitive building materials such as gypsum plaster, earth brick and corrugated iron sheets were used while it is constructed (Gazioğlu, 1996).

<table>
<tr><td rowspan="2">  </td><td>  </td></tr>
<tr><td>  </td></tr>
<tr><td>Side plan of Refugee Mass houses</td><td>View of Reugee/Göçmen Row Houses in Nicosia</td></tr>
<tr><td colspan="2">Department of Social Housing, Nicosia, TRNC.</td></tr>
</table>

Figure 52. Site Plan of Refugee Mass Houses and View of Refugee Houses in Nicosia

Typology of houses are two storey row/attached houses. Row houses organized guardruplet (four units are attaced to each other). Each house has courdyard (forecourt-back yard or forecourd-backyard-sideyard). There are two types of row houses. Whilst one of them has one bedroom, other one has two bedroom. Form of the Mass Housing, all units are formed compact simple geometric form.

	
View of Houses	Arrangement of building forms

Figure 53. Building form of Refugee Row Houses

Plan organization of houses are two storey row houses that consists of a living room, kitchen and storage (under the staircase gap),toilet and courtyards on the ground floor. There are two bedrooms on the first floor.

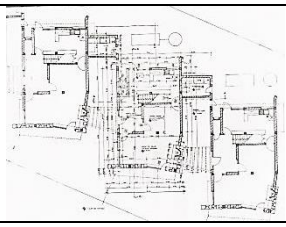
In 1970, life conditions are started to become better than war period. While Refugee houses are emergency constructed less considering the lifestyle of users in 1965, private mass housing project which is Efruz Row Houses started to construct considering the social and environmental issues of society in 1970.

Efruz Mass Houses or Müdüroğlu Houses are constructed in 1970 at Kumsal Quarther in Nicosia by Ahmet Vural Behaeddin who is well known Turkish Cypriot architect in the island.

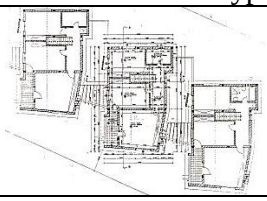
This houses are indicated of succesful mass housing construction in the island. While houses are designed, user profile considered. Units are designed for high income housholds who has high quality life standards.

Typology of houses are two storey row houses. There are three different plan organization of Efruz Houses as can be seen figure 54 each unit has courtyards (forecourd and backyard) of houses.

Site plan of Efruz Housing in Kumsal



Ground Floor Plan Type A



First Floor Plan Type A

Front Elevation of Efruz Houses Type A

(Ahmet Vural Behaeddin Archive)

Figure 54. Original Site Plan, Plan and Elevation of Efruz Houses.

Form of the Mass Housing the houses designed with simple geometric forms which is in a way that locked to each other as a pieces of puzzle (figure 59). Due to detailed expresses nature of the structural form and materals is a significant architectural design of mass houses.

Plan organization of houses are two storey row houses that consist entrance hall, living room, kitchen, toilet (wc), laundry, garage and courtyard on the ground floor. There are three bedrooms (one of them master bedroom), bathroom with toilet and

corridor which is transition space to other spaces on the first floor. The total area of each house is 200 m^2.

3.4.3 Period Between 1974-1983

Starting from this year (in 1974), due to political situation, the island officially divided into two part (Greek and Turkish Cypriots). This caused second population wave after the 1963 period. With the population transfer between both sides, specially south part, settlement order was distored. Actually housing need more than south side than North part of the island. Therefore less number of mass houses were constructed and repaired destroyed houses for maintaining order in North part of the island (Christodoulou, 2001).

After the Refugee houses, second mass housing projects are constructed between these years by cooparatives. Türk-Sen cooparative was constructed mass housing project in Taşkınköy/Nicosia by cooparative end of the period.

As well as apartment block, Türk-Sen cooparative (Trade Unions Federation) constructed two storey semi-detached/twin houses. According to interview with users of semi-detached Türk-sen Houses, construction was started in 1981 and end up in 1983.

Parallel with this, statistic results represented, it continoued to construction until 1989. Altough infomations are remarked Türk-Sen construction became between

1983 and 1989 years (Gazioğlu, 1996), houses are started to construct from 1981 up to 1989.

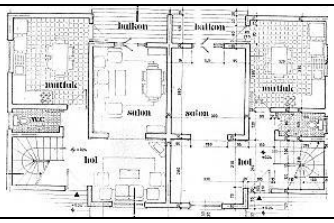
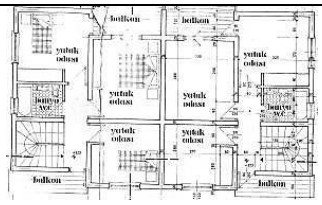
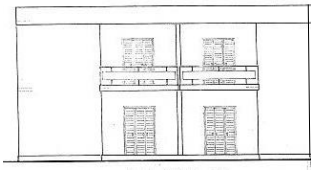
<table>
<tr><td>  </td><td>  </td></tr>
<tr><td></td><td>Ground Floor Plan</td></tr>
<tr><td></td><td>  </td></tr>
<tr><td>Side plan</td><td>First Floor Plan</td></tr>
<tr><td>  </td><td>  </td></tr>
<tr><td>Front facade of Turk-Sen Semi-Detached houses</td><td>Back facade of Turk-Sen Semi-Detached houses</td></tr>
<tr><td colspan="2">Department of Social Housing, Nicosia, TRNC</td></tr>
</table>

Figure 55. Türksen Semi-Detached Houses in Taşkınköy.

Typology of houses, are two storey semi-detached houses. Each house has open space (courdyards) around the three sides of the building (front-back-side).

Form of the Mass Housing is a compact two idendical form which are attached to each other and shared common wall.

Plan organization of houses, are double storey semi-detached (twins) houses that consist entrance hall, living room, dinnig room, kitchen, toilet and cordyards at the

ground floor. At the first floor there are three bedrooms (one of them master bedroom), balcony and bathroom with toilet. Total area is 120 m^2.

3.4.4 Period Between 1983 – 2000

After the established Türkish Republic Northern Cyprus Government, mass housing construction rapidly increased. In this period as well as government, cooparatives are constructed mass houses in the island.

According to data there are 360 mass houses constructed by Is-Coop and Türk-Sen organization between 1983-1989 and 290 units are complete by Teachers' Coop., Police Coop., Security Forces Coop., Soyak Coop in Nicosia (Gazioğlu, 1996).

Teacher Houses are constructed in between 1983-1985 by Teachers' cooparative for their members. Cooparative contstructed both apartment blocks and row houses. Typology of row/attached houses are two storey that have forecourt and backyard open spaces.

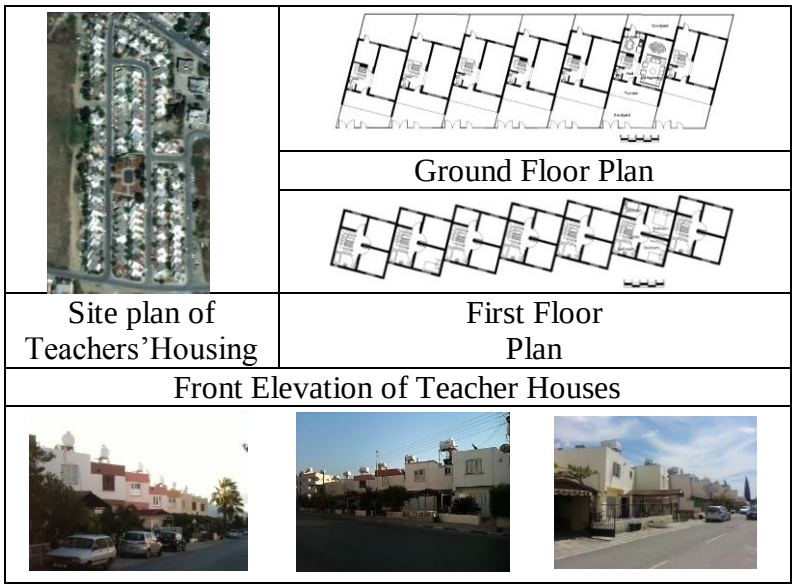


Figure 56. Original Plan of Teachers' Houses

Form of the Mass Housing is a compact two idendical form which are attached to each other. Each unit attached to each other as a pieces of puzzle. Units are arranged as one of premier and the other at the rear building form.

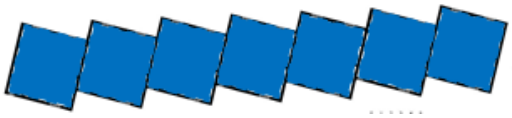
	
View of houses	Site view of houses (one of premier and the other at the rear building form)

Figure 57. Arrangement of Building Form of Techears' Row houses

According to interview with housing user, main mass housing project was prepared and applied in England, as well as same project applied in Nicosia.

Plan organization of row houses consist of terrace (veranda),entrance hall, living room, dinning room, kitchen, toilet and courdyard at the ground floor plan.There are three bedroom (one of them master bedroom) and bathroom with toilet at the first floor.

Police Houses in Göçmenköy is another semi-detached mass houses project which is constructed by Police cooparative between 1984 and 1986. There are 40 two storey semi-detached mass housing units constructed in Nicosia. Generally this houses designed for members of police cooparatives (Gazioğlu,1996).

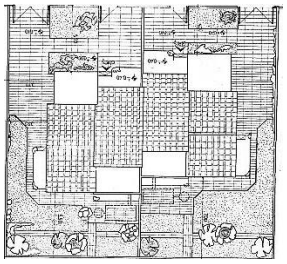
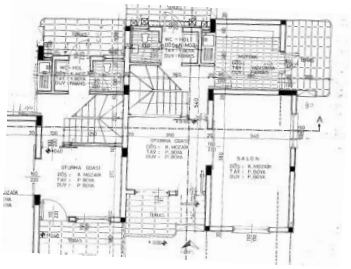
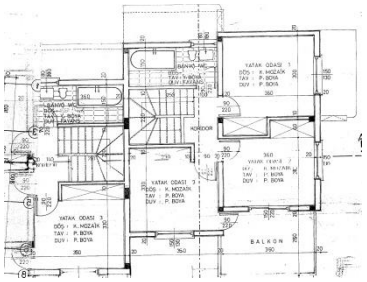
		
Top view of houses	**Ground Floor Plan**	**First Floor Plan**
Department of Social Housing, Nicosia, TRNC		

Figure 58. Original plan and site plan of Police semi Detached mass Houses in Göçmenköy

Typology of houses are two storey semi-detached houses. Each house has open space (courdyards) around the three sides of the building (front-back-side).

Form of the Mass Housing is a compact two idendical form which are attached to each other. As can be seen figure 59 units are one of the premier and the other at the rear.

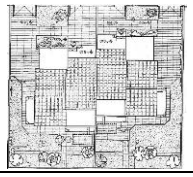
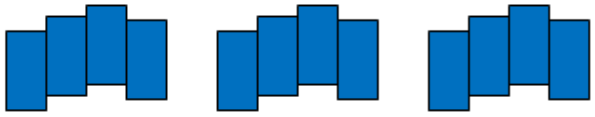
	
Site view of houses (one of premier and the other at the rear building form)	

Figure 59. Arrangement of Building Form of Police Houses

Plan organization of houses are double storey semi-detached (twins) houses that consist entrance hall, living room, dinnig room, kitchen, toilet and cordyards at the ground floor. At the first floor there are three bedrooms (one of them master bedroom), balcony and bathroom with toilet.

Soyak Semi-detached Houses are started to construct 1980's and end up 1990 by Soyak cooparative to cooparetive members. There are 50 one storey semi-detached mass houses constucted in Nicosia. Typology of houses are one storey twin/semi-detached mass houses. Each unit has open space around it (front-back-side).

Site plan of Soyak Houses

First Floor Plan

Front Elevation of Soyak Houses

Figure 60. Original Plan Organization of Soyak Houses

Form of the houses are two idendical simple geometric form attach to each other. Only high of building form is different than to each other. One unit is higer than other one.

View of Houses

Front Elevation of Soyak Semi-Detached Houses (one unit is higer that the other one)

Figure 61. Original Arrangement of Building Form of Soyak Houses

Plan organization of houses Plan organization of houses are single storey semi-detached (twins) houses that consist terrace, entrance hall, living room, dinnig room, kitchen, bathroom with toilet and there are three bedrooms (one of them master bedroom), courdyards at the ground floor.

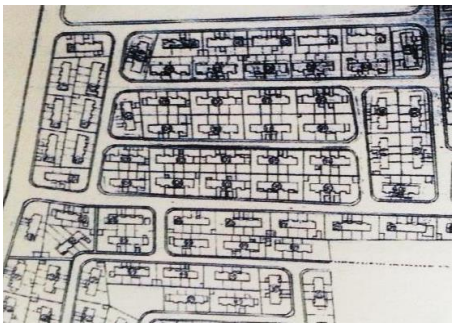
As well as, while cooparatives are constructed mass housing project (both apartment blocks and Dublex row houses) in this period, government implemented mass housing projects three different stages in different parts such as Nicosia, Famagusta, Kyrenia, Güzelyurt and other regions. According to income level of users housings are designed 100 m^2 , 85m^2 or 60m^2 in order to provide ease rent payments (Hoşkara, at all, 2009).

According to Gazioglu (1996) 'Government programmes have been more successful than those of cooperatives in terms of financing, the number of units built, coordination, administration, design, quality and timely delivery.'

From his sentences, it is understood that Governments mass housing projects are more succsesful than Cooparatives' housing project.

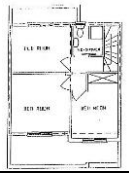
In Nicosia there are two row Social mass housing projects implemented. One of them State Social Housing in Taşkınköy the other one is State Social Housing in Göçmenköy.

State Social Mass houses in Taşkınköy are two storey row houses that consist open spaces back and front side of each unit. Units which are located corner of the side have more open space than oher units which is located in between corner units.



Site plan of Government Social Housing in Taşkınköy/Nicosia

Ground Floor Plan



First Floor Plan

Front Elevation of Houses Today

Department of Social Housing, Nicosia, TRNC

Figure 62. Original Plan Organization of Government Social Housing in Taşkınköy

Typology of houses are typical two storey row houses. Four units are attaced to each other as can be seen figure 63.

View of row houses

Arrangement of building forms

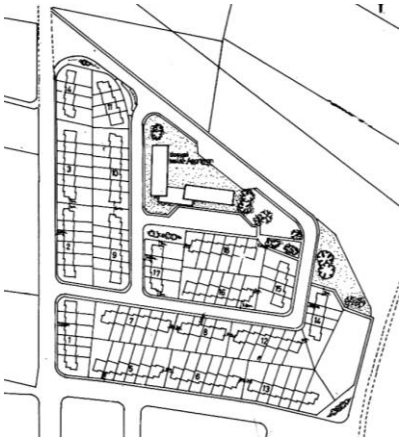
Figure 63. Arrangement of Bulding Form of Government Social Housing

Form of the houses are simple geometric forms which is attached to each other horizontally. In this project units are organized into four group. As can be seen figure each module occured by four units.

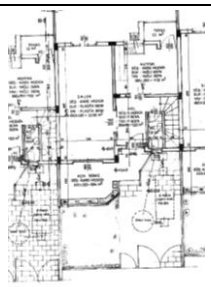
Plan organization of mentioned houses are double storey row houses that consist living room, kitchen, toilet and cordyards at the ground floor. At the first floor there are three bedrooms (one of them master bedroom), bathroom with toilet.

State Social Mass houses Göçmenköy is another example row/attached mass houses in Göçmenköy/Nicosia. As well as social houses in Taşkınköy, houses are two storey and have open spaces(courtyards) front and back side of units. Some units which is located corners have more open spaces (front-back-side).

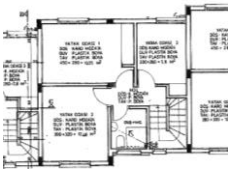
As well as social houses in Taşkınköy, form arrangement of housing form is same with this mass housing project. Houses are occured simple geometric forms which is attached to each other horizontally. In this project units are organized into four group. As can be seen figure each module occured by four units.



Site plan of Government Social Housing in Göçmenköy/Nicosia



Ground Floor Plan



First Floor Plan

Front Elevation of Houses

Department of Social Housing, Nicosia, TRNC

Figure 64. Original Plan Organization of Government Social Housing in Göçmenköy

View of row houses

Arrangement of building forms

Figure 65. Arrangement of Building Form of Government Social Housing in Göçmenköy

Plan organization of mentioned houses are double storey row houses that consist terrace, enterance hall, living room, kitchen, toilet and courtyards at the ground floor. At the first floor there are three bedrooms (one of them master bedroom), bathroom with toilet.

3.4.5 Period After 2000

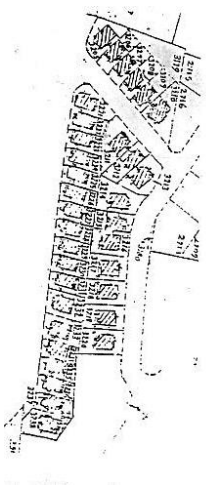
The Annan Plan is a kind of agreement that it was a United Nations proposal to resolve the Cyprus dispute. The proposal suggested to restructure the Republic of Cyprus as a 'United Republic of Cyprus', which would be a federation of two states. It was revised a number of times before being put to the people of Cyprus in a referendum. Greek Cypriots rejected the proposal by 76%, while 65% of the Turkish Cypriots accepted it. Annan plan was a critical point of in the island. It was effective rapid construction in the island as well. Specially after 2003 it is observed that because of some rule directed to constructors to constructed mass houses more than human need in the island (Hoşkara & Hoşkara, 2007).

In present day people have economic and social freedom. Accordingly this life style of the family were changed when it compared with old periods. Human requirements, activities are increased in present day. In this period there are different kind of user profile such as worker, officer, police which are coming from different income group appeared such as low, middle and high income group. Actually this issue affected indoor spaces of houses .

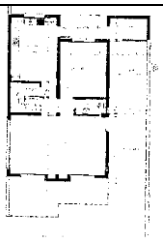
As well as other regions private sector constructed mass housing project in Nicosia. According to observation, there are less number of row type mass houses in Nicosia Private Yenikent Row Houses are one of the good example of row type of mass housing project in Yenikent/Nicosia.

Yenikent Private row houses are row type of mass houses designed by Kudruza in 2003. Houses are two storey row houses which is attached with garage to other of houses are ranged side by side and seperated garage. Each unit has open spaces.

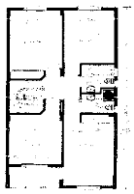
Houses are designed for high income class.Therefore spaces are arranged according to user profile. Plan organization of houses are two storey and consists of two living room (small and big), kitchen, bathroom, toilet (wc) and courtyard. At the first floor there are four bedrooms (one of them for master room). There is bathroom with toilet in the master bedroom. The total area is each houses 230 m^2.



Site plan of Private Yenikent Row Houses (department of title deed office)



Ground Floor Plan



First Floor Plan (Kudruza,2002)

Front Elevation of Houses

(Kudruza, 2002)

Figure 66. Original Plan Organization of Private Yenikent Row Houses.

Chapter 4

ANALYSIS OF MASS HOUSING IN NICOSIA

In this chapter general information will be discussed about selected cases and explained criteria of analysis. Based on this information, selected cases will be investigated and compared in terms of criteria.

4.1 Analysis of Selected Cases

Findings which have been observed in mass housing projects revealed that the housing forms and its spatial organizations are transformed in terms of reflection of user profile. Different user profile who lived in different period and came from different culture are represented variety features on the housing form. Cross-cultural diversity enabled to achieve tangible data on housings.

With the respect of these criteria mass houses are analysed in terms of user profile. In sub-chapther 2.3.2.2, features of criteria are mentioned which are family size, socio-economic status of the family and life style of the family. Based on these factors formal, functional and spatial transformations are discussed and explained in sub-chapter 2.5.2.

Selected mass houses are constructed in different period span. Five or four cases (mass houses) are selected for each period for observing alterions of spaces. Space

syntax method (justified graph) was used for analysed functional, formal changes and understanding spatial transformation of houses. As well as, during the observation photos are taken from interior end exterior space of housing and then they are collected in inventory which is prepared by author.

However some users did not let to take photos of interior spaces. For this reason spaces are drawn according to the interview of house owners and then reflected the plans of mass houses in inventory for achiving findings.

During the history there were row/attached and semi-detached/twin mass houses constructed in each period from British period up to day in North Cyprus. The most number of mass houses constructed in Nicosia as it mentioned previous chapther. In this respect, in this study row and semi-detached mass houses analysed in Nicosia. Accordingly fifty five examples (each group has 5 or 4 examples) which is constructed by both government and cooparetives were determined.

4.1.1 Spatial Transformation

Spatial transformation played important role for understanding alterations in dwelling. In this part selected Row and Semidetached mass houses are examined in terms of spatial relationship principles such as space within a space, interlocking space, adjacent space and spaces linked by a common space in the following.

4.1.2 Functional Transformation

As it is mentioned before functional transformation is related with use of space. Social factors are one of the significant and effective factor that changed use of

spaces or function of space according to their needs. Daily activities played important role on use of space. According to this spaces represented functional transformations. Family size, life style, economic statue of household are three basic factors that affected transformation of houses as it is mentioned above. All cases are affected from this criteria.

Justified graphs are used for understanding functional changes. Each number reffered to function/name of spaces as it is explained below.

1: Street, 2: Courtyard, 3: Living room, 4: Kitchen, 5: Dining room, 6: WC,
7: Bathroom, 8: Bedroom, 9: Balcony, 10: Terrace, 11: Laundry, 12: Study room, 13: Storage, 14: Changing room, C: Corridor, H: Hall, S:Staircase, ■:Transformations

4.1.3 Formal Transformation

In architecture it is not possible to seperate interior and exterior space. Both of them complete each other. Formal transformation is the indication of this explanation. Transformation of interior space is resulted with reflection of exterior facade of the building form. User profile is one of the main effective factors that enabled to observe changes on the builiding form.

Comparison between other types of transformation (spatial and functional transformations) is also made. It is clear that both tansformations are related with formal transformation. Transformation of funcional or spatial alteration of house, might be based on formal transformation.

In this part all transformations are disscused for each case group in terms of selected criteria which is collected from selected cases.

Period between 1878-1960

As it mentioned in the previous chapther there are three mass houses constructed in British Period. Samanbahçe Social Houses, Kaymaklı Standard Mass houses and Police public row houses in Nicosia which played important role on mass housing development on the island.

Transformation of Samanbahçe Row Houses

Spatial Transformation of Samanbahçe Row Houses, during the observation there are some spatial changes noticed in spaces of Samanbahçe Social Houses. These changes occurred according to users as houses were not fulfilling their demands. Therefore house owners preferred to change spaces according to their requirements. In this case it is possible to say, almost all houses changed the courtyard and placed different function in it. Due to this reason, space is located within a space.

Spatial transformations of selected five units are analyzed. Each house represented spatial alteration. All units are transformed as space within a space manner. Open space which is called inner courtyard is transformed and became closed space. Courtyard consists of space in it or it exactly changed as a closed space considering user profile/needs.

Functional Transformation of Samanbahçe Row Houses, in this case, almost all units closed the courtyard or changed it for different functions as it mentioned above. All changes are based on user's needs, generally, according to users, size of spaces

are not demand their reqirements. Also family size, living room, number of bedroom and dimensions of toilet and kitchen did not satisfy householders' demands. For this reason, inner courtyard became living room, bedroom, kitchen or toilet with bathroom in order to user requirements.

Another point is transformation of enterance hall, according to data that collected from cases, it is observed that entrance hall is transformed to living room by householders in terms of daily life activities of users (figure 67). Generally users spend their free time in living room. For this reason users emphasized this space and altered as a living room .

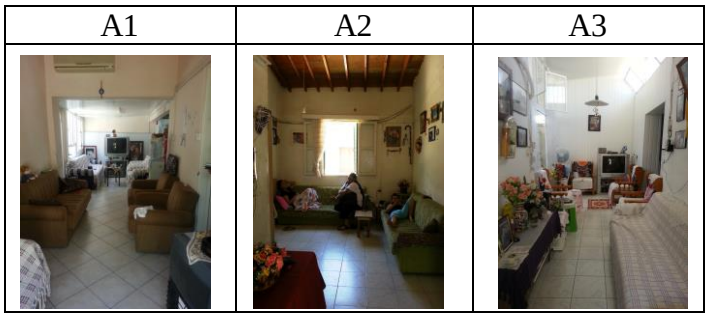


Figure 67. Examples of Functional Transformations of Space

Formal Transformation of Samanbahçe Row Houses, Samanbahçe urban dwelling is the most important evidence for observing mass housing development on the island. Over time, changing life conditions affected the building form as well. Based on findings of research (from the selected cases), it is observed that, similar formal transformation occured on the Samanbahçe building form. According to interview with householders, large household size, low income of family, directed to people need space in housing. For these reasons the owners increased dimension of spaces.

In general, inner courtyard of houses is transformed. As can be seen figure 68 generally all open spaces are filled and created spaces in each case. Out of open land of housing units, user had to added/located spaces in inner coutyard. While some families used inner courtyard as a living room or sitting areas and kitchen, in some cases user constructed bedroom in inner courdyard. Furthermore, some users completly transformed open space to close space, some of them used some portion of the land.

A1	A2	A3	A4	A5
				
Transformed courtyard to living room	Transformed courtyard to living room	Transformed courtyard to living room	Transformed courtyard to kitchen	Transformed courtyard to kitchen

Figure 68.Formal Transformation of Samanbahçe Row Houses

In this case, according to households, there are eight family members living in this house. For this reason two bedrooms were not enough for their hosting activities. Due to user requirements (large family size) a bedroom is added by users (figure 69).

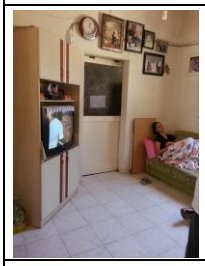
A2
 
Addition of Bedroom Instead of Inner Courtyard

Figure 69. Addition of Bedroom Instead of Inner Courtyard

Transformations of Samanbahçe Row Houses

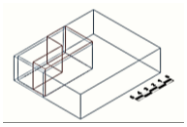
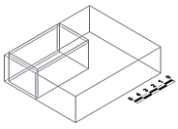
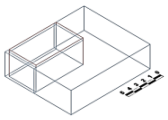
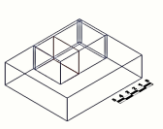
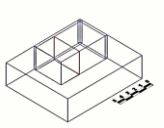
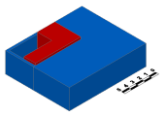
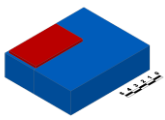
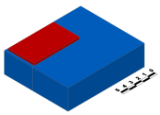
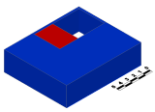
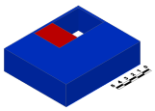
A1	A2	A3	A4	A5
				
Space with in a space	Space with in a space	Space with in a space	Space with in a space	Space with in a space
				

Figure 70. Spatial Transformation of Samanbahçe Row Houses

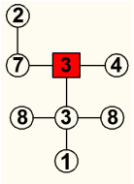
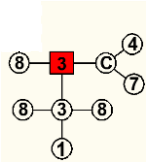
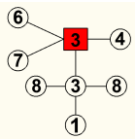
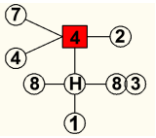
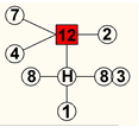
A1	A2	A3	A4	A5
				
Ground Floor Plan	Ground Floor Plan	Ground Floor Plan	Ground Floor Plan	Ground Floor Plan

Figure 71. Functional Transformations of Samanbahçe Row Houses

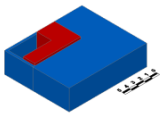
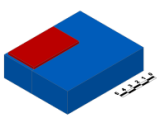
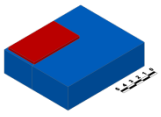
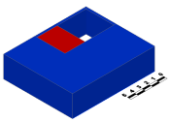
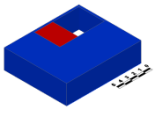
A1	A2	A3	A4	A5
				
Samanbahçe Row Houses				

Figure 72. Formal Transformation of Samanbahçe Houses

Transformation of Kaymaklı Standard Houses

Spatial Transformation of Kaymaklı Standard Houses, Standard Houses are another changed example in British Period. According to analysis almost semi-open spaces are transformed to closed space. Because of integrated surfaces between spaces, in this case all units are transformed adjacent spaces manner. Spaces are separated common surface.

Functional Transformation of Kaymaklı Standard Houses, **in** all cases there are serious resemblanences to each other. Like the previous case almost houses are enclosed semi-open enterance hall and changed location of kitchen. As ,it can be seen in the justiefied graphs of units, today, with the reflection of user profile, kitchen used as a living room.

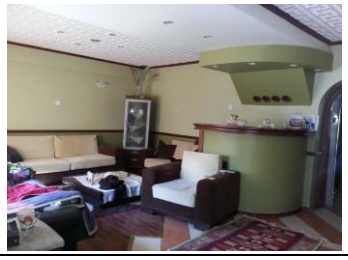
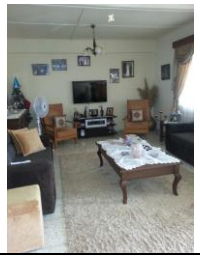
<table>
<tr><td>  </td><td colspan="2">   </td></tr>
<tr><td>B1</td><td colspan="2">B2</td></tr>
<tr><td>Transformed Kitchen to living room</td><td colspan="2">Transformed kitchen to bedroom</td></tr>
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>B3</td><td>B4</td><td>B5</td></tr>
<tr><td>Transformed Kitchen to living room</td><td colspan="2">Transformed Kitchen to living room</td></tr>
</table>

Figure 73. Functional Transformation Kaymaklı Standard Houses

In addition to this, in some cases due to old ages of users kitchen was used as bedroom. Closeness of facilities is a significant factor for accessibility of old people. According to interview of user of case B2 because of old age, she can not move easly and not use staircase. Therefore she prefered to locate bedroom on the ground floor. It is clear that, as it is understood from analysis user profile is played significant role on functional alterartion in housing.

Formal Transformation of Kaymaklı Standard Houses, in this case all houses are transformed. Formal transformation is observed in each cases. Because of effective role on size of family, life style of family and income level on the housing form, alterations appeared by households. Spaces are represente as additive and dimensional transformation in these cases.

In British period, semi-open enterance hall designed for providing climatic conditions and shading function of the building. It has functional values while it is designed. Due to large family size and attitudes of family, semi-open enterance hall transformed to closed space for providing to needs. Therefore, size of closed space is increased. Parallel with this, in these cases, almost semi-open enterance hall is covered and transformed to closed space. According to analysis, due to this reason housing units are represented dimensional transformation of housing units.

During the time, changing user profiles are resulted in transformation of building form. Parallel with this transformation, addition of space occured on selected cases as well.

B1	B2	B3
		
		
B5	B4	

Figure 74. View of Selected Cases of Standard Houses

According to analysis, the most common additive transformation is determined in front and back side of the building. In general, user enlarged living room through the front side of the building. As well as, all units are enlarged or added kitchen space or bedroom at the back side of the building. In addition to this toilet (which is squat toilet) are changed and enlarged space with putting bathroom and linked with corridor interior of the building. It is noted that, originally existing squat toilet was located outside of the building (in side the backyard). But, today it is covered and included in side of the building.

	
Front facade of Standard Houes	Back facade of the Standad House

Figure 75. Original Location of Toilet.

Transformations of Standard Kaymaklı Houses

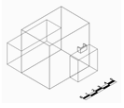
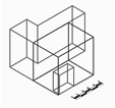
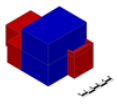
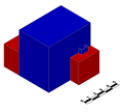
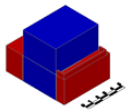
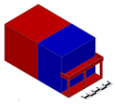
B1	B2	B3	B4	B5
				
Adjacent space	Adjacent space	Adjacent space	Adjacentspace	Adjacent space
				

Figure 76. Spatial Transformation of Standard Kaymaklı Houses

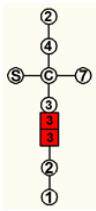
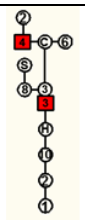
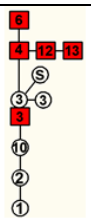
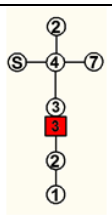
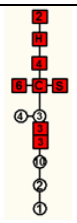
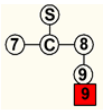
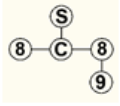
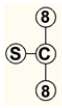
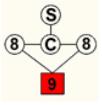
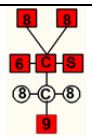
	B1	B2	B3	B4	B5
Ground Floor Plan					
First Floor Plan					

Figure 77. Functional Transformed Justified Graph of Kaymaklı Standard Houses

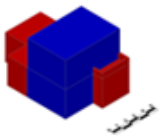
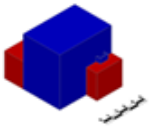
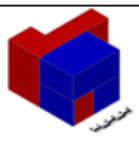
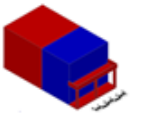
B1	B2	B3	B4	B5
				
Kaymaklı Standard Houses				

Figure 78. Formal Transformation of Kaymaklı Standard Houses

Transformations of Police Public Row Houses

Spatial Transformation of Police Public Row Houses, Police Public Row Houses are another example of row type mass houses in British Period. According to interview with users, in this case because of rules of Police cooperative and become public housing, there is not any spatial transformation in houses.

Functional Transformation of Police Public Row Houses, although cooperative did not let changing (demolished) the houses, users altered function of spaces at the ground floor. Living room transformed to kitchen as can be seen in Figure 79 below.

It is the indicator that user need caused changes in housings even they can not demolished physical elements of housing units.

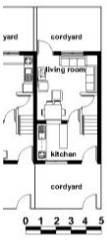
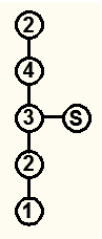
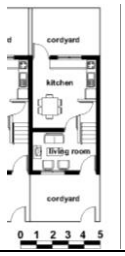
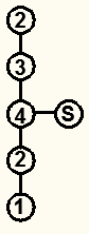
Original Ground Plan	C1
	
Functional Transformed Ground Plan	Transformed Justified Graph of Ground Floor Plan
	
Living room and kitchen transformed functionally	

Figure 79. Functional Transformation in Public Police Houses

	
View of kitchen	View of Living room

Figure 80. View of Functional Transformation in Public Police Houses

Period between 1963-1974

Transformations of Refugee Row Houses

Spatial Transformations of Refugee Row Houses, in this case two spaces are related between adjacent manners as can be seen figure 81. There is a division wall for divided spaces in interior space. Generally user changed entrance of toilet by using partition wall (figure 82). Before there was a corridor which is located near the staircase.

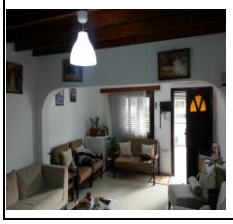
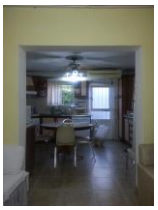
D1	D2	D3	D4	D5
				

Figure 81. Adjacent Space Relations in Refugee Row Houses

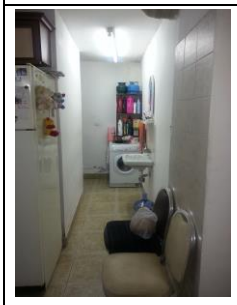
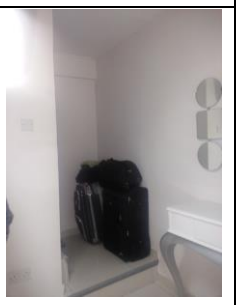
D4	D5
	

Figure 82. Division Wall Between Two Spaces of Refugee Row Houses

Functional Transformations of Refugee Row Houses, in these cases there is not observed any functional transformation in interior spaces. Users only enlarged spaces. For example, if space is used as a kitchen before, today it is used kitchen function.

According to households of Refugee houses, arrangement of spaces is useful during the daily activities. Only dimension of spaces are not satisfied them. Due to this, they preferred to only enlarge size of space with the use of exist function.

Formal Transformations of Refugee Row Houses, similar with Standard Houses, formal transformations are observed in this case. As it mentioned before, these housing units are emergently constructed to provide shelter to immigrant people. Due to this reason, it is though that, housing units are not considered socio-cultural factors such as family size, life style etc. while it is designed.

During the time, transformation of social, economic and similar attitudes caused formal transformation on form of Refugee Row houses. Based on analysis that collected from selected cases are showed similar additive and dimensional transformations on the building units. Especially front and back side of the building were enlarged. On the ground floor plan, households enlarged living room and kitchen which is placed at the back and front side of the houses. While households are enlarged kitchen and living room on the ground floor, new spaces such as bedroom, toilet with bathroom and balcony added on the first floor plan.

In some cases, due to land opportunities there is addition side facade of the building. As well as other examples, user enlarged living room and kitchen on the ground floor. As can be seen in figure 83 it is clear that all units are transformed trough the user requirements in this period.

D1	D2	
		
D3	D4	D5
		

Figure 83. View of Formal Transformations of Refugee Houses

Transformations of Refugee Row Houses

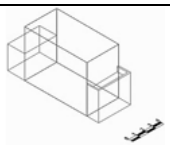
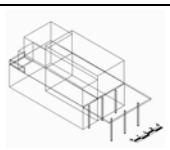
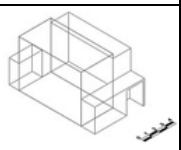
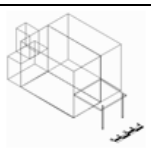
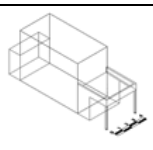
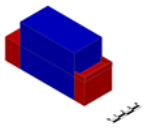
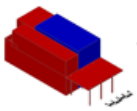
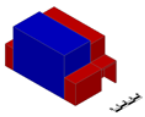
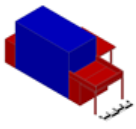
D1	D2	D3	D4	D5
				
Adjacent space	Adjacent space	Adjacent space	Adjacent space	Adjacent space
				

Figure 84. Spatial Transformation of Refugee Houses

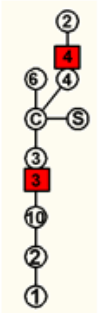
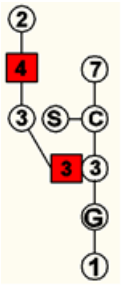
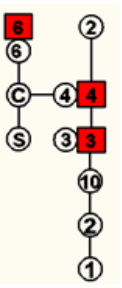
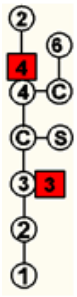
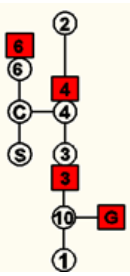
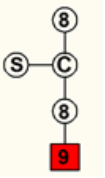
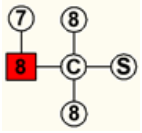
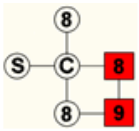
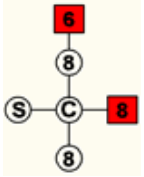
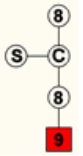
	D1	D2	D3	D4	D5
Ground Floor Plan					
First Floor Plan					

Figure 85. Functional Transformed Justified Graph of Refugee House

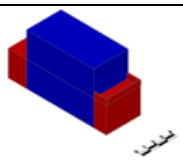
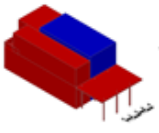
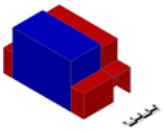
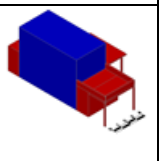
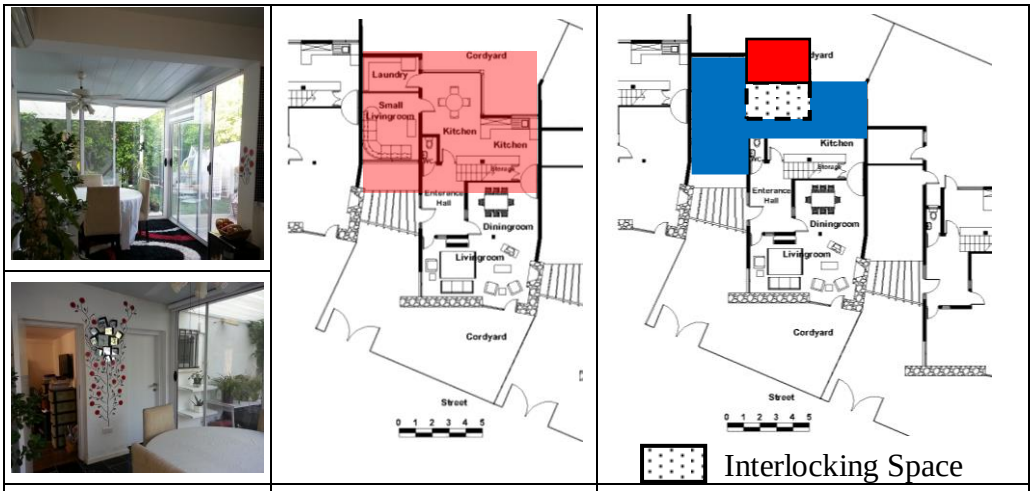
D1	D2	D3	D4	D5
				
Refugee Row Houses				

Figure 86. Formal Transformations of Refugee Row Houses

Transformations of Efruz Row Houses

Spatial Transformations of Efruz Row Houses, in this case, again adjacent manner was used interior space of houses as it is summarized in figure 88. Generally user prefered to cover semi open space to closed space creating openings for access between two spaces. Household preferred to enlarged living room with the created openings between spaces.

Apart from adjacent space relationships, there is observed interlocking space manner in interior space as can be seen in figure 87. In this case, while user enlarged and added new function of the space interlocking space appeared.



Interior view of kitchen	Ground Plan of Efruz Houses	Spatial relation of house

Figure 87 Interlocking Space Manner in Efruz Houses

Functional Transformations of Efruz Row Houses, unlike Refugee Row Houses, functional transformations are observed in Efruz Row Houses in between same time span. Almost units appeared to have similar functional alteration in housing units.

In this case, because of high income class there are various functional changes in interior space of houses. As it mentioned in the previous chapter people who are high income class needed different functional spaces except basic spaces such as music studio, baby sitter room, and changing room. Generally this kind of householders are more social than other income class. Based on this, users reflected their characters while use of spaces.

According to observation, householders transformed garage to another space. Some users changed garage to study room, baby sitter room or small living room as a children play room. In addition to this, it is observed that in case E1 user transformed bedroom to music studio on the first floor.

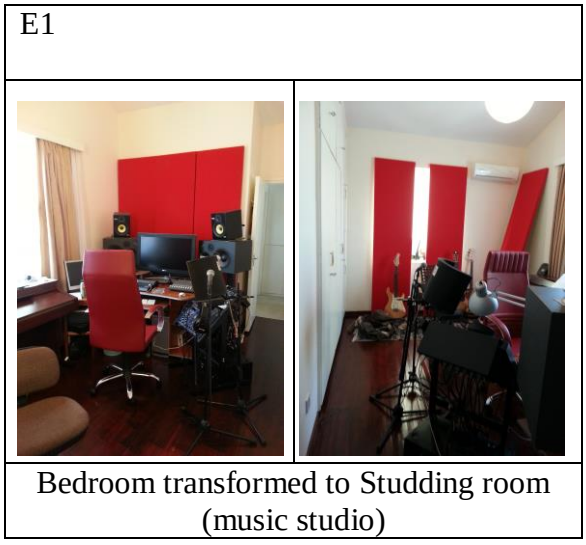


Figure 88. Functional Transformation in Efruz Houses

Formal Transformations of Efruz Row Houses, there are different types of row houses which have differ plan organization in this mass housing project as it mentioned previous chapther. According to analysis as before, still high income users

are living in this houses. Based on this, it is possible to observed reflection of the user identity on the building form.

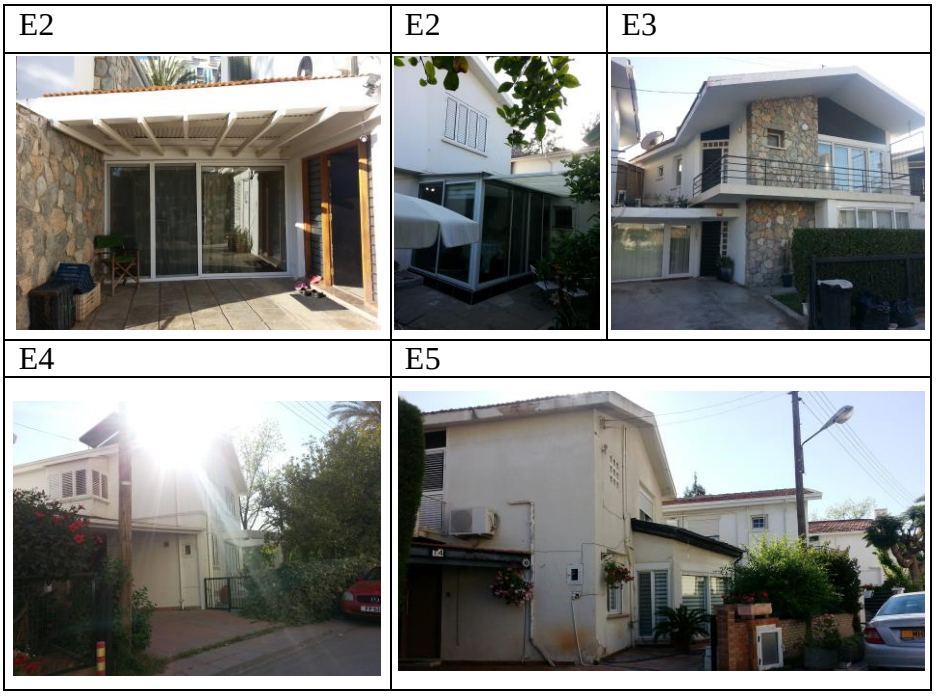


Figure 89. View of Formal Transformation of Efruz Houses

There are common features and changes that are observed in the housing units. Actually garage of the bulding was changed both functionally and formally. It was semi-open space before. Due to user preference it is transformed to closed space which consists of small living room, children play room, study room or baby sitter bedroom. Therefore dimensionl transformation occured in interior space of the houses.

Beside these examples, dimensional transformation appeared in some cases as well. Terrace was covered and transformed to closed space. It became an addition of living room at front facade of the building. In addition to this, according to users, during the

day time users are not used balcony, therefore they prefered to enclose and create closed space on the first floor.

Apart from these,a kitchen addition was observed back side of the building. According to user original kitchen was too narrow and it was not comfortable. For this reason they enlarged the kitchen on the ground floor.

Transformations of Efruz Row Houses

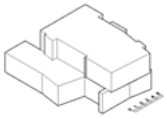
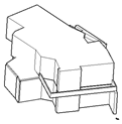
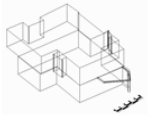
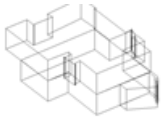
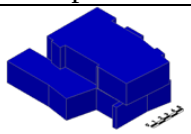
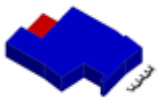
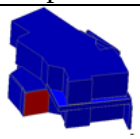
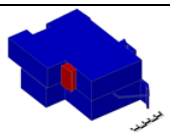
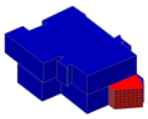
E1	E2	E3	E4	E5
				
Adjacent space	Adjacent space	Adjacent space	Adjacent space	Adjacent space
				

Figure 90. Spatial Transformation of Efruz Houses

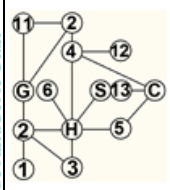
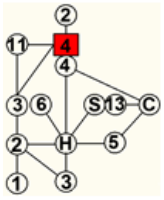
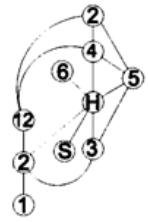
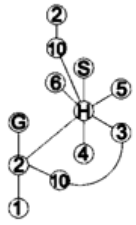
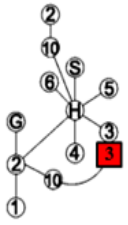
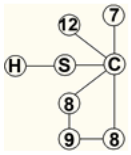
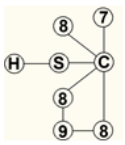
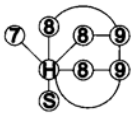
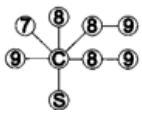
	E1	E2	E3	E4	E5
Ground Floor Plan					
First Floor Plan					

Figure 91. Functional Transformed Justified Graph of Efruz Houses

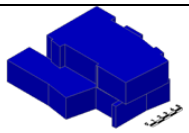
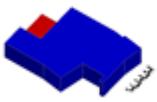
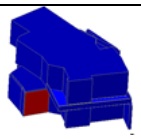
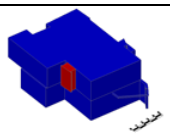
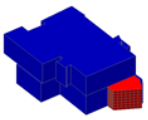
E1	E2	E3	E4	E5
				
Efruz Row Houses				

Figure 92. Formal Transformations of Efruz Row Houses

Period between 1974-1983

Transformations of Türk-Sen Houses

Spatial Transformations of Türk-Sen Detached Houses in Taşkınköy, as well as other examples, adjacent space manner is applied in interior space of houses. Users increased level of visual and physical continuity between three spaces such as living room- dining room and kitchen (figure 93).

Figure 93 View of Visual and Continuity Between Spaces in Türk-Sen Houses

Apart from these cases, in case F1 user constructed division wall between dining and living room (figure 94) and decreased visual access between spaces.

Figure 94. Example of Division Wall Between Spaces in Türk-Sen Houses

Functional Transformations of Türk-Sen Detached Houses in Taşkınköy, In this case, all cases are showed similar functional transformation to each other. In all cases balcony which is semi-open space is transformed to closed space. It is became part of the master bedroom on the first floor of houses. There is not observed functional transformation on the ground floor plan. All functions are arranged existed location of housing.

Formal Transformations of Türk-Sen Houses, in this case the most prominent common formal transformation is addition part of the living room of the spaces.

In addition to this almost balconies (semi-open spaces) are transformed to closed space as a part of the master bedroom as it is mentioned before. Due to this, dimensional transformation was observed on the first floor of the building. It is noted that all houses are added garage or garage with storage in courtyard of the semi-detached houses.

Figure 95.Formal Transformation of Türk-Sen Detached Houses

A part from this user added living room and balcony for sitting and resting activities on the first floor (Case F4 and F5).

Transformations of Türk-Sen Semi Detached Houses

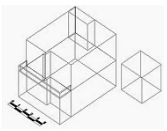
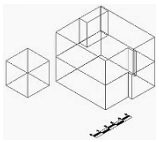
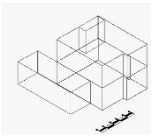
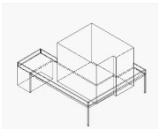
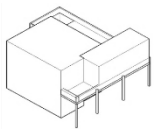
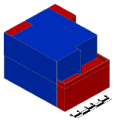
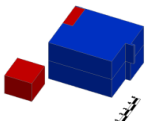
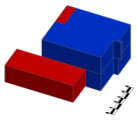
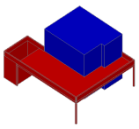
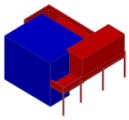
F1	F2	F3	F4	F5
				
Adjacent Space	Adjacent Space	Adjacent Space	Adjacent Space	Adjacent Space
				

Figure 96. Spatial Transformations of Türk-Sen Semi Detached Houses

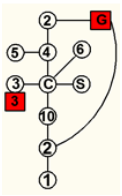
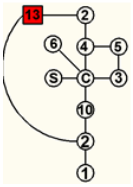
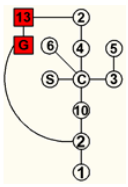
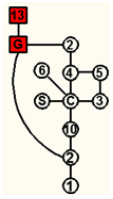
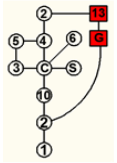
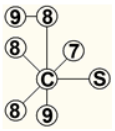
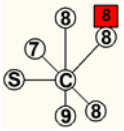
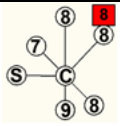
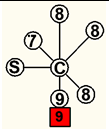
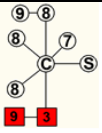
	F1	F2	F3	F4	F5
Ground Floor Plan					
First Floor Plan					

Figure 97. Functional Transformed Justified Graph of Türk-Sen Semi Detached Houses

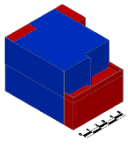
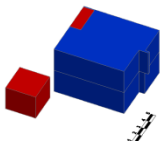
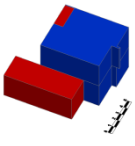
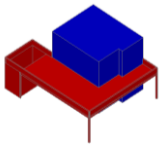
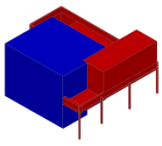
F1	F2	F3	F4	F5
				
TURK-SEN Houses				

Figure 98. Formal Transformtions of Türk-Sen Semi Detached Houses

Period Between 1983 – 2000

In this period both cooparatives and government mass houses constructed as it mentioned above. Teachers' Row Houses, Police Semi Detached Houses in Göçmenköy, Soyak Semi-Detached Houses, Government Social Row Houses in Taşkınköy and Göçmenköy are significant mass housing projects between these period span.

In general, according to analyses, it is observed that all houses are undergone spatial change. It is possible to say all houses are changed adjacent spaces manner.

Between these periods there are mass houses constructed by both government and cooperatives as it mentioned before. According to the result of spatial analysis of the selected cases, almost mass houses represented functional transformation of plan organization in terms of user profile. Actually formal transformations are also affected functional transformation of spaces.

According to data that collected from cases, especially, family size economic statue of family and life style of family played important role on changes all housing group. Based on analysis, it is possible to say generally users are in middle income group. Parallel with this, social and daily life of household showed differences between low income group.

It is noted that, in all cases, while some cases are transformed functionally, some cases are not changed. Plan organization of houses is not transformed.

Between these periods mass houses are rapidly increased as it mentioned before. Many mass houses were constructed by government and cooperatives. According to Gazioğlu (1996) government mass houses are designed more successful than cooperatives' houses in terms of user profile. However, in time both cases are appeared transformation on building form.

It is observed that, almost houses are changed formed of the building. Due to human requirements addition and dimensional transformation was occurred. There is not observed subtractive transformation of housing form. As it is understood from this, user need increased and need to add space to existed plan organization.

Transformations of Teachers' Row Houses

Spatial Transformations of Teachers' Row Houses, generally spaces are divided by common surface. Actually, a space, which is addition part of the building are, arranged with common wall or user demolished certain wall and created visual and physical access between spaces. Span of openings can be represented differences between each other.

G4		
		
Limited visual access between two adjacent spaces		

Figure 99. Limited Visual and Physical Access of Teachers' Row Houses

Functional Transformations of Teachers' Row Houses, in teachers' houses there is functional alteration is observed. With the addition space of kitchen, user located dining room instead of kitchen's place. Kitchen transformed to dining room.

Function of Space Transformed Kitchen to Dining Room

Figure 100. Function of Space Transformed Kitchen to Dining Room

Formal Transformations of Teachers' Row Houses, according to analysis kitchen and living room was enlarged. In some cases, addition of the kitchen is located at the back side of the building. Apart from this there is observed, addition of living room front side of the building (G2) and kitchen addition located side facade of the building (G3)

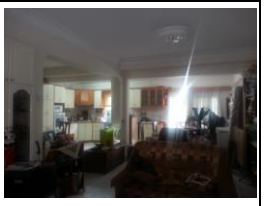
G1	G2	G3	G4	G5
				

Figure 101. View of Formal Transformation of Teachers' Houses

Transformations of Teachers' Row Houses

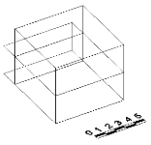
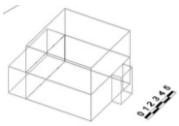
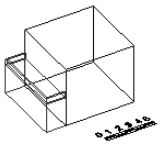
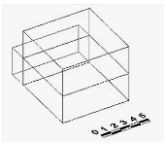
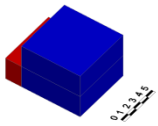
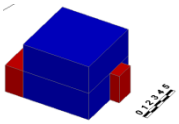
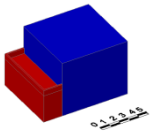
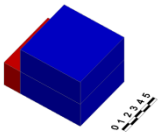
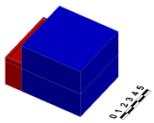
G1	G2	G3	G4	G5
				
Adjacent space	Adjacent space	Adjacent space	Adjacent space	Adjacent space
				

Figure 102. Spatial Transformations of Teachers' Row Houses

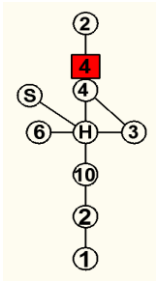
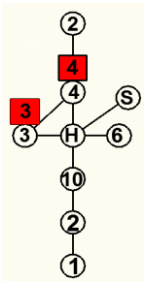
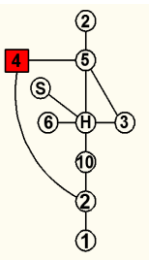
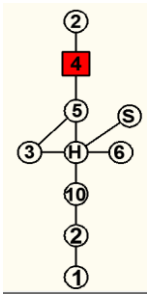
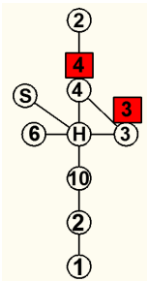
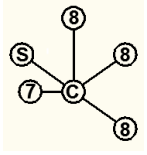
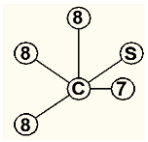
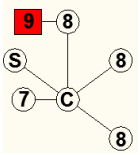
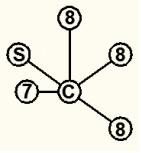
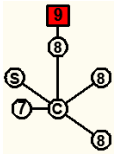
	G1	G2	G3	G4	G5
Ground Floor Plan					
First Floor Plan					

Figure 103. Functional Transformed of Justified Graph of Teachers' Houses

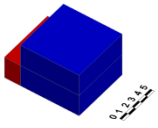
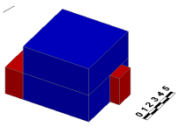
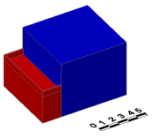
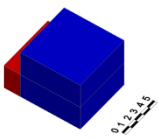
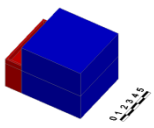
G1	G2	G3	G4	G5
				
Teachers' Houses				

Figure 104. Three Dimensional View of Formal Transformation in Teachers' Houses

Transformations of Police Semi Detached Houses in Göçmenköy

Spatial Transformations of Police Semi Detached Houses, like the other cases, in this case adjacent space manner was used in all cases. In interior space of housing units openings are observed between living room and dining room. User demolished or made openings between two spaces and linked to each other.

According to interview with users of houses openings between spaces are made more flexible and useful while they performed daily activities in these spaces.

H1

Openings between livingroom and kitchen

Figure 105. Spatial Trnsformations of Police Semi Detached Houses in Göçmenköy

Functional Transformations of Police Semi Detached Houses, in Police Semi Detached Houses there is similar transformation with pervious examples. In this case user changed dining room to living room on the ground floor. Besides this, on the first floor plan semi open space (balcony) is transformed to closed space such as studding room or extension of the master bedroom.

H1

Function of Space Transformed Balcony to Studding Room

Figure 106. Function of Space Transformed Balcony to Studding Room in Police Houses

Formal Transformations of Police Semi Detached Houses, it is possible to say all houses added garage to their courtyard. It is the most common formal addition of all selected cases. Actually each case are resemble to each other.It is tought that, due to large size of family household users prefered to enlarged space of living room and kitchen. As well as, it is showed that dimensional transformation at th first floor of the building. Generally balcony (semi-open space) is covered and transformed to closed space as a addition part of the master room.

Apart from these examples there is different formal transformation observed in case H4. Because of large size of family users added spaces as a studio house which is consist one bedroom, living room and toilet with bathroom. As it is understood from this example, family size of household is more affected building form.

H4		
		
Addition of houses	Inside of the addition (studio)	Bedroom of addition part

Figure 107. Addition Part of the House in Police Houses

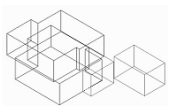
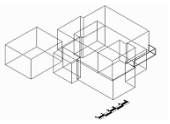
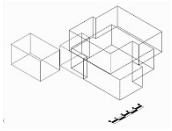
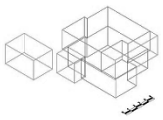
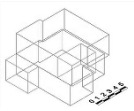
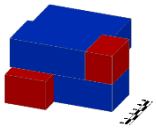
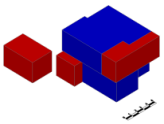
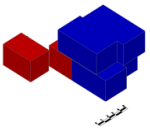
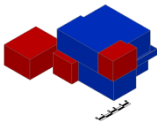
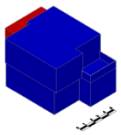
H1	H2	H3	H4	H5
				
Adjacent Space	Adjacent Space	Adjacent Space	Adjacent Space	Adjacent Space
				

Figure 108. Spatial Transformations of Police Semi Detached Houses in Göçmenköy

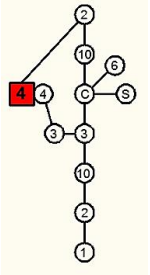
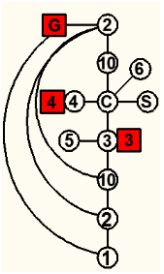
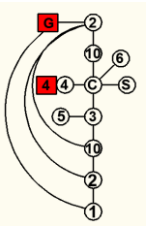
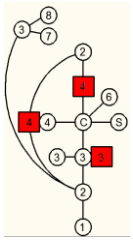
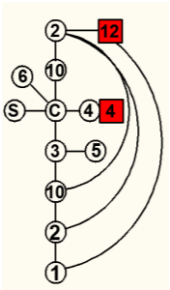
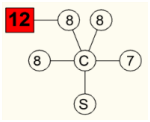
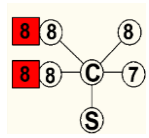
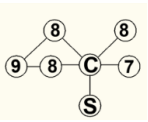
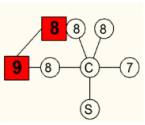
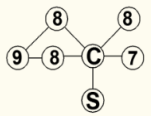
	H1	H2	H3	H4	H5
Ground Floor Plan					
First Floor Plan					

Figure 109. Functional Transformed of Police Semi Detached Houses in Göçmenköy

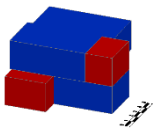
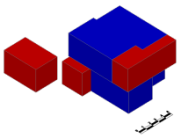
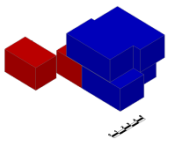
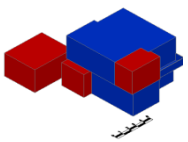
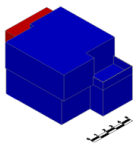
H1	H2	H3	H4	H5
				
Police Houses				

Figure 110. Three Dimensional View of Formal Transformation in Police Houses

Transformations of Soyak Semi Detached Houses

Spatial Transformations of Soyak Semi Detached Houses, another different example is Soyak Semi-detached Houses. Also it is changed as adjacent space manner. Unlike from the other cases, almost houses are vertically attached to each other in a adjacent spaces manner. In other examples, while vertical walls are became common surface, in this case, slab (horizontal units) of units are became common surface. Slabs are attached to each other vertically and occured first floor of the building. Almost user added first floor of the building (figure 111). Also, like the other cases, openings between spaces are observed in between two spaces.


Soyak Semi-detached Houses

Figure 111. Horizontally Adjacent Spaces of Soyak Houses

Functional Transformations of Soyak Semi Detached Houses, in some cases with the spatial transformations functional transformations are appeared. As can be seen in figure 115, bedroom of the building changed as a dining room on the ground floor. In addition to this, bedrooms are transformed to changing room and storage in some cases (figure 112).

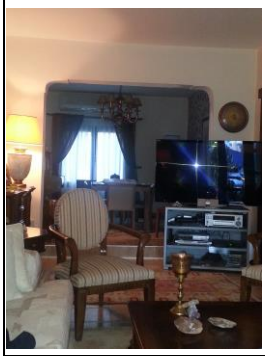
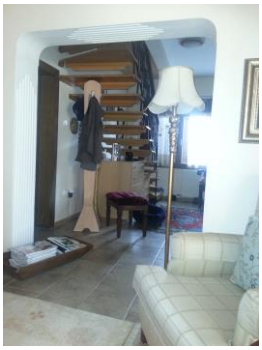
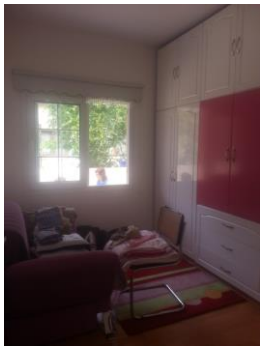
I1	I2	I3	I4
			
Transformed Bedroom to Dining room	Transformed Living room to Entrance Hall	Transformed Bedroom to Changing Room	Transformed Bedroom to Storage

Figure 112. Functional Transformations in Soyak Semi Detached Houses

Formal Transformations of Soyak Semi Detached Houses, it is clear that Soyak Semi-detached houses are the most modified example of this period. Similar to other cases addition is appeared near the living room at the ground floor. Households are enlarged living room for using as a sitting area. In some cases, terrace covered and transformed to closed space which is became addition part of the living room.

Due to user needs more space demanded. For this reason spaces are added to first floor. While exist plan organisation consisted one storey, it became two storey. Building form is transformed with the addition of first floor. It is obviously clear that, main differences between other cases is addition of the first floor unit.

I1	I2	I3
		
I4	I5	
		

Figure 113. View Formal Transformation of Soyak Houses

Transformations of Soyak Semi Detached Houses

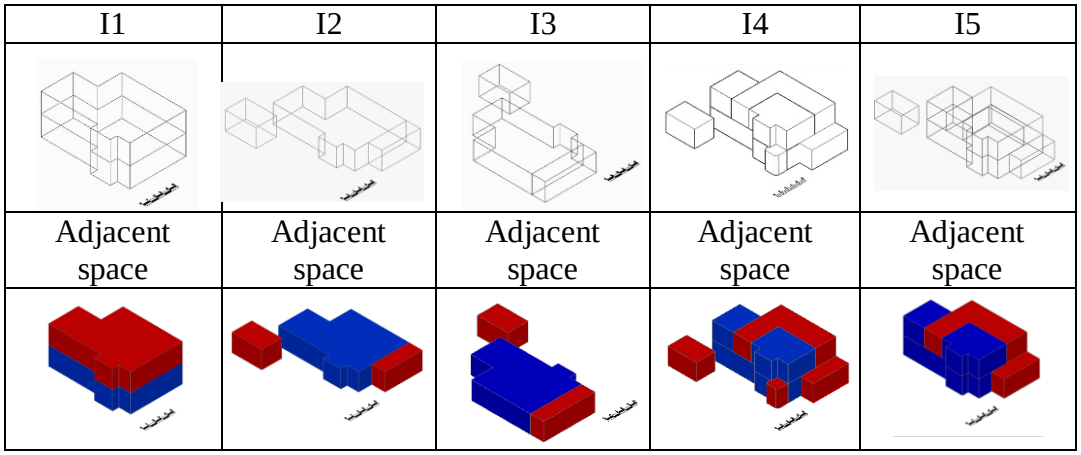


Figure 114. Spatial Transformations of Soyak Semi Detached Houses

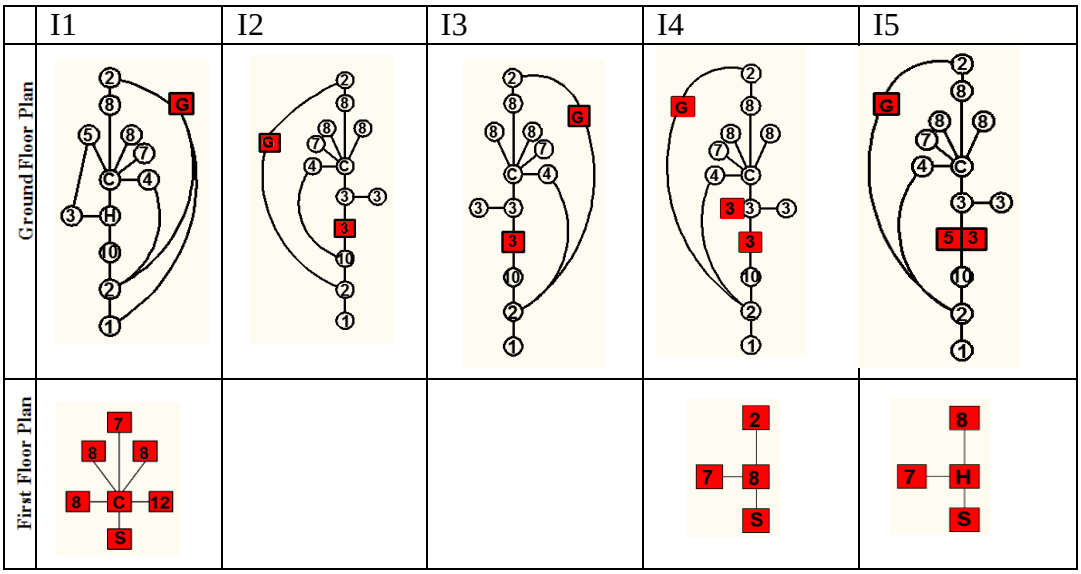


Figure 115. Functional Transformed Justified Graph of Soyak Semi Detached Houses

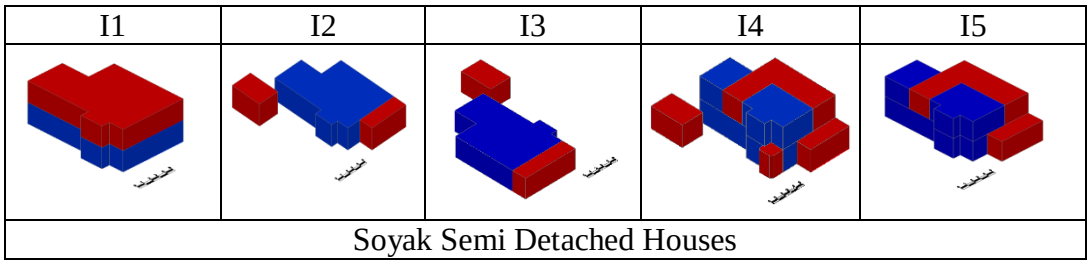


Figure 116. Three Dimensional View of Formal Transformation in Soyak Houses

Transformations of Government Social Row Houses in Taşkınköy and Göçmenköy

Spatial Transformations of Government Social Row Houses in Taşkınköy and Göçmenköy, in both mass housing groups are showed same space relationship to each other. Adjacent space relationship is used in both cases. In almost cases, created openings between living room and kitchen and provided visual continuity between two spaces.

A part from this, there is different properties observed in selected cases. In Government Social Row Houses in Göçmenköy level difference and vertical linear elements were observed in case K4. Level difference is provided to read as a single volume of two related spaces. A vertical element which is located near the staircase and behind the limited opening of space is provided high degree of visual and spatial continuity between the two spaces. All these alterations are determined by households.

K4	
	
Level differences	Vertical Linear Elements were used for Separated Spaces

Figure 117. Level Differences and Vertical Linear Elements in Government Social Houses in Göçmenköy

Functional Transformations of Government Social Row Houses in Taşkınköy and Göçmenköy, both cases are showed similar features to each other. Parallel with formal transformation of housing units, functional changes applied all units. Especially small living room (which is located near the kitchen) is arranged instead of kitchen on the ground floor. While extension part became kitchen, small living room is appeared which is close to addition part and originally kitchen on the plan organization of houses.

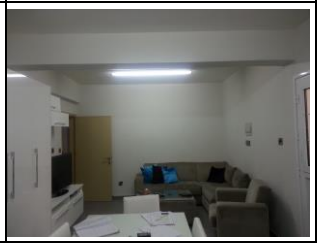
J2	J3	J5
		
Transformed Kitchen to small living room		

Figure 118. Functional Transformation in Government Social Houses in Taşkınköy

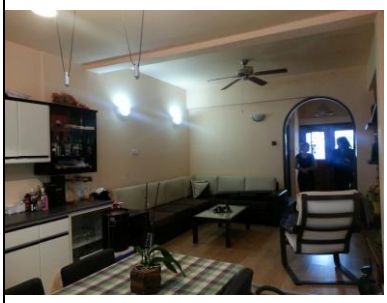
K5

Transformed Kitchen to small living room

Figure 119. Functional Transformation in Government Social Houses in Göçmenköy

Formal Transformations of Government Social Row Houses in Taşkınköy and Göçmenköy, like the other cases almost formal transformations are similar to each other in both cases. Additions was observed both front and back side of the building. But in some cases additions are appeared side facades of the building.

J1	J2	J3	J4	J5
	 	 	 	 

Figure 120. View of Formal Transformation of Government Social Row Houses in Taşkınköy

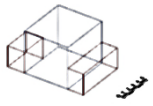
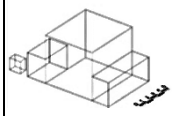
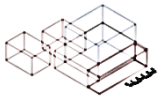
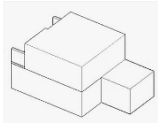
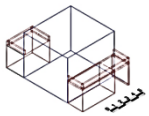
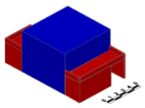
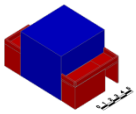
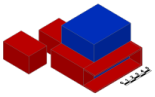
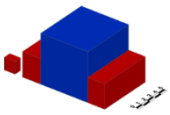
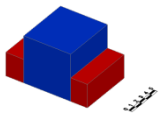
J1	J2	J3	J4	J5
				
Adjacent Space	Adjacent Space	Adjacent Space	Adjacent Space	Adjacent Space
				

Figure 121. Spatial Transformations of Government Social Row Houses in Taşkınköy

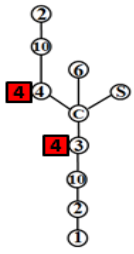
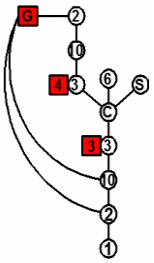
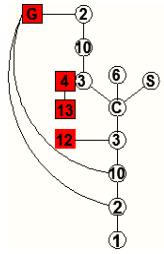
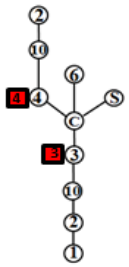
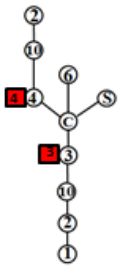
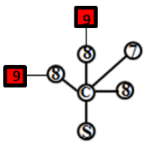
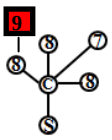
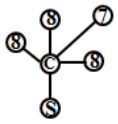
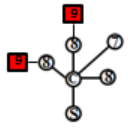
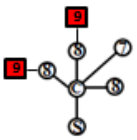
	J1	J2	J3	J4	J5
Ground Floor Plan					
First Floor Plan					

Figure 122. Functional Transformed Justified Graph of Government Social Row Houses in Taşkınköy

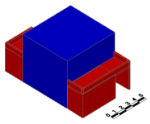
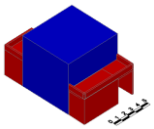
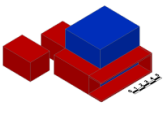
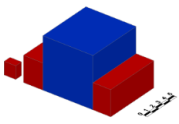
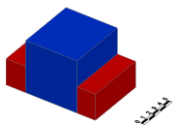
J1	J2	J3	J4	J5
				
Government Social Row Houses in Taşkınköy				

Figure 123. Three Dimensional View of Formal Transformed Government Social Row Houses in Taşkınköy

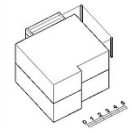
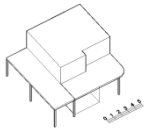
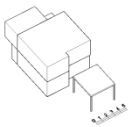
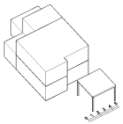
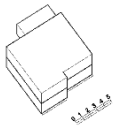
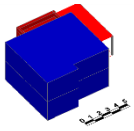
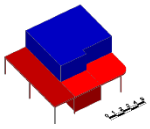
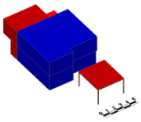
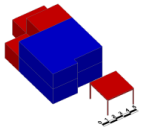
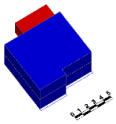
K1	K2	K3	K4	K5
				
Adjacent Space	Adjacent Space	Adjacent Space	Adjacent Space	Adjacent Space
				

Figure 124. Spatial Transformations of Government Social Row Houses in Göçmenköy

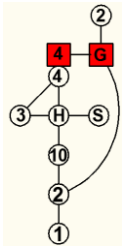
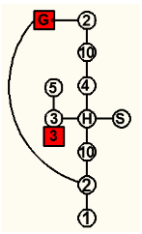
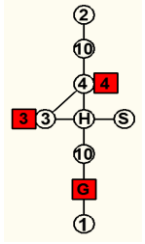
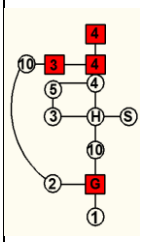
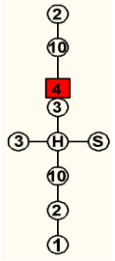
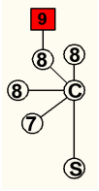
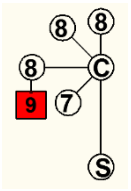
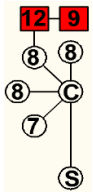
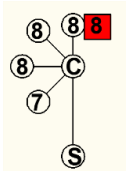
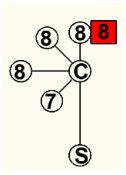
	K1	K2	K3	K4	K5
Ground Floor Plan					
First Floor Plan					

Figure 125. Functional Transformed Justified Graph of Government Social Row Houses in Göçmenköy

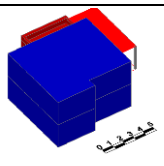
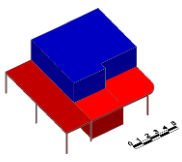
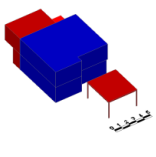
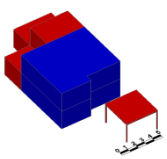
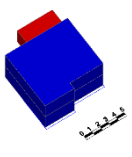
K1	K2	K3	K4	K5
				
Government Social Houses in Göçmenköy				

Figure 126. Three Dimensional View of Formal Transformed Government Social in Göçmenköy

After 2000

Transformations of Private Yenikent Row Houses

Spatial Transformations of Private Yenikent Row Houses, In this case almost houses are changed spatial organization of spaces. Generally users joined two spaces by using openings between two spaces. Almost, kitchen and small living room are combined to each other by using openings on the existing wall.

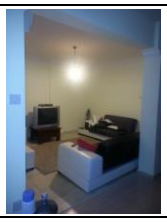
L1	L2	L3
		
Spatial Transformations in Private Yenikent Row Houses		

Figure 127. Openings Between Spaces

Functional Transformations of Private Yenikent Row Houses, as it mentioned above, this row houses are constructed high income and large size families. Therefore it designed according to user profile. However it is constructed in order to certain user charactheristic group, it is observed functional transformations in housing units.

In this case, in some housing units the most appeared functional changing is functional transformation of bedrooms. Today, due to family structure, all bedrooms are not used as a hosting. User transformed its function bedroom to changing room, studing room and iron room. Based on this analysis, it is understood that four bedrooms are more than user's hosting need. Therefore households formed spaces and altered function of spaces in order to their preferences.

In addition to this, based on analaysis, variety of functions are retained according the user pofile. It is clear that high income class needs more spaces than other class.

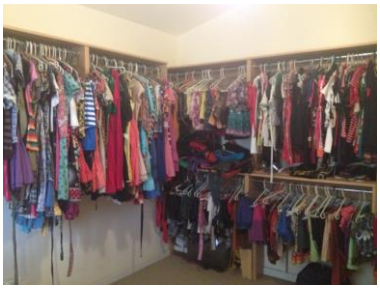
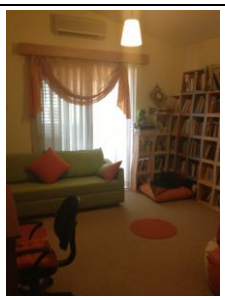
L1	L1	L1
		
Changing room	Studing Room	Iron room

Figure 128. Functional Transformation in Private Yenikent Row Houses

A part from these functional transformations, in some cases semi-open space (balcony) is covered and transformed to closed space with the use of sitting area. Therefore dimensional transformation appeared. Householders are completely demolished the wall which is boundary between terrace and small living room and added interior space of the building.

L1	
	
Exterior view of closed balcony	Interior of Closed space

Figure 129. Functional Transformation of Private Yenikent Houses

Formal Transformations of Private Yenikent Row Houses, Unlike the other examples Yenikent private row houses are constructed by private sector. According to analysis, similar formal transformations are fixed on housing units. Almost houses have enclosed terrace at the ground floor and balcony at the first floor.

Based on interview with households, in day time they are not used this space, instead of this space they preferred to spent time in courtyard which is located at the ground floor. Due to this reason, user applied dimensional transformation on the building form and used as a sitting area or storage.

L2	L3	L4
		
Untransformed terrace	Transformed Terrace	Transformed Terrace

Figure 130. Transformed Terrace to Closed Space

L1	L2	L3	L4
			

Figure 131. View of Formal Transformations on the Yenikent Private Row Houses Building Form

Transformations of Private Yenikent Row Houses

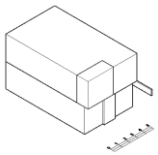
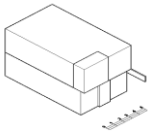
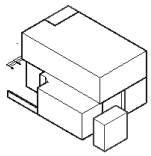
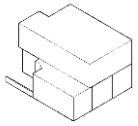
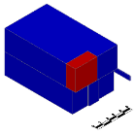
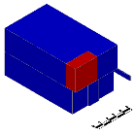
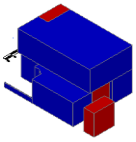
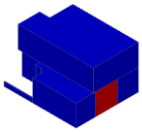
L1	L2	L3	L4
			
Adjacent space	Adjacent space	Adjacent space	Adjacent space
			

Figure 132. Spatial Transformation of Private Yenikent Row Houses

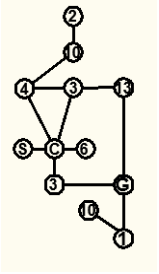
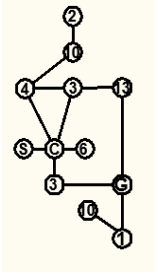
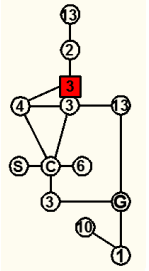
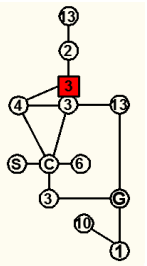
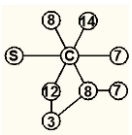
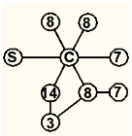
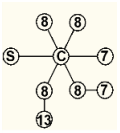
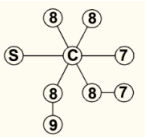
	L1	L2	L3	L4
Ground Floor Plan				
First Floor Plan				

Figure 133. Functional Transformed Justified Graph of Private Yenikent Row Houses

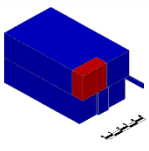
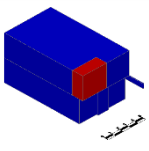
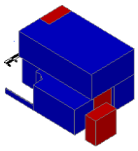
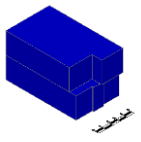
L1	L2	L3	L4
			
Private Yenikent Row Houses			

Figure 134. Three Dimensional View of Formal Transformed of Private Yenikent Row Houses

4.2 Comparison of Research Findings

In Chapter 3, the original housing forms and plan organizations were discussed in detailed. As it is mentioned in that chapter, mass houses are existed from British period up to recent days (2000's). Although houses are constructed identical to each other, in time almost housing units are represented transformation and changed its original form in terms of changing user profile.

It is possible to indicate about general common and different features (transformations) of mass houses for each of them which are constructed in a different time span.

In this part, selected cases that analyzed pervious section of research (4.1) are compared between to each other for understanding general common and different transformations of mass houses in Nicosia.

4.2.1 Findings and Discussions on Transformations in Mass Housing

As it mentioned in previous chapters, it is possible to meet the mass housing in the different time span on the island. There are particular differentiations and common features between them due to changing determinant factors of the user profile such as socio-cultural factors.

Based on analysis that it mentioned previous chapter, while it is compared between each other, it is possible to mention the number of similarities of transformations are more than differences which is constructed in different time span. While analyzing

transformations in all cases, it is clear that each transformation types are related to each other.

In all cases except Samanbahçe Row houses which are developed in British Period similar spatial transformations are represented. All mass housing units are transformed adjacent manner in interior space of the houses. Unlike this, Samanbahçe Row houses transformed space within a space manner.

Generally openings were used between spaces on the common wall of the space and linked spaces to each other. In contrast to this, in Samanbahçe houses spaces are placed in inner courtyard of the building.

It is thought that, while spatial transformation applied to Samanbahçe houses for providing living space whereas in other cases spatial transformation was applied for providing high degree of visual and spatial continuity between spaces. This variety could be explained with user profile of houses.

The only similarities between these cases are reasons of spatial changing. According to analysis from the selected cases, social statues of Samanbahçe households are low income and have large family size as it mentioned before. Due to this reason, they are used spatial transformation to create space. On the other hand, in other cases almost all users are in the middle income group but spatial transformations are based on large number of family members of houses. Openings are made easy accessibility between spaces. This is the common spatial changings between these cases.

While analyzing functional transformations of houses there are common alterations are appeared. In all cases generally living room and kitchen changed its placed. In some cases these functional alterations are based on formal transformations.

In addition to this, while low and middle income groups are changed function of kitchen and living room, high income class is changed function of bedrooms as a study room, changing room.

Another similarity between cases is that all units are changed from semi-open or open space to closed space. For example all semi entrance hall, balconies, inner courtyard are altered to closed space. It is the most common similarities between mass houses in all cases. In figure 135 some examples are shown which are changed due to different period span.

Samanbahçe Row Houses	Standard Houses	Türk-Sen Houses	Yenikent Private Row Houses
			
(1878-1960)	(1878-1960)	(1974-1983)	(After 2000)

Figure 135. Transformation of Semi-Open Space to Closed Space of Mass Houses in Different Time Span.

Comparison between other types of transformation Formal Transformation is the basic transformation type of formative idea. It is clear that, all cases in each period are formally transformed except Public Police Houses.

Except Samanbahçe Row Houses and Public Police Houses, all cases are enlarged through the front, back and side facades of the building form. In all cases living room and kitchen (ground floor), bedrooms and balconies (first floor) are enlarged or added. As it is mentioned above, semi-open and open space are transformed closed space such as balconies, courtyards. This is the common similarities of formal transformation (dimensional transformation) of all cases.

Another different point is addition of garage and storage. With the developing life conditions, human need increased as well. Changing socio-economic statue of family appeared new requirements. Parallel with this, people started to think their gods and protect them except their basic needs. Depent on this, especially in government and cooperatives' houses such as Türk-Sen (which is constructed between 1974-1983), Soyak, Teachers', Police and Government Social houses (which is constructed between 1983-2000) are added garage and storage in courtyard.

In contrast with these, in other cases such as Efruz Row Houses (1963-1974), Private Yenikent Row Houses (after 2000) garage and storage are exist in original plan of houses. For this reason there is no addition of garage and storage.

Türk-sen Semi Detached Houses		Police Semi Detached Houses	
			

Figure 136. Addition of Garage in Police and Türk Sen Semi Detached Houses

Chapter 5

CONCLUSION AND RECOMMENDATION

Mass housing in Nicosia is regarded as a solution for rapidly increasing population. Mass housing is an optimal, efficient and economical way of providing shelter to people. However, this standardised solutions are found to eliminate differences/variety according to user profile of houses.

Mass housing user come from different backgrounds who have different life styles, habits, hobbies and life philosophy etc. Due to this reason, the way of use of space might represent variety in buildings. Concordantly, socio-cultural factors are considerable as inevitable criteria in planning houses. Likewise, socio-cultural factors affect or change space organization of houses in terms of habitants need. With the changing requirement of various users over time, original plan organization of mass houses does not meetd up-to-date user requirements. This situation encouraged users to transform space such as enlargements, additions or changes in the function of space for higher standard of living. As a result, each house owner wish that their house reflect their unique identity.

In this research, mass houses which are constructed in different time spans were analyzed for understanding how variety of user profiles reflected their identity on mass housing units and affected original housing forms during the time.

Socio-cultural factors are the most effective factors for understanding the reasons for alterations in housing units. For this reason in Chapter 2 these factors are investigated and in Chapter 3 mass houses which are constructed in different periods of time are analyzed in terms of their user profile.

As a result of selected cases, variety of user profile altered original plan schemas of their houses. According to the results of findings, space transformations appeared in all cases especially in living rooms, kitchens and bedrooms. These spaces are enlarged and applied adjacent manner of space to link them to each other and increase the size/dimension of space. In addition to this, functional changes are also observed. Bedrooms and garages are transformed to study rooms or changing rooms however, the most transformations occured in living rooms, kitchens and bedrooms according to users' identities as it is mentioned above.

In brief, reflection of various user profile as well as numerous socio-cultural impacts caused loss of identity of original housing forms and its space organization in time.

With the findings of research, this study provides a careful thinking and sets light to consider important issues while designing mass houses by architects in the future. Based on these results, two types of recommendations will be presented as follows. Designers should arrange new plan type of mass housing which could answer all up-to-date requirements of users. In order to meet user profile demands, two types of flexible designing will be recommended. Flexible design is thought to meet different requirements of various user profiles. In other words, with flexible design, spaces can

be altered in size and volume according to the wish of user. Moreover, with flexible designing, users are not forced to comply with standard housing criteria but users can in fact have more choice with two types of construction systems which create the flexible plan as below;

1) Industrialised Building Systems; production of standard molds/blocks are completed in building site. In this system; packet type of lift slab and curtain wall/mushroom slab systems are formed which is used for flexible design.
2) Prefabricated systems; are composed of column- slab- wall components and these systems provide a changing partition wall in interior spaces and they can change the dimension of space easily.

Thus, flexible plans could be designed according to specific wishes of different user profiles unlike standard housing; which has strict criteria about alterations of houses.

Consequently, changing user profile has caused the formation of different types of plan organizations schemes. It is mentioned throughout the thesis that in common different groups of people such as with different family size, life style or income level changed the use of space. This study can contribute to further interests for redefining the rules, regulations and policies for new mass housing projects on the island.

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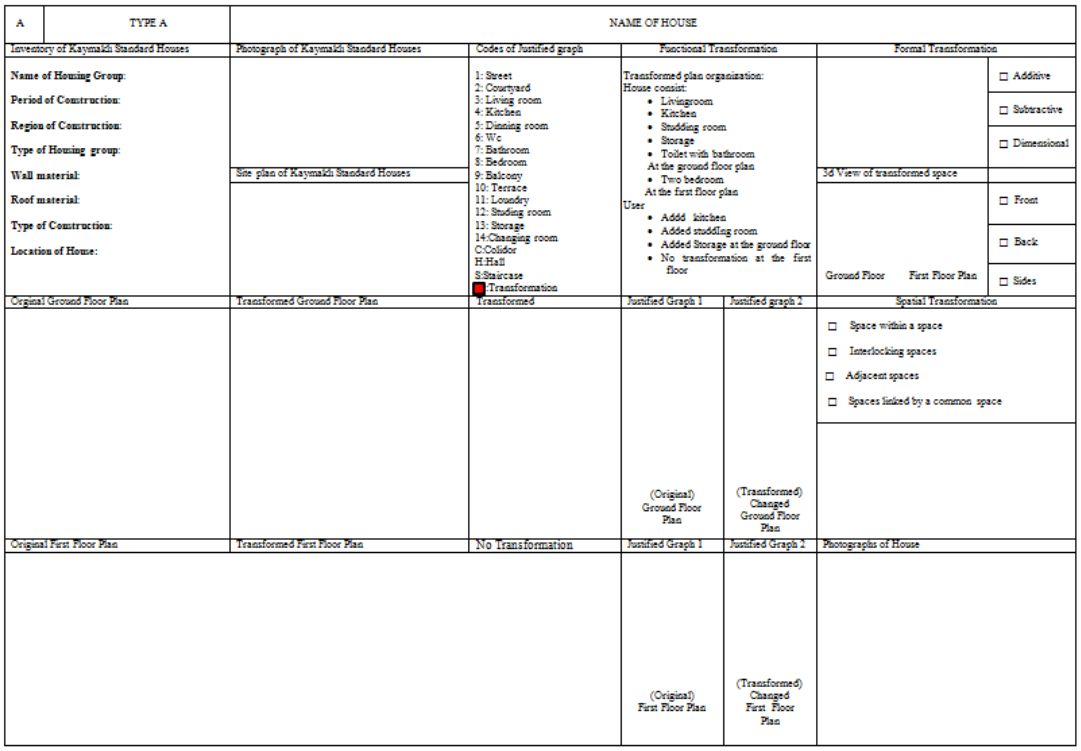
APPENDIX

APPENDIX

Description of Inventories



Examples of Inventory of Research Study

During the survey, while cases are analyzed, inventories are prepared for each case, it also helps to identify the location and name of mass housing group, construction date/materials/techniques, considered transformations of houses. Also, the transformation features of the houses such as type of spatial transformations (space within a space, interlocking spaces, adjacent spaces, spaces linked by a common space) and formal transformation types (additive, subtractive and dimensional transformations) are investigated by the helping of plans and three dimensional drawings on the inventory paper. As well as justified graphs were used for analyzing both functional and formal transformations of mass houses. Original plan/s, justified

graph/s of houses for each case were drew and changed/ transformed plan and justified graph were prepared if there is any transformation in mass house.

Justified graph, helped to identify relationship between space and functions. Each number which is located in the circle of justified graph refered name of space as it is explained below. Also square which is on the justified graph is refered formal transformations of space such as addition part of the housing unit.

1: Street	10 : Terrace
2: Courtyard	11 : Laundry
3: Living room	12 : Study room
4: Kitchen	13 : Storage
5: Dining room	14 : Changing room
6: WC/Toilet	C : Corridor
7: Bathroom	H : Hall
8: Bedroom	S : Staircase
9: Balcony	:Transformation

In three dimensional drawing blue and red colors were used for explaning differences between un transformed which is original form of the house and transformed building form. While blue color refers to original building form, red color refers to transformed/chaged part of the building form.

Selected cases are analysied in terms of types of mass houses. TYPE A refered to row type of mass houses and TYPE B refered to semi detached type mass house. which is written top-left of the inventory. Totally fifty five cases (mass housing units) are analyzied. Five cases selected for each mass housing group except Public Police

Row Houses and Private Yenikent Row Houses. One case selected from Public Police Houses and four cases selected and analyzied from Private Yenikent Row Houses. The name of mass housing groups are symolized by letters. Each letter refers to name of mass houses at it explained below.

A: Samanbahçe Social Row Houses

B: Standard Kaymaklı Houses

C: Public Police House

D: Refuugee Row Houses

E: Efruz Row Houses

F: Türk-Sen Semi-detached Houses

G: Teachers' Houses

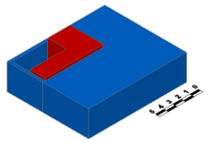
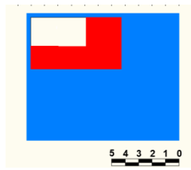
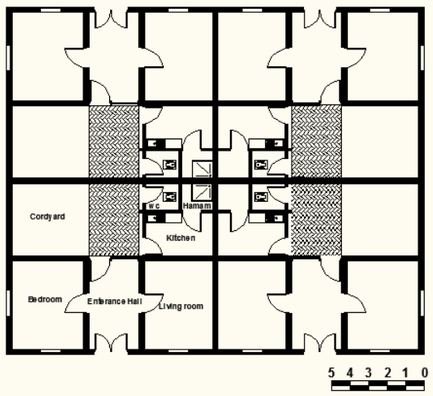
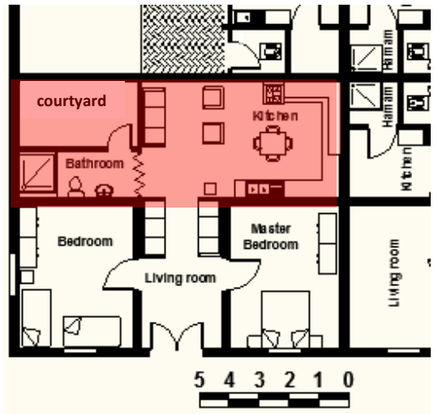
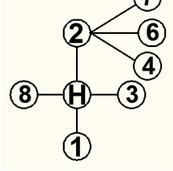
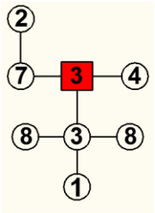
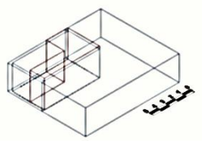
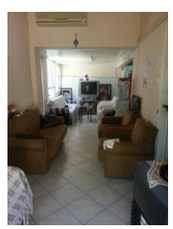
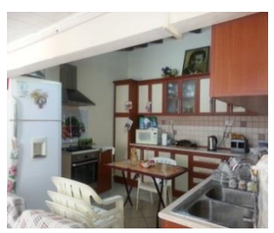
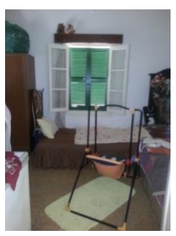
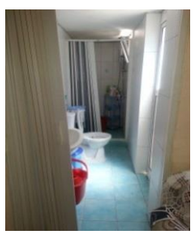
H: Police Semi Detached Houses

I: Soyak Semi Detached Houses

J: Government Social Houses in Taşkınköy

K: Government Social Houses in Göçmenköy

L: Private Yenikent Row Houses

A1	TYPE A	SAMANBAHÇE SOCIAL HOUSES/NICOSIA				
Inventory of Samanbahçe Row Houses		Photograph of Samanbahçe Houses	Site plan of Samanbahçe Houses	Functional Transformation		Formal Transformation
Name of Housing Group: Samanbahçe Houses **Period of Construction**: 1878-1960 **Region of Construction**: Nicosia **Type of Housing group**: Row/Attached House **Wall material**: Stone **Roof material**: Tile **Type of Construction**: Loadbearing **Location of House:** Aydın Street, No :1, Wallcity/Nicosia				Transformed plan organization: House consist: • Livingroom • Kitchen • Toilet with bathroom • Two bedroom • Inner courtyard At the ground floor plan User • Enlarged livingroom & kitchen (transformed inner courtyard to living room) • Added toilet and bathroom in inner courtyard.		 3d View of transformed space  ☒ Additive ☒ Subtractive ☑ Dimensional
Orginal Ground Floor Plan		Ground Floor Plan(Transformed-Changed)	Codes of Justified graph	Justified Graph 1	Justified graph 2	Spatial Transformation
			1: Street 2: Courtyard 3: Living room 4: Kitchen 5: Dinning room 6: Wc 7: Bathroom 8: Bedroom 9: Balcony 10: Terrace 11: Loundry 12: Studing room 13: Storage 14:Changing room C:Colidor H:Hall S:Staircase :Transformation	 (Original) Ground Floor Plan	 (Transformed) Changed Ground Floor Plan	☑ Space within a space ☒ Interlocking spaces ☒ Adjacent spaces ☒ Spaces linked by a common space  The form of the intermediate space can be residual in nature and be determined solely by the forms and orientations of the two spaces being linked.
Living room		Living room (transformed courtyard to living room)	Kitchen	Master bedroom	Bedroom	Toilet with bathroom Courtyard
 						 

A2	TYPE A	SAMANBAHÇE SOCIAL HOUSES/NICOSIA			
Inventory of Samanbahçe Row Houses		Photograph of Samanbahçe Houses	Site plan of Samanbahçe Houses	Functional Transformation	Formal Transformation

Name of Housing Group: Samanbahçe Houses

Period of Construction: 1878-1960

Region of Construction: Nicosia

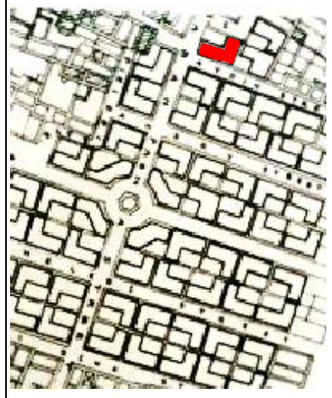
Type of Housing group: Row/Attached House

Wall material: Stone

Roof material: Tile

Type of Construction: Loadbearing

Location of House: Aydın Street, No :10, wallcity/Nicosia



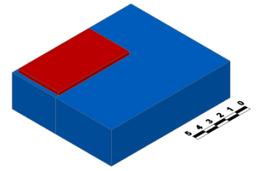
Transformed plan organization:
House consist:

- Livingroom
- Kitchen
- Toilet with bathroom
- Three bedroom

At the ground floor plan

User

- Enlarged livingroom & kitchen
- Inner courtyard transformed to bedroom and living room
- Added toilet and bathroom in inner courtyard.

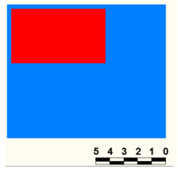


☒ Additive

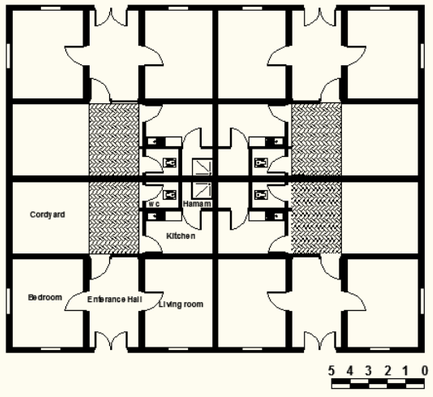
☒ Subtractive

☑ Dimensional

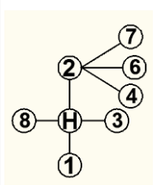
3d View of transformed space



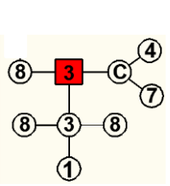
Orginal Ground Floor Plan	Ground Floor Plan(Transformed-Changed)	Codes of Justified graph	Justified Graph 1	Justified graph 2	Spatial Transformation



1: Street
2: Courtyard
3: Living room
4: Kitchen
5: Dinning room
6: Wc
7: Bathroom
8: Bedroom
9: Balcony
10: Terrace
11: Loundry
12: Studing room
13: Storage
14:Changing room
C:Colidor
H:Hall
S:Staircase
■:Transformation



(Original) Ground Floor Plan



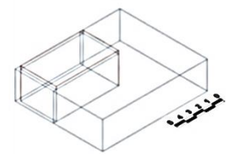
(Transformed) Changed Ground Floor Plan

☑ Space within a space

☒ Interlocking spaces

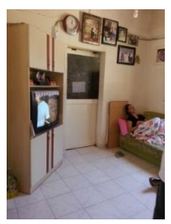
☒ Adjacent spaces

☒ Spaces linked by a common space



The form of the intermediate space can be residual in nature and be determined solely by the forms and orientations of the two spaces being linked.

Living room	Kitchen	Bedroom (Added) Bedroom	Toilet with bathroom	Courtyard



Transformed
Living room to Bedroom

A3	TYPE A	SAMANBAHÇE SOCIAL HOUSES/NICOSIA			
Inventory of Samanbahçe Row Houses		Photograph of Samanbahçe Houses	Site plan of Samanbahçe Houses	Functional Transformation	Formal Transformation

Name of Housing Group: Samanbahçe Houses

Period of Construction: 1878-1960

Region of Construction: Nicosia

Type of Housing group: Row/Attached House

Wall material: Stone

Roof material: Tile

Type of Construction: Loadbearing

Location of House: İbni Sina Street,No:30, Wallcity/Nicosia

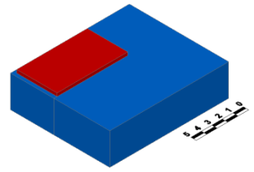
Transformed plan organization:
House consist:

- Livingroom
- Kitchen
- Toilet with bathroom
- Two bedroom

At the ground floor plan

User

- Enlarged livingroom & kitchen
- Inner courtyard transformed to kitchen and living room
- Added toilet and bathroom in inner courtyard.

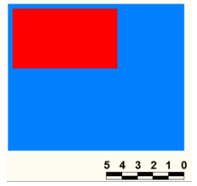


☒ Additive

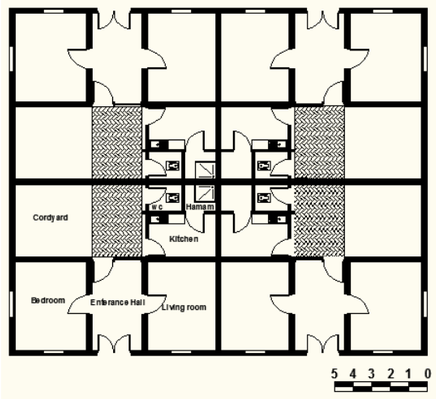
☒ Subtractive

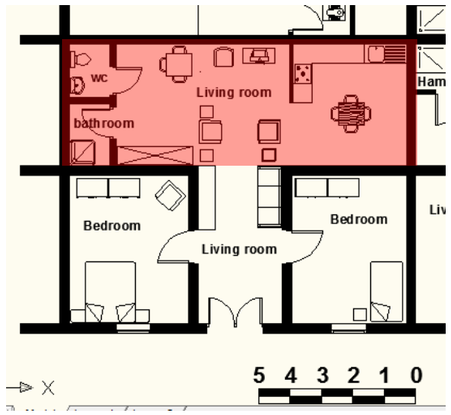
☑ Dimensional

3d View of transformed space

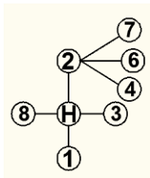


Orginal Ground Floor Plan	Ground Floor Plan(Transformed-Changed)	Codes of Justified graph	Justified Graph 1	Justified graph 2	Spatial Transformation

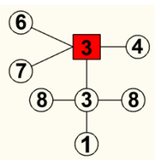




1: Street
2: Courtyard
3: Living room
4: Kitchen
5: Dinning room
6: Wc
7: Bathroom
8: Bedroom
9: Balcony
10: Terrace
11: Loundry
12: Studing room
13: Storage
14:Changing room
C:Colidor
H:Hall
S:Staircase
:Transformation



(Original) Ground Floor Plan



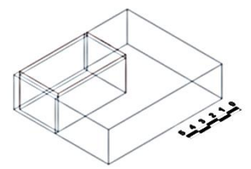
(Transformed) Changed Ground Floor Plan

☑ Space within a space

☒ Interlocking spaces

☒ Adjacent spaces

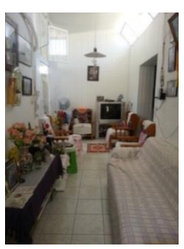
☒ Spaces linked by a common space



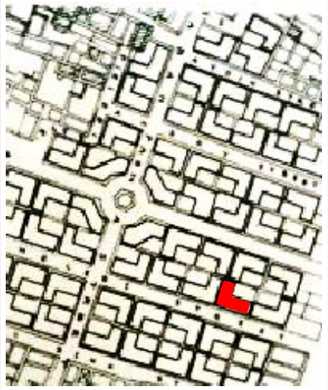
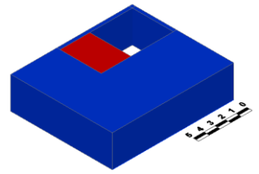
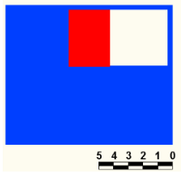
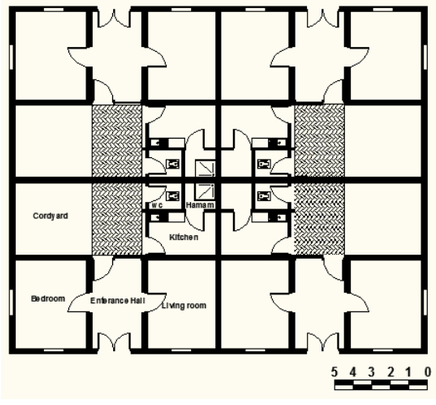
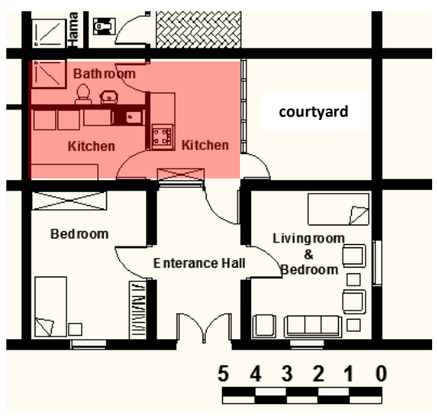
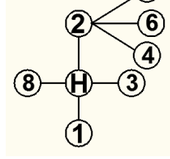
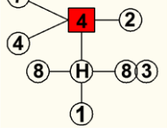
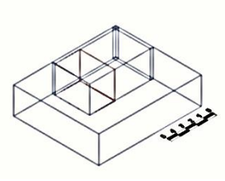
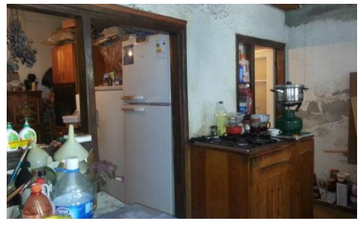
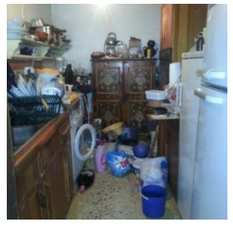
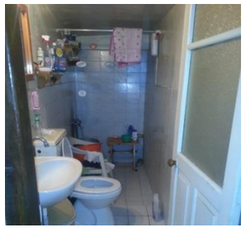
The form of the intermediate space can be residual in nature and be determined solely by the forms and orientations of the two spaces being linked.

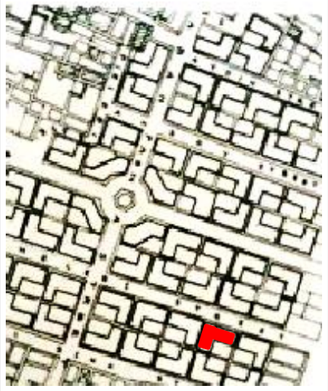
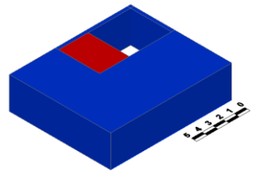
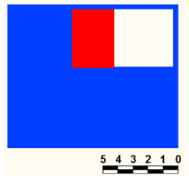
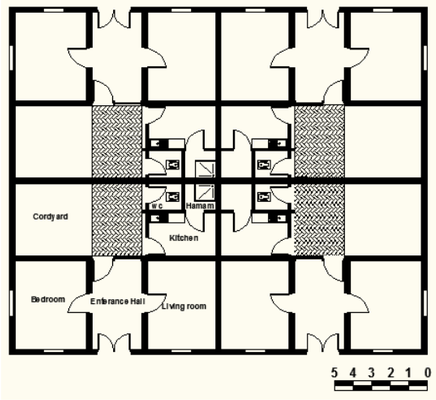
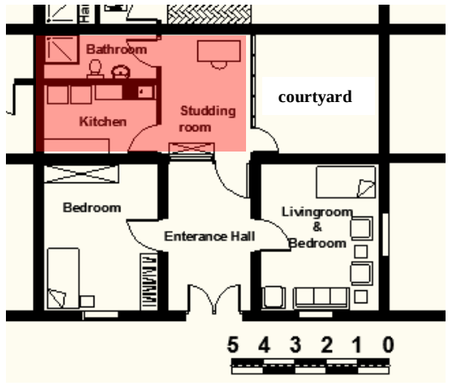
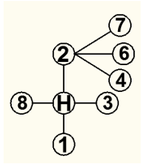
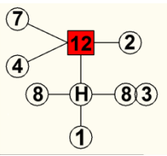
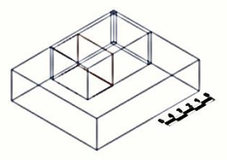
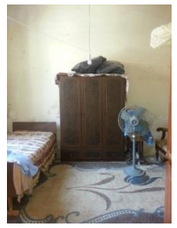
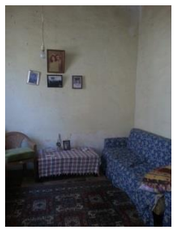
Living room	Living room (transformed courtyard to living room)	Kitchen	Master bedroom	Bedroom	Toilet with bathroom	Courtyard

Transformed
Hall to Living room



Transformed
Living room to Bedroom

A4	TYPE A	SAMANBAHÇE SOCIAL HOUSES/NICOSIA				
Inventory of Samanbahçe Row Houses		Photograph of Samanbahçe Houses	Site plan of Samanbahçe Houses	Functional Transformation		Formal Transformation
Name of Housing Group: Samanbahçe Houses **Period of Construction**: 1878-1960 **Region of Construction**: Nicosia **Type of Housing group**: Row/Attached House **Wall material**: Stone **Roof material**: Tile **Type of Construction**: Loadbearing **Location of House:** İbni Sina Street,No:28, Wallcity/Nicosia				Transformed plan organization: House consist: • Livingroom • Kitchen • Toilet with bathroom • Two bedroom At the ground floor plan User • Enlarged kitchen and toilet • Part of the inner courtyard transformed to kitchen		 3d View of transformed space  ☒ Additive ☒ Subtractive ☑ Dimensional
Orginal Ground Floor Plan		Ground Floor Plan(Transformed-Changed)	Codes of Justified graph	Justified Graph 1	Justified graph 2	Spatial Transformation
			1: Street 2: Courtyard 3: Living room 4: Kitchen 5: Dinning room 6: Wc 7: Bathroom 8: Bedroom 9: Balcony 10: Terrace 11: Loundry 12: Studing room 13: Storage 14:Changing room C:Colidor H:Hall S:Staircase ■:Transformation	 (Original) Ground Floor Plan	 (Transformed) Changed Ground Floor Plan	☑ Space within a space ☒ Interlocking spaces ☒ Adjacent spaces ☒ Spaces linked by a common space  The form of the intermediate space can be residual in nature and be determined solely by the forms and orientations of the two spaces being linked.
Living room		Living room (transformed courtyard to living room)	Kitchen	Master bedroom	Bedroom	Toilet with bathroom Courtyard
Transformed Hall to Living room 						 

A5	TYPE A	SAMANBAHÇE SOCIAL HOUSES/NICOSIA				
Inventory of Samanbahçe Row Houses		Photograph of Samanbahçe Houses	Site plan of Samanbahçe Houses	Functional Transformation		Formal Transformation
Name of Housing Group: Samanbahçe Houses **Period of Construction**: 1878-1960 **Region of Construction**: Nicosia **Type of Housing group**: Row/Attached House **Wall material**: Stone **Roof material**: Tile **Type of Construction**:Loadbearing **Location of House:** İbni Sina Street,No:29, Wallcity/Nicosia				Transformed plan organization: House consist: • Livingroom • Kitchen • Toilet with bathroom • Three bedroom both living room At the ground floor plan User • Enlarged livingroom & kitchen • Transformed open space to closed space (courtyard to studding room)		 3d View of transformed space  ☒ Additive ☒ Subtractive ☑ Dimensional
Orginal Ground Floor Plan		Ground Floor Plan(Transformed-Changed)	Codes of Justified graph	Justified Graph 1	Justified graph 2	Spatial Transformation
			1: Street 2: Courtyard 3: Living room 4: Kitchen 5: Dinning room 6: Wc 7: Bathroom 8: Bedroom 9: Balcony 10: Terrace 11: Loundry 12: Studing room 13: Storage 14:Changing room C:Colidor H:Hall S:Staircase ■:Transformation	 (Original) Ground Floor Plan	 (Transformed) Changed Ground Floor Plan	☑ Space within a space ☒ Interlocking spaces ☒ Adjacent spaces ☒ Spaces linked by a common space  The form of the intermediate space can be residual in nature and be determined solely by the forms and orientations of the two spaces being linked.
Hall		Studding room	Kitchen	Master bedroom	Bedroom	Courtyard
No Transformation 		Transformed Courtyard to Studding Room 				 

B1	TYPE A	KAYMAKLI STANDARD HOUSES/NICOSIA			

Inventory of Kaymaklı Standard Houses

Name of Housing Group: Standard Houses

Period of Construction: 1878-1960

Region of Construction: Nicosia/Kaymaklı

Type of Housing group: Row/Attached House

Wall material: Stone

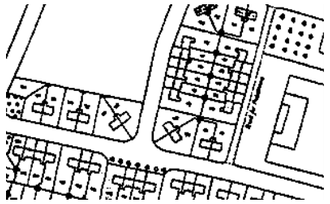
Roof material: Tile

Type of Construction: Loadbearing

Location of House: Mehmet Şah Street, No: 10, Kymaklı/Nicosia

Photograph of Kaymaklı Standard Houses

Site plan of Kaymaklı Standard Houses



Codes of Justified graph

1: Street
2: Courtyard
3: Living room
4: Kitchen
5: Dinning room
6: Wc
7: Bathroom
8: Bedroom
9: Balcony
10: Terrace
11: Loundry
12: Studing room
13: Storage
14:Changing room
C:Colidor
H:Hall
S:Staircase
:Transformation

Functional Transformation

Transformed plan organization:
House consist:

- Livingroom
- Kitchen
- Bathroom with bathroom

At the ground floor plan

- One bedroom
- Toilet with bathroom

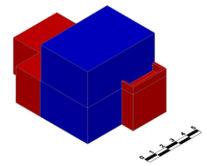
at the first floor plan
User

- Enlarged livingroom (covered semi-enterance hall) added space
- Added kitchen and bedroom

at the ground floor.

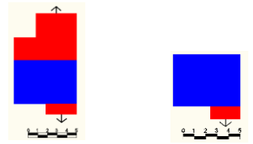
- Changed function bedroom as a batroom at the first floor plan.

Formal Transformation



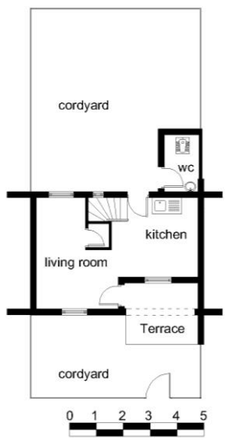
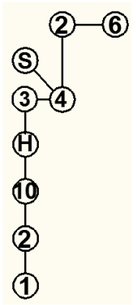
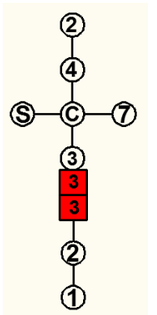
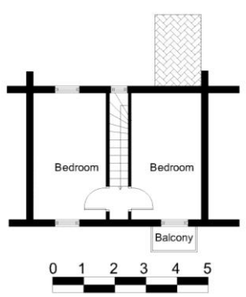
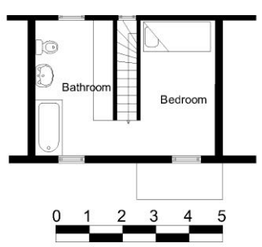
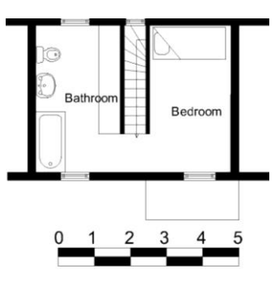
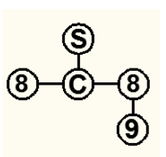
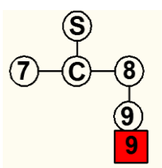
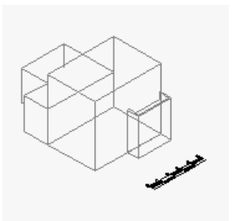
☑ Additive
☒ Subtractive
☑ Dimensional

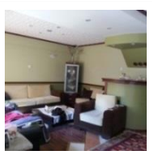
3d View of transformed space



Ground Floor First Floor Plan

☑ Front
☑ Back
☒ Side/ s

Orginal Ground Floor Plan	Transformed Ground Floor Plan	Transformed	Justified Graph 1	Justified graph 2	Spatial Transformation
					☒ Space within a space ☒ Interlocking spaces ☑ Adjacent spaces ☒ Spaces linked by a common space
Original First Floor Plan	Transformed First Floor Plan	Transformed	Justified Graph 1	Justified Graph 2	
					

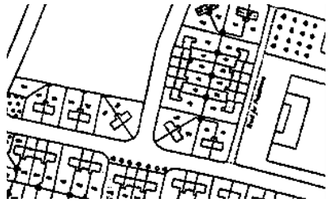
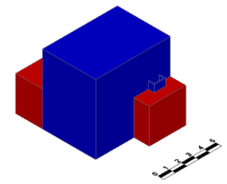
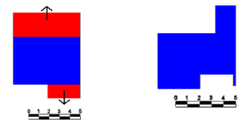
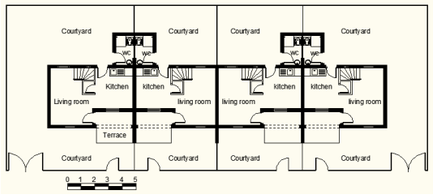
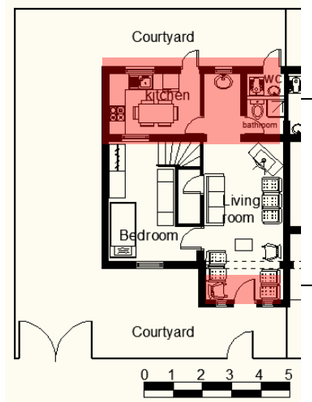
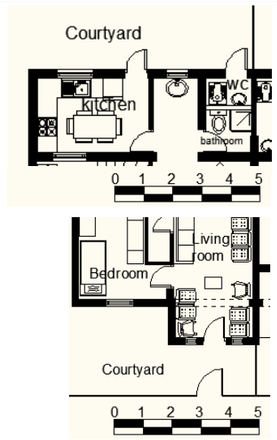
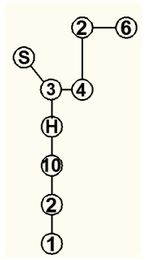
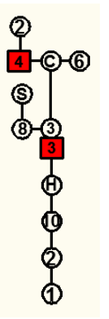
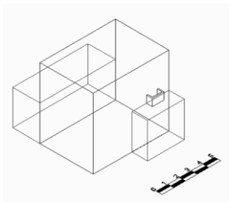
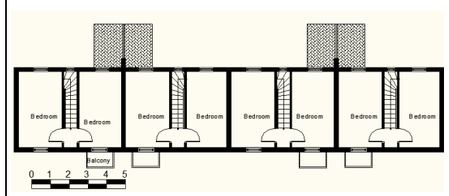
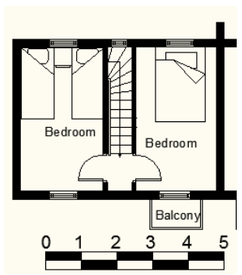
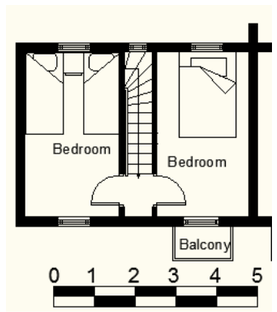
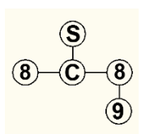
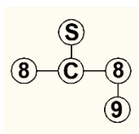
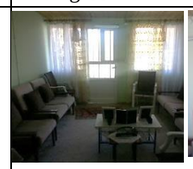
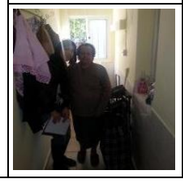
Exterior facade	Livingroom	Kitchen
		
Added bedroom	Bathroom	Bedroom
	Functionaly transformed Bedroom to Bathroom	No Transformation

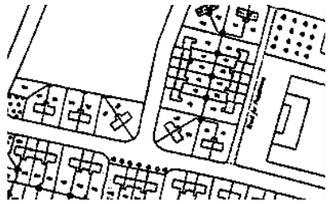
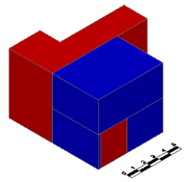
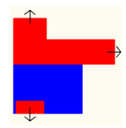
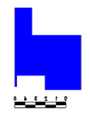
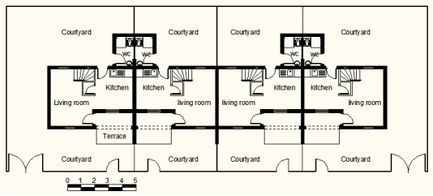
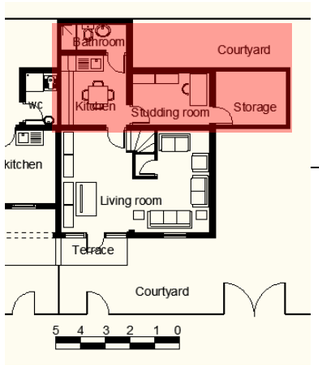
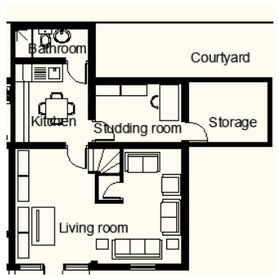
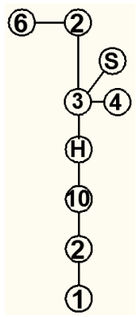
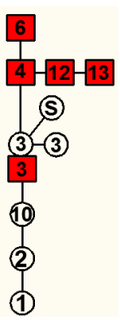
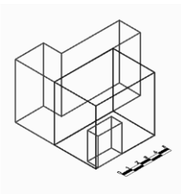
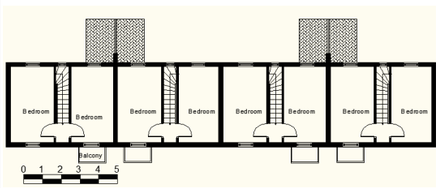
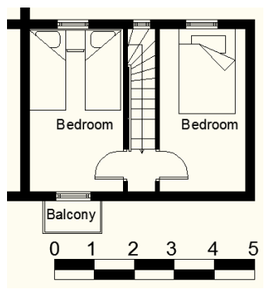
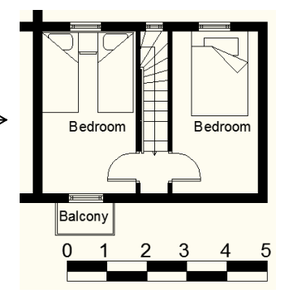
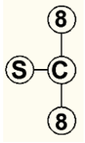
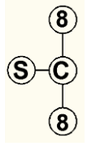
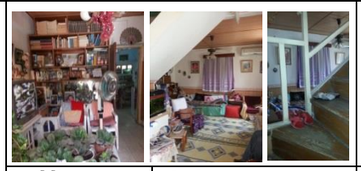
(Original) Ground Floor Plan

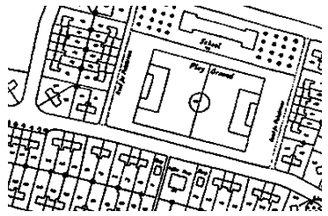
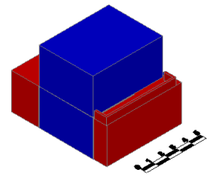
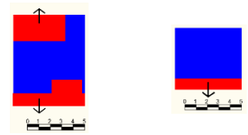
(Transformed) Changed Ground Floor Plan

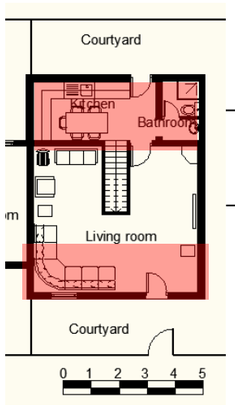
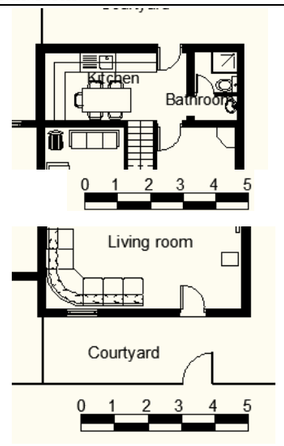
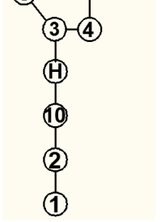
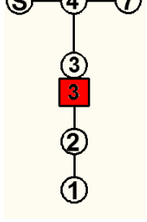
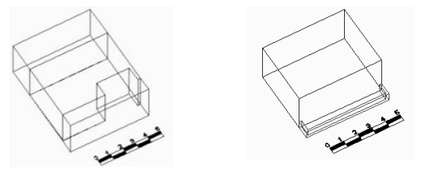
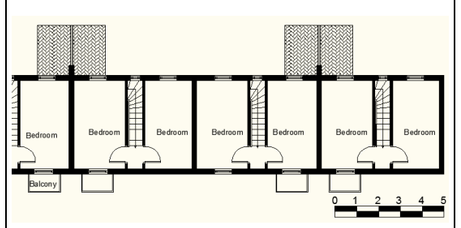
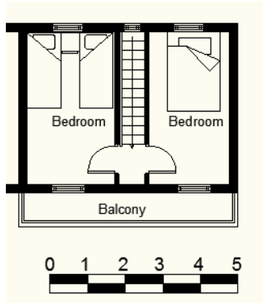
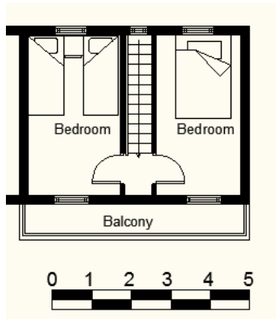
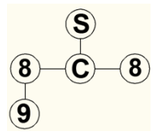
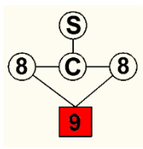
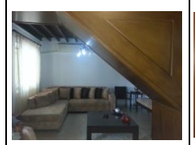
(Original) First Floor Plan

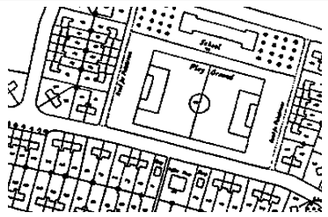
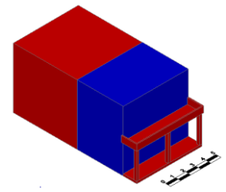
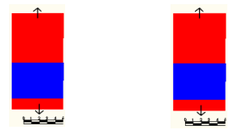
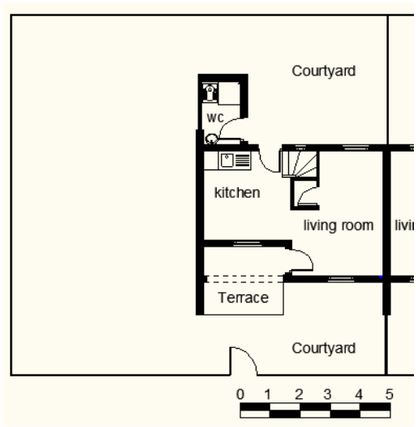
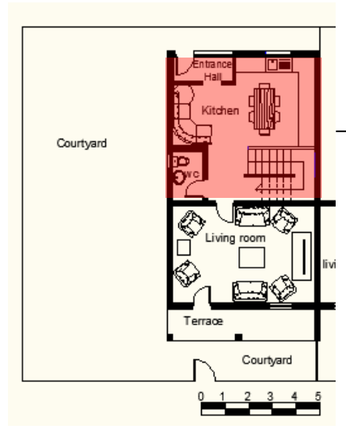
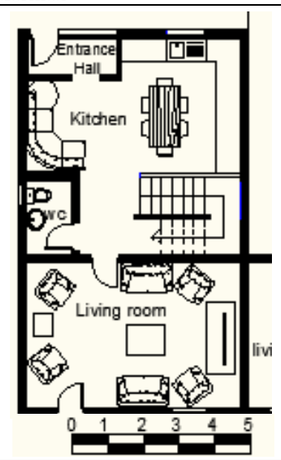
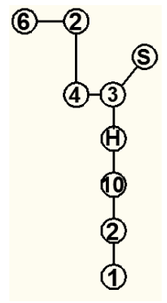
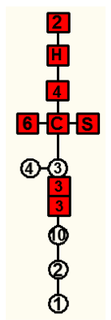
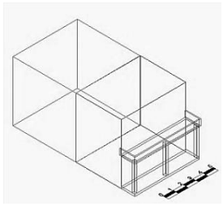
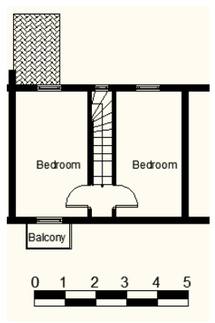
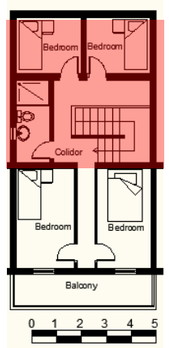
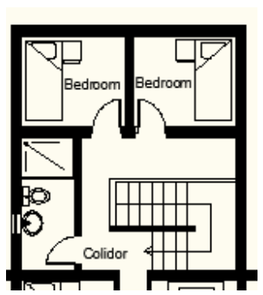
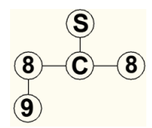
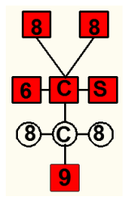
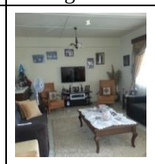
(Transformed) Changed First Floor Plan

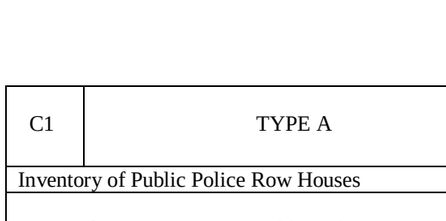
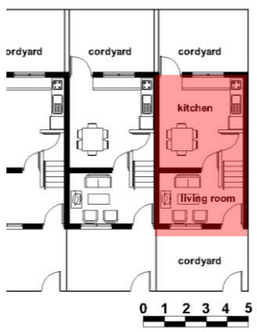
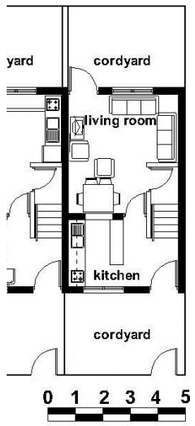
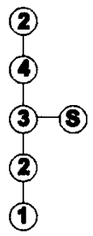
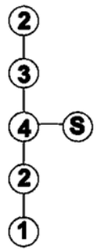
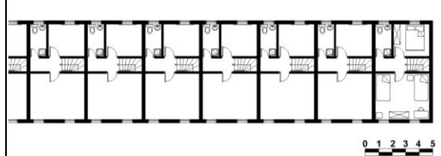
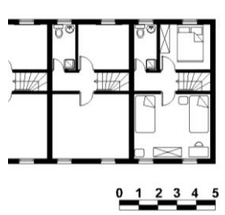
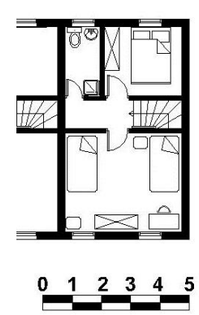
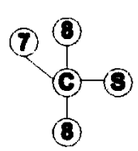
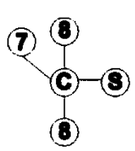
B2	TYPE A	KAYMAKLI STANDARD HOUSES/NICOSIA			
Inventory of Kaymaklı Standard Houses		Photograph of Kaymaklı Standard Houses	Codes of Justified graph	Functional Transformation	Formal Transformation
Name of Housing Group: Standard Houses **Period of Construction**: 1878-1960 **Region of Construction**: Nicosia/Kaymaklı **Type of Housing group**: Row/Attached House **Wall material**: Stone **Roof material**: Tile **Type of Construction**: Loadbearing **Location of House:** İstiklal Street, No: 23, Kymaklı/Nicosia		 Site plan of Kaymaklı Standard Houses 	1: Street 2: Courtyard 3: Living room 4: Kitchen 5: Dinning room 6: Wc 7: Bathroom 8: Bedroom 9: Balcony 10: Terrace 11: Loundry 12: Studing room 13: Storage 14:Changing room C:Colidor H:Hall S:Staircase :Transformation	Transformed plan organization: House consist: • Livingroom • Kitchen • Toilet(wc) At the ground floor plan • Three bedroom • Toilet with bathroom At the first floor plan User • Enlarged livingroom (covered semi-enterance hall) and added space • Added kitchen	 3d View of transformed space  Ground Floor First Floor Plan ☑ Additive ☒ Subtractive ☑ Dimensional ☑ Front ☑ Back ☒ Side/ s
Orginal Ground Floor Plan		Transformed Ground Floor Plan	Transformed	Justified Graph 1	Justified graph 2
				 (Original) Ground Floor Plan	 (Transformed) Changed First Floor Plan
Spatial Transformation					
☒ Space within a space ☒ Interlocking spaces ☑ Adjacent spaces ☒ Spaces linked by a common space					
					
Original First Floor Plan		Transformed First Floor Plan	No Transformation	Justified Graph 1	Justified Graph 2
				 (Original) First Floor Plan	 (Transformed) Changed Ground Floor Plan
Livingroom					Kitchen
					
Colidor between kitchen&batroom	Bedroom				Bedroom
	No Transformation				No Transformation

B3	TYPE B	KAYMAKLI STANDARD HOUSES/NICOSIA			
Inventory of Kaymaklı Standard Houses		Photograph of Kaymaklı Standard Houses	Codes of Justified graph	Functional Transformation	Formal Transformation
Name of Housing Group: Standard Houses **Period of Construction**: 1878-1960 **Region of Construction**: Nicosia/Kaymaklı **Type of Housing group**: Semi-Detached House **Wall material**: Stone **Roof material**: Tile **Type of Construction**: Loadbearing **Location of House:** Taşpınar Sokak, No: 2 Kaymaklı, Lefkoşa		 Site plan of Kaymaklı Standard Houses 	1: Street 2: Courtyard 3: Living room 4: Kitchen 5: Dinning room 6: Wc 7: Bathroom 8: Bedroom 9: Balcony 10: Terrace 11: Loundry 12: Studing room 13: Storage 14:Changing room C:Colidor H:Hall S:Staircase :Transformation	Transformed plan organization: House consist: • Livingroom • Kitchen • Studding room • Storage • Toilet with bathroom At the ground floor plan • Two bedroom At the first floor plan User • Addd kitchen • Added studdIng room • Added Storage at the ground floor • No transformation at the first floor	 ☑ Additive ☒ Subtractive ☑ Dimensional 3d View of transformed space   Ground Floor First Floor Plan ☑ Front ☑ Back ☑ Side/ s
Orginal Ground Floor Plan	Transformed Ground Floor Plan	Transformed	Justified Graph 1	Justified graph 2	Spatial Transformation
			 (Original) Ground Floor Plan	 (Transformed) Changed Ground Floor Plan	☒ Space within a space ☒ Interlocking spaces ☑ Adjacent spaces ☒ Spaces linked by a common space 
Original First Floor Plan	Transformed First Floor Plan	No Transformation	Justified Graph 1	Justified Graph 2	Livingroom / Kitchen
			 (Original) First Floor Plan	 (Transformed) Changed First Floor Plan	 Studding room / Bedroom / Bedroom  No Transformation / No Transformation

B4	TYPE A	KAYMAKLI STANDARD HOUSES/NICOSIA				
Inventory of Kaymaklı Standard Houses		Photograph of Kaymaklı Standard Houses	Codes of Justified graph	Functional Transformation	Formal Transformation	
Name of Housing Group: Standard Houses **Period of Construction**: 1878-1960 **Region of Construction**: Nicosia/Kaymaklı **Type of Housing group**: Row/Attached House **Wall material**: Stone **Roof material**: Tile **Type of Construction**: Loadbearing **Location of House:** İstiklal Street,No :22 Kaymaklı/Nicosia		 Site plan of Kaymaklı Standard Houses 	1: Street 2: Courtyard 3: Living room 4: Kitchen 5: Dinning room 6: Wc 7: Bathroom 8: Bedroom 9: Balcony 10: Terrace 11: Loundry 12: Studing room 13: Storage 14:Changing room C:Colidor H:Hall S:Staircase ■:Transformation	Transformed plan organization: House consist: • Livingroom • Kitchen • Studding room • Storage • Toilet with bathroom At the ground floor plan • Two bedroom At the first floor plan User • Addd kitchen • Added studding room • Added Storage	 3d View of transformed space  Ground Floor First Floor Plan	☑ Additive ☒ Subtractive ☑ Dimensional ☑ Front ☑ Back ☒ Side/ s

Orginal Ground Floor Plan	Transformed Ground Floor Plan	Transformed	Justified Graph 1	Justified graph 2	Spatial Transformation
					☒ Space within a space ☒ Interlocking spaces ☑ Adjacent spaces ☒ Spaces linked by a common space  Ground floor Fırst floor
Original First Floor Plan	Transformed First Floor Plan	No Transformation	Justified Graph 1	Justified Graph 2	Livingroom / Kitchen / Toilet
					  
					Master Bedroom / Bedroom / Bedroom
			(Original) Ground Floor Plan	(Transformed) Changed Ground Floor Plan	No Transformation / No Transformation / No Transformation
			(Original) First Floor Plan	(Transformed) Changed First Floor Plan	

B5	TYPE A	KAYMAKLI STANDARD HOUSES/NICOSIA				
Inventory of Kaymaklı Standard Houses		Photograph of Kaymaklı Standard Houses	Codes of Justified graph	Functional Transformation	Formal Transformation	
Name of Housing Group: Standard Houses **Period of Construction**: 1878-1960 **Region of Construction**: Nicosia/Kaymaklı **Type of Housing group**: Row/Attached House **Wall material**: Stone **Roof material**: Tile **Type of Construction**: Loadbearing **Location of House:** Çiçek Street No: 1 Kaymaklı/Nicosia		 Site plan of Kaymaklı Standard Houses 	1: Street 2: Courtyard 3: Living room 4: Kitchen 5: Dinning room 6: Wc 7: Bathroom 8: Bedroom 9: Balcony 10: Terrace 11: Loundry 12: Studing room 13: Storage 14:Changing room C:Colidor H:Hall S:Staircase :Transformation	Transformed plan organization: House consist: • Livingroom • Kitchen • Toilet (wc) At the ground floor plan • Four bedroom • Toilet with bathroom At the first floor plan User • Enlarged livingroom (covered semi-open entrance hall) • Added kitchen,livingroom at the ground floor • Added two bedroom and bathroom at the first floor.	 3d View of transformed space  Ground Floor First Floor Plan	☑ Additive ☒ Subtractive ☑ Dimensional ☑ Front ☑ Back ☒ Side/ s
Orginal Ground Floor Plan		Transformed Ground Floor Plan	Transformed	Justified Graph 1	Justified graph 2	Spatial Transformation
				 (Original) Ground Floor Plan	 (Transformed) Changed Ground Floor Plan	☒ Space within a space ☒ Interlocking spaces ☑ Adjacent spaces ☒ Spaces linked by a common space 
Original First Floor Plan		Transformed First Floor Plan	Transformed	Justified Graph 1	Justified Graph 2	Livingroom / Kitchen
				 (Original) First Floor Plan	 (Transformed) Changed First Floor Plan	   Bedroom / Bedroom / Bedroom Added two bedrooms / No Transformation / No Transformation

C1	TYPE A	PUBLIC POLICE HOUSES/NICOSIA				
Inventory of Public Police Row Houses		Photograph of Public Police Row Houses	Codes of Justified graph	Functional Transformation	Formal Transformation	
Name of Housing Group: Public Police House **Period of Construction**: 1878-1960 **Region of Construction**: Nicosia/Çağlayan **Type of Housing group**: Row/Attached House **Wall material**: Brick **Roof material**: Tile **Type of Construction**: Reinforced Concrete Skeleton **Location of House:**Çağlayan/Nicosia		 Site plan of Public Police Row Houses 	1: Street 2: Courtyard 3: Living room 4: Kitchen 5: Dinning room 6: Wc 7: Bathroom 8: Bedroom 9: Balcony 10: Terrace 11: Loundry 12: Studing room 13: Storage 14:Changing room C:Colidor H:Hall S:Staircase ■:Transformation	Transformed plan organization: • Kitcen transformed to livingroom • Livingroom transformed to kitchen	No Formal Transformation	☒ Additive ☒ Subtractive ☒ Dimensional
					3d View of transformed space	
					No Formal Transformation	☒ Front ☒ Back ☒ Side/ s
Orginal Ground Floor Plan		Transformed Ground Floor Plan	Transformed	Justified Graph 1	Justified graph 2	Spatial Transformation
						☒ Space within a space ☒ Interlocking spaces ☒ Adjacent spaces ☒ Spaces linked by a common space
				(Original) Ground Floor Plan	(Transformed) Changed Ground Floor Plan	No Spatial Transformation
Original First Floor Plan		Transformed First Floor Plan	Transformed	Justified Graph 1	Justified Graph 2	Livingroom / Kitchen
						
				(Original) First Floor Plan	(Transformed) Changed First Floor Plan	Courtyard / Bedroom / Bedroom
						 No Transformation / No Transformation

D1	TYPE A	REFUGEE HOUSES IN GÖÇMENKÖY/NICOSIA			
Inventory of Refugee Row Houses		Photograph of Refugee Houses	Codes of Justified graph	Functional Transformation	Formal Transformation

Name of Housing Group: Refugee Row Houses

Period of Construction: 1963-1974

Region of Construction: Nicosia/Göçmenköy

Type of Housing group: Row/Attached House

Wall material: Brick

Roof material: Tile

Type of Construction:Reinforced-Concrete Skeleton

Location of House: Şht, Özay Mehmetali Street, No :22, Göçmenköy/Nicosia

Site plan of Refugee Row Houses

1: Street
2: Courtyard
3: Living room
4: Kitchen
5: Dinning room
6: Wc
7: Bathroom
8: Bedroom
9: Balcony
10: Terrace
11: Loundry
12: Studing room
13: Storage
14:Changing room
C:Colidor
H:Hall
S:Staircase
:Transformation

Transformed plan organization:
House consist:

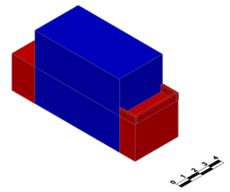
- Livingroom
- Kitchen
- Toilet(wc)

At the ground floor plan

- Two bedroom at the first floor

User

- Enlarged livingroom & kitchen

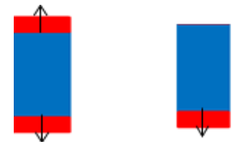


☑ Additive

☒ Subtractive

☑ Dimensional

3d View of transformed space



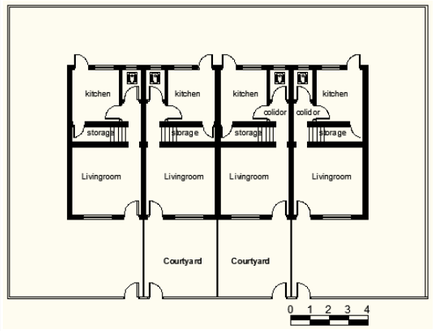
Ground Floor First Floor Plan

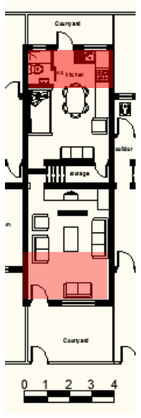
☑ Front

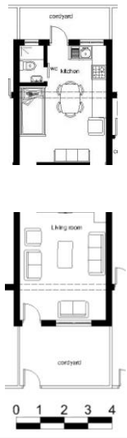
☑ Back

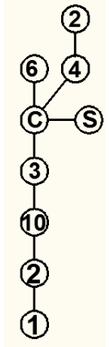
☒ Side/ s

Orginal Ground Floor Plan	Transformed Ground Floor Plan	Transformed	Justified Graph 1	Justified graph 2	Spatial Transformation

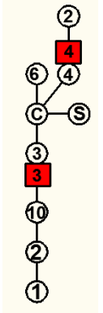








(Original) Ground Floor Plan



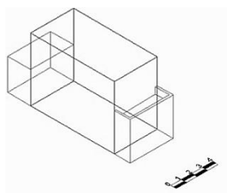
(Transformed) Changed Ground Floor Plan

☒ Space within a space

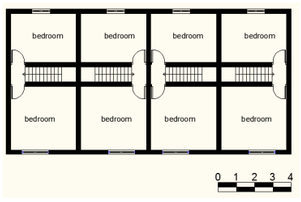
☒ Interlocking spaces

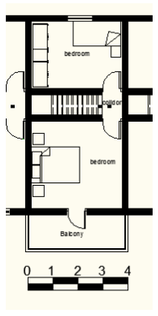
☑ Adjacent spaces

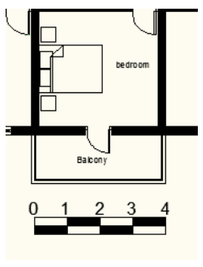
☒ Spaces linked by a common space

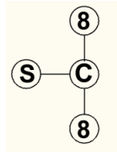


Original First Floor Plan	Transformed First Floor Plan	Transformed	Justified Graph 1	Justified Graph 2	Livingroom	Kitchen

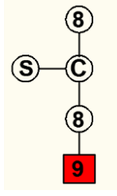








(Original) First Floor Plan



(Transformed) Changed First Floor Plan

Balcony of bedroom	Bedroom	Bedroom

No Transformation

No Transformation

D2	TYPE A	REFUGEE HOUSES IN GÖÇMENKÖY/NICOSIA			
Inventory of RefugeeRow Houses		Photograph of Refugee Row Houses	Codes of Justified graph	Functional Transformation	Formal Transformation

Name of Housing Group: Refugee Row Houses

Period of Construction: 1963-1974

Region of Construction: Nicosia/Göçmenköy

Type of Housing group: Row/Attached House

Wall material: Brick

Roof material: Tile

Type of Construction:Reinforced-Concrete Skeleton

Location of House: Şht. Mehmet Oğuz Street, No: 1

Site plan of Refugee Row Houses

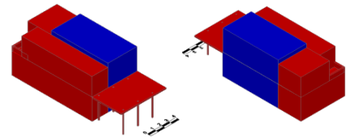
1: Street
2: Courtyard
3: Living room
4: Kitchen
5: Dinning room
6: Wc
7: Bathroom
8: Bedroom
9: Balcony
10: Terrace
11: Loundry
12: Studing room
13: Storage
14:Changing room
C:Colidor
H:Hall
S:Staircase
:Transformation

Transformed plan organization:
House consist:

- Livingroom
- Kitchen
- Toilet with bathroom at the ground floor plan
- Three bedroom

At the first floor plan
User

- Enlarged livingroom & kitchen
- Added small living room
- Added garage

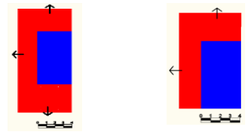


☑ Additive

☒ Subtractive

☑ Dimensional

3d View of transformed space



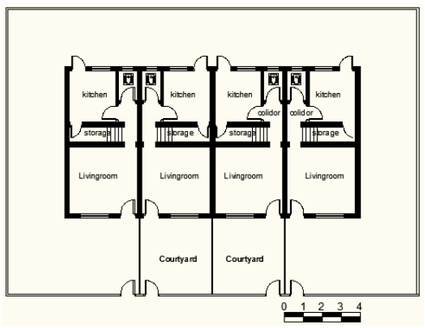
Ground Floor First Floor Plan

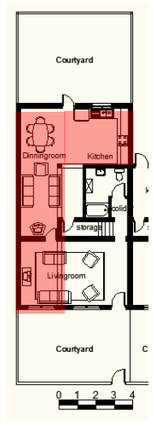
☑ Front

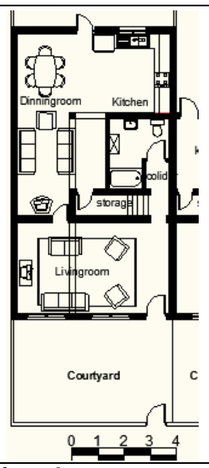
☑ Back

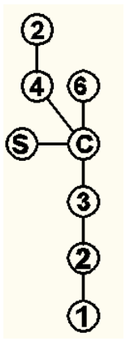
☑ Side/ s

Orginal Ground Floor Plan	Transformed Ground Floor Plan	Transformed	Justified Graph 1	Justified graph 2	Spatial Transformation

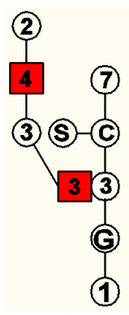








(Original) Ground Floor Plan



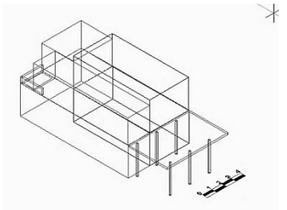
(Transformed) Changed Ground Floor Plan

☒ Space within a space

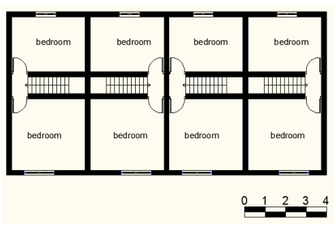
☒ Interlocking spaces

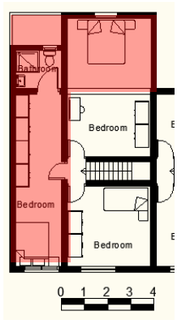
☑ Adjacent spaces

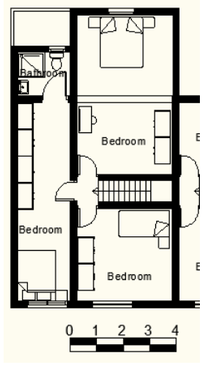
☒ Spaces linked by a common space

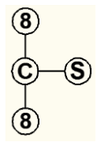


Original First Floor Plan	Transformed First Floor Plan	Transformed	Justified Graph 1	Justified Graph 2	Livingroom	Livingroom	Kitchen	Toilet

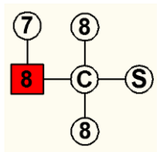








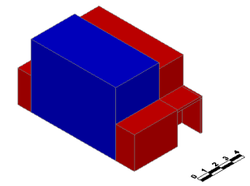
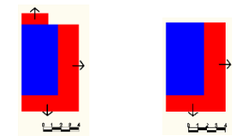
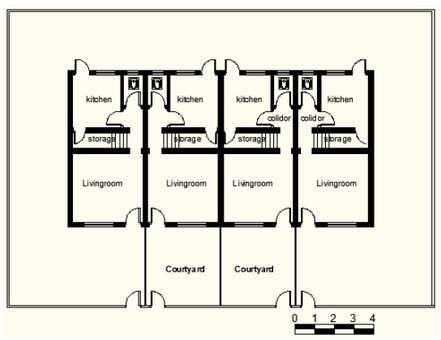
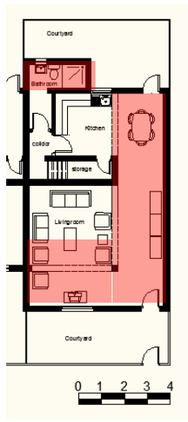
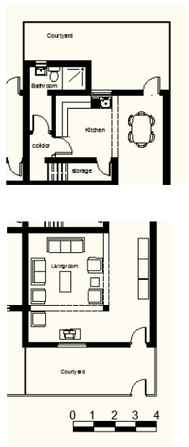
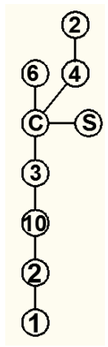
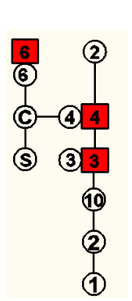
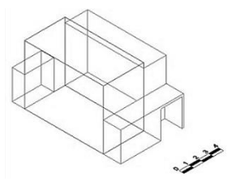
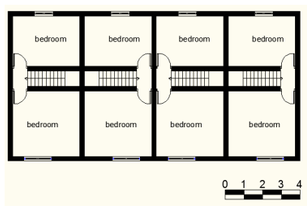
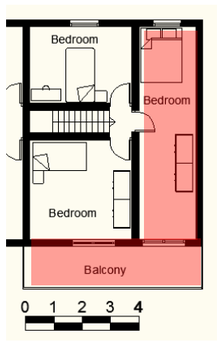
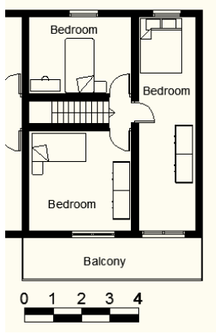
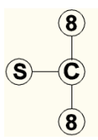
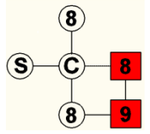
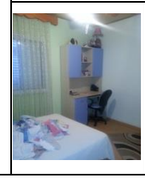
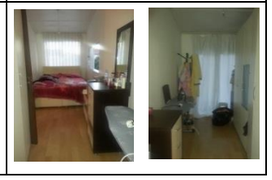
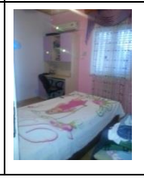
(Original) First Floor Plan

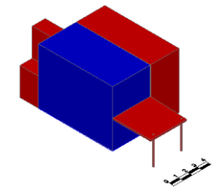
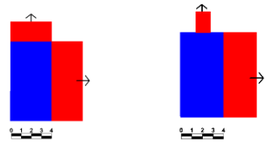
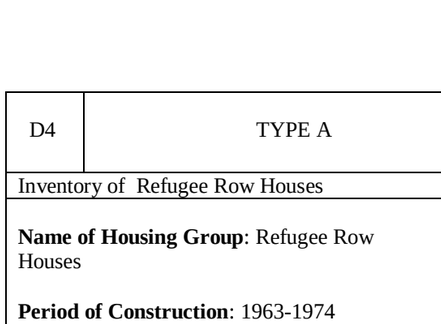
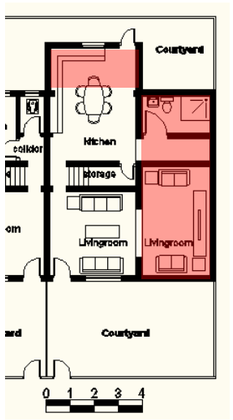
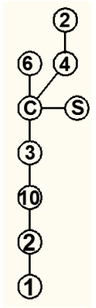
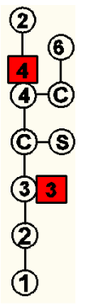
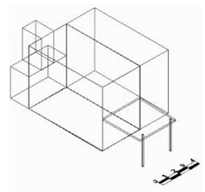
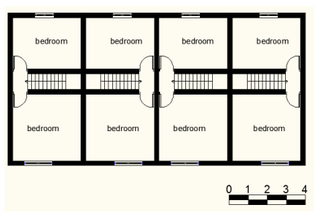
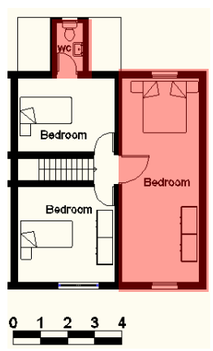
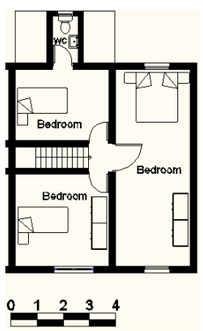
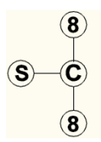
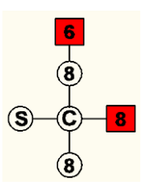
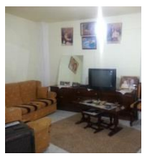


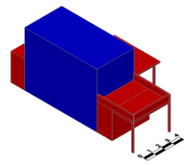
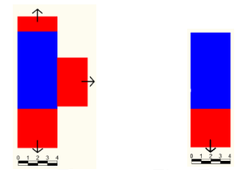
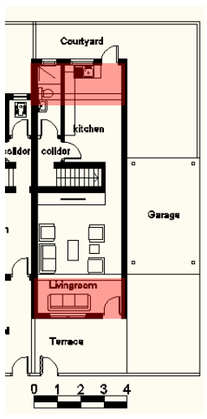
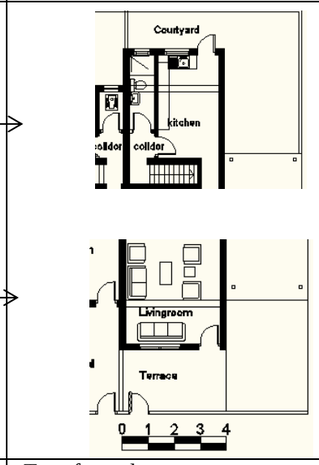
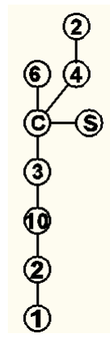
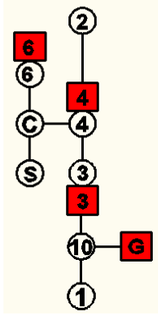
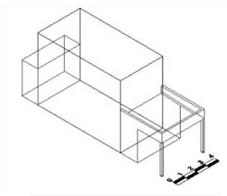
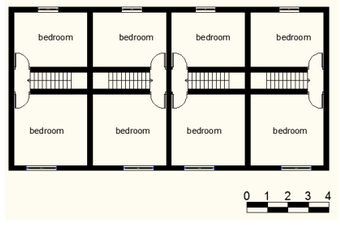
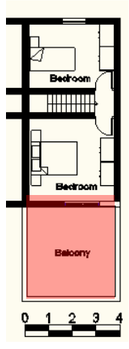
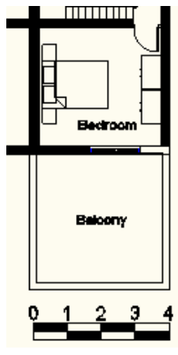
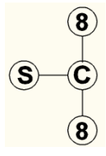
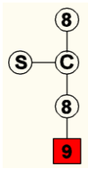
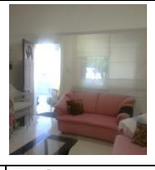
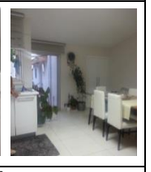
(Transformed) Changed Ground Floor Plan

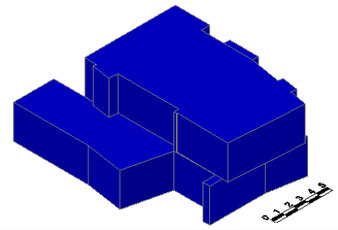
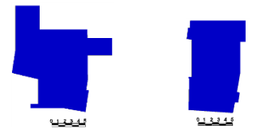
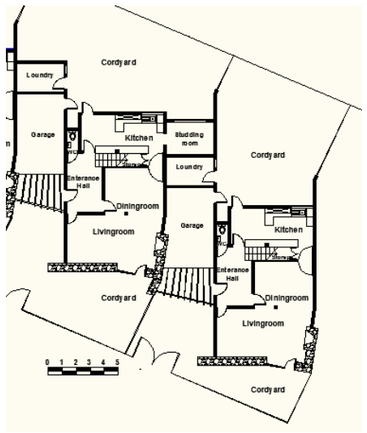
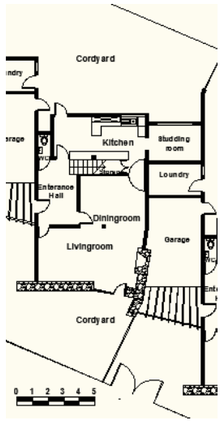
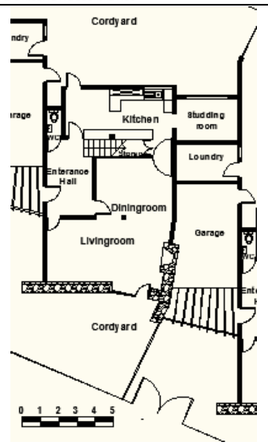
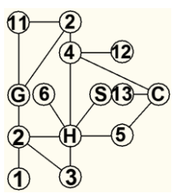
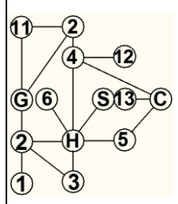
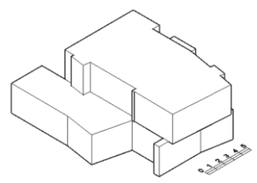
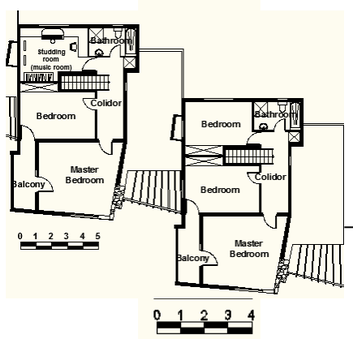
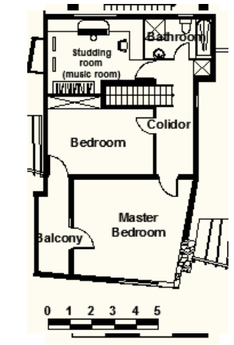
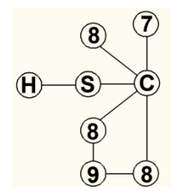
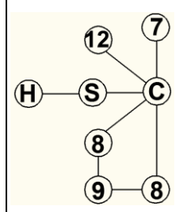
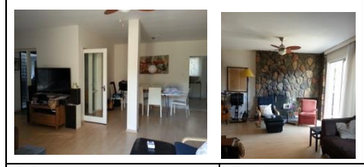
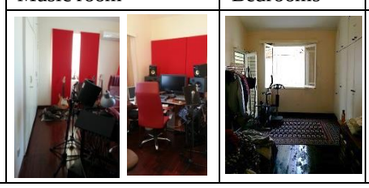
Bedroom Bedroom Exterior view of bedrooms

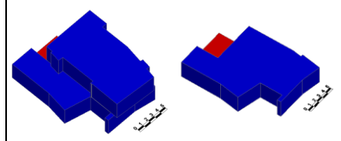
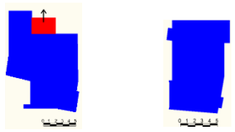
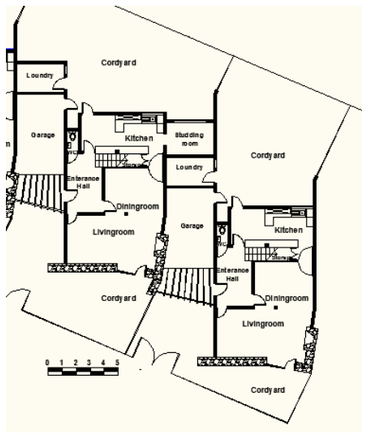
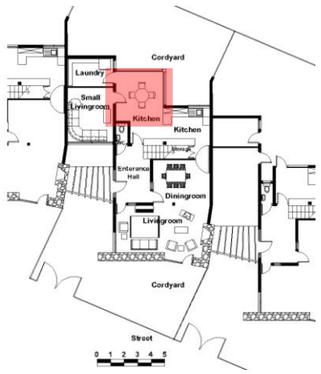
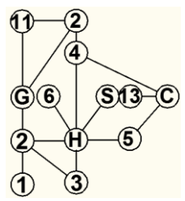
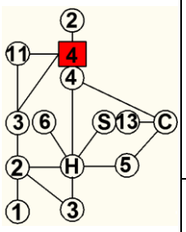
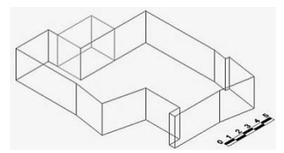
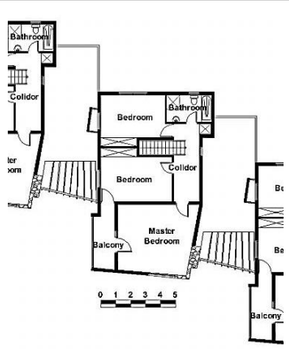
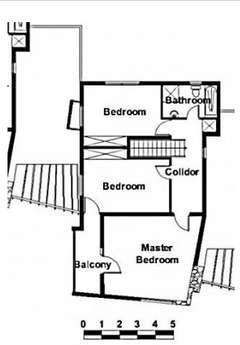
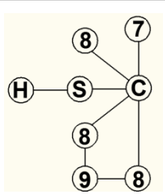
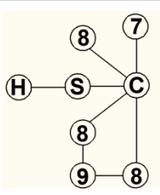
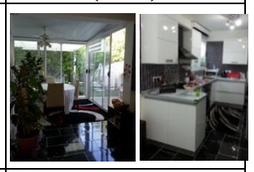
Transformed Transformed

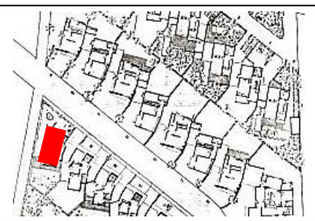
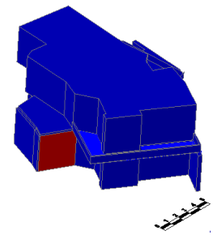
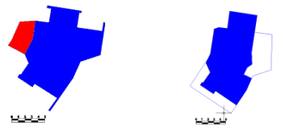
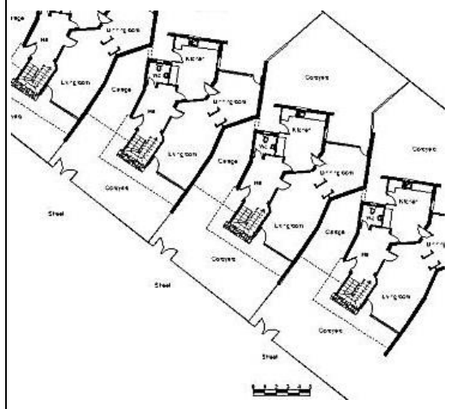
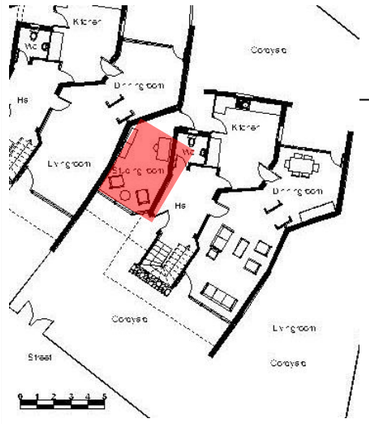
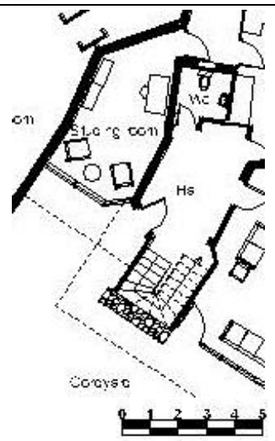
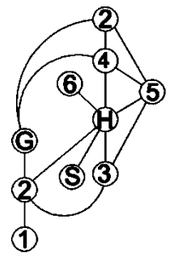
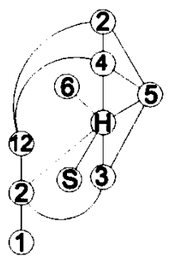
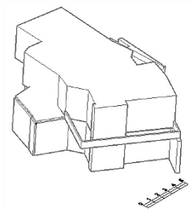
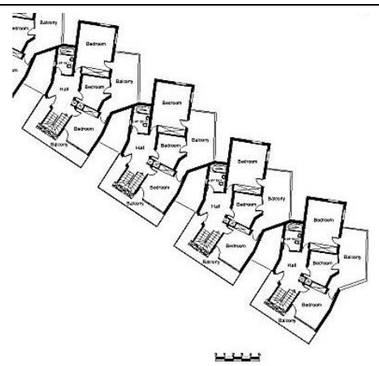
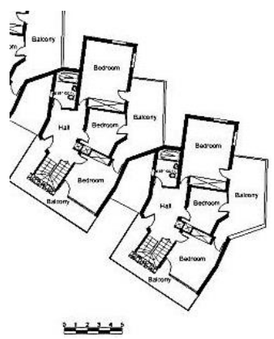
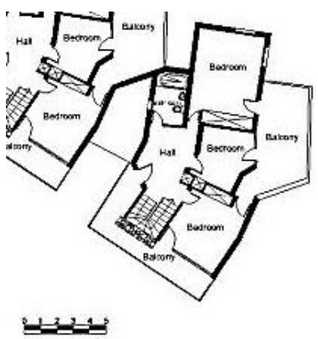
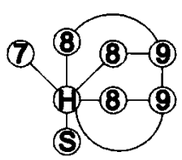
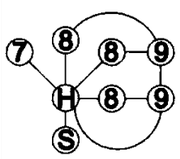
D3	TYPE A	REFUGEE HOUSES IN GÖÇMENKÖY/NICOSIA				
Inventory of Refugee Row Houses		Photograph of Refugee Row Houses	Codes of Justified graph	Functional Transformation		Formal Transformation
Name of Housing Group: Refugee Row Houses **Period of Construction**: 1963-1974 **Region of Construction**: Nicosia/Göçmenköy **Type of Housing group**: Row/Attached House **Wall material**: Brick **Roof material**: Tile **Type of Construction**:Reinforced-Concrete Skeleton **Location of House:** Şht. Mehmet Oğuz Street, No: 4		 Site plan of Refugee Row Houses 	1: Street 2: Courtyard 3: Living room 4: Kitchen 5: Dinning room 6: Wc 7: Bathroom 8: Bedroom 9: Balcony 10: Terrace 11: Loundry 12: Studing room 13: Storage 14:Changing room C:Colidor H:Hall S:Staircase :Transformation	Transformed plan organization: House consist: • Livingroom • Kitchen • Toilet(wc) At the ground floor plan • Three bedroom • Toilet with bathroom At the first floor plan User • Enlarged livingroom & kitchen • Enlarged toilet Added bedroom room at hte first floor		 3d View of transformed space  Ground Floor First Floor Plan ☑ Additive ☒ Subtractive ☑ Dimensional ☑ Front ☑ Back ☑ Side/ s
Orginal Ground Floor Plan	Transformed Ground Floor Plan	Transformed	Justified Graph 1	Justified graph 2		Spatial Transformation
 	 	 	 (Original) Ground Floor Plan	 (Transformed) Changed Ground Floor Plan	☒ Space within a space ☒ Interlocking spaces ☑ Adjacent spaces ☒ Spaces linked by a common space 
Original First Floor Plan	Transformed First Floor Plan	Transformed	Justified Graph 1	Justified Graph 2	Livingroom	Kitchen
 	 	 	 (Original) First Floor Plan	 (Transformed) Changed First Floor Plan	 Bedroom	 Master bedroom
						
					Bedroom	
						

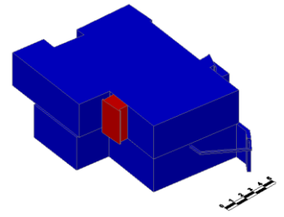
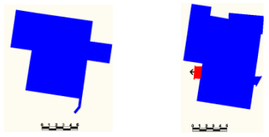
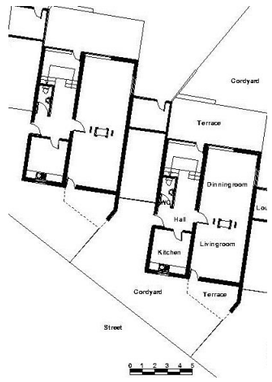
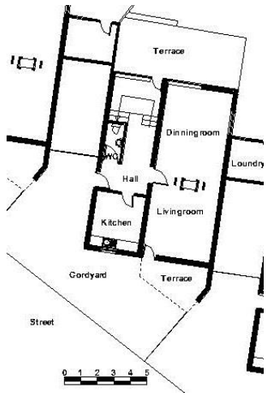
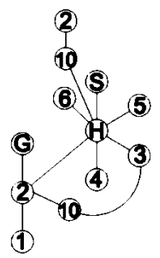
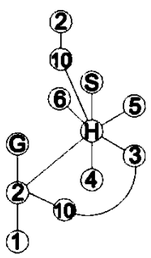
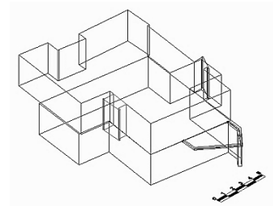
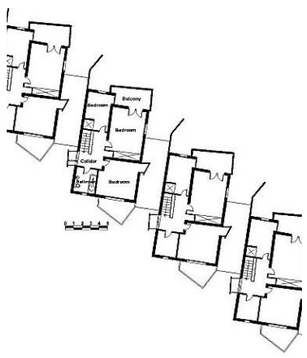
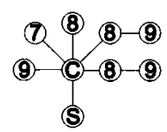
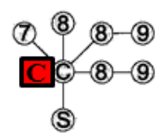
D4	TYPE A	REFUGEE HOUSES IN GÖÇMENKÖY/NICOSIA			
Inventory of Refugee Row Houses		Photograph of Refugee Row Houses	Codes of Justified graph	Functional Transformation	Formal Transformation
Name of Housing Group: Refugee Row Houses **Period of Construction**: 1963-1974 **Region of Construction**: Nicosia/Göçmenköy **Type of Housing group**: Row/Attached House **Wall material**: Brick **Roof material**: Tile **Type of Construction**:Reinforced-Concrete Skeleton **Location of House:** Şht. Mehmet Oğuz Street, No: 11		 Site plan of Refugee Row Houses 	1: Street 2: Courtyard 3: Living room 4: Kitchen 5: Dinning room 6: Wc 7: Bathroom 8: Bedroom 9: Balcony 10: Terrace 11: Loundry 12: Studing room 13: Storage 14:Changing room C:Colidor H:Hall S:Staircase :Transformation	Transformed plan organization: House consist: • Livingroom • Kitchen • Toilet with bathroom At the ground floor plan • Three bedroom • Toilet with bathroom At the first floor plan User • Enlarged livingroom & kitchen • Added toilet with bathroom Added toilet at the first floor	 ☑ Additive ☒ Subtractive ☑ Dimensional 3d View of transformed space  Ground Floor First Floor Plan ☑ Front ☑ Back ☑ Side/ s
Orginal Ground Floor Plan	Transformed Ground Floor Plan	Transformed	Justified Graph 1	Justified graph 2	Spatial Transformation
			 (Original) Ground Floor Plan	 (Transformed) Changed Ground Floor Plan	☒ Space within a space ☒ Interlocking spaces ☑ Adjacent spaces ☒ Spaces linked by a common space 
Original First Floor Plan	Transformed First Floor Plan	Transformed	Justified Graph 1	Justified Graph 2	Livingroom / Kitchen
			 (Original) First Floor Plan	 (Transformed) Changed First Floor Plan	   Bedroom Bedroom Master bedroom Transformed Transformed 

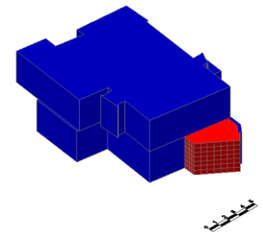
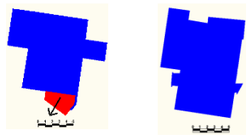
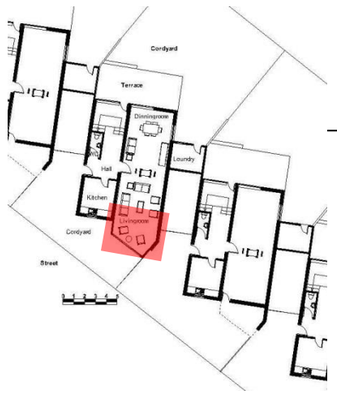
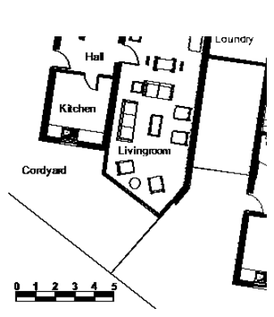
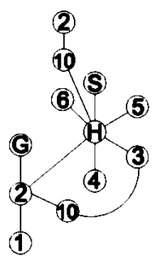
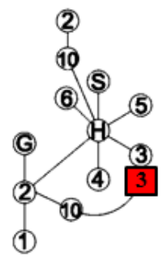
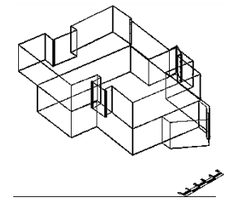
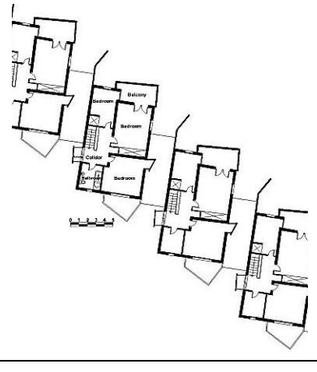
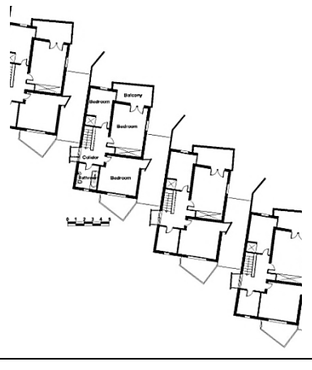
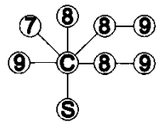
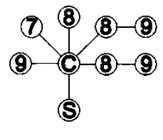
D5	TYPE A	REFUGEE HOUSES IN GÖÇMENKÖY/NICOSIA				
Inventory of Refugee Row Houses		Photograph of Refugee Row Houses	Codes of Justified graph	Functional Transformation	Formal Transformation	
Name of Housing Group: Refugee Row Houses **Period of Construction**: 1963-1974 **Region of Construction**: Nicosia/Göçmenköy **Type of Housing group**: Row/Attached House **Wall material**: Brick **Roof material**: Tile **Type of Construction**:Reinforced-Concrete Skeleton **Location of House:** Şht. Mehmet Oğuz Street, No: 26		 Site plan of Refugee Row Houses 	1: Street 2: Courtyard 3: Living room 4: Kitchen 5: Dinning room 6: Wc 7: Bathroom 8: Bedroom 9: Balcony 10: Terrace 11: Loundry 12: Studing room 13: Storage 14:Changing room C:Colidor H:Hall S:Staircase :Transformation	Transformed plan organization: House consist: • Livingroom • Kitchen • Bathroom with toilet At the ground floor plan • Two bedroom At the first floor plan User • Enlarged livingroom & kitchen • Enlarged toilet	 3d View of transformed space  Ground Floor First Floor Plan	☑ Additive ☒ Subtractive ☑ Dimensional ☑ Front ☑ Back ☑ Side/ s
Orginal Ground Floor Plan		Transformed Ground Floor Plan	Transformed	Justified Graph 1	Justified graph 2	Spatial Transformation
				 (Original) Ground Floor Plan	 (Transformed) Changed Ground Floor Plan	☒ Space within a space ☒ Interlocking spaces ☑ Adjacent spaces ☒ Spaces linked by a common space 
Original First Floor Plan		Transformed First Floor Plan	Transformed	Justified Graph 1	Justified Graph 2	Livingroom / Kitchen
				 (Original) First Floor Plan	 (Transformed) Changed First Floor Plan	    Balcony / Bedrooms / Master bedroom  No Transformation No Transformation

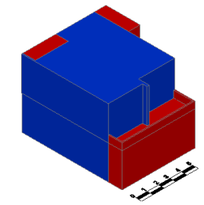
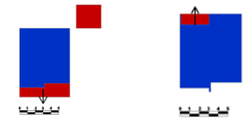
E1	TYPE A	EFRUZ ROW HOUSES IN KUMSAL/NICOSIA				
Inventory of Efruz Houses		Photograph of Efruz Houses	Codes of Justified graph	Functional Transformation	Formal Transformation	
Name of Housing Group: Efruz Row Houses **Period of Construction**: 1963-1974 **Region of Construction**: Nicosia/Kumsal **Type of Housing group**: Row/Attached House **Wall material**: Brick **Roof material**: Tile **Type of Construction**:Reinforced-Concrete Skeleton **Location of House:** Tuna Street, No : 13 Kumsal/Nicosia		 Site plan of Efruz Houses 	1: Street 2: Courtyard 3: Living room 4: Kitchen 5: Dinning room 6: Wc 7: Bathroom 8: Bedroom 9: Balcony 10: Terrace 11: Loundry 12: Studing room 13: Storage 14:Changing room C:Colidor H:Hall S:Staircase :Transformation	Transformed plan organization: House consist: • Livingroom • Kitchen • Toilet(wc) • Studding room At the ground floor plan • Three bedroom • Toilet with bathroom At the first floor plan User • Transformed bedroom to Studding room (Music Room)	 ☒ Additive ☒ Subtractive ☒ Dimensional 3d View of transformed space  Ground Floor First Floor Plan ☒ Front ☒ Back ☒ Side/ s	
Orginal Ground Floor Plan		Transformed Ground Floor Plan	No Transformation	Justified Graph 1	Justified graph 2	Spatial Transformation
				 (Original) Ground Floor Plan	 (Transformed) Changed Ground Floor Plan	☒ Space within a space ☒ Interlocking spaces ☒ Adjacent spaces ☒ Spaces linked by a common space 
Original First Floor Plan		Transformed First Floor Plan	Transformed	Justified Graph 1	Justified Graph 2	Livingroom / Kitchen
				 (Original) First Floor Plan	 (Transformed) Changed First Floor Plan	 Music room / Bedrooms / Master bedroom 

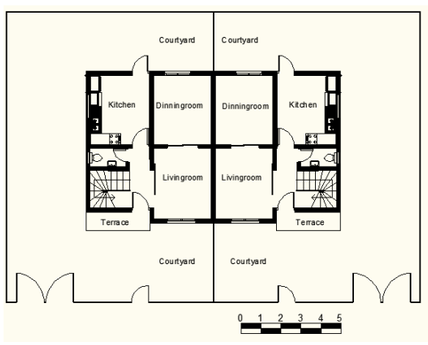
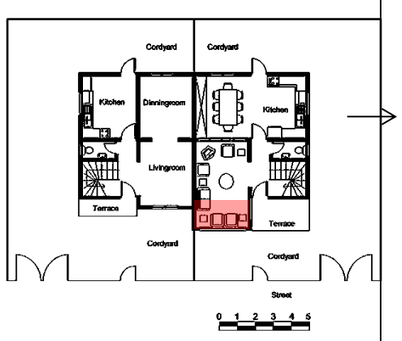
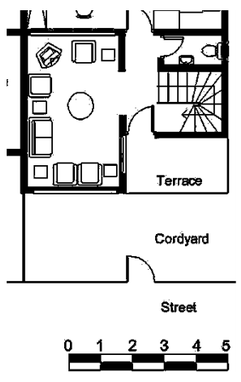
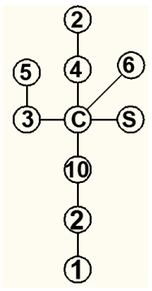
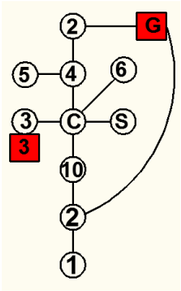
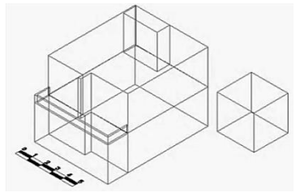
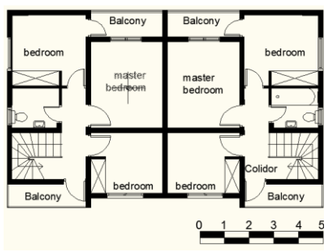
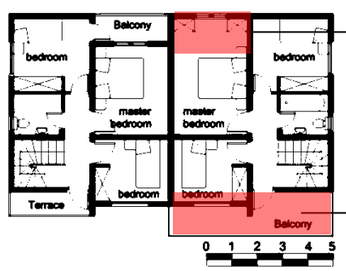
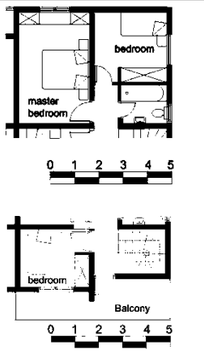
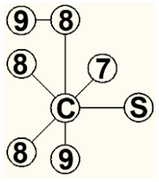
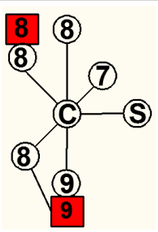
E2	TYPE A	EFRUZ ROW HOUSES IN KUMSAL/NICOSIA			
Inventory of Efruz Houses		Photograph of Efruz Houses	Codes of Justified graph	Functional Transformation	Formal Transformation
Name of Housing Group: Efruz Row Houses **Period of Construction**: 1963-1974 **Region of Construction**: Nicosia/Kumsal **Type of Housing group**: Row/Attached House **Wall material**: Brick **Roof material**: Tile **Type of Construction**:Reinforced-Concrete Skeleton **Location of House:** Tuna Street, No 15 Kumsal/ Nicosia		 Site plan of Efruz Houses 	1: Street 2: Courtyard 3: Living room 4: Kitchen 5: Dinning room 6: Wc 7: Bathroom 8: Bedroom 9: Balcony 10: Terrace 11: Loundry 12: Studing room 13: Storage 14:Changing room C:Colidor H:Hall S:Staircase :Transformation	Transformed plan organization: House consist: • Livingroom (2) • Kitchen • Toilet(wc) • Loundry • Garage • Storage At the ground floor plan • Three bedroom • Toilet with bathroom At the first floor plan User • Enlarged kitchen Changed garage to living room	 Ground Floor First Floor Plan 3d View of transformed space  Ground Floor First Floor Plan ☑ Additive ☒ Subtractive ☑ Dimensional ☒ Front ☑ Back ☒ Side/ s
Orginal Ground Floor Plan	Transformed Ground Floor Plan	Transformed	Justified Graph 1	Justified graph 2	Spatial Transformation
			 (Original) Ground Floor Plan	 (Transformed) Changed Ground Floor Plan	☒ Space within a space ☒ Interlocking spaces ☑ Adjacent spaces ☒ Spaces linked by a common space 
Original First Floor Plan	Transformed First Floor Plan	No Transformation	Justified Graph 1	Justified Graph 2	Livingroom / Kitchen (added)
			 (Original) First Floor Plan	 (Transformed) Changed First Floor Plan	 Bedroom No Transformation  Bedroom No Transformation  Master bedroom No Transformation

E3	TYPE A	EFRUZ ROW HOUSES IN KUMSAL/NICOSIA			
Inventory of Efruz Houses		Photograph of Efruz Houses	Codes of Justified graph	Functional Transformation	Formal Transformation
Name of Housing Group: Efruz Row Houses **Period of Construction**: 1963-1974 **Region of Construction**: Nicosia/Kumsal **Type of Housing group**: Row/Attached House **Wall material**: Brick **Roof material**: Tile **Type of Construction**:Reinforced-Concrete Skeleton **Location of House:** Tuna Street, No 14 Kumsal/ Nicosia		 Site plan of Efruz Houses 	1: Street 2: Courtyard 3: Living room 4: Kitchen 5: Dinning room 6: Wc 7: Bathroom 8: Bedroom 9: Balcony 10: Terrace 11: Loundry 12: Studing room 13: Storage 14:Changing room C:Colidor H:Hall S:Staircase ■:Transformation	Transformed plan organization: House consist: • Livingroom • Kitchen • Toilet(wc) • Loundry • Studding room • Storage At the ground floor plan • Three bedroom • Toilet with bathroom At the first floor plan Use Changed garage to studding room.	 ☒ Additive ☒ Subtractive ☑ Dimensional 3d View of transformed space  Ground Floor First Floor Plan ☒ Front ☒ Back ☑ Side/ s
Orginal Ground Floor Plan		Transformed Ground Floor Plan	Transformed	Justified Graph 1 / Justified graph 2	Spatial Transformation
				 (Original) Ground Floor Plan  (Transformed) Changed Ground Floor Plan	☒ Space within a space ☒ Interlocking spaces ☒ Adjacent spaces ☒ Spaces linked by a common space 
Original First Floor Plan		Transformed First Floor Plan	No Transformation	Justified Graph 1	Justified Graph 2	Garage transformed to Livingroom	Kitchen &Livingroom
				 (Original) First Floor Plan	 (Transformed) Changed First Floor Plan	 Bedroom	 Bedroom	No Transformation Master bedroom
						No Transformation	No Transformation	No Transformation

E4	TYPE A	EFRUZ ROW HOUSES IN KUMSAL/NICOSIA				
Inventory of Efruz Houses		Photograph of Efruz Houses	Codes of Justified graph	Functional Transformation	Formal Transformation	
Name of Housing Group: Efruz Row Houses **Period of Construction**: 1963-1974 **Region of Construction**: Nicosia/Kumsal **Type of Housing group**: Row/Attached House **Wall material**: Brick **Roof material**: Tile **Type of Construction**:Reinforced-Concrete Skeleton **Location of House:** Meriç Street, No 8 Kumsal/ Nicosia		 Site plan of Efruz Houses 	1: Street 2: Courtyard 3: Living room 4: Kitchen 5: Dinning room 6: Wc 7: Bathroom 8: Bedroom 9: Balcony 10: Terrace 11: Loundry 12: Studing room 13: Storage 14:Changing room C:Colidor H:Hall S:Staircase :Transformation	Transformed plan organization: House consist: • Livingroom • Kitchen • Toilet(wc) At the ground floor plan • Three bedroom • Toilet with bathroom At the first floor plan User Transformed balcony to closed space (increased colidor's space)	 3d View of transformed space  Ground Floor First Floor Plan	☒ Additive ☒ Subtractive ☑ Dimensional ☒ Front ☒ Back ☑ Side/ s
Orginal Ground Floor Plan		Transformed Ground Floor Plan	No Transformation	Justified Graph 1	Justified graph 2	Spatial Transformation
				 (Original) Ground Floor Plan	 (Transformed) Changed Ground Floor Plan	☒ Space within a space ☒ Interlocking spaces ☒ Adjacent spaces ☒ Spaces linked by a common space 
Original First Floor Plan		Transformed First Floor Plan	Transformed	Justified Graph 1	Justified Graph 2	Livingroom / Kitchen &Livingroom
				 (Original) First Floor Plan	 (Transformed) Changed First Floor Plan	No Transformation / No Transformation Balcony / Bedroom / Master bedroom  / No Transformation / No Transformation

E5	TYPE A	EFRUZ ROW HOUSES IN KUMSAL/NICOSIA				
Inventory of Efruz Houses		Photograph of Efruz Houses	Codes of Justified graph	Functional Transformation	Formal Transformation	
Name of Housing Group: Efruz Row Houses **Period of Construction**: 1963-1974 **Region of Construction**: Nicosia/Kumsal **Type of Housing group**: Row/Attached House **Wall material**: Brick **Roof material**: Tile **Type of Construction**:Reinforced-Concrete Skeleton **Location of House:** Tuna Street, No 14 Kumsal/ Nicosia		 Site plan of Efruz Houses 	1: Street 2: Courtyard 3: Living room 4: Kitchen 5: Dinning room 6: Wc 7: Bathroom 8: Bedroom 9: Balcony 10: Terrace 11: Loundry 12: Studing room 13: Storage 14:Changing room C:Colidor H:Hall S:Staircase :Transformation	Transformed plan organization: House consist: • Livingroom • Kitchen • Toilet(wc) At the ground floor plan • Three bedroom • Toilet with bathroom At the first floor plan User Transformed terrace to closed space (increased living room space)	 3d View of transformed space  Ground Floor First Floor Plan	☒ Additive ☒ Subtractive ☑ Dimensional ☑ Front ☒ Back ☒ Side/ s
Orginal Ground Floor Plan		Transformed Ground Floor Plan	No Transformation	Justified Graph 1	Justified graph 2	Spatial Transformation
				 (Original) Ground Floor Plan	 (Transformed) Changed Ground Floor Plan	☒ Space within a space ☒ Interlocking spaces ☒ Adjacent spaces ☒ Spaces linked by a common space 
Original First Floor Plan		Transformed First Floor Plan	Transformed	Justified Graph 1	Justified Graph 2	Livingroom / Kitchen &Livingroom
				 (Original) First Floor Plan	 (Transformed) Changed First Floor Plan	  No Transformation Balcony / Bedroom / Master bedroom No Transformation / No Transformation / No Transformation

F1	TYPE B	TURKSEN HOUSES IN TAŞKINKÖY/NICOSIA			
Inventory of Türk-Sen Houses		Photograph of Türk-Sen Houses	Codes of Justified graph	Functional Transformation	Formal Transformation
Name of Housing Group: Türk-Sen Semi detached Houses **Period of Construction:** 1974-1983 **Region of Construction:** Nicosia/Taşkınköy **Type of Housing group: S**emi-Detached House **Wall material:** Brick **Roof material:** Tile **Type of Construction:**Reinforced-Concrete Skeleton **Location of House:** Erdoğan Sonsal Street, No:7, Taşkınköy/Lefkoşa		 Site plan of Türk-Sen Houses 	1: Street 2: Courtyard 3: Living room 4: Kitchen 5: Dinning room 6: Wc 7: Bathroom 8: Bedroom 9: Balcony 10: Terrace 11: Loundry 12: Studing room 13: Storage 14:Changing room C:Colidor H:Hall S:Staircase :Transformation	Transformed plan organization: House consist: • Livingroom • Kitchen • Toilet(wc) At the ground floor plan • Three bedroom • Toilet with bathroom At the first floor plan User • Divided dinningroom and linked to the kitchen • Tansformed balcony to bedroom at the first floor	 3d View of transformed space  Ground Floor First Floor Plan ☑ Additive ☒ Subtractive ☑ Dimensional ☑ Front ☑ Back ☒ Side/ s

Orginal Ground Floor Plan	Transformed Ground Floor Plan	Transformed	Justified Graph 1	Justified graph 2	Spatial Transformation
			 (Original) Ground Floor Plan	 (Transformed) Changed Ground Floor Plan	☒ Space within a space ☒ Interlocking spaces ☑ Adjacent spaces ☒ Spaces linked by a common space 
Original First Floor Plan	Transformed First Floor Plan	Transformed	Justified Graph 1	Justified Graph 2	Livingroom / Kitchen
			 (Original) First Floor Plan	 (Transformed) Changed First Floor Plan	 Balcony  Bedroom  Master bedroom No Transformation No Transformation 

F2	TYPE B	TURKSEN HOUSES IN TAŞKINKÖY/NICOSIA			
Inventory of Türk-Sen Houses		Photograph of Türk-Sen Houses	Codes of Justified graph	Functional Transformation	Formal Transformation

Name of Housing Group: Türk-Sen Semi-detached Houses

Period of Construction: 1974-1983

Region of Construction: Nicosia/Taşkınköy

Type of Housing group: Semi-Detached House

Wall material: Brick

Roof material: Tile

Type of Construction: Reinforced-Concrete Skeleton

Location of House: Erdoğan Sonsal Street, No:9, Taşkınköy/Lefkoşa

Site plan of Türk-Sen Houses

1: Street
2: Courtyard
3: Living room
4: Kitchen
5: Dinning room
6: Wc
7: Bathroom
8: Bedroom
9: Balcony
10: Terrace
11: Loundry
12: Studing room
13: Storage
14:Changing room
C:Colidor
H:Hall
S:Staircase
:Transformation

Transformed plan organization:
House consist:

- Livingroom
- Kitchen
- Toilet(wc)

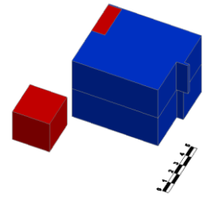
At the ground floor plan

- Three bedroom
- Toilet with bathroom

At the first floor plan
User

- Tansformed balcony to bedroom at the first floor

Added Stoage in courtyard



☑ Additive

☒ Subtractive

☑ Dimensional

3d View of transformed space

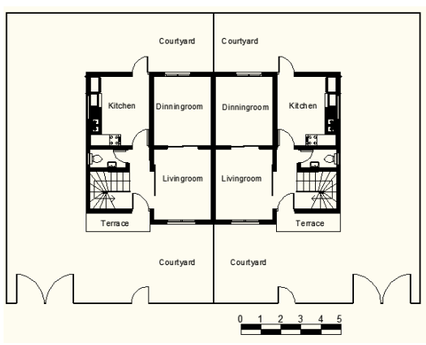
Ground Floor First Floor Plan

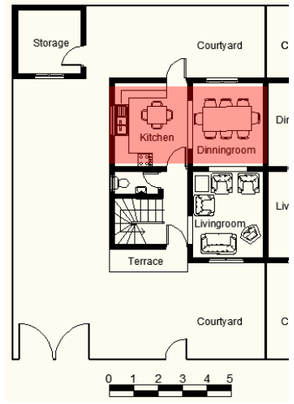
☒ Front

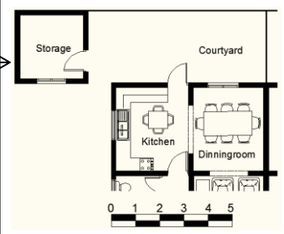
☑ Back

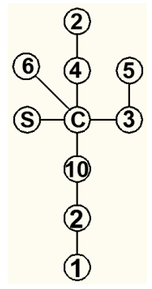
☒ Side/ s

Orginal Ground Floor Plan	Transformed Ground Floor Plan	No Transformation	Justified Graph 1	Justified graph 2	Spatial Transformation

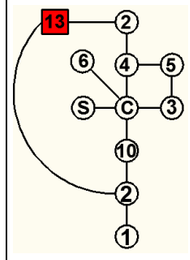








(Original) Ground Floor Plan



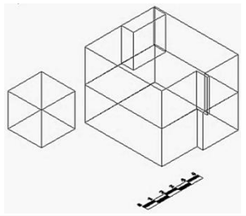
(Transformed) Changed Ground Floor Plan

☒ Space within a space

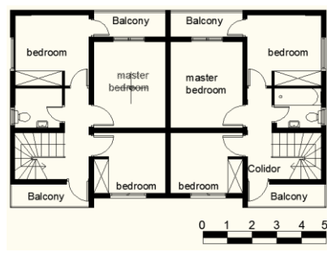
☒ Interlocking spaces

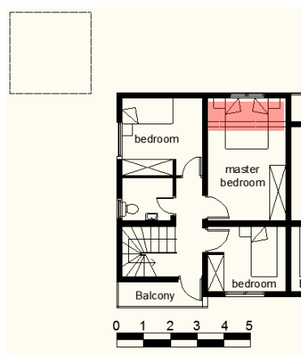
☑ Adjacent spaces

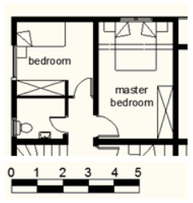
☒ Spaces linked by a common space

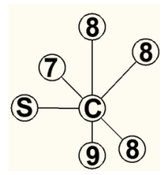


Original First Floor Plan	Transformed First Floor Plan	Transformed	Justified Graph 1	Justified Graph 2	Livingroom	Kitchen

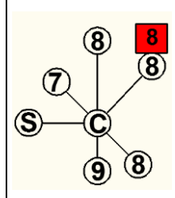








(Original) First Floor Plan



(Transformed) Changed First Floor Plan

Balcony	Bedroom	Master bedroom

No Transformation

Transformed (enlarged master bedroom)

F3	TYPE B	TURKSEN HOUSES IN TAŞKINKÖY/NICOSIA			
Inventory of Türk-Sen Houses		Photograph of Türk-Sen Houses	Codes of Justified graph	Functional Transformation	Formal Transformation

Name of Housing Group: Türk-Sen Semi-detached Houses

Period of Construction: 1974-1983

Region of Construction: Nicosia/Taşkınköy

Type of Housing group: Semi-Detached House

Wall material: Brick

Roof material: Tile

Type of Construction: Reinforced-Concrete Skeleton

Location of House: Erdoğan Sonsal Street, No: 13 Taşkınköy/Lefkoşa

Site plan of Türk-Sen Houses

1: Street
2: Courtyard
3: Living room
4: Kitchen
5: Dinning room
6: Wc
7: Bathroom
8: Bedroom
9: Balcony
10: Terrace
11: Loundry
12: Studing room
13: Storage
14:Changing room
C:Colidor
H:Hall
S:Staircase
:Transformation

Transformed plan organization:
House consist:

- Livingroom
- Kitchen
- Toilet(wc)

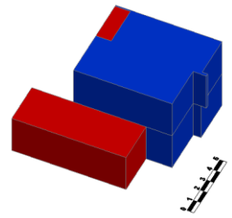
At the ground floor plan

- Three bedroom
- Toilet with bathroom

At the first floor plan
User

- Tansformed balcony to bedroom at the first floor

Added garage and storage



☑ Additive

☒ Subtractive

☑ Dimensional

3d View of transformed space

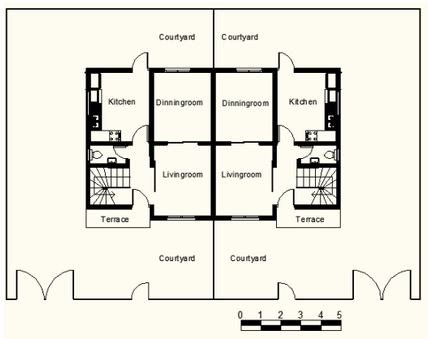
Ground Floor First Floor Plan

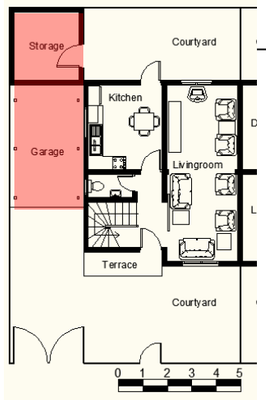
☒ Front

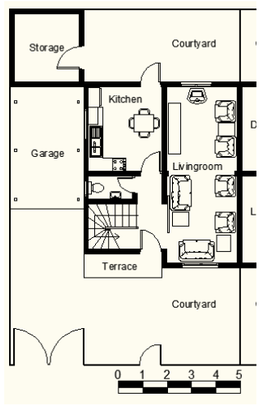
☑ Back

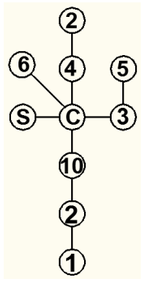
☑ Side/ s

Orginal Ground Floor Plan	Transformed Ground Floor Plan	No Transformation	Justified Graph 1	Justified graph 2	Spatial Transformation

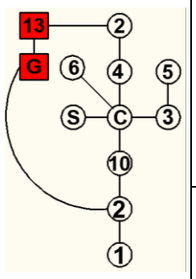








(Original) Ground Floor Plan



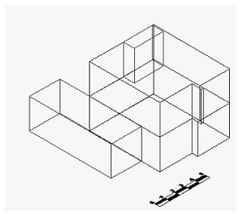
(Transformed) Changed Ground Floor Plan

☒ Space within a space

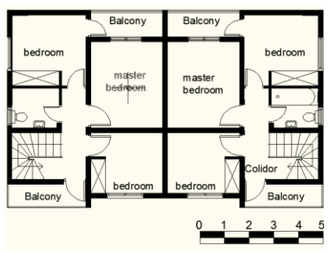
☒ Interlocking spaces

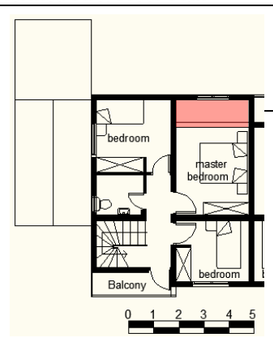
☑ Adjacent spaces

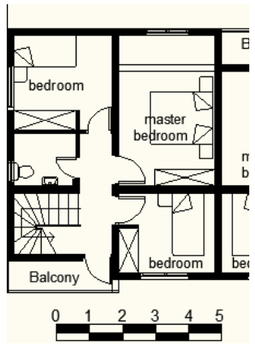
☒ Spaces linked by a common space

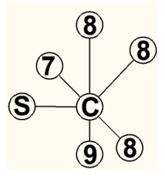


Original First Floor Plan	Transformed First Floor Plan	Transformed	Justified Graph 1	Justified Graph 2	Storage	Livingroom	Kitchen

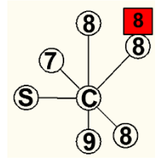








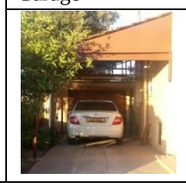
(Original) First Floor Plan



(Transformed) Changed First Floor Plan

No Transformation

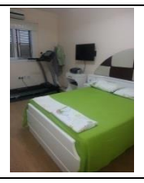
Garage

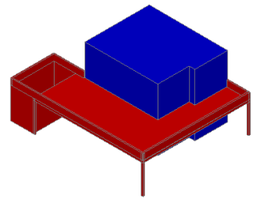
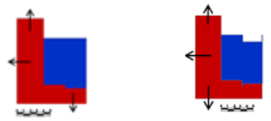
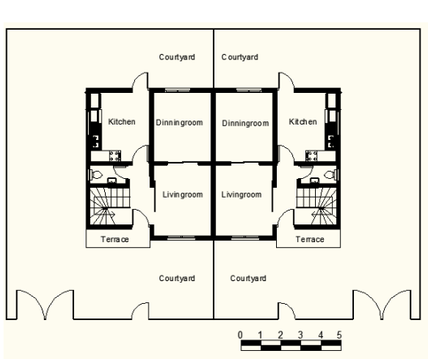
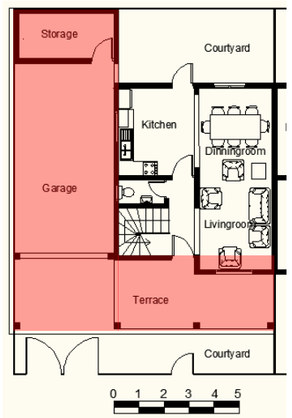
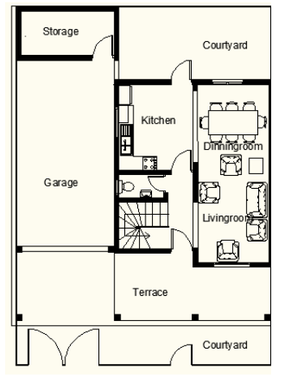
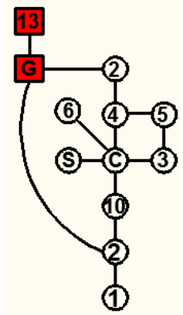
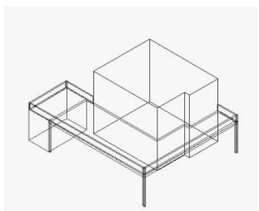
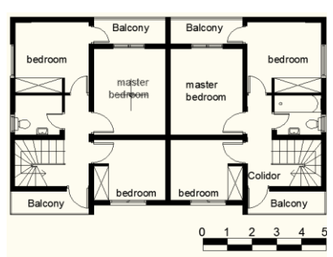
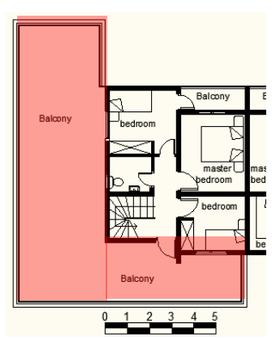
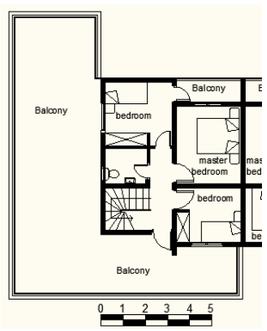
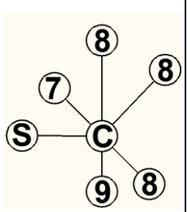
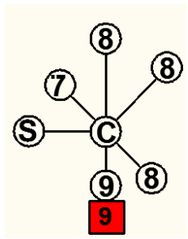
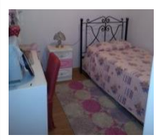


Bedroom

No Transformation

Master bedroom



F4	TYPE B	TURKSEN HOUSES IN TAŞKINKÖY/NICOSIA				
Inventory of Türk-Sen Houses		Photograph of Türk-Sen Houses	Codes of Justified graph	Functional Transformation	Formal Transformation	
Name of Housing Group: Türk-Sen Semi-detached Houses **Period of Construction:** 1974-1983 **Region of Construction:** Nicosia/Taşkınköy **Type of Housing group: S**emi-Detached House **Wall material:** Brick **Roof material:** Tile **Type of Construction:**Reinforced-Concrete Skeleton **Location of House:** Taşkınköy ikinci Street, No:29, Taşkınköy/Lefkoşa		 Site plan of Türk-Sen Houses 	1: Street 2: Courtyard 3: Living room 4: Kitchen 5: Dinning room 6: Wc 7: Bathroom 8: Bedroom 9: Balcony 10: Terrace 11: Loundry 12: Studing room 13: Storage 14:Changing room C:Colidor H:Hall S:Staircase ■:Transformation	Transformed plan organization: House consist: • Livingroom • Kitchen • Toilet(wc) At the ground floor plan • Three bedroom • Toilet with bathroom At the first floor plan User • Added garage and storage • Tansformed balcony to bedroom at the first floor	 3d View of transformed space  Ground Floor First Floor Plan	☑ Additive ☒ Subtractive ☑ Dimensional ☑ Front ☑ Back ☑ Side/ s
Orginal Ground Floor Plan		Transformed Ground Floor Plan	Transformed	Justified Graph 1	Justified graph 2	Spatial Transformation
				 (Original) Ground Floor Plan	 (Transformed) Changed Ground Floor Plan	☒ Space within a space ☒ Interlocking spaces ☑ Adjacent spaces ☒ Spaces linked by a common space 
Original First Floor Plan		Transformed First Floor Plan	Transformed	Justified Graph 1	Justified Graph 2	Livingroom / Kitchen / Balcony
				 (Original) First Floor Plan	 (Transformed) Changed First Floor Plan	 Storage   Bedroom   Master bedroom 

F5	TYPE B	TURKSEN HOUSES IN TAŞKINKÖY/NICOSIA			
Inventory of Türk-Sen Houses		Photograph of Türk-Sen Houses	Codes of Justified graph	Functional Transformation	Formal Transformation

Name of Housing Group: Türk-Sen Semi-detached Houses

Period of Construction: 1974-1983

Region of Construction: Nicosia/Taşkınköy

Type of Housing group: Semi-Detached House

Wall material: Brick

Roof material: Tile

Type of Construction: Reinforced-Concrete Skeleton

Location of House: Taşkınköy birinci Street, No:23, Taşkınköy/Lefkoşa

Site plan of Türk-Sen Houses

1: Street
2: Courtyard
3: Living room
4: Kitchen
5: Dinning room
6: Wc
7: Bathroom
8: Bedroom
9: Balcony
10: Terrace
11: Loundry
12: Studing room
13: Storage
14:Changing room
C:Colidor
H:Hall
S:Staircase
:Transformation

Transformed plan organization:
House consist:

- Livingroom
- Kitchen
- Toilet(wc)

At the ground floor plan

- Three bedroom
- Toilet with bathroom

At the first floor plan
User

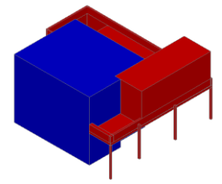
- Added Garage

Added living room and balcony at the first floor

☑ Additive

☒ Subtractive

☑ Dimensional



3d View of transformed space

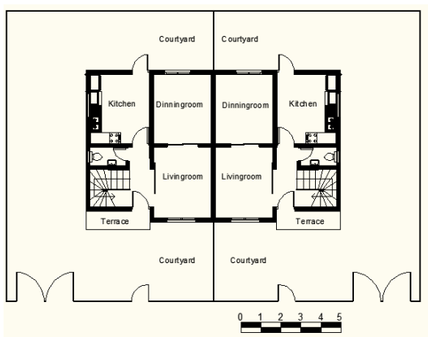
Ground Floor First Floor Plan

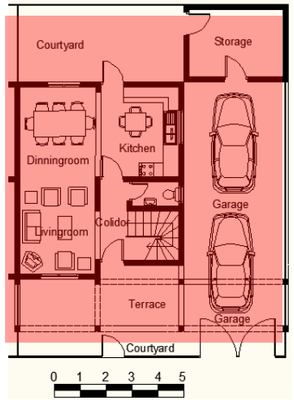
☑ Front

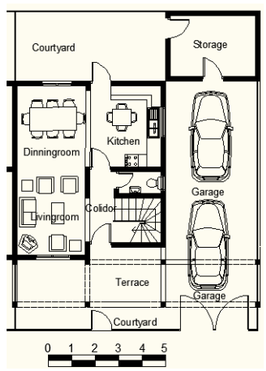
☑ Back

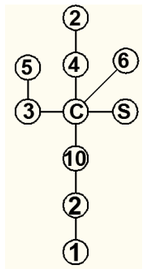
☑ Side/ s

Orginal Ground Floor Plan	Transformed Ground Floor Plan	Transformed	Justified Graph 1	Justified graph 2	Spatial Transformation

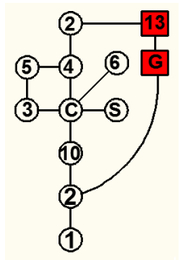








(Original) Ground Floor Plan



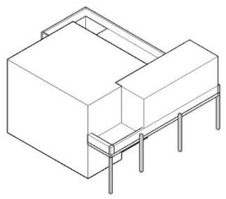
(Transformed) Changed Ground Floor Plan

☒ Space within a space

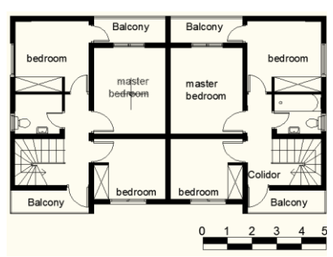
☒ Interlocking spaces

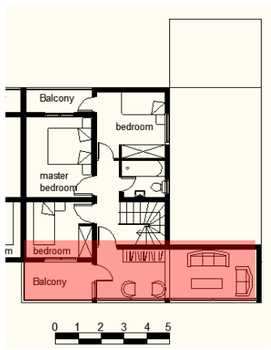
☑ Adjacent spaces

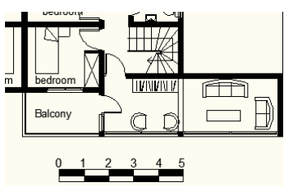
☒ Spaces linked by a common space

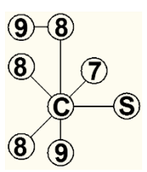


Original First Floor Plan	Transformed First Floor Plan	Transformed	Justified Graph 1	Justified Graph 2	Livingroom	Kitchen







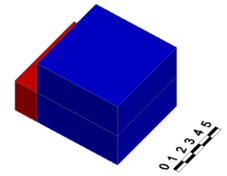
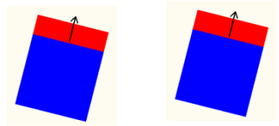
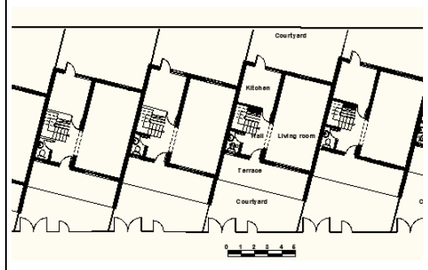
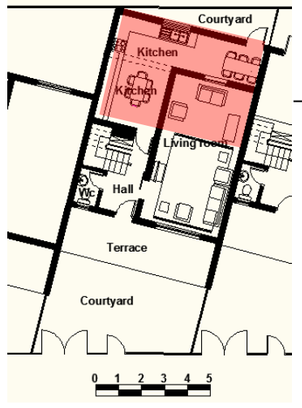
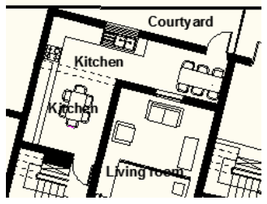
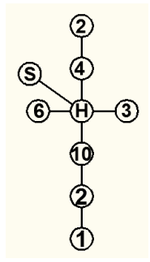
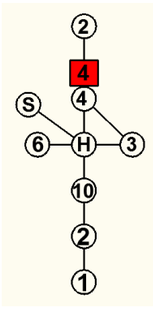
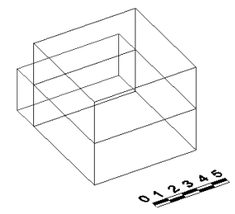
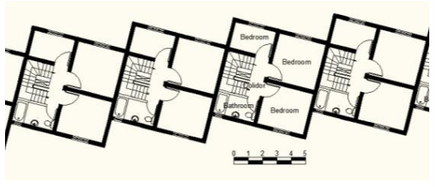
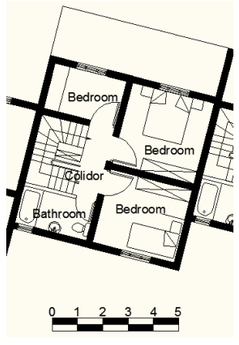
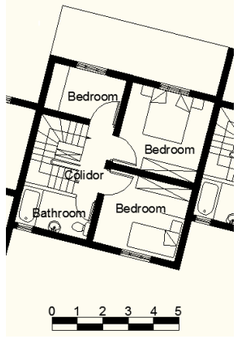
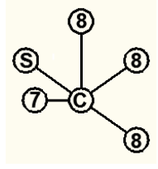
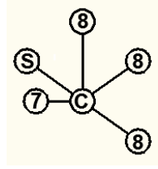
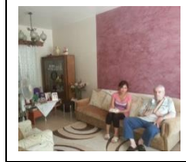
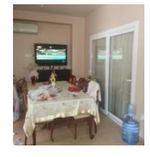


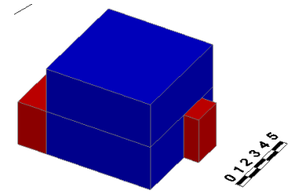
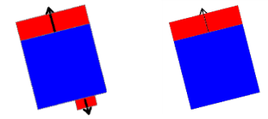
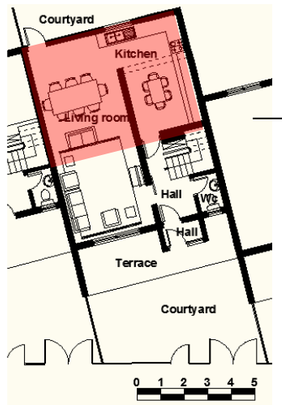
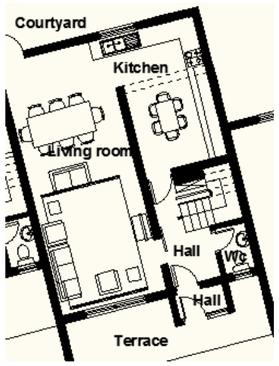
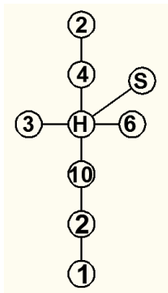
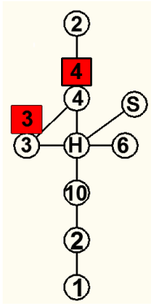
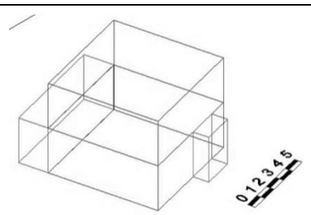
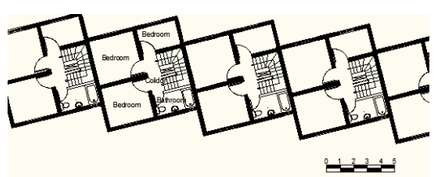
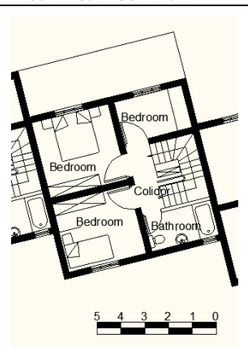
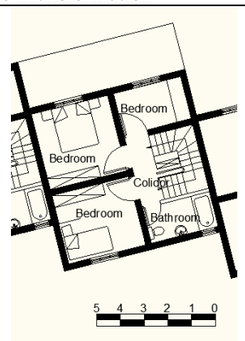
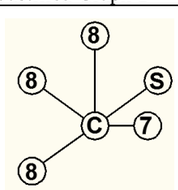
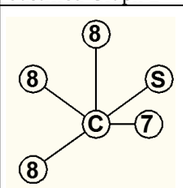
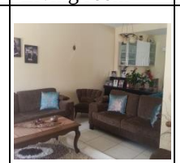
(Original) First Floor Plan

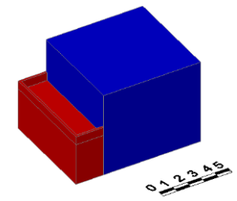
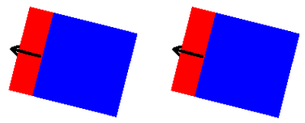
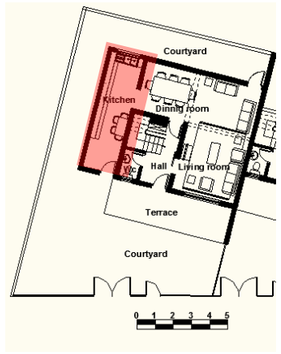
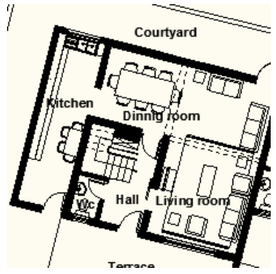
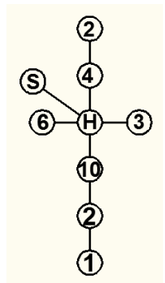
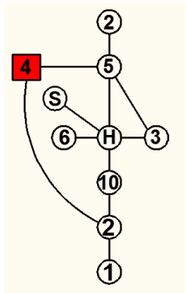
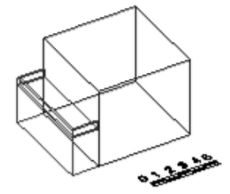
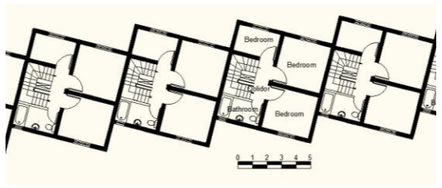
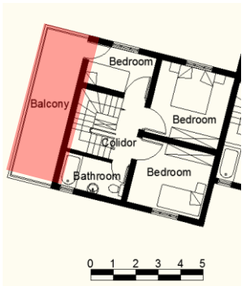
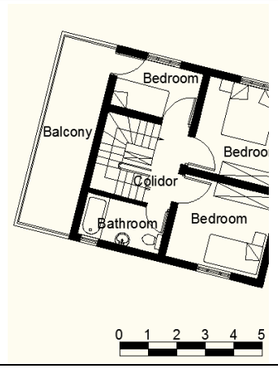
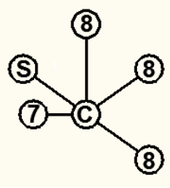
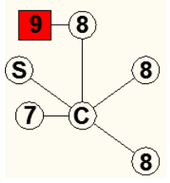
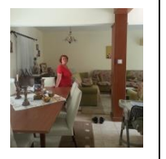
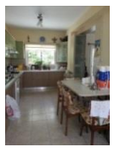
(Transformed) Changed First Floor Plan

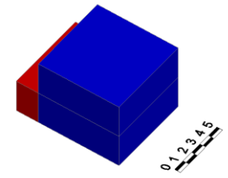
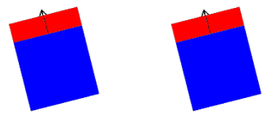
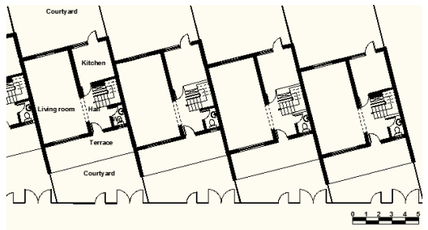
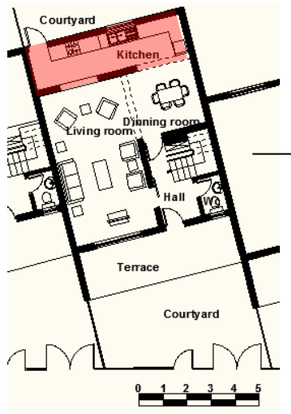
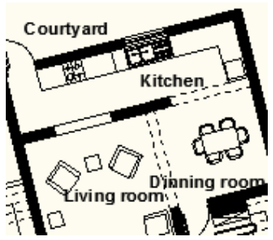
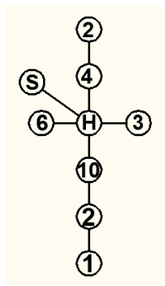
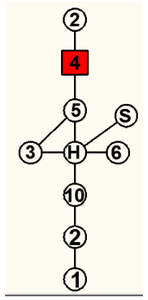
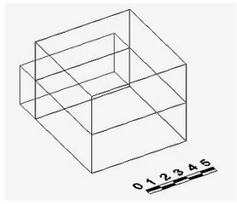
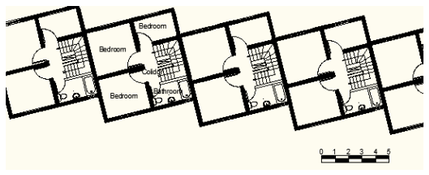
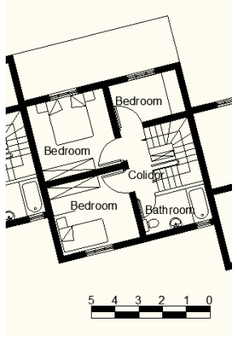
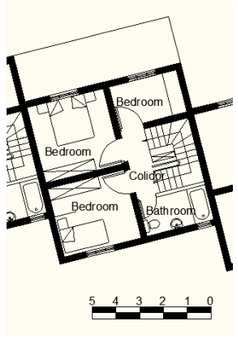
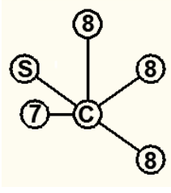
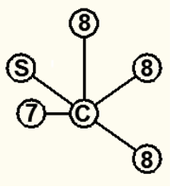
Balcony	Bedroom	Master bedroom

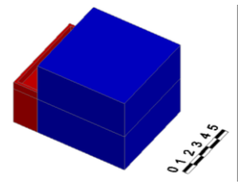
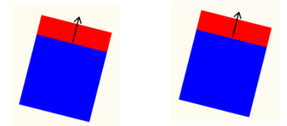
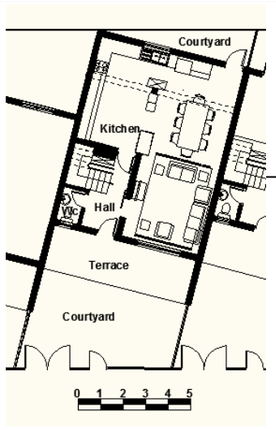
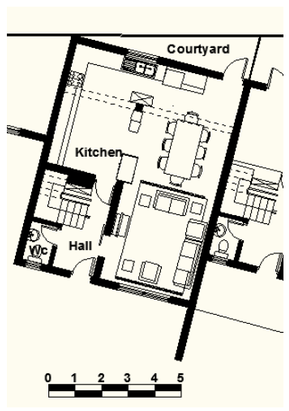
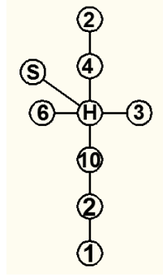
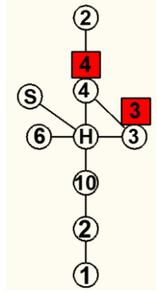
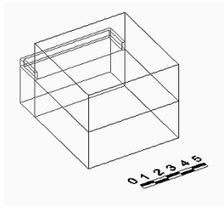
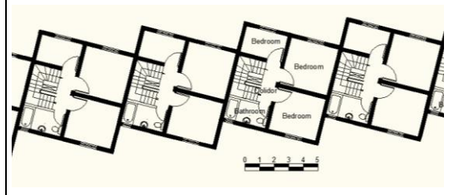
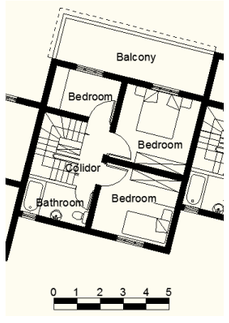
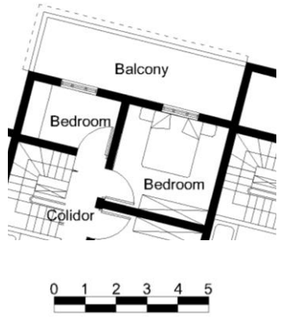
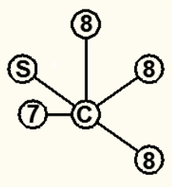
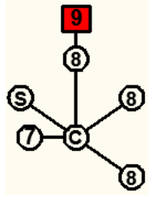
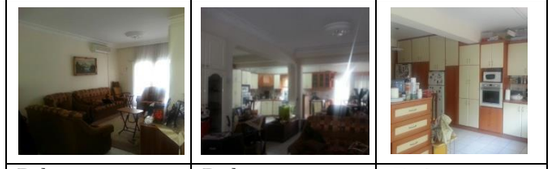
No Transformation

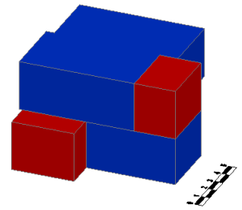
G1	TYPE A	TEACHERS' HOUSES IN YENİKENT/NICOSIA				
Inventory of Teachers' Houses		Photograph of Teachers' Houses	Codes of Justified graph	Functional Transformation	Formal Transformation	
Name of Housing Group: Teachers' Houses **Period of Construction**: 1983 – 2000 **Region of Construction**: Nicosia/Yenikent **Type of Housing group**: Row/AttachedHouse **Wall material**: Brick **Roof material**: Flat **Type of Construction**:Reinforced-Concrete Skeleton **Location of House:** Öğretmenler sitesi strees 2, Yenikent /Gönyeli		 Site plan of Teachers' Houses 	1: Street 2: Courtyard 3: Living room 4: Kitchen 5: Dinning room 6: Wc 7: Bathroom 8: Bedroom 9: Balcony 10: Terrace 11: Loundry 12: Studing room 13: Storage 14:Changing room C:Colidor H:Hall S:Staircase ■:Transformation	Transformed plan organization: House consist: • Livingroom • Kitchen • Toilet(wc) At the ground floor plan • Three bedroom • Toilet with bathroom At the first floor plan User • Enlarged kitchen	 3d View of transformed space  Ground Floor First Floor Plan	☑ Additive ☒ Subtractive ☑ Dimensional ☒ Front ☑ Back ☒ Side/ s
Orginal Ground Floor Plan		Transformed Ground Floor Plan	Transformed	Justified Graph 1	Justified graph 2	Spatial Transformation
				 (Original) Ground Floor Plan	 (Transformed) Changed Ground Floor Plan	☒ Space within a space ☒ Interlocking spaces ☑ Adjacent spaces ☒ Spaces linked by a common space 
Original First Floor Plan		Transformed First Floor Plan	No Transformation	Justified Graph 1	Justified Graph 2	Livingroom / Dinning room / Kitchen
				 (Original) First Floor Plan	 (Transformed) Changed First Floor Plan	   Master Bedroom / Bedroom / Bedroom No Transformation / No Transformation / No Transformation

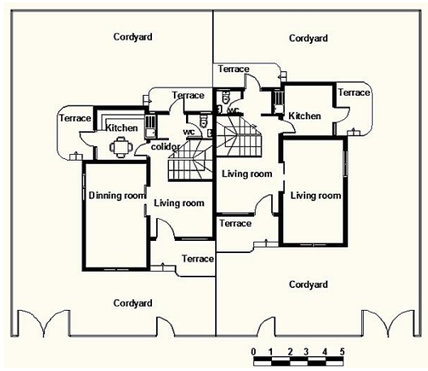
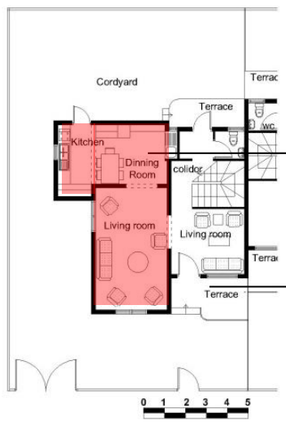
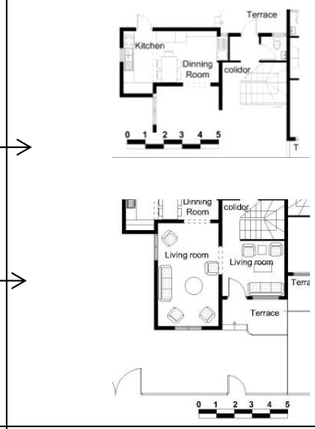
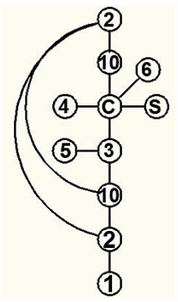
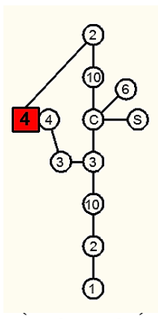
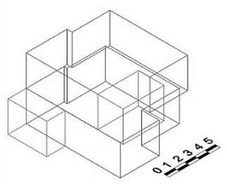
G2	TYPE A	TEACHERS' HOUSES IN YENİKENT/NICOSIA				
Inventory of Teachers' Houses		Photograph of Teachers' Houses	Codes of Justified graph	Functional Transformation	Formal Transformation	
Name of Housing Group: Teachers' Houses **Period of Construction**: 1983 – 2000 **Region of Construction**: Nicosia/Yenikent **Type of Housing group**: Row/AttachedHouse **Wall material**: Brick **Roof material**: Flat **Type of Construction**:Reinforced-Concrete Skeleton **Location of House:** Öğretmenler sitesi strees 2, No: 25, Yenikent /Gönyeli		 Site plan of Teachers' Houses 	1: Street 2: Courtyard 3: Living room 4: Kitchen 5: Dinning room 6: Wc 7: Bathroom 8: Bedroom 9: Balcony 10: Terrace 11: Loundry 12: Studing room 13: Storage 14:Changing room C:Colidor H:Hall S:Staircase ■:Transformation	Transformed plan organization: House consist: • Livingroom • Kitchen • Toilet(wc) At the ground floor plan • Three bedroom • Toilet with bathroom At the first floor plan User • Enlarged livingroom & kitchen • Enlarged entrance hall	 3d View of transformed space  Ground Floor First Floor Plan	☑ Additive ☒ Subtractive ☑ Dimensional ☑ Front ☑ Back ☒ Side/ s
Orginal Ground Floor Plan		Transformed Ground Floor Plan	Transformed	Justified Graph 1	Justified graph 2	Spatial Transformation
				 (Original) Ground Floor Plan	 (Transformed) Changed Ground Floor Plan	☒ Space within a space ☒ Interlocking spaces ☑ Adjacent spaces ☒ Spaces linked by a common space 
Original First Floor Plan		Transformed First Floor Plan	No Transformation	Justified Graph 1	Justified Graph 2	Entrance Hall / Living room / Kitchen
				 (Original) First Floor Plan	 (Transformed) Changed First Floor Plan	   Master Bedroom / Bedroom / Bedroom No Transformation / No Transformation / No Transformation

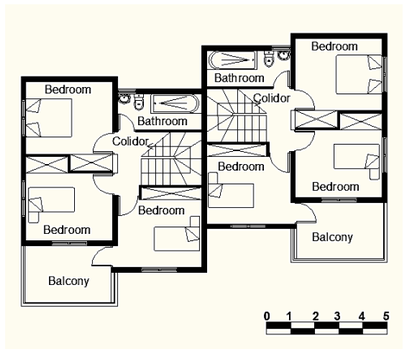
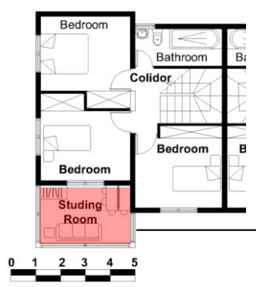
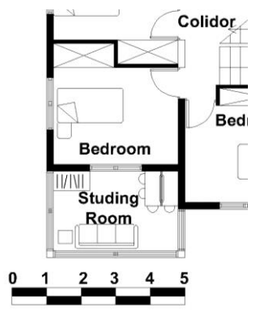
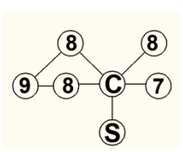
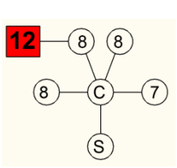
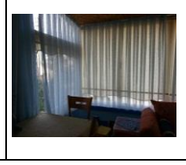
G3	TYPE A	TEACHERS' HOUSES IN YENİKENT/NICOSIA				
Inventory of Teachers' Houses		Photograph of Teachers' Houses	Codes of Justified graph	Functional Transformation		Formal Transformation
Name of Housing Group: Teachers' Houses **Period of Construction**: 1983 – 2000 **Region of Construction**: Nicosia/Yenikent **Type of Housing group**: Row/AttachedHouse **Wall material**: Brick **Roof material**: Flat **Type of Construction**:Reinforced-Concrete Skeleton **Location of House:** Öğretmenler sitesi strees , No: 22, Yenikent /Gönyeli		 Site plan of Teachers' Houses 	1: Street 2: Courtyard 3: Living room 4: Kitchen 5: Dinning room 6: Wc 7: Bathroom 8: Bedroom 9: Balcony 10: Terrace 11: Loundry 12: Studing room 13: Storage 14:Changing room C:Colidor H:Hall S:Staircase :Transformation	Transformed plan organization: House consist: • Livingroom • Dinning room • Kitchen • Toilet(wc) At the ground floor plan • Three bedroom • Balcony • Toilet with bathroom At the first floor plan User • Enlarged kitchen Added balcony at the first floor		 ☑ Additive ☒ Subtractive ☑ Dimensional 3d View of transformed space  Ground Floor First Floor Plan ☒ Front ☒ Back ☑ Side/ s
Orginal Ground Floor Plan		Transformed Ground Floor Plan	Transformed	Justified Graph 1	Justified graph 2	Spatial Transformation
				 (Original) Ground Floor Plan	 (Transformed) Changed Ground Floor Plan	☒ Space within a space ☒ Interlocking spaces ☑ Adjacent spaces ☒ Spaces linked by a common space 
Original First Floor Plan		Transformed First Floor Plan	No Transformation	Justified Graph 1	Justified Graph 2	Living room / Dinning room / Kitchen
				 (Original) First Floor Plan	 (Transformed) Changed First Floor Plan	   Master Bedroom / Bedroom / Bedroom  No Transformation / No Transformation

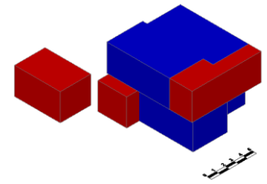
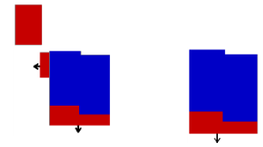
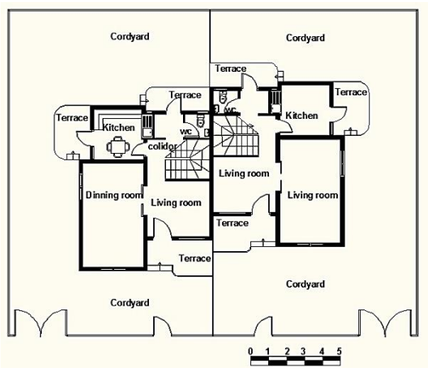
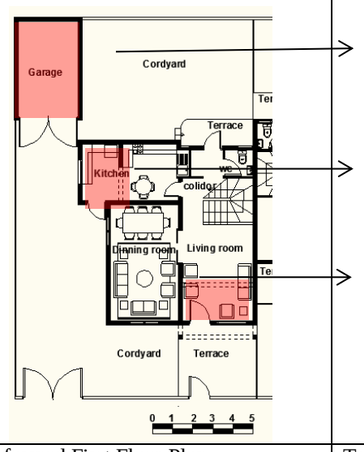
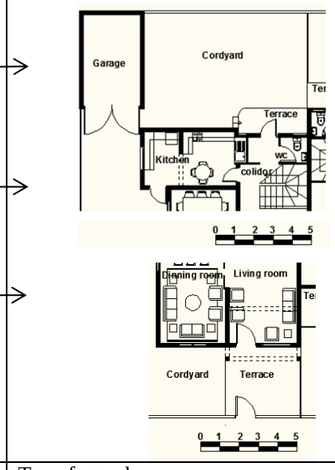
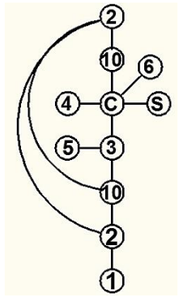
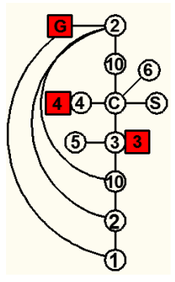
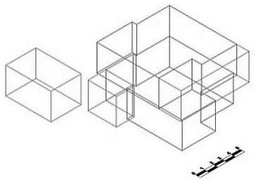
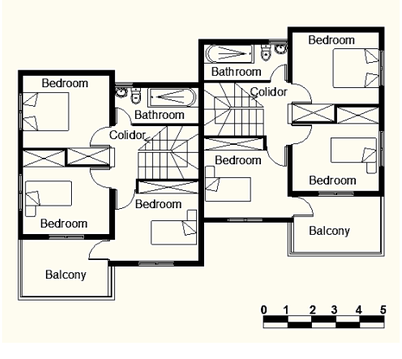
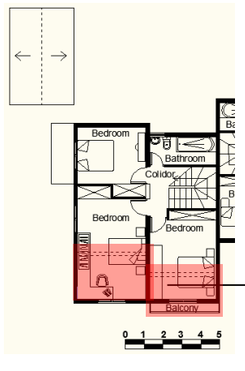
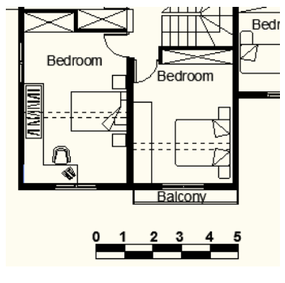
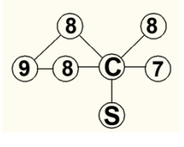
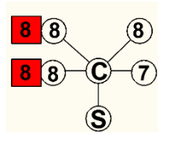
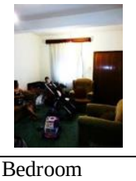
G4	TYPE A	TEACHERS' HOUSES IN YENİKENT/NICOSIA				
Inventory of Teachers' Houses		Photograph of Teachers' Houses	Codes of Justified graph	Functional Transformation	Formal Transformation	
Name of Housing Group: Teachers' Houses **Period of Construction**: 1983 – 2000 **Region of Construction**: Nicosia/Yenikent **Type of Housing group**: Row/AttachedHouse **Wall material**: Brick **Roof material**: Flat **Type of Construction**:Reinforced-Concrete Skeleton **Location of House:** Öğretmenler sitesi, No: 22 , Yenikent /Gönyeli		 Site plan of Teachers' Houses 	1: Street 2: Courtyard 3: Living room 4: Kitchen 5: Dinning room 6: Wc 7: Bathroom 8: Bedroom 9: Balcony 10: Terrace 11: Loundry 12: Studing room 13: Storage 14:Changing room C:Colidor H:Hall S:Staircase ■:Transformation	Transformed plan organization: House consist: • Livingroom • Kitchen • Toilet(wc) At the ground floor plan • Three bedroom • Toilet with bathroom At the first floor plan User • Enlarged livingroom & kitchen • Added dinnig room • Added house which has • livingroom, • one bedroom, bathroom at courdyard.	 3d View of transformed space  Ground Floor First Floor Plan	☑ Additive ☒ Subtractive ☑ Dimensional ☒ Front ☑ Back ☒ Side/ s
Orginal Ground Floor Plan		Transformed Ground Floor Plan	Transformed	Justified Graph 1	Justified graph 2	Spatial Transformation
				 (Original) Ground Floor Plan	 (Transformed) Changed Ground Floor Plan	☒ Space within a space ☒ Interlocking spaces ☑ Adjacent spaces ☒ Spaces linked by a common space 
Original First Floor Plan		Transformed First Floor Plan	No Transformation	Justified Graph 1	Justified Graph 2	Livingroom / Dinning room / Kitchen
				 (Original) First Floor Plan	 (Transformed) Changed First Floor Plan	   Master Bedroom / Bedroom / Bedroom No Transformation / No Transformation / No Transformation

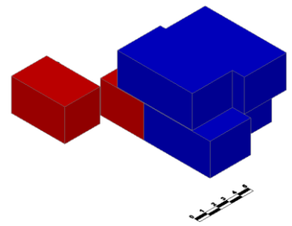
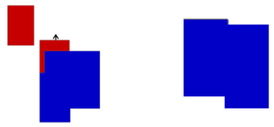
G5	TYPE A	TEACHERS' HOUSES IN YENİKENT/NICOSIA				
Inventory of Teachers' Houses		Photograph of Teachers' Houses	Codes of Justified graph	Functional Transformation		Formal Transformation
Name of Housing Group: Teachers' Houses **Period of Construction**: 1983 – 2000 **Region of Construction**: Nicosia/Yenikent **Type of Housing group**: Row/AttachedHouse **Wall material**: Brick **Roof material**: Flat **Type of Construction**:Reinforced-Concrete Skeleton **Location of House:** Öğretmenler sitesi Street 1, No: 41,Yenikent /Gönyeli		 Site plan of Teachers' Houses 	1: Street 2: Courtyard 3: Living room 4: Kitchen 5: Dinning room 6: Wc 7: Bathroom 8: Bedroom 9: Balcony 10: Terrace 11: Loundry 12: Studing room 13: Storage 14:Changing room C:Colidor H:Hall S:Staircase ■:Transformation	Transformed plan organization: House consist: • Livingroom • Kitchen • Toilet(wc) At the ground floor plan • Three bedroom • Toilet with bathroom At the first floor plan User • Enlarged livingroom & kitchen Linked between kitchen and living room		 ☑ Additive ☒ Subtractive ☑ Dimensional 3d View of transformed space  Ground Floor First Floor Plan ☒ Front ☑ Back ☒ Side/ s
Orginal Ground Floor Plan		Transformed Ground Floor Plan	Transformed	Justified Graph 1	Justified graph 2	Spatial Transformation
				 (Original) Ground Floor Plan	 (Transformed) Changed Ground Floor Plan	☒ Space within a space ☒ Interlocking spaces ☑ Adjacent spaces ☒ Spaces linked by a common space 
Original First Floor Plan		Transformed First Floor Plan	No Transformation	Justified Graph 1	Justified Graph 2	Livingroom / Dinning room / Kitchen
				 (Original) First Floor Plan	 (Transformed) Changed First Floor Plan	 Balcony / Bedroom / Bedroom  No Transformation / No Transformation

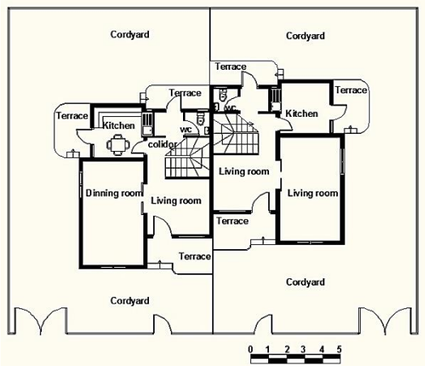
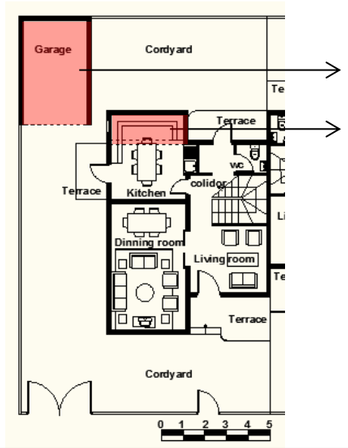
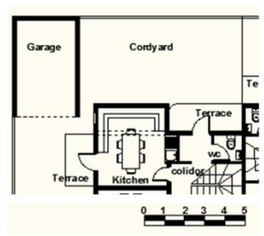
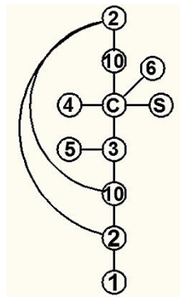
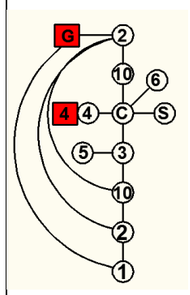
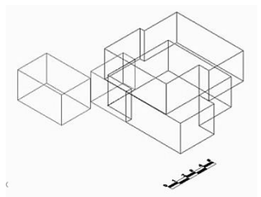
H1	TYPE B	POLICE HOUSES IN GÖÇMENKÖY/NICOSIA				
Inventory of Police Houses		Photograph of Police Houses	Codes of Justified graph	Functional Transformation	Formal Transformation	
Name of Housing Group:Police Semi Detached Houses **Period of Construction**: 1983 – 2000 **Region of Construction**: Nicosia/Göçmenköy **Type of Housing group**: Semi-Detached House **Wall material**: Brick **Roof material**: Tile **Type of Construction**:Reinforced-Concrete Skeleton **Location of House:** Öğretmenler sitesi Street 1, No: 41,Yenikent /Gönyeli		 Site plan of Police Houses 	1: Street 2: Courtyard 3: Living room 4: Kitchen 5: Dinning room 6: Wc 7: Bathroom 8: Bedroom 9: Balcony 10: Terrace 11: Loundry 12: Studing room 13: Storage 14:Changing room C:Colidor H:Hall S:Staircase :Transformation	Transformed plan organization: House consist: • Livingroom • Kitchen • Toilet(wc) At the ground floor plan • Three bedroom • Studing Room • Toilet with bathroom At the first floor plan User • Enlarged kitchen • Added studing room(covered balcony on the first floor) Ignored division wall between kitchen and livingroom	 3d View of transformed space  Ground Floor First Floor Plan	☑ Additive ☒ Subtractive ☑ Dimensional ☑ Front ☒ Back ☑ Side/ s

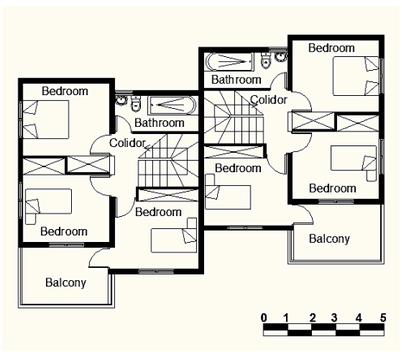
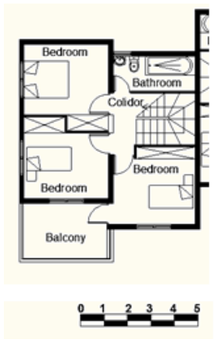
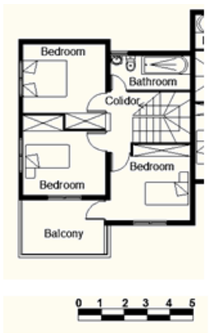
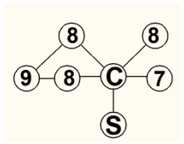
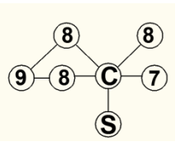
Orginal Ground Floor Plan	Transformed Ground Floor Plan	Transformed	Justified Graph 1	Justified graph 2	Spatial Transformation
			 (Original) Ground Floor Plan	 Changed Ground Floor Plan	☒ Space within a space ☒ Interlocking spaces ☑ Adjacent spaces ☒ Spaces linked by a common space 

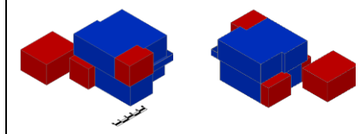
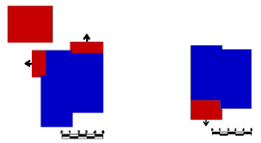
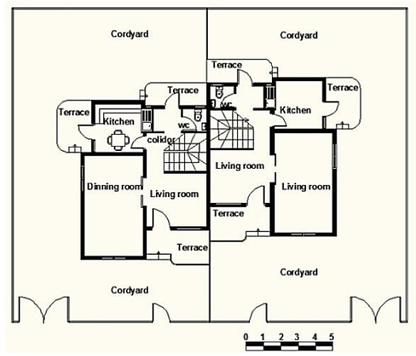
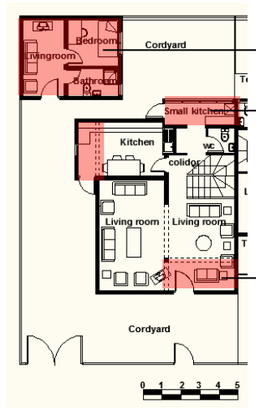
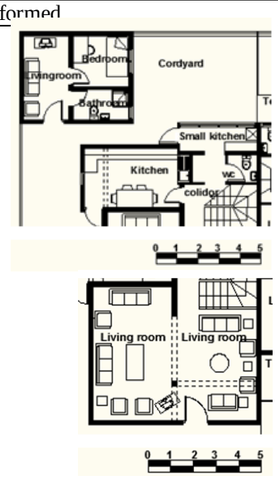
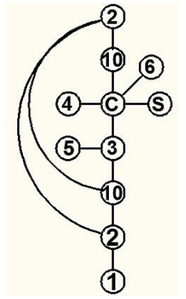
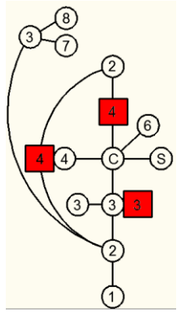
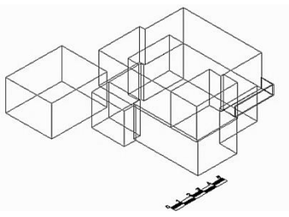
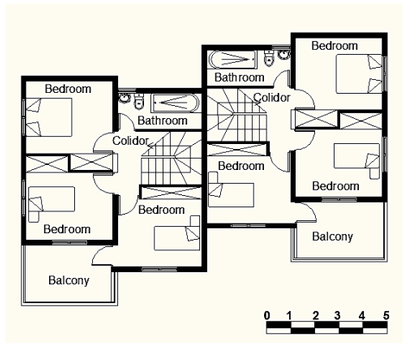
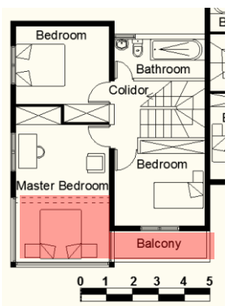
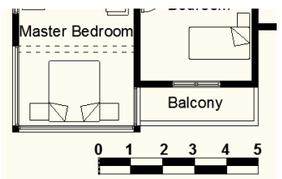
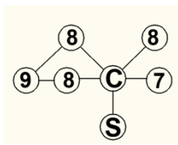
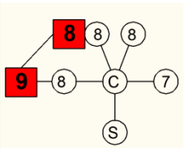
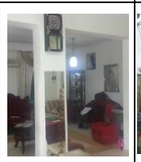
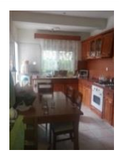
Original First Floor Plan	Transformed First Floor Plan	Transformed	Justified Graph 1	Justified Graph 2	Livingroom	Livingroom	Kitchen
			 (Original) First Floor Plan	 (Transformed) Changed First Floor Plan	 Studding room 	 Bedroom 	 Bedroom No Transformation

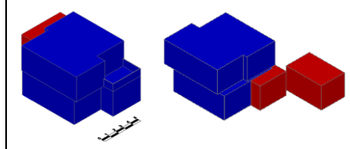
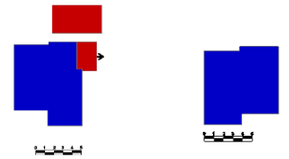
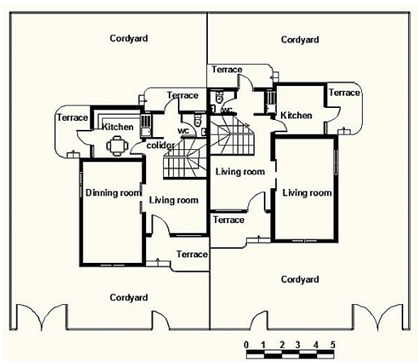
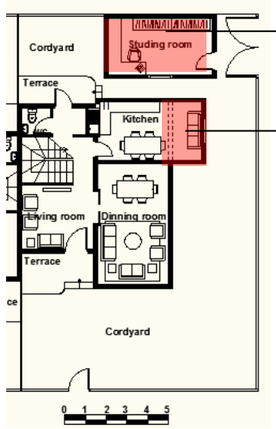
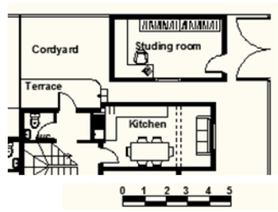
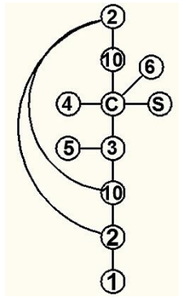
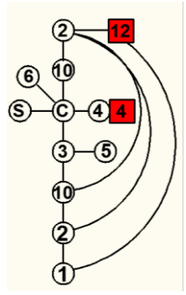
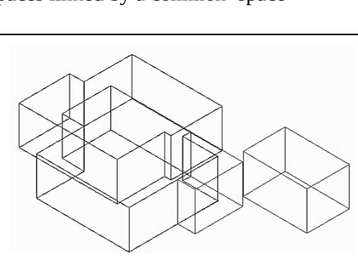
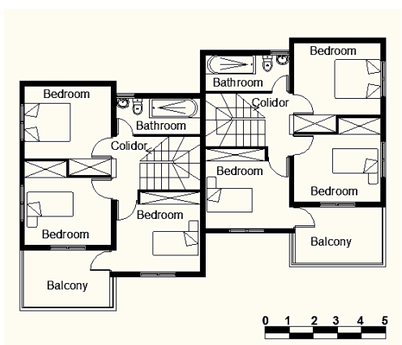
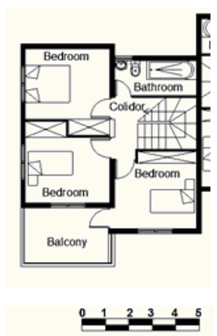
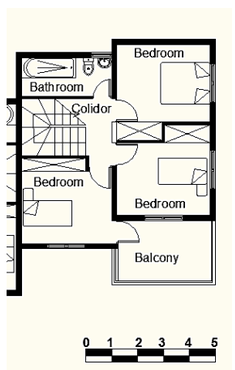
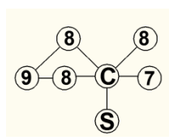
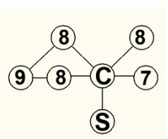
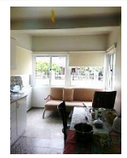
H2	TYPE B	POLICE HOUSES IN GÖÇMENKÖY/NICOSIA				
Inventory of Police Houses		Photograph of Police Houses	Codes of Justified graph	Functional Transformation	Formal Transformation	
Name of Housing Group: Police Semi Detached Houses **Period of Construction**: 1983 – 2000 **Region of Construction**: Nicosia/Göçmenköy **Type of Housing group**: Semi-Detached House **Wall material**: Brick **Roof material**: Tile **Type of Construction**:Reinforced-Concrete Skeleton **Location of House:** Rauf Denktaş Street , no: 81, Göçmenköy/Lefkoşa		 Site plan of Police Houses 	1: Street 2: Courtyard 3: Living room 4: Kitchen 5: Dinning room 6: Wc 7: Bathroom 8: Bedroom 9: Balcony 10: Terrace 11: Loundry 12: Studing room 13: Storage 14:Changing room C:Colidor H:Hall S:Staircase :Transformation	Transformed plan organization: House consist: • Enterance Hall • Livingroom • Kıtchen • Toilet(wc) At the ground floor plan • Three bedroom wıth balcony • Toilet with bathroom At the first floor plan User • Enlarged kıtchen and livingroom • Added balcony	 3d View of transformed space  Ground Floor First Floor Plan	☑ Additive ☒ Subtractive ☑ Dimensional ☑ Front ☒ Back ☑ Side/ s
Orginal Ground Floor Plan	Transformed Ground Floor Plan	Transformed	Justified Graph 1	Justified graph 2	Spatial Transformation	
 	 	 	 (Original) Ground Floor Plan	 (Transformed) Changed Ground Floor Plan	☒ Space within a space ☒ Interlocking spaces ☑ Adjacent spaces ☒ Spaces linked by a common space 	
Original First Floor Plan	Transformed First Floor Plan	Transformed	Justified Graph 1	Justified Graph 2	Garage	Livingroom	Kitchen
 	 	 	 (Original) First Floor Plan	 (Transformed) Changed First Floor Plan	 Master bedroom No Transformation	 Bedroom No Transformation	 Bedroom 

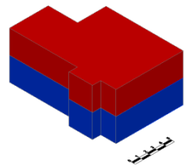
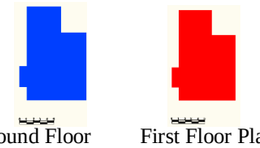
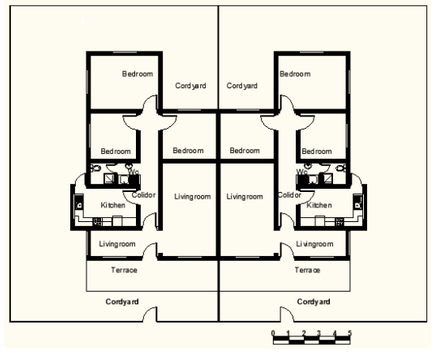
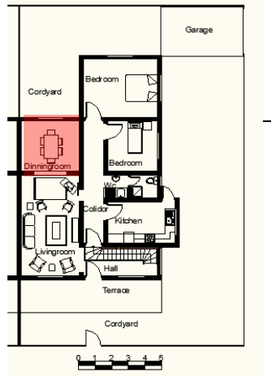
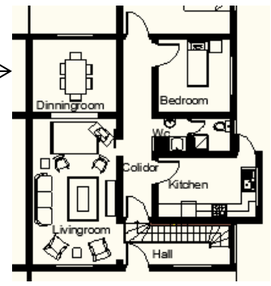
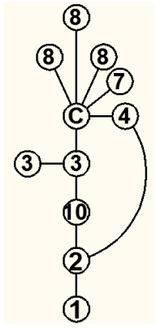
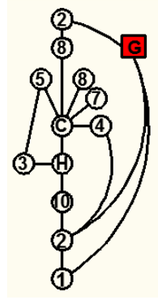
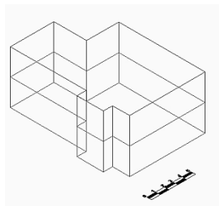
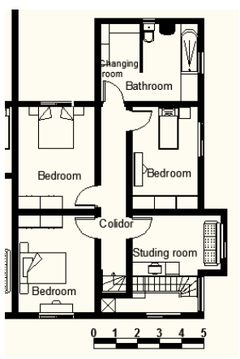
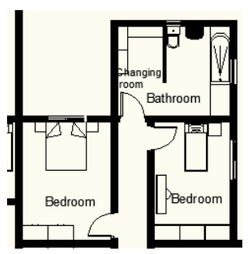
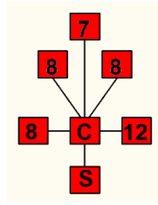
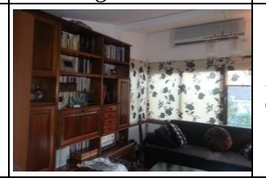
H3	TYPE B	POLICE HOUSES IN GÖÇMENKÖY/NICOSIA				
Inventory of Police Houses		Photograph of Police Houses	Codes of Justified graph	Functional Transformation	Formal Transformation	
Name of Housing Group: Police Semi Detached Houses **Period of Construction**: 1983 – 2000 **Region of Construction**: Nicosia/Göçmenköy **Type of Housing group**: Semi-Detached House **Wall material**: Brick **Roof material**: Tile **Type of Construction**:Reinforced-Concrete Skeleton **Location of House:** Sht. Önay M.Ali Sokak, no:81 Göçmenköy/Lefkoşa		 Site plan of Police Houses 	1: Street 2: Courtyard 3: Living room 4: Kitchen 5: Dinning room 6: Wc 7: Bathroom 8: Bedroom 9: Balcony 10: Terrace 11: Loundry 12: Studing room 13: Storage 14:Changing room C:Colidor H:Hall S:Staircase :Transformation	Transformed plan organization: House consist: • Livingroom • Kitchen • Toilet(wc) At the ground floor plan • Three bedroom • Studing Room • Toilet with bathroom At the first floor plan User • Enlarged kitchen Added garage	 3d View of transformed space  Ground Floor First Floor Plan	☑ Additive ☒ Subtractive ☑ Dimensional ☒ Front ☑ Back ☒ Side/ s

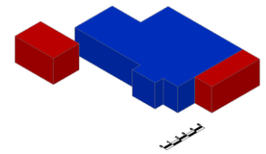
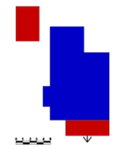
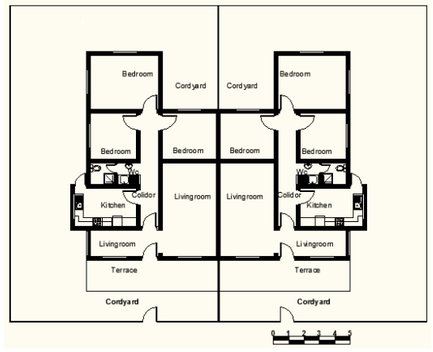
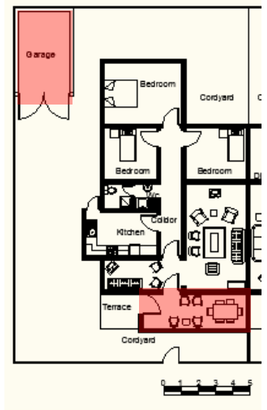
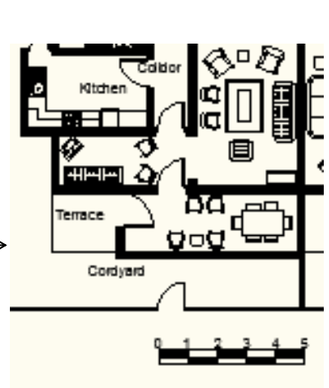
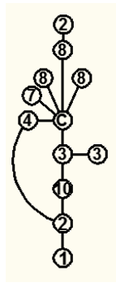
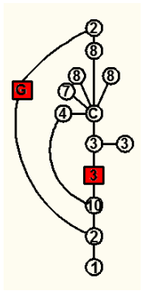
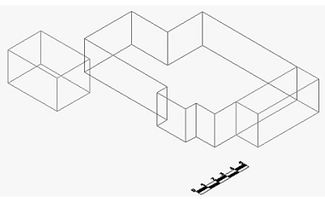
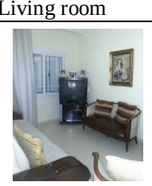
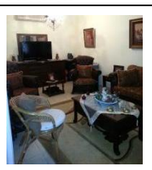
Orginal Ground Floor Plan	Transformed Ground Floor Plan	Transformed	Justified Graph 1	Justified graph 2	Spatial Transformation
			 (Original) Ground Floor Plan	 (Transformed) Changed Ground Floor Plan	☒ Space within a space ☒ Interlocking spaces ☑ Adjacent spaces ☒ Spaces linked by a common space 

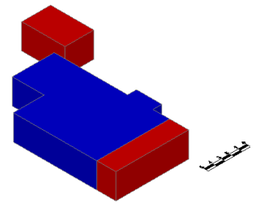
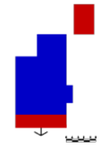
Original First Floor Plan	Transformed First Floor Plan	No Transformation	Justified Graph 1	Justified Graph 2	Garage	Livingroom	Kitchen
			 (Original) First Floor Plan	 (Transformed) Changed First Floor Plan	 Master bedroom 	No Transformation Bedroom No Transformation	 Bedroom No Transformation

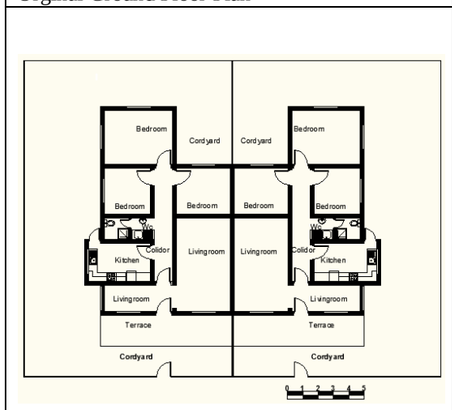
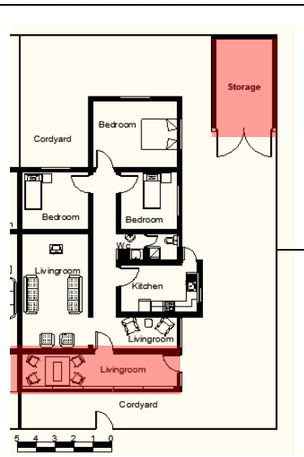
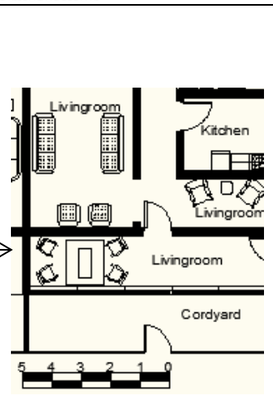
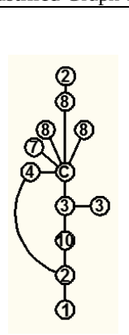
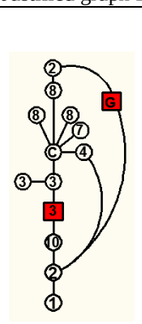
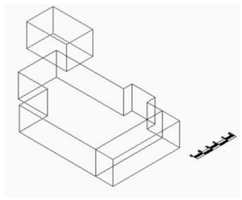
H4	TYPE B	POLICE HOUSES IN GÖÇMENKÖY/NICOSIA				
Inventory of Police Houses		Photograph of Police Houses	Codes of Justified graph	Functional Transformation	Formal Transformation	
Name of Housing Group: Police Semi Detached Houses **Period of Construction**: 1983 – 2000 **Region of Construction**: Nicosia/Göçmenköy **Type of Housing group**: Semi-Detached House **Wall material**: Brick **Roof material**: Tile **Type of Construction**:Reinforced-Concrete Skeleton **Location of House:** Sht. Önay M.Ali Sokak, no:97, Göçmenköy/Lefkoşa		 Site plan of Police Houses 	1: Street 2: Courtyard 3: Living room 4: Kitchen 5: Dinning room 6: Wc 7: Bathroom 8: Bedroom 9: Balcony 10: Terrace 11: Loundry 12: Studing room 13: Storage 14:Changing room C:Colidor H:Hall S:Staircase :Transformation	Transformed plan organization: House consist: • Livingroom • Kitchen • Toilet(wc) At the ground floor plan • Three bedroom • Toilet with bathroom At the first floor plan User • Enlarged livingroom & kitchen • Added dinnig room • Added house which has • livingroom, • one bedroom, bathroom at courdyard.	 Front View Back View 3d View of transformed space  Ground Floor First Floor Plan	☑ Additive ☒ Subtractive ☑ Dimensional ☑ Front ☑ Back ☑ Side/ s
Orginal Ground Floor Plan	Transformed Ground Floor Plan	Transformed	Justified Graph 1	Justified graph 2	Spatial Transformation	
			 (Original) Ground Floor Plan	 (Transformed) Changed Ground Floor Plan	☒ Space within a space ☒ Interlocking spaces ☑ Adjacent spaces ☒ Spaces linked by a common space 
Original First Floor Plan	Transformed First Floor Plan	No Transformation	Justified Graph 1	Justified Graph 2	Studio House	Livingroom / Small Kitchen / Kitchen
			 (Original) First Floor Plan	 (Transformed) Changed First Floor Plan	 Master Bedroom 	 Bedroom No Transformation	 Bedroom No Transformation	 Addion of Kitchen 

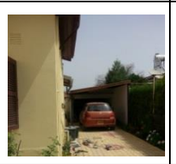
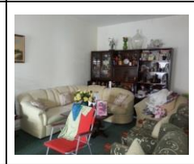
H5	TYPE B	POLICE HOUSES IN GÖÇMENKÖY/NICOSIA				
Inventory of Police Houses		Photograph of Police Houses	Codes of Justified graph	Functional Transformation		Formal Transformation
Name of Housing Group: Police Semi Detached Houses **Period of Construction**: 1983 – 2000 **Region of Construction**: Nicosia/Göçmenköy **Type of Housing group**: Semi-Detached House **Wall material**: Brick **Roof material**: Tile **Type of Construction**:Reinforced-Concrete Skeleton **Location of House:** Sht. Önay M.Ali Sokak , no:99, Göçmenköy/Lefkoşa		 Site plan of Police Houses 	1: Street 2: Courtyard 3: Living room 4: Kitchen 5: Dinning room 6: Wc 7: Bathroom 8: Bedroom 9: Balcony 10: Terrace 11: Loundry 12: Studing room 13: Storage 14:Changing room C:Colidor H:Hall S:Staircase ■:Transformation	Transformed plan organization: House consist: • Livingroom • Kitchen • Toilet(wc) At the ground floor plan • Three bedroom • Toilet with bathroom At the first floor plan User • Enlarged kitchen • Added studingroom at courtyard		 Front View Back View 3d View of transformed space  Ground Floor First Floor Plan	☑Additive ☒ Subtractive ☑ Dimensional ☒ Front ☒ Back ☑ Side/ s
Orginal Ground Floor Plan		Transformed Ground Floor Plan	Transformed	Justified Graph 1	Justified graph 2	Spatial Transformation	
 		 	 	 (Original) Ground Floor Plan	 (Transformed) Changed Ground Floor Plan	☒ Space within a space ☒ Interlocking spaces ☑ Adjacent spaces ☒ Spaces linked by a common space 	
Original First Floor Plan		Transformed First Floor Plan	No Transformation	Justified Graph 1	Justified Graph 2	Livingroom	Addition of Kitchen	Kitchen
 		 	 	 (Original) First Floor Plan	 (Transformed) Changed First Floor Plan	No Transformation Master Bedroom No Transformation	 Bedroom No Transformation	 Bedroom No Transformation

I1	TYPE B	SOYAK SEMI DETACHED HOUSES IN KAYMAKLI/NICOSIA				
Inventory of Soyak Houses		Photograph of Soyak Houses	Codes of Justified graph	Functional Transformation		Formal Transformation
Name of Housing Group: Soyak Houses **Period of Construction**: 1983 – 2000 **Region of Construction**: Nicosia/Kaymaklı **Type of Housing group**: Semi-detached house **Wall material**: Brick **Roof material**: Tile **Type of Construction**: Loadbearing **Location of House:** Belyaka Street, No: 24, Kaymaklı/Lefkoşa		 Site plan of Soyak Houses 	1: Street 2: Courtyard 3: Living room 4: Kitchen 5: Dinning room 6: Wc 7: Bathroom 8: Bedroom 9: Balcony 10: Terrace 11: Loundry 12: Studing room 13: Storage 14:Changing room C:Colidor H:Hall S:Staircase :Transformation	Transformed plan organization: House consist: • Livingroom • Kitchen • Toilet(wc) At the ground floor plan • Three bedroom • Toilet with bathroom At the first floor plan User • Enlarged kitchen • Added studingroom at courtyard		 3d View of transformed space  Ground Floor First Floor Plan
						☑ Additive ☒ Subtractive ☑ Dimensional ☒ Front ☒ Back ☒ Side/ s
Orginal Ground Floor Plan		Transformed Ground Floor Plan	Transformed	Justified Graph 1	Justified graph 2	Spatial Transformation
 		 	 	 (Original) Ground Floor Plan	 (Transformed) Changed Ground Floor Plan	☒ Space within a space ☒ Interlocking spaces ☑ Adjacent spaces ☒ Spaces linked by a common space 
Original First Floor Plan		Transformed First Floor Plan	Transformed	Justified Graph 1	Justified Graph 2	Entrance Hall / Living room & Dinning room / Kitchen
No First Floor Plan in Orginal Plan of the bulilding		 	 	(Original) First Floor Plan	 (Transformed) Changed First Floor Plan	 Bedroom No Transformation (on the grou nd floor)
						 Studdingroom 
						Kitchen No Transformation Bedroom Added bedroom on the first floor

I2	TYPE B	SOYAK SEMI DETACHED HOUSES IN KAYMAKLI/NICOSIA				
Inventory of Soyak Houses		Photograph of Soyak Houses	Codes of Justified graph	Functional Transformation		Formal Transformation
Name of Housing Group: Soyak Houses **Period of Construction**: 1983 – 2000 **Region of Construction**: Nicosia/Kaymaklı **Type of Housing group**: Semi-detached house **Wall material**: Brick **Roof material**: Tile **Type of Construction**: Loadbearing **Location of House:** Aladağ Street, No:27 Kaymaklı/Lefkoşa		 Site plan of Soyak Houses 	1: Street 2: Courtyard 3: Living room 4: Kitchen 5: Dinning room 6: Wc 7: Bathroom 8: Bedroom 9: Balcony 10: Terrace 11: Loundry 12: Studing room 13: Storage 14:Changing room C:Colidor H:Hall S:Staircase :Transformation	Transformed plan organization: House is one storey and it consist: • Livingroom • Kitchen • Toilet(wc) with bathroom • Three bedroom • Garage At the first floor plan User • Added living room Added garage		 3d View of transformed space  Ground Floor
						☑Additive ☒ Subtractive ☑Dimensional ☑ Front ☒ Back ☒ Side/ s
Orginal Ground Floor Plan		Transformed Ground Floor Plan	Transformed	Justified Graph 1	Justified graph 2	Spatial Transformation
				 (Original) Ground Floor Plan	 (Transformed) Changed Ground Floor Plan	☒ Space within a space ☒ Interlocking spaces ☑ Adjacent spaces ☒ Spaces linked by a common space 
Original First Floor Plan		Transformed First Floor Plan	No Transformation	Justified Graph 1	Justified Graph 2	Living room / Kitchen
No First Floor Plan in Orginal Plan of the bulilding		No First Floor	No First Floor	(Original) First Floor Plan	(Transformed) Changed First Floor Plan	 Master Bedroom No Transformation  Bedroom No Transformation  Bedroom No Transformation

I3	TYPE B	SOYAK SEMI DETACHED HOUSES IN KAYMAKLI/NICOSIA			
Inventory of Soyak Houses	Photograph of Soyak Houses	Codes of Justified graph	Functional Transformation	Formal Transformation	
Name of Housing Group: Soyak Houses **Period of Construction**: 1983 – 2000 **Region of Construction**: Nicosia/Kaymaklı **Type of Housing group**: Semi-detached house **Wall material**: Brick **Roof material**: Tile **Type of Construction**: Loadbearing **Location of House:** Aladağ Street, No:33 Kaymaklı/Lefkoşa	 Site plan of Soyak Houses 	1: Street 2: Courtyard 3: Living room 4: Kitchen 5: Dinning room 6: Wc 7: Bathroom 8: Bedroom 9: Balcony 10: Terrace 11: Loundry 12: Studing room 13: Storage 14:Changing room C:Colidor H:Hall S:Staircase :Transformation	Transformed plan organization: House one storey it consist: • Livingroom • Kitchen • Toilet(wc) At the ground floor plan • Three bedroom • Toilet with bathroom At the first floor plan User • Added living room Added garage	 3d View of transformed space  Ground Floor	☑ Additive ☒ Subtractive ☑Dimensional ☑ Front ☒ Back ☒ Side/ s

Orginal Ground Floor Plan	Transformed Ground Floor Plan	Transformed	Justified Graph 1	Justified graph 2	Spatial Transformation
			 (Original) Ground Floor Plan	 (Transformed) Changed Ground Floor Plan	☒ Space within a space ☒ Interlocking spaces ☑ Adjacent spaces ☒ Spaces linked by a common space 

Original First Floor Plan	Transformed First Floor Plan	No Transformation	Justified Graph 1	Justified Graph 2	Garage	Living room (Added)	Living room
No First Floor Plan in Orginal Plan of the bulilding	No First Floor	No First Floor	(Original) First Floor Plan	(Transformed) Changed First Floor Plan	 Master Bedroom No Transformation	 Bedroom No Transformation	 Bedroom No Transformation

I4	TYPE B	SOYAK SEMI DETACHED HOUSES IN KAYMAKLI/NICOSIA

Inventory of Soyak Houses

Name of Housing Group: Soyak Houses

Period of Construction: 1983 – 2000

Region of Construction: Nicosia/Kaymaklı

Type of Housing group: Semi-detached house

Wall material: Brick

Roof material: Tile

Type of Construction: Loadbearing

Location of House: Belyaka Street, No:29, Kaymaklı/Lefkoşa

Photograph of Soyak Houses

Site plan of Soyak Houses

Codes of Justified graph

1: Street
2: Courtyard
3: Living room
4: Kitchen
5: Dinning room
6: Wc
7: Bathroom
8: Bedroom
9: Balcony
10: Terrace
11: Loundry
12: Studing room
13: Storage
14:Changing room
C:Colidor
H:Hall
S:Staircase
:Transformation

Functional Transformation

Transformed plan organization:
House consist:

- Livingroom
- Kitchen
- Toilet(wc)

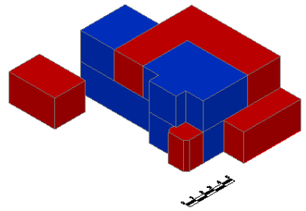
At the ground floor plan

- Three bedroom
- Toilet with bathroom

At the first floor plan
User

- Enlarged kitchen
- Added studingroom at courtyard

Formal Transformation

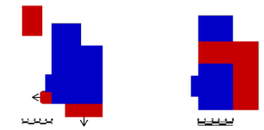


☑ Additive

☒ Subtractive

☑ Dimensional

3d View of transformed space



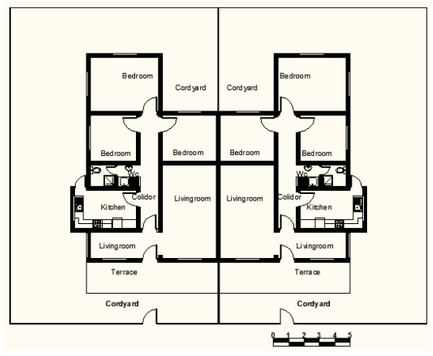
Ground Floor First Floor Plan

☑ Front

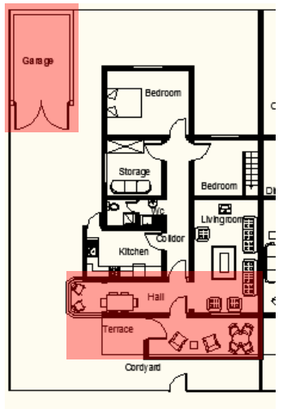
☒ Back

☑ Side/ s

Orginal Ground Floor Plan

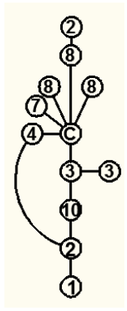


Transformed Ground Floor Plan



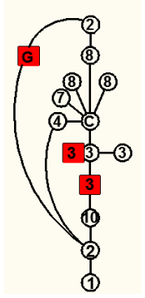
Transformed

Justified Graph 1



(Original) Ground Floor Plan

Justified graph 2



(Transformed) Changed Ground Floor Plan

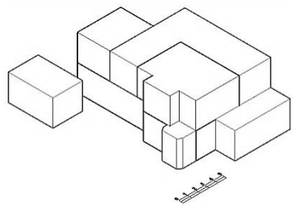
Spatial Transformation

☒ Space within a space

☒ Interlocking spaces

☑ Adjacent spaces

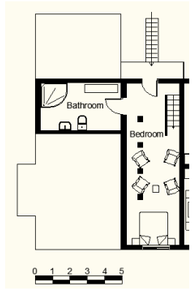
☒ Spaces linked by a common space



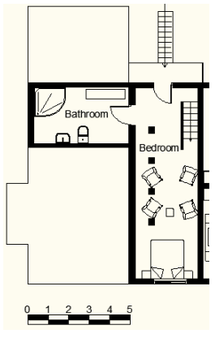
Original First Floor Plan

No First Floor Plan
in Orginal Plan of the bulilding

Transformed First Floor Plan



Transformed

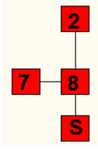


Justified Graph 1

No First Floor Plan
in Orginal Plan of
the bulilding

(Original) First Floor Plan

Justified Graph 2



(Transformed) Changed First Floor Plan

From exterior facade of Livingroom

Storage

Bedroom

Kitchen

Master Bedroom

I5	TYPE B	SOYAK SEMI DETACHED HOUSES IN KAYMAKLI/NICOSIA			
Inventory of Soyak Houses		Photograph of Soyak Houses	Codes of Justified graph	Functional Transformation	Formal Transformation

Name of Housing Group: Soyak Houses

Period of Construction: 1983 – 2000

Region of Construction: Nicosia/Kaymaklı

Type of Housing group: Semi-detached house

Wall material: Brick

Roof material: Tile

Type of Construction: Loadbearing

Location of House: Aladağ Street, No:35 Kaymaklı/Lefkoşa

Site plan of Soyak Houses

1: Street
2: Courtyard
3: Living room
4: Kitchen
5: Dinning room
6: Wc
7: Bathroom
8: Bedroom
9: Balcony
10: Terrace
11: Loundry
12: Studing room
13: Storage
14:Changing room
C:Colidor
H:Hall
S:Staircase
:Transformation

Transformed plan organization:
House consist:

- Livingroom
- Kitchen
- Toilet(wc)

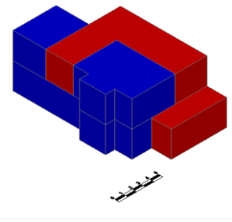
At the ground floor plan

- Three bedroom
- Toilet with bathroom

At the first floor plan
User

- Enlarged livingroom & kitchen
- Added dinnig room

Added garage

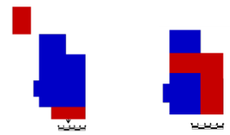


☑Additive

☒ Subtractive

☑Dimensional

3d View of transformed space



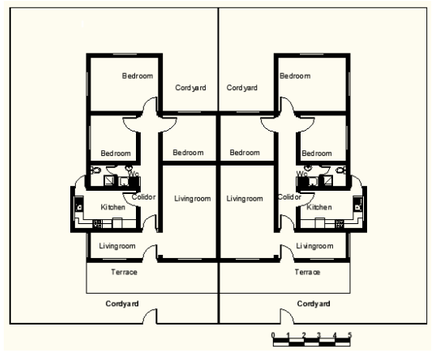
Ground Floor First Floor

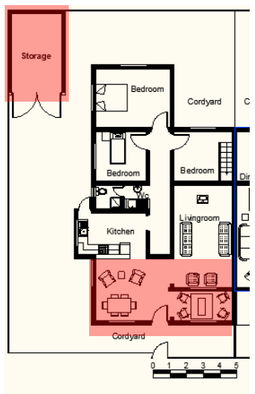
☑ Front

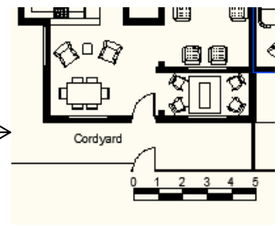
☒ Back

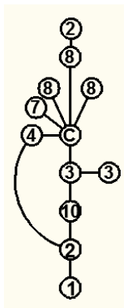
☒ Side/ s

Orginal Ground Floor Plan	Transformed Ground Floor Plan	Transformed	Justified Graph 1	Justified graph 2	Spatial Transformation

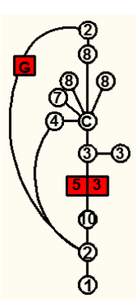








(Original) Ground Floor Plan



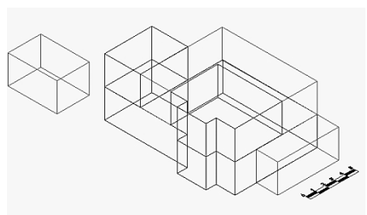
(Transformed) Changed Ground Floor Plan

☒ Space within a space

☒ Interlocking spaces

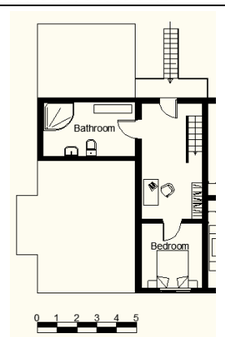
☑ Adjacent spaces

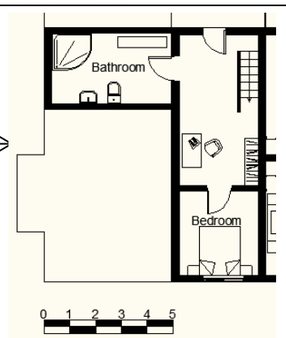
☒ Spaces linked by a common space



Original First Floor Plan	Transformed First Floor Plan	No Transformation	Justified Graph 1	Justified Graph 2	Living room	Kitchen

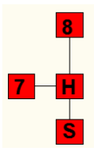
No First Floor Plan in Orginal Plan of the bulilding





No First Floor Plan in Orginal Plan of the bulilding

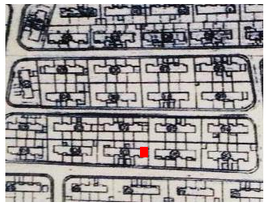
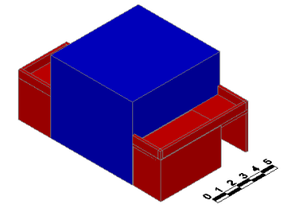
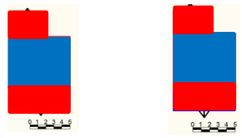
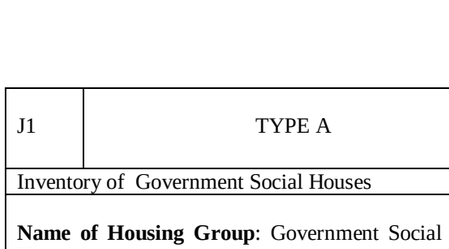
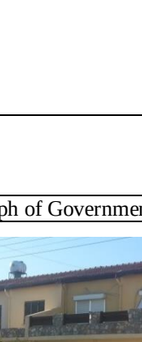
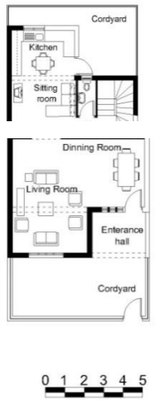
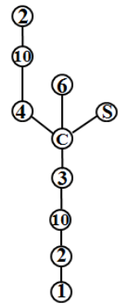
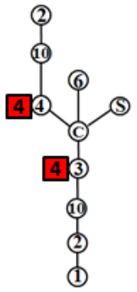
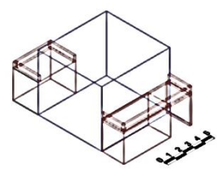
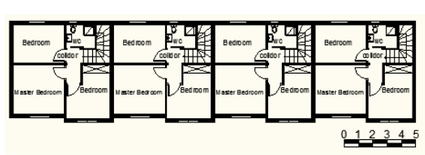
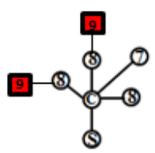
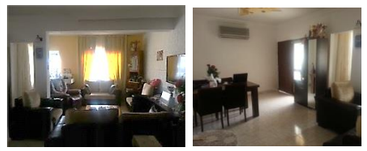
(Original) First Floor Plan



(Transformed) Changed First Floor Plan

Hall	Bedroom (1st floor)	Bedroom

No Transformation

J1	TYPE A	GOVERNMENT SOCIAL HOUSES IN TAŞKINKÖY/NICOSIA				
Inventory of Government Social Houses		Photograph of Government Social Houses	Codes of Justified graph	Functional Transformation		Formal Transformation
Name of Housing Group: Government Social Houses **Period of Construction**: 1983 – 2000 **Region of Construction**: Nicosia/Taşkınköy **Type of Housing group**: Row/Attached Houses **Wall material**: Brick **Roof material**: Tile **Type of Construction**: Reinforced-Concrete Skeleton **Location of House:** Şht.Kemal Ünal Street, No: 34, Taşkınköy/Lefkoşa		 Site plan of Government Social Houses 	1: Street 2: Courtyard 3: Living room 4: Kitchen 5: Dinning room 6: Wc 7: Bathroom 8: Bedroom 9: Balcony 10: Terrace 11: Loundry 12: Studing room 13: Storage 14:Changing room C:Colidor H:Hall S:Staircase :Transformation	Transformed plan organization: House consist: • Livingroom • Kitchen • Toilet(wc) At the ground floor plan • Three bedroom • Toilet with bathroom At the first floor plan User • Enlarged livingroom & kitchen		 3d View of transformed space  Ground Floor First Floor
						☑Additive ☒ Subtractive ☑Dimensional ☑ Front ☑ Back ☒ Side/ s
Orginal Ground Floor Plan		Transformed Ground Floor Plan	Transformed	Justified Graph 1	Justified graph 2	Spatial Transformation
						☒ Space within a space ☒ Interlocking spaces ☑ Adjacent spaces ☒ Spaces linked by a common space 
				(Original) Ground Floor Plan	(Transformed) Changed Ground Floor Plan	
Original First Floor Plan		Transformed First Floor Plan	No Transformation	Justified Graph 1	Justified Graph 2	Living room / Kitchen
						 
				(Original) First Floor Plan	(Transformed) Changed First Floor Plan	Master Bedroom / Bedroom / Bedroom No Transformation / No Transformation / No Transformation

J2	TYPE A	GOVERNMENT SOCIAL HOUSES IN TAŞKINKÖY/NICOSIA			
Inventory of Government Social Houses		Photograph of Government Social Houses	Codes of Justified graph	Functional Transformation	Formal Transformation

Name of Housing Group: Government Social Houses

Period of Construction: 1983 – 2000

Region of Construction: Nicosia/Taşkınköy

Type of Housing group: Row/Attached Houses

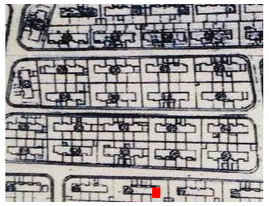
Wall material: Brick

Roof material: Tile

Type of Construction: Reinforced-Concrete Skeleton

Location of House: Şht Kemal Ünal Sokak No: 33 Taşkınköy/Lefkoşa

Site plan of Government Social Houses



1: Street
2: Courtyard
3: Living room
4: Kitchen
5: Dinning room
6: Wc
7: Bathroom
8: Bedroom
9: Balcony
10: Terrace
11: Loundry
12: Studing room
13: Storage
14:Changing room
C:Colidor
H:Hall
S:Staircase
:Transformation

Transformed plan organization:
House consist:

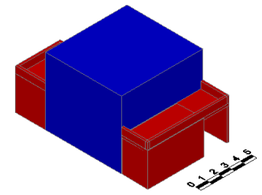
- Livingroom
- Kitchen
- Toilet(wc)

At the ground floor plan

- Three bedroom
- Toilet with bathroom

At the first floor plan
User

- Enlarged livingroom & kitchen
- Added garage



☑ Additive

☒ Subtractive

☑ Dimensional

3d View of transformed space

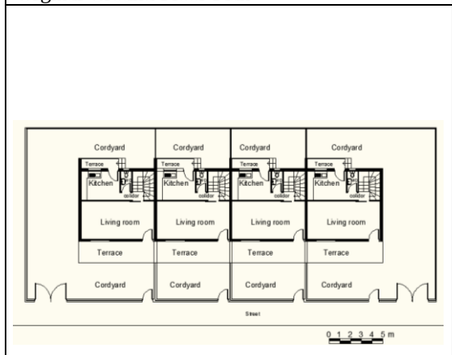
Ground Floor First Floor

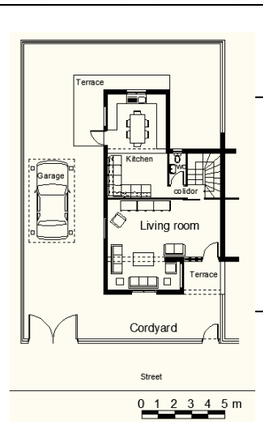
☑ Front

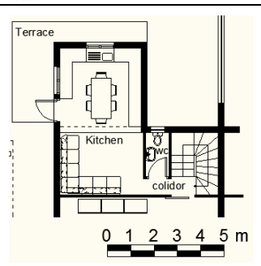
☑ Back

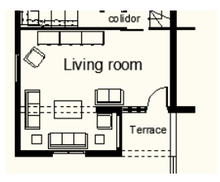
☒ Side/ s

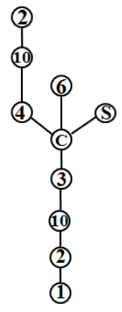
Orginal Ground Floor Plan	Transformed Ground Floor Plan	Transformed	Justified Graph 1	Justified graph 2	Spatial Transformation



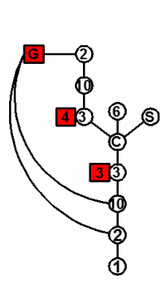








(Original) Ground Floor Plan



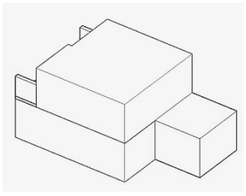
(Transformed) Changed Ground Floor Plan

☒ Space within a space

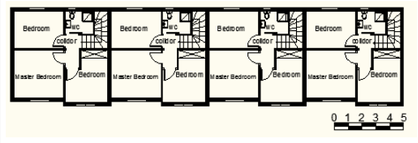
☒ Interlocking spaces

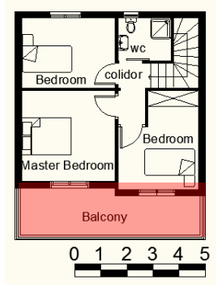
☑ Adjacent spaces

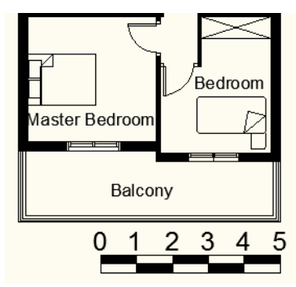
☒ Spaces linked by a common space

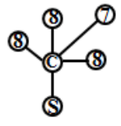


Original First Floor Plan	Transformed First Floor Plan	Transformed	Justified Graph 1	Justified Graph 2	Living room	Back side of house	Kitchen

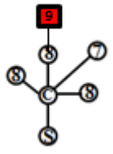








(Original) First Floor Plan



(Transformed) Changed First Floor Plan

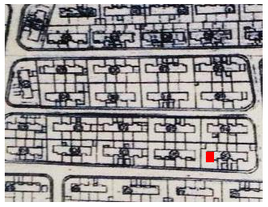
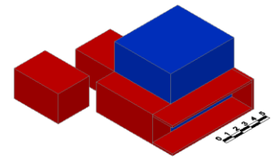
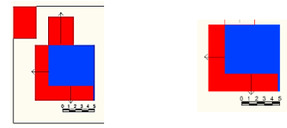
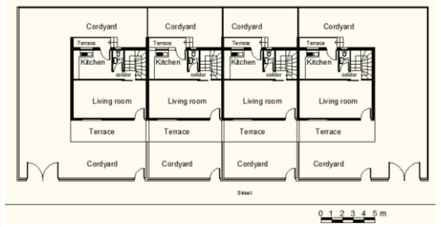
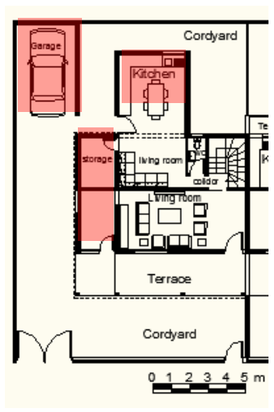
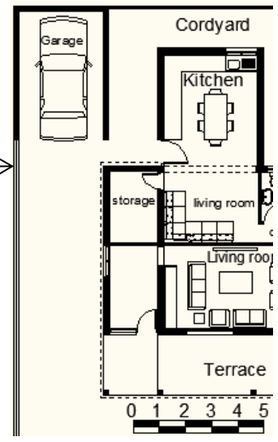
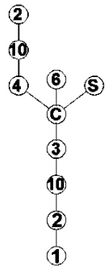
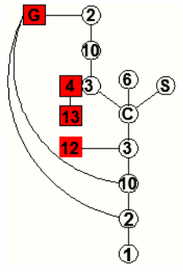
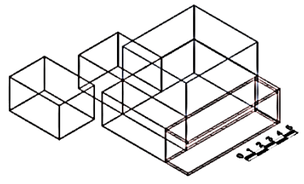
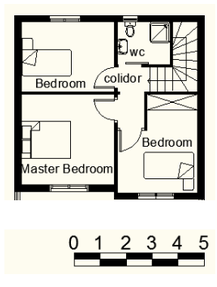
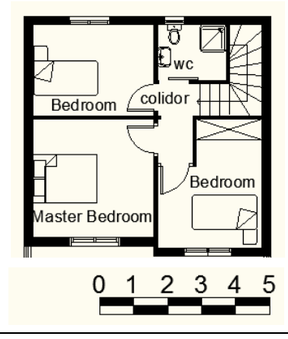
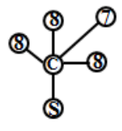
Balcony of Bedroom

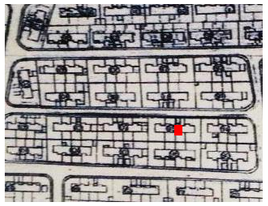
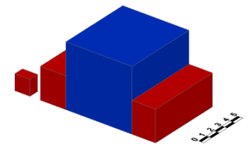
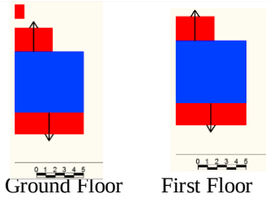
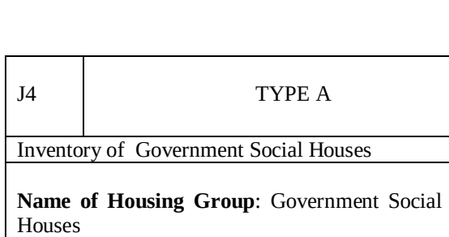
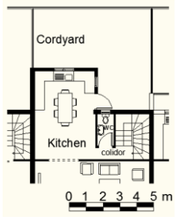
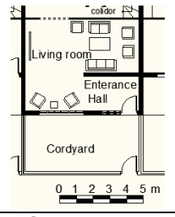
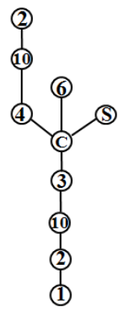
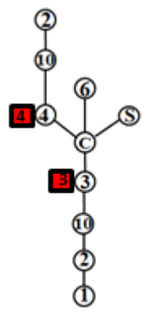
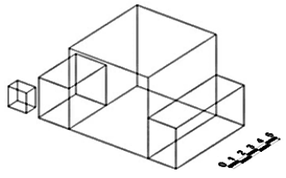
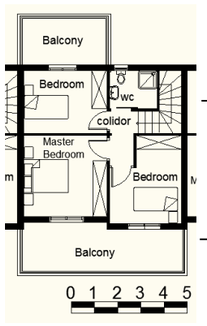
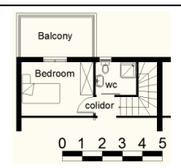
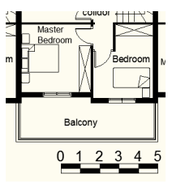
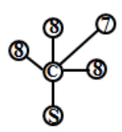
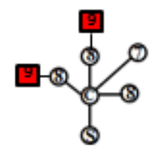
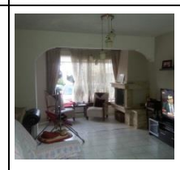
Bedroom

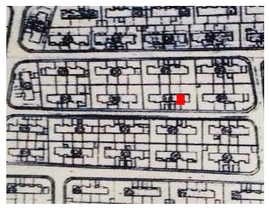
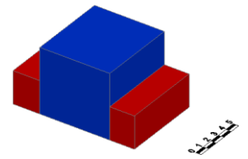
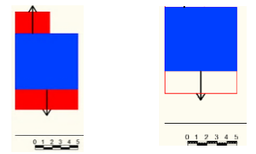
No Transformation

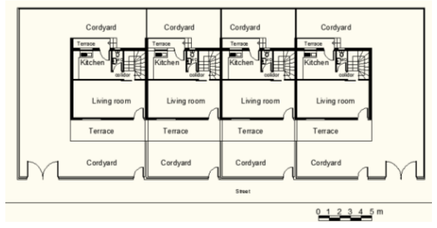
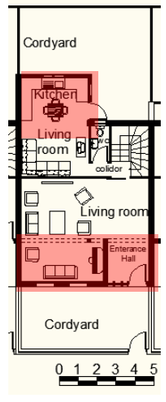
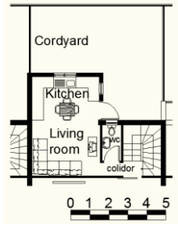
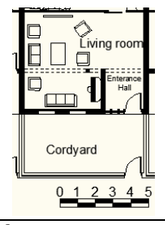
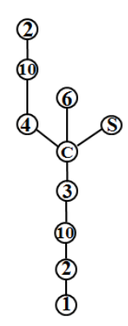
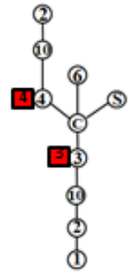
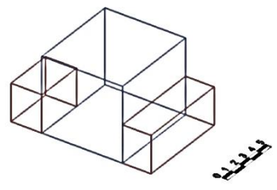
Bedroom

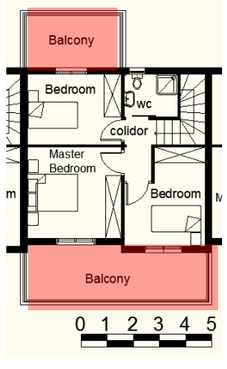
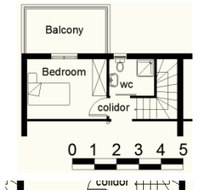
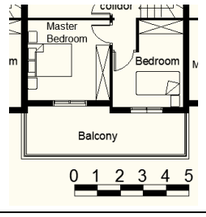
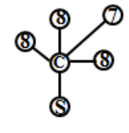
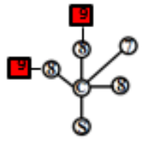
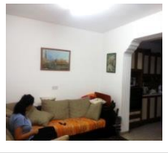
No Transformation

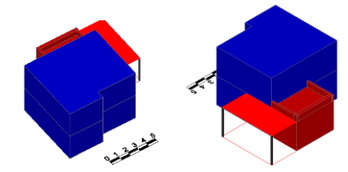
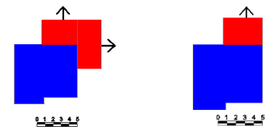
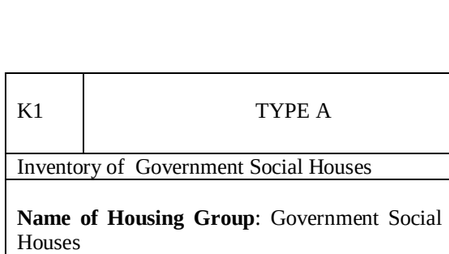
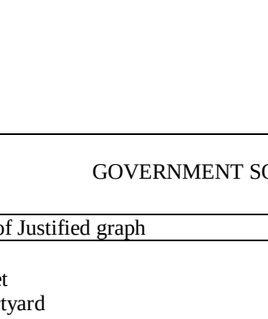
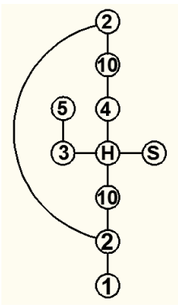
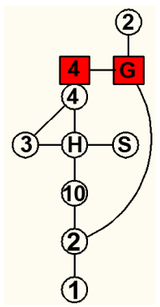
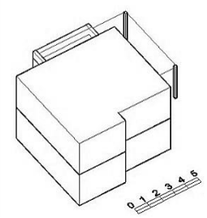
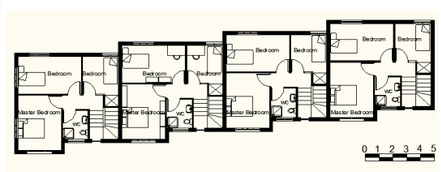
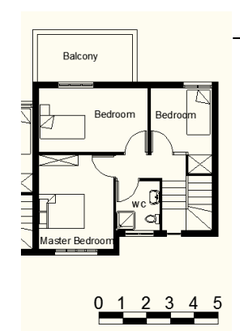
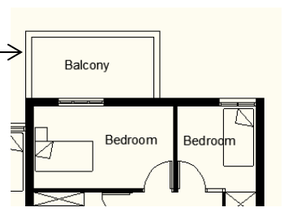
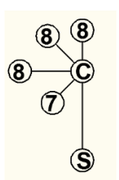
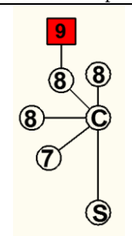
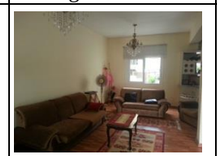
J3	TYPE A	GOVERNMENT SOCIAL HOUSES IN TAŞKINKÖY/NICOSIA				
Inventory of Government Social Houses		Photograph of Government Social Houses	Codes of Justified graph	Functional Transformation		Formal Transformation
Name of Housing Group: Government Social Houses **Period of Construction**: 1983 – 2000 **Region of Construction**: Nicosia/Taşkınköy **Type of Housing group**: Row/Attached Houses **Wall material**: Brick **Roof material**: Tile **Type of Construction**: Reinforced-Concrete Skeleton **Location of House:** Şht Kemal Ünal Sokak No:26, Taşkınköy/Lefkoşa		 Site plan of Government Social Houses 	1: Street 2: Courtyard 3: Living room 4: Kitchen 5: Dinning room 6: Wc 7: Bathroom 8: Bedroom 9: Balcony 10: Terrace 11: Loundry 12: Studing room 13: Storage 14:Changing room C:Colidor H:Hall S:Staircase :Transformation	Transformed plan organization: House consist: • Livingroom • Kitchen • Toilet(wc) At the ground floor plan • Three bedroom • Toilet with bathroom At the first floor plan User • Enlarged kitchen • Added storage • Added garage		 3d View of transformed space  Ground Floor First Floor
						☑Additive ☒ Subtractive ☑Dimensional ☑ Front ☑ Back ☑ Side/ s
Orginal Ground Floor Plan		Transformed Ground Floor Plan	Transformed	Justified Graph 1	Justified graph 2	Spatial Transformation
				 (Original) Ground Floor Plan	 (Transformed) Changed Ground Floor Plan	☒ Space within a space ☒ Interlocking spaces ☑ Adjacent spaces ☒ Spaces linked by a common space 
Original First Floor Plan		Transformed First Floor Plan	No Transformation	Justified Graph 1	Justified Graph 2	Garage and Storage / Kitchen with Living room
				 (Original) First Floor Plan	 (Transformed) Changed First Floor Plan	   Master Bedroom / Bedroom / Bedroom No Transformation / No Transformation / No Transformation

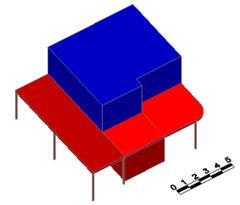
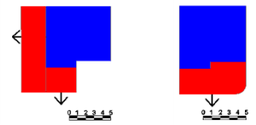
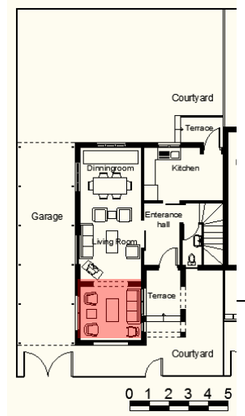
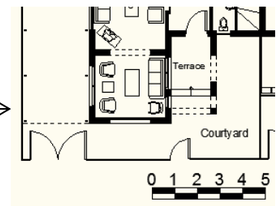
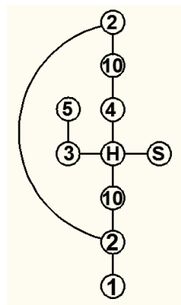
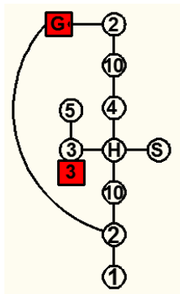
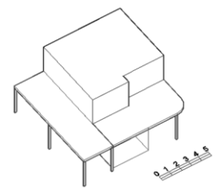
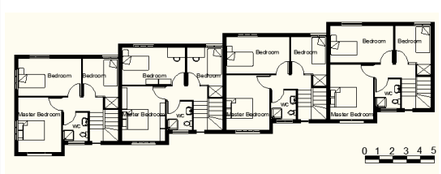
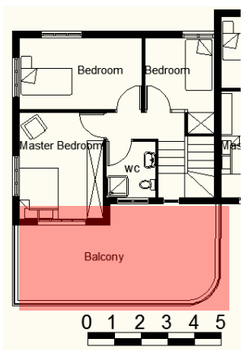
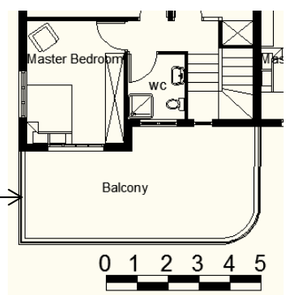
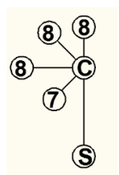
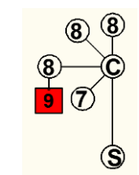
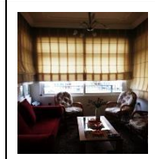
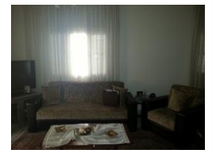
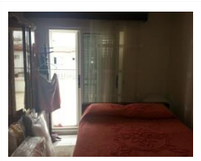
J4	TYPE A	GOVERNMENT SOCIAL HOUSES IN TAŞKINKÖY/NICOSIA				
Inventory of Government Social Houses		Photograph of Government Social Houses	Codes of Justified graph	Functional Transformation	Formal Transformation	
Name of Housing Group: Government Social Houses **Period of Construction**: 1983 – 2000 **Region of Construction**: Nicosia/Taşkınköy **Type of Housing group**: Row/Attached Houses **Wall material**: Brick **Roof material**: Tile **Type of Construction**: Reinforced-Concrete Skeleton **Location of House:** Sardunya Street, No: 17 Taşkınköy/Lefkoşa		 Site plan of Government Social Houses 	1: Street 2: Courtyard 3: Living room 4: Kitchen 5: Dinning room 6: Wc 7: Bathroom 8: Bedroom 9: Balcony 10: Terrace 11: Loundry 12: Studing room 13: Storage 14:Changing room C:Colidor H:Hall S:Staircase :Transformation	Transformed plan organization: House consist: • Livingroom • Kitchen • Toilet(wc) At the ground floor plan • Three bedroom • Toilet with bathroom At the first floor plan User • Enlarged livingroom & kitchen Added balcony	 3d View of transformed space  Ground Floor First Floor	☑Additive ☒ Subtractive ☑Dimensional ☑ Front ☑ Back ☒ Side/ s
Orginal Ground Floor Plan	Transformed Ground Floor Plan	Transformed	Justified Graph 1	Justified graph 2	Spatial Transformation	
		 	 (Original) Ground Floor Plan	 (Transformed) Changed Ground Floor Plan	☒ Space within a space ☒ Interlocking spaces ☑ Adjacent spaces ☒ Spaces linked by a common space 	
Original First Floor Plan	Transformed First Floor Plan	Transformed	Justified Graph 1	Justified Graph 2	Balcony of Bedroom	Kitchen with Living room
		 	 (Original) First Floor Plan	 (Transformed) Changed First Floor Plan	 Balcony of Bedroom	 Bedroom  Master Bedroom
					 No Transformation	No Transformation

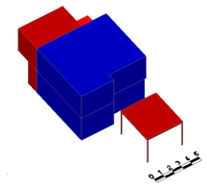
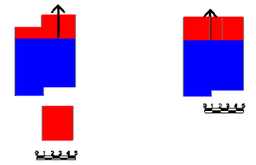
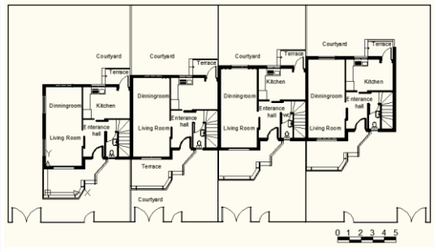
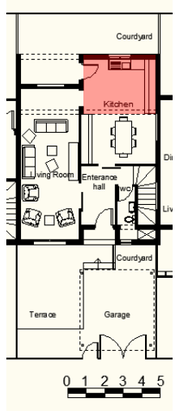
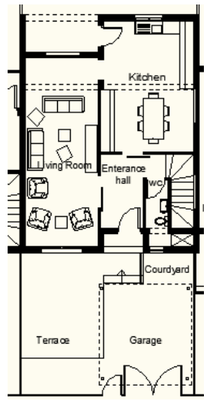
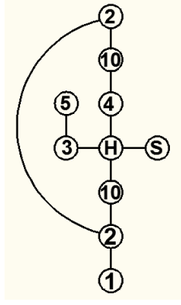
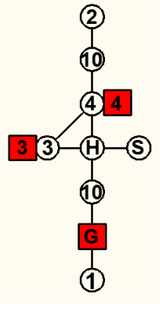
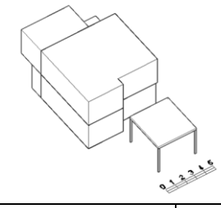
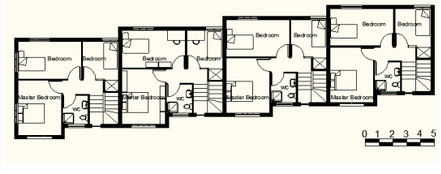
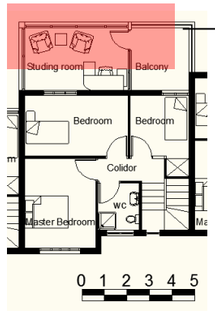
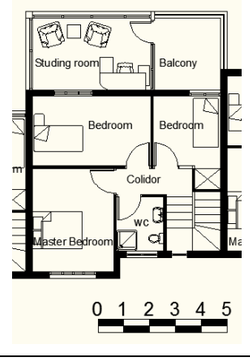
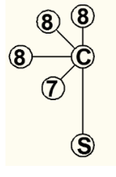
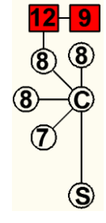
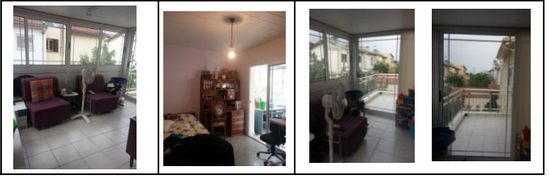
J5	TYPE A	GOVERNMENT SOCIAL HOUSES TAŞKINKÖY/NICOSIA				
Inventory of Government Social Houses		Photograph of Government Social Houses	Codes of Justified graph	Functional Transformation	Formal Transformation	
Name of Housing Group: Government Social Houses **Period of Construction**: 1983 – 2000 **Region of Construction**: Nicosia/Taşkınköy **Type of Housing group**: Row/Attached Houses **Wall material**: Brick **Roof material**: Tile **Type of Construction**: Reinforced-Concrete Skeleton **Location of House:** Sardunya Street, No: 16 Taşkınköy/Lefkoşa		 Site plan of Government Social Houses 	1: Street 2: Courtyard 3: Living room 4: Kitchen 5: Dinning room 6: Wc 7: Bathroom 8: Bedroom 9: Balcony 10: Terrace 11: Loundry 12: Studing room 13: Storage 14:Changing room C:Colidor H:Hall S:Staircase :Transformation	Transformed plan organization: House consist: • Livingroom • Kitchen • Toilet(wc) At the ground floor plan • Three bedroom • Toilet with bathroom At the first floor plan User • Enlarged livingroom & kitchen Added balcony.		☑Additive ☒ Subtractive ☑Dimensional
					3d View of transformed space	
					 Ground Floor First Floor	☑ Front ☑ Back ☒ Side/ s

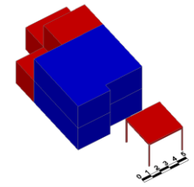
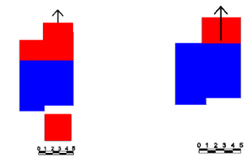
Orginal Ground Floor Plan	Transformed Ground Floor Plan	Transformed	Justified Graph 1	Justified graph 2	Spatial Transformation
		 	 (Original) Ground Floor Plan	 (Transformed) Changed Ground Floor Plan	☒ Space within a space ☒ Interlocking spaces ☑ Adjacent spaces ☒ Spaces linked by a common space 

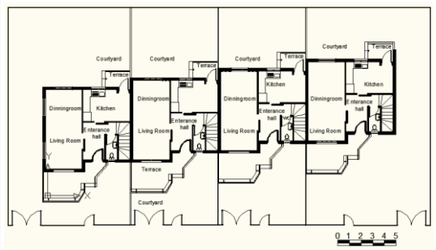
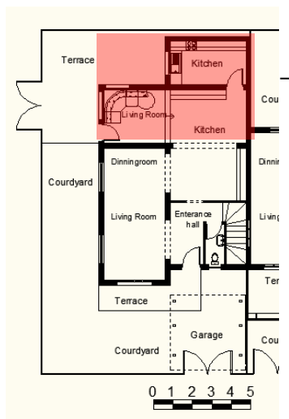
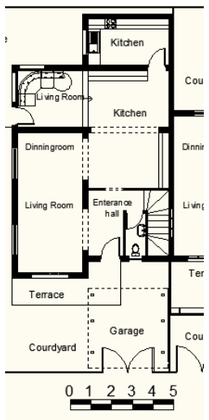
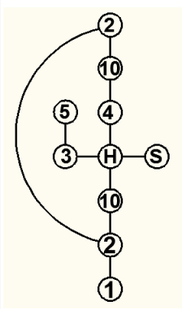
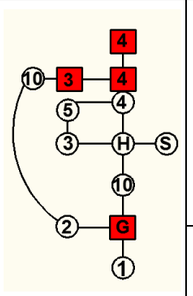
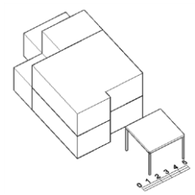
Original First Floor Plan	Transformed First Floor Plan	Transformed	Justified Graph 1	Justified Graph 2	Living room	Kitchen with Living room	
		 	 (Original) First Floor Plan	 (Transformed) Changed First Floor Plan	 Balcony of Bedroom	 Bedroom	 Master Bedroom
					 No Transformation	No Transformation	

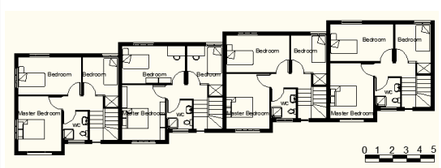
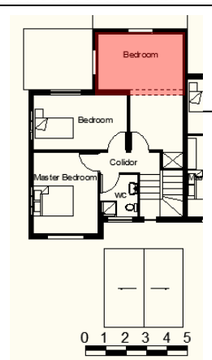
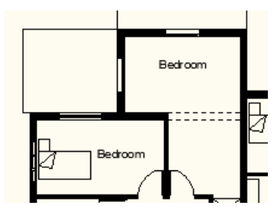
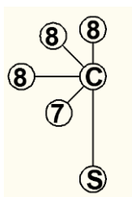
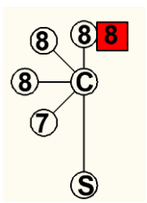
K1	TYPE A	GOVERNMENT SOCIAL HOUSES IN GÖÇMENKÖY/NICOSIA				
Inventory of Government Social Houses		Photograph of Government Social Houses	Codes of Justified graph	Functional Transformation		Formal Transformation
Name of Housing Group: Government Social Houses **Period of Construction**: 1983 – 2000 **Region of Construction**: Nicosia/Göçmenköy **Type of Housing group**: Row/Attached Houses **Wall material**: Brick **Roof material**: Tile **Type of Construction**: Reinforced-Concrete Skeleton **Location of House:** Necmi Sağıp Bodamyalızade Street, No:15, Göçmenköy/Nicosia		 Site plan of Government Social Houses 	1: Street 2: Courtyard 3: Living room 4: Kitchen 5: Dinning room 6: Wc 7: Bathroom 8: Bedroom 9: Balcony 10: Terrace 11: Loundry 12: Studing room 13: Storage 14:Changing room C:Colidor H:Hall S:Staircase :Transformation	Transformed plan organization: House consist: • Livingroom • Kitchen • Toilet(wc) At the ground floor plan • Three bedroom • Toilet with bathroom At the first floor plan User • Enlarged kitchen • Added garage		 Front View Back View 3d View of transformed space  Ground Floor First Floor
						☑Additive ☒ Subtractive ☑Dimensional ☒ Front ☑ Back ☑ Side/ s
Orginal Ground Floor Plan	Transformed Ground Floor Plan	Transformed	Justified Graph 1	Justified graph 2		Spatial Transformation
			 (Original) Ground Floor Plan	 (Transformed) Changed Ground Floor Plan		☒ Space within a space ☒ Interlocking spaces ☑ Adjacent spaces ☒ Spaces linked by a common space 
Original First Floor Plan	Transformed First Floor Plan	Transformed	Justified Graph 1	Justified Graph 2	Living room	Living room with Kitchen
			 (Original) First Floor Plan	 (Transformed) Changed First Floor Plan		
					Bedroom	Bedroom Master Bedroom
					No Transformation	No Transformation No Transformation

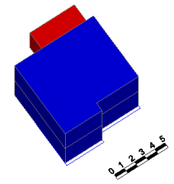
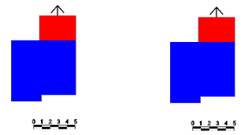
K2	TYPE A	GOVERNMENT SOCIAL HOUSES IN GÖÇMENKÖY/NICOSIA				
Inventory of Government Social Houses		Photograph of Government Social Houses	Codes of Justified graph	Functional Transformation		Formal Transformation
Name of Housing Group: Government Social Houses **Period of Construction**: 1983 – 2000 **Region of Construction**: Nicosia/Göçmenköy **Type of Housing group**: Row/Attached Houses **Wall material**: Brick **Roof material**: Tile **Type of Construction**: Reinforced-Concrete Skeleton **Location of House:** Necmi Sağıp Bodamyalızade Street, No:9, Göçmenköy/Nicosia		 Site plan of Government Social Houses 	1: Street 2: Courtyard 3: Living room 4: Kitchen 5: Dinning room 6: Wc 7: Bathroom 8: Bedroom 9: Balcony 10: Terrace 11: Loundry 12: Studing room 13: Storage 14:Changing room C:Colidor H:Hall S:Staircase :Transformation	Transformed plan organization: House consist: • Livingroom • Kitchen • Toilet(wc) At the ground floor plan • Three bedroom • Toilet with bathroom At the first floor plan User • Enlarged livingroom • Added Balcony • Added Garage		 3d View of transformed space  Ground Floor First Floor
						☑Additive ☒ Subtractive ☑ Dimensional ☑ Front ☒ Back ☑ Side/ s
Orginal Ground Floor Plan		Transformed Ground Floor Plan	Transformed	Justified Graph 1	Justified graph 2	Spatial Transformation
				 (Original) Ground Floor Plan	 (Transformed) Changed Ground Floor Plan	☒ Space within a space ☒ Interlocking spaces ☑ Adjacent spaces ☒ Spaces linked by a common space 
Original First Floor Plan		Transformed First Floor Plan	Transformed	Justified Graph 1	Justified Graph 2	Living room / Kitchen
				 (Original) First Floor Plan	 (Transformed) Changed First Floor Plan	   Balcony / Bedroom / Master Bedroom   No Transformation

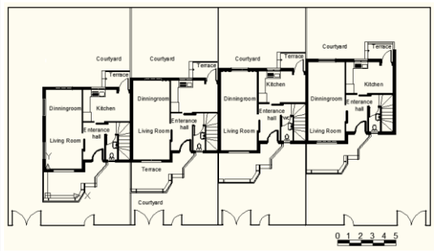
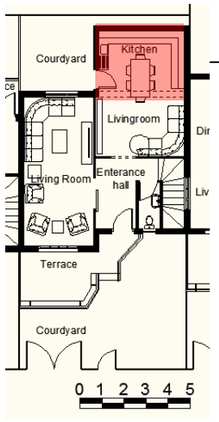
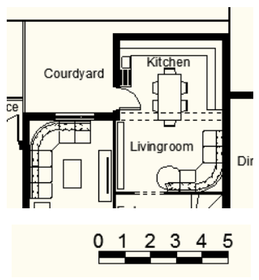
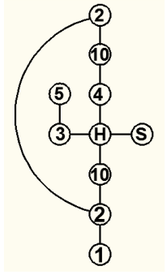
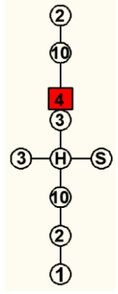
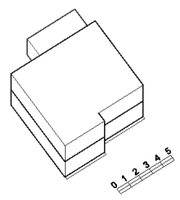
K3	TYPE A	GOVERNMENT SOCIAL HOUSES IN GÖÇMENKÖY/NICOSIA			
Inventory of Government Social Houses		Photograph of Government Social Houses	Codes of Justified graph	Functional Transformation	Formal Transformation
Name of Housing Group: Government Social Houses **Period of Construction**: 1983 – 2000 **Region of Construction**: Nicosia/Göçmenköy **Type of Housing group**: Row/Attached Houses **Wall material**: Brick **Roof material**: Tile **Type of Construction**: Reinforced-Concrete Skeleton **Location of House:** Necmi Sağıp Bodamyalızade Street, No:5, Göçmenköy/Nicosia		 Site plan of Government Social Houses 	1: Street 2: Courtyard 3: Living room 4: Kitchen 5: Dinning room 6: Wc 7: Bathroom 8: Bedroom 9: Balcony 10: Terrace 11: Loundry 12: Studing room 13: Storage 14:Changing room C:Colidor H:Hall S:Staircase :Transformation	Transformed plan organization: House consist: • Livingroom • Kitchen • Toilet(wc) At the ground floor plan • Three bedroom • Toilet with bathroom At the first floor plan User • Enlarged livingroom & kitchen • Added dinnig room • Adden studding room and balcony at first floor • Added garage	 3d View of transformed space  Ground Floor First Floor
					☑Additive ☒ Subtractive ☑Dimensional ☒ Front ☑ Back ☒ Side/ s
Orginal Ground Floor Plan	Transformed Ground Floor Plan	Transformed	Justified Graph 1	Justified graph 2	Spatial Transformation
			 (Original) Ground Floor Plan	 (Transformed) Changed Ground Floor Plan	☒ Space within a space ☒ Interlocking spaces ☑ Adjacent spaces ☒ Spaces linked by a common space 
Original First Floor Plan	Transformed First Floor Plan	Transformed	Justified Graph 1	Justified Graph 2	Living room / Kitchen / Toilet
			 (Original) First Floor Plan	 (Transformed) Changed First Floor Plan	 Studding room / Bedroom / Balcony of Bedroom 

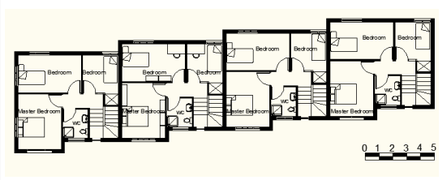
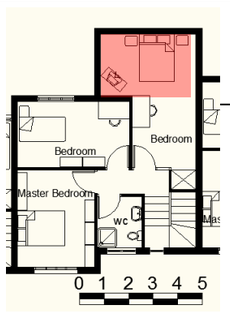
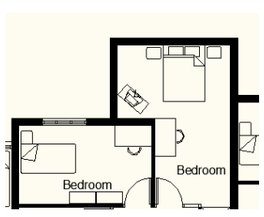
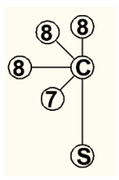
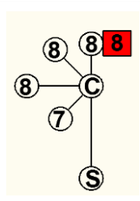
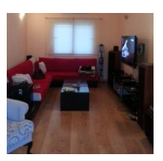
K4	TYPE A	GOVERNMENT SOCIAL HOUSES IN GÖÇMENKÖY/NICOSIA				
Inventory of Government Social Houses		Photograph of Government Social Houses	Codes of Justified graph	Functional Transformation	Formal Transformation	
Name of Housing Group: Government Social Houses **Period of Construction**: 1983 – 2000 **Region of Construction**: Nicosia/Göçmenköy **Type of Housing group**: Row/Attached Houses **Wall material**: Brick **Roof material**: Tile **Type of Construction**: Reinforced-Concrete Skeleton **Location of House:** Sonay Beyzade Street, No: 20, Göçmenköy/Nicosia		 Site plan of Government Social Houses 	1: Street 2: Courtyard 3: Living room 4: Kitchen 5: Dinning room 6: Wc 7: Bathroom 8: Bedroom 9: Balcony 10: Terrace 11: Loundry 12: Studing room 13: Storage 14:Changing room C:Colidor H:Hall S:Staircase :Transformation	Transformed plan organization: House consist: • Livingroom • Kitchen • Toilet(wc) At the ground floor plan • Three bedroom • Toilet with bathroom At the first floor plan User • Enlarged livingroom & kitchen • Added small kitchen • Added small living room Enlarged bedroom at the first floor plan	 3d View of transformed space  Ground Floor First Floor	☑Additive ☒ Subtractive ☑Dimensional ☒ Front ☑ Back ☒ Side/ s

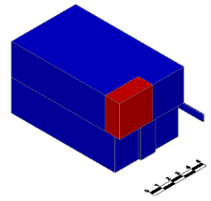
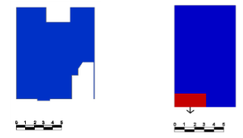
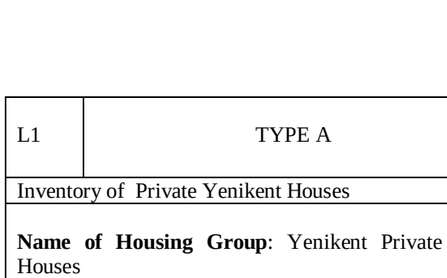
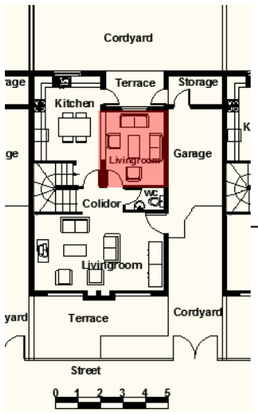
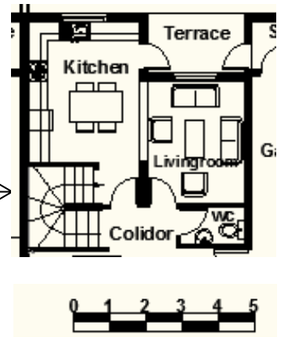
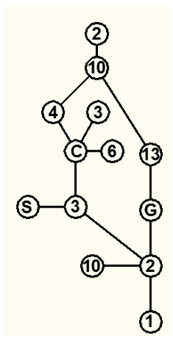
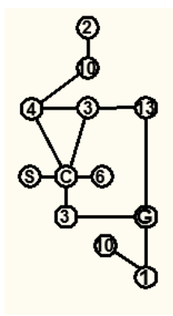
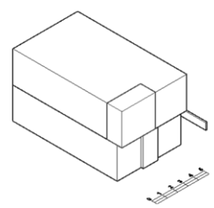
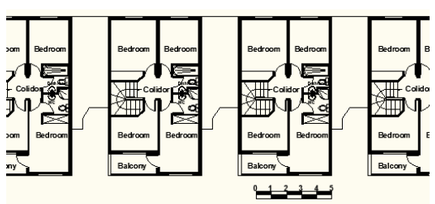
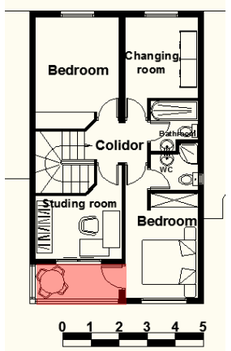
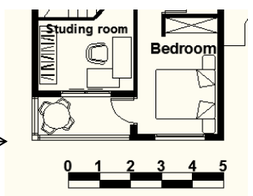
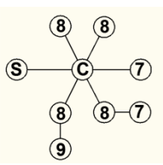
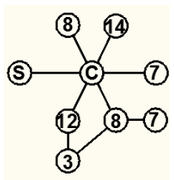
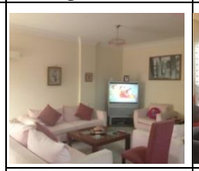
Orginal Ground Floor Plan	Transformed Ground Floor Plan	Transformed	Justified Graph 1	Justified graph 2	Spatial Transformation
			 (Original) Ground Floor Plan	 (Transformed) Changed Ground Floor Plan	☒ Space within a space ☒ Interlocking spaces ☑ Adjacent spaces ☒ Spaces linked by a common space 

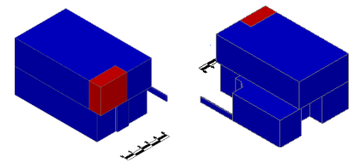
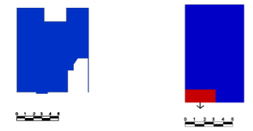
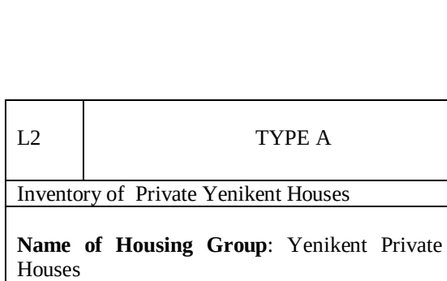
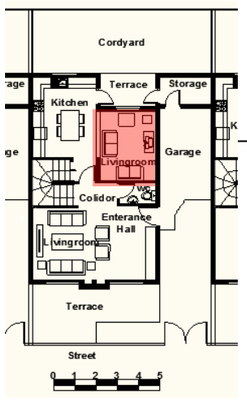
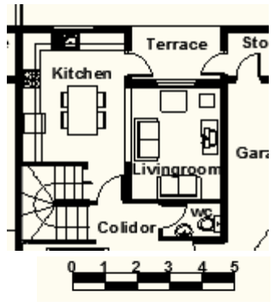
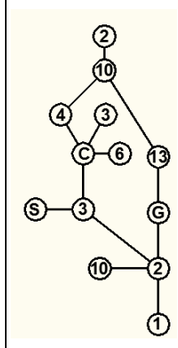
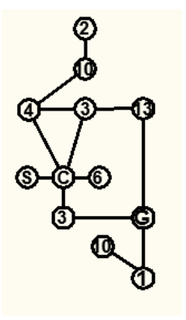
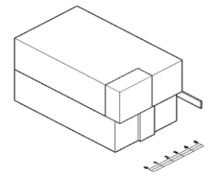
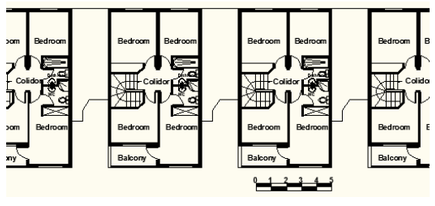
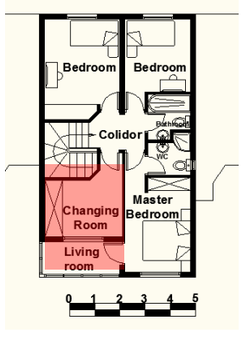
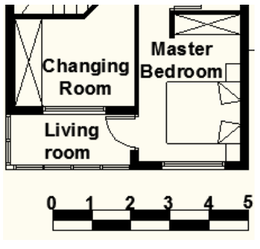
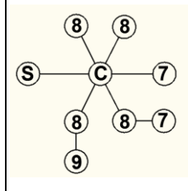
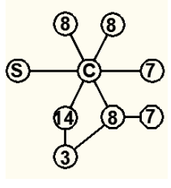
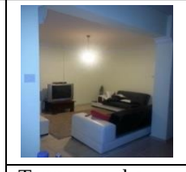
Original First Floor Plan	Transformed First Floor Plan	Transformed	Justified Graph 1	Justified Graph 2	Living room	Living room	Kitchen
			 (Original) First Floor Plan	 (Transformed) Changed First Floor Plan	 Bedroom No Transformation	 Bedroom No Transformation	 Master Bedroom No Transformation

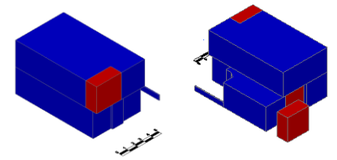
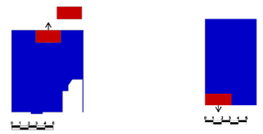
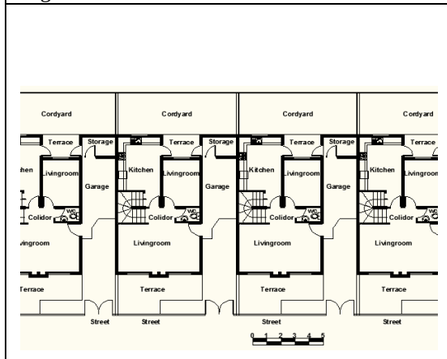
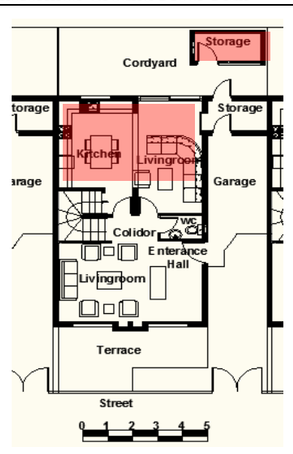
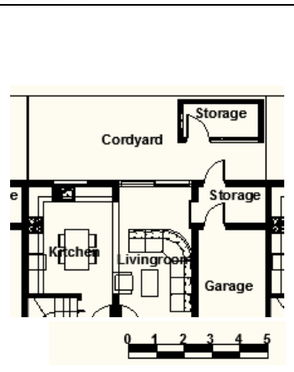
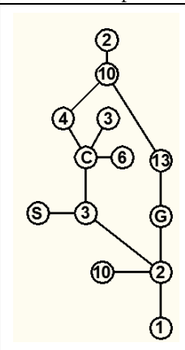
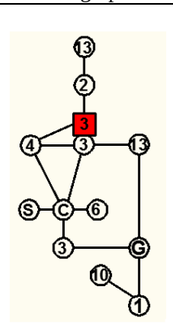
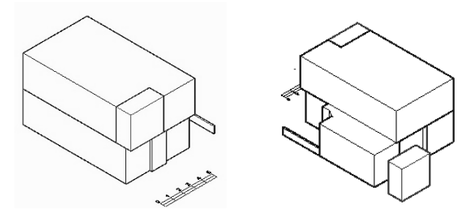
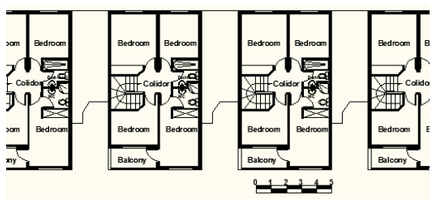
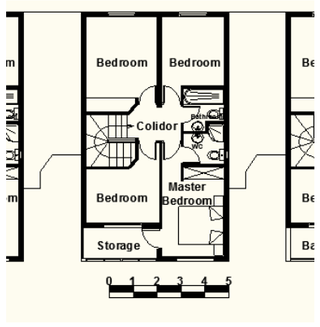
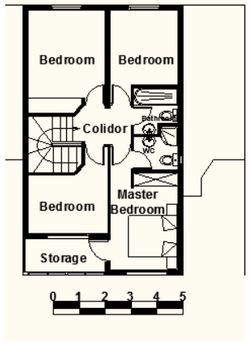
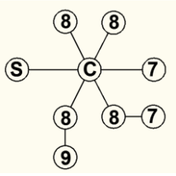
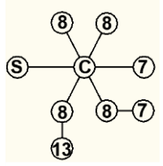
K5	TYPE A	GOVERNMENT SOCIAL HOUSES IN GÖÇMENKÖY/NICOSIA				
Inventory of Government Social Houses		Photograph of Government Social Houses	Codes of Justified graph	Functional Transformation	Formal Transformation	
Name of Housing Group: Government Social Houses **Period of Construction**: 1983 – 2000 **Region of Construction**: Nicosia/Göçmenköy **Type of Housing group**: Row/Attached Houses **Wall material**: Brick **Roof material**: Tile **Type of Construction**: Reinforced-Concrete Skeleton **Location of House:** Sonay Beyzade Street, No: 18, Göçmenköy/Nicosia		 Site plan of Government Social Houses 	1: Street 2: Courtyard 3: Living room 4: Kitchen 5: Dinning room 6: Wc 7: Bathroom 8: Bedroom 9: Balcony 10: Terrace 11: Loundry 12: Studing room 13: Storage 14:Changing room C:Colidor H:Hall S:Staircase :Transformation	Transformed plan organization: House consist: • Livingroom • Kitchen • Toilet(wc) At the ground floor plan • Three bedroom • Toilet with bathroom At the first floor plan User • Enlarged kitchen • Added small living room Enlarged small bedroom at the first floor plan.	 3d View of transformed space  Ground Floor First Floor	☑Additive ☒ Subtractive ☑Dimensional ☒ Front ☑ Back ☒ Side/ s

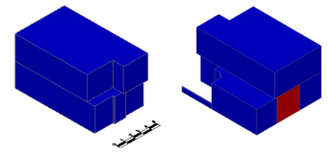
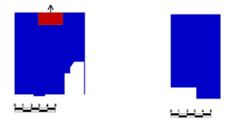
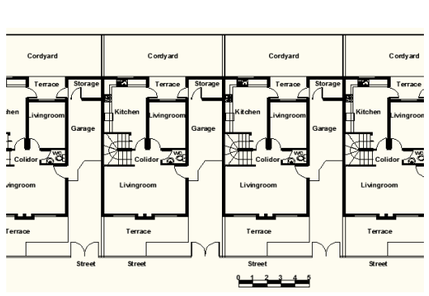
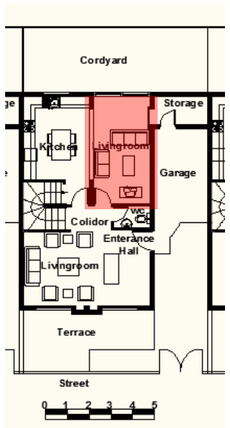
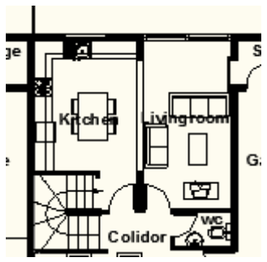
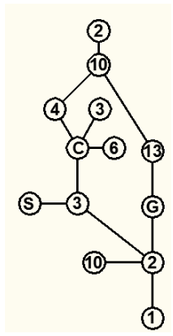
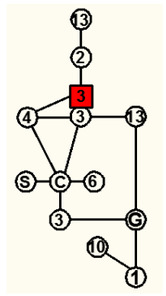
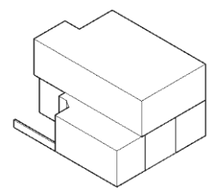
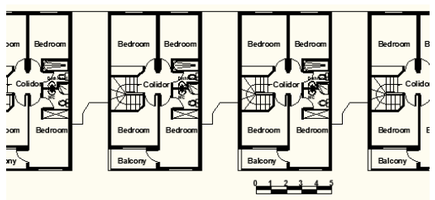
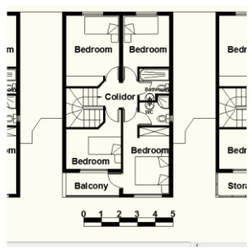
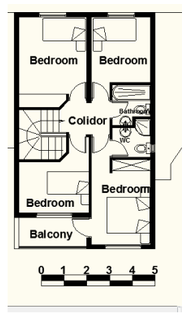
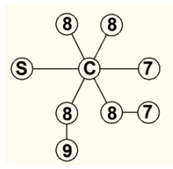
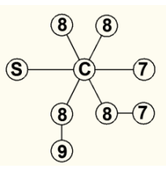
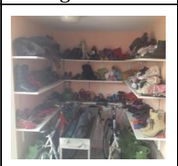
Orginal Ground Floor Plan	Transformed Ground Floor Plan	Transformed	Justified Graph 1	Justified graph 2	Spatial Transformation
			 (Original) Ground Floor Plan	 (Transformed) Changed Ground Floor Plan	☒ Space within a space ☒ Interlocking spaces ☑ Adjacent spaces ☒ Spaces linked by a common space 

Original First Floor Plan	Transformed First Floor Plan	Transformed	Justified Graph 1	Justified Graph 2	Living room	Living room	Kitchen
			 (Original) First Floor Plan	 (Transformed) Changed First Floor Plan			
					Bedroom	Bedroom	Master Bedroom
						No Transformation	No Transformation

L1	TYPE A	YENIKENT PRIVATE ROW HOUSES IN YENIKENT/NICOSIA				
Inventory of Private Yenikent Houses		Photograph of Private Yenikent Houses	Codes of Justified graph	Functional Transformation		Formal Transformation
Name of Housing Group: Yenikent Private Houses **Period of Construction**: 2003 (After 2000) **Region of Construction**: Nicosia/Yenikent **Type of Housing group**: Row/Attached Houses **Wall material**: Brick **Roof material**: Tile **Type of Construction**: Reinforced-Concrete Skeleton **Location of House:** Akkent Street No:11 Yenikent, Gönyeli		 Site plan of Private Yenikent Houses 	1: Street 2: Courtyard 3: Living room 4: Kitchen 5: Dinning room 6: Wc 7: Bathroom 8: Bedroom 9: Balcony 10: Terrace 11: Loundry 12: Studing room 13: Storage 14:Changing room C:Colidor H:Hall S:Staircase :Transformation	Transformed plan organization: House consist: • Livingroom • Kitchen • Toilet(wc) At the ground floor plan • Three bedroom • Toilet with bathroom At the first floor plan User • Enlarged kitchen • Added small living room Enlarged small bedroom at the first floor plan.		 3d View of transformed space  Ground Floor First Floor
						☒ Additive ☒ Subtractive ☑Dimensional ☑ Front ☒ Back ☒ Side/ s
Orginal Ground Floor Plan		Transformed Ground Floor Plan	Transformed	Justified Graph 1	Justified graph 2	Spatial Transformation
				 (Original) Ground Floor Plan	 (Transformed) Changed Ground Floor Plan	☒ Space within a space ☒ Interlocking spaces ☑ Adjacent spaces ☒ Spaces linked by a common space 
Original First Floor Plan		Transformed First Floor Plan	Transformed	Justified Graph 1	Justified Graph 2	Living room / Living room / Kitchen
				 (Original) First Floor Plan	 (Transformed) Changed First Floor Plan	   Bedroom / Bedroom / Master Bedroom   

L2	TYPE A	YENIKENT PRIVATE ROW HOUSES IN YENIKENT/NICOSIA				
Inventory of Private Yenikent Houses		Photograph of Private Yenikent Houses	Codes of Justified graph	Functional Transformation		Formal Transformation
Name of Housing Group: Yenikent Private Houses **Period of Construction**: 2003 (After 2000) **Region of Construction**: Nicosia/Yenikent **Type of Housing group**: Row/Attached Houses **Wall material**: Brick **Roof material**: Tile **Type of Construction**: Reinforced-Concrete Skeleton **Location of House:** Akkent Street No:7 Yenikent, Gönyeli		 Site plan of Private Yenikent Houses 	1: Street 2: Courtyard 3: Living room 4: Kitchen 5: Dinning room 6: Wc 7: Bathroom 8: Bedroom 9: Balcony 10: Terrace 11: Loundry 12: Studing room 13: Storage 14:Changing room C:Colidor H:Hall S:Staircase :Transformation	Transformed plan organization: House consist: • Livingroom • Kitchen • Toilet(wc) At the ground floor plan • Three bedroom • Changing room • Toilet with bathroom At the first floor plan User • Linked living room and kitchen at the ground floor • Transformed balcony to living room Changed function of bedroom to changin at the first floor.		 Front View Back View 3d View of transformed space  Ground Floor First Floor
						☒ Additive ☒ Subtractive ☑Dimensional ☑ Front ☑ Back ☒ Side/ s
Orginal Ground Floor Plan	Transformed Ground Floor Plan	Transformed	Justified Graph 1	Justified graph 2	Spatial Transformation	
					☒ Space within a space ☒ Interlocking spaces ☑ Adjacent spaces ☒ Spaces linked by a common space 	
(Original) Ground Floor Plan				(Transformed) Changed Ground Floor Plan		
Original First Floor Plan	Transformed First Floor Plan	Transformed	Justified Graph 1	Justified Graph 2	Living room	Living room / Kitchen
						No Transformation / No Transformation
(Original) First Floor Plan				(Transformed) Changed First Floor Plan	Terrace on the ground floor / Closed balcony of Bedroom	Master Bedroom
					 	No Transformation

L3	TYPE A	YENIKENT PRIVATE ROW HOUSES IN YENIKENT/NICOSIA				
Inventory of Private Yenikent Houses		Photograph of Private Yenikent Houses	Codes of Justified graph	Functional Transformation	Formal Transformation	
Name of Housing Group: Yenikent Private Houses **Period of Construction**: 2003 (After 2000) **Region of Construction**: Nicosia/Yenikent **Type of Housing group**: Row/Attached Houses **Wall material**: Brick **Roof material**: Tile **Type of Construction**: Reinforced-Concrete Skeleton **Location of House:** Akkent Street No:17 Yenikent, Gönyeli		 Site plan of Private Yenikent Houses 	1: Street 2: Courtyard 3: Living room 4: Kitchen 5: Dinning room 6: Wc 7: Bathroom 8: Bedroom 9: Balcony 10: Terrace 11: Loundry 12: Studing room 13: Storage 14:Changing room C:Colidor H:Hall S:Staircase :Transformation	Transformed plan organization: House consist: • Livingroom • Kitchen • Toilet(wc) At the ground floor plan • Three bedroom • Toilet with bathroom At the first floor plan User • Linked living room and kitchen at the ground floor. • Added storage in courtyard • Transformed terrace to living room (enclosed semi-open spoace to closed space). Transformed balcony to storage at the first floor	 Front View Back View 3d View of transformed space  Ground Floor First Floor	☒ Additive ☒ Subtractive ☑Dimensional ☑ Front ☑ Back ☒ Side/ s
Orginal Ground Floor Plan	Transformed Ground Floor Plan	Transformed	Justified Graph 1	Justified graph 2	Spatial Transformation	
			 (Original) Ground Floor Plan	 (Transformed) Changed Ground Floor Plan	☒ Space within a space ☒ Interlocking spaces ☑ Adjacent spaces ☒ Spaces linked by a common space 	
Original First Floor Plan	Transformed First Floor Plan	Transformed	Justified Graph 1	Justified Graph 2	Living room	Living room with kitchen / Kitchen
			 (Original) First Floor Plan	 (Transformed) Changed First Floor Plan	 Bedroom	 Bedroom  Master Bedroom
					 No Transformation	No Transformation

L4	TYPE A	YENIKENT PRIVATE ROW HOUSES IN YENIKENT/NICOSIA				
Inventory of Private Yenikent Houses		Photograph of Private Yenikent Houses	Codes of Justified graph	Functional Transformation		Formal Transformation
Name of Housing Group: Yenikent Private Houses **Period of Construction**: 2003 (After 2000) **Region of Construction**: Nicosia/Yenikent **Type of Housing group**: Row/Attached Houses **Wall material**: Brick **Roof material**: Tile **Type of Construction**: Reinforced-Concrete Skeleton **Location of House:** Akkent Street No:9 Yenikent, Gönyeli		 Site plan of Private Yenikent Houses 	1: Street 2: Courtyard 3: Living room 4: Kitchen 5: Dinning room 6: Wc 7: Bathroom 8: Bedroom 9: Balcony 10: Terrace 11: Loundry 12: Studing room 13: Storage 14:Changing room C:Colidor H:Hall S:Staircase :Transformation	Transformed plan organization: House consist: • Livingroom • Kitchen • Toilet(wc) At the ground floor plan • Three bedroom • Toilet with bathroom At the first floor plan User • Linked living room and kitchen at the ground floor. • Added storage in courtyard • Transformed terrace to living room (enclosed semi-open space to closed space).		 Front View Back View 3d View of transformed space  Ground Floor First Floor
						☒ Additive ☒ Subtractive ☑ Dimensional ☒ Front ☑ Back ☒ Side/ s
Orginal Ground Floor Plan		Transformed Ground Floor Plan	Transformed	Justified Graph 1	Justified graph 2	Spatial Transformation
				 (Original) Ground Floor Plan	 (Transformed) Changed Ground Floor Plan	☒ Space within a space ☒ Interlocking spaces ☑ Adjacent spaces ☒ Spaces linked by a common space 
Original First Floor Plan		Transformed First Floor Plan	No Transformation	Justified Graph 1	Justified Graph 2	Storage / Living room / Kitchen
				 (Original) First Floor Plan	 (Transformed) Changed First Floor Plan	 No Transformation No Transformation Closed Terrace / Closed Balcony / Master Bedroom   No Transformation