Exploration of Changing Dynamics of Small House Spatiality: From Minimised Space Usage to Dynamic Living Space

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ABSTRACT

In this thesis study, the changing spatialities of today's small houses are studied and analyzed together with the changes in the structure of small households, by the diversities and dualities they have in the dynamics of spatiality which is different from traditional space organizations. As a new concept, small as living spaces has been examined from past to present by traditions and ideologies in relation with dynamics of small household structures and at the end the dynamic spatiality of recent day small houses has been focused in the comprehensive fieldwork of the research. Therefore, today's small houses are handled together with today's small household structures and today's wide variety of small residential spaces with dimensions ranging from 20-100 m2 and with diverse concepts from minimum size usage to relevantly bigger living spatialities. In this context, the thesis firstly introduces the dynamics of small household structures with diversities and dualities in it and recent day lifestyles to understand better the wide variety of small houses spatiality today. In addition, studies and researches of TAYA (2011) (Türkiye Aile Yapısı Araştırma ve Öneriler) have been used to determine recent day situation of small households in Turkey as statistical, current and comprehensive data.

In this context, study will focus on the spatiality of today's small houses in the light of literary research in order to new concept based spatial relations such as; depth (dynamic relations), density (diverse relations), interpenetration (dual relations) and spatial identifiers linking these spatialities such as; transparency (perforated divider), conceal furniture (mobility), soft divisions (movable separators) finally reveal new

space types and group spaces as compartments with integrated and implicit organizations.

Therefore, in order to investigate these spatial concept (values and definitions) and inventions in the thesis study, space syntax and shape grammar methods were used together to measure conceptual findings with analytical results and consequently the gradation and dynamics of the varying spatialities in today's small houses were tested by a triple method as spatial / space syntax / shape grammar.

Keywords: Small houses, spatiality, space syntax, shape grammar, small household dynamics, space organization.

ÖZ

Bu tez çalışmasında, günümüz küçük konutlarında ki mekânsal değişimler, geleneksel mekan organizasyonlarından farklı mekansallık dinamiklerinde sahip oldukları çeşitlilik ve ikilemlerle, küçük hane halklarının yapısındaki değişikliklerle birlikte incelemekte ve analiz edilmektedir.

Yeni bir konsept olarak, küçük yaşama alanları, geçmişten günümüze, küçük hane halkı yapılarının dinamiğiyle ilişkili olarak gelenek ve ideolojilerde incelenmiş ve sonunda, günümüze ait küçük konutların dinamik mekansallığı, araştırmanın ana saha çalışmasını yaratmıştır. Bu nedenle, günümüzün küçük hane halkı yapılarıyla ve bugünkü geniş yelpazeli 20-100 m2 arasında değişen küçük boyutlu yerleşim alanlarıyla ve aslen minimum mekan kullanımı ile maksimum alanlı büyük yaşam mekanları arasındaki çeşitli kavramlarla bir araya getirilmektedir. Bu bağlamda, tez önce küçük evlerin mekânsal özelliklerini daha iyi anlamak için, çeşitlilik ve ikilemleri olan küçük konut yapılarının dinamikleri ile günümüzdeki yaşam biçimlerini ortaya koymaktadır. Ayrıca, TAYA (2011) (Türkiye Aile Yapısı Araştırma ve Öneriler) tarafından yapılan araştırmalar, çalışmalar ve veriler, Türkiye'de günümüz küçük hane halkı yapısı incelemelerinde özellikle güncel, istatiksel ve kapsamlı bir veri olarak kullanılmıştır.

Bu bağlamda, çalışmada yeni konsept temelli mekânsal ilişkilere yönelik olarak araştırmalar ışığında günümüz küçük konutlarının mekansallığına odaklanacaktır; derinlik (dinamik ilişkiler), yoğunluk (varyasyonlu ilişkiler), içiçe geçiş (ikili ilişkiler) mekânsal ilişkileri ve bunları birbirine bağlayan mekânsal tanımlayıcılar; geçirgen

bölücüler, mobil değişen dönüşen ekipmanlar ve kaldırılabilir sökülebilir bölücüler tanımlanacaktır. Bu bağlamda, bu kavramsal bulguları analitik sonuçlar ile araştırmak için mekan sentaksı ve biçim grameri yöntemleri birlikte kullanılarak, tez çalışmasında ki kavramsal yaklaşımlar ve buluşlar ortaya koyulmuş ve günümüz küçük konutlarının değişen mekanların derecelendirilmesi ve dinamikleri; mekânsal / mekan sentaksı / biçim grameri ile üçlü bir yöntem ile incelenmiştir.

Anahtar kelimeler: Günümüz küçük konutları, mekansallık, mekan sentaksı, çağdaş yaşam stilleri, mekan organizasyonu.

DEDICATION

To My Mother

ACKNOWLEDGMENT

I would like to record my gratitude to Assoc. Prof. Dr. Türkan Ulusu Uraz for her supervision, advice and guidance from the very early stage of this thesis as well as giving me extraordinary experiences throughout the work. Above all and the most needed, she provided me constant encouragement and support in various ways. Her ideas, experiences and passions has truly inspire and enrich my growth as a student.

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A BRIEF DISCUSSION ON THE RECENT DEVELOPMENTS OF THE CONCEPT OF 'SMALL' AS LIVING SPACES, HOUSES AND HOUSEHOLDS

Today an unexpected increase is started on the production of the new small house typologies which are rapidly developing with the high density project of housing market. Being totally different from the small size housing units generally built for the low income prototype households, the new ones are designed particulally for the small households which are the fastest growing new family types mainly in the big cities and metropolis. These new houses with various type-base characteristics such as; 1+0, 1+0.5, 1+1, 1+1.5 present very dynamic spatiality and welcome the various small household types. Consequently, the main aim of the study is to investigate spatiality of the recent day small house typologies and understand the dynamic character of their living space which obviously show important differences from the small size housing units with the fixed minimized space usage serving to the basic needs of the prototype families. From this point of view it should be expected that the study would require a rather comprehensive theoretical as well as empirical research.

1.1 Problem Definition & Background of the Research

Generally considering small house spatiality, two basic but quite opposite kind of space organizations can be underlined respectively. The former exhibiting a

minimized space usage due to the segregated space organization which consists of the well defined and minimum sized spaces whereas the latter shows more dynamic living spatiality with its implicit and more integrated space organization. At this point not the spaces but spatiality of the open plan approach gain importance. This has been clearly seen by the careful observation on the small house plan typologies in the market and the characteristics of the spatiality can initially been easily discovered.

However, this remarkable alteration in the small house spatiality is not a recent issue, started even quite earlier, as it is first introduced in the architectural literature with 'Housing for Existential Minimum' in 1929 at CIAM (International d'Architecture Moderne) by the projects of Mies van Der Rohe and Le Corbusier constitute a manifesto of liberated living as defined by Giedion (1929). Creation of minimal spaces and services, standardization and functionality formed the basis of the space organization at that period and in the most countries a new small house has been sized to fit the prototype / nuclear family needs of the modern era (Segantini, 2008). Today, in our contemporary era being contrary to the past, small households differ from each other in many respects, especially in terms of user profiles and structures; generally consist of one to three members such as; alone living professionals, students, housemates, single parents, married couples with or without children, retired persons or couples. Evidently, being an alternative family type they started to take more attention especially in relation to the development of new housing areas. As this family type inhabits clear diverse structures which cannot be compared with the prototype / nuclear family structures are becoming more obvious today in relation to the variety of small house space organization and typologies.

Apparently, dealing with the investigation on recent days' small houses brings two major issues into focus by taking attention on typologies of small houses and households both. The investigations on the previous researches on small houses which will be explained in the following pages surely helped to clarify the problem but mainly two of them extensively contribute the general aim and background of the formulation of research problem. One is scholarly article of Balamir (1996) underlines a increasing variety of small households which is rapidly growing family types in the big cities and invites the researchers to investigate the user characteristics of these types which are claimed to open a fresh look for a new design approach for the new housing developments.

Additionally, an other important influential source was the Phd thesis of Gülmez (2008) being inspired by the findings of Balamir aimed to focus on the characteristics of the small households as an alternative family types particularly by concentrating the diversity of their structure and their housing space assessments. However, the research was going on almost fifteen years ago and relevantly dealing with minimum sized houses with segregated spatial organization of the minimized spaces which were generally ground or roof level flats of the small apartments in the old neighbourhoods of Istanbul. They used to show totaly opposite space characteristics comparing theirs contemporary counterparts. Therefore, to start with there was a great challenge of the current research which initially aimed to look at the contemporary small house and the small household types together and compare the results with the previous one. However later on it has been discovered that to achieve any kind of interview with these alternative households members who live in the newly developed small housing units was extremely difficult. Confronting this situation affected the main aim and argument of the thesis study; yet it turned out as

concentrating on the dynamic quality of the integrated living space, however at the same time the current study enthusiastically looked for the any possible hints which was hoped to shed light on the spatial appearances which give direct reference to the user characteristics as well.

Therefore, thesis study basically aims to investigate the dynamics of small house spatiality in relation to various types and sizes of the houses and households. Searching for the concept of dynamic brings other sub-concepts into discussion: diversity and duality of the characteristics of space and households. These complementary concepts have been extensively used to developed theoretical and argumentative background of the thesis study.

Consequently, todays' small houses exhibit different house types such as; 1+0, 1+0.5, 1+1, 1+1.5 with varying sizes between 20 to 100 m2 as total area; show integrated and dynamic spatiality with its diverse and dual space definitions and usages in addition to various degrees of expandability, flexibility, convexity of spaces. Accordingly the main research interest deals with this increasing variety of small house types and genotypes which also show extreme differences according to spatiality and the total size of each units. Finally, the title of the study is determined as; 'Exploration of Changing Dynamics Of Small House Spatiality: From Minimised Space Usage To Dynamic Living Space'.

1.2 Research Questions & Aim

Investigations and observations suggested that there are various spatial characteristics and qualities in new small houses with diverse sizes which even goes beyond the space layout quality. The aim of the thesis is to understand and describe

this spatiality of recent day small houses from weak to strong, implicit to explicit, integrated to segregated spatial organizations especially changing from dynamic to static. The main research question is defined as;

- *How dynamic-diverse-dual characteristics of the contemporary small houses spatiality can be observed , investigated and indicated in the research content of the thesis ?*
- *The main aim of the study is to investigate spatiality of the recent day small house typologies and understand the dynamic character of their living space.*

And the following research questions would help to understand the spatial qualities and features in relation to types and total area;

1. What are the new space organization approaches at these contemporary small houses differently from prototype ones ?

2. What is the role of convexity at recent day small houses space organizations ? And what are the relations between expandability-flexibility-convexity-integration tools ?

3. What is the relationship between space syntax results and households' dynamic-diverse-dual characteristics ?

4. It's obvious that, growth / expandable ability of integrated spaces depends not only on house type with certain spatial layout characteristics, but how does it change between the different square meters of the same type ? And what is the relationship between spatial layout characteristics and total square meters / dwelling area ?

5. What are new conceptual / spatial discoveries of recent day small houses as group and single space characteristics and how have they been defined ?

6. To reveal differences in spatial organizations of same type-base small houses as 1+1 with different sizes from 20 to 100 m2, what is the role of expandability (growth) ? Can this determine anything in terms of genotypes ?

7. How the diversifications of the character of spatiality (space organization) which show clear differences regarding to influence the genotype variations ? What is the relation between genotypes and the size of the total area of the houses ?

1.3 Research Method & Limitations

At the thesis study, research methodology has been mainly developed on three parts; (1) literature survey, (2) interviews with architects who designed recent day small housing projects and (3) case studies. In addition, the main indicators are introduced by the thesis title such as; 'Exploration of Changing Dynamics of Small House Spatiality: From Minimised Space Usage to Dynamic Living Space'; dynamics-diversity-duality and spatiality keywords are the main indicators of the thesis study. In the thesis, especially flexible small houses for small lives have been investigated such as; houses with small m2 which can accommodate diverse small lives and households with their spatial organizations. In addition, especially integrated-dynamic interior structures have been compared to segregated-static structures, from this point of view, the investigation focused on the dynamic structure of integrated types and how they overlap with the structure of the small households. Dynamics emerge when it's integrated and diversity-duality are under dynamics and this three indicator dynamics-diversity-duality have come out at integrated small houses spaces

as depth-density-interpenetration. Thereby, depth is the most dynamic integrated relation, density is under depth and creates diversity with sub-spaces and interpenetration is the duality of depth with juxtaposition and interpenetration relations. (Figure 1)

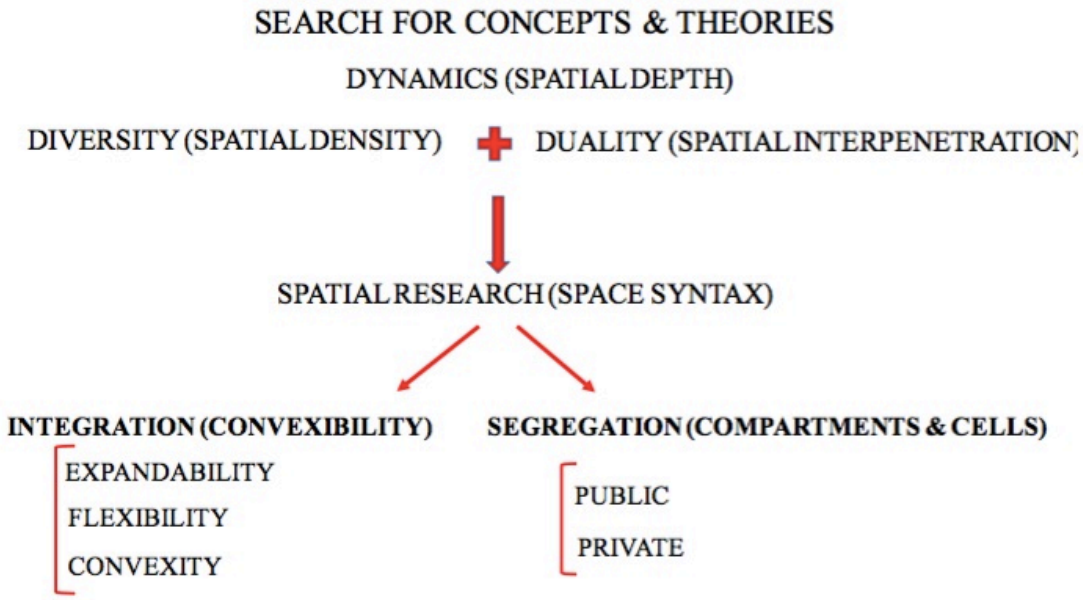


Figure 1: Main Indicators of the Thesis Study

In addition, spatiality indicator has been described in the Oxford dictionary as; ‘‘relating to space’’ and in the Audio-English and free dictionary as; ‘‘any property relating to or occupying space’’. In addition, spatiality is different from space, it’s post-phenologic approach to place, perceptual space and spatiality is post-phenologic place, thereby, it has deep relation with its’ everyday users. As indicated at figure 2 thesis methodology consists of three parts mainly and first two parts; (1) literature review on concepts & theories and (2) interview with the architects, constitute the qualitative research of the method with collection of the plans. On the other hand, case analyses constitute the quantitative research with space syntax and shape

grammar analyses of thirty small houses. These are the major steps that had been achieved during the formation of thesis methodology. (Figure 2) (Table 1)

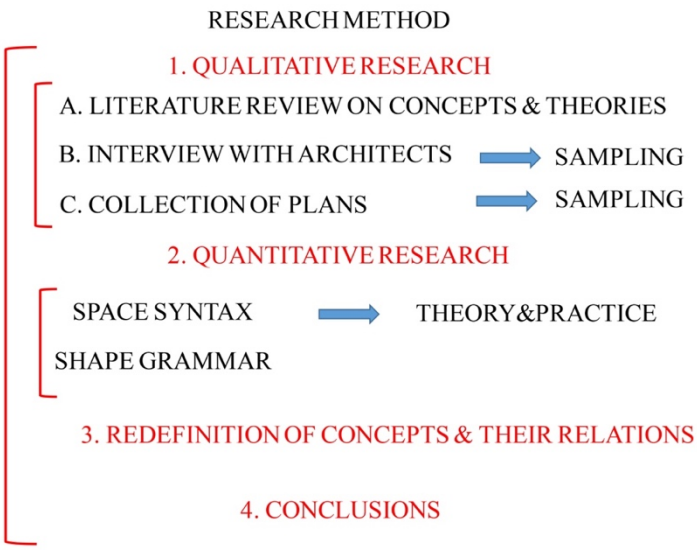


Figure 2: Research Methodology of the Thesis

Table 1: Research Plan

MAJOR STEPS OF THE METHODOLOGY		
1.LITERATURE REVIEW	2. INTERVIEWS WITH THE ARCHITECTS	3.CASES STUDIES (THREE-PART)
1ST STEPS OF THE METHODOLOGY		
SMALL HOUSES FROM PAST TO PRESENT; *IN TRADITIONS *IN IDEOLOGIES *IN LIFESTYLES&TRENDS -SMALL HOUSEHOLDS STRUCTURE -SPATIALITY -PHILOSOPHIES &THEORIES ON SPATIALITY	MAKING THE INTERVIEWS AND COLLECTING PLANS; * STUDIO-CITY 1+1 TYPE HOUSING PROJECT-IZMIR *35TH STREET HOSUING PROJECT-IZMIR *MYVIA-414 MIX-USE PROJECT-IZMIR *FOLKART TOWERS MIX-USE PROJECT-IZMIR *SOYAK SIESTA MASS HOUSING PROJECT-IZMIR *NEF_03 FLATS MASS HOUSING PROJECT-ISTANBUL *NEXTLEVEL MIX USE PROJECT-ANKARA *METU SMALL ASISTANTS HOUSES-ANKARA *METU SMALL GUEST HOUSES FOR GRADUATES - ANKARA	SELECTION OF CASES; 1ST STAGE: 150 SMALL HOUSES FOR GENERAL RECENT DAY HOUSING MARKET INVESTIGATION 2ND STAGE: 30 1+1 TYPE SMALL HOUSES FOR DEEP ANALYSES METHOD: STRATIFIED-SAMPLING METHOD IS USED
2ND STEPS OF THE METHODOLOGY		
*SPACE SYNTAX APPLICATIONS *SHAPE GRAMMAR APPLICATIONS	USING INTERVIEWS IN THE THESIS *DYNAMICS-DIVERSITY-DUALITY OF CONTEMPORARY SMALL HOUSEHOLDS	ANALYSES *SPATIAL *SPACE SYNTAX *SHAPE GRAMMAR

	*DESIGN OF CONTEMPORARY SMALL HOUSES	

The thesis methodology consists of three parts majorly; firstly, a detailed literature survey has been achieved on major contents such as; (1) small houses from part to present, (2) definitions of space & spatiality, (3) philosophies & theories on space, (4) space syntax and shape grammar methods. Second part consists of interviews with architects who designed small housing projects at Istanbul, Izmir, Ankara recently such as; (1) Studio-City 1+1 Type Housing Project-Izmir, (2) 35th Street Housing Project-Izmir, (3) Myvia-414 Mix-Use Project-Izmir, (4) Folkart Towers Mix-Use Project-Izmir, (5) Soyak Siesta Mass Housing Project-Izmir, (6) Nef_03 Flats Mass Housing Project-Istanbul, (7) Next-Level Mix Use Project-Ankara, (8) Metu Small Assistant Houses-Ankara, (9) Metu Small Guest Houses for Graduates-Ankara. Totally nine interviews have been realized and important data have been collected on small houses with such questions; (1) How do they define small houses and which criteria do they use while designing small houses ?, (2) How do they determine user profiles and create small house typologies and their sub-types such as; 1+0, 1+0.5, 1+1, 1+1.5, (3) How do they adopt technology to their projects and how do they use vernacular concepts in their projects, what are their inspirations and what do they think about brands ?

At the same time, recent day housing market have been investigated at Izmir, Ankara, Istanbul and hundred-fifty small houses have been collected with plans and interior visuals and have been classified by types and sizes such as; 1+0, 1+0.5, 1+1, 1+1.5, 1+1+1, from 20 to 100 m2. Metropolitan cities have specifically been chosen due to diversity of new type small houses and households. Lastly, the third part of

the methodology consists of case study analyses which is first realised on hundred-fifty small houses and all small houses have been analysed through their spatial characteristics and space organizations between the degrees of integrated-segregated and dynamic-static indicators. Than, thirty cases have been chosen with the most informal, infinite, weak, integrated and dynamic spatial organizations from 1+1 types with varying sizes between 20 to 100 m2, the aim was to investigate same typologies with different m2. By this way thirty 1+1 type recent day small houses have been chosen for application of space syntax and shape grammar methods.

In the thesis study, thirty cases selection is based on stratified-sampling method due to parameters that have been determined previously such as;

(1) Different Metropolises: Cases have been selected from different large cities; Istanbul, Izmir, Ankara which are the representative of Turkey.
(2) Housing Unit Size: Cases have been selected with varying sizes from 20 to 100 m2 and classified into three categories; 20-40 / 40-70 / 70-100 m2 as GR-1 / GR-2 / GR-3.
(3) Recent Period as Topicality: Cases have been selected from different concepts; high density mass housing projects, mix-use projects, gated communities, lodgings, residences as topicality which is defined in the thesis by years due to all cases are selected from recent day projects.

By this way, cases have been limited clearly in the thesis study and 1+2, 1+3 types eliminated from research area mainly, 1+0, 1+0.5, 1+1, 1+1.5 types have been carried to spatial analyses than 1+0, 1+0.5, 1+1.5 types eliminated from space syntax

applications, and limitations for space syntax and shape grammar analyses have been determined by thirty 1+1 types.

During the architect interviews as second part, it is planned to make surveys with users of small houses and a questionnaire have been prepared which consists of three parts; (1) questions on user's professional area and typology, (2) questions on house spatiality, (3) future expectations of the users. But %80 of the selected projects was still under construction thereby, user surveys have been achieved with only three projects. Surveys have been done with a mix-user small household typology consisting; students living alone and housemates, alone living professional working people, newly married couples, retrieved couples at 1+0 and 1+1 type small houses.

Thereby, user profiles data are taken from architects which are prepared by professional companies whose primary job is to gather this data from the public, which couldn't be achieved by user surveys due to ongoing construction works. All nine architects of small house projects have user profile of their projects and this data has been taken from architects. User profiles have been determined however big percentage haven't move to their houses yet with such points; occupation, age, marital status, numbers, relationships / scenarios and reasons for demanding small houses by this data. For this reason, to get information on household charactersitics who bought these small houses, interviews add a contribution to the study.

At this point, it's important to indicate that, it's decided to use another methodology instead of to make deep user surveys, thereby different methodologies for spatial analyses of the cases had been investigated at this point. Space syntax and shape grammar applications are decided to analyse spatial configuration of the houses and

to interpret them socially as the results of literature survey on space syntax and shape grammar applications in architectural field. Than it's decided to make space syntax and shape grammar applications to thirty cases after determining their spatiality. Jass programme is selected for space syntax application during creation justify graphs and calculations. At the same time, simuoltenously, research questions are re-evaluated with the data collected until here accordingly determination of the methodology of the case analyses.

The methodology of cases analyses consists of three parts such as; (1) spatial analyses, (2) space syntax application, (3) shape grammar application and all three steps of case analyses exhibit sub-steps, thereby, case analyses that have been introduced at 4th chapter and have been realized as (Table 2);

Table 2: Design of Case Analyses Methodology

<table>
<tr><td colspan="3">3RD PART OF THE METHODOLOGY: CASE ANALYSES</td></tr>
<tr><td>1.SPATIAL ANALYSES</td><td>2.SPACE SYNTAX APPLICATION</td><td>3.SHAPE-GRAMMAR APPLICATION</td></tr>
<tr><td>SPATIAL ORGANIZATIONS (CLUSTER / CROSS-AXIAL / AXIAL)</td><td>SELECTION OF SPACE SYNTAX TOOLS AS;
MEAN INTEGRATION (RA), MEAN DEPTH (MD), BASIC DIFFERENCE FACTOR (BDF), SPACE LINK RATIO (SLR)</td><td>DETERMINING THE RULES
(in shape grammar method researcher has to determine rules)</td></tr>
<tr><td rowspan="4">NEW SPATIALITY OF THE CASES
*SPACE GROUP CHARACTERISTICS AS; PUBLIC-PRIVATE COMPARTMENTS AND SINGLE SPACE CHARACTERISTICS AS; SERVICE CELLS
*NEW SPACE TYPES AS; LIMINAL, INBETWEEN, DUAL, REPETITIVE, NICHE, OPEN SPACES</td><td>PREPARING JUSTIFY GRAPHS OF ALL PLANS</td><td rowspan="4">*NODES: NEW SPACE TYPES SUCH AS; LIMINAL, INBETWEEN, DUAL, REPETITIVE, NICHE, OPEN SPACES

*LINKS: NEW SPATIAL RELATIONS & IDENTIFIERS SUCH AS; DEPTH / DENSITY / INTERPENETRATION AND TRANSPARENCY / CONCEALABLE FURNITURE / SOFT DIVIDERS

*LINKS+NODES: NEW GROUP ORGANIZATIONS SUCH AS; PIBLIC / PRIVATE COMPARTMENTS AND SERVICE CELLS.</td></tr>
<tr><td>APPLICATION OF SPACE SYNTAX TO SPACE MAPS OF ALL HOUSES WITH JUSTIFY GRAPHS AND COLLECTING RA, MD, BDF, SLR VALUES COMPARATIVELY BETWEEN GR-1 / GR-2 / GR-3</td></tr>
<tr><td>APPLICATION OF SPACE SYNTAX TO CONVEX MAPS OF ALL HOUSES WITH JUSTIFY GRAPHS AND COLLECTING RA, MD, BDF, SLR VALUES COMPATIVELY BETWEEN GR-1 / GR-2 / GR-3</td></tr>
<tr><td>COMPARING SYNTACTIC RESULTS OF SPACE & CONVEX</td></tr>
</table>

	MAPS WITH RA / MD / BDF / SLR VALUES AND INTERPRETING THE DIFFERENCES OF CONVEXITY.	
	APPLICATION OF SPACE SYNTAX TO GROUP ORGANIZATIONS OF ALL HOUSES; TO PUBLIC / PRIVATE COMPARTMENTS AND SERVICE CELLS, TESTING RA / MD / BDF VALUES, BY COMPARING BETWEEN GR-1 / GR-2 / GR-3.	
	APPLICATION OF SPACE SYNTAX TO NEW SPACE TYPES OF ALL HOUSES; LIMINAL, INBETWEEN, REPETITIVE, DUAL, NICHE, OPEN SPACES. TESTING RA / MD VALUES, BY COMPARING BETWEEN GR-1 / GR-2 / GR-3.	
	EVALUATING ALL SYNTACTIC RESULTS TOGETHER FROM SPACE MAPS TO CONVEX MAPS AND GROUP SPACES TO EACH SPACE TYPE.	
DETERMINATION OF GENOTYPES BETWEEN GR-1 / GR-2 / GR-3		
RE-EVALUATING ALL RESULTS		

Table 2, presents the case analyses methods, which have graduated sub-steps such as; (1) sub-step of spatial analyses such as; spatial organization type, space groups / single space characteristics and new space types, (2) sub-steps of space syntax as; space maps, convex maps (with justify graphs), group organizations (compartments) by convex maps, space types by convex maps and, (3) sub-steps of shape grammar as; nodes / links / nodes & links which correspond to space types / spatial relations & identifiers / group organizations (compartments). By this way, at case studies both qualitative and quantitative methods have been used and all results re-evaluated together at the end and genotypes have been determined by these results.

1.4 Literature Survey

This thesis relies on a variety of bodies of literature, on spatiality of small houses with four-part investigations of literature survey such as; (1) background information, (2) conceptual investigation including theories & philosophies, (3) space syntax, and (4) shape grammar method, in architectural literature with studies of academic environment. This part of the thesis is especially important to divulge previous studies on the main subject, what researchers investigated before and each source has been defined clearly through researchers' main findings and than contribution of the thesis study has been indicated.

(1) Review of the Background of the Subject (Background Information): First part literature survey had been realized on historical development of spatiality of small houses from past to present in traditions, ideologies and lifestyles & trends.

*Traditional Turkish Houses: Turkish houses have been investigated by studies of Eldem S (1984) and Erbas S (2012) which cultural approaches and traditional architectural elements such as; cumba, sofa have been introduced with traditional lifestyles. To indicate; the divisions in spatial organizations of the rooms from symbolic point of view studies of Turuthan (1983), to indicate; flexible, multifunctional, versatile and continuous usage properties of Turkish rooms, studies of Ates M (2008), Cansever (2002), Dündar (2011), and to indicate; main equipment and furnishing of Turkish rooms, studies of Sözen & Eruzun (1992), Dündar (2011) have been investigated. At the end, the study defines spatial organizations of traditional Turkish rooms from spatiality point of view and how they are spatial.

*Traditional Japanese Small Houses: Japanese houses are investigated by studies of Brown (1993) to indicate; main design principles of traditional Japanese small spaces, to indicate; depth in spatial organization and layering of spaces in small

houses, studies of Belfiore M & Kuma K (2012) with a paper titled as; 'On Japanese Spatial Layering', to describe; main equipment and furnishing of traditional Japanese houses with space organizations and principles, studies of Dündar (2011), and to indicate divisions in spatial organizations from perceptual point of view, studies of Turuthan (1983) have been investigated. In the study, perceptual divisions at spatial organizations of Japanese small houses have been introduced.

*Small Worker Houses: For ideologies concept, small worker houses have been investigated firstly by studies of Tanyeli (2013) to indicate Turkish tradition approach which introduces small living units for working class known as 'cell rooms (hücerat)' that had been emerged at 1910's as a collective type housing system of masonry juxtaposed co-sized rooms that open onto a courtyard attached to the street. The focus is on spatial organizations of these small living units with investigating their flexible open space concepts, multi-functional space and equipment usages as an alternative small house for one household living. Than, the studies of Nylander (1999) have been introduced under consideration of the industrial revolution (1910-20) which describes space organization of small worker houses in relation with functionalism and industrial revolution by focusing on new kitchen and bathroom equipment designs for small houses. In this thesis, the question 'how they are spatial' arised for these two small houses as; integrated / dynamic spatiality with minimum sizes for cell rooms and segregated minimum spaces for worker houses in Sweden.

*Modern Period Small Apartments: The studies of Teige (2002) and Deniz (2005) have been investigated for modern period small apartments which are introduced as 'Minimum Dwelling' by Teige. Designed by famous architects; Le Corbusier and Mies van der Rohe, with flexible and integrated spaces, Teige introduces minimum dwelling as a reform on housing issue with adaptable space approach. In the thesis,

minimum dwelling had been introduced with integrated / dynamic spatiality and diversity of small households changing from 1 to 3 people, indicating the interplay between small houses and households. Secondly, studies of Deniz (2005); 'open building' concept that consists of 'support and infill' parts have been investigated which separates building structure from initial organization. Than, Collective type small houses have been investigated by studies of Teige (2002) at modern period which suggests that minimum dwelling in a collective house must be conceived as an individual living cell, as one room per adult person. At the thesis, investigating spatiality of collective houses has been revealed as integrated / dynamic spatial organizations with smaller sizes. Hotel type dwelling as sub-type of collective house is investigated by studies of Teige (2002) as an invention that is beginning to supplanting the household-apartment type, just as large-scale housing production is supplanting small-scale artisanal production. In addition, studies of Cieeraad (2002) has been investigated which stated the revolutionary idea of kitchen-less family homes and defined hotel-type dwelling as luxuries of a hotel and the permanency of a home. The thesis collect data on main concept of hotel-type dwellings especially by focusing collective spaces which creates spatiality of this type, as residences concept of today.

*Contemporary Period Small Houses: The studies of Manzini E (2010), Hirst J (2010), Friedman A (2012), Balamir M (1995) Güzer A (2015), Segantini M (2008), Alberchti B (2008), Botticini C (2008), Clemente M (2008) have been investigated and also architect interviews have been introduced at this part. Firstly, Manzini (2010) indicated the changing features of contemporary period small houses which Manzini defined a problem for designers such as; 'how to propose an Existenzminimum which will appear attractive and will thus be freely chosen in the

midst of a variety of alternative proposals'. Thereby, Manzini concentrated on that; small houses can be designed differently from the past. For economical approaches, Balamir's small house studies for low-level income groups have been investigated for the possibilities of low-level or medium level small households to own a house at first step with minimum requirements than develop it in years and this thesis investigates the changing spatiality of small houses in relation to economic conditions by analysing two concepts; finished / unfinished finalizations of the small houses. On the other hand, Güzer (2015) classified the design of small houses into three through contemporary lifestyles such as; small houses that are used by small households from 1 to 3 people, secondly small houses as second houses and thirdly small houses that are rented by professional companies for working people. Studies of Segantini (2008) with an article titled with 'The home: Threshold between Private and Collective Space' had been demonstrated the recent situation of small houses in mass-housing and high density projects show how they become attractive by the help of collective spaces. In the thesis collective spaces have been investigated and demonstrated also by architect interviews. Albrecht B (2008) and Botticini C (2008) investigated sustainability and transforming features and indicated the importance of flexibility by using mobile / sliding partitions.

***Small Households Typologies:** In the thesis study investigations on contemporary small households consist of three parts; (1) dynamics of small households' structure s number of members and family-types, (2) diversity of small households' lifestyles as familism, careerism, consumerism and bohemianism, (3) duality of small households as social-physical-living preferences context. In the literature survey, dynamics of small households structures have been investigated by statistical evidences of TAYA (2011) (Türkiye Aile Yapısi Araştırmaları, Tespit ve Öneriler, T.C Aile Sosyal ve

Politikalar Bakanlığı-Research on Family Structure In Türkiye) to indicate number of members and family types of small households today. Diversity of small households have been investigated by studies of Johnston (1972) and Uraz (2016). Johnston defined changing topography and lifestyles under three topics (familism, careerism, consumerism) for urban residential and studies of Uraz introduced bohemianism lifestyle. Lastly, dual characteristics of small households have been investigated by studies of Uraz (2016) that are classified as; social / physical / living context preferences.

(2) Conceptual Investigation (Spatiality and New Spatial Organizations): After investigating historical development of spatiality of small houses from past to present, the study focuses on space and spatiality contents as conceptual investigations. Space investigations are based on three-part conceptual method; expandability / flexibility / convexity which have been investigated in architectural literature by well known theories. Firstly, Lefebvre's space theory which introduces space as a social product, has been investigated to present space as a dynamic product that transforms and extends constantly to other spaces. In the study, small houses spaces are investigated socially and 'expandability' is introduced as a tool for timely growing of spaces which different functional spaces extend to each other time to time and growth on the sizes occur. Secondly, 'flexibility' tool had been investigated by studies of Kronenburg (2007) which Rietveld Schröder house has been introduced with flexible / adaptable interiors by sliding partitions that creates integrated spaces. In addition, Rosenburg's study on visibility and permeability of Rietveld schröder house has been investigated during the study of convex maps of case studies. Thirdly, Eileen Gray's 'Rhythm & Body & Space' approach have been investigated to demonstrate the importance of 'convexity' tool in small houses.

Through Gray, especially at small spaces, each m2, corner and recesses have importance and can be designed through small gestures of body very detailed and usage of multifunctional furniture come forward. In the thesis, it's indicated that in small house design by convexity, each corner and recess define a small space without walls and separators. Later, at space syntax application, study built a bridge between the relation of flexibility with space maps and body & space theory with convex maps. Lastly, Colomina's (1994) 'Privacy & Publicity' theory have been introduced during explanation of new spatiality of recent day small houses. Colomina (1994) introduced public and private dimensions of houses in a more traditional way, where public zone starts at outside the house by indicating the clear borders of public and private between outside and inside. In the study, changing features of public and private zones of recent day small houses in relation to sizes, have been demonstrated as; loss of private zones at smallest sizes and the clear segregation of integrated two basic compartments at larger sizes, in other words, how two dynamic group create static organization in itself. In addition, studies of Friedman A (2012) and Hunter (1999) on public, private, semi-private and semi-public zones of town houses have been investigated in which researchers defined these zones through functions of spaces.

Secondly, for physical dimensions of spaces, studies of Ching F (2010), Meiss P (2013), Gülmez & Ulusu (2015), Deplazes (1997) have been investigated. The studies of Ching and Meiss specified space definitions from the weakest to strong by planes and pointless elements such as columns and in the thesis, spatiality degrees are determined from weak to strong structures and reveal as new spatial relations, in addition to studies of Meiss, 'spatial depth / density / interpenetration' relations have been determined as dynamic-diverse-dual characteristics of new spatiality of recent

day small houses which are defined by spatial identifiers such as; transparency (perforated dividers), concealable / mobile equipment, soft divisions (movable partitions) as physical elements. Studies of Deplazes (1997) have been investigated which identify compartmentation principle in the modern houses and with studies of Conran (2010) two important zones in the house interiors public / private zones are classified as day / night usages. Further, the studies of Gülmez & Uraz (2015;10 (3): 294-304) have been investigated on recent day small houses spatiality through private night time usage and public day night usage. In addition, types of spatial organizations have been classified as; 'cluster / cross-axial / axial' and investigated by studies of Sullivan (1969) which researcher indicated growth patterns of spaces and by schematic descriptions of Ching (2010) types of spatial organizations have been determined.

(3) Research Method Survey: As the main method of the thesis study; for space syntax application, several bodies of literature have been collected: Hillier & Hanson (1998), Bellal (2004), Cunha (2012), Dovey (1999), Rosenberg (1998) and Ünlü and Şalgamcıoğlu (2013). The studies of Hillier (1986) with the paper titled as; 'Ideas Are In Things: An Application of the Space Syntax Method to Discovering House Genotypes' has been investigated in the study, which researcher used space syntax method during investigating spatial problems of vernacular farmhouses in Normandy, and its' aimed to demonstrate; social, economic and cultural information would be explored only after initial spatial analysis. Researchers' study demonstrated how syntactic representations and analyses could clarify the relation between patterns of space and their use, and the possibility that certain known themes might be reproduced in some houses and these themes might be clearly defined by syntactic analysis. On the other hand, studies of Bellal (2004) by using space syntax is

investigated with a paper titled as ‘Understanding Home Culture Through Syntactic Analyses: The Case Of Berber Housing’. In the study researcher used space syntax application during analyses of the symbolic significance of domestic spatial patterns by setting the discussion within the social logic of built space and by using space syntax values to demonstrate that space is structured with the relations between male and female solidarities which are dominant force of shaping spaces. By investigating gender zone and space together, the study suggested that the spatial patterns of the houses express the cultural and social events of users.

In addition, during the investigations of genotype formations with space syntax applications, the paper of Cunha (2012) title as ‘Can Genotype Change Over Time?’, the question which had been arised from researchers Phd research project, studied the spatial organization of middle class apartments in Rio de Janerio, Brazil, from the 1930’s until the end of the 20th century, to investigate how different apartment plans could express numerous social changes. Researcher investigated the definition of genotype by space syntax theory, a spatial pattern which underlines phenotypical formal expressions could create a possibility of genotype transformations across time. Dovey (1999), on the other hand, investigated genotypes in relation with structural relations between spaces and defines a classification as; (1) a formal living zone including living, dining, entrance, stairway and study, (2) an informal living zone including kitchen, a nook, family, games and terrace, a master suite including a bedroom, bathroom, a dressing room with or without deck or court and (3) a minor bedroom zone as children’s and guest bedrooms. Another study by using space syntax application is introduced by a paper of Ünlü and Şalgamcıoğlu (2013) titled as; ‘Examining Space Transformation In Apartment-Based Housing Units In Istanbul Using Space Syntax Parameters’ which researchers investigated transformation and

changes in the perception of apartments living spaces by their users with the affect of technology such as addition of TV and mechanical heating systems, how they affect different types of spaces of various time periods had been examined with syntactic parameters. In the thesis differently from previous researches, especially small houses with integrated, dynamic, infinite and weak structures have been tested with space syntax.

(4) Shape Grammar Survey: Shape grammar has taken thesis study one step far away by spatial analyses and added to thesis literature survey with: Lee & Ostwald & Gu (2013) with the paper titled as; 'Combining Space Syntax and Shape Grammar to Investigate Architectural Style: Considering Glenn Murcutt's Domestic Designs' in which researchers investigated a new framework where two different approaches; space syntax and shape grammar, taken into a single technique for investigating features of an architectural style. To achieve this researchers, develop a Justified Plan Graph grammar and examine the grammar by both rule-based and syntax-based approaches.

In the thesis study, shape grammar method had been used as the third part of three-part methodology, where new spatiality of recent day small houses such as new space types, new spatial relations & identifiers, compartments & service cells are defined at first part, then measured by space syntax at second part and lastly presented by shape grammar over justify graphs of convex maps. To achieve this, rules are determined firstly as; 'nodes / links / nodes & links' that correspond to 'space-types / spatial relations and identifiers / compartments' as discoveries of the thesis, by this way the study concluded analysing the interior structures by developing a new three-part research method.

1.5 Structure of the Thesis

The structure of the thesis mainly focuses on spatiality of small houses and investigates with four basic point of views such as; (1) historical, (2) conceptual, (3) analytical, (4) graph-base which correspond to 2nd, 3rd and 4th chapters of the thesis as both qualitative and quantitative methods and all major steps consist of 1st and 2nd degree sub-steps. (Figure 3)

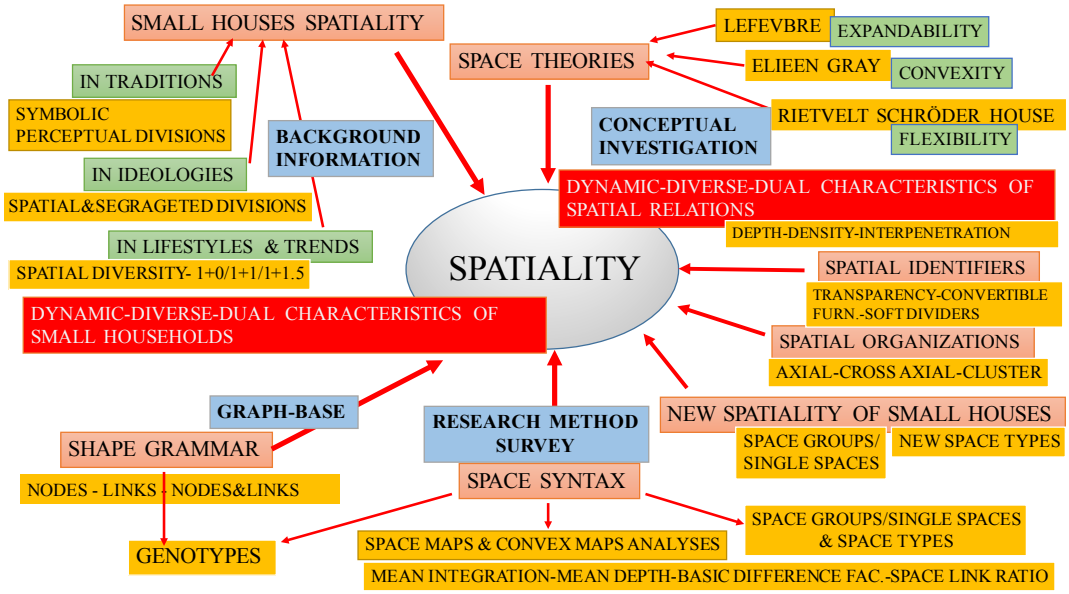


Figure 3: Conceptual Framework of the Thesis

At 1st major step thesis study investigates spatiality of small houses background information with time order respectively; (1) small houses in traditions, (2) small houses in ideologies, (3) small houses in lifestyles and trends as contemporary period. And lastly dynamic-dual-diverse characteristics of small households have been investigated. As sub-steps of small houses historical development; the traditional part consists of two important small house sample in history Turkish

rooms and Japanese house, which are especially chosen due to their flexible, integrated space organizations and by being proper for small lives. Through investigations, Turkish rooms exhibit symbolic divisions and Japanese houses exhibit perceptual divisions as the spatiality of the houses. And this comparison of Turkish room and Japan house add a valuable contribution to the study which indicates how social, cultural features of households / society effect the spatiality of houses.

Secondly, in ideologies concept of small houses; (1) small worker houses (1920) as segregated spatiality, (2) social houses (1930-50) as segregated spatiality, (3) minimum dwelling (1940) as integrated spatiality have been investigated. Small worker houses came out as the dramatically reduced version of prototype family house with minimum m2 and segregated organizations, social houses had revealed as segregated organization with functionalist approach and minimum dwelling was the 1st integrated space organization that was used to reveal for working class at the modern period. 2nd degree sub-steps of small houses in ideologies consists of collective dwelling, hotel-type dwelling and co-houses which all have common life scenario with shared spaces such as; service spaces, kitchens, guest rooms or entertainment spaces. Last part of historical development, small houses in lifestyles and trends have been introduced as recent day small households and changing trends on spatial organizations of recent day small houses have been indicated with increasing diversity of house types such as; 1+0, 1+0.5, 1+1, 1+1.5, that indicates a rise on type-base character of small houses in relation with dynamic-diverse-dual characteristics of recent day small households. Thereby, firstly dynamics of contemporary small households' structures, then diversity of the small household lifestyles and duality of small households' have been introduced in the study. Then contemporary small houses have been investigated by attraction for alternative

family types, developing common life scenarios, diversity of culture of lifestyle and from economic point of view as unfinished / finised finalization of the small house units.

2nd major step of the structure of the thesis exhibit the conceptual investigation to spatiality beginning with definitions of space and spatiality abstractly and physically by philosophies and theories of space such as; Lefebvre's space as a social product has been introduced which indicates expandability in the thesis where growth on m2 of the houses appear time to time by overlapping of different functional spaces by the advantage of open plan concept with weak structures between integrated spaces. 2nd Eileen Gray's 'body movements & space' theory that presents convexity in the thesis which each gesture of the body finds its' own space by recesses and fix-furniture openly especially in small houses, 3rd Rietveld Schröder house has been introduced for flexibility concept as the most well-known flexible house in architectural literature where sliding partitions ensure both segregation and integration of spaces easily.

After defining space and spatiality, at conceptual part, new spatial relations and identifiers have been determined over recent day small house samples (hundred-fifty samples) such as; (1) spatial relations; depth (dynamics), density (diversity), interpenetration (duality) and their identifiers; transparency (perforated partitions), concealable / mobile partitions, soft divisions (movable partitions). Than, new spatiality of recent day small houses have been determined as new space groups as public-private compartments and single space characteristics as service cells and new space types as; liminal, in-between, repetitive, niche, dual, open spaces. Before introducing new spatial discoveries, types of spatial organization of recent day small

houses have been introduced as; cluster / cross-axial / axial type organizations, which; GR-1 (20-40m2) exhibits cluster type organizations as centrality, GR-2 (40-70m2) exhibits cross-axial and GR-3 (70-100m2) exhibits axial type organizations as linearity. By this way, in the thesis it's demonstrated that at recent day small houses the segregation of two integrated compartment reveals by the increase of m2.

At 3rd major step of the thesis structure, space syntax tool has been introduced and applied to thirty 1+1 type cases to test spatial analyses mathematically by using mean integration (RA), mean depth (MD), basic difference factor (BDF) and space link ratio (SLR) values with a comparative method between GR-1 / GR-2 / GR-3. Space syntax analyses include space and convex maps of houses, than, space groups / single spaces and new space types of houses by convex maps as indicated at methodology part.

Than, at 4th and last major step of the structure, shape grammar method has been applied to cases to indicate new spatiality of houses over justify graphs of convex maps such as; 'nodes – links – nodes & links' correspond to 'new space types - spatial relations & identifiers – group / cell space charactersitics' as new spatial discoveries. Than, after completing the three-part analyses 'conceptual - syntactical - shape grammar', genotypes have been defined between thirty recent day small houses and all findings and discoveries are re-evaluated for conclusions.

Lastly, conclusions and findings of the study have been given at last chapter with three major headings ; (1) main findings, (2) results of the main research questions, and (3) future studies as possible post studies of the thesis , are determined at the conclusions part. (Figure 4)

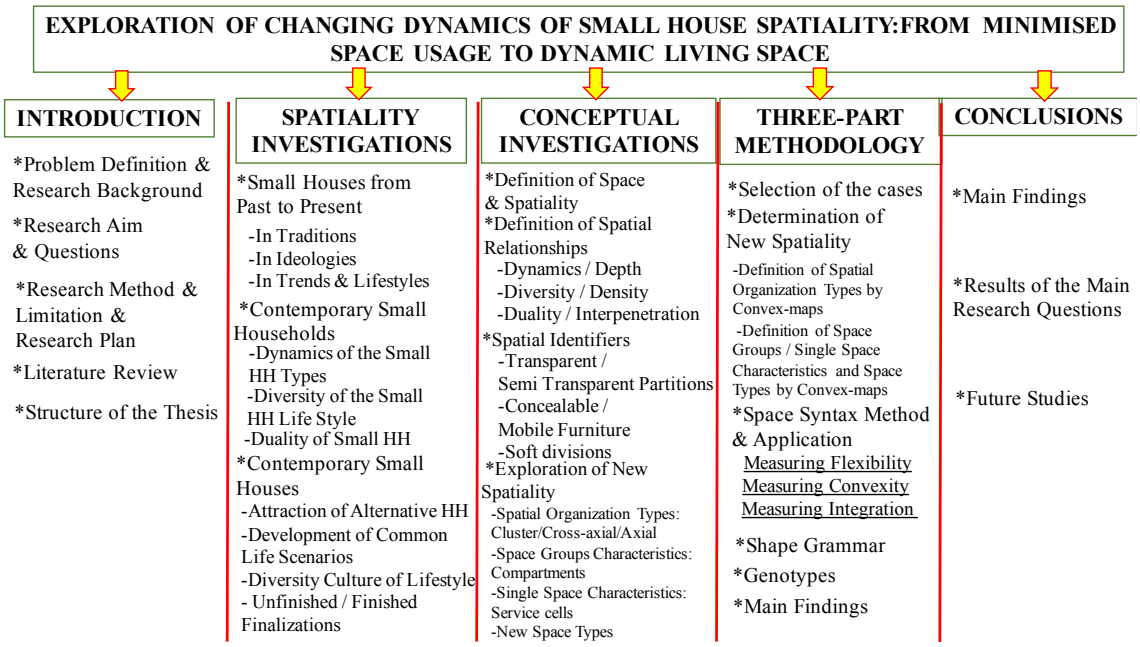


Figure 4: General Structure of the Thesis

Chapter 2

A CRITICAL REVIEW FOR SMALL HOUSES AND SMALL HOUSEHOLDS TYPES

Chapter 2, consists of mainly two parts; investigation on 'small houses and small households', however the first part is a critical review on small houses from past to present, including both conceptual approaches such as; traditional and ideological developments and timely approaches such as; modern and contemporary period small houses, the second part of the chapter is an investigation on the dynamic, diverse and dual characteristics of small household typologies. (Figure 5)

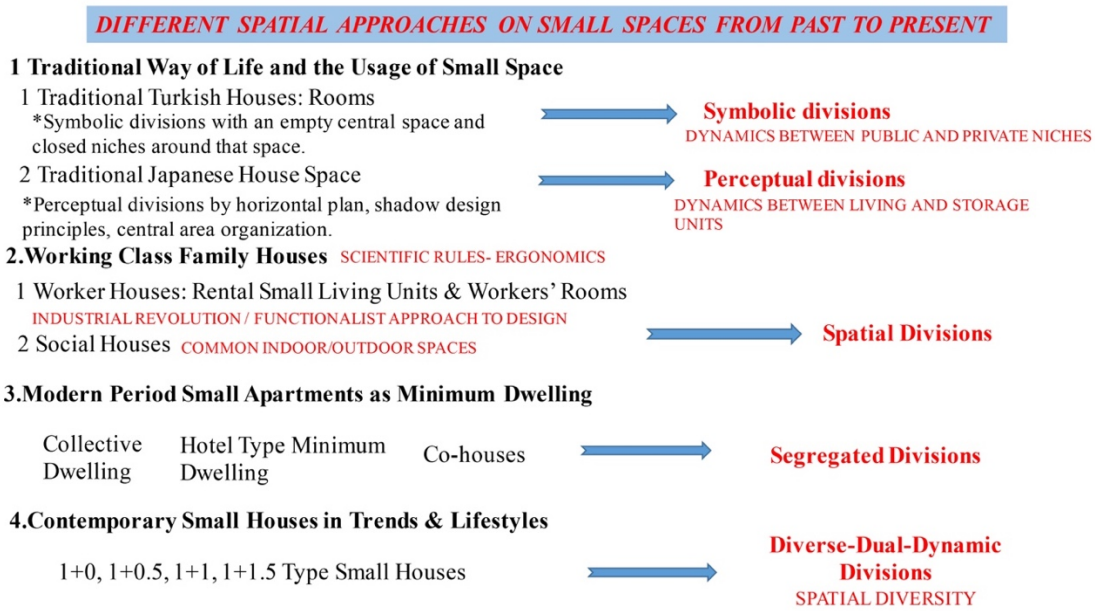


Figure 5: Conceptual Framework of 1st Part of Chapter 2

2.1 Small Houses from Past to Present: Traditions / Ideologies / Lifestyles & Trends

It is obviously relevant that the small dwelling is in fact the basis for housing typologies which is also known as the base-type, it is considered as a room with an area of 25 to 36 m2 which has only one entrance door that is also used as an opening for light and air (Petruccioli, 1998). The diversity of small-sized housing typologies emerging in different contexts and times will help the study to better understand the point where small settlements are coming today. And this will also give clues for todays' small houses spatiality. This part consists of mainly three parts which first is traditional investigations on small houses as the conceptual beginning of the subject and given in a systematic order by topics as; (1) main characteristics & roots, (2) spatial characteristics, (3) furniture and equipment features, (4) user types. Than second part investigates small houses development in ideologies and is given in a chronological order. Lastly, lifestyles and trends as contemporary small houses exhibit a bilateral research on contemporary small households and small houses. Thereby, firstly contemporary small households have been introduced with statistical evidences of TAYA (2011) to indicate recent situation of small households in Turkey, than contemporary small houses have been introduced both with academic studies and data collected from architect interviews.

2.1.1 Traditional Way of Life and the Usage of Small Space

This part introduces the investigation of two different traditional small house typologies in history namely; (1) Traditional Turkish small houses (Rooms), (2) Traditional Japanese houses. Investigation of Turkish room and Japan houses as traditional concepts gives interpretations to today's small houses. In fact, traditions are actually things that describe how the small dwelling has come to the present day

in the name of space. Traditions and traditional spaces actually give clues to the spatiality of recent day houses. And the main interest of this part is on the small of concept at traditional and how they are spatial.

2.1.1.1 Traditional Turkish Houses: Rooms – Symbolic divisions

***Main Characteristics and Roots of Traditional Turkish Houses**

The main characteristics of traditional Turkish houses are formed around the rooms concept, in other words, rooms are the basic architectural element of a traditional Turkish house and according to Küçükerman (2007) (quoted from Dündar, 2011), ‘‘The primary characteristic of the room in the Turkish house is that of a unit serving specific purposes within the house’’ (p.17-23). As indicated by Dündar (2011), first Sedat Hakkı Eldem introduced the typological development of the Turkish house with his book; Türk Evi plan Tipleri - Typology of the Turkish House (1968), than Küçükerman (1978) investigated this typological evolution by presenting the sofa as an area providing access between the various rooms as fundamental elements creating the Turkish house (Dündar, 2011).

In addition, as indicated by Erbas (2012) rooms are the main topic of traditional Turkish houses to be evaluated. Rooms are generally placed on a sofa linearly and their doors are open to the sofa. Rooms are rectangle in shape and different architectural elements and spaces are placed in that rectangle such as; bay window (cumba). Bay windows (cumba) can be a piece of the room or it can be a recess that added to the room. In a traditional Turkish house culture, rooms are the most important architectural element where different functions such as; living, dining, studying and sleeping occur in one open space (Erbas, 2012). On the other hand, the roots of traditional Turkish house come from nomadic way of life which is formed by the tent structure. This had been indicated by Küçükerman (1978) (quoted from

Dündar, 2011); ‘‘Like the tent each room is a medium for various activities such as sitting, working, eating, sleeping etc’’ (p.17-23). (Figure 6)

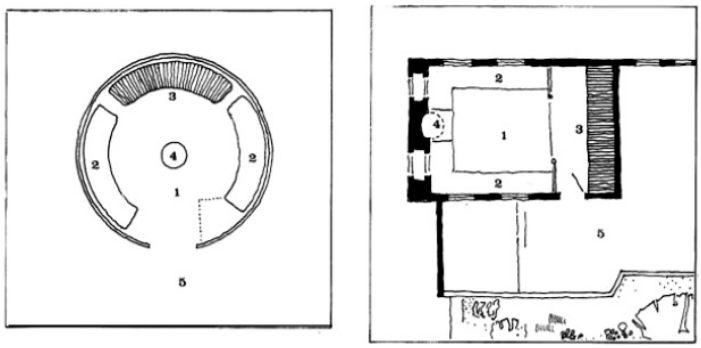


Figure 6: Space Organization of Tents and Rooms

***Spatial Characteristics of Traditional Turkish Rooms**

General characteristics of Turkish rooms are developed as multipurpose usage of a room for various daily activities such as; sitting, eating and sleeping. Activity of sitting also includes several occasions such as; gathering for work, leisure or social relations. In addition, rooms exhibit an introverted spatial organization and this has a relationship with privacy issue of the house. According to Küçükerman (2007) (quoted from Dündar, 2011); ‘‘The Islamic outlook also had its’ influence on the basic principles of the Turkish house and its’ rooms in Anatolia and reflected its’ introverted way of life and limited solutions to outside relationships’’ (p.17-23). In other words, interior-exterior relationship was reduced to minimum to keep the privacy of the family life and the family concept was the most important social unit in Turkish socio-cultural life.

***Symbolic Divisions**

Spatiality of traditional Turkish houses presents symbolic divisions and as indicated by Turuthan (1983) at traditional rooms there is an empty central space as a flexible space and there are niches as serving spaces around that empty space with fix

furniture. In private niches there are serving spaces such as; kitchen, bathroom, closets and there are bay windows for guests with fix furniture (seating) as public niches. In addition, there is a liminal space at the entrance part of the rooms that is separated from the main room with level changes, 10-15cm. Thereby, from spatial point of view, Turkish rooms accommodate a symbolic division that create dualities between flexible central area, private niches as service spaces and public niches formed by bay windows (cumba). In other words, in traditional Turkish rooms, the duality between flexible central area organization and closed fix niches, creates the spatiality of the rooms (Turuthan, 1983). (Figure 7)

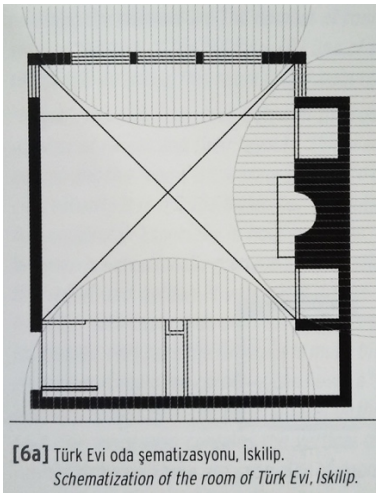


Figure 7: Schematization of the Room of Türk Evi, İskilip

***Furniture & Equipment Features**

According to Turuthan (1983) rooms are the most important spaces in traditional Turkish houses that unites all the housing functions together. The most important feature of the rooms are to be multi-functional, versatile and to allow continuous use. Spatial solutions to create this flexibility is realised by multi-functional fix furniture, and by using one purpose furniture that can be used and removed easily. As also indicated by Erbas, at dining time, a dining table is taken from one of the closets with

mattresses that are placed around a sini and at sleeping time again beds are taken from the closets and room is re-arranged for that function (Erbas, 2012). On the other hand, rooms exhibit a central flexible space organization as seen at figure 3, door opens to a corridor which is separated from the innermost area / main space with pillars and that surface which door openings fill is arranged with bathroom and cupboards. Beds are protected inside those cupboards and cabinets, a bathroom is placed and there is also a niche with flowers and aperture on it (Ates 2008, quoted from Karpuz, 1999). (Figure 8)

Figure 8: Turkish House, Basic Principles for Arrangement of Room Vertically and Ceiling Cover

In addition, at traditional Turkish houses, closet design is important and formed in two ways; open and close. As indicated by Eldem (1984), the main function of the closets is to protect daily equipment of the room regularly and they are generally designed from floor to ceiling and closet designs show diversity from low to high ceilings which at first phase upper part was left empty, later it's aimed to use upper part of the closet, by this way room height is used and at last phase of closet development upper part is closed, by this way closet space is gained same as the height of the room.

***Lifestyles**

Accordingly Turuthan (1983), traditional Turkish houses are composed of rooms that are suitable houses for nuclear families such as; newly married couples and parents with one child or two children. In fact, rooms are small houses for all family types and here spatiality have emerged by symbolic divisions at these rooms. According to Dündar (2011); ‘‘Rooms in Turkish house by itself is an independent space that provides all requirements of daily life. Room is the smallest and repeated dwelling unit that consists of standard facilities for daily life in traditional Turkish house’’ (p.17-23). Thus, there is a great harmony between the users and the multi-purpose usage of the room in relation with the simple way of living concept. Regarding simplicity in living styles of the dwellers of traditional house in Turkey, Güney (2005) wrote that there was simplicity in everything. They sat on the floor, work on the floor, spread their mattresses on the floor and ate by sitting on the floor. In addition, the simplicity in Turkish house according to Yürekli (2005) (quated from Dündar, 2011) is ; ‘‘The simplicity in the Turk Evi is related with reminiscence of the nomadic life style and consists of compressed functional layering’’ (p.17-23). Thus, the nomadic culture is highly visible at the multifunctional usage of a room in Turkish style.

2.1.1.2 Traditional Japanese House Space – Perceptual Divisions

***Main Characteristics of Traditional Japanese Houses:**

This part introduces traditional Japanese style small space and small house designs and how this culture uses small spaces efficiently and transformed it to a lifestyle. At traditional Japanese houses there are mainly two important features which first one is the simplistic attitude in Japanese house as emphasized by Dündar (2011) which is mostly the reflection of the users’ philosophy of life that is the sum of religious

belief (Zen and Shinto) and customs, second they exhibit perceptual divisions by horizontal space organizations as indicated by Turuthan (1983). There is a continuous, unhindered perception from inside to outside that is occured by using light partitions and level changes without solid walls which transforms small spaces and make it larger and at the same time increases daylight usages inside the house.

***Spatial Features of Traditional Japanese Houses**

The traditional Japan houses exhibit a multi-purpose usage of a room for various daily activities such as sitting, eating and sleeping with an extroverted spatial character. As clearly expressed by Schmidt (1958) (quoted from Dündar, 2011); ‘‘Since the Japanese room is completely empty and enclosed by sliding screens, so that it is not actually shut off from the outside, there is a perfect unity between the interior and the garden’’ (p.17-23).

This indicates highly integrated spatial character of interiors with outside. Further Dündar (2011) emphasizes that; ‘‘The continuity between inner space and outer space is one of the significant characteristics of traditional Japanese house and walls are not an important architectural element in defining space of a Japanese room’’ (p.17-23). In fact, this extroverted spatial character has close relationship with construction process that consists of posts and roofs as the prior structural element with extra ordinary wall designs such as sliding screens (shoji) which can be easily removed from their frames. Thus, instead of heavy rigid structural walls, there are light, movable and mobile sliding screens in traditional Japan houses which are adaptable to weather conditions such as during the humid summer seasons these sliding doors can be opened wide and ensure the flow of cool breeze. By this way the relationship between inside and outside is very strong (Dündar, 2011). On the other hand, in Japanese houses an other traditional concept is its’ central spatiality which

shows similarity with the Turkish room. An inner-most area known as ‘Oku’ comes forward where all different functional spaces take place in one open room, as traditional layered spaces of Japan. This concept; inner-most area or Oku as a traditional word, is one of the basic space concept in Japanese house (Belfiore & Kuma, 2012).

***Perceptual Divisions**

The spatiality of Japanese houses is perceptual in order to feel small space larger and all spatial elements are designed through this main principle which provides feeling more spacious in such a small space and is generally achieved by low rise ceilings, low rise furniture, sitting on the floor culture, to sense ceiling and space higher. In addition, by shadow principles by using translucent partitions little shaded spaces have been created that users don’t percept such a small space, in contrast, with full light illuminate small spaces should be more in mind, perceptual and uncomfortable. In fact, horizontal space organization is traditional in Japan houses by the way it creates perceptual division, visual continuity and maximum day light usage in the interior and according to Turuthan (1983) the spatiality of Japanese houses is based on richness of perception that allows for a larger perception of the small space in Japanese house. By sitting on the floor due to low height of the ceilings makes small space feel bigger or on-site seating allows the low ceiling to be perceived as more spacious. At traditional Japanese houses, perception-base characteristics of spatial elements make feel larger this concept of small. The transparent divider gives a shadow, hides the small one and grows it (Turuthan, 1983).

***Furniture & Equipment Features**

The concept of traditional Japanese house is based on the modularity of standard sizes of a Tatami which entirely cover the floor of the rooms (Schmidt, 1958).

Tatami is the smallest unit of the Japanese house and as indicated by Houghton (1877) (quoted from Dündar); ‘‘The mat (tatami) takes the place of several articles of furniture deemed necessary to houses in other lands. It is a carpet, chair and table by day and a bed at night’’ (p.17-23). In addition, another common feature of Japan and Turkey is having a built-in utility area such as cupboards, closets for bedding and shelving. The Japanese houses contain very little furniture by taking the advantage of using wall inserted utility areas. Another well-known equipment are mobile, short-light partitions which create privacy without blocking daylight in a horizontal space organization. (Figure 9-1) In addition, cabinet designs and solutions took an important place in Japanese houses and the rule of lowness and horizontally shows itself basically connected with the dynamism between living and storage units. In Japan tradition storage units are designed in a very clever way and especially developed for small spaces very efficiently which creates dynamics between living / storage units and open / unseen spaces. By hiding storage units at the top in ceilings and under the floor and putting main closets from floor to ceiling that are closed by sliding panels indicate the intelligent way of using small spaces in traditional Japan and especially the use of unseen spaces creates storage zones. (Brown, 1993). (Figure 9-2)

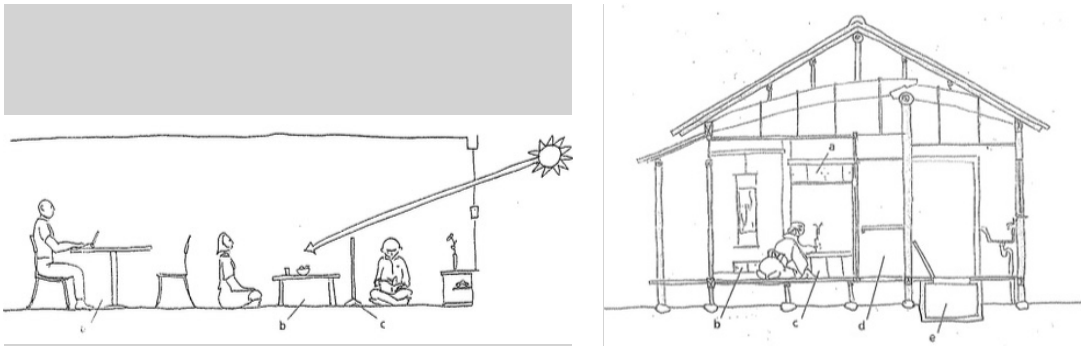


Figure 9: 1) Horizontality principle and the Role of the Floor, 2) Making Use of the ‘Unseen’ Space

*** Lifestyles**

Firstly, traditional Japanese culture use small space and small house designs very efficiently and transform it to a lifestyle, in addition, the way Japanese using exterior spaces integrated with interior spaces took an important place in user lifestyles indicating the extroverted spatial character of the houses. The combination of interiors with nature comes from their beliefs and perception of nature from interior spaces has been developed very differently from western counterpart. This great integration of interiors with nature also emphasizes the privacy concept (personal space) in traditional Japanese lifestyle which is different from other cultures, however it's suggested that there is no privacy conception in this culture (Dündar, 2011). In addition, simplicity of the Japanese houses as indicated by Yürekli (2005) comes from the beliefs of the Japanese people. The multipurpose usage of a room directly reflects the 'simple life styles' of their users.

2.1.2 Working Class Family Houses - Spatial Divisions

This part presents a critical review on working class family houses within a chronological order that had been revealed by industrial revolution at the period. Investigations on small houses at ideologies concept indicated different topics from traditions concept such as; exhibition of a functionalist approach and new scientific architectural rules (ergonomics) with daylight usages which had been discussed and developed by architectural chambers and municipalities of the period. Small houses in ideologies concept consist of;

(1) Worker houses: rental small living units & workers' rooms,

(2) Social houses,

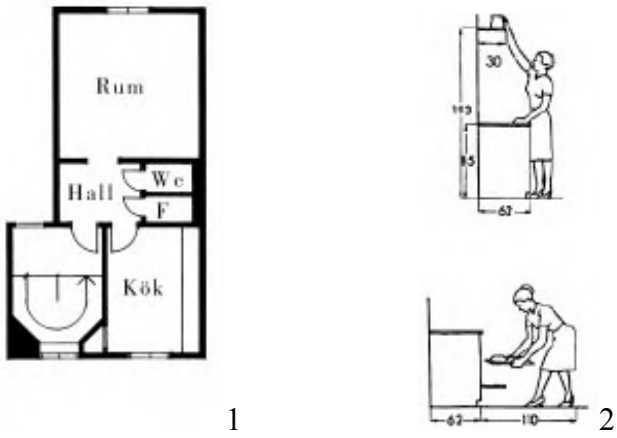
(3) Modern period small apartments as minimum dwelling, as ordered chronologicaly and had been presented by their spatial configurations.

2.1.2.1 Worker Houses: Rental Small Living Units & Workers' Rooms 1910-30

The concept of worker home changed in a dramatic way during the last years of 19th century and developed and found its' way to greater influence in society. By the industrialization period, rental apartments became the dominant form of housing for the working class. And, at first decade of the 20th century, the type of apartment with one room and a kitchen became the most common form. Thereby, in the 1910's and 20's, new solutions and new organizations on housing plans had been revealed such as; water closet to the interiors, storage spaces, larger living room. As indicated by Nylander; ''The small worker's apartment has many similarities to the classical middle-class home, despite the dramatic difference in size. For example, its rooms are functionally flexible, it is divided in two parts that face street and courtyard respectively'' (p. 23). (Figure 10-1)

On the other hand, at this period scientific innovations and laws come forward on design principles of houses, practical house concepts have been developed by Swedish system of housing research programme. As indicated by Nylander; ''Research methods at the time took a scientific approach and individual functions were studied by dividing up the complex reality that is the home into smaller and more easily managed parts'' (p. 25). In the same manner, these new conditions in housing programs were also highlightened by Zahle (1995) with a published work at the 'Different Housing Demands' symposium that had been held in Ankara (1995), new rules for modern houses had been declared such as; ''Around 1900 new rules prescribed, no rooms less then 6 m2 were accepted and all rooms were to have a window'' (p. 503). Thereby, at this period small houses are designed in borders of new scientific rules that are formed by industrialization which created the functionalist home approach. (Figure 10-2) These are the first small houses in which

the objective information about the human body is used in the dimensions of the spatial facilities and the spatial fiction was created by connecting the circulation spaces of the small square meter spaces with the special kitchen designs. The family does not have to be a small family type and this is the type of residence that has the minimum sizes or m2 per person. Here, functionalist design to start to show up in the houses.



1 2

Figure 10: 1.) Worker Housing, Kungsladugard, Gotherburg, Area 40m2. 2.)Kitchen Measurements, From Bostadsboken, BFR 1985

Durign the same period in Turkey, rental single rooms has been developed as parallel to small worker houses as a new typology. These rental single rooms were used by single person or shared temporarily by the different single workers. In addition, these small living units known as 'Cell rooms- Hücerat' by the definition of Tanyeli (2013), were found at big city centers commonly and used for temporal accommodations. Tanyeli (2013) explains *hücerat* as; starting from the 15th century, the modest layers of Istanbul housing stock constitute of one-room housing called hücerat. This was collective type housing system of masonry juxtaposed co-sized

rooms that open onto a courtyard attached to the street. However, some of them were rented to single-men, main users of hücerat were single-families (Tanyeli, 2013).

In addition, as found in the sources, Inns are the first samples in the history of Turkey as being 'single rooms' houses. There are typological similarities with collective houses, hotel-type small houses and hostels in relation to including common shared spaces such as; kitchens, bathrooms, and inner courtyard. When analyzing morphologically small houses spaces, this type is created as an alternative small house for one household living (Gülmez, 2008).

2.1.2.2 Social Houses 1940-50

After the war, in the late 1940's and through the 50's, many of the Social Housing Program's realized by functionalist approach. The quality standards and numbers of apartments increase quickly. All service spaces, kitchens, bathrooms, toilets, laundary rooms were designed again innovatively by industrialization. As indicated by Nylander; ''The Social Housing Program was a unique ear in the history of housing in Sweden and also attracted attention from around the world'' (p. 27).

Further, as emphasized by Zahle; ''Housing in the 1930's was inspired by the international functionalism'' (p. 504). Also daylight and fresh air usage had been taken seriously at this period. Firstly, windows were added to all rooms, long houses had been designed that were normally orientated to the east and west allowing daylight deep into the rooms and terraced houses became popular housing form in the 1930's that bring garden, light, fresh air togethter in these small houses (Zahle, 1995). (Figure 11.1) Further as indicated by Nylander; ''It's 55 m2 plan includes a kitchen, one bedroom, a hall, bathroom, storage room and living room. This apartment can be seen as a forerunner of the functionalist standard apartment'' (p.

29). (Figure 11.2) Lighting condition was an important criteria of social housing programme. As it can be found in the plan layouts, space organizations, transform the dimly lit spaces into fully daylight, it is also possible to walk circuit through the two kitchen openings, the hall, the living room, and the dining area, which adds to the feeling of spaciousness (Nylander, 1999).

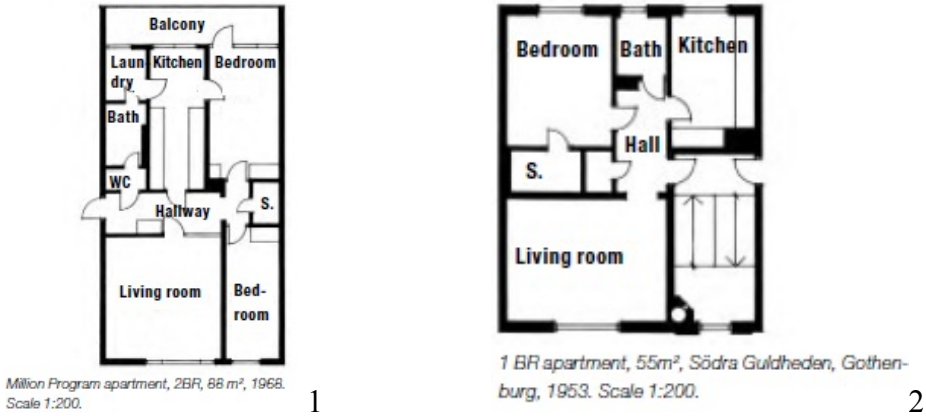


Figure 11: 1) Million Program Apartment, 2BR, 88m2, 2) 1BR Apartment, 55m2 The Social Housing

2.1.2.3 Modern Period Small Apartments as Minimum Dwelling – Integrated Divisions

Modern period small houses know as minimum dwelling is a reform on housing issue with its' different spatiality including small living units that are adaptable for diverse users and lifestyles. It can accommodate small households such as; one person, two people or three people and can serve for diverse scenarios like lonely living working woman or man, two friends that live together, elderly living alone people, a married couple with one child, a married couple without children and so on. Minimum dwelling is small but mustn't be compared with small family house like 50 m2 due to existence of different spatial quality. The flexible design solutions response to different lifestyles such as for working people as a proletariat lifestyle, a

tourist lifestyle for short usages, a student lifestyle and so on. This user typology increases in contemporary small houses. The minimum dwelling must have its' own standards and it mustn't be designed as the reduced plan layout of family type. The minimum dwelling as a new housing typology must answer design solutions for changing conditions and different lifestyles and the social cultural necessities of modern working class (Teige, 2002). (Figure 12)

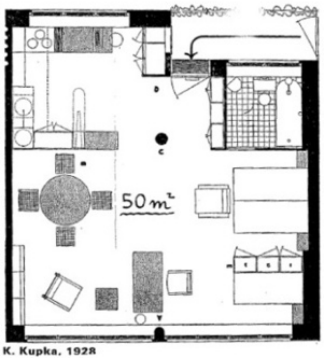


Figure 12: K. Kupka, 1928. Furnishing A Minimum Flat (50m2). First Prize in the Competition of the 'Svaz Ceskeho Dila'

The main purpose was to use open plan concept with highly integrated spaces and modern minimum dwelling typology eliminates women from kitchen works which closed kitchen type of family house don't exist anymore, here closed kitchen cells are designed as open niches. As indicated by Teige (2002); ''In reformed versions of the minimum dwelling, all housekeeping functions are now crammed into a single space - the kitchen'' (p. 240). (Table 3 1-2)

Further as highlighted by Teige (2002); ''The disintegration of the traditional family began with the entry of women in the workforce, along with the establishment of the principle of equality between men and women'' (p. 247). Thereby, minimum

dwelling as a new small house design exhibits separate living and sleeping areas for each household. (Table 4 1-2)

Table 3: 1) Kitchens as open niches, 2) Industrial Kitchen Types.

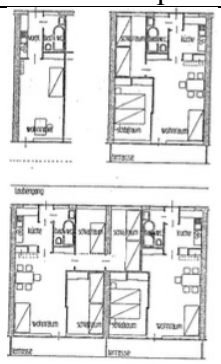
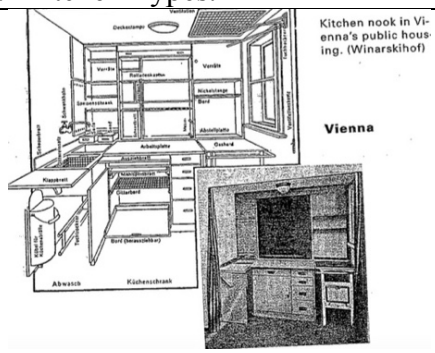
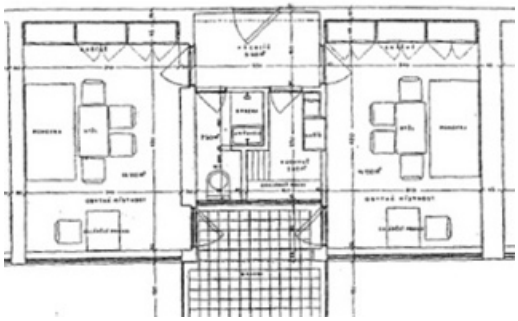
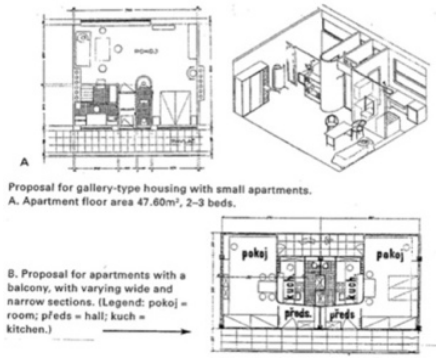
	
1. Hans Schmidt 1928, proposal for cooperative houses in Basel.	2. Kitchen nook in Vienna's public housing (Winarskihof)

Table 4: Service Space Designs of Minimum Dwelling.

	
1. Shared service spaces	2. Minimum size service cabinets

The design principles were formed by cult architects of the period; Mies van der Rohe and Le Corbusier as; open plan concept houses that all social activities of an individual are clustered in one room such as; living, sleeping, dining, studying with an open kitchen in the living room with a cooking nook. These reflect basics of minimum dwelling principles, even can be seen as 1+1 and 1+0 types today. This typology can be seen as the less developed design, a transition to the more futuristic

ones. Apartments without a kitchen or just a single piece of furniture for each adult an independent living space; this is the most developed typology of minimum dwelling that links to collective dwelling and hotel-type at further parts.

In addition, accordingly Deniz (2015) open building as a new and innovative design approach, inhabits open plan concept and introduced by academic studies that are published at the book; 'Yapıda Yenilikçi Yaklaşımlar' (Deniz et. al., (2015)). Deniz (2015) introduces the main concept of open building with a statement Habraken as; ''We have to not to guess what will happen, but we must be ready for unguessed'' (pg. 31). In order to respond future changes and transformations, Habraken suggested a building system that is designed with different control levels hierarchically as; support and infill parts. These levels control different building elements for different life periods. Infill parts which accommodate short lifecycle consist of; space organizations, partitions and finishings and are re-arranged more oftenly than support parts which have long lifecycle (Deniz, 2015). Through historical investigation, the first samples of open building appear as; Maison Domino (1915), Plan Obus (1930), Unite de habitation of Marseille (1947-1952) projects of Le Corbusier, where structural parts and habitable volumes are separated from each other as support and infill parts. This separation, within a common structural system ensures diversity, differentiation of housing units (Deniz, 2015). At figure 13, it's indicated that; ''habitable volumes (Infill) have been designed independent from structure system (Support)'' (p. 35).

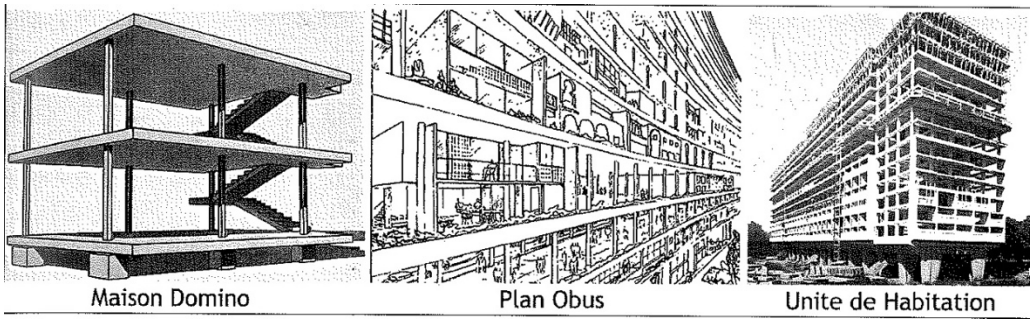


Figure 13: Le Corbusier's Maison Domino (1915), Plan Obus (1930) and Unite de Habitation of Marseille (1947-1952) Projects

In addition, Mies van Der Rohe designed a housing project for Weissenhofsiedlung (1927) where he used skeleton structural system with a central installation system and rhytmic façade in order to create alternatively using possibilities with flexible, adaptable spatial organizations to respond different / diverse user types and decided this structural system (support) will bring opportunity to arrange interior spaces (infill) of buildings with a flexible way (Deniz, 2015). At figure 14, it's expressed that; ''the skeleton structural system which passes a big opening with central installation and rhythmic façade, ensured flexible usage opportunity to different user groups'' (p. 38). In addition, human energy efficiency come into prominence with comfort and flexibility. By shorten the paths and movements in the house, user of modern life, a working lifestyle, will gain energy inside the house. By a flexible plan layout by using light partitions instead of concrete interior walls will bring comfort with quick transformations such as; a room with 1 bed can transform to 2-3 beds at nights with movable partitions or some part of living space can transform to study area when necessary with the help of movable furniture and partitions. This will give the opportunity to accommodate various lifestyles in a minimum dwelling differently from traditional family house.

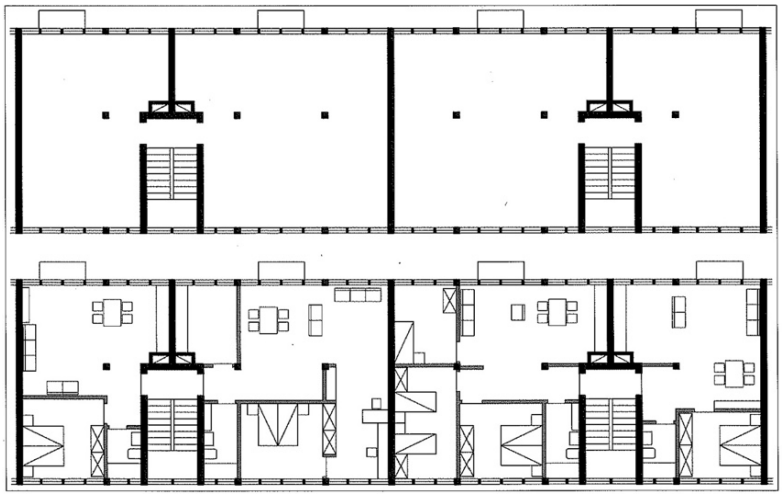
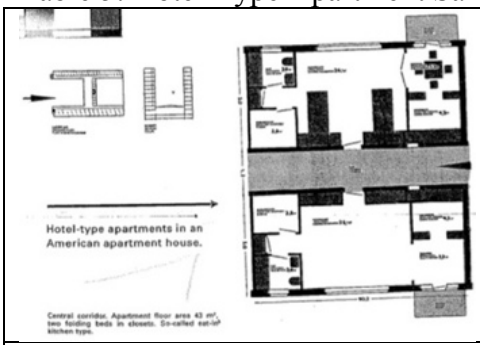
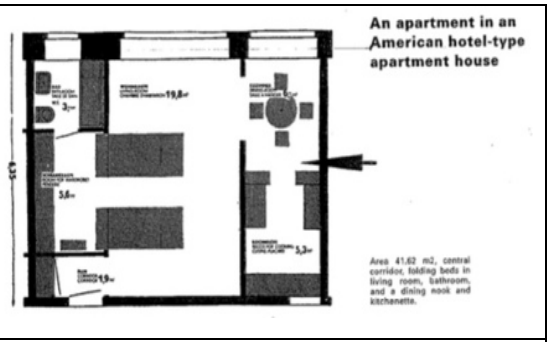


Figure 14: Mies Van der Rohe's Weissenhofsiedlung Project (1927)

2.1.3 Collective Dwellings, Hotel-Types as Developed Version of Minimum Dwelling

Further versions of minimum dwelling are presented as collective dwelling with its' sub-types such as; hotel type minimum dwelling and co-housing in architectural literature, which all exhibit reforms on transformation of family-house type to single living type. According to Teige (2002); ''The proper response to the minimum dwelling is best characterized by the notion of the collective house or an apartment without private housekeeping functions, a beehive of dwelling cells intended for working individuals'' (p. 334). On the other hand, the hotel-type apartment indicates the appearance of a dwelling without traditional household functions with quickly adaptations to change of place, and proper to working class lifestyle. Furthermore, Teige suggests that; ''The minimum dwelling in a collective house must be conceived as an individual living cell, that is, as one room per adult person. These cells are to be arranged into large housing beehives'' (p. 346). Thereby, collective dwellings are commonly seen as, proper small houses for working class households. (Table 5 1-2)

Table 5: Hotel-Type Apartment Samples

	
1. Hotel-type apartments in America.	2. An apartment in American, hotel-type.

A further development of minimum dwelling introduced as hotel-type and investigated in the study by dwelling hotels of Dutch which is introduced with an article of Cieraad titled as; 'Out of my kitchen! Architecture, gender and domestic efficiency' as; ''During the first half of the twentieth century the kitchen and its' equipment become synonymous with the image of a professional housewife, not only in Nederlands but also in most of the western world'' (p. 263). However, as emphasized by Cieraad (2002) Dutch architects were affected by Gilman's revolutionary idea of kitchen-less family homes. This was the combination of luxury of a hotel and permanent usage of a dwelling, architects called this type as dwelling hotel. And, the first dwelling hotel was Boschzicht and was built in 1918; ''Boschzicht was designed as comparatively small-sized apartments with only three bedrooms, a parlour and a living room, but without a separate dining room. All the apartments on one floor shared a guest-room'' (p. 270). (Figure 15)

Figure 15: Exterior of the Apartment Hotel 'Bosczicht', Built in 1918

Lastly, Co-houses brought similar living space designs that are used with similar households types. Firstly, household types consist of similar people such as; needy people, old people, single parents, elderly people and they have many common aspects. Usually these kinds of people have a livelihood problem. But now it has changed so much that people who earn so much can become single parents, people who earn so well can become old single family, which means that now the shape of these family structures is different according to their livelihood. Now there are good economic and bad economic situations. Cohouses are given as a sample in the thesis study by the way they offer a common life, where the families always seemed to be alike, such as; livelihood, marjinal, out of society and they have a situation protected by the state (Turuthan, 1983).

2.2 Contemporary Small Households

Today, it's obvious that there is an increase in the small households in the world in general and this family typology is more diverse than the prototype, in relation to this, small houses that are now designed for this family type also exhibit diversity in spatial fictions, in many countries and cultures, especially in big cities and metropolises. And in this work, it is mentioned that there are visible increases in this variation in family structures in the diversity of the Turkish small houses spatiality.

Thereby, there is a strong relationship between contemporary small households and houses from dynamic-diverse-duality points of view. This part introduces contemporary small households that also have been investigated with statistical evidences of TAYA (2011) (Türkiye Aile Yapısı Araştırması: Tespitler , Öneriler, T.C Aile ve Sosyal Politikalar Bakanlığı-Research on Family Structures in Türkiye) which was held twice - first in 2006, the second in 2011 and which was included in the official statistics program and defines household concept as; ‘‘Household is a group compromised of 1 or more people who live under one roof or occupying the same housing unit or in the part of the same dwelling and who takes part in the services and management of the household’’ (p. 21).

From this point of view, small households have been analysed due to their dynamic characteristics which exhibit dualities and diversities with varying increase today and demonstrates changeable and transformable characteristics of small households regarding to their dynamic, diverse and dual social features. Dynamics of small households are generally based on changeable and transformable characteristics of the household members’ structure. By the help of diversity and opposite concepts which are found at sub-groups, dualities of household structure reveal and differently from prototype household structures this new typology exhibit different lifestyles, who generally don’t buy a house and live in a constant environment, they generally show demand to live at different places proper to their lifestyles and income levels. Thereby, first dynamics of the small household structures are introduced as; number of members and family types with their sub-types, than, diversity of the small households life styles as; familism, careerism, consumerism and bohemianism, lastly duality concept is presented as; social, physical and living context preferences.

2.2.1 Dynamics of the Small Households Structures

At this part, study investigates dynamics of the small households' structures in Turkey with statistical evidences of TAYA (2011) as number of members and family types. Accordingly TAYA (2011), household family types are classified in Turkey mainly into three such as; nuclear, extended, broken households, however in the thesis study investigations focus on nuclear and broken household types due to small household concept.

***Dynamic Structure of Small Households by Number of Members**

As indicated by TAYA (2011) in Turkey; ''The average household size compromises 3.6 members. The average household size is quite close to each other in urban and rural areas. Among the three major cities, Istanbul ranks at the top with the largest household size on average (3.5 members) where as Izmir ranks the lowest (with 3.1 people)'' (p. 27). The comparison of the household type indicates that the nuclear household type exhibit optimum number by 3.65 and broken type ranks the lowest with 1.87 people.

*** Dynamic Structure of Small Households' Family Types**

Nuclear and broken family types are presenting the small household but there are also some sub-types which increase the dynamic structure of small households by scenarios. Through the investigations; the main difference between nuclear and broken households comes from married and unmarried couples, while nuclear family basically accommodates married couples, broken family type exhibit unmarried couples. In addition both types, nuclear and broken, accommodate sub-types which create diversity of dynamic structure of small households with changing number of members between 1 to 3 as indicated by table 6 and the concepts are defined by TAYA (2011) as follows;

***Nuclear Family:** Through studies of TAYA (2011) nuclear family consists of mainly married couples with or without child(ren); 'it is a type of family, comprised of a wife and husband without a child or a father and a mother and unmarried child(ren)'.
***Nuclear family without child(ren) (age<45):** Family type made up of parents younger than 45 years of age with no children.
***Nuclear family without child(ren) (age>45):** Family type made up of parents older than 45 years of age with no children.
***Nuclear family with children (1 child / 2 children / 3 children and more):** The type of family that includes mother, father and 1,2,3 or more single child / children.
***Broken family:** Broken family is a term that is used to describe the households without married couples. The ones live alone, single parent families, relatives living together and even those who are not relatives but who live together are classified under this family type. This type exhibits sub-types such as; 'one-person households, single parent, other broken family, and non-relatives households'.
***One person households:** In this type of household, there is only one person living alone.
***Single parent:** Families comprised of a single parent and unmarried child(ren) are considered to be under this group. These households are formed when parents are divorced, not living together or due to the loss of either one of them.
***Other broken family:** It is a type of household where relations live together but there is lack of relationship among parent and children (grandmother & grandchild(ren), two siblings, aunt & niece(s), etc).
***Non-relatives households:** In this type of household, any household member living together are not related to each other by birth or kinship. (p. 21)

Table 6: Nuclear and Broken Household Types with Sub-Types

Nuclear family types	Broken family types
*Married coupels without a child(ren) (SMALL HH) *Married couples with a child(ren) (SMALL HH)	*Unmarried couples (SMALL HH)
Sub-types: *Nuclear family without child(ren) (age<45): Family type made up of parents younger than 45 years of age with no children. (SMALL HH) * Nuclear family without child(ren) (age>45): Family type made up of parents older than 45 years of age with no children. (SMALL HH) *Nuclear family with children (1 child / 2 children / 3 children and more): The type of family that includes mother, father and	Sub-types: *One-person households: In this type of household, there is only one person living alone. (SMALL HH) *Single parent: Families comprised of a single parent and unmarried child(ren) are considered to be under this group. These households are formed when parents are divorced, not living together or due to the loss of either one of them. (SMALL HH) *Other broken family: Relatives live together but there is lack of relationship among parent and children (grandmother &grand-child(ren), two siblings, aunt&niece(s),etc.) (SMALL

1,2,3 or more single child/children.	HH) *Non-relatives' households: In this type of house-hold, any household member living together are not related to each other by birth or kinship. (SMALL HH)

Through analyses and investigations of TAYA (2012); the most widespread household type in Turkey is the nuclear family with %70 rank, extended families represent a smaller portion of the society (12%) and the share of broken families is 18%. In addition, ratios of urban areas are higher than ratio of rural areas for both all types. On the other hand, however nuclear families exhibit the highest ratio at higher upper class, broken family exhibit the highest ratio at lower upper class, which indicates socio economic situations of the small households such as; small households with married couples exhibit higher upper class and ones with unmarried couples or alone living households show lower class family characteristics. Through household types, nuclear family without children or with 1 child and broken families are in the investigation area with the scope of the thesis as indicating small households. And nuclear family exhibit 70% and broken family 17.7%, without knowing children situation at nuclear family. Thereby, second comparison has been carried out for number / family sizes of small households which indicates number of children. By this analyses, it has been revealed that percentage of small households are totaly 49.5% as with no living kid and 1 kid families with changing diversity from 1 to 3 members (TAYA, 2011).

2.2.2 Diversity of the Small HouseHolds Life Style

Through Chaney (1996), lifestyles are necessary for modernity and for a modern world. Chaney emphasizes that; ‘‘What this means is that those who live in modern societies will use a notion of lifestyle to describe their own and others' actions.

Lifestyles are patterns of action that differentiate people'' (p. 4). Thereby, this part covers some major lifestyles such as familism, careerism, consumerism, and bohemianism which affect diversity of alternative small house types. Especially last two lifestyle is more important for small households which is different from traditional family typology and Johnston classifies lifestyles as;

a. Familism; in which child-rearing is the dominant feature and the whole way of life is centered on children. This life style is closest to the traditional one, though it usually does not involve extended family relationships to anything like the same extend.
b. Careerism; in which members are mainly oriented towards the goal of vertical social mobility, and devote the major portion of their time and energy to this end. Many choosing this life style may never marry, but, of those who do, most will marry at an older age than is average, and many will have no children.
c. Consumerism; in which members opt for the good life, preferring to expand their time, money and energy eating, drinking and being merry. (p.31)
d. Bohemianism: ''In which members, who leads an alternative lifestyle, they are not hippies because they can have an extremly wide range of different tastes in music, fashion, art, literature etc they are usually very creative people'' (http://www.urbandictionary.com/define.php?term=bohemian).

Further Johnston (1972) explains that ; ''... most people choose some combination of two or three. Often one life style dominates and this can lead to differences between households who have apparently made the same choice'' (p. 31). However, from gender point of view, familism is only more close to traditional household typology with a working father, mother at home and taking care of children household profile, but when familisim lifestyle is combined with one of other two lifestyles, familism+careerism, it becomes more close to alternative family lifestyle as working male and female with or without children in the house married or unmarried living together. Or familism+consumerism again reflects alternative family typology as married or unmarried couples working profesionally and spend their time outside the home most of the time.

Another lifestyle that is also commonly reveal between small households is bohemian lifestyle and as indicated at urban dictionary bohemian is ; ‘‘They like wearing a mixture of wierd clothes and mix different fashions togehter just for the heck of it. Bohemians live in alternative spaces, these are places that are not normally considered suitable for living in. They don’t make wealth their priority. Money is only means of survival, so they can live for their arts / craft / music / literature..etc.(http://www.urbandictionary.com/define.php?term=bohemian). One of the values that bohemians renounced was private property. They rarely had any permanent dwellings or furniture to go in them. They lived and worked in the cafes, streets, libraries and other public spaces of Paris. Members of Bohemia often adopted a communal lifestyle, sharing lodging with other bohemian companies (https://www.mtholyoke.edu/courses/rschwart/hist255s01/boheme). In addition, dynamics of these lifetyles familism, carrerism, consumerism, bohemianism also exhibit dualities by social, physical and living preferences contexts.

2.2.3 Duality of Small Household Social-Physical-Living Preferences Context

*Social Context Preferences: Family ties oriented vs social ties oriented: Familism and familism+careerism lifestyle as family ties oriented are more close to traditional lifestyles, which is family oriented and child bearing comes forward, with an opt of good career and quality of life. On the other hand, consumerism and bohemianism is more individual and present one or two small household commonly whose lifestyle is more close to modernism rather than traditional and more interested in arts, music, fashion, literature etc.

*Physical Context Preferences: City center oriented / Sub-urban oriented / Work place oriented: Familism lifestyle is commonly city center oriented and they generally prefer city centers, old houses to live, family houses for example that they

spent their childhood. On the other hand, careerism lifestyle is oriented with work place whose professional works come and don't want to waste time on the way / traffic and have strong social life, thereby, members of this lifestyle use their house as home-offices. Lastly, members of bohemianism lifestyle generally live at sub-urbans where rents of the houses are lower than city-centers, they generally concentrate on their art.

*Living Context Preferences: Life inside house vs life outside the house: Members of familism lifestyle commonly spend time mostly inside the home with their children thereby, this lifestyle members houses are generally well furnished, on the other hand, members of bohemianism lifestyle generally don't live constantly in a specific space, they use their houses permanently and spent more time outside the house, they don't even furnished their houses fully.

2.3 Contemporary Small House with an Integrated / Dynamic Space Organization

The contemporary thinking on housing clearly influenced these functionalist and post-functionalist models that guide the revolution of modern period and contemporary thinking focused on universal response to primary human needs such as; density including collective spaces, sustainability including collective responsibility and affordable housing and the science of sustainability including low-cost of building life-cycle, reduced construction costs by steel prefabrication, production of compact living units, transforming including flexibility-adaptability-lifecycle, inhabiting including individual and standard contemporary house.

Collective spaces both indoor and outdoor such as; extra additional rooms as guest room, hobby room, assembly room, cinema room, music room, kitchen, etc. and

open sports areas, kinder gardens, cafes, shops and housing density became two reciprocal concepts of contemporary housing, supports both individual small houses on one hand and diverse social activities on the other, in other words personalized and public spaces come together in high density housing projects. Today, small houses with minimal dimensions are created for individual lives and these minimal houses found its complement by the proper usage of collective spaces in contemporary dwelling (Segatini M, 2008).

In the thesis, investigation of contemporary small housing features 'Density concept' is of uppermost importance. These large residential complexes began to build in the first half of the twentieth century in central and eastern Europe by Le Corbusier such as Unite d'habitation, seen individual as a social value, themes were based on the principles of; to create equality between individuals, to improve standards and conditions of living, to eliminate differences and diversity among individuals. The contemporary principles of high-density residential projects today are; on the scale of single dwelling, flexibility of space, the capacity to transform over time, and the potential for personalization.

At this point, it's obivously observed that high-density, mass-housing, mix-use projects with sustainability are the common features of today's housing projects. On the other hand, from spatial point of view, as the main concern of the thesis study, today small house designs in Turkey deal with basic topics such as; recent day small houses attract an alternative family type, they offer to its users a common life scenario, they offer cultural lifestyle diversities through square meters, they offer lifestyle diversities through economic conditions to families and their spatiality indicate a development from segragated to integrated organizations with various

degrees. To indicate these features of contemporary small houses for Turkey situation, architect interviews are conducted which is totaly nine interviews with who have recently designed new small housing projects at major cities such as; Istanbul, İzmir, Ankara. Architects are especially selected who have designed small houses newly with 1+0, 1+1, 1+1.5 types and questionnaries especially consantrated on; the design criteria, user profiles, creation method of sub-types, branding factor, and technology. The data that is collected from architect interviews (explained in detail at methodology part) and results of questionnaries have been evaluated at this part and used for the main topics of contemporary small houses such as; attraction, developing common scenarios, diversity of small houses types, implementation for diverse incomes & expactations.

2.3.1 Attraction For Alternative Family Types

Firstly, today small housing implementations are attracting an alternative family, different alternative family types which are increasing day by day on the housing market. Today, the diversity of household types has been increased and varied in contrast to past. To reveal spatiality of recent day small housing units, firstly, household characteristics have been investigated by their 'dynamic, diverse, dual' features variegated in recent decades. Ulusu Uraz and Gülmez (2014) indicated that; ''We move from the point that alternative small households pave the way for unconventional housing schemes and concepts of living since their daily routines and time-management are different than those of traditional nuclear families'' (Gülmez & Ulusu Uraz, 2014).

Thereby, today small housing implementations are designed in order to accommodate variations from house types to meet diverse small household typologies. For this reason, small houses designs and types are getting diverse from

small to large sqaure meters such as; 1+0, 1+0.5, 1+1, 1+1.5 that are designed for 1 to 3 households. For example, a housing project that is designed at Kağıthane consist of totally 460 houses with a type distrubition as; fourty-six 2+1 types and four hundred sixteen 1+1 types which %90 of the houses are 1+1 type. As indicated by the architect projects concepts are developed and created through household profiles and locations. Firstly, company make series this type of building under his own title such as; Nef_Dormitory, Nef_Flats, Nef_Points, Nef_Residences, these are concept projects that are adviced through location and user profiles. For example; at Kemerburgaz and Sütlüce projects house square meters are larger. In contrast, at Kağıthane project when get closer to city center, square meters gets smaller and these proposals change due to necessities and facilities of people who will live there (Ertuğral, 2015).

On the other hand, today its obviously relevant that small households are varying day by day with diverse household scenarios when compared to the past and this is also indicated by the architect of Nef company. For example, at Nef-11 project, there is a great diversity between user profiles such as; students, single working people, newly-married users, retired people also there are old age users. There are too much retired people profile such as; who came from abroad, get ex-serviced and buy these houses for investment. In addition, Güzer explains this increasing demand for small houses in relation with diversity of contemporary small housesholds such as;

> As a new concept, 'living alone' or 'one household concept' which is very new in Turkey as a traditional country. This is why this new living style is generally seen in metropolitan cities. Thereby, while evaluating dwelling sizes, it's important not to ignore the density factor and as well as the size of the house, the number of households is also important (Guzer, 2015). (appendix-2 for full interview).

Thereby, today when asked *'small house'*, in which criteria it is small or big. In Turkey, small houses are traditionally understood as '1+1, 2+1 or studios' as small houses as indicated by Guzer (2015) and these small houses generally range from 30-35 m2 to 70-80 m2, generally between these sizes /square meters. In addition, number of households are generally 1, 2 or max. 3 people. Thereby, household types are very diverse such as; students, singles, young people, newly-weds, or retired older people whose childen are married and they live in small house now. And further, Güzer indicates that there are already three small house types that attract small HH in Turkey such as;

> (1) Standard urban small house for contemporary households, generally one, two or three people, generally in metropolitan cities known as 1+1, 2+1 types and a new housing typology for Turkey.
> (2) Small houses as the second house of households and can be found as three types; a) users; spending summer times at a holiday resort 5-6 months prefers small houses, b) users; travelling between metropolitan cities Ankara-Istanbul continuously due to their professional area, c) users; travelling continuously between small cities and metropolitan cities due to their jobs might prefer small house as a second house.
> (3) The third one is the lodges and host-houses for short period usages and accommodations especially preferred by firms (interview with architect Güzer, 2015). (appendix-2 for full interview)

There by, today small house diversity and designs offer small households various concepts which attract this alternative household type from many points of views.

2.3.2 Development of Common Life Scenarios

Recent day small housing projects offer to households a common life scenario which consists of extra, additional indoor spaces and activity places in mass-housing projects today. Today housing companies offer to its clients common life scenarios which are consisting of extra, additional indoor spaces and activity places. For example, Nef company appears on the market with a successful and different marketing strategy byoffering fold-home concept as a common life scenario which

attract small households. Company developed interesting sales slogans such as; ‘buy 1 room and own 23 additional rooms’, which offers 23 common indoor spaces such as; guest room, cinema room, music room, arts room, assembly room, party room, playstation room, etc.. and household members are able to rent these extra indoor common spaces whenever they need. As indicated by Güzer (2015), recent day small houses differ from classic family houses; ‘‘The architectural difference is, because the housing sizes getting smaller of these houses, the necessity and possibility reveals for extra social spaces, thereby under these houses, generally sports centers, cafes can be found, where they can make common activities’’ (interview with architect Güzer, 2015). (appendix-2 for full interview)

In addition, these houses, as *‘small houses’*, can easily be integrated with other urban functions, such as mix-use projects. However, family houses does not come together with shopping malls or next to office concepts in the city, these small houses can easily connect and contribute to these different functional buildings with home-office concepts or can be found just next to shopping centers. This situation indicates that households of these small houses have different social, cultural and economic profiles. This profile difference shows that users are generally students, professional workers and whose work identity come forward, thereby, they also use their houses for work or use them integrated with their work environment, differently from the prototype houses we see from our mothers and grandmothers, and the relationships with outside is more stronger and more permeable (Güzer, 2015). In addition, a company especially emphasizes the importance of collective spaces by the slogan of company as ; **‘**Just buy what you will use and you need’.

In fact, here most critical point of the project comes out by creative collective space designs. For example households generally use kitchen and bedroom, due to high density of work hours and project asks; ‘what should you want if you have 5.000 squaremeter house?’, and the answers of clients are usually; cinema room, yoga room, sports area. Thereby, the project offers to the clients all of them without buying. Company give to the user a bedroom, a kitchen or a living room basiclly, in other words sell minimum m2, but offer maximum extra space possibilities. By this way company creates a fold-home concept by selling necessary minimum space to client and rent the rest which is highly attractive for clients (Ertugrul, 2015).

Accordingly Gülmez & Ulusu Uraz (2015); ‘‘The firm has introduced the ‘fold home’ concept to the housing market as a spatial and economic innovation, which indicates that the housing block / condominium works as a constantly transforming system’’ (p. 299). By this concept, extra rooms and activities can be added to small living units whenever necessary. On the other hand, there is a diversity on the design of collective spaces at all projects which are decided properly to the requirements of each project. For example, if there is more large population user profile, the design of collective spaces are more comprehensive, or, if there is a university nearby, study rooms, laundry rooms are added to collective space designs to satify other necessities or there are generally more enjoyable units for teens. On the other hand, at Ataköy project, there are business rooms as collective spaces, in relation to user profiles which are professional working people commonly, thereby who use these houses as home-offices can benefit from these business rooms for meetings. The elections of collective spaces create diversity through location and user profiles. In fact, households or clients do not buy only a 50 m2 small housing unit as it used to be in the past (Ertugrul, 2015).

Thereby, today small housing projects that are commonly produced in mass houses offer common indoor spaces to their households including different scenarios to accommodate diverse household typology. This common life scenarios can be very diverse and changes through companies marketing strategies that are formed by household typologies such as students, working class people or elderly people and show difference between companies. As highlightened by Gülmez & Ulusu Uraz (2015);

> Moreover, some projects seem to address specific user groups such as Flex Kurtköy including solely home offices or Adres Kampus projects (East / West / South and Panorama) including etude/study rooms, reading and play rooms mostly appealing to university students. (p. 300).

2.3.3 Diversity of Lifestyle Culture

Due to the culture of lifestyle, square meters of small houses show diversity and their sizes can change, thereby, today different small house types have been revealed on the market and their typologies can be classified as; 1+0, 1+0.5, 1+1, 1+1+1, 1+1.5 from minimum m2 to larger m2. As indicated by Güzer (2015); small houses in Turkey today ranges from 30-35 m2 to 70-80 m2, generally between these areas. Through the type and area of the small house, spaces can change, for example as the basic minimum living unit 1+0 type as the minimum small house about 20 m2 exhibit an open plan room with a closed bathroom and other spaces have been attached this basic type with the increase of area as living space, dining space, open kitchen in an open plan, bedrooms, bathrooms, guest WC / bath, storage spaces and terraces, as indicated above;

(1) 1+0 type small house space consists of; open plan living space with living/dining/cooking/studying/resting/sleeping activities, with an open kitchen, bathroom, with / without balcony.

(2) 1+0.5 type small house space consists of; open plan living space with living/dining/cooking/studying/resting activities and a half (0.5) space for sleeping activity as bedroom with a dressing niche.

(3) 1+1 type small house space consists of; open plan living space with dining/studying/resting activities, 1 bedroom, open kitchen, bathroom, with / without balcony.

(4) 1+1.5 type small house space consists of; open plan living space with dining/resting activities, 1 bedroom, a niche space for study, and open kitchen, bathroom, with / without balcony.

(5) 1+1+1 type small house space consists of; open plan common use open plan living space with dining/study/resting activities, 1st bedroom , 2nd bedroom, and open kitchen, 1 bathroom, with / without balcony.

2.3.4 Implementations for Diverse Incomes & Expactations : Finish / Unfinished Finalizations of the Small House Units

By the increasing diversity of small houses, today small house designs offer lifestyle diversities to the families, however some small house samples are finished fully with full equipment for high-level income groups, on the other hand there are initial-unfinished small houses on the market for medium or low level income groups which they can finish house designs in years. Thereby, there are two different small house designs exist especially at metropolitan cities final complete / luxury and initial unfinished / economic concepts within high-density residential. By this feature, these houses offer life standards not only by area but also with the level of spatial furnishings and initial finishings. In addition, Enzio Manzini (2010) describes today's Existenzminimum as;

> Today, Existenzminimum must be translated into proposals that can appear to increasingly large segments of the population as opportunities to achieve a

> higher level of social quality, a term which in an initial approximation we can equate with 'quality of life', a possible slogan; Existenzminimum as maximum quality. (pg.300).

Through this discourse, it's understood that today's Existenzminimum designs must include luxury, comfort, must be attractive with a variety of alternative proposals and to be attractive the proposal should not correspond to a scenario of deprivation. These two small house concepts; finished / unfinished finalizations of small houses have been analysed by studies of Balamir (1995) for initial unfinished, economic and minimal concept with; 'House Production Models for Low-Income Households in Turkey' with an article published in 'Housing Question of the: Others' Habitat II conference at 1995 with title of 'Small Households as another' and Gülmez & Ulusu Uraz (2014) studies with a publication title with 'An Offbeat Spatiality of the New Small Housing Units for Alternative Households' for final complete concepts.

For initial unfinished, economic, minimal small houses, Murat Balamir's studies are worthy for the production models of alternative small houses for low / medium income households to reduce housing production costs. Incomplete finish or finishing with low-cost materials and furnishings are two solutions that are suggested by Balamir (1996). By this way production costs of houses have been reduced for low / medium level income groups. On the other hand, production of final complete / luxury small houses increases day by day on the market which are designed with all furnishings, fix furniture and even some have sofas, beds, coaches as furniture-home concept, which are basically intended for single person professional working households commonly. For example one company offer small houses with good finished facades, ceilings, flooring works with four walls and with fix furniture as

kitchen and bathroom equipment (Ertugrul, 2015). In fact, today this is the minimum design stage of small houses.

In addition, as indicated by the architect of an other company initial finishings totally depend on what investor wants to give. Some companies offer totally empty building and users decorate themselves, but today in Turkey market, fix furniture generally for kitchen, bathroom or parquet floor are given (Weber, 2015). Also, as mentioned by another company; today all houses are designed with furniture and equipment, even you buy 3+1 type, all equipment from kitchen to other spaces are given and all houses are very equipped (Yağcıoğlu, 2014). Thereby, there is a changing degree from minimum to maximum initial furnishings which differ through company designs in relation to low level to high level income households demands.

As indicated by Gülmez & Ulusu Uraz (2015); ‘‘Today housing market respond better to spatial demands of the increasing number of small / alternative household types’’ (p. 295). Although the case is different from co-houses, in recent times, they offer a diverse ranged of household to members based on their economic strength from good economic to bad economic situations, as indicated by Gülmez & Ulusu Uraz (2015), ‘‘Obviously, both the government and the major enterpreneurs are aware that the housing market addressing upper classes is shrinking and they need to contemplate on how to produce housing alternatives for middle / lower middle and lower income classes’’ (p. 296).

Thereby, today small household house designs have reached some common standards by initial finishings and almost all of them exhibit wall, floor, ceiling materials with fix-funiture as kitchen and bathroom equipment. And this degree of

final complete increases due to the level-income of households and their demands. This indicates changing design dynamics of today small housing units which became more individualized through the changing demands of households and became more diverse. In addition to finishings and fix-furniture, today final completion / luxury concepts also exhibit different spatial fictions by types such as; 1+1,5 with half space usages in the house.

Luxury concepts exhibit extra unusual spaces, 0.5 spaces and create unusual types such as; 1+0.5, 1+1.5, 1+1+1 with 0.5 niche spaces that can be used as cinema / study / hobby room for an extra activity. In addition, unusual / usual comparison indicates individualization and standardization in relation with economic concerns, which individualization refers high / medium-level income households with more custom-made final complete small houses and standardization refers economic, low-level income, initial unfinished small houses.

To sum up; this chapter have been mainly focused on small houses and small households by investigating their dynamic-dual-diverse characteristics. Firstly, a historical investigation have been realized on small houses and living spaces in concept of small with traditions, ideologies and trends & lifestyles. Each concept of small house indicate a different spatial division and organization, by this way study collect unique and valuable data on spatial variety of small houses from past to present and this data shed a light to study while investigating contemporary small houses. Different spatial concepts from different small houses have been collected such as; symbolic divisions from traditional Turkish rooms, perceptual divisions from traditional Japanese houses, segregated divisions from worker houses, weaker segregated divisions from social houses by addition of circles and links between

spaces, and integrated divisions from minimum dwelling. (Here divisions express the spatial organization type between weak to strong)

By this way, it's demonstrated that spatiality is different from space content and is formed by its users cultural identity and changes constantly depending on the socio-cultural characteristics of the period. By this way, study demonstrated that each concept of small living exhibit a relation between the culture of household lifestyle and spatiality of the living unit. Lastly, this cultural lifestyle got very diversified at the contemporary living and became visible at small houses type-base diversification such as; 1+0, 1+0.5, 1+1, 1+1.5.

Chapter 3

INVESTIGATION OF THE LIVING POTENTIALS OF THE SMALL HOUSE TYPOLOGIES: DYNAMIC / DIVERSE / DUAL SPACES AND SPATIALITIES

Chapter 3 consists of mainly two parts which 1st part is an investigation on space and spatiality concepts by theories and philosophies, and 2nd part is an exploration of new spatiality of recent day small houses. Thus, 1st part exhibit definitions of ; space & spatiality, spatial relations and spatial identifiers and 2nd part exhibits explorations of ; new spatial organizations , new space groups / single space characteristics and new space types of recent day small houses. Thereby, 3rd Chapter makes up the investigation part of spatiality deeply by theories and philosophies to discover new spatiality of contemporary living. (Figure 16)

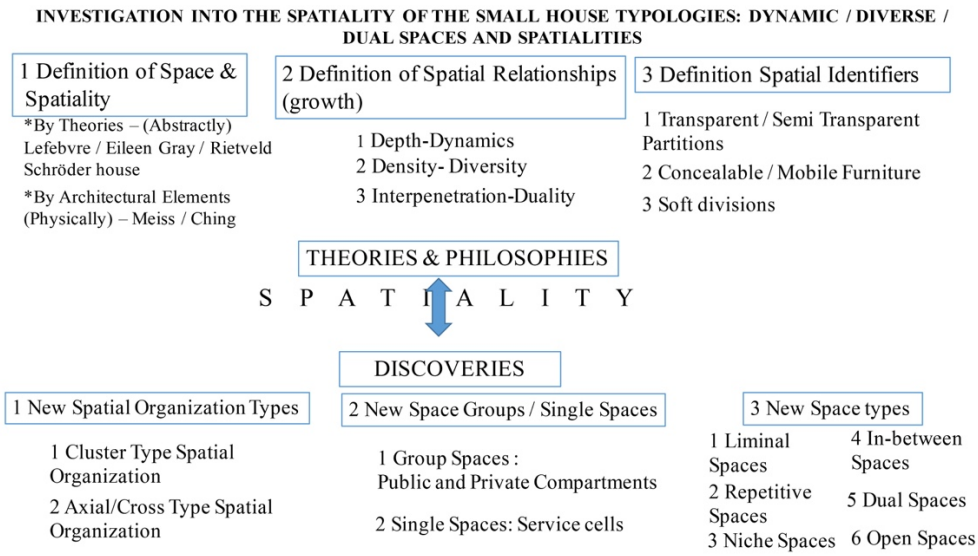


Figure 16: Contents of Chapter 3

3.1 Definition of Space and Spatiality

In this chapter, the concept of space is introduced as indicated by figure 18, first with abstract definitions of its intangible values by dealing with Lefevre's space trialectics that define space as a social product; and from this implicit conceptualization of space gradually goes into a more explicit approach by Eileen Gray's body&space&movement theory that produces spaces through small gestures of body movements focusing efficiently on the usage of small spaces and lastly flexible spaces by Rietveld's Schröder house as the most important example in the architecture with its visible and flexible interiors.

Firstly, space has been defined by the space trialectics of Lefebvre (1974), i.e: lived, perceived and conceived spaces, which is known as a great achievement on defining space with its social, representational and abstract dimensions. According to Lefebvre, space is a social product. Lefebvre's concern is not the spaces in the city or the things in the city. The main concern of Lefebvre (1974) was 'the production of real space' and according to Lefebvre, space and time can be produced socially. Lefebvre's space is neither a mere abstraction nor a perceptible thing, space with all its dimensions is a content and reality, so it's social. Thereby, it's sum of relationships and it's not inanimate and stable. Space is alive, fluid and changeable. It always extends to other spaces and comes back, stays on other space and ensures the production of existing space (Lefebvre, 1974). (Figure 17)

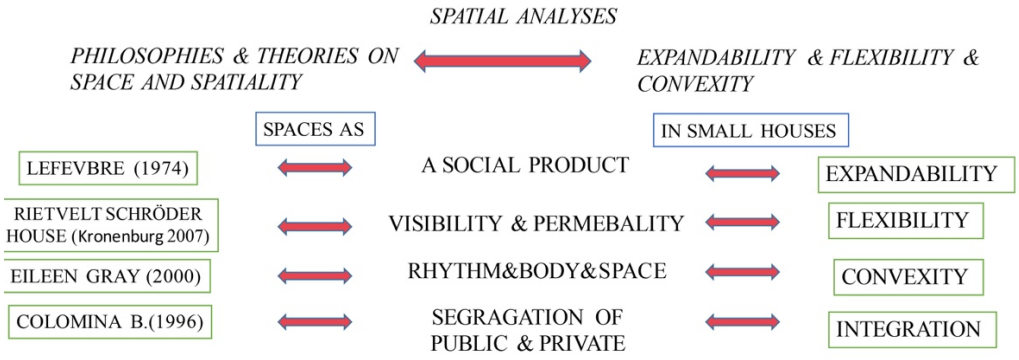


Figure 17: Space in Different Philosophies & Theories and Further Provisions at Space Syntax Application

Thereby, lived space presents spatial practices, perceived space which finds its' place in everyday practices and conceived space presents how architects imagine and design architectural space with space forming elements such as; walls-floors and ceilings as they are widely applied to explain the spatial qualities of small houses design. To date at this point, it's clearly indicated by philosophers like Lefebvre who define space in such an abstract way due to their views of the space, that the diversity offered by integrated space possibilities defines that space is produced and reproduced constantly with in a dynamic way by gathering together; mental space dimensions of designer, physical space dimensions of perceiver and social space dimensions of the user (household).

Eileen Gray's space approach exhibits the 'rhythm and body' concept which define spaces through movements towards the body. Through Gray, space and furnishings are tools to meet and support body movements in relation to small houses & spaces design. Gray designed space and furniture with an understanding of body extensions and the architecture to complete the movements and gestures that are part of the tasks of daily life (Frank & Bianca, 2000). In today's small houses, even each small edge has been designed as a body extension and space for the entire movements of the

body. As described by Kronenburg (2007), E-1027 was a special design between building and furniture such as;

> E-1027 incorporated many special design elements that blurred the line between what was building and what was furniture-desks, tables, chairs and cupboards folded and slid from the house's walls and surfaces. The principal was a multi-purpose space that was a living room, wardrobe, dining area, bar and a guest room, complete with bed and shower. (p. 25). (Figure 18)

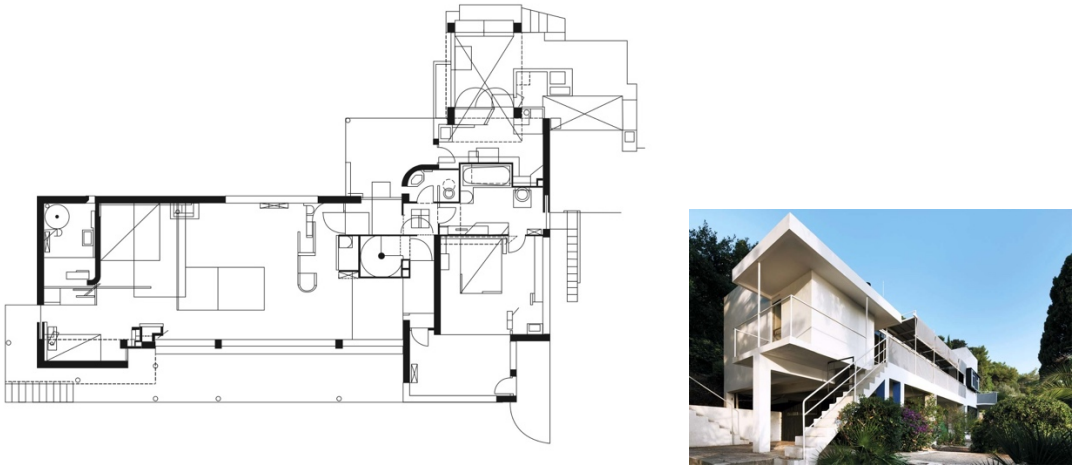


Figure 18: E-1027, Roquebrune-Cap-Martin, France, 1926-9, Eileen Gray

While designing the entrance Gray studied all possible movements towards the act of entering, considering the sequence of actions from putting down an umbrella to hanging up coats and hats. The use of terraces were also thoughtfully considered, even to the provision of a sand trap for sunbathing. The terraces became extra rooms of the house and some furniture was designed for usege both indoors and out. Inside the house many items of furniture could be easily moved or adjusted to serve different functions. Tables could be pushed together as soon as more surface was needed, table legs lengthened or shortened to create a coffee table or a table for writing (Franck & Bianca, 2000). By these design features, it's demonstrated that the importance of multifunctional, flexible, mobile furniture and equipment to deal

successfully with especially small spaces during integrating body extensions and movements with architectural spatiality.

The 3rd space concept is Rietvelds Schröder house in Utrecht, designed in 1924 by De Stijl architect Gerrit Rietveld. Rietveld's Schröder house is known as the most famous flexible domestic environment of the period. As Kronenburg indicated; ''The upper story of the house was designed to reflect Schröder's romantic image of Bohemian one-room living, while also responding to practical needs with the production of partitionable spaces that could be utilized at will'' (p. 25). (Figure 19)

Figure 19: Rietveld's Schröder House, Utrecht, The Nederlands,1924-5: Gerrit Rietveld

Rietveld used his early training as a cabinet maker to create a system of sliding and folding walls and surfaces that combined to divide the bathroom and bedrooms from the other spaces. Further Kronenburg emphasizes the importance of open plan as; ''By being so flexible, the Rietveld Schröder house seems to more fully achive the stated ambitions of the modern movement houses as the liberation of living space, this really meant putting the fixed walls into different configurations'' (p. 26).

These three approaches to define space from abstract to more concrete terms; lived space, body & space, flexible space, indicate that space is a social product and that it finds its paths for different functional spaces by body movements adapting to

different configurations easily. To convert an abstract and conceptual space into the concrete one, walls-floors-ceilings, which are the basic space forming but more bounding elements should be mentioned, according to how they are bound. These vary from weak to strong spatial boundaries. These three elements are the main elements for space definition and are exhibiting two dimensions; horizontal and vertical. However, walls are vertical elements, floors and ceilings are horizontal elements that create space. In addition, their integration degree from strong to weak and/or from implicit to explicit transforms segregated spaces to integrated ones and creates different spatial organizations. (Figure 20)

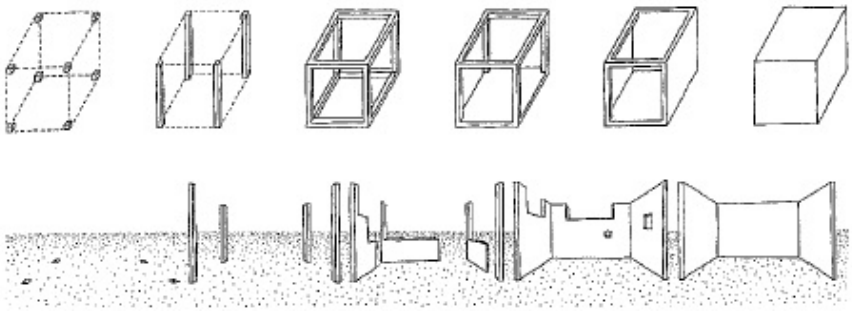


Figure 20: From Implicit to Explicit Space Configurations

Spaces can be determined not only by plane but also by point-wise elements such as columns, but this transition from closed planes to point-wise elements increase spatial organization of spaces. As indicated by Meiss (2013), space can be defined from weak to strong by adding architectural elements which create spatial degrees between implicit to more explicit. Additionally, horizontal planes define spaces such as; floors and ceilings and also exhibit diverse space forming character such as; base plane, elevated plane, depressed plane, and overhead base planes. These schemes basically define spaces limited to their sizes and they form very weak spatial definition (Ching, 1996).

Especially, Mies Rohe's dwelling design demonstrates the space forming ability of horizontal planes, sometimes using two or three planes, where open wide spaces had been formed into a weak structure concept. At Farnsworth house, Mies uses three horizontal planes, where two of them as elevated planes define terrace and interior space floor, and the last plane as the overhead plane, defines the space under acting as a flat roof. (Figure 21)

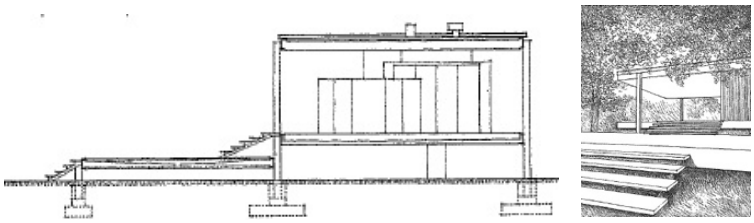


Figure 21: Mies Van Der Rohe, the Farnsworth House

In addition to horizontal planes, vertical elements have effective space forming ability as the complement of horizontal planes and they create 3d space borders from weak to strong structures. Vertical planes can be classified as; vertical linear elements as columns, the single vertical plane like a freestanding wall or L-U shaped planes, parallel planes and four planes where closure increases. As expressed by these schemes, there are six different space forming vertical elements that create spaces from the weakest to the strongest space structure. Vertical elements differentiate from horizontal ones to create a volumetric part of spaces. Spaces gain density and 3d existence of vertical elements. Concrete walls of a four plane closure, creates the strongest structure of spaces as cubic, compound interiors. Furthermore, this strong character is dissolving at U-shape plane and open one side to create spatial integration. This integration increases with parallel planes, L shape planes and the single vertical plane. By this way, the weakest structure is created by linear

elements where the voids can be filled with transparent elements like glass or fold-in/out elements like mobile partitions. (Figure 22)

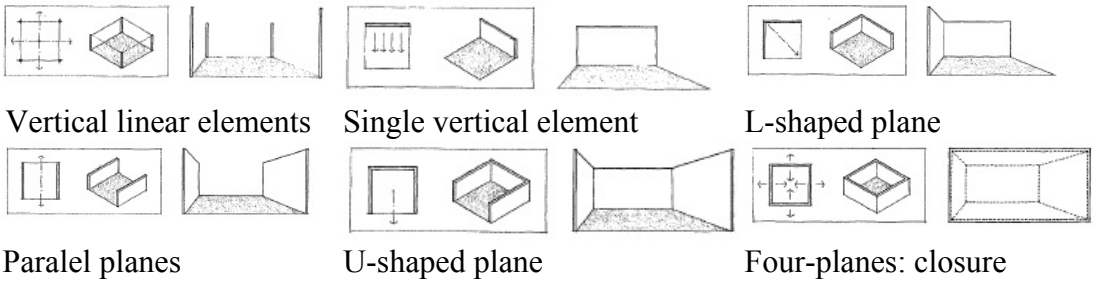


Figure 22: Vertical Space Forming Elements; From Implicit to Explicit Character and from Weak to Strong Structure

Mies van der Rohe's Tugendhat house is maybe the most effective housing sample for experimental use of vertical elements from weak to the strongest structures. At ground level, Mies uses vertical linear elements, columns for bordering different functional spaces very weakly. A single straight plane / wall creates both living space and working space, and a semi-circular single wall borders dining space without blocking visual continuity at the public zone of the house. (Figure 23) On the other hand, the architect used four planes / walls during the design of the private zone of the house while separating parents bedrooms from children bedrooms.

Figure 23: Single Vertical Plane / Onyx Wall Seprating Work Space and Piano Room from Living Room

However, general definitions used up to this point are made on 'space', in fact, by the addition of vertical space forming elements, as volumetric, 3d space creations ,

spatiality has been determined too. However, spatiality is a different subject from space, thereby it requires different concepts to be defined. Firstly, spatiality is a post-phenologic approach to place, perceptual space, in other words, post-phenologic place is spatiality. It is the combination of space with the place, the combination of a physical one with a perceptual one, the combination of design / technical drawings with household identity. Subsequently, Lefebvre's space triad; lived / perceived / conceived space approach has been introduced at the beginning of the chapter. This trialectic explains spatiality as 'lived, perceived, conceived' spaces that correspond to 'social, household identity, physical' spaces, that space as a physical production is transformed into spatiality by household identity socially (Lefebvre, 1974).

Additionally, the degree of spatiality determines the degree of how much small households, as an alternative household typology, integrates and fits with the house spaces and furniture. Small house concept is an important field in which to test spatiality for the reason that, spatiality enriches the spatial experience, perception and becomes more visible. Spatiality presents itself in small house designs by the way spaces of the small house get integrated in various degrees to serve diverse small households lifestyles, with flexibility concept and different scenarios revealed by different spatial relationships. For this reasons, spatiality is important to small houses design by integrating different functional spaces and temporal usages. Spatiality is a design quality and in the study, it is found that especially in contemporary samples and recent day small houses design.

3.2 Definition of Spatial Relationships (Growth)

It is generally accepted that the open plan concept is different from traditional space organization where all different activities such as; living, sitting, dining and even

sleeping, take place in one room, by exhibiting different space definitions created by spatiality implicitly instead of explicit enclosed walls. This spatial-based plan character had emerged in avant garde modern dwelling design where integrated, dynamic space organizations have been defined instead of segregated, static space organizations.

The open plan attains its spatial configuration by the spatial relations within it and introduces spatial relationships such as; (1) spatial depth (2) spatial density and (3) spatial interpenetration in the way they create relationships between spaces and how they achieve spatiality. All of these three spatial elements create relationships between two or more spaces without any concrete, solid separators between as it is in traditional systems. There are no solid, strong dividers or structures between the space relationships, thereby, integration is intensified, which is important for contemporary small houses design.

3.2.1 Depth - Dynamics

Spatiality paves the way for the depth of space and can consist of layers that overlap each other in one open space. There can be a total of four, five or six spaces in the same spatial area, but it appears as only one open space due to the overlapping of them. It also exhibits transparent layers that appear individually or as one multi-layered space of transparency. Meiss (2013) defines spatial depth by referring to Le Corbusier's painting techniques when he says, ''The most common and effective indicators of depth perception are; on the one hand, the effect of perspective with a notable texture gradient, and on the other hand, a phenomenon which tells that an object partially hiding another must be front of it'' (p. 134). (Figure 24)

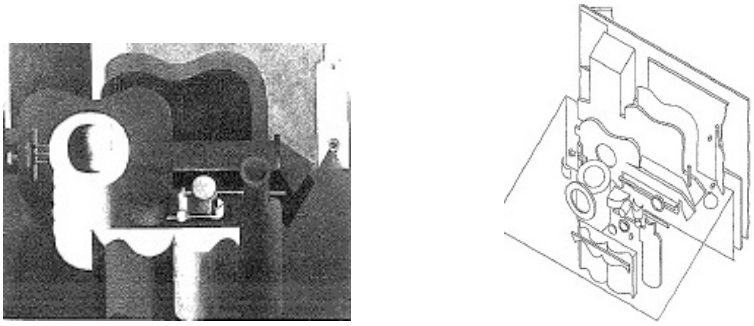


Figure 24: Spatial Decomposition of a Painting by Le Corbusier

Spatial layering is at the forefront in Japanese interior architecture, as indicated by Belfiore & Kuma (2012);

> The Japanese space are built through overlapping several bi-dimensional planes. Whilst, in Western architectural space, is limited by thick, heavy walls, in Japanese architecture, the space for people is obtained by using 'Shoji', mobile thin and light partitions formed by wood and paper frames (p. 1).

Belfiore & Kuma further emphasized that; ''In spite of smaller dimensions, the use of layering success in giving Japanese architecture a sense of openness and a well-organized space'' (p. 1). Thereby, spatial layering is an extraordinary tool that can be utilised for the creation of intermediate spaces. To better to understand spatial layering, it is necessary to look at some concepts which permeate the definition of space in Japanese culture. To define the dynamics of spatial depth, a central space which is developed as an innermost area in traditional Japanese houses can be introduced as; a multifunctional and high-density space that is organized by multiple layers like an onion which defines the dynamics of the spatial depth.

In a small studio type house, the sequential order for spatial depth creates growth and expansion of the total square meterage. With the open plan concept, all different daily functional spaces exist in one space such as; the kitchen, dining room,

bedroom, living room and study niche occur in one open space by the depth of layers. By overlapping and extending spaces, house sizes become larger. The house extends its existing usable area in the first stage, from 54.5m2 to 66.8m2 with kitchen expansion, then in the second stage, through living room extension, the total size reaches 92.8m2. Subsequently, the growth of the house increases from the original 54.5m2 to 66.8m2 then to 92.8m2, due to these functional necessities. (Figure 25-26)

Figure 25: 1) Plan of the House, 2-3) Interior Image

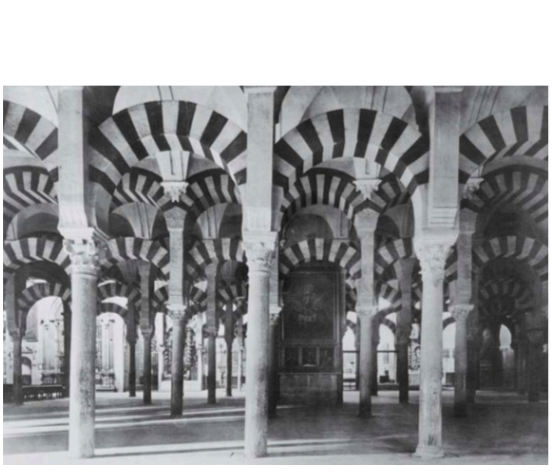
Figure 26: Growth of Sizes per m2 in the House Through Extended Spaces

3.2.2 Density - Diversity

Spaces do not only have depth, they also accommodate more or less density. Density is generally useful when shallow spaces are the case but it can also appear in deep spaces too. In figure 27-1, the density of space is very dominant with the repetition

of columns and arches as a resolved wall structure and this creates weak structures between sub-spaces.

The order of spatial elements determines the density of sub-spaces in one open space. Density is different from the depth whereby serial visions and an overlapping of different functions appear in one space. Meiss stated that; ‘‘Spatial density is not only due to the physical staging of depth. It may well be enough to suggest subdivisions implicitly through the decorative pattern of floors, walls and ceilings so that a single unitary space appears relatively ‘full’ or on the contrary ‘empty’ ’’(p. 136). These two dimensional floor patterns maybe the most implicitly space separators by focusing visual perception such as in an open plan an entrance hall that is covered by granite has been separeted from living room which is covered by parquet floor, by this way, any change on floor patterns effect atmosphere of spaces. Subsequently, spatial density is found in present day small house types by two means; first by staging the depth physically, using linear elements frequently, and second by offering implicit separations with floor patterns, materials, ceilings or walls without using any strong vertical divisions. (Figure 27-2)


1


2

Figure 27: 1.) View of the Large Hall Transverse, Great Mosque , Cordoba, (E), 785-961 AD. 2.) The Decorative Pattern of the Floor and Walls Increases the Density of Space by Subdividing Its Depth; Razzi Chapel, Florance

This is especially important for small houses as it creates divisions without blocking the visual continuity by limiting separation from the floor surface only without any physical borders that creates integration with the highest level where floor pattern or ceiling pattern define sub-spaces in a large space. Through this method, separation of different functional units is achieved without any space / m2 loss. In addition, spatial density through the use of floor and ceiling patterns create high flexibility between spaces which can integrate and segregate temporarily and instantaneously by simply moving the furniture elements.

Spatial density exist in present day small house types by the density of floor patterns as integrated public spaces, such as; entrance halls, kitchens, dining rooms and living rooms and are separated from each other by the spatial density (by the flooring patterns). As seen in present day examples, entrance hall and kitchen are separated from the living room and dining room by just using different floor patterns. In this manner, integration continue between the spaces 'entrance-kitchen-dining-livingroom' visually and are separated without any space waste. (Figure 28:1-2)

1 2

Figure 28: 1) Next Level Suite 1+1 Type Small House, 2) Soyak Evreka 1+1 Small House

For example, at figure 29, another contemporary small house type, spatial density is found through the use of different floor patterns that separate the kitchen from the living room by using ceramic material instead of parquet. Subsequently, spatial density element exist commonly at todays small houses to integrate and separate spaces from each other implicitly and to create sub-spaces in one open space. Here, the floor coverings just support the sub-spaces and the spatial density is formed by convexity.

Figure 29: Sinpaş Göl Kule 1+1 Type Small House

3.2.3 Interpenetration - Duality

Definitions of spatial elements and openings characterize types of spatial relations and organizations. They determine the degree of weak or strong space relations depending on how a space is linked to another spaces. There are two basic types of space that links to another space; juxtaposition and interpenetration. (Figure 30-1)

However, the focus is on the interpenetration spatial element, especially for small house spaces where spatial continuity is highly visible, it's necessary to introduce juxtaposition and interpenetration together to reveal differences between classic and modern space approach. Juxtaposition accommodates autonomy with a well-defined closed space-room, bedroom, cell and hall which are all tied to the notion of privacy and exclusion from other spaces, such a space implies the existence of other similar

spatial series through addition and division methods. In contrast, spatial interpenetration creates visual / spatial continuity from one space to another as a serial vision concept where the definition of wall-ceiling-floor appears to belong to two or more spaces (Meiss, 2013).

The main difference of these two space relations; juxtaposition and interpenetration comes from strong and weak structures. However, juxtaposition inhabits static vision of spaces within a large space by enclosed walls like cubes that is lined up side by side dominantly, interpenetration is a serial vision, a subtle, spatial and perceptual subdivision of spaces by a singular plane. A singular plane can separate a space from another implicitly but does not form an explicit closure which includes four walls, a door or a frame of openings. Consequently, in this case, a singular plane creates a spatial subdivision. (Figure 30 2-3)

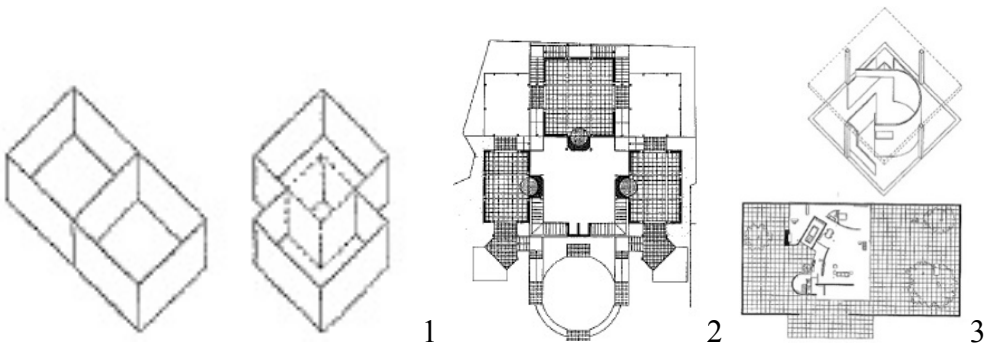


Figure 30: 1.) Juxtaposition and Interpenetration, 2.) Spatial Juxtaposition, 3.) Spatial Interpenetration; Liberation of Structure, Plan of Courtyard House, Mies Van Der Rohe

Effectively, weak structure of different functional spaces increase integration and create serial vision and eliminates static vision of space instead of using closed walls, spaces juxtapose implicitly and spatial liberation is created by the interpenetration of different functional spaces weakly. Spatial interpenetration is found in present day

small house types at open plan living zones where kitchen, living room, dining room, study room, hall, bedroom and dressing niche spaces all integrate with interpenetration and spatial hierarchy continue between spaces. Spatial interpenetration is different from the spatial depth and density. There is no overlapping between different functional spaces at interpenetration. Interpenetration accommodates serial vision, a static syntax of spaces implicitly. In addition, it is different from spatial density, interpenetration uses incomplete, implicit enclosure between different functions, or two or more enclosed spaces under one space.

As indicated in figure 31, Next Level 1+1.5 type small house exhibit spatial interpenetration in the public zone and different functional spaces gather implicitly as; living room, kitchen, dining room and study room (0.5 space). In the same manner, spatial interpenetration at 1+1 type small house at figure 38 occur in the public zone and different functional spaces implicitly gather as; living room, kitchen and dining room. However, interpenetration spatial element accommodates dualities due to dual characters of juxtaposition and interpenetration.

1 2

Figure 31: 1.) Next Level 1+1.5 Type Small House, 0.5 Space as Study and Kitchen Niche Interpenetrates with the Main Living Room. 2.) Interpenetration Scheme of 1+1 Type Small House

Subsequently, the duality of the sample comes from the interpenetrated bathroom and bedroom in the house with closed walls by juxtaposition, yet on the other hand, the 'kitchen niche, entrance hall, dining & living spaces' interpenetrate very weakly without closure. Thereby, interpenetration spatial relation accommodates dualities within it as strong & weak. On the other hand, density exhibits space juxtapositions with convexity. Through the use of furniture, recesses and geometric forms, interpenetration create space juxtapositions with implicit characters of space determiners.

3.3 Spatial Identifiers

Spatial identifiers are elements and components of interior space architecture and design. They might not always appear to be of the same nature but can appear at different levels. Transparent / semi transparent partitions as perforated separators, concealable / mobile furniture as convertible mobile elements and soft divisions as removable light partitions are all examples of spatial identifiers. These elements with such characteristics; perforated, mobile, removable separators and partitions, ensure the creation of spatial relations implicitly. By using transparent / semi-transparent separators, implicit spaces in another spaces can be created where visual continuity space relations endure. By using conceal mobile furniture temporal spaces easily create different scenes for the same space at different times and a private scene can be transformed to a public scene when necessary. By using soft divisions, different functional spaces can be separated from each other by furniture placement.

3.3.1 Transparent / Semi Transparent Partitions

As the first spatial identifier, transparent and semi-transparent partitions are investigated in the study. These partitions are dividing spaces without blocking visual continuity in an implicit way and ensure visual connection between two

different spaces, in addition, semi-transparent partitions are more explicit and creates stronger structures. However, transparent or semi-transparent, both partitions are different from walls by the way they aim to create integrated spaces with implicit character by weak structures. Transparent and semi-transparent partitions limit visual and mobile perception of users, create sub-spaces in a big space and ensure functional divisions and define subspaces/spaces in spatial organizations.

Transparent divisions can vary by their material and form such as; glass, paper, wood or perforated panel. Traditional Japanese divider shoji is the most known transparent divider that separates two different spaces from each other and from outside weakly. Shoji is a very light structure which is made of wood and paper that infiltrates daylight with sliding panels, when these panels are opened, two spaces can get integrated easily. (Figure 32) And this transparency degree can be increased by using different designs and materials, as seen figure 40, textile material increases implicity of the space and weakness of structure which integration becomes very high between sub-spaces with whole space and outside.

Figure 32: Shoji as Transparent Divider in Traditional Japan

Figure 33: Transparent and Soft Dividiers

Semi-transparent partitions generally include perforated panels and planes which are designed both short and low-high, create sub-spaces in a one big space. They are not closed totally, they only have two side and other sides are open to visual and perceptual continuity and divides spaces from each other very implicitly. (Figure 34)

Figure 34: (1) A Semi-Transparet Separation Sample, (2) Terminal-Space Creator

Another sample for semi-transparent partitions is light wooden panels with an optimum height of holes on it to take daylight and ensure visual continuity. At first sample a dining sub-space has been created by two semi-transparent partitions, the other defines a sitting sub-space with U shape semi-transparent partition. (Figure 35)

Figure 35: U-L-I Shape Panels That Creates Individual Spaces

The spatial organization of Rotor house designed by Colani and Haus in Germany is highly flexible, adaptable and expandable to temporary usages and however the main space is living area with the rotor system that is controlled electronically serve for three different functions (Slavid, 2009). Bedroom, kitchen, bathroom spaces can integrate with living room as sub-space from time to time due to necessities by perforated circular transparency of separator. (Figure 36)

Figure 36: Rotorhaus House 1) Plan of Rotorhaus, 2) Bathroom, 3) Bedroom

3.3.2 Concealable / Mobile Furnitures

At this part, convertible mobile furniture is introduced within the concept of furniture itself becomes a spatiality, a spatial element and it also has a secondary task. Efficiently, an equipment which defines spaces can also be concealed and mobile too as in the Rietveld Shröder house, where sliding panels define spaces. (Figure 37)

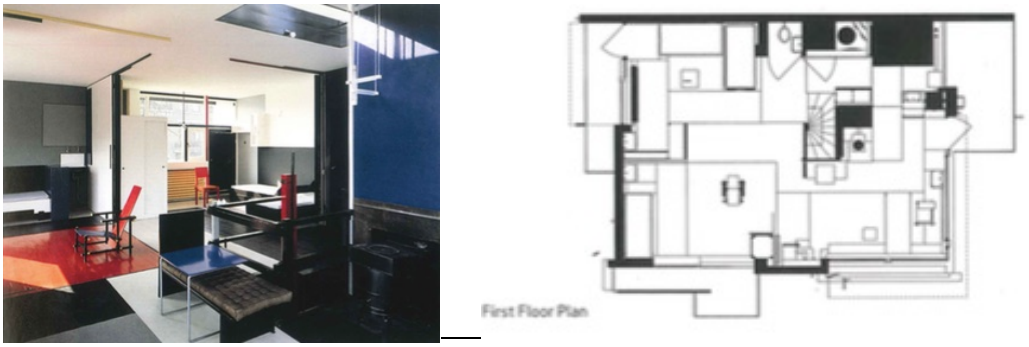


Figure 37: Rietveld Schröder House, Utrecht The Nederlands,1924-5: Gerrit Rietveld

At the interior design of the house, Rietveld developed a system full of sliding and folding walls and surfaces that divide bedrooms and bathrooms from the other spaces through requirements (Kronenburg, 2007). Fold-in and fold-out spatial element is generally found in small spaces and creates various scenes. By fold-in and disappearing acts of furniture, spaces transform and spatial changes occur. In the system home, different modules have been created in the 18 m2 house for one person, by fold in and fold out of concealable furniture. In system home there is diverse concealable furniture for different functions such as; a space bed which rises to the ceiling when not in use, a dining module that folds down in use. (Figure 38)

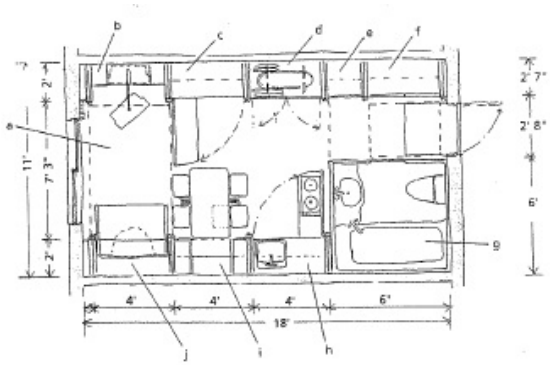


Figure 38: System Home

Fold in and fold out spatial element reveal by unit design during structuring the spaces. Fold-in of furniture changes spatiality of spaces due to functional necessities. When sleeping activity is required in the space, a bed fold-out from ceiling or wall, and when to study or to have dinner is required then space bed fold-in and a dining/study table fold-out, from the wall. Especially at recent day small houses, fold-out and fold-in of space equipment is an important spatial element for structuring temporal spatiality in interiors. The mobility of spatial element ensures temporality in spaces, by easy moveability of units and furniture, thereby, temporal spaces are created and spatial diversity increases in the house. At the sample (Figure

39) within three steps, two different spatial configurations have been created in the same space.

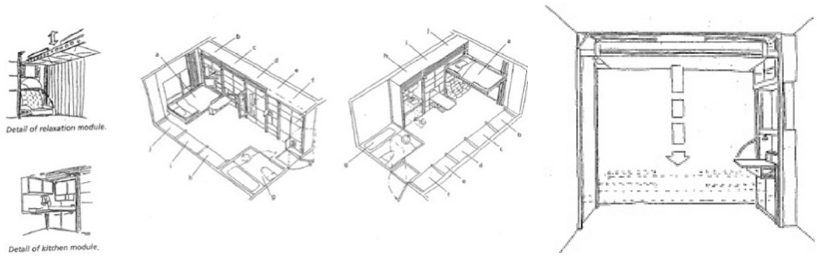


Figure 39: (1) Details From Different Modules of System Home, (2) Space Bed; These Beds Retract to the Ceiling

By using concealable furniture four different scenes have been realized as the living, working by fold-in of study tables and sleeping by fold-in of bed module and sleeping 2+1 by fold-in bed module at the opposite wall. Another mobility sample is indicated by figure 40 which creates three different spatial organizations by mobile furniture such as; 1st position was a living room with short desk, and TV cabinet adjacent the wall, 2nd position transform living space to home office concept by moving cabinet becomes a divider and the short deck gets higher and at last position, a workstation is created for two people work space. In the case of small houses especially, due to users' choices, mobility spatial element is important for structuring temporal, dual, diverse usage spaces (Brown, 1993).

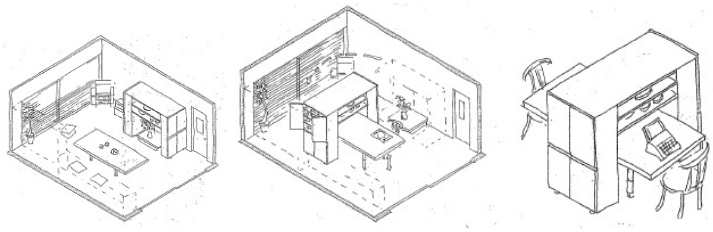


Figure 40: Three Different Schemes of a Space by Movable Furniture

In addition, to the camouflauge character of furniture, mobile furniture also creates different configurations of one space, as seen at figure 41, four different configuration of a space is created by just moving furniture.

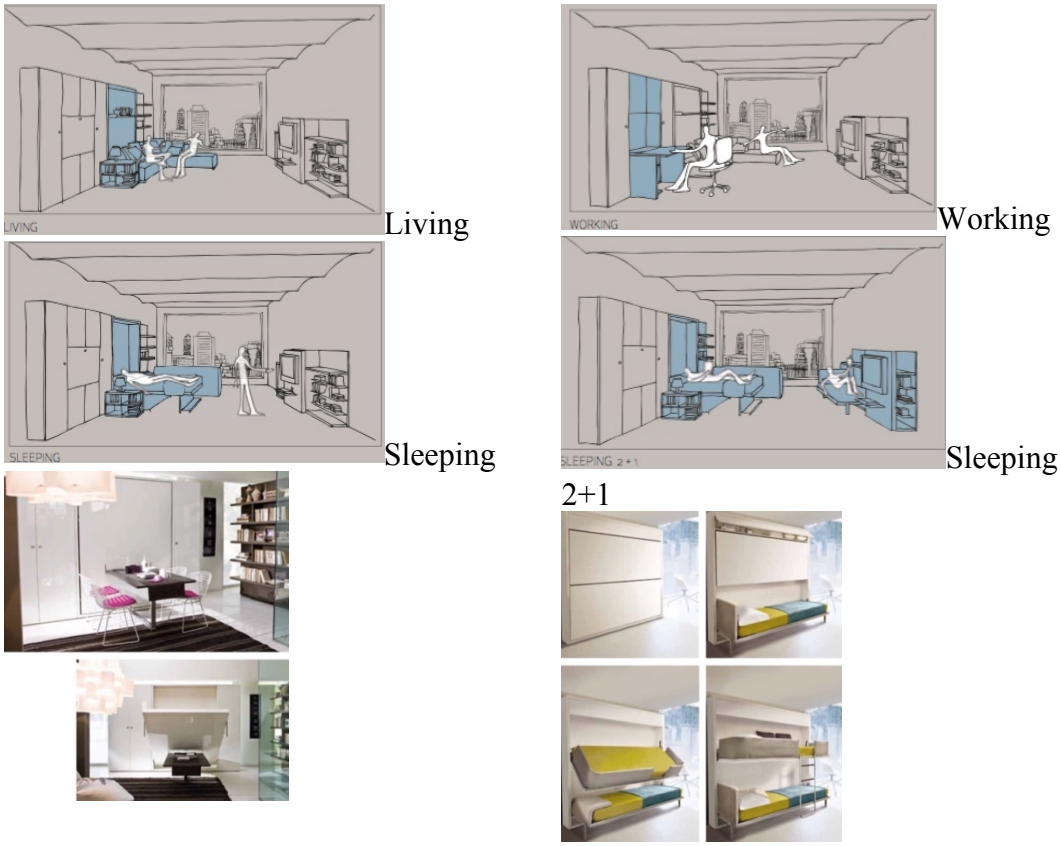


Figure 41: Four Different Schemes of a Space that is Created by Concealable Furniture

Another example for mobility are retractable bookcases placed either side of a miniature open kitchen (Brown,1993). (Figure 42) These rectactable bookcases and storage shelves that are placed at the near or opposite wall of the kitchen are existed at the huge percentage of recent day houses. By this spatial element, corridors contribute to kitchens or transform another activity space from time to time.

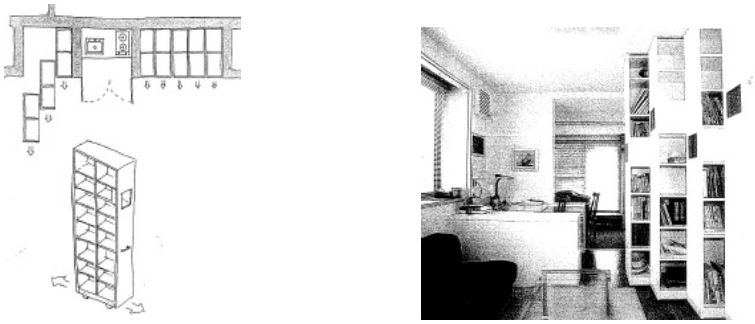


Figure 42: (1) Rectactable Bookshelves, (2) Rectactable Bookcases, Floor-To-Ceiling Bookcases, on other side a Miniature Kitchen

On the other hand, rotation also creates spatial changes in one space such as; changing organization of spaces by a turning module and creates integrated and segragated spaces. (Figure 43)

Figure 43: Rotation: A Bright Module That Turns on an Axis Can Change the Position of the TV And Separate the Two Rooms

3.3.3 Soft divisions

The design for flexible and adaptable interiors has become necessary in comtemporary society. Dwellings that offer adaptable spatial configurations and technologies can adequetaly address the evolving needs of common and non-traditional households. Ease of interior modifications, therefore, extends the life of the town-house, increases affordability, reduces waste and unnecessary moves (Habraken, 1976).

It is generally accepted that the usage of the soft divisions instead of solid concrete walls create flexible sub-spaces in a better way which are separated from each other very weakly. As noted above, the interior spaces can be freed from load bearing walls or columns and sub-divisions of spaces can be formed by only soft divisions and light partitions, therefore, space borders can depend solely on functional requirements which can show expansions from time to time with non-stable space borders. The sub-spaces of one big space can be bordered with removable light partitions and organized for different functions and than can be re-arranged due to changing spatial organization of the area. Another example, at figure 44-45, the sub-spaces have been created by light removable structure for contemporary open spaces, where different functional sub-spaces can be organized within a big space easily and by this soft dividers many sub-spaces due to functional necessities can be organized with flexible architecture features. In addition, by using soft divisions, light removable structures temporary niches can be created in spaces for different functions such as; work space, living space, etc.

Figure 44: U Shape Space Defining Moduler Panel Systems as Soft Dividers

Figure 45: Light Structure Product for Creation of Space in Space

By freeing spaces from supporting elements, internal changes can be made without concern of the house structural integrity. The use of movable partitions or de-mountable wall systems is an additional strategy to increase convertibility and efficiency in the small dwellings. The sliding screens which are commonly found in traditional Japanese architecture allow for the simple expansion or reduction of a room's floor space. By keeping the floor open initially, changes can be done according to time-based functional requirements and involved reproducing space rather than keeping it unchanged and static (Friedman, 2012). (Figure 46)

Figure 46: Concertina Doors that Folds Back Against Themselves Make Flexible Partitions

To highlight innovative devices, some partition designs are used both as concealable and mobile divider. Thereby, transparent partitions are permanently space dividers which ensure visual continuity. In contrast, soft dividers are used for both short and long terms, they provide temporary adaptation of the spaces such as day and night

usages as Schröder Rietveld house. The soft dividers are removable light partitions and that can be transformed easily and adapt to changing user profiles and necessities. Figure 54 presents the efficiently usage 1+0 type small house by soft dividers. The bedroom has been separated from the living space by a sliding wooden panel, which is also multifunctional, it holds a tv screen and a shelf for living room and when it slides bedroom integrates with the living room. (Figure 47-48)

Figure 47: Nef 1+0 Type Small House

Figure 48: Plan of Nef 1+0 Type Small House

3.4 Exploration of New Spatiality of Contemporary Small Houses

This part compromises exploration of new spatiality of contemporary small houses investigating respectively; (1) new spatial organizations as cluster / cross-axial /axial types, (2) new space groups and single space characteristics as public / private compartments and service cells, (3) new space types as liminal, inbetween, dual, repetitive, niche, open spaces.

First spatial organization types of three group small houses GR 1 / 2 / 3 have been determined by cluster, cross-axial, axial organization types. Than, discoveries are

introduced as; the smallest area houses exhibit cluster type organization and cross-axial / axial type organizations have emerged by the increase of m2. As results of spatial organizations, space groups and single space characteristics of small house spatiality have been determined such as; space groups exhibit two different compartments as public / private and single space characteristics exhibit service cells as; master bathrooms, bathrooms, wc, storage rooms and dressing rooms. Lastly, space types are defined which create compartments and service cells.

3.4.1 Types of Spatial Organization of Small Houses

In the thesis study, spatial organization had been taken into account to create flexible, expandable, integrated interior spaces. Space organizations naturally create spatialities and at present day small houses this spatiality become more important by temporally growths between spaces by flexible organizations and expandability. Thereby, spatial organizations have been investigated at small houses interiors as basically three types; cluster, cross-axial and axial spatial organizations, which changes due to m2 of the houses. Cluster-type organizations have been revealed at smaller types commonly, with the increase of areas cross-axial and axial type organizations reveal in spatial organizations of the small houses and all organizations exhibit timely extensions and growths by flexible space dividers and implicit character of spaces.

3.4.1.1 Cluster Type Spatial Organizations (Centrality)

Sullivan (1946) describes radial growth such as; ‘‘Radial growth patterns depend on the establishment of a strong central core. Secondary elements connect directly with the core at one end, providing a close contact with the center and with the other elements’’ (p. 15). (Figure 49)

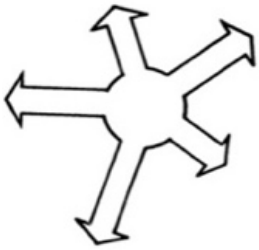


Figure 49: Radial Growth Scheme

In addition, physical proximity is the basic element of a cluster type organization, in order to relate its space to one another. Cluster-type organizations generally exhibit cellular and repetitive spaces which have similar functions and accommodate a common visual feature such as orientation or shape (Ching, 1996). Further Ching emphasizes; ‘‘Because its pattern does not originate from a rigid geometrical concept, the form of a clustered organization is flexible and accepts growth and change readily without affecting its character’’ (p. 214). (Figure 50)

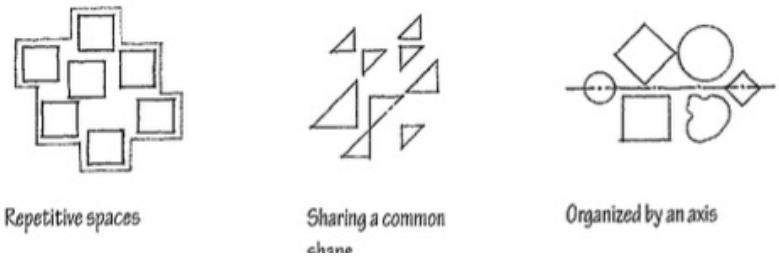


Figure 50: Cluster Organizations with Repetitive Spaces and Common Visual Feautures

3.4.1.2 Cross Axial / Axial Type Spatial Organization (Linearity)

Sullivan (1946) describes types of growth patterns basicly as; axial, linear and radial. ‘‘The term axial implies one dominant growth and movement pattern. In addition, there are usually secondary paths of growth’’ (p.12). Further Sullivan emphasizes; ‘‘Linear growth is a type of axial growth. The difference being that a linear

development has a single spine and hence only one principle direction of growth, from the ends of the spine'' (p.12). (Figure 51)

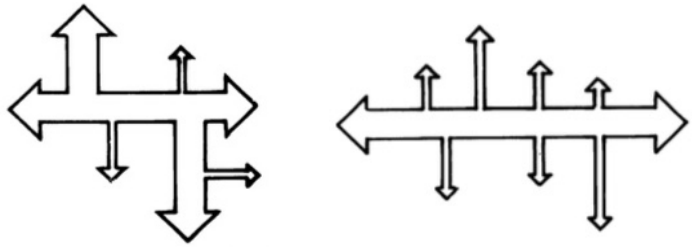


Figure 51: Schemes of Growth Patterns; Cross Axial / Axial

In present day small house types, both cross-axial and axial type spatial organizations exist to develop space organizations which transform small spaces more comfortable and liberal organizations with secondary paths. However, cross axial organizations appear at small area, houses with larger area exhibit axially organizations. Especially at GR-3, two straight axes create public and private compartments differently. In addition, Nylander (1999) explains the importance of axiality in housing as one of the most important space organizing element. By the help of directional and circulation axes, the rooms can connect each other and makes it possible to feel light and atmosphere one or more adjoining room and making the apartment livable (Nylander, 1999).

3.4.2 Space Groups Characteristics of Spatiality: Public and Private Compartments

Colomina (1994) states that; ''..The modern mask is a form of protection, a cancelling of differences on the outside precisely to make identity possible, an identity that is now individual'' (p. 32). Colomina further explains:

> Loos realized modern life was proceeding on two disparate levels, the one of our individual experience and the other of our existence as society. These levels as private and public identity are connected through architecture which

> is a social mechanism. For Loos this is achieved through 'the introverted character of his houses' indeed through his method of silence. (p.33).

Accordingly Colomina (1994) modern life brings two social dimensions together public and private, which people live public dimensions in their everyday life outside the house, and the private dimension starts inside the house. House is where a person finds his/her private area in the world and Loos also supports this statement by his architectural domestic designs where houses exhibit an introverted spatial character, isolated from outside world successfully by separation of public-private social dimensions of an individual. However, Colomina's publicity and privacy theory is more visible at the traditional family houses by closed kitchens, parlors, separated bedrooms zone from living zones clearly with long corridors and halls. Today, at the spatiality of small houses, the separation of public-private zones have been designed differently in relation with area.

On the other hand, according to Hunter (1999), the cultural and personal differences influence how a household defines zones within a dwelling. Emphasis on formal areas, service spaces, private and public rooms will vary depending on the economic and social context at the time of construction (Hunter, 1999). In addition, through Friedman (2012), areas of similar functions are grouped together. In terms of privacy, zones can be classified as; public, semi-private and private in order to establish the appropriate locations and boundaries of specific rooms. Public zones compromise spaces that are used by household members and their guests and generally include a dining room and living room (Friedman, 2012). Through Friedman (2012), the consideration of time of use and natural light usage affect day and night zones. Zone which is used during the day can be named as; kitchen,

livingroom, home-office that will benefit from direct sunlight. On the other hand, night zone is generally private spaces such as bedrooms, on account of they are used during the night, exposure to indirect northern or morning eastern light is adequate. Thirdly, bathrooms and storage spaces can be classified as service zones that hardly need natural light.

In addition, especially for small spaces, Conran (2010) supports Friedaman's statements such as; in space organizations separating different zones such as night and day is a very important and essential design feature. All cases exhibit two different zone as day and night zones, which day zones are formed by integrated spaces such as; kitchen, living, dining rooms, whilst, night zones are formed by bedrooms. Day and night zones can be separated or be union in a single space (Conran, 2010).

On the other hand, from structural point of view, through Deplazes (1997); ''The most elementary form of such an enclosure, the simple compartment (the nucleus of human shelter), is our starting point for the following deliberations'' (p. 243). In his book 'Construction architecture: materials processes structures', Deplazes describes basis of a compartment very simply as a closed cell with four walls, four to four meters with a height of two or three meters, like an ancient age hut (Deplazes, 1997). Through Deplazes's statement; ''Starting with the model of one room house, horizontal space development can take place in two basic ways: a) by increasing the volume, b) by multiplying the compartments which are then linked together'' (p. 243). Linking two or three compartments can be formed with different ways in relation to structure system which effects openings both between rooms and outside

world, taking into consideration of load bearing and divider walls. Further Deplazes states that:

> By compartments we mean a system of interlinked, fully enclosed spaces whose connections with one another and to the outside consist of only inidividual openings (windows, doors). The outward appearance is, for a whole host of reasons, compartment-like (p. 49).

Fluid, interconnected, implicit spaces are defined through designs of walls and create compartments where occupants can be seen in two or even more spaces at the same time. (Figure 52) Accordingly Deplazes (1997), a compartment can be defined simply as; hierarchies between spaces. For example, at a master bedroom space juxtapose hierarchically, there is a hall of entrance as an orientation space, a bathroom as a separated space, a dressing room as another separated space and niche space and a bedroom, all of these spaces; hall, bathroom, dressing room and bedroom create an integrated space as a whole. This indicates new approaches to contemporary small house space organization as indicated by figure 53 there is a fluid space continuum in the Caine House deigned by mies van der Rohe at 1950.

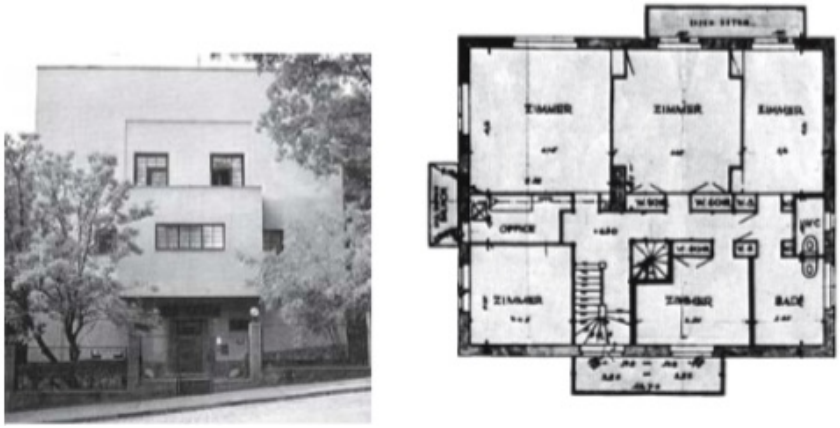


Figure 52: Compartmentation as a Principle: Elevation (top) and Plan of Upper Floor (Right). Adolf Loos: Müller House, Vienna ,1928

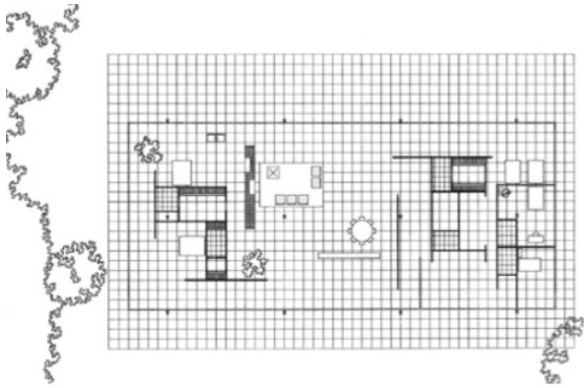


Figure 53: Fluid Space Continuum

In addition, Gülmez & Uraz (2015) define the contemporary approach of compartments in their study entitled ‘An Offbeat Spatiality of the New Generation Small Housing Units in İstanbul’ as;

> Keeping the prototype organization of mono-space (normally including kitchen and the main living area) would be the first to come to mind as in the previous example of small houses where this perfect compactness is divided. In fact, it is totally dispersed and spatiality is perceived as two compartments in the recent examples: private night time usage and public day time usage (p. 294-304).

‘‘However, these demonstrate a significantly unusual location with respect to the entrance door. In some examples, public compartments are placed far from the entrance door, while private compartments with its opposing position have very easy access like hotel room’’ (p. 294-304). (Figure 54 a-b).

Figure 54: a) Nef Points 98, Type 1+1H. b) Nef Points 98, Type 1+1I

In this study, public compartments are defined with spaces which strongly have integration relations that all daily activities occur in one place such as; entrance, kitchen, living room, terraces, whilst, private compartments exhibit spaces for night and individual usages generally such as; 'bedroom, dressing room, bathroom'. And single characteristics as service cells exhibit serving functions such as; bathrooms, guest-wc, laundries and storages. Public compartments exhibit multi-functional spaces together in an open plan. These spaces are implicitly defined and consist of different functional spaces with semi-transparent partitions and mobile furniture. For example, public compartments are formed by implicitly integration of ; 'entrance + kitchen + living room + dining room + study room' spaces without any walls between. (Figure 55)

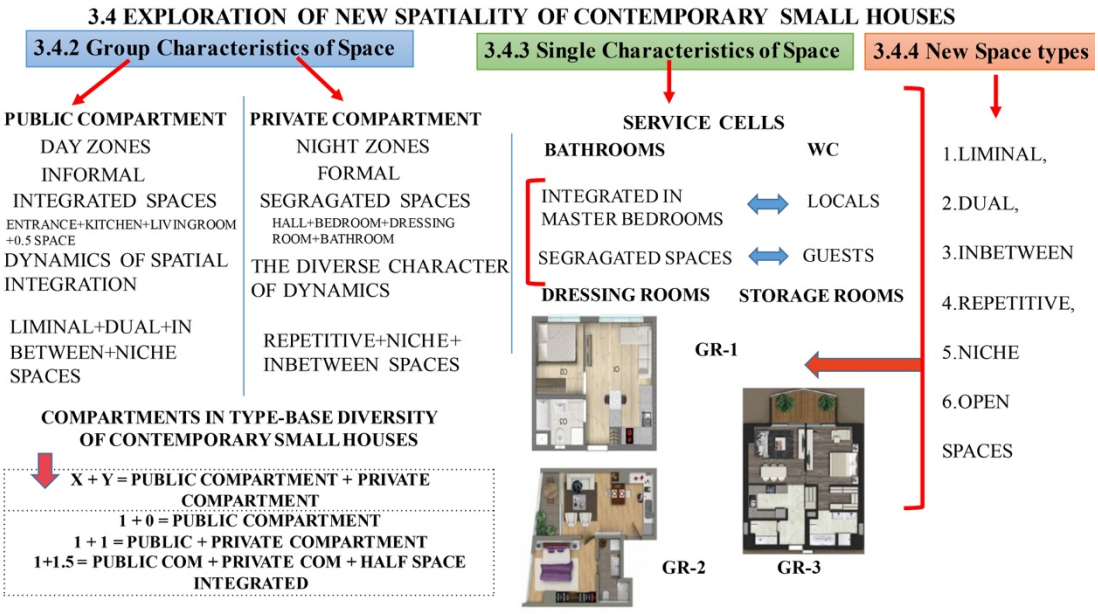


Figure 55: Exploration of New Spatiality of Contemporary Small Houses

Thereby, space groups are classified into two compartments; public and private compartments and single space characateristics are defined as service cells. However, public compartments are formed by sequences of different functional

spaces and are more informal, private compartments are formed by sequences of spaces with more formal way (Hillier, 2007). When these compartments are analyzed from the dynamics point of view, private compartments exhibit the diverse character of dynamics due to interpenetrating and attaching of different functional spaces, which create a deep spatial sequences. Contrastly, public compartments exhibit the dual character of dynamics by density relation where overlapping of different functional spaces occur in same space and changes temporarily, thereby, dual space usages appear in one open space. This dual character of 1+1 type houses increase by the reduction of sizes and small 1+1 houses.

3.4.3 Single Space Characteristics

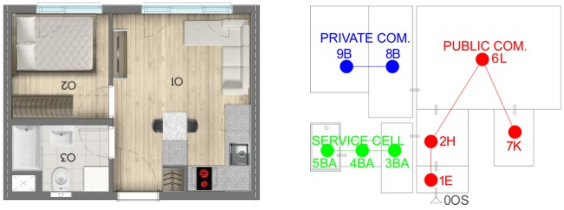
The service cells consist of serving spaces of the small houses such as; bathrooms, master bathrooms, guest wc, dressing rooms, storage rooms and laundaries.

a.) Bathrooms (Service cells): Two types of bathrooms exist in present day small houses; bathrooms for general usage and master bathrooms. General bathrooms are organized at small-sized 1+1 types as the only bathroom of the house and master bathrooms are organized with a guest bathroom at the larger 1+1 types. Thereby, bathrooms show variety through their number in recent day houses in relation to area. The master bathrooms are organized in the bedrooms and some of these types also have guest bathrooms close to entrances and even there are links between them as; 'entrance - guest bathroom - dressing room - master bathroom'. This spatial organization occur generally at GR-3. The smaller 1+1 types, GR-1 has only general bathrooms that are placed close to the entrance halls and this spatial organization is generally same at GR-2.

b.) Storagerooms (Service cells): Accordingly, Friedman (2012), storage rooms are especially important in the case of the smaller houses with well organized storage

units, shelving, closets and lockers will help to increase efficiently usage of especially small spaces. However, the importance of well developed storage units in small houses were emphasized on spatiality of traditional Japanese houses, where under floor and above ceilings are organized with storage units, by lowering ceiling height, enough storage units are placed to feel larger in especially small spaces. Japanese use the dynamics between open empty flexible space and hidden compact storage spaces.

c.) Dressing rooms: The dressing rooms, differently from storage rooms are the protection spaces for cloths. The dressing rooms are designed for especially to put wardrobes which can not be organized in bedrooms for spatial reasons. Thereby, dressing rooms generally are designed next to bedrooms and including a link between bedroom. However, it is necessary to put dressing rooms to each bedroom, due to economic situations, dressing rooms are generally designed in master bedrooms which is the major bedroom. Dressing rooms also inlclude ironing and sewing rooms or niches in it. In addition to the link between bedrooms, a secondary link is designed between corridors and bathrooms. The bathroom which is linked to dressing room is only used by that bedroom (Uran, 1965). At the example of 1+1 small house type, two cells and one compartment organization exist such as; a public compartment reveals with the integration of entrance, hall, kitchen, living room, dining room and a service cell with enclosed bathroom and a private cell as bedroom. (Figure 56) Another example of larger 1+1 small houses type from 40-70m2 group, small house exhibit a private compartment as a ‘bedroom+bathroom’ indicating spatial density principle as space in space configuration. In addition, there is a public compartment with an integrated ‘entrance+kitchen+dining+living room’ spaces. (Figure 57)



NEF D TYPE 1+1
20-40 m2 category

Figure 56: 'Private-Public-Service Cell' Organization of the Small House GR-1

04.BOMONTI RES.1+1

40-70 m2 category

Figure 57: 'Private-Public-Service Cell' Organization of the Small House GR-2

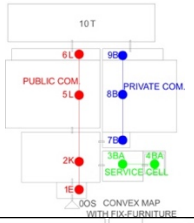
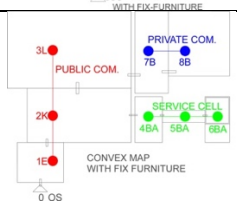
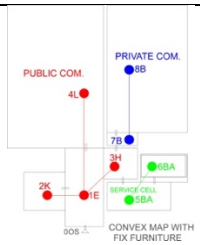
Lastly, at the third group small house types, there are private compartments with 'bedroom+dressing room+bathroom' sequences. The public compartment is formed by the integration of 'living room+kitchen' differently from 1st and 2nd groups which are more shallower with the integration of entrance. And with the increase of m2 a multiplication is found at service cells such as; guest bathroom and master bathroom. (Figure 58) (Table 7)

NEXT LEVEL B59 1+1

70-100 m2 category

Figure 58: 'Private / Public Compartment & Service Cell' Organization of the Small House GR-3

Table 7: Samples of Group Organizations of Small Houses

1.MYVIA-414 	GROUP ORG. 	38.7m2 My-Via 414 Mix-Use Project /Izmir
2.NEF-F-1+1 		32.6m2 Nef Housing Project-Istanbul
3.SOYAK-1+1 		45.7m2 Soyak Siesta Housing project – Izmir

3.4.4 New Space Types

The space types are new space definitions of present day small houses that create group zones and compartment organizations as public/private and there are six space types totally in the study; liminal, dual, niche, repetitive, inbetween and open spaces. The space types are not real spaces but not corridors and halls too, they are like 'pre-positions' and forms the links in the justify graphs that connect two spaces and also behave as space by spatial identifiers. Through studies of Hillier and Hanson (2008), by the help of space syntax as social logic and language of spaces, space types are defined in the thesis as; in-between and dual spaces are the prepositions of the system, they are not circles but links.

These space types gather in the spatial organizations and create compartments as space groups and each space type has a different feature. Liminal spaces work like passages at especially the smallest houses that connect outside with inside and at larger types they become halls with closets and bathroom connections. Dual spaces

exist in public compartments and act as multifunctional spaces such as, a dining room transforms to study room, or living room transforms to bedroom from time to time. In-between spaces exhibit fold in and fold out features, thereby they can be disappeared in the organization, in addition, they are used at both public and private compartments. Niche spaces are open version of enclosed spaces and repetitive spaces show similarities with sizes and forms, lastly open spaces are terraces that can integrate with the houses interiors with sliding doors.

This 'pre-position' characteristics of space types are defined more clearly at the fourth chapter by space syntax and shape grammar applications. The justify graphs generally consist of two main elements; circles and links, which circles are main spaces like living rooms, bedrooms, enclosed kitchens and links are corridors and halls that connect spaces. In this scope, in the present day small houses with the open plan configuration, due to the loss of walls and doors, high integration occur between different functional spaces, the corridors and halls transform into dual and in-between spaces. It is better to understand space types by space syntax and shape grammar over justify graph. At the fourth chapter, the space types have been explained more better with shape grammar application.

3.4.4.1 Liminal Spaces

The meaning of liminalities can be described as a threshold which means, the bottom part of a doorway that must be crossed when entering a building. 'Passage' can be another description from outside to inside or vice versa. (www.parole.aporee.org) Psychologists call liminal space, a place where boundaries dissolve a little and we stand there, on the threshold, getting ourselves ready to move across the limits of what we were into. In addition, Turner (2005) introduced the concept of liminal space;

> This space is 'betwixt and between' economic institutions but is best described by adjective liminal because it complicates the effort to construct identity, liminal spaces are ambiguous and ambivalent, they slip between global market and local place, between public use and private (www.parole.aporee.org).

On the other hand, Ann (2006) describes liminality in arts such as; ''Liminality is described from 'limen', meaning threshold, the concept of liminal space as introduced by anthropologist Victor Turner, suggests the idea of ambiguity and ambivalence'' (Ann, 2006, www.parole.aporee.org).

In the spatial organizations, the connections between spaces come forward by the way they exhibit dual characteristics of spatiality. Thereby, thresholds or liminal spaces especially in open plan small houses are transformed to transition places where continuity, separation, connections appear all together. In addition to movements they also control visual and perceptual continuity or discontinuity too, and liminal space/threshold is taken into reconsideration at fourth chapter at genotypes part. (Figure 59) On the other hand, the threshold definition of Broker & Stone (2007) is very notably to describe movement control of liminal space or threshold as; ''Threshold marks the distinction between spaces and objects. It can indicate the next part of the journey or become a reminder of things already experienced'' (p. 163). The dominant perceptual continuity of threshold is expressed by Broker & Stone as; ''Threshold can provide visual links as well as physical. They make important connections inside and outside the building'' (p. 1) At the sample there are several thresholds act as frames of series of views of next scenes, starting from the reception, a permanent perception and visuality continues till the final gallery. Also existing doors create an aesthetic effect, doors without wings ensures a pictorial perception. (Figure 60)

Figure 59: Bomonti-8-1+1 Type House the Liminal Space Presentation with Justifiy Graph

Figure 60: The Gallery Interior, the Sequence of the Gallery Spaces, Picasso museum

In the thresholds, separations and connections appear with different elements such as; ceilings, level changes, soft divisions instead of solid walls which ensure continuity of visibility and interaction between two or more different spaces. There by, spatial liminal is important and become more active at especially small houses and spaces where there are no solid borders exist between different spaces. (Figure 61)

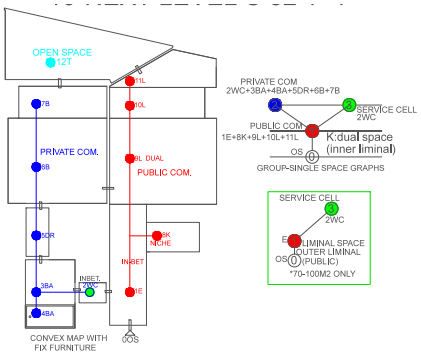


Figure 61: Next Level-C-52-1+1 Type Small House, Liminal Space Representation

The spatial fluidity as a new type of space connections is one of the spatial element that exit at present day small houses and integrates living room, dining room, kitchen and entrance hall. By this way, visual spatiality continues. (Figure 62) At this point, it is necessary to mention the space-separating and binding nature of the spatiality, that has been achieved through the separation and integration of space, thereby, spatiality in other words visibility and continuity has been accomplished.

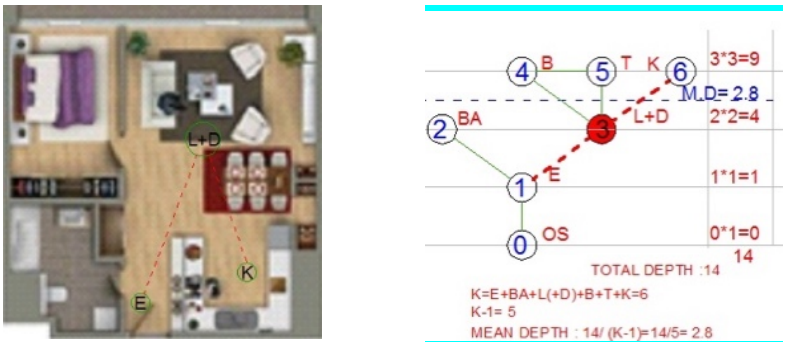


Figure 62: Spatial Liminal Configurations Over Plans&Justified Graphs; 1+1 Type

3.4.4.2 Repetitive Spaces

At the architecture of space and fold, Gilles Deleuze brought out the context of architectural discourse and the question of space. The fold is not as a technical device but an ontology of becoming of multiplicity of a differentiation while maintaining a continuity as indicated by Deleuze (1993);

> Thus a continuous labyrinth is not a line dissolving into independent points, as flowing sand might dissolve into grains, but resembles a sheet of paper divided into infinite folds or separated into bending movements. (p. 18)

This is an architectural production which consists of many folds, unfolds and enfolds and creates predeterminated results. A different topological spaces that are created by multiple fluid thresholds and at the end a space that is not detached from the program and event but folds become the events (Krissel, 2004). Thereby, repetitive spaces are connected to each other implicitly in the open plan concept where visual continuity

and perception have been exposed in the house as seen at figure 63 Private House design of Le Corbusier at India 1955 such as; ‘‘A type of spatial (fluid) connection and opening, the likes of which are not possible in the rigid box frame system, but especially in compartmentation’’ (p. 50). In recent day houses, it is found that some spaces, with similar sizes and forms, have been repeated as; ‘entrance hall+hall-1+hall-2+hall-3+bedroom hall’ sequence or repeated service spaces such as ‘guest wc+guest bath+bathroom+master bathroom+laundry+storage’. This indicates today, user choices are in much importance and some repeated spaces left free to their choices (Chaney D, 1993).

Figure 63: Box Frames as a Govering Design Principle, Le Corbusier

At the example, 1+1 type recent day house, halls and other service spaces are repeated. At figure 64, the user enters from entrance hall, the next step is cloakroom hall and the next step is corridor hall, to reach living room or bedroom, the user has to pass three halls. In addition, at figure 65, there is repetition of service cells such as; ‘kitchen+ guest wc+laundry+dressing niche+bathroom’.

Figure 64: Repetition of Same Spaces in Nef-04-K-1+1 Type

Figure 65: Repetition of Service Spaces, 1+1 Type Small House

The repetition of halls indicate that these spaces can be used for different functions and left to users' lifestyles. This also emphasizes that the spatiality of present day small houses is developing in relation with small households choices and lifestyles.

3.4.4.3 Niche Spaces

In the thesis study, new terminologies have been discovered in space organization due to the definition of space as a singular element such as niche and in-between spaces. Niche space is explained as; in the open plan space organization, there is a main space and there is another participating space to that main space which is the niche space. Niche spaces can be both fixed and non-fixed. Generally, to be a niche space, U-shape space enclosure is desired, 3 sides are closed and 1 side of the cubic space must be opened totally without any door or only light partitions can be used that can fold-in due to users' choices. (Figure 66-67)

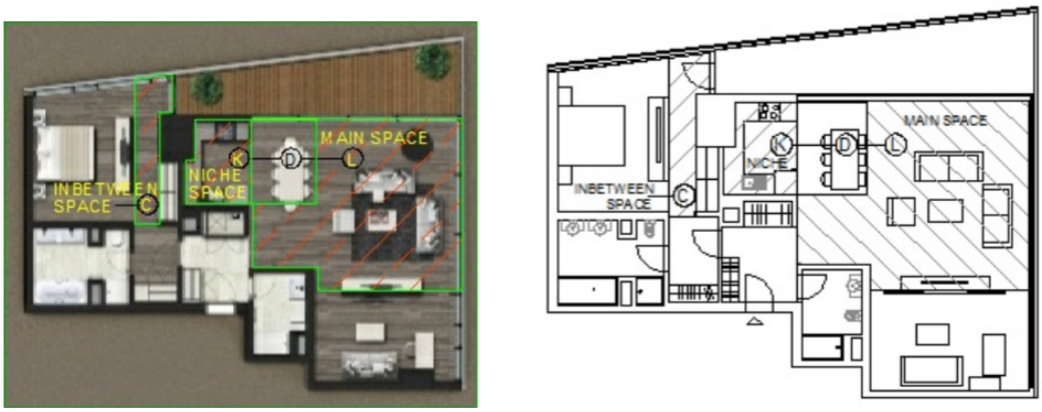


Figure 66: Niche Space; Kitchen as a Niche Space Can Participate To Living Room by Dining Table

Thereby, to be a niche space two important spatial elements are required; 1st a unit or furniture between niche and main space, 2nd niche space must be a cubic box which just one side is open.

Figure 67: Bomonti Palas 1+2 House, Niche Space Representation, Kitchen-Island-Living Room, Kitchen Contributes as Niche Space to Living Room as Main Space by Island Furniture

3.4.4.5 In-between Spaces

In the thesis study, during spatial analyses of contemporary small houses, in between spaces are used as both transition spaces and temporarily used spaces, however it can be fixed or make a spatial link. At the example, Next Level 1+1 house, master suite consists of 'hall+bedroom+corridor+dressing room+bathroom' spaces and at the end private bedroom compartment has been formed. In this compartment, all spaces are integrated openly except the bathroom and when its' door is closed corridor space integrate with dressing room and change function. Corridor is an in-between space

linking bedroom to dressing room and bathroom; it's both used for circulation and extension of dressing room. (Figure 68)

Figure 68: In-between Space

3.5.3.5 Dual Spaces

Dual spaces are space types that can be used for two different functions due to changing necessities, generally a transformation occur between two different functional spaces by using concealable, mobile and folding furniture. For example at figure 69, the kitchen transforms into a corridor from time to time. The kitchen can be used both for original function and also as a corridor, in other words, circulation participates to space. In space organization, to reach living room and other spaces kitchen is used as a transition space, thereby kitchen also ensures circulation too. Folding elements and concealable furniture creates dual spaces, the fold out of a second kitchen table from the right wall transforms the corridor and connects two kitchens K1+K2, after kitchen activity, second kitchen table folds-in and becomes a corridor. Similarly, in the living room when dining table is used for working, living room can be used as study room, when space bed is fold out from the wall, part of a living room is used as a bedroom. Dual spaces accommodate two different functions

by concealable furniture and especially important for small houses' multi-functional usages. (Figure 69)

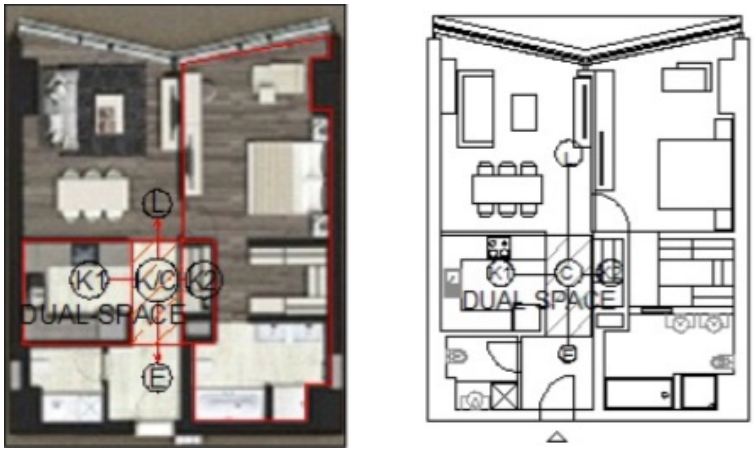


Figure 69: Dual Function and In-between Spaces that Act as Circulations

3.4.4.6 Open Spaces

In the study, open spaces correspond to outdoor spaces as described by Friedman A (2010) and are generally found at small to big houses as balconies and terraces. Smaller dwellings seem larger if a dynamic visual relationship exists between interior and exterior spaces. During warmer months, an enclosed exterior area can become an outdoor room with a proper seating arrangement. Large glass doors facing the back yard, a deck which resembles the interior floor pattern and overhead protection from the sun all contribute to blurring the distinction between the indoors and outdoors. The configuration of an interior floor plan will also influence the functioning of the exterior, if a kitchen is placed at the rear of a townhouse, the backyard can easily accommodate an outdoor eating space. When connected to the living room, comfortable seating can create an area for quiet activity and relaxation (Friedman A, 2010). At thesis cases, open spaces revealed mostly as one small balcony at the 1st group, at the 2nd and especially 3rd group cases balconies transform to terraces with a length of front façade. Generally, 1st group type houses

accommodate small balconies with 1 door, whilst, 3rd group cases accommodate terraces that exhibit loops between different compartments and 'public com.-terrace-private com' circulation appear. (Figure 70)

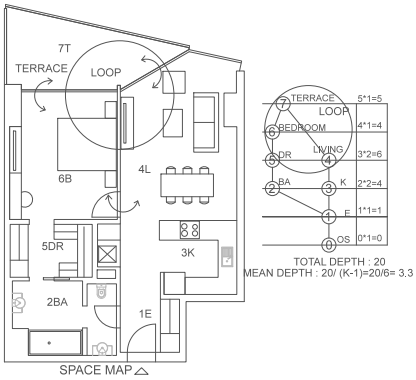


Figure 70: Next Level-C-52-1+1 House, Terrace That Exhibit Loop Feature

Conclusions of the Chapter

At this chapter, concepts and theories have been investigated on space & spatiality contents by using quantitative research method. Firstly, space concept has been investigated by theories such as; Lefevbre's space theory as a social product and reproduces itself by lived-perceived-conceived dimensions timely due to changing conditions which corresponds to expandability concept in the study, secondly, flexibility of spaces have been investigated by Rietveld Schröder house which is commonly know as the first flexible building in architectural literature by sliding partitions and creates integrated space organizations. Lastly, convexity is introduced as defining sub-spaces in one big space without partitions, by using fix-furniture, recesses and geometry of spaces. Convexity tool is especially important for structuring interior spaces of small houses where each m2 is important and used for different purposes, and for this part small house/space designs of Eileen Gray has been introduced where each corner, recess, and m2 of houses are designed and determined for different purposes without using partitions between spaces. Thereby,

these three tools ; expandability, flexibility, convexity concepts create contemporary interior structuring methods especially for small and adaptable spaces, and integration degree increases by adaptation of these tools, as weak implicit structures instead of strong, explicit interior structures. By this way, spatiality concept reveal by this degree and high degree of integration creates spatiality as space quality. From this point, flexibility as the main indicator correspond to dynamics with sub categories as ; expandability is duality and convexity corresponds to diversity of new spatiality of small houses.(Figure 71)

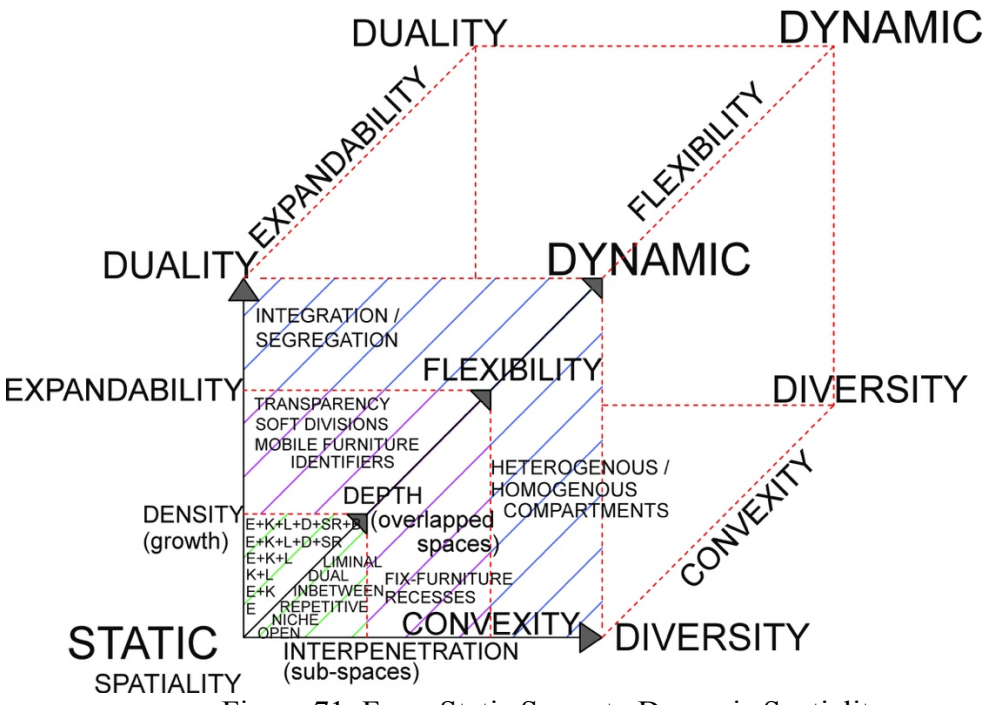


Figure 71: From Static Space to Dynamic Spatiality

After definition of space and spatiality of contemporary small houses, new spatial relations such as; spatial depth, density, intepenetration and new spatial identifiers such as; transparency (perforated partitions), concealable furniture, soft divisions (movable partitions) have been determined as new methods of creation weak, implicit interior structures, instead of using solid walls and doors between spaces. At

this point, new spatiality of small houses have been determined with in three topics; (1) types of spatial organization (cluster / cross-axial / axial) which occur with depth / density / interpenetration spatial relations respectively, (2) new space groups and single space characteristics of spatiality as (public/private compartments and service cells), (3) new space types as liminal, inbetween, dual, repetitive, niche, open spaces. And all these concepts are analysed at spatiality of selected cases as new interior structuring methods.

Chapter 4

THREE PART METHODOLOGY FOR SMALL HOUSES SPATIALITY ANALYSES: 'SPATIAL-SYNTACTICAL-SHAPE GRAMMAR'

This part constitutes the main methodology part of the thesis and includes the case analyses. Analyses of selected cases consist of three parts as indicated by figure 72; spatial – syntactical - shape grammar analyses in which thirty houses are first analysed conceptually over their plan layouts and new spatiality of all cases have been determined such as; space groups / single spaces characteristics and new space types.

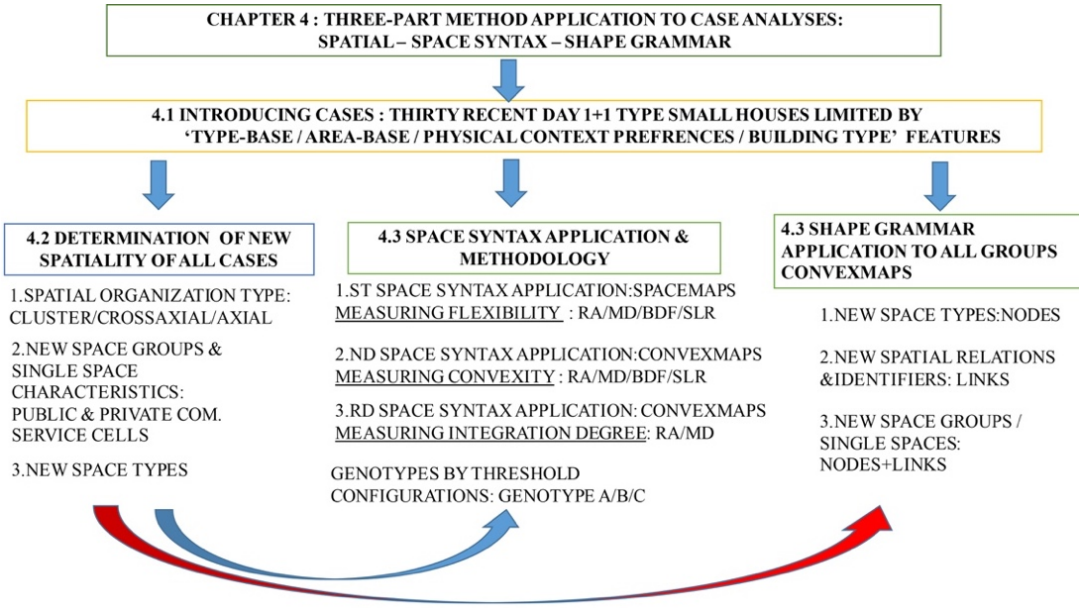


Figure 72: Plan of Chapter 4

Secondly, space syntax application have been realized on all cases by space and convex maps. At last and third part of methodology, shape grammar method has been applied to all cases as; nodes are new space types, links are new spatial relations and nodes+links are compartments, and they have been determined on justify graphs of cases.To sum up, three-part methodology have been tested on selected cases.

4.1 Selection of the Cases by Stratified Sampling Method

Chapter 4 represents the third part of the methodology of thesis after literature survey and interviews with collecting plans which exhibit case analyses. Firstly, case selection criteria have been introduced to determine the research area and limitations. Stratified sampling methodology is used during the selection of cases in the research plan which is defined by Güven (2006) as;

> Stratified sampling method is based on equally selection principle, for example it's combined with an other designed method to increase the representation ability of the sampling. Infact, stratified sampling is a coincidental sampling which exhibit a higher representation capability with a smaller size sample and lower cost and is a technique that allows a higher certainty. In this type sampling, before choosing an example, the research universe is divided into a sample (homogenous), some sub-strata, and the sample is taken from that strata. Thus, the selected sample increases both its ability to represent and the volume of the sample is reduced. (p.145)

Thereby, due to stratified method, selection criteria consist of lower-layers which increases the representation ability of cases on one hand and ensure the limitation of sample volume on the other. In addition, according to Yıldırım & Şimşek (2016); ''Relations between a set of limited number of variables that are studied on are generalized to the environment in which variables are included with a certain security interval'' (p. 113-116). Thus, its important for researcher to determine the universe in which variables are included, on the other hand, this is not enough to

solve the problem because the universe is usually too big for a researcher to reach. Thereby, to solve this problem scientists have developed ‘sampling’ method. Instead of studying the whole universe, a limited number of individuals, events, or phenomena that have the power to represent the universe, is a practical solution for the researchers. As indicated by Yıldırım & Şimşek ; ‘‘Here again, the ‘reduction’ principle of traditional science is used. The universe containing more individuals, events, or phenomena is reduced to a small workable size which we call sampling by certain methods, and with these properties, the sample is a practical research tool derived from the theory of probability’’ (p. 113-116). Stratified sampling is used when there are sub-units or sub-layers in a bounded boundary and here researcher work on the lower layers within the universe.

From this point of view, the thesis study first collect around hundred-fifty recent day small houses as main research universe, from different metropolitan cities with integrated / dynamic plan organizations between 1+0, 1+0.5, 1+1, 1+1.5 type-base houses and all of them have been analysed conceptually from spatial point of view. Than, as second step, to make deep analyses, thirty 1+1 type recent day small houses have been chosen from first selection to apply three-part analyses as; spatial - space syntax - shape grammar methods. And, as a comparative analysing method, cases have been classified into three groups such as; GR-1 / 20-40 m2 houses, GR-2 / 40-70 m2 houses, and GR-3 / 70-100 m2 houses. In addition to the type-base (1+1) and size-base (GR-1 / 2 / 3) classifications, physical context prefrences (city-center / workplace / sub-urban orientations) and building types (mix-use projects, apartments, high-density housing projects) have also been classified to indicate their recent situation in metropolitan cities. (Tables 8-9)

Table 8: The Size-Base Classification of Case Study Houses - Thirty 1+1 Small Houses

GR-NO	TYPE-BASES	NUMBER OF CASES	SIZE-BASES
GR-1	1+1	10 HOUSES	20-40 M2
GR-2	1+1	10 HOUSES	40-70 M2
GR-3	1+1	70-100 M2	70-100 M2

Table 9: Physical Context Preferences & Building Types of the Cases

1.ST GROUP 20-40M2	PHYSICAL CONTEXT & BUILDING TYPES	2.ND GROUP 40-70M2	PHYSICAL CONTEXT & BUILDING TYPES	3.RD GROUP 70-100M2	PHYSICAL CONTEXT & BUILDING TYPES
1. MY-VIA-1+1	*IZMIR-BORNOVA *CITY-CENTER & WORK PLACE *MIX-USE	BORN-CITY1+1	*IZMIR-BAYRAKLI *CITY-CENTER& WORKPLACE *RESIDENCE	NEXTLEVEL-1+1-B51	*ANKARA-SOĞUTOZU *CITY-CENTER& WORKPLACE *MIX-USE
2. NEF-D-1+1	*ISTANBUL-KAGITHANE *CITY-CENTER& WORKPLACE *HIGH DENSITY HOUSING	TRENDIST-1+1	*ISTANBUL-ATAŞEHIR *CITY-CENTER *RESIDENCE	NEXTLEVEL-E-1+1	*ANKARA-SOĞUTOZU *CITY-CENTER& WORKPLACE *MIX-USE
3. NEF-04-F-1+1	*ISTANBUL-GOKTURK SUB-URBAN *GATED COMMUNITY	SOYAK SOHO-1+1	*ISTANBUL-SISLI *CITY-CENTER *RESIDENCE	NEXTLEVEL-H-1+1	*ANKARA-SOĞUTOZU *CITY-CENTER *MIX-USE
4.MARK A-A-1+1	*IZMIR-ÇIĞLI *CITY-CENTER& WORKPLACE *GATED COMMUNITY	BOMONTI-27-1+1	*ISTANBUL-BOMONTI *CITY-CENTER& WORKPLACE *APARTMENT	TRUMP TOWERS-1+1	*ISTANBUL-MECIDIYEKOY *CITY-CENTER& WORKPLACE *RESIDENCE
5.MARK A-B-1+1 2	*IZMIR-ÇIĞLI *CITY-CENTER& WORKPLACE *GATED COMMUNITY	BOMONTI-P-1+1	*ISTANBUL-BOMONTI *CITYCENTER & WORKPLACE *APARTMENT	BOMONTI-6-1+1	*ISTANBUL-BOMONTI *CITY-CENTER& WORKPLACE *APARTMENT
6. NEF-12-1+1D	*ISTANBUL-MERTER *CITY-CENTER/ WORKPLACE * HIGH-DENSITY HOUSING	NEF-H-1+1	*ISTANBUL-KAGITHANE *CITYCENTER & WORKPLACE * HIGH-DENSITY HOUSING	EDETOWER-1+1	*ANKARA-INCEK SUB-URBAN *RESIDENCE

7.NEF-03-E-1+1	*ISTANBUL-KAGITHANE *CITY-CENTER& WORK PLACE *HIGH DENSITY HOUSING	NEF-98-K-1+1	*ISTANBUL-KAĞITHANE *CITY-CENTER& WORKPLACE *HIGH-DENSITY HOUSING	BOMONTI-2-1+1	*ISTANBUL-BOMONTI *CITY-CENTER/ WORKPLACE *APARTMENT
8. NEF-12-E-1+1	*ISTANBUL-MERTER *CITY-CENTER *HIGH-DENSITY HOUSING	NEF-12-1+1-T	*ISTANBUL-MERTER *CITY-CENTER/ WORKPLACE *HIGH-DENSITY HOUSING	BOMONTI-7-1+1	*ISTANBUL-BOMONTI *CITY-CENTER& WORKPLACE *APARTMENT
9. NEF-03-A2-1+1	*ISTANBUL-KAGITHANE *CITY-CENTER& WORK PLACE *HIGH DENSITY HOUSING	NEF-12-1+1-F	*ISTANBUL-MERTER *CITY-CENTER& WORKPLACE *HIGH-DENSITY HOUSING PROJECT	NEXTLEVEL-1+1-B59	*ANKARA-SOĞUTOZU *CITY-CENTER *MIX-USE
10.NEF-12-1+1-H	*ISTANBUL-MERTER *CITYCENTER& WORKPLACE *HIGH DENSITY HOUSING	NEF-12-1+1-M	*ISTANBUL-MERTER *CITYCENTER & WORKPLACE *HIGH-DENSITY HOUSING	NEXTLEVEL -1+1-C52	*ANKARA-SOĞUOZU CITY-CENTER *MIX-USE
AVER-AGE	CITY-CENTER/ WORKPLACE	AVERAGE	CITY-CENTER	AVERAGE	CITY-CENTER

Locations of the cases in Istanbul, Izmir and Ankara also indicated on the google earth maps such as; in Istanbul; (1) Nef_03-Points-Gultepe, (2) Nef_98-Kagithane, (3) Nef_12-Merter, (4) Bomonti Apartments, (5) Trump Tower-Sisli, (6) Soyak Soho-Esentepe, (7) Trendist-Atasehir. (Figure 73) In İzmir; (1) Myvia-414-Bornova, (2) Folkart-Bayrakli, (3) Borncity-Bayraklı, (4) Soyak Siesta-Cigli, (5) Marka333-Cigli, (6) 35.Sokak-Menemen, (7) Studio City-Seyrek. (Figure 74) Lastly, in Ankara; (1) Next Level Mix Use Project-Sogutozu, (2) Metu Asistants Houses, (3) Metu Master Students Guest House. (Figure 75)

Figure 73: Locations of Istanbul Cases on Google Earth Map

Figure 74: Locations of Izmir Cases on Google Earth Map

Figure 75: Locations of Ankara Cases on Google Earth Map

However case study houses are selected samples from Istanbul, Izmir, Ankara randomly, in the frame of quick overall evaluation it's revealed that there are zone

similarities between cities in relation to similar sized base typologies such as, Kağıthane zone in Istanbul shows similarities with Seyrek zone in İzmir.

4.2 Part-1: Spatial Analyses of Cases

At this part, spatial and conceptual analyses have been realized on thirty cases that are introduced at previous part. First all houses spatial organization types are determined between three types such as; cluster / cross-axial / axial organizations, then space groups and single space characteristics such as; public / private compartments and service cells, are defined for each case and lastly new space types; liminal / inbetween / dual / repetitive / niche / open spaces, are determined. By this way, new spatiality of cases have been prepeared for space syntax and shape grammar analyses.

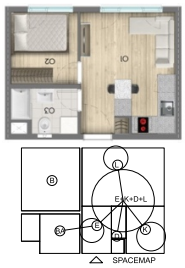
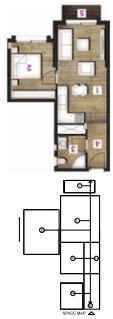
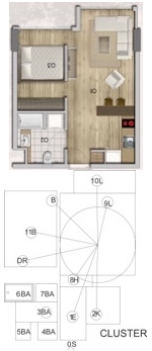
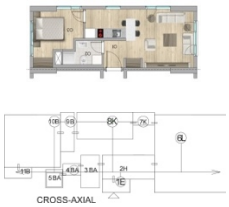
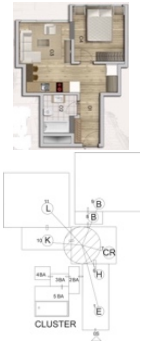
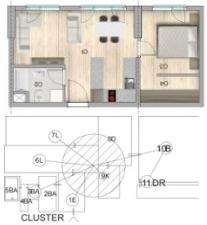
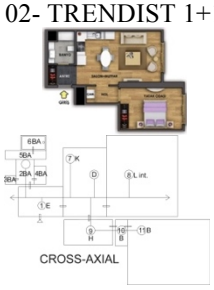
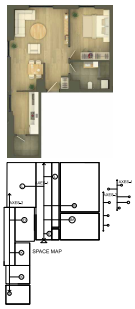
4.2.1 Spatial Organizations of Thirty Cases: Cluster / Cross Axial / Axial

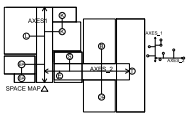
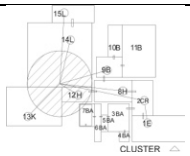
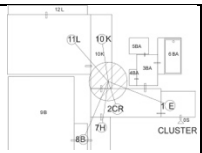
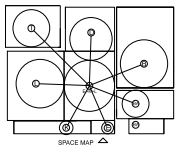
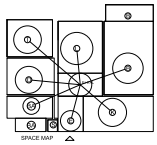
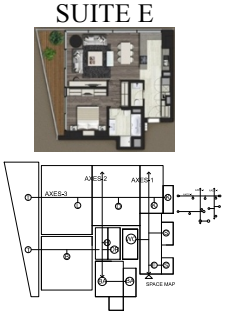
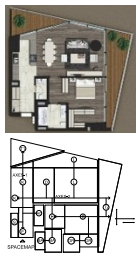
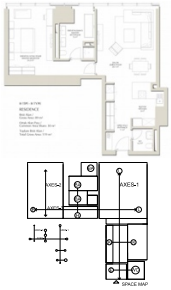
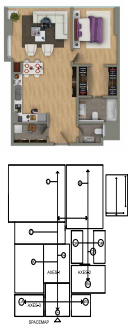
In the thesis study, as first step of three-part method, spatial analyses have been realized respectively with definitions of; (1) spatial organization types (cluster / cross-axial / axial) of the cases, (2) space groups & single space characteristics of the cases (public / private compartments and service cells), (3) new space types of the cases, thereby firstly spatial organizations of all groups are determined with schemes.

As indicated by table 10, the smallest group; GR-1 exhibit cluster type spatial organization commonly which indicates centrality and that spaces cluster around an empty central space. By the increase of area, organization types change and GR-2 exhibit both cluster and cross-axial type organizations, indicating linearity also, which small spaces link to a central space with secondary paths and at GR-3 houses dual axial type organization (linearity) occur very dominantly as parallel two straight

lines indicating the public and private compartments of the houses very clearly. (Table 10)

Table 10: Plans and Types of Spatial Organization of GR 1 / 2 / 3

GR-1	GR-1	GR-1	GR-1	GR-1
01-MYVIA_414  *CLUSTER TYPE*	**02- NEF-D**  *CLUSTER-TYPE*	**03- NEF-04 F**  *CLUSTER TYPE*	**04-MARKA 333 1+1-A**  *CROSS-AXIAL TYPE*	**05-MARKA 333 1+1 B**  *CROSS-AXIAL*
06-NEF 121+1D  *CLUSTER*	**07- NEF- 03 E TYPE**  *CROSS-AXIAL TYPE*	***08-NEF 12 1+1E***  *CLUSTER*	**09-NEF A2TYPE- 03**  *CLUSTER-TYPE*	**10-NEF 12 1+1 H**  *CLUSTER-TYPE*
GR-2	**GR-2**	**GR-2**	**GR-2**	**GR-2**
01_BORN-CITY 1+1  CLUSTER	02- TRENDIST 1+1  *CROSS-AXIAL TYPE*	03- SOYAK SOHO 1+1  *CROSS-AXIAL TYPE*	04- BOMONTI TIP 27 1+1  *CLUSTER-TYPE*	05_BOMONTI 1+1  *CROSS-AXIAL TYPE*
06-NEF_TIP H 	07-NEF-98 TIP K 	08_NEF 12 1+1T 	09_NEF 12 1+1 F 	10_NEF 12 1+1M 

 *CROSS-AXIAL TYPE*	 *CLUSTER-TYPE*	 *CLUSTER*	 *CLUSTER-TYPE*	 *CLUSTER-TYPE*
GR-3	**GR-3**	**GR-3**	**GR-3**	**GR-3**
01_NEXT LEVEL 1+1 SUITE B51  *AXIAL-TYPE*	02- NEXT LEVEL SUITE E  *AXIAL-TYPE*	03- NEXT LEVEL H-49 1+1  *AXIAL-TYPE*	04_ TRUMP TOWER 1+1  *AXIAL-TYPE*	05_BOMONTI TYPE 6 1+1  *AXIAL-TYPE*
06_EDE TOWER 1+1  *AXIAL-TYPE*	07- BOMONTI TYPE 2 1+1  *CROSS-AXIAL*	08_BOMONTI type7 1+1  *AXIAL-TYPE*	09_NEXT LEVEL B59  *AXIAL-TYPE*	10_NEXT LEVEL C52 1+1  *AXIAL-TYPE*

As indicated by table 11, GR-1 commonly exhibits cluster spatial organization, GR-2 exhibits both cluster and cross-axial type organization, and GR-3 exhibits axial type spatial organization which demonstrates the changing spatiality of small houses through their sizes which all cases are 1+1 type.

Table 11: Average Spatial Organization Types of GR 1 / 2 / 3

GR NO	CLUSTER	CROSS-AXIAL	AXIAL
GR-1	7	3	-
GR-2	6	4	-
GR-3	-	1	9

4.2.2 Definition of Space Groups / Single Space Characteristics and New Space Types

At this part, new spatiality of all cases are determined as space groups / single space characteristics such as; public / private compartments and service cells with new space types such as; liminal, in-between, dual, niche, repetitive, open spaces. The aim of preparing these spatial analyses of cases is to apply space syntax at further part of the methodology to test and measure the conceptual findings and integration degrees of cases with a comparative space syntax application method. (Table 12)

Table 12: Determinations of Space Groups / Single Spaces and Space Types of GR 1 / 2 / 3.

NO	GR-1		GR-2		GR-3	
	*SPACE GROUPS/ *SINGLE SPACES	SPACE TYPES	*SPACE GROUPS/ *SINGLE SPACES	SPACE TYPES	*SPACE GROUPS/ *SINGLE SPACES	SPACE TYPES
1	MYVIA-414-1+1		BORNCITY-1+1		NEXTLEVEL-1+1	
	*PUBLIC:1E +2K+5L+6L *PRIVATE: 7B+8B+9B *SERVICE: 3BA+4BA	LIMINAL:1E REPETITIVE: 7B+8B+9B+ 3BA+4BA INBETWEEN: 2K NICHE: 5L DUAL: 6L OPEN: 10T	*PUBLIC: 1E+6L+7K *PRIVATE: 8B+9B *SERVICE: 2BA+3BA+4B A	LIMINAL:1E REP.:8B+9B+ 2BA+3BA+ 4BA+5BA NICHE:7K DUAL: 6L OPEN:10T	*PUBLIC: 1E+5CR+6K+ 7KL+8L *PRIVATE: 9B+10B+11CR +12DR+13BA+ 14BA+15BA+1 6BA *SERVICE: 2WC+3WC+ 4WC	LIMINAL:1E REP.:2BA+3B A+4BA+9B+10 B+11CR+12DR +13BA+14BA+ 15BA+16BA INBET: 5CR NICHE: 6K DUAL: 7L
2	NEF-D-1+1		TRENDIST-1+1		NEXTLEVEL-E-54-1+1	
	*PUBLIC:1E +2H+6L+7K *PRIVATE: 8B+9B *SERVICE: 3BA+4BA+ 5BA	LIMINAL:1E REP.:8B+9B+ 3BA+4BA+5BA INBET.: 2H NICHE:7K DUAL:6L	*PUBLIC:1E+ 7K+8L *PRIVATE:9H +10B+11B *SERVICE:2B A+3BA+4BA+ 5BA	LIMINAL:1E REP:2BA+3BA +4BA+5BA+6B A+9H+10B+ 11B INBET: 7K DUAL: 8L	*PUBLIC:1E+2 E+4H+5K+6L+ 7L *PRIVATE: 8H+9B+10BA+ 11BA+12BA+ 13BA *SERVICE: 3WC	LIMINAL:1E REP:8H+9B+10 BA+11BA+ 12BA+13BA INBET:2E NICHE:5K DUAL:6L-7L OPEN:14T
3	NEF-F-1+1		SOYAK-1+1		NEXT-LEVEL-H-49-1+1	
	*PUBLIC: 1E+2K+3L *PRIVATE: 7B+8B *SERVICE: 4BA+5BA+ 6BA	LIMINAL:1E REP.:7B+8B+ 4BA+5BA+ 6BA INBET:2K DUAL:3L	*PUBLIC:1E+ 2K+3H+4L *PRIVATE:7B +8B *SERVICE: 5BA+6BA	REP:3H+7B+ 8B+5BA+6BA INBET:1E NICHE:2K DUAL:4L	*PUBLIC:1E+ 3H+4K+5K+6L +7L+8L *PRIVATE:9H +10B+11B+12 DR+13DR+14B A+15BA *SERVICE: 2WC	REP:9H+10B+ 11B+12DR+13 DR+14BA+ 15BA INBET: 1E+3H NICHE: 5K DUAL: 7L,8L OPEN: 17T1-16T2
4	MARKA-A-1+1		BOMONTI-RES-1+1		TRUMP-1+1	
	*PUBLIC:1E	LIMINAL:1E	*PUBLIC:	REP:	*PUBLIC:1E+	LIMINAL:1E

	+2CR+6K(L) *PRIVATE: 5B *SERVICE: 3BA+4BA	REP.:3BA+4BA IN-BET.:2CR DUAL: 6K+L OPEN: 7T	1E(+K)+2L+3L *PRIVATE: 4B+5B *SERVICE: 6BA+7BA+8B A+9BA	4B+5B+6BA+7 BA+8BA+9BA INBET: 1E(K)+2L DUAL: 3L OPEN: 10T	3CR+4K+5L+ 6L *PRIVATE:7H +8B+9B+10BA +11BA+12BA+ 13BA *SERVICE: 2WC	REP:7H+8B+9 B+10BA+11BA +12BA+13BA INBET:3CR NICHE:4K DUAL:6L
5	MARKA-B-1+1		BOMONTI-1+1		BOMONTI-2-1+1	
	*PUBLIC:1E +4K+5K+6L +7L *PRIVATE: 8B+9B *SERVICE: 2BA+3BA	LIMINAL:1E REP.:2BA+3BA +6L+8B+9B IN-BET.:4K+5K DUAL: 7L OPEN: 10T	*PUBLIC:1E+ 2L+7L+8D+9K *PRIVATE:11 B+12B, *SERVICE:3B A+4BA+5BA+ 6BA	LIMINAL: 1E REP:3BA+4BA +5BA+6BA+11 B+12B INBET: 2H NICHE: 9K DUAL: D	*PUBLIC: 1E+4CR+5K+6 L+7L+8L *PRIVATE: 9B+10BA+11D R+12BA+13BA +14BA+15BA+ 16BA *SERVICE: 2S+3S	LIMINAL:1E REP:9B+10B+ 11DR+12BA+ 13BA+14BA+ 15BA+16BA INBET: 4CR NICHE: 6K DUAL: 7L OPEN: 17T
6	NEF-D-1+1		NEF-H-1+1		EDE TOWER-1+1	
	*PUBLIC:1E +2K+8H+9L +10L *PRIVATE: 11B *SERVICE: 3BA+4BA+ 5BA+6BA+ 7BA	LIMINAL:1E REP:3BA+4BA +5BA+6BA+ 7BA IN-BET: 8H NICHE: 2K DUAL: 9L+10L	*PUBLIC: 1E+8L+9L+ 10K *PRIVATE: 2B+3DR *SERVICE: 5BA+6BA+ 7BA	LIMINAL: 1E REP:2B+3DR+ 5BA+6BA+ 7BA INBET: 8L NICHE: 10K DUAL: 9L OPEN: 4T	*PUBLIC:1E+2 L+3K+4L+5L *PRIVATE:11B +12B+13DR+1 4BA+15BA+16 BA *SERVICE:6B A+7BA+8BA+ 9BA+10BA	LIMINAL:1E REP:11B+12B+ 13DR+14BA+ 15BA+16BA INBET:2L NICHE:3K DUAL:4L,5L OPEN:17T
7	NEF-E-1+1		NEF-K-1+1		BOM-2-1+1	
	*PUBLIC:1E +2H+6L+7K +8K *PRIVATE: 9B+10B+11 DR *SERVICE: 3BA+4BA+ 5BA	LIMINAL:1E REP:3BA+4BA +5BA+9B+10B +1B INBET.:2H NICHE:8K DUAL:6L	*PUBLIC:1E+ 2CR+8CR+12 H+13K+14L+1 5L *PRIVATE:9B +10B+11B *SERVICE:3B A+4BA+5BA+ 6BA+7BA	LIMINAL:1E REP:8CR+9B+ 10B+11B+3BA +4BA+5BA+ 6BA+7BA INBET: 2CR NICHE: 13K DUAL: 14L+15L	*PUBLIC:1E+6 L+7K+8L+9L *PRIVATE:10B *SERVICE:2B A+3BA+4B+ 5BA	LIMINAL:1E, REP:2BA+3BA +4BA+5BA INBET:6L,8L NICHE:7K, DUAL:9L OPEN:11T
8	NEF-12-E-1+1		NEF-T-1+1		BOM-7-1+1	
	*PUBLIC:1E +6CR+9K+ 10L *PRIVATE: 7B+8B *SERVICE:2 BA+3BA+ 4BA+5BA	LIMINAL: E REP:2BA+3BA +4BA+5BA INBET: 6CR NICHE: 9K DUAL: 10L	*PUBLIC:1E+ 2CR+7H+10K+ 11L+12L *PRIVATE:8B +9B *SERVICE:3B A+4BA+5BA+ 6BA	LIMINAL:1E REP:3BA+4BA +5BA+6BA+7 H+8B+9B, INBET:2CR NICHE:10K DUAL:11L+ 12L	*PUBLIC:1E+ 4K+5D+6L+7L +8L *PRIVATE:9B +10B+11DR+1 2BA+13BA *SERVICE: 2WC+3LA	REP:2WC+3B A+4BA+5DR+ 6B+7B INBET:1E NICHE:8K DUAL:9L,10L, 11L OPEN:12T
9	NEF-A2-1+1		NEF-F-1+1		NEXT-LEVEL-B-59-1+1	
	*PUBLIC:1E +6L+7L+8D +9K *PRIVATE: 10B+11DR *SERVICE: 2BA+3BA+ 4BA+5BA	LIMINAL: 1E REP:2BA+3BA +4BA+5BA+ 10B+11B INBET: 6L NICHE: 9K DUAL: 8D	*PUBLIC:1E+ 2K(+L)+3D *PRIVATE: 4B *SERVICE: 5BA+6BA+7B A+8BA+9BA	LIMINAL:1E REP:5BA+6BA +7BA+8BA+ 9BA NICHE: 3D DUAL:1K+L OPEN: 10T	*PUBLIC:1E+4 CR+5K+6L+7L *PRIVATE:8B +9B+10CR+11 DR+12BA+13B A+14BA+15BA *SERVICE: 2WC+3LA	LIMINAL: 1E REP:9B+10CR +11DR+12BA+ 13BA+14BA+1 5BA INBET: 4CR NICHE: 5K DUAL: 6L,7L OPEN:16T
10	NEF-H-1+1		NEF-12-1+1M		NEXT LEVEL-C-52-1+1	
	*PUBLIC:1E +2H+7CR+ 8K+9K+10L +11L *PRIVATE: 12B+13B+ 14B	LIMINAL:1E REP:3BA+4BA +5BA+6BA+12 B+13B+14B INBET: 2H NICHE: 9K DUAL:10L+11L	*PUBLIC:1E+ 2K+8L+9D *PRIVATE: 10B+11B *SERVICE: 3BA+4BA+5B A+6BA+7BA	REP:3BA+4BA +5BA+6BA+7B A+10B+11B, INBET:1E NICHE: 2K DUAL:8L+9D OPEN: 12T	*PUBLIC:1E+ 8K+9L+10L+ 11L *PRIVATE: 2WC+3BA+4B A+5DR+6B+7B *SERVICE:	REP:2WC+3B A+4BA+5DR+ 6B+7B INBET:1E NICHE:8K DUAL:9L OPEN:12T

	*SERVICE: 3BA+4BA+ 5BA+6BA				2WC	

Abbreviations: E:entrance, K:kitchen, L:livingroom, D:diningroom, CR:corridor, H:hall, B:bedroom, BA:bathroom,WC:wc, LA:laundary,T:terrace

As indicated by table 12 new spatiality of all cases have been determined by space groups / single space characateristics (public / private compartments & service cells) and new space types for space syntax application.

4.3 Part-2: Space Syntax Method & Application

At this chapter, space syntax application has been realized to measure spatial organizations of these new small household houses. Through definition of Hillier et al. (1986);

> Space syntax is a set of techniques for the representation, quantification, and interpretation of spatial configuration in buildings and settlements. Configuration is defined in general as, at least, the relation between two spaces taking into account a third and at most as the relations among spaces in the complex taking into account all other spaces in the complex. Spatial configuration is thus a more complex idea than spatial relation, which need invoke no more than a pair of related spaces. The theory of 'space syntax' is that it is primarily-through not only-through spatial configuration that social relations and processes express themselves in space. (p.363)

Another important dimension of syntactic analysis is the degree of 'ring-ness' versus 'control'. The linear structure is a string of spatial segments in sequence, known in architecture as the enfilade. There is no choice of pathway from one segment to another. The ringy or looped structure is the opposite in as much as it connects segments to each other in a network, with multiple choices of pathway. On the other hand, a branching structure controls access to a range of spaces from a single segment, like a hallway or corridor (Bellal, 2004).

Analytical Tools

At this part, analytical tools for applying space syntax have been introduced such as; justify graphs, mean depth, mean integration, basic difference factor and space link ratio values that are necessary to measure integration and dynamic spatiality degrees of cases. Thereby, totally four tools have been applied and justify graphs have been prepared for all cases to represent space configurations by links and circles as space syntax language. At the end, mathematical values that are collected from four basic tools have been compared between GR-1 / 2 /3 to reveal integration degrees of cases in relation to areas with three steps such as; measuring flexibility by space maps, measuring convexity by convex maps, and measuring integration by convexmaps of sub-spaces.

(1) Justified Graphs: Hillier describes the characteristics of a justified graph as; ‘‘To show configurational differences in a simple graphic way, which we call a ‘justified’ access graph (Figure 84 c), in which we imagine ourselves to be in one space- in this case the outside space, C- and align a graph of all the other spaces in the configuration up the page, according to how ‘deep’ or how far away each space is from where we are’’ (p. 24). (Figure 76)

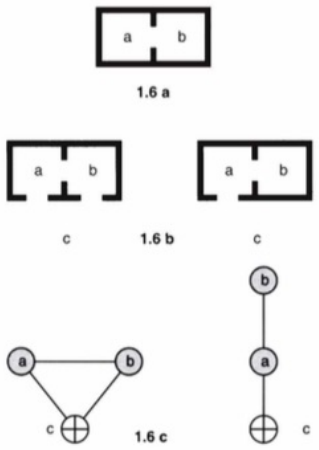


Figure 76: Basic Configurational Relationships

(2) Mean Depth-MD:

Bellal (20049 stated for mean depth that ; ‘‘Illustrates how the difference between relationships of spaces can be graphically clarified through a useful technique for representing spatial configuration namely the justified graph. This technique selects a particular space as the starting root where other spaces in the graph are then aligned above it in levels according to how many one must pass through to arrive at each space from the root’’ (p. 114-116).

(3) Mean Integration-RA:

Calculating the mean integration value is described at figure 77-78, which shallow graphs exhibit more integrated and deep graphs exhibit more segregated spatial configurations, on the other hand, through mathematical results, the lowest mean integration value indicates shallower, the highest mean integration value indicates deeper configuration, or segregation. As indicated by Hanson (1998) ‘‘What is perhaps less obvious is that, despite their differences on the ringy dimension, the shallow bush and the deeper ringy complex have the same mean or overall integration. The difference between them lies how integration is distributed’’ (p. 27-28). (Figure 77-78)

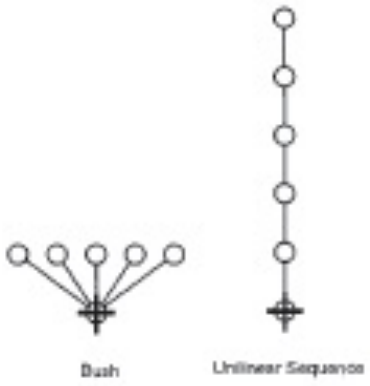


Figure 77: The Shallow Bush and the Deeper Ringy Complex Have the Same Mean and Overall Integration

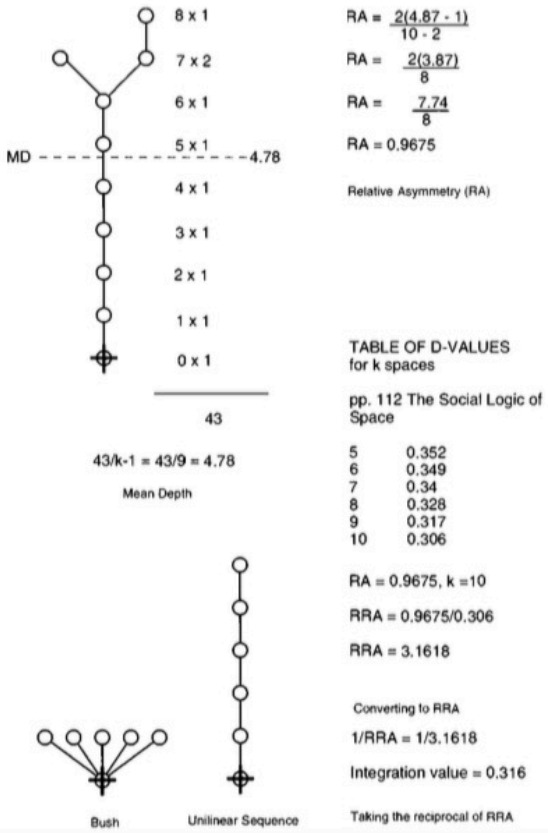


Figure 78: The Calculation of Integration Values

(4) Basic Difference Factor-BDF:

As defined by Hanson (1998), basic difference factor is; ‘‘To measure this we have developed an entropy based measure called the ‘difference factor’, which quantifies the spread or degree of configurational differentiation among integration values’’ (p. 30-31). Figure 79 explains how to measure basic difference factor which is a number between 0 and 1. The closer to 0 the more differentiated and structured the spaces, to close to 1 the difference factor, the more homogenized the spaces where all spaces exhibit same or close integration values and there are no configurational differences between them.

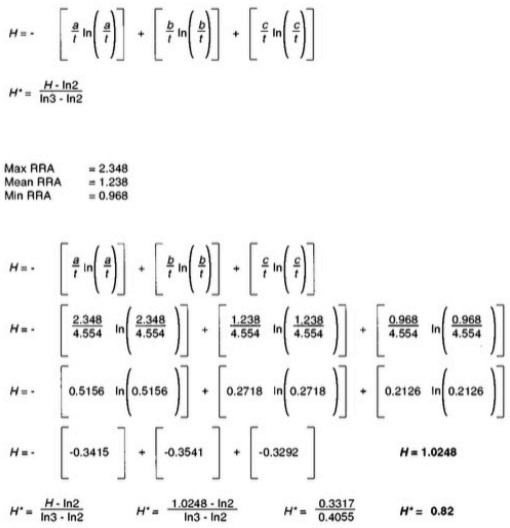


Figure 79: Calculating the Difference Factor

(5) Choice - Space Link Ratio: Accordingly Bellal (2004) ‘‘This property suggests the existence of alternative routes from one space to another. The space-link ratio (SLR) is the number of links plus one over the number of spaces. This gives a value varying between 0-1 for a tree-like configuration without any alternative routes and above 1 for the degree of ringiness’’ (p. 115).

Formula of SLR : 0=<SLR indicates tree-like deep configuration (close to 0), 1=<SLR (higher than 1) means rings and loops existence & shallower spatial configuration.

Space Syntax Application Method of Case Studies

At space syntax application method basically three concepts of cases have been measured such as; flexibility (space maps), convexity (convex maps), integration degrees (convexmaps of sub-spaces). To achive this methodology, firstly, justified graphs of thirty small houses for both space maps and convex maps have been prepared to realize space syntax applications. Than, firstly to measure flexibility, a comparative space syntax application have been carried out between GR-1 / GR-2 / GR-3 (by space maps) and average mean depth (MD), mean integration (RA), basic

difference factor (BDF), space link ratio (SLR) values have been calculated. Simultaneously, a second comparison has been carried out between the growth percenteges of GR-1 / GR-2 / GR-3 to indicate the spatial relationship of growth percentages of houses with flexibility concept.

At second step, to measure convexity, a comparative space syntax application have been carried out between space maps and convex maps with fix-furniture of thirty 1+1 type small houses by measures of; mean depth (MD), mean integration (RA), basic difference factor (BDF), space link ratio (SLR) values. The aim of the comparison of space maps and convex maps is to demonstrate space definition ability of furniture and movable partitions as creation of convexity where a significant rise at sub-space numbers have been found at convex maps.

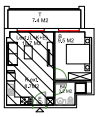
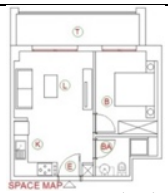
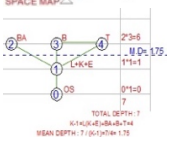
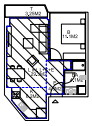
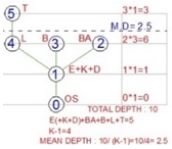
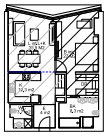
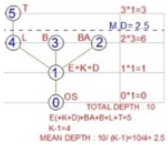
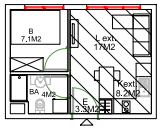
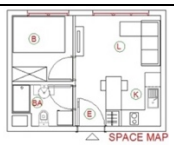
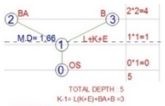
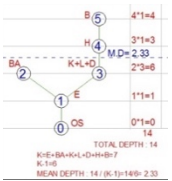
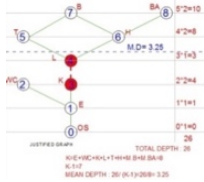
At third step, to measure integration degree by sub-spaces, a comparative space syntax application has been carried out between convex maps of GR-1 / 2 / 3 'space groups & single space characteristics' (compartments and service cells) and space types which had been determined at part 4.2 (determination of new spatiality of all cases). At the end, space syntax applications are finished with measures of flexiblity-convexity-integration values that are realized comparatively between GR-1 / GR-2 / GR-3.

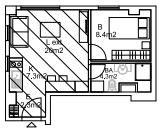
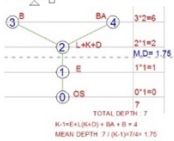
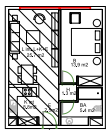
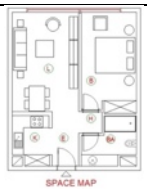
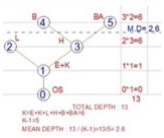
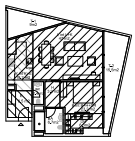
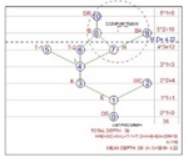
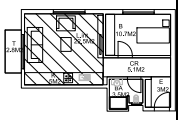
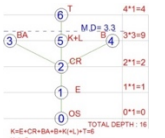
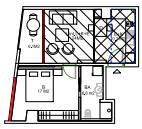
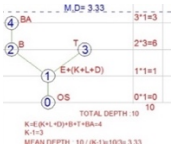
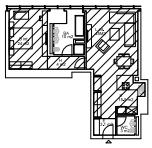
4.3.1 1ST Space Syntax Application: Measuring Flexibility

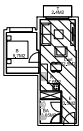
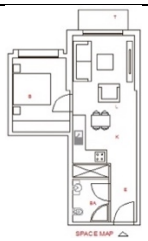
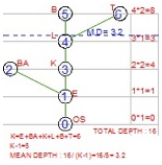
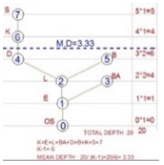
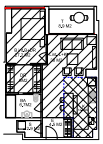
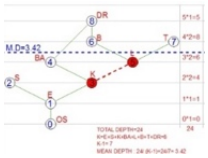
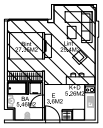
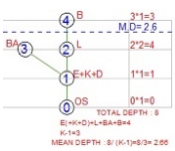
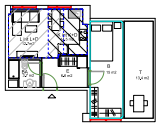
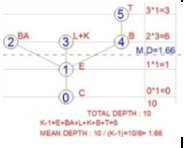
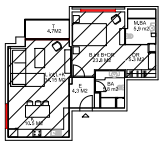
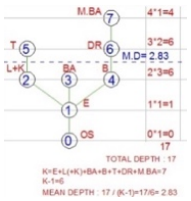
This part as the 1st space syntax application to thirty cases presents all cases together that are separted into three coloumns for GR 1 / 2 / 3 consisting ; (1) plan , (2) growth scheme, (3) space map, (4) justify graph, for each case which a furnished plan introduces case, growth schema shows the expandability, space map & justify graph indicate flexibility as syntactic measuring tools. (Table 13) After introducing

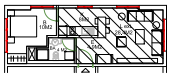
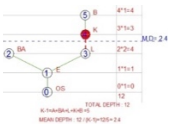
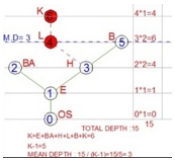
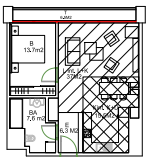
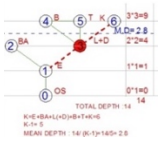
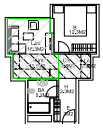
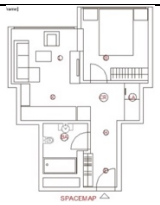
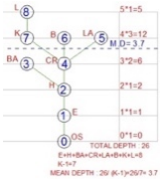
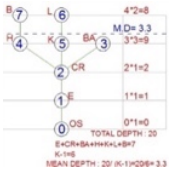
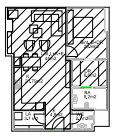
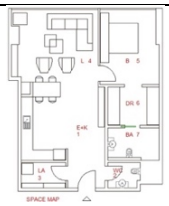
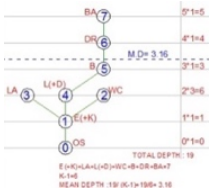
all groups and cases together, syntactic results for each group is given with different tables (Table 14-15-16) and table 17 shows results comparatively between GR 1 / 2 / 3.

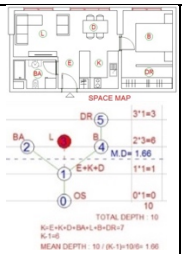
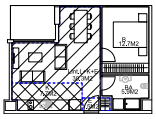
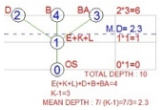
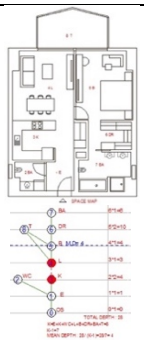
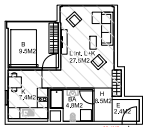
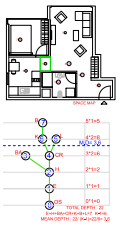
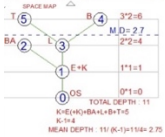
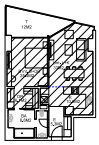
Table 13: Comparative Syntactic Analyses - MEASURING FLEXIBILITY

	20-40 M2		40-70 M2		70-100 M2	
	PLAN&GROWTH SCHEME	SPACE MAP FLEXIBILITY	PLAN&GROWTH SCHEME	SPACE MAP FLEXIBILITY	PLAN&GROWTH SCHEME	SPACE MAP FLEXIBILITY
1	 MYVIA-414-1+1 %25 GROWTH  From 38.7 to 48.5m2 1.K+E (39.8m2) 2.L+K+E (48.5m2)	  1.Rank order of RA:0.29 L(+K+E)=0.0<B=T=0.33<BA=0.50 2.Rank order of MD:1.75 L(K+E):1.0<B:1.5=T:1.5<BA:1.75 3.BDF:0.09 4.SLR:1.5	 BORN-CITY 1+1 %23.5 GROWTH  From 44.5 to 55m2 1.L+K+E (55m2)	  1.Rank order of RA:2.5 E+K+D=1.2<L=1.6<BA=B=2.00<T=2.4 2. Rank order of MD:0.41 E+K+D=0.09<L=0.30<BA=B=0.50<T=0.70 3.BDF:0.78 4.SLR:1.2	 NEXT-LEVEL-B-49-1+1 %29.5 GROWTH  From 72.8 to 94.3m2 1. L+K (94.3m2)	  1. Rank order of RA:0.58 L=K=0.38<E=B=0.47<DR=0.66<WC=0.76<BA=0.96 2.Rank order of MD:3.84 L=K:1.24<B=E:2.42<DR:3.0<WC:3.28<BA:3.8 3.BDF:0.83 4.SLR:1.14
2	 NEF-D-1+1 %34 GROWTH  From 27.9 to 37.6m2 1.K+E (29.3M2) 2.L+K+E (37.6M2)	  1.Rank order of RA:0.44 L(+K+E)=0<B=BA=0.66 2.Rank order of MD:1.66 L(+K+E):1.0<BA:1.66<B:1.66 BDF:0.05 SLR:1.33	 TRENDIST-1+1 %16.4 GROWTH  From 46.7 to 54.4m2 1.L+K (54.4M2)	  1.Rank order of RA:0.53 E=K(+L+D)=0.30<H=0.50<BA=0.70<B=0.89 2.Rank order of MD:2.33 E=K(+L+D):1.6<H:2.0<BA:2.4<B:2.8 3.BDF:0.58 4.SLR:1.2	 NEXT-LEVEL-E-54-1+1 %39 GROWTH  From 78.66 to 110m2 1.K+D (87.66m2) 2.L+D+K (105m2) 3.B+DR (110m2)	  1.Rank order of RA:0.43 L=0.25<K=0.28<H=0.35<E=0.39<T=0.42<B=0.53<BA=0.60<WC=0.64 2.Rank order of MD:3.25 L:1.87<K:2.0<H:2.25<E:2.37<T:2.5<B:2.87<WC:3.25<BA:3.12 3.BDF:0.83 4.SLR:1.25

3	 NEF-04-F-1+1 % 29.7 GROWTH  From 32.6 to 42.3m2 1.L+K+E (42.3m2)	  1.Rank order of RA:0.45 L(+K+D)=0.16 <E=0.33<B=BA=0.66 2.Rank order of MD:1.75 L(+K+D):1.25<E:1.5<B=BA:2.0 3.BDF:0.68 4.SLR:1.25	 SOYAK-SOHO-1+1 %28.6 GROWTH  From 45.7 to 58.8m2 1.K+E (49.9m2) 2.L+K+E (58.8m2)	  1.Rank order of RA:0.51 H=0.19<E+K=0.57<L=B=BA=0.60 2.Rank order of MD:2.6 E+K=H:1.4<L=B=BA:2.2 3.BDF:0.42 4.SLR:1.2	 NEXTLEVEL H-49-1+1 %31 GROWTH  From 86.5 to 114m2 1.K+E(93m2) 2.L+K(105m2) 3. B+DR+H (114m2)	  1. Rank order of RA:0.38, L=0.19<H=K=0.26<T2=0.31<E=B=0.37<T1=0.39<BA=0.46<DR=WC=0.57 2.Rank order of MD:4.22, L:1.9<K=H:2.2<<T:2.4<B=E:2.7<T1:2.8<BA:3.1<WC=DR:3.6 3.BDF:0.79 4.SLR:1.2
4	 MARKA-333-A-1+1 %11 GROWTH  From 44.7 to 49.8m2 1.L+K(49.8m2)	  1. Rank order of RA:0.39 CR=0.13<E=K+L=0.33<BA=B=0.46<T=0.66 2.Rank order of MD:3.3 CR=1.33<E=K+L=1.83<BA=B=2.16<T=2.66 3.BDF:0.59 4.SLR:1.16	 BOMONTI-27-1+1 %17.5 GROWTH  From 58.2 to 68.4m2 1.E+K+D (62.4m2) 2.L+K+E (68.4m2)	  1.Rank order of RA:0.74 B=0.33<T=0.66<BA=0.83<E(+K+L+D+)=1.16 2.Rank order of MD:3.33 E(+K+L+D):1.25<B:1.5<T:2.0<BA:2.25 3.SLR:1.25 3.BDF:0.55 4.SLR:1.25	 TRUMP TOWERS-1+1 %23 GROWTH  From 84.9 to 104.6m2 1.L+K(100.6m2) 2.B+H(104.6m2)	 1. Rank order of RA:0.51 K=L=0.33<E=H=0.42<WC=B=BA=0.71 2.Rank order of MD:3.66 K=L:2.0<H=E:2.28<WC=B=BA:3.14 3.BDF:0.88 4.SLR:1.33

5	 MARKA-333-B-1+1 % 32GROWTH  From 35.5 to 46.95m2 1.L+K+E (46.95M2)	  1. Rank order of RA:0.48 K=0.26<E=L=0.33<BA=B=T=0.66 2.Rank order of MD:3.2K=1.66<E=L=1.83<BA=B=T=2.6 3.BDF:0.85 4.SLR:1.16	 BOMONTI-1+1 % 9 GROWTH  From 61.6 to 67.2m2 1.L+D+E (67.2m2)	  1. Rank order of RA:0.47 L=0.23<E=D=0.33<K=B=0.52<BA=0.61<S=0.8 2.Rank order of MD:3.33 L:1.71<E:2.0=D:2.0<B=K:2.57<BA:2.85<S:3.42 3.BDF:0.73 4.SLR:1.14	 BOMONTI-6-1+1 %24 GROWTH  From 88.2 to 110.2m2 1.L+K(102.3m2) 2.B+DR (110.2 m2)	  1. Rank order of RA:0.35 K=0.17<L=0.25<E=0.28<BA=0.32<B=0.39<DR=0.42<T=0.50<S=0.53 2.Order of MD:3.42 K:1.62<L:1.87<E:2.0<BA:2.12<<B:2.37<DR:2.5<T:2.75<S:2.87 3.BDF:0.78 4.SLR:1.25
6	 NEF-12-1+1-D % 67.5 GROWTH  From 40 to 67.07m2 1.L+K+E (49.22m2) 2.L+B (67m2)	  1. Rank order of RA:0.49 E+K+D=0.16<L=0.33<BA=0.66<B=0.83 2.Rank order of MD:2.6 E+K+D=1.25<L=1.5<BA=2.0<B=2.25 3.SLR:1.25 3.BDF:0.69 4.SLR:1.25	 NEF-H-1+1 % 41GROWTH  From 56.2 to 79.3m2 1.K+D, L+D (65.9m2) 2.B+DR+T (79.3m2)	  1.Rank order of RA:0.41 E=0.09<B=0.30<BA=L+K=0.50<T=0.70 2.Order of MD:1.66 E:1.2<B.1.6<BA=L+K:2.0<T:2.4 3.BDF:0.48 4.SLR:1.2	 EDE-TOWER-1+1 % 20 GROWTH  From 78.6 to 95 m2 1.L+K (89.15m2) 2. B+DR (95m2)	  1.Rank order of RA:0.45 E=0.19<B=0.28<L(+K)=0.38<DR=BA=0.47<T=0.66<MBA=0.76 2.Rank order of MD:2.83 E:1.57<B:1.85<L(+K):2.14<DR:2.42<T:3.0<MBA:3.28 3.BDF:0.67 4.SLR:1.14

7	 NEF-03-E-1+1 %31.9 GROWTH  From 41.9 to 55.3m2 1.L+K+E (55.3m2)	  1.Rank order of RA:0.53 E=L=0.30<K=0.50<BA=0.70<B=0.89 2.Rank order of MD:2.4 E:1.6=L:1.6<K:2.0<BA:2.4<B:2.8 3.SLR:1.2 3.BDF:0.77 4.SLR:1.2	 NEF-98-K-1+1 %20 GROWTH  From 45.3 to 54.7m2 1.L+K(54.7m2)	  1.Rank order of RA:0.45 H=0.20<E=0.26<L=0.40<B=0.53<BA=0.60<K=0.73 2.Rank order of MD:3,H:1.5<E:1.66<L:2.0<B:2.33<BA:2.5<K:2.83 3.BDF:0.70 4.SLR:1.16	 BOMONTI-2-1+1 % 24GROWTH  From 70.1 to 87m2 1.K+D (75.6m2) 2.L+K (87m2)	  1. Rank order of RA: 0.37 L+D=0.13<E=0.20<B=T=0.40<K=0.46<BA=0.53 2.Order of MD:2.8, L+D:1.33<E:1.5<B=T:2.0<BA:2.33<K:2.16 3.BDF:0.68 4.SLR:1.33
8	 NEF-12-E-1+1%25 GROWTH  From 44 to 55.4m2 1. L+K(50.6m2) 2.K+CR+LA (55.4m2)	  1. Rank order of RA:0.32 CR=0.17<H=0.21<K=0.35<E=0.39<LA=B=0.42<BA=0.46<L=0.60 2.Rank order of MD:3.7 CR=1.62<H=1.75<K=2.25<E=2.37<LA=B=2.5<BA=2.62<L=3.1 3.BDF :0.73 4.SLR: 1.12	 NEF-12-1+1-T %30 GROWTH  From 41 to 53.5m2 1.L+K (53.5m2)	  1. Rank order of RA:0.39 CR=0.14<E=H=K=0.33<BA=0.42<L=B=0.61 2.Rank order of MD:3.3,CR=1.42<E=H=K=2.0<BA=2.28<L=B=2.85 3.BDF:0.65 4.SLR:1.14	 BOMONTI -7-1+1 %35 GROWTH  From 82.3 to 111.6m2 1.L+K+E (105m2) 2.B+DR (111.6m2)	  1. Rank order of RA:0.50 E(+K)=L(+D)=0.28<B=0.38<WC=LA=DR=0.57<BA=0.85 2.Rank order of MD:3.16 E(+K)=L(+D)=1.85<B=2.14<WC=LA=DR=2.71<BA=3.57 3.BDF:0.77 4.SLR:1.14

9	 NEF-03-A2-1+1, %49 GROWTH  From 42 to 62.7m2 1.L+D(47.5m2) 2.K+D+E (58.5m2) 3. B+DR (62.7m2)	 1.Rank order of RA:0.41 E(+K+L)=0.09<B=0.30<BA=L=0.50<DR=0.70 2.Rank order of MD:1.66 E(+K+D):1.2<B:1.6< L:2.0=BA:2.0< DR:2.4 3.BDF:0.48 4.SLR:1.2	 NEF-12-F-1+1, %17.3 GROWTH  From 49.5 to 58.1m2 1.L+K+E (58.1m2)	  1. Rank order of RA:0.37 E+K+D=0.0<D=BA=B=0.5 2.Rank order of MD:2.3 E+K+D=1.0<D=BA=B=1.75 3.BDF:0.025 4.SLR:1.25	 NEXT LEVEL-1+1-B 59, %23 GROWTH  From 78 to 96.5m2 1. L+K (90.4) 2. B+DR (96.5m2)	 1. Rank order of RA:0.47 L=0.28<K=0.32<B=0.35<E=T=0.42<DR=0.53<WC=0.67<BA=0.78 2.Rank order of MD:4 L=2.0<K=2.12<B=2.25<E=T=2.5<DR=2.87<WC=3.37<BA=3.75 3.BDF:0.80 4.SLR:1.42
10	 NEF-H-12-1+1, %30.6 GROWTH  From 46 to 60.1m2 1.L+K(60.1m2)	 1. Rank order of RA:0.32 H=0.06<E=0.26<K=L=B=BA=0.40 2.Rank order of MD:3 H=1.16<E=1.66<K=L=B=BA=2.0 3.BDF:0.54 4.SLR:1.16	 NEF-12-M-1+1, %16.3 GROWTH  From 50 to 58.15m2 1.L+K(58.5m2)	  1. Rank order of RA:0.43 E+K=L=0.19<B=BA=T=0.60 2.Rank order of MD:2.7 E+K=L=1.4<B=BA=T=2.23.BDF:0.78 4.SLR:1.2	 NEXT LEVEL 1+1-C52, %16.8 GROWTH  From72.4 to 89.2m2 1.L+K(83.1m2) 2.B+DR(89.2m2)	 1. Rank order of RA:0.36 E=0.28<K=BA=0.33<L=DR=0.38<B=T=0.42 2.Rank order of MD:3.3 E=1.85<K=BA=2.0<L=DR=2.14<B=T=2.28 3.BDF:0.96 4.SLR:1.28

*SPACE SYNTAX RESULTS OF SPACE MAPS OF ALL PLANS BY TESTS OF; RA-MD-BDF-SLR

Table 14: Results of Syntactic Analysis of **GR-1** (20-40 M2) – SPACE MAPS

GR-1	GROWTH %	RA	MD	BDF	SLR
1. MY-VIA-414-1+1	%25	0.29	1.75	0.09	1.5
2. NEF-D-1+1	%34	0.44	1.66	0.05	1.33
3. NEF-04-F-1+1	%29.7	0.45	1.75	0.68	1.25
4.MARKA-333-A-1+1	%11	0.39	3.33	0.59	1.16
5.MARKA-333-B-1+1 2	%32	0.48	3.2	0.85	1.16
6. NEF-12-1+1-D	%67.5	0.49	2.6	0.69	1.25
7.NEF-03-E-1+1	%31.9	0.53	2.4	0.77	1.2

8. NEF-12-E-1+1	%25	0.32	3.7	0.73	1.12
9. NEF-03-A2-1+1	%49	0.41	1.66	0.48	1.2
10.NEF-12-1+1-H	%30.6	0.32	3.6	0.54	1.16
GR-1 AVERAGE	**%33.5**	**0.41**	**2.50**	**0.54**	**1.23**

Table 15: Results of Syntactic Analysis of **GR-2** (40-70 M2) – SPACE MAPS

GR-2	GROWTH %	RA	MD	BDF	SLR
1. BORN-CITY-1+1	%23.5	0.41	2.5	0.78	1.2
2.TRENDIST-1+1	%16.4	0.53	2.33	0.58	1.2
3.SOYAK-SOHO-1+1	%28.6	0.51	2.6	0.42	1.2
4.BOMONTI-27-1+1	%17.5	0.74	3.33	0.55	1.25
5.BOMONTI-M-P-1+1	%9	0.47	3.33	0.73	1.14
6. NEF-H-1+1	%41	0.41	1.66	0.48	1.2
7. NEF-98-K-1+1	%20	0.45	3	0.70	1.16
8. NEF-12-1+1-T	%30	0.39	3.3	0.65	1.14
9.NEF-12-1+1-F	%17.3	0.37	2.3	0.02	1.25
10.NEF-12-1+1-M	%16.3	0.43	2.2	0.78	1.2
GR-2 AVERAGE	**%21.96**	**0.47**	**2.65**	**0.56**	**1.19**

Table 16: Results Of Syntactic Analysis of **GR-3** (70-100 M2) – SPACE MAPS

GR-3	GROWTH %	RA	MD	BDF	SLR
1. NEXT LEVEL-1+1-B51	%29.5	0.58	3.84	0.83	1.14
2. NEXT LEVEL-E -1+1	%39	0.43	3.25	0.83	1.25
3.NEXT LEVEL-H-1+1	%31	0.38	4.22	0.77	1.2
4. TRUMP TOWERS-1+1	%23	0.51	3.66	0.88	1.33
5.BOMONTI-6-1+1	%24	0.35	3.42	0.78	1.25
6.EDE TOWER- 1+1	%20	0.45	2.83	0.67	1.14
7.BOMONTI-2-1+1	%24	0.37	2.8	0.68	1.33
8.BOMONTI-7-1+1	%35	0.50	3.16	0.77	1.14
9.NEXT LEVEL- 1+1	%23	0.47	4.0	0.80	1.42
10. NEXT LEVEL -1+1-C52	%16.8	0.36	3.33	0.96	1.28
GR-3 AVERAGE	**%26.53**	**0.44**	**3.45**	**0.79**	**1.24**

Table 17: Comparative Results of All Groups

SYNTACTIC RESULTS OF SPACE MAPS (Average of 10)				Average of 30
GROUPS	GR-1	GR-2	GR-3	GR1/GR2/GR3
1.%GROWTH OF SIZES	%33.4	%21.96	%26.53	%27.2
2.MEAN INTEGRATION	0.41	0.47	0.44	0.44
3.MEAN DEPTH	2.50	2.65	3.45	2.86
4.BDF	0.54	0.56	0.79	0.63
5.SLR	1.23	1.19	1.24	1.22

Through comparative space syntax results, GR-1 revealed as the most flexible type with the lowest mean integartion and mean depth values, optimum basic difference factor and high space link ratio values with highest growth percentage.

MAIN FINDINGS:

Growth %: Extensions & integrations of spaces from time to time by flexible spatial identifiers: Plan analyses of thirty small houses indicated that, the highest growth percentage is found at GR-1 with %33.4 by extension of kitchen to living room from time to time. Growth stages occur as; 1) kitchen extension, 2) living room integration (commonly), and 3) bedroom integration (rarely). (Figure 80)

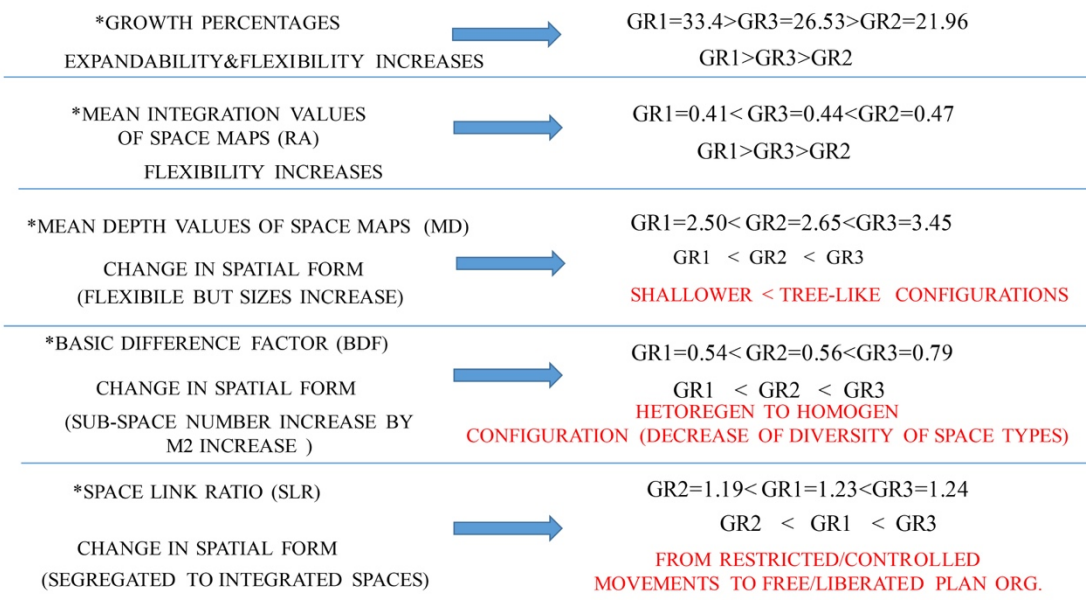


Figure 80: Graphical Representation of Relations Between Concepts and Numbers

3rd growing action is found at only two small houses where bedrooms are no cubic spaces and separated from public zone of the house with soft divisions such as; mobile partitions where bedroom integration occur time to time. Thereby, as the smallest group, GR-1 exhibit the highest growing ability by; implicit character of spaces, cluster spatial organization, open kitchen integration, soft dividers between

different functional spaces and usage of multi-functional equipment. Generally, it is found that kitchens extend to living room when not in original use and dining spaces act as work spaces by usage of multi-functional furniture.

In addition, living room integration occur when kitchen is in its original use for dining and cooking, (by open kitchen) visibility continues between living and kitchen spaces and users at living room integrate with kitchen, or a person cooking in kitchen can watch TV or make conversation with his/her friend who sits at living room. GR-2 exhibit percentage of low growth with %21.39 and similarly GR-3 with %26.53. The similarity of two group indicate that they accommodate simulant spatial organizations as axial–cross axial types, spaces are less implicit and space definitions are more finite/strong. In addition, this indicates a rise at compartment numbers at GR-2 and GR-3. 'Kitchen extension' is the common action that ensures timely growing at these groups.

Mean Integration (RA): The lower the integration value, 'RA' is the higher the integration character/ability of spaces is as shown by the graphics, average integration values show an increase from GR-1 to GR-3 and GR-2. GR-1=0.41< GR-3= 0.44 < GR-2=0.47. This increase indicates that GR-1 houses, with the lowest integration value, show the most integrated spatially and implicit character and GR-3 with 0.44 integration value which is close to GR-1 also show high integrated spatial character. GR-2 with the highest integration value, show that houses in this group are not as integrated as GR-1 / GR-3 and exhibit more segregated spatial organization.

Mean Depth (MD): 'Higher the mean depth value, deeper the spatial organization': GR-1=2.50 < GR-2=2.65 < GR-3=3.45, mean depth values show an increase from 20m2 to 100m2 houses. This increase at mean depth value indicates an organization change from implicit to explicit way, from shallower to deeper space organization

where all houses are 1+1. This indicates the number of sub-spaces rise with the rise of area however all cases are 1+1, and mean depth value shows deepening tendency from GR-1 to GR-3 in relation to area which demonstrates the rise of sub-spaces in the open plan.

Space Link Ratio Value (SLR): 0=<SLR indicates tree-like deep configuration (close to 0), 1=<SLR (higher than 1) means rings and loops existence & shallower spatial configuration. This number shows the freedom degree and movement control over spaces in the house. If this value is higher than 1, circles and loops exist in the paths and movements are not restricted in the house. SLR results, between three groups are ; GR-2=1.19< GR-1=1.23< GR-3=1.24, and GR-3 with the highest SLR value indicate liberality and free spatial organization existence in the houses without movement controls and restrictions with extra routes and links between spaces. Thereby, at this group a free lifestyle and more strong social relationships exist between spaces and households. On the other hand, GR-2 with 1.19 SLR value show movement freedom between spaces but is still weaker than GR-1 and GR-3. And lastly, GR-1 exhibit strong free spatial organization and movements with extra circular paths and loops between spaces without strong dividers which indicates liberated social-spatial organization existence in the small houses. However, this happen with one compartment at GR-1 and with two compartments at GR-3.

Basic Difference Factor (BDF): BDF close to 0, indicates strong functional differences between spaces, and BDF close to 1 indicates no functional difference between spaces and homogenity, adaptability, flexibility of spaces. The measures of BDF values are; **GR-1=0.54 < GR-2 =0.56 < GR-3=0.79**, which GR-1 has strong difference, GR-2 also exhibit differences between spaces but GR-3 with highest BDF, indicate less difference and homogenity of spaces. In addition, GR-3 has

maximum adaptation ability and flexibility. This indicates, GR-1 accommodate less sub-spaces which are formed by diverse space types and GR-3 accommodate higer sub-spaces in relation to increase of m2 with same space types, repetitive spaces commonly.

4.3.2 2ND Space Syntax Application: Measuring Convexity

At this part, second step of space syntax application has been realized to measure convexity and comparions have been carried out between syntactic results of space and convex maps. For this part, first definitions of space and convex maps have been introduced to indicate main differences between two concept. In the study, space maps are used to define existing spaces on the plans of small houses which are open plan concept and there are no enclosed spaces, thereby, space maps have been used as space definition maps of open plan configurations of the houses by indicating each different functional space on the plan. On the other hand, convex maps ensure deeper space definitions, one step further of space maps, where fix-furniture such as closets, kitchen counter tops, kitchen islands, storage units, dressing room units, bathroom equipments and recesses create different spaces which indicates space (sub-spaces) definition ability of convexity without solid walls & partitions. By this way, in addition to space maps additional/extra sub-spaces have been defined in open plan configurations by fix-furniture and recesses, and a significant increase on space numbers have been revealed at all convex maps. As indicated by Reazayan H, Frank AU., Karamipour : ‘‘Convex spaces identify the extend of spatial decomposition and usually correspond with privatization and localization of spaces’’ (Reazayan et al, 2005).

In addition, as described by Kim, Chulmin, Cho and Kim (quoted from Hillier and Hanson, 1984) : ‘‘In space syntax, when converting the continous space into a

connected set of discrete units, it uses concept of convex space partitioning or simply axial mapping. The procedure to generate the convex map involves taking a given structure and partitioning it into a set of 'fewest and fattest' convex spaces'' (Kim et al., 2008). Through the literature in architecture, the most important flexible domestic building, which space syntax method had been applied comparatively between space and convex maps, is the Rietveld Schröder House in Utrecht, designed in 1924 by De Stijl architect Gerrit Rietveld. However, the ground level was planned conventionally, upper level was designed as one-room living that responds to practical necessities with partition-able spaces (Kronenburg, 2007). (Figure 81)

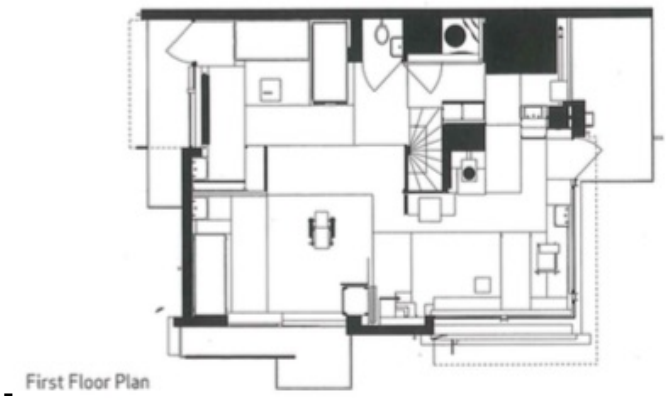


Figure 81: Rietveld Schröder House, Utrecht, the Nederlands, 1924-5

The study of Rosenburg (1998) titled with 'Visibility and permeability in Schröder House', which researcher measures visibility and permeability of the house by space syntax method, demonstrates the affect of convexity in flexible spaces. Through Rosenburg (1998), the inclusion of built-in furniture and partitioning, both tend to increase segregation. Opening the partitions on the first floor has a great effect increasing mean integration value but addition of furniture increasing overall segregation with or without partitions. These increasing numbers of convex spaces

indicate how furniture internal increase segregation in the house. The mean depth of the open plan indicate that; furnished floor is comparatively higher than the partitioned & unfurnished floor. Similarly, closed & furnished version is deeper as a result of the partitions and furniture in the plan but despite the depth of open plan, furnished arrangement is well-integrated, much more than the so shallower, closed but unfurnished version of the home (Rosenburg, 1998). (Figure 82)

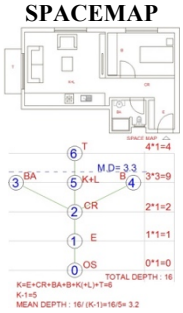
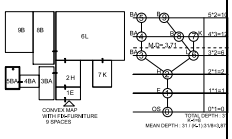
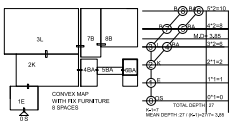
Figure 82: Rietveld Schröder House Analyses with A.)Space & B.)Convex Maps , without and with fixed furniture

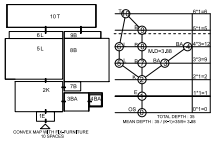
This is the fundamental feature of the perception of space in the Rietveld Schröder house. The addition of furniture decreases the potential flexibility of this new way of living. Thereby, furniture is more than just a decorative and useful household artefact, it creates a subtle form of spatial control within the interior (Rosenburg, 1998). In the thesis study, first, all plans convex map with furniture drawings has

been prephared. Convex spaces are determined by fix furniture such as; ‘kitchen bar / table, kitchen compact units / countertops, cloakroom, closets, bathtube, wc, sinks, storage units and recesses in the spaces’, and a rise at space numbers has been found commonly. Through syntactic comparisons of ‘space map and convex map with fix-furniture’, it’s found that; convex map with fix furniture exhibit deeper and more integrated spatial configuration, whilst, SLR values indicate less free movements existence. In addition, space numbers rise at convex maps with fix furniture which indicates space definition ability of furniture. In this scope, each group has been introduced separately by two tables which first determine space and convexmaps with justify graphs for each case, than second tables indicate syntactic results of each case for; mean integration (RA), mean depth (MD), space link ratio (SLR), basic difference factor (BDF) values and space numbers for both space and convex maps to compare. Thereby, the following tables are organized as ; table 18-19 for GR-1, tables 20-21 for GR-2, tables 22-23 for GR-3, and lastly table 24 for comparative syntactic results between GR 1 / 2 / 3.

***GR-1 Convexity by Justify Graphs**

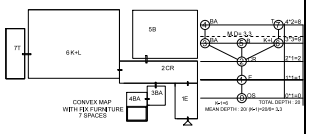
Table 18: Space and Convex maps of GR-1

1.MYVIA-414-1+1	2.NEF-D-1+1	3.NEF-F-1+1	4.MARKA-A-1+1
SPACEMAP	**SPACEMAP**	**SPACEMAP**	**SPACEMAP**
			
RA:0.29,MD:1.75 BDF:0.09,SLR:1.5, SPACE NO:4 **CONVEXMAP**	RA:0.44,MD:1.66 BDF:0.05,SLR:1.33 SPACE NO:3 **CONVEXMAP**  RA:0.40,MD:3.71, SLR:1.1,BDF:0.73, SPACE NO:9	RA:0.45,MD:1.7 BDF:0.68,SLR:1.25,SPACEN O:4 **CONVEXMAP** 	RA:0.39, MD:3.3, BDF:0.59,SLR:1.16,SPACEN O:6 **CONVEXMAP**



RA0.34,MD:3.88, SLR:1.1,BDF:0.83, SPACE NO:10

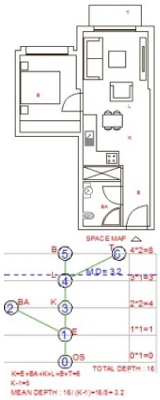
RA:0.49,MD:3.85,SLR:1.12, BDF:0.76,SPACE NO:8



RA:0.39,MD:3.3,SLR:1.14, BDF:0.65,SPACE NO:7

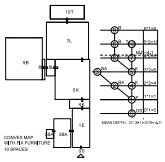
5.MARKA-B-1+1

SPACEMAP



RA:0.48,MD:3.2, BDF:0.84,SLR:1.16, SPACE NO:6

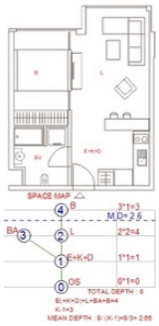
CONVEXMAP



RA:0.47,MD:4.1, SLR:1.1,BDF:0.80, SPACE NO:10

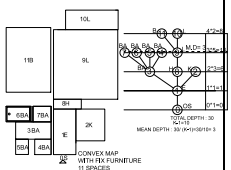
6.NEF-D-1+1

SPACEMAP



RA:0.49,MD:2.6, BDF:0.68,SLR:1.25 SPACE NO:4

CONVEXMAP



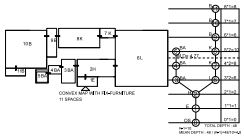
RA:0.34,MD:3.09, SLR:1.09,BDF:0.75, SPACE NO:12

7.NEF-E-1+1

SPACEMAP

RA:0.53,MD:2.4, BDF:0.77,SLR:1.2, SPACE NO:5

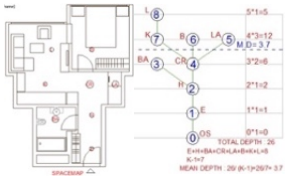
CONVEXMAP



RA:0.54,MD:4.77,SLR:1.09, BDF:0.81, SPACE NO:11

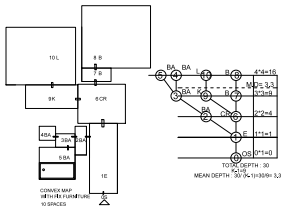
8.NEF-12-E-1+1

SPACEMAP



RA:0.32, MD:3.7, BDF:0.73, SLR:1.12, SPACE NO:8

CONVEXMAP

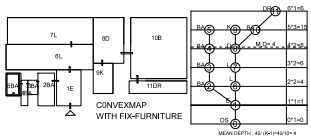


RA:0.45,MD:3.3,SLR:1.1 BDF:0.83, SPACE NO:10

9.NEF-A2-1+1

SPACEMAP

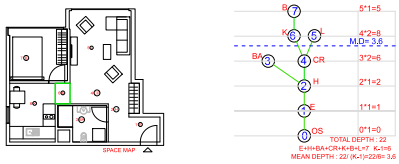
RA:0.41,MD:1.66,BDF:0.48,SLR:1.2, SPACE NO:5 **CONVEXMAP**



RA:0.54,MD:4,SLR:1.09,BDF:0.83,SPACE NO:11

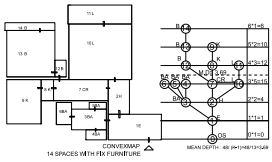
10.NEF-H-1+1

SPACEMAP



RA:0.32,MD:3.6,BDF:0.54,SLR:1.16,SPACE NO:6

CONVEXMAP



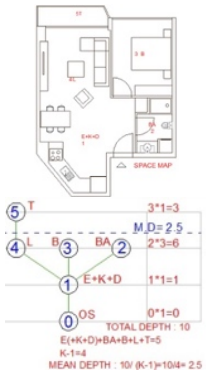
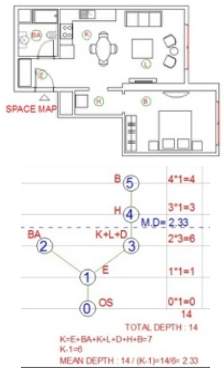
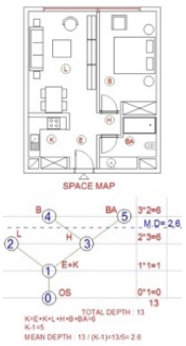
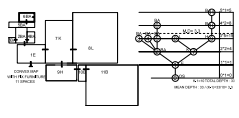
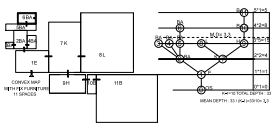
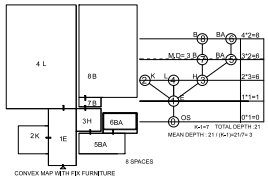
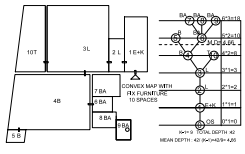
RA:0.34,MD:3.69,SLR:1.07,BDF:0.77,SPACENO:14

Table 19: Syntactic Results of GR-1 (20-40m2) Space / Convex Maps

GR-1 (20-40M2)	SPACE MAPS					CONVEX MAPS WITH FIX-FURNITURE				
	RA	MD	SLR	BDF	SPACE NO	RA	MD	SLR	BDF	SPACE NO
MYVIA-1+1	0.29	1.75	1.5	0.09	4	0.34	3.88	1.1	0.83	10
NEF-D-1+1	0.44	1.66	1.33	0.05	3	0.44	3.71	1.1	0.73	9
NEF-04-F-1+1	0.45	1.75	1.25	0.68	4	0.49	3.85	1.12	0.76	8
MARKA-A-1+1	0.39	3.33	1.16	0.59	6	0.39	3.3	1.14	0.65	7
MARKA-B-1+1	0.48	3.2	1.16	0.85	6	0.47	4.1	1.1	0.80	10
NEF-12-1+1-D	0.49	2.6	1.25	0.69	4	0.34	3.09	1.09	0.75	11
NEF-03-E-1+1	0.53	2.4	1.2	0.77	5	0.54	4.77	1.09	0.81	11
NEF-12-E-1+1	0.32	3.7	1.12	0.73	8	0.45	3.3	1.1	0.83	10
NEF-03-A21+1	0.41	1.66	1.2	0.48	5	0.54	4	1.09	0.83	11
NEF-12-1+1H	0.32	3.0	1.16	0.54	7	0.34	3.69	1.07	0.77	14
1ST AVERAGE	**0.41**	**2.50**	1.23	0.54	**5.2**	**0.43**	**3.76**	1.1	0.77	**10.1**

***GR-2 Convexmap Justify Graphs**

Table 20: Space and Convex Maps of GR-2

1.BORNCITY-1+1	2TRENDIST-1+1	3.SOYAK-1+1	4.BOM RES.1+1
SPACEMAP	**SPACEMAP**	**SPACEMAP**	**SPACEMAP**
			
RA:0.41, MD:2.5, BDF:0.78, SLR:1.2, SPACE NO:5	RA:0.53, MD:2.33 BDF:0.58, SLR:1.2, SPACE NO:5	RA:0.51, MD:2.6, BDF:0.42, SLR:1.2, SPACE NO:5	RA:0.74, MD:3.33 BDF:0.55, SLR:1.25, SPACE NO:4
CONVEXMAP	**CONVEXMAP**	**CONVEXMAP**	**CONVEXMAP**
			
RA:0.37,	RA:0.41,MD:3.3,SLR:1.09	RA:0.40,MD:3,SLR:1.12,	RA:0.38,MD:4.66, SLR:1.1,BDF:0.86, SPACE NO:10

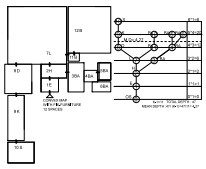
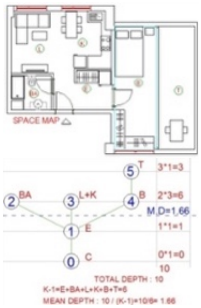
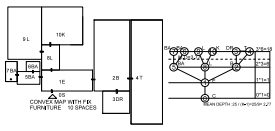
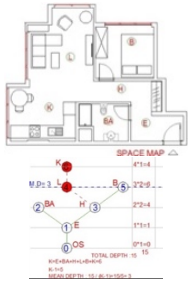
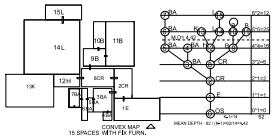
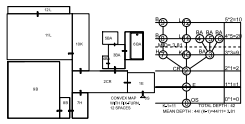
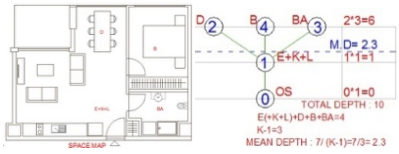
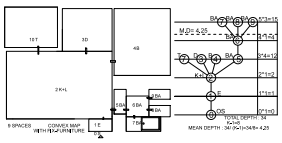
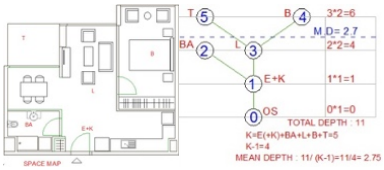
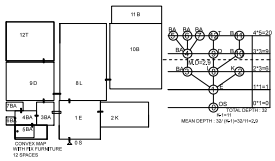
<table>
<tr><td>MD:3.44,SLR:1,
BDF:0.70, SPACE
NO:10</td><td>BDF:0.74, SPACE NO:11</td><td>BDF:0.73,SPACE NO:8</td><td></td></tr>
<tr><td>5.BOM-P-1+1
SPACEMAP
 
RA:0.47, MD:3.33
BDF:0.73, SLR:1.14,
SPACE NO:7
CONVEXMAP
 
RA:0.42, MD:4.37,
SLR:1.08,BDF:0.78,
SPACE NO:12</td><td>6.NEF-H-1+1
SPACEMAP
 
RA:0.41,MD:1.66
BDF:0.48, SLR:1.2,
SPACE NO:5
CONVEXMAP
 
RA:0.34, MD:2.77,SLR:1.1
BDF:0.75,SPACE NO:10</td><td>7.NEF-98-K-1+1
SPACEMAP
 
RA:0.45, MD:3,BDF:0.70
SLR:1.16,SPACE NO:6
CONVEXMAP
 
RA:0.36, MD:4.4,SLR:1,
BDF:0.81,SPACE NO:15</td><td>8.NEF-T-1+1
SPACEMAP
 
RA:0.39, MD:3.3,
BDF:0.65, SLR:1.14,
SPACE NO:7
CONVEXMAP
 
RA:0.35, MD:3.81,
SLR:1, BDF:0.70,
SPACE NO:12</td></tr>
<tr><td colspan="2">9.NEF-F-1+1
SPACEMAP
 
RA:0.37,
MD:2.3,BDF:0.025, SLR:1.25, SPACE NO:4
CONVEXMAP
 
RA:0.34, MD:4.25,
SLR:1.22,BDF:0.82, SPACE NO:10</td><td colspan="2">10.NEF-M-1+1
SPACEMAP
 
RA:0.43, MD:2.7, BDF:0.78,SLR:1.2,SPACE NO:5
CONVEXMAP
 
RA:0.38, MD:2.9,
SLR:1.18,BDF:0.80, SPACE NO:12</td></tr>
</table>

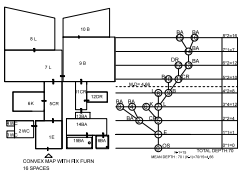
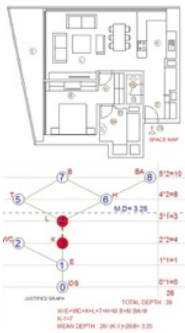
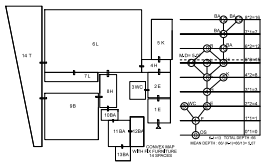
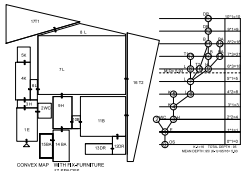
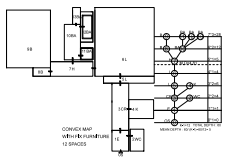
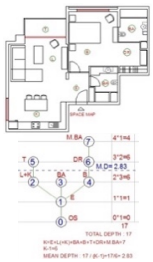
Table 21: Syntactic Results of GR-2 (40-70m2) Space / Convex Maps

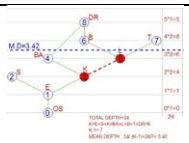
GR-2 (40-70M2)	SPACEMAP					CONVEX MAP WITH FIX-FURNITURE				
	RA	MD	SLR	BDF	SPACE NO	RA	MD	SLR	BDF	SPACE NO
BORN-CITY-1+1	0.41	2.5	1.2	0.78	5	0.37	3.44	1	0.70	10
TRENDIST-1+1	0.53	2.33	1.2	0.58	5	0.41	3.3	1	0.74	11

SOYAK-1+1	0.51	2.6	1.2	0.42	5	0.4	3	1.1	0.73	8
BOMONTI-1+1	0.74	3.33	1.25	0.55	4	0.38	4.66	1.1	0.86	10
BOMONTI-P-1+1	0.47	3.33	1.14	0.73	7	0.42	4.37	1.08	0.78	12
NEF-H-1+1	0.41	1.66	1.2	0.48	5	0.34	2.77	1.1	0.75	10
NEF-98-K-1+1	0.45	3	1.16	0.70	6	0.36	4.4	1	0.81	15
NEF-12-1+1-T	0.39	3.3	1.14	0.65	7	0.35	3.81	1	0.70	12
NEF-12-1+1-F	0.37	2.3	1.2	0.03	4	0.34	4.25	1.22	0.82	10
NEF-12-1+1-M	0.43	2.2	1.25	0.78	5	0.38	2.9	1.18	0.80	12
AVERAGE	**0.47**	**2.65**	**1.19**	**0.57**	**5.3**	**0.37**	**3.69**	**1.07**	**0.76**	**11**

***GR-3 Convexmap Justiy Graphs**

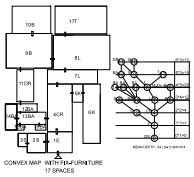
Table 22: Space and Convex Maps of GR-3

1.NEXTLEVEL-B49-1+1 **SPACEMAP**  RA:0.58, MD:3.84,BDF:0.83, SLR:1.14, SPACE NO:7 **CONVEXMAP**  RA:0.39, MD:4.68,SLR:1 BDF:0.85, SPACE NO:16	2.NEXTLEVEL-E-54-1+1 **SPACEMAP**  RA:0.43, MD:3.25 BDF:0.83, SLR:1.25, SPACE NO:8 **CONVEXMAP**  RA:0.38, MD:5.07 SLR:1.14,BDF:0.86, SPACE NO:14	3.NEXTLEVEL-H-49-1+1 **SPACEMAP**  RA:0.38, MD:4.22 BDF:0.79, SLR:1.2, SPACE NO:10 **CONVEXMAP**  RA:0.35, MD:5.83, SLR:1.1,BDF:0.79, SPACE NO:17	4.TRUMP-1+1 **SPACEMAP**  RA:0.51, MD:3.66 BDF:0.88, SLR:1.33, SPACE NO:7 **CONVEXMAP**  RA:0.42,MD:4.81, SLR:1,BDF:0.86, SPACE NO:13
5.BOM-6-1+1 SPACEMAP 	6.EDE TOWER- 1+1 **SPACEMAP** 	7.BOM-2-1+1 **SPACEMAP**  RA:0.37, MD:2.8, BDF:0.68, SLR:1.33, SPACE NO:6 **CONVEXMAP**	8.BOM-7-1+1 **SPACEMAP**  RA:0.50, MD:3.16



RA:0.35, MD:3.42
BDF:0.78, SLR:1.25,
SPACE NO:8

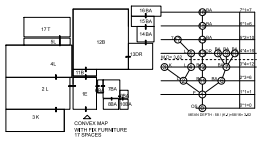
CONVEXMAP



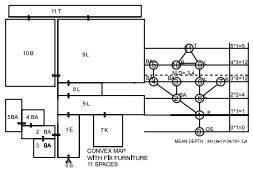
RA:0.27, MD:4,SLR:1,
BDF:0.74,SPACE NO:17

RA:0.45, MD:2.83,
BDF:0.67, SLR:1.14,
SPACE NO:7

CONVEXMAP



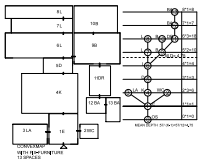
RA:0.40,
MD:3.62,SLR:1.12
BDF:0.74,SPACE NO:17



RA:0.43,
MD:3.4,SLR:1.1,
BDF:0.80,SPACE NO:11

BDF:0.77, SLR:1.14,
SPACE NO:7

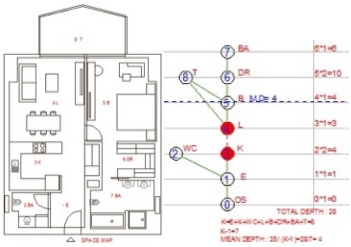
CONVEXMAP



RA:0.43, MD:4.75,
SLR:1,BDF:0.80,
SPACE NO:13

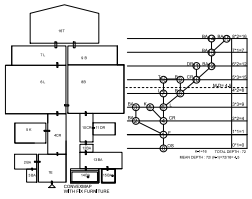
9.NEXTLEVEL-B-59-1+1

SPACEMAP



RA:0.47, MD:4,
BDF:0.80, SLR:1.42, SPACE NO:8

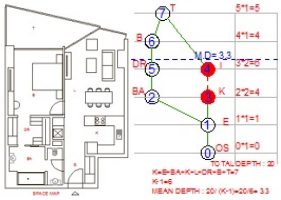
CONVEXMAP



RA:0.37,
MD:4.5,SLR:1.14, BDF:0.82, SPACE NO:16

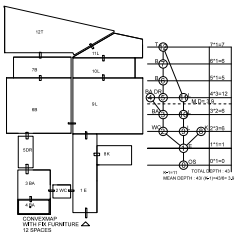
10.NEXTLEVEL-C-52-1+1

SPACEMAP



RA:0.36, MD:3.3,
BDF:0.96, SLR:1.28, SPACE NO:7

CONVEXMAP



RA:0.36,
MD:3.9, SLR:1.18,BDF:0.94, SPACE NO:12

Table 23: Syntactic Results of GR 3 (70-100m2) Space / Convex Maps

GR-3 70-100M2	SPACE MAPS					CONVEX MAPS WITH FIX FURNITURE				
	RA	MD	SLR	BDF	SPACE NO	RA	MD	SLR	BDF	SPACE NO
NEXT LEVEL-1+1	0.58	3.84	1.14	0.83	7	0.39	4.68	1	0.85	16
NEXT LEVEL-E-1+1	0.43	3.25	1.25	0.83	8	0.38	5.07	1.14	0.86	14
NEXT LEVELH-1+1-	0.38	4.22	1.2	0.77	10	0.35	5.83	1.1	0.79	17
TRUMP TOWER-1+1	0.51	3.66	1.33	0.88	7	0.42	4.81	1	0.86	13
BOMONTI-6-1+1	0.35	3.42	1.25	0.78	8	0.27	4.0	1	0.74	17
EDE TOWER-1+1	0.45	2.83	1.14	0.67	7	0.40	3.62	1.12	0.74	17
BOMONTI-2-	0.37	2.8	1.33	0.68	6	0.43	3.4	1.1	0.80	11

1+1										
BOMONTI-7-1+1	0.53	3.16	1.14	0.77	7	0.43	4.75	1	0.80	13
NEXT LEVEL-1+1-B59	0.47	4	1.42	0.80	8	0.37	4.5	1.14	0.82	16
NEXT LEVEL - 1+1	0.36	3.3	1.28	0.96	7	0.36	3.9	1.18	0.95	12
AVERAGE	**0.44**	**3.44**	**1.24**	**0.79**	**7.5**	**0.38**	**4.45**	**1.07**	**0.82**	**14.6**

Table 24: Change of MD-RA-SLR Values Between Group 1 / 2 / 3 Space & Convex Maps.

SPACE MAP	GR-1 20-40M2	GR-2 40-70M2	GR-3 70-100M2	AVERAGE
RA	0.41	0.47	0.44	0.44
MD	2.50	2.70	3.44	2.88
SLR	1.23	1.19	1.24	1.22
BDF	0.54	0.56	0.79	0.63
SPACE NUMBER	5.2 (average)	5.3	7.5	6
CONVEX MAP WITH FIX-FURNITURE	20-40M2	40-70M2	70-100M2	AVERAGE
RA	0.43	0.37	0.38	0.391
MD	3.76	3.69	4.45	3.93
SLR	1.11	1.07	1.07	1.08
BDF	0.77	0.76	0.82	0.78
SPACE NUMBER	9 (average)	11	14.6	11.5

As the results of syntactic measures of convexity, GR-2 had been revealed as the most affected group by convexity in which flexibility had been rised with the lowest mean integartion and mean depth values, highest space link ratio values and optimum basic difference factor value. This indicates that this group, GR-2 was the most standard group, and other groups had already been flexible at space maps and became more flexible by convexity.

MAIN FINDINGS

Through syntactic comparisons of ‘space map-convex map with fix-furniture’, its found that; convex map with fix furniture exhibit deeper (with higher space number) and more integrated spatial configuration. (Table 18-19-20-21-22-23-24)

MEAN INTEGRATION: Lower the integration value (RA), higher the integration character/ability: Mean integration values exhibit significant changes at space and convex maps. Firstly, average values of RA indicated that; integration rise by convexity from 0.44 to 0.39. Except GR-1, GR-2 and GR-3 become more integrated by convexity from 0.47 to 0.37, 0.44 to 0.38, and GR-2 is the most integrated group by convexity, however it was the most segregated group at space map. Thereby, houses become more integrated by convexity at GR-2 and GR-3, and GR-1 is different from GR- 2 / 3 due to its smaller sizes, recesses and fix-furniture is not as much as GR- 2 / 3, thereby convexity reveal very less at GR-1 in relation to decrease of recesses and fix-furniture when compared to GR 2 / 3.

MEAN DEPTH: Higher the mean depth value, deeper the spatial organization: Results of syntactic analyses demonstrated that mean depth values exhibit different characteristics at space and convex maps. Through results;

GR-1 has the shallowest character at space map by 2.50 but this value shows a significant rise at convex map; 3.76.

GR-2 also exhibit a significant rise at convexity, from 2.70 to 3.69.

GR-3 also exhibit a significant rise at convexity, from 3.44 to 4.55.

Thereby, all groups exhibit a rise by convexity and GR-3 has the deepest spatial organization at both space and convex maps.

SLR: 0<SLR<1 indicates tree-like, deep configuration,1<SLR means rings and loops existence & shallower configuration: Mathematical results indicated that both space and convex maps SLR values are higher than 1 which means these houses exhibit rings and circular routes. But at convex maps SLR results show a fall at all groups which indicate compactness and deep configuration by convexity at all groups.

BDF: Close to 0 BDF indicates strong functional differences between spaces, close to 1 BDF indicates no functional difference between spaces and homogenity, adaptability, flexibility of spaces: Firstly, average results indicated that, a rise is found from space map 0.63 to convex maps 0.78, which show there are less functional differences between spaces at convex maps and spaces become more homogenized. In addition, the rise on average space numbers from 6 to 11.5 and 13.5 at convex maps demonstrates the rise at BDF values, in other words, number of defined spaces.

CORES: Inner most area/centre was mentioned at chapter 2, traditional Japanese houses part before as a central area where all different functional spaces gather and defined by mean depth line over justify graphs: Analyses of Justify graphs and mean depth values demonstrated that, at convex maps, some houses exhibit a shift on cores/centers to the perimeters. This shift of center to the perimeters of the houses is found at totally eight houses. This indicates the rise at space numbers of convex maps.

4.3.3 3RD Space Syntax Application: Measuring Integration

At this part, space syntax programme is applied to group organizations and space types. Justify graphs are used to express group new spatiality in a better way, because space syntax is a social logic of space and as indicated by Hillier (2008) as: ‘‘Configuration is defined as relations which take into account other relations (as the prepositions do) and methods developed to measure the relations between each space in a complex and all the others, and in this way to assign ‘Configurational’ values to individual spaces describing the links of each to all others’’ (p. 225). Justify graphs which consist of two elements of circles and links, finds its definition with new space types and groups at these new open plan small houses where there are no existing

walls in domestic interiors. Thereby, differently from prototoype family houses, this small house exbihit group spaces in both formal and informal ways by new space types which exhibit diverse-dual characteristics.

Hillier (2008) describes integration and segregation ability of spaces as two dual concepts that have been revealed by space syntax theory and explains as: ‘‘First, that just as integration-segragation is a continuum, so is the spatial-conceptual distinction. Second, that there is a dynamic interrelation between the two continua’’ (p. 227). Further Hillier continues as:

> The continuum integration-segragation then exists in an active and dynamic relation with the continuum informal-formal. Formal, time-space-segregated systems are used to overcome distance and reproduce existing patterns in society and informal, integrated systems are used to create the densities of high activity that permit morphogenesis and so move society on (p. 228).

Through Hillier’s (2008) studies, space syntax can be seen as a social logic, a spatial language of interiors which justify graphs are the spatial language of space configurations, inwhich all spaces are propositions and pre-positions as circles and links in justify graph language (Hillier, 2008).

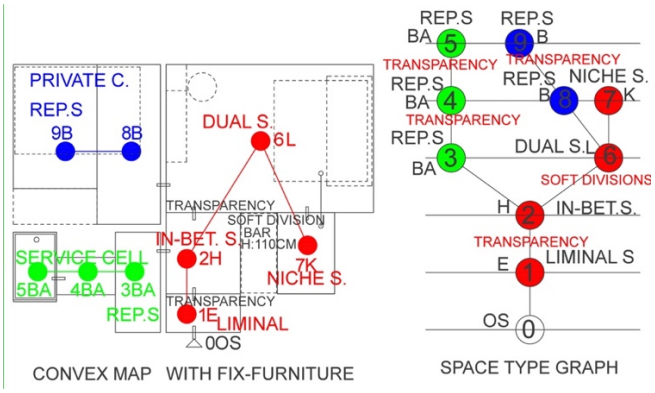


Figure 83: Presentation of Space Types by Justify Graphs

Open plan configuration ensure informal-formal, integrated-segregated combination at new small houses by space types that are different from prototype family houses spaces which are formal-segregated organizations. By open plan configuration and informal-integrated space types new small houses exhibit diverse living spatialities. At the sample GR-1 small house, spatial relations and new space types have been illustrated by justify graphs. (Figure 83)

*6L-7K transparency identifier creates spatial density and link kitchen with living room in informal way.

*1E-2H transparency identifier creates spatial density and link entrance to hall.

*2H-6L soft divisions identifier creates spatial interpenetration relation and link hall to living room with informal way.

*6L camouflage identifier creates spatial depth relation as dual space: living room and bedroom.

*8B-9B transparency identifier creates spatial interpenetration relation.

And public and private group spaces are linked to each other by dual space (livingroom) which living room is used as both living and transition space. At the sample of GR-1 small house, spatiality configuration is as above (see figure 84); Liminal space connects to inbetween space by transparency identifier, in between space is connected to niche space (livingroom) and dual space (sitting corner) with soft division identifier, and to open space (terrace) with transparency identifier. At private compartment; 7B-8B-9B repetitive spaces connect to each other with transparency identifier. And service cells, 3BA-4BA linked to each other with transparency. And the linkage of three group spaces; public compartment is linked to

private compartment by inbetween space (2K) which is a dual space, act as corridor and kitchen from time to time.

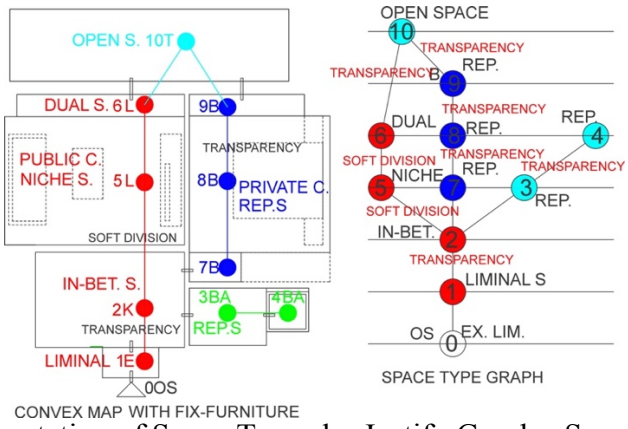


Figure 84: Presentation of Space Types by Justify Graphs, Sample From GR-1

GR-1 small house analyses by space syntax demonstrated that; cases consist of two space groups ; public and private which public is informal, indeterminate as open plan and private is formal with closed walls. Public and private comparments as informal-formal and integrated- segregated group spaces are formed by gathering of space types with spatial identifiers which form spatial relations and form small house spatilaity at the end. At this part, space syntax has been applied to space groups, single spaces and new space types of thirty cases, than syntactic results for each group have been calculated by means of; mean integration (RA) and mean depth (MD) values, in addition each group has been analysed separately which table 25 is prepared for GR-1, table 26 is for GR-2, table 27 is for GR-3, and lastly table 28 presents comparative results for space groups and table 29 for new space types between GR 1 / 2 / 3.

***GR-1 Space Groups / Single Spaces And Space Type Analyses**

Table 25: Syntactic Results of Space Types and Compartments of GR1 By Tests of: RA / MD.

GR-1	**SPACE TYPES - RA/MD LIMINAL / REPETITIVE / INBETWEEN / NICHE / DUAL / OPEN SPACES**						**SPACE GROUPS AND SINGLE SPACES - RA/MD** COMPARTMENTS / CELLS		
	LIMINAL	REPETITIVE	IN-BETWEEN	NICHE	DUAL	OPEN	PUBLIC	PRIVATE	SERVICE
MYVIA-1+1	0.33-2.5	0.38-2.8	0.17-1.8	0.26-2.2	0.35-26	0.44-3	0.27-2.2	0.35-2.73	0.43-3
NEF-D-1+1	0.38-2.55	0.53-3.12	0.22-1.88	0.5-3	0.27-2.1	-	0.34-2.38	0.55-3.22	0.51-3
NEF-04F1+1	0.42-2.5	0.59-3	0.25-1.87	-	0.35-2.25	-	0.34-2.2	0.65-3.31	0.55-2.95
MARKA-A-1+1	0.33-2	0.47-2.4	0.14-1.42	-	0.33-2	0.61-2.85	0.26-1.8	0.42-2.28	0.47-2.42
MARKA-B-1+1	0.35-2.6	0.57-3.58	0.23-2.18	0.34-2.72	0.43-3.17	-	0.33-2.54	0.63-3.85	0.61-3.75
NEF-12-1+1-D	0.16-1.81	0.34-2.72	0.23-2.18	0.34-2.72	0.43-3.17	-	0.31-2.61	0.52-3.63	0.34-2.72
NEF-03-E-1+1	0.49-3.45	0.66-4.32	0.34-2.72	0.38-3.27	0.34-2.72	-	0.4-3	0.71-4.6	0.61-4
NEF-12-E 1+1	0.24-2.1	0.49-3.22	0.26-2.2	0.42-2.9	0.62-3.8	-	0.38-2.75	0.52-3.35	0.49-3.22
NEF-03-A2-1+1	0.34-2.72	0.63-4.2	0.34-2.72	0.63-4.18	0.45-3.27	-	0.42-3.15	0.69-4.45	0.61-4
NEF-12-H-1+1	0.23-2.5	0.48-4.37	0.19-2.28	0.32-4	0.32-3.1	-	0.27-2.93	0.43-3.83	0.41-3.69
AVERAGE RA/ MD	0.32-2.27	0.51-3.37	0.24-2.12	0.4-3.16	0.38-2.79	0.52/2.92	0.33-2.55	0.54-3.52	0.5-3.2

***Space Types of GR-1**

RA= IN-BETWEEN S:0.24<LIMINAL S:0.32<DUAL S:0.38<NICHE S:0.4<REPETITIVE S:0.51<OPEN S:0.54

MD= IN-BETWEEN S:2.12<LIMINAL S:2.27<DUAL S:2.79<NICHE:0.4<OPEN S:3.21<REPETITIVE S:3.37

*RA values and 'space type' graphs indicated that; in-between spaces exhibit most integrated spatial character, whilst, repetitive spaces are the most segregated. Open spaces are also segregated normally because they are terraces. Liminal spaces are as

integrated as in-between and dual spaces are also integrated. Niche spaces exhibit less integration character and commonly segregated.

*MD values on the other hand, clarify RA values, while in-between spaces are shallower, repetitive spaces are deeper.

***Space Groups / Single Spaces of GR-1**

RA= PUBLIC COM:0.33<SERVICE CELLS:0.50<PRIVATE COM:0.54

MD= PUBLIC COM:2.55<SERVICE CELLS:3.2<PRIVATE COM:3.5

Through, RA values and 'space groups graphs' of 20-40m2 group, its found that; public compartments exhibit the most integrated and shallowest character, whilst, private compartments exhibit more segregated and deeper character. In addition, mean depth values clarify this comparison of mean integration values, while public compartments exhibit shallower character, private compartments are deeper. In addition, 'space type' graphs of 20-40m2 group indicated that, public compartments exhibit different space types such as; liminal, niche, in-between, dual, open, whilst, private compartments exhibit similar space types such as repetitive spaces. Service cells exhibit similar character with private compartments, and similar space types such as repetitive spaces. (Table 25)

***GR-2 Space Groups / Single Space Characteristics And Space Type Analyses**

Table 26: Syntactic Results of Space Types and Compartments of GR2 by Tests of: RA / MD

GR-2	**SPACE TYPES - RA/MD LIMINAL / REPETITIVE / INBETWEEN / NICHE / DUAL / OPEN SPACES**						**SPACE GROUPS AND SINGLE SPACES - RA/MD COMPARTMENTS / CELLS**		
	LIMINAL S.	REPETITIVE S.	IN-BETWEEN S.	NICHE S.	DUAL S.	OPEN S.	PUBLIC COM.	PRIVATE COM.	SERVICE CELLS
BORN CITY-1+1	0.15-1.7	0.4-2.93	-	0.46-3.1	0.26-3.1	0.46-3.1	0.29-2.3	0.41-2.8	0.39-2.97
TRENDIST 1+1	0.21-2	0.45-3.29	0.25-2.27	-	0.43-3.18	-	0.29-2.51	0.51-3.6	0.37-2.92
SOYAK-1+1	-	0.41-2.47	0.21-1.75	0.46-2.62	0.46-2.62	-	0.32-2.15	0.48-2.68	0.47-2.68
BOMONTI 1+1	-	0.39-3.36	0.43-2.95	-	0.24-2.6	0.44-3.0	0.36-2.66	0.32-2.45	0.43-2.97

BOMONTI 1+1	0.36-3	0.41-3.55	0.22-2.25	0.48-3.66	0.34-2.9	-	0.32-2.83	0.45-3.54	0.46-3.55
NEF-H-1+1	0.13-1.6	0.37-2.62	0.24-2.1	0.44-3	0.44-3	0.42-2.9	0.31-2.42	0.33-2.5	0.37-2.7
NEF-98-K 1+1	0.31-3.2	0.37-3.65	0.19-2.4	0.4-3.86	0.45-4.19	-	0.32-3.31	0.37-3.68	0.41-3.89
NEF-12-1+1-T	0.28-2.58	0.37-3	0.15-1.83	0.25-2.41	0.47-3.58	-	0.31-2.74	0.47-3.62	0.34-2.93
NEF-12-1+1-F	0.33-2.5	0.36-2.68	-	0.37-2.7	0.17-1.8	0.37-2.7	0.29-2.33	0.37-2.7	0.36-2.68
NEF-12-1+1-M	-	0.41-3.29	0.19-2	0.36-3	0.3-2.6	0.54-4	0.29-2.62	0.45-3.54	0.39-3.21
AVERAGE RA/MD	0.27-2.36	0.39-3.29	0.23-2.19	0.40-3.0	0.35-2.8	0.44-3.14	0.31-2.58	0.41-3.11	0.39-3

***Space Types of GR2**

RA=IN-BETWEEN:0.23<LIMINAL S:0.27<DUAL S:0.35<REPETITIVE S:0.39< NICHE S:0.40<OPEN S:0.44: In-between spaces are the most integrated and niche spaces are the most segregated spaces. Open spaces are also segregated as terraces.

MD=IN-BETWEEN S:2.19<LIMINAL S:2.36< DUAL S:2.8< NICHE S:3.0<OPEN S:3.14<REPETITIVE S:3.29: Mean depth values clarify RA values, in-between spaces are the most shallower, niche and repetitive spaces are the deepest spaces.

***Space Groups and single Spaces of GR2**

RA= PUBLIC COM:0.31<SERVICE CELLS:0.39<PRIVATE COM:0.41 : Public compartments are the most integrated, whilst, private compartments exhibit segregated character.

MD=PUBLIC COM:2.58<SERVICE CELLS:3.05<PRIVATE COM:3.11: Public compartments exhibit shallower spatial organization, whilst, private compartments and service cells exhibit segregated spatial organization. (Table 26)

***GR-3 Space Groups / Single Spaces and Space Type Analyses**

Table 27: Syntactic Results of Space Types and Group / Single Org. of GR3 By Tests of: RA / MD

GR-3	SPACE TYPES - RA/MD						SPACE GROUPS / SINGLE SPACES - RA/MD		
	LIMINAL S.	IN-BETWEEN S.	REPETITIVE S.	NICHE S.	DUAL S.	OPEN S.	PUBLIC COM.	PRIVATE COM.	SERVICE CELLS
NEXT LEVEL-1+1	0.32/3.43	0.26-3	0.43/4.28	0.39/3.93	0.24/2.81	-	0.31/3.38	0.41/4.11	0.49/4.74
NEXT LEVEL-E 1+1	0.42-3.78	0.32-3.14	0.41-3.73	0.39-3.57	0.28-2.28	0.34-3	0.32/3.15	0.41/3.73	0.57/4.71
NEXT LEVELH-1+1	-	0.38-4.11	0.37-4	0.38-4.11	0.24-3	0.33-3.6	0.30/3.48	0.37/4	0.55/5.41
TRUMP TOWER-1+1	0.44-3.69	0.34-3	0.43-3.61	0.5-4	0.26-2.6	-	0.36/3.21	0.43/3.61	0.6/4.61
BOMONTI-6-1+1	0.21-2.7	0.13-2.11	0.44-3.22	0.38-4.11	0.41-4.29	0.58-5.64	0.22/2.84	0.27/3.22	0.37/3.99
EDE TOWER-1+1	0.21-2.7	0.27-3.17	0.44-4.61	0.38-4.11	0.41-4.29	0.58-5.64	0.33/3.71	0.44/4.2	0.39/4.2
BOMONTI-2-1+1	0.25-2.27	0.28-2.45	0.48-3.45	0.43-3.18	0.43-3.18	0.6-4	0.33/2.7	0.6/4	0.38/2.76
BOMONTI-7-1+1	0.41-3.46	0.3-2.84	0.47-3.88	-	0.38-3.35	-	0.36/3.2	0.47/3.88	0.51/4.84
NEXT LEVEL-1+1	0.34-3.56	0.26-3	0.4-4.8	0.39-3.93	0.27-3	0.37-3.81	0.3/3.22	0.36/3	0.28/2.58
NEXT LEVEL -1+1	-	0.27-2.5	0.43-3	0.43-3.41	0.35-3	0.42-3.33	0.35/2.98	0.36/3	0.28/2.58
AVERAGE RA/MD	0.34-3.19	0.28-2.93	0.41-3.85	0.4-3.79	0.30-3	0.42-3.4	0.31-3.19	0.41-3.8	0.47-4.22

***Space Types of GR-3**

RA=IN-BETWEEN:0.28<DUAL:0.30<LIMINAL:0.34<NICHE:0.40< REPETITIVE:0.41<OPEN:0.42 : In-between spaces are the most integrated and repetitive spaces are the most segregated spaces. Open spaces are also segregated as terraces.

MD=IN-BETWEEN :2.93<DUAL :3<LIMINAL :3.19<OPEN :3.4< NICHE:3.79 < REPETITIVE :3.85: Mean depth values clarify RA values, in-between spaces are the most shallower, niche and repetitive spaces are the deepest spaces.

***Space Groups and Single Spaces of GR-3**

RA=PUBLIC COM:0.31<PRIVATE COM:0.41<SERVICE CELLS:0.47: Public compartments are the most integrated, whilst, service cells exhibit segregated character.

MD=PUBLIC COM:3.19<PRIVATE COM:3.80<SERVICE CELLS:4.22: Public compartments exhibit shallower spatial organization, whilst, private compartments and service cells exhibit segregated spatial organization.

***Syntactic Results For Comparisons Of GR – 1 / 2 / 3**

Table 28: Comparative Syntactic Results of All Groups; Space Groups / Single Spaces By Means of; RA / MD / BDF

RA/MD	GR-1	GR-2	GR-3	**AVERAGE**
PUBLIC COM.	RA:0.33/MD: 2.55	RA:0.31/MD:2.58	RA:0.31/MD:3.19	RA:0.31/ MD:2.77
PRIVATE COM.	RA:0.54/ MD:3.5	RA:0.41/MD:3.11	RA:0.41/MD:3.80	RA:0.45/ MD:3.47
SERVICE CELLS	RA:0.50/ MD:3.2	RA:0.39/MD:3.05	RA:0.47/MD:4.22	RA:0.45/ MD:3.49

RA: PUBLIC COM=0.31<PRIVATE COM=SERVICE CELLS=0.45
MD: PUBLIC COM=2.77<PRIVATE COM=3.47<SERVICE CELLS:3.49

***Public compartments:** RA:0.31 / MD:2.77 / BDF:0.96

Average RA values indicated that , public compartments are the most integrated one with 0.31 value. MD values clarify this with lowest value, 2.77 as the shallowest character. Private compartments and service cells exhibit very close syntactic results such as; both have 0.45 RA value and MD values are higher than public com. with 3.47, 3.49 values.

Table 29: Comparative Syntactic Results of Space Types By Means of; RA / MD

RA/MD	GR-1	GR-2	GR-3	AVERAGE
LIMINAL SPACE	0.32 / 2.27	0.27 / 2.36	0.34 / 3.19	0.31 / 2.60
INBETWEEN	0.24 / 2.12	0.23 / 2.19	0.28 / 2.93	0.25 / 2.41

SPACE				
REPETITIVE SPACE	0.51 / 3.37	0.39 / 3.29	0.41 / 3.85	0.43 / 3.50
NICHE SPACE	0.4 / 3.16	0.4 / 3	0.4 / 3.79	0.40 / 3.31
DUAL SPACE	0.38 / 2.79	0.35 / 2.8	0.30 / 3	0.34 / 2.86
OPEN SPACE	0.52 / 2.92	0.44 / 3.4	0.42 / 3.4	0.46 / 3.24

RA:INBETWEEN=0.25<LIMINAL=0.31<DUAL=0.34<NICHE=0.40<REPETITIVE=0.43<OPEN=0.46
MD:INBETWEEN=2.41<LIMINAL=2.60<DUAL=2.86<OPEN=3.24<NICHE=3.31<REPETITIVE=3.50

Through syntactic results its found that; in-between space is the most integrated and shallower one, whilst, repetitive space is the most segregated and deeper. Liminal and dual spaces are also integrated and shallower. In addition, open spaces as terraces are the most segregated and deeper. To sum up, syntactic results of group organizations and space types clarify each other such as, public compartments that are formed by in-between, liminal, dual and niche spaces, exhibit integrated character, however, space types are also integrated too. On the other hand, private compartments and service cells that are formed by repetitive spaces commonly, exhibit more segregated and deep character, and their space types are the same character. (Table 28-29)

4.4 Part 3: Shape Grammar Method

In the thesis study, its basically indicated that the main theme of a house to be a small house is ; ‘Its spatiality is different from space concept’. Thus, to demonstrate this hypothesis , the new spatiality of contemporary small houses, it’s found useful to use shape grammar to indicate spatial relations in a better way and study carries space syntax method one step forward by combining abstract and analytical results

by using shape grammar as the graph-base representation of spatial and syntactical analyses.

Shape grammar as defined by Heitor (2004) and Ostwald (2011) is a graph theory that have focused on generative and analytical application to design, however Bafna (1999) and Hillier (1999) have suggested the importance of spatial analysis or topological configuration using by graph theory. As indicated by Lee & Ostwald & Gu (2013):

> To further explore the second aspect of this field of research, study combines facets of two different computational approaches: Space Syntax and Shape Grammar. The particular part of the theory of Space Syntax being addressed in this paper relates to the process of generating conceptual structures and topological design rules by way of a variation of convex space analysis (using a justified Plan Graph or JPG). Conversely, shape grammars are patterns of rules that are used to configure architectural form. (p. 2)

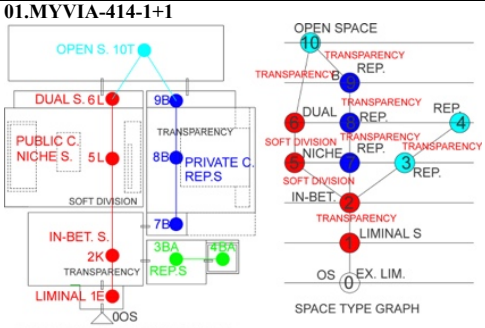
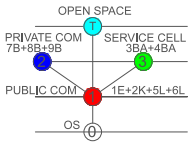
In addition, through Lee & Ostwald & Gu ; ‘‘Space Syntax is conventionally used to develop an understanding of spatial topologies and the social relations implicit in various architectural or urban settings or types. Shape grammars deal with formal typologies that allow for a design style to be described, analysed and generated’’(p. 2).

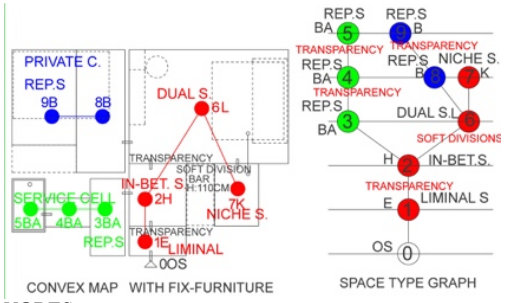
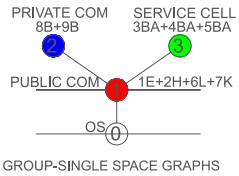
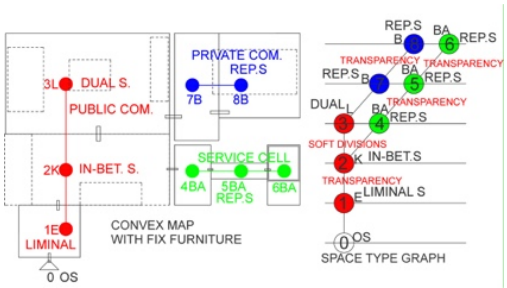
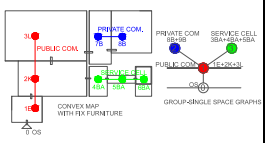
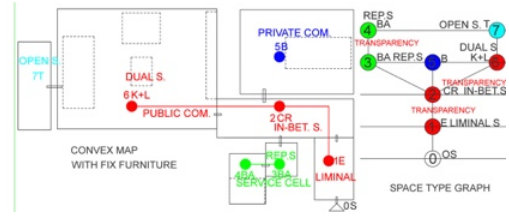
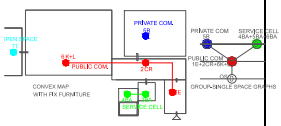
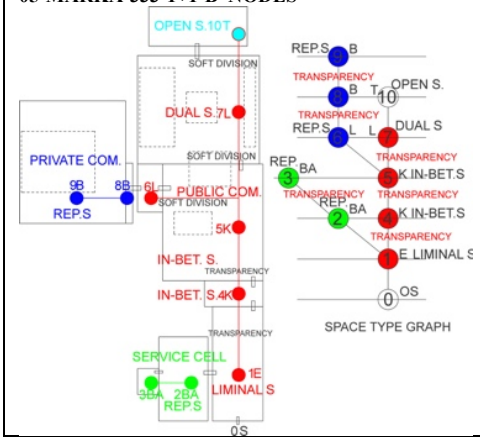
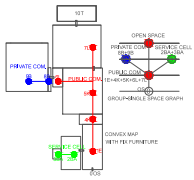
At the thesis study, it is aimed to define new spatiality of recent day small houses with space syntax and shape grammar such as; (1) Spatial relations; spatial depth, density, interpenetration, (2) Spatial identifiers; transparency, soft divisions, concealeable / mobile partitions, (3) Spatial organizations types; axial, cross-axial and cluster type organizations, (4) New space types; liminal, repetitive, in-between, dual, niche, open spaces, (5) New space groups and single spaces as a result of diverse combination of six space types; public and private compartments and service

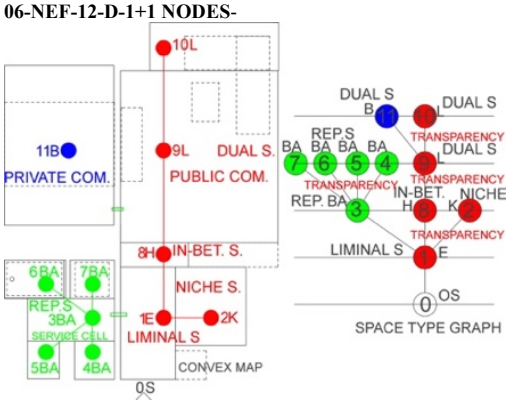
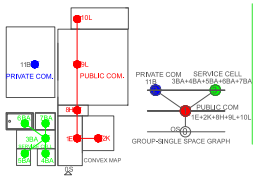
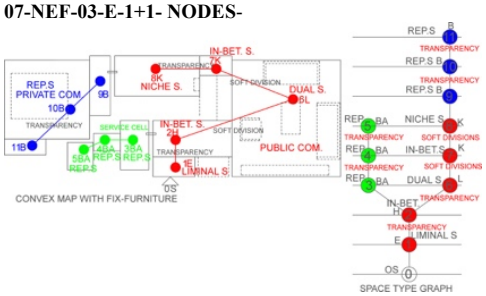
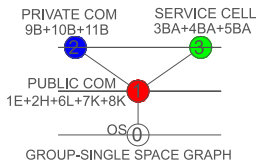
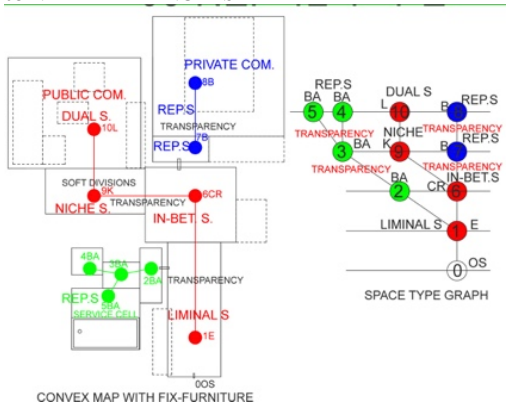
cells. Space groups are formed by axial, cross axial or cluster type organizations with new spatial relations that are realized by spatial identifiers and consists of new six new space types. New space groups and single spaces are; public compartment-private compartment-service cell in the thesis study.

To demonstrate conceptual and spatial explorations of the thesis, shape grammar method has been used with three rules that are expressed by justify graphs such as; (1) rule-1: nodes (shape grammar) - space types, (2) rule-2: links (shape grammar) – new spatial relations (depth / density / interpenetration) + spatial identifiers (transparency / conceable furniture / soft divisions), (3) rule-3: nodes+links (shape grammar) - public / private compartments / service cells. (Table 30-31-32)

Table 30: GR-1 Determination Of 'Nodes - Links - Nodes+Links' Rule

01.MYVIA-414-1+1  CONVEX MAP WITH FIX-FURNITURE **SPACE TYPES ANALYSIS NODES** *NODE(1E): LIMINAL SPACE, *NODE(2K):INBETWEEN SPACE *NODE(3BA/4BA):REPETITIVE SPACES *NODE(5L):NICHE SPACE *NODE(6L):DUAL SPACE *NODE(7B/8B/9B): REPETITIVE SPACES, *NODE(10T):OPEN SPACE *CORE NODE (2K)–LINK (PUBLIC COM-PRIVATE COM-SERVICE CELL)	**SPATIAL RELATIONS AND IDENTIFIERS-LINKS** *LINK (1E-2K):DEPTH *LINK (2K-5L-6L):DEPTH *LINK (6L-10T-9B):DENSITY *LINK (2K-7B): DOOR *LINK (7B-8B-98):DEPTH, INTERPENETRATION *LINK (2K-3BA): DOOR *LINK (3BA-4BA): INTERPENETRATION	**SPACE GROUPS / SINGLE SPACES AS NODES&LINKS**  GROUP-SINGLE SPACE GRAPHS *PUBLIC COM: NODES(1E+2K+5L+6L),AXIAL ORG. *PRIVATE COM: NODES (7B-8B-9B), AXIAL ORG. *SERVICE CELL: NODES (3BA-4BA) AXIAL ORG.

02-NEF-03-D-1+1  **NODES** *NODE(1E):LIMINAL SPACE, *NODE(2H):INBET.,*NODE (3/4/5BA): REPETITIVE SPACES *NODE(6L):DUAL SPACE *NODE(7K):NICHE SPACE, *NODE (8B/9B):REPETITIVE SPACES	**LINKS** *LINK (1E-2H):DEPTH *LINK(2H-3BA):DOOR *LINK (3BA-4BA-5BA): INTERPENETRATION *LINK (2H-6L-7K):DEPTH, DENSITY *LINK (6L-8B):DOOR *LINK (8B-9B): INTERPENETRATION	**NODES+LINKS**  *PUBLIC COM: NODES(1E+2H+6L+7K),CLUSTER ORG. *PRIVATE COM: NODES (8B+9M) ,AXIAL ORG. *SERVICE CELLS: NODES (3BA+4BA+5BA), AXIAL ORG.
03.NEF-04-F-1+1 **NODES-**  *NODE(1E):LIMINAL *NODE(2K):INBETWEEN *NODE(3L): DUAL *NODE(4BA/5BA/6BA):REP. *NODE(7B/8B):REPETITIVE *CORE NODE (2K)–LINK (PUBLIC COM-SERVICE CELL) *CORE NODE-2 (3L)–LINK	**LINKS-** *LINK (1E-2K-3L):DEPTH, INTERPENETRATION *LINK (2K-4BA): DOOR *LINK (4BA-5BA-6BA): INTERPENTRATION *LINK (3L-7B):DOOR *LINK (7B-8B): INTERPENETRATION	**NODES+LINKS**  *PUBLIC COM:NODES (1E+2K+3L), AXIAL ORG. *PRIVATE COM: NODES (7B-8B) CLUSTER ORG. *SERVICE CELLS: NODES (4BA-5BA-6BA), AXIAL ORG.
04-MARKA-333-1+1-A **NODES-**  *NODE (1E):LIMINAL *NODE (2CR):INBETWEEN *NODE (3BA-4BA): REPETITIVE *NODE(5B):DUAL *NODE(6K+L):DUAL *NODE(7T):OPEN *CORE NODE (2CR)-*LINK(PUBLIC COM-PRIVATE COM-SERVICE CELL)	**LINKS-** *LINK (1E-2CR):DENSITY *LINK(2CR-6K+L):DEPTH *LINK (3BA-4BA):DENSITY *LINK (6K+L-7T): DENSITY	**NODES+LINKS**  *PUBLIC COM: NODES (1E+2CR+6K+L), AXIAL ORG. *PRIVATE COM: NODE(5B) *SERVICE CELL: NODES (4BA+5BA),AXIAL
05-MARKA-333-1+1-B NODES-  	**LINKS** *LINK (1E-4K-5K-7L) : DEPTH, DENSITY *LINK (1E-2BA):DOOR *LINK (2BA-3BA) : INTERPENTRATION *LINK (7L-10T):DENSITY *LINK (6L-8B): DOOR *LINK (8B-9B): INTERPENTRATION	**NODES+LINKS**  *PUBLIC COM: NODES (1E-4K-5K-6L-7L),AXIAL ORG. *PUBLIC COM: NODES (8B+9B), AXIAL ORG. *SERVICE CELL: NODES (2BA-3BA)

*NODE (1E):LIMINAL *NODE(4K):INBETWEEN *NODE(5K):INBETWEEN *NODE(7L):DUAL,NODE(2BA-3BA):REPETITIVE *NODE (8B-9B):REPETITIVE *NODE(10T): OPEN *CORE NODE (1E)–LINK (PUBLIC COM-SERVICE CELL) *CORE NODE-2 (5K)–LINK (PUBLIC COM-PRIVATE COM)		
06-NEF-12-D-1+1 NODES-  *NODE(1EL):LIMINAL, *NODE(2K):NICHE, *NODE(3BA-4BA-5BA-6BA-7BA):REP., *NODE(8H):INBET., *NODE(9L):DUAL, *NODE(10L): DUAL *CORE NODE (1E) – LINK (PUBLIC COM-SERVICE CELL) *CORE NODE-2 (9L) – LINKS (PUBLIC COM-PRIVATE COM)	**LINKS** *LINK (1E-2K):DENSITY *LINK (1E-8H-9L-10L):DEPTH *LINK (1E-3BA):DOOR *LINK (3BA-4BA-5BA-6BA-7BA): INTERPENETRATION *LINK (9L-11B):DOOR	**NODES+LINKS**  *PUBLIC COM:NODES (1E+2K+8H+9L+10L),AXIAL ORG. *PRIVATE COM: NODE(11B) *SERVICE CELL: NODES (3BA+4BA+5BA+6BA+7BA), CLUSTER ORG.
07-NEF-03-E-1+1- NODES-  *NODE(1E):LIMINAL,*NODE(2H):INBETWEEN *NODE(3BA-4BA-5BA):REPETETIVE *NODE(6L):DUAL *NODE(7K): INBETWEEN *NODE(8K): NICHE *NODE(9B-10B-11B): REPETITIVE *CORE NODE(2H) -LINK (PUBLIC COM.-SERVICE CELL) *CORE NODE2 (8K) - LINK (PUBLIC COM-PRIVATE COM)	**LINKS-** *LINK (1E-2H):DEPTH *LINK (2H-6L):DENSITY *LINK (6L-7K):DENSITY *LINK (7K-8K): INTERPENETRATION *LINK (8K-9B):DOOR *LINK (9B-10B-11B):DENSITY, INTERPENETRATION *LINK (2H-3BA):DOOR *LINK (3BA-4BA-5BA): DEPTH	**NODES+LINKS**  *PUBLIC COM:NODES (1E+2H+6L+7K+8K), AXIAL ORG. *PRIVATE COM: NODES (9B+10B+11B), AXIAL ORG. *SERVICE CELL: NODES (3BA+4BA+5BA),AXIAL ORG.
08-NEF-12-E-1+1 NODES -  *NODE(1E):LIMINAL *NODE(2WC):- *NODE(3LA):- *NODE (4K):INBETWEEN	**LINKS-** *LINK (1E-2WC):DOOR *LINK(1E-3LA):DOOR *LINK(1E-4K):DEPTH *LINK(4K-5D):DEPTH *LINK(5D-6L):DEPTH *LINK(6L-9B):DEPTH *LINK(9B-10B):DENSITY *LINK(9B11DR): INTERPENETRATION *LINK(11DR 12BA): INTERPENETRATION *LINK(12BA-13BA):DENSITY	**NODES+LINKS** *PUBLIC COM: NODES(1E+6CR+9K+10L), AXIAL ORG. *PRIVATE COM: NODES (9B+10B+11DR+ 12BA+ 13BA), AXIAL ORG. *SERVICE CELL: NODES (2WC+3LA), NODES(12BA+13BA)

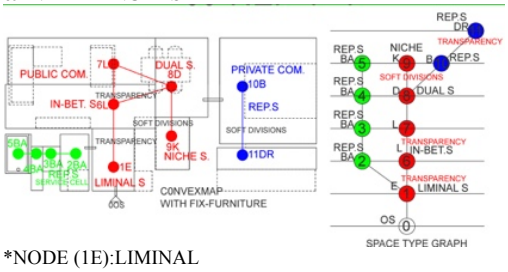
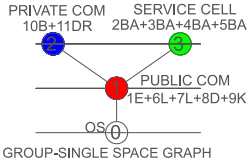
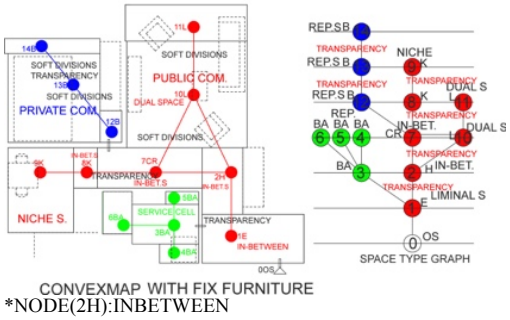
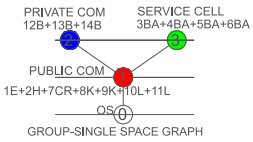
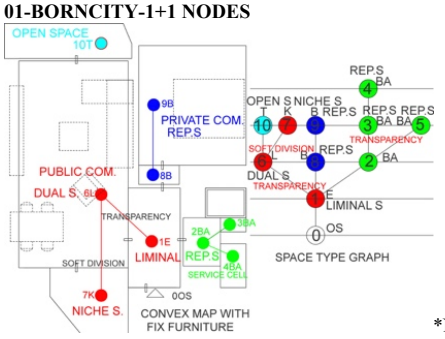
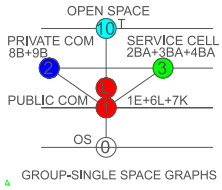
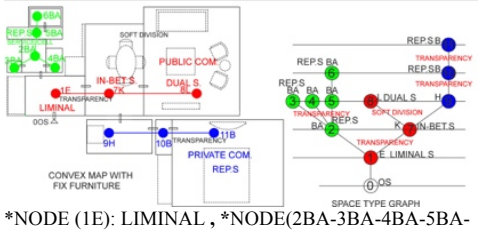
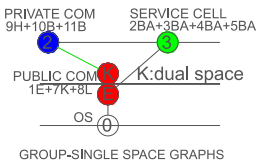
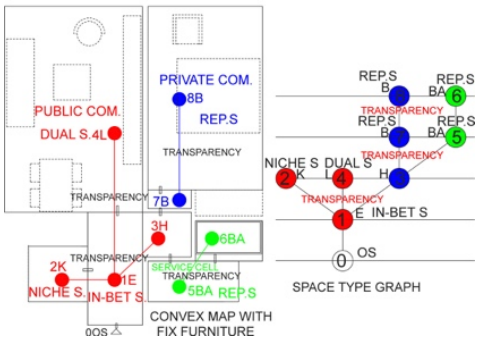
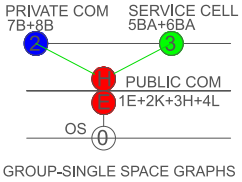
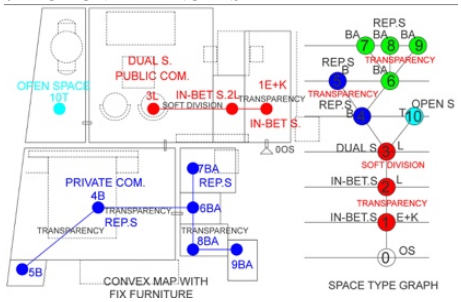
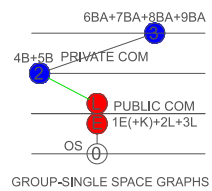
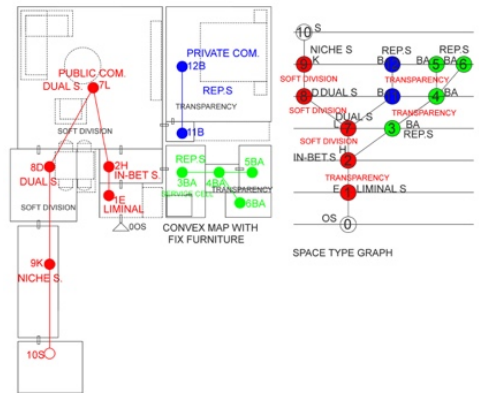
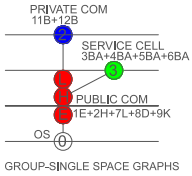
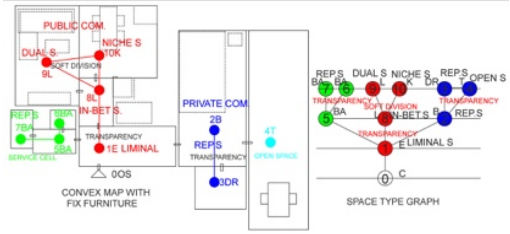
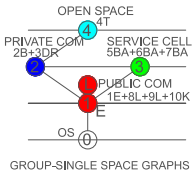
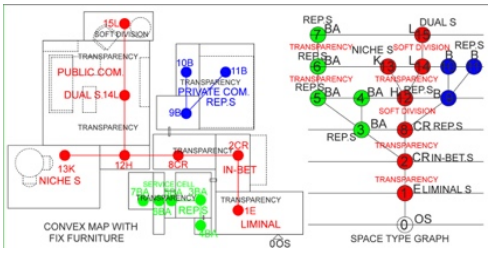
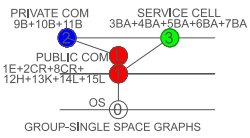
*NODE(5D)INBETWEEN *NODE(6L):DUAL *NODE(7L):DUAL *NODE(8L):DUAL *NODE(9B):DUAL *NODE(10B):DUAL *NODE(11DR):INBETWEEN *NODE(12BA):REPETITIVE *NODE(13BA):REPETITIVE *CORE NODE (6L) – LINK (PUBLIC COM-PRIVATE COM) *CORE NODE-2 (1E) – LINK (PUBLIC COM-SERVICE CELLS)		
09-NEF-1+1 NODES  *NODE (1E):LIMINAL *NODE(2BA-3BA-4BA-5BA): REPETITIVE *NODE(6L):INBETWEEN *NODE(7L): DUAL *NODE(8D): DUAL *NODE(9K): NICHE *NODE (10B): DUAL *NODE (11DR): REPETITIVE *CORE NODE (1E)–LINK (PUBLIC COM-SERVICE CELL) *CORE NODE (8D)–LINK (PUBLIC COM-PRIVATE COM)	**LINKS** *LINK (1E-2BA):DOOR *LINK (2BA-3BA-4BA-5BA): INTERPENETRATION,DEPTH *LINK(1E-6L):DEPTH *LINK (6L-7L-8D):DEPTH *LINK (8D-9K):DEPTH	 **NODES+LINKS** *PUBLIC COM:NODES (1E+6L+7L+8D+9K) CLUSTER ORG. *PRIVATE COM:NODES (10B-11DR),AXIAL ORG. *SERVICE CELL: NODES (2BA-3BA-4BA-5BA),AXIAL ORG.
10-NEF-12-H-1+1 NODES-NODE(1E):LIMINAL  CONVEXMAP WITH FIX FURNITURE *NODE(2H):INBETWEEN *NODE(3BA-4BA-5BA-6BA):REPETITIVE *NODE(7CR):INBETWEEN *N0DE(8K):INBETWEEN *NODE(9K): NICHE *NODE(10L):DUAL *NODE (11L): INBETWEEN *NODE (12B):INBETWEEN *NODE (13B-14B): REPETITIVE *CORE NODE (1E)–LINK (PUBLIC COM-SERVICE CELL) *CORE NODE2 (7CR)–*LINK(PUBLIC COM-PRIVATE COM)	**LINKS**-LINK (1E-2H):DEPTH *LINK (2H-7CR-8K-9K):DEPTH, *LINK (7CR-12B):DOOR *LINK (12B-13B-14B) : INTERPENETRATION, DENSITY *LINK (1E-3BA):DOOR *LINK (3BA-4BA-5BA-6BA): INTERPENETRATION	**NODES+LINKS**  *PUBLIC COM:NODES (1E+2H+7CR+8K+9K+10L+11L),AXIAL ORG. *PRIVATE COM: NODES (12B+13B+14B),AXIAL ORG. *SERVICE CELL: NODES (3BA-4BA-5BA-6BA), CLUSTER ORG.

Table 31: GR-2 Determination of 'nodes-links-nodes+links' rule

01-BORNCITY-1+1 NODES  *NODE (1E): LIMINAL, *NODE(2BA-3BA-4BA-5BA):REPETITIVE, *NODE(8B):INBETWEEN, *NODE(9B): REPETITIVE, *NODE(6L): DUAL, *NODE(7K): NICHE *CORE NODE (1E) – LINK (PUBLIC COM-PRIVATE COM-SERVICE CELL)	**LINKS** *LINK (1E-2BA): DOOR *LINK (1E-6L): DEPTH *LINK (6L-7K): DEPTH *LINK (6L-10T): DOOR *LINK (1E-8B) : DOOR *LINK (8B-9B): INTERPENETRATION	**NODES+LINKS**  *PUBLIC COM:NODES(1E+6L+7K),,AXIAL ORG. *PRIVATE COM: NODES(8B+9B), AXIAL ORG. *SERVICE CELL: NODES (2BA+3BA+4BA), CLUSTER ORG.
02-TRENDIST-1+1 NODES  *NODE (1E): LIMINAL , *NODE(2BA-3BA-4BA-5BA-6BA):REPETITIVE, *NODE(7K):INBETWEEN, *NODE(8L): DUAL, *NODE(9H): INBETWEEN, *NODE(10B-11B): REPETITIVE *CORE NODE (1E) – LINK (PUBLIC COM-SERVICE CELL) *CORE NODE-2(7K) – LINK (PUBLIC COM-PRIVATE COM)	**LINKS** *LINK (1E-2BA):DOOR *LINK (2BA-3BA-4BA-5BA-6BA): INTERPENETRATION,DEPTH *LINK (1E-7K-8L):DEPTH *LINK (7K-8L) :DENSITY *LINK 7K-9H): INTERPENETRATION *LINK (9H-10B):DOOR *LINK (10B-11B): INTERPENETRATION,DEPTH	**NODES+LINKS**  *PUBLIC COM:NODES(1E+7K+8L), AXIAL ORG. *PRIVATE COM:NODES (9H+10B+11B),AXIAL ORG. *SERVICE CELL:NODES (2BA+3BA+4BA+5BA),CLUSTER ORG.
03-SOYAKSIESTA-1+1 NODES  *NODE (1E):INBETWEEN, *NODE (2K): NICHE, *NODE(3H): INBETWEEN, *NODE (4L): DUAL, *NODE (5BA-6BA):REPETITIVE, *NODE(7B-8B): REPETITIVE *CORE NODE (1E) – LINK (PUBLIC COM-INBETWEEN SPACE)*CORE NODE-2 (3H)	**LINKS** *LINK (1E-2K): DEPTH,DENSITY *LINK (1E-3H): DEPTH *LINK (1E-4L): DEPTH *LINK (3H-5BA): DOOR *LINK (5BA-6BA): INTERPENETRATION *LINK (3H-7B): DOOR *LINK (7B-8B) :DENSITY INTERPENETRATION	**NODES+LINKS**  *PUBLIC COM:NODE (1E+2K+3H+4L), AXIAL ORG. *PRIVATE COM: NODES (7B+8B) AXIAL ORG. *SERVICE CELLS:NODES (5BA+6BA), CLUSTER ORG.
04-BOMONTI-1+1 NODES-  *NODE (1E+K): LIMINAL+INBETWEEN, *NODE(2L):INBETWEEN, *NODE (3L): DUAL,	**LINKS** *LINK (1E(+K)-2L):DEPTH *LINK (2L-3L):DEPTH *LINK (3L-4B):DOOR *LINK (4B-5B): INTERPENETRATION *LINK (4B-6BA):DOOR *LINK (6BA-7BA-8BA-9BA): INTERPENETRATION *LINK (3L-10T): DOOR	**NODES+LINKS**  *PUBLIC COM: NODES (1E(+K)-2L-3L),AXIAL ORG. *PRIVATE COM: NODES (4B+5B+6BA+7BA+8BA+9BA)

*NODE(4B-5B): REPETITIVE,*NODE(6BA-7BA-8BA-9BA): REPTITIVE *CORE NODE (3L) – LINK (PUBLIC COM-OPEN SPACE-PRIVATE COM.) *CORE NODE-2 (4B) – LINK (PRIVATE COM-SERVICE CELL)		CLUSTER ORG. *SERVICE CELL :NODES (6BA+7BA+8BA+9BA),AXIAL ORG.
05-BOMONTI-MODERN-1+1 NODES  *NODE (1E): LIMINAL *NODE(2H):INBETWEEN *NODE(3BA-4BA-5BA-6BA): REPETITIVE,*NODE(7L): DUAL, *NODE(8D):DUAL,*NODE(9K):NICHE, *NODE(10S): DUAL *CORE NODE (2H)–LINK (PUBLIC COM-SERVICE CELL) *CORE NODE-2 (7L)–LINK (PUBLIC COM-PRIVATE COM)	**LINKS** *LINK (1E-2H): DEPTH *LINK (2H-7L): DEPTH *LINK (7L-8D-9K): DEPTH *LINK (9K-10S):DOOR *LINK (2H-3BA):DOOR *LINK (3BA-4BA-5BA-6BA):INTERPENETRATION *LINK (7K-11B) : DOOR *LINK (11B-12B): INTERPENETRATION	**NODES+LINKS**  -*PUBLIC COM: NODES(1E-2H-7L-8D-9K),AXIAL ORG. *PRIVATE COM: NODES (11B+12B),AXIAL ORG. *SERVICE CELLS: NODES(3BA-4BA-5BA-6BA),AXIAL ORG.
06-NEF-04-H-1+1 NODES  *NODE (1E): LIMINAL, *NODE(2B):REPETITIVE, *NODE(3DR):INBETWEEN, *NODE (4T): OPEN, *NODE (5BA-6BA-7BA): REPETITIVE, *NODE(8L):INBETWEEN, *NODE(9L):DUAL, *NODE(10K): NICHE *CORE NODE(1E)–LINK (PUBLIC COM-PRIVATE COM-SERVICE CELL)	**LINKS** *LINK (1E-5BA):DOOR *LINK (5BA-6BA-7BA): INTERPENETRATION *LINK (1E-8L): DEPTH,DENSITY *LINK (8L-9L-10K) DEPTH, INTERPENETRATION *LINK (1E-2B-3DR): DEPTH, DENSITY *LINK (2B-4T): DOOR	**NODES+LINKS**  *PUBLIC COM: NODES(1E-8L-9L-10K),AXIAL ORG. *PRIVATE COM: NODES(2B-3DR-4T),AXIAL ORG. *SERVICE CELLS: NODES(5BA-6BA-7BA),CLUSTER ORG.
07-NEF-98-1+1 NODES  *NODE (1E):LIMINAL *NODE(2CR):INBETWEEN *NODE(3BA-4BA-5BA-6BA-7BA):REP. *NODE (9B-10B-11B):REPETITIVE *NODE(8CR):REPETITIVE *NODE(12H): REPETITIVE *NODE(13K): NICHE *NODE(14K): DUAL *NODE (15L): DUAL *CORE NODE (2CR)–LINK (PUBLIC COM-SERVICE CELL) *CORE NODE-2 (8CR)–LINK (PUBLIC COM-PRIVATE COM)	**LINKS**-LINK (1E-2CR) : DEPTH *LINK (2CR-8CR-12H-13K):DEPTH *LINK (12K-14L-15L): DEPTH *LINK(8CR-9B): DOOR *LINK(9B-10B-11B): INTERPENETRATION *LINK (2CR-3BA): DOOR *LINK (3BA-4BA-5BA-6BA-7BA): INTERPENETRATION	**NODES+LINKS**  *PUBLIC COM: NODES (1E-2CR-8-CR-12H-13K-14L-15L), AXIAL ORG. *PRIVATE COM: NODES (9B-10B-11B), CLUSTER ORG. *SERVICE CELL: NODES (3BA-4BA-5BA-6BA-7BA), CLUSTER ORG.
08-NEF-12-T-1+1 NODES	**LINKS**-LINK (1E-2CR):DEPTH *LINK (2CR-7H:DEPTH *LINK (7H-8B):DOOR	**NODES+LINKS**

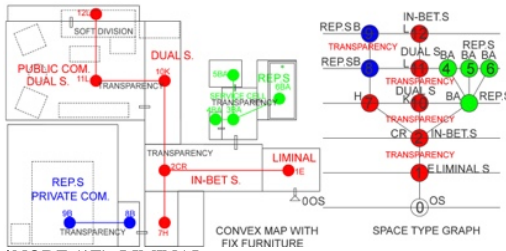
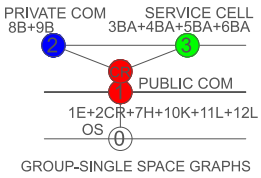
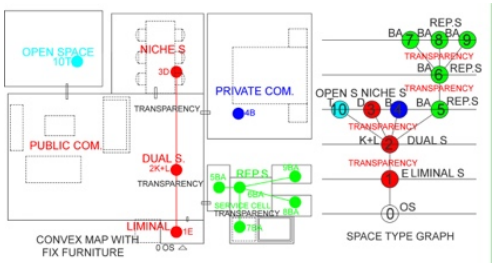
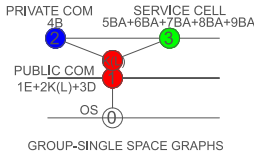
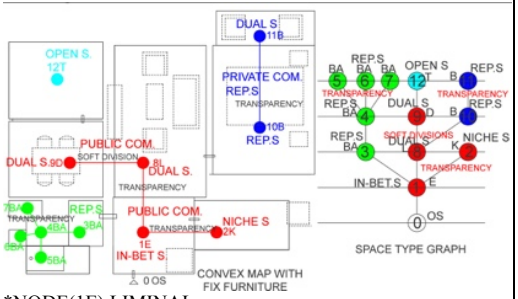
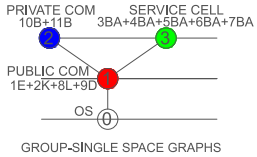
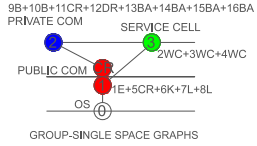
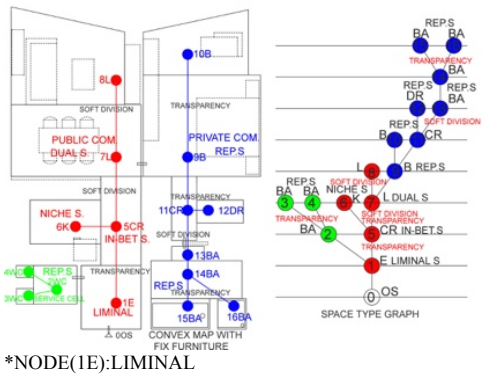
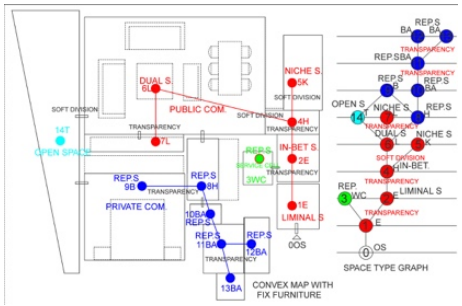
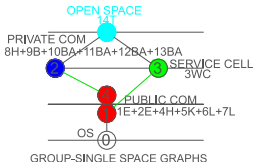
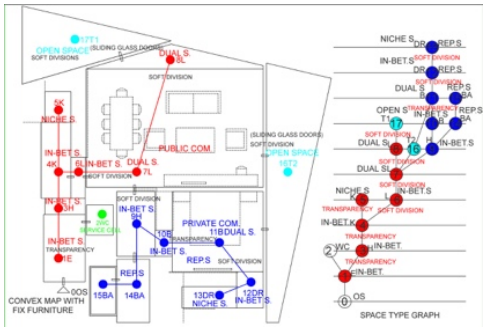
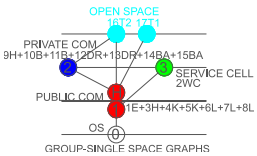
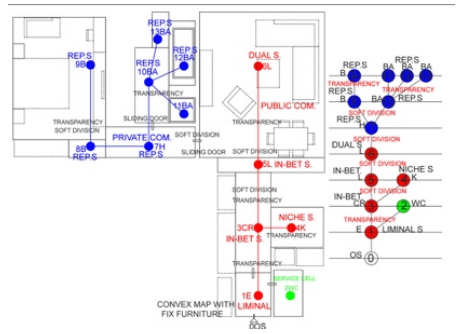
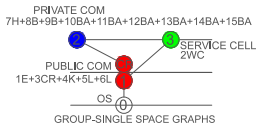
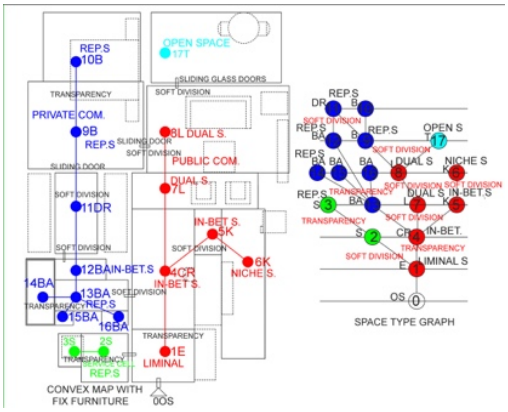
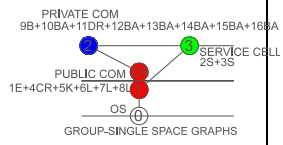
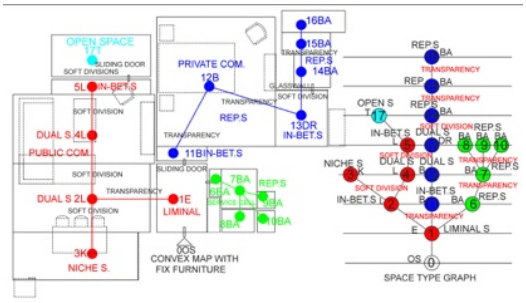
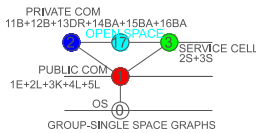
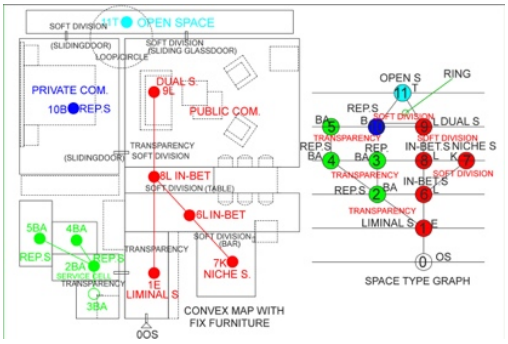
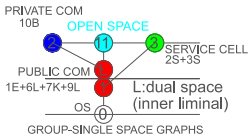
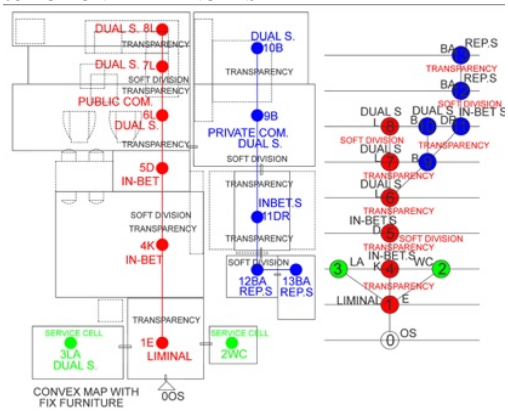
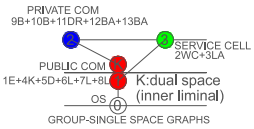
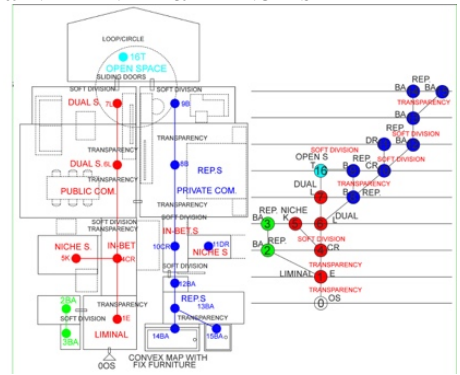
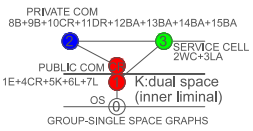
 *NODE (1E): LIMINAL *NODE(2CR): INBETWEEN *NODE(3BA-4BA-5BA-6BA):REPETITIVE *NODE(7H):INBETWEEN *NODE(8B-9B):REPETITIVE *NODE(10K):DUAL *NODE(11L-12L):DUAL *CORE NODE (2CR)–LINK (PUBLIC COM-PRIVATE COM-SERVICE CELL	*LINK (8B-9B): INTERPENETRATION *LINK (2CR-1OK-11L-12L):DEPTH *LINK (2CR-3BA):DOOR *LINK(3BA-4BA-5BA-6BA): INTERPENETRATION	 *PUBLIC COM: NODES(1E-2CR-7H-10K-11L-12L),AXIAL ORG. *PRIVATE COM: NODES (8B+9B), AXIAL ORG. *SERVICE CELLS: NODES (3BA-4BA-5BA-6BA), CLUSTER ORG.
09-NEF-12-F-1+1 NODES  *NODE(1E): LIMINAL, *NODE(2K+L): DUAL, *NODE (3D):NICHE *NODE(4B):DUAL *NODE(5BA-6BA-7BA-8BA-9BA): REPETITIVE *NODE(10T):OPEN *CORE NODE(2K+L) – LINK (PUBLIC COM-PRIVATE COM-SERVICE CELL-OPEN SPACE)	**LINKS**-LINK (1E-2K+L-3D): DEPTH *LINK (2K+L-10T):DOOR *LINK (2K+L-5BA):DOOR *LINK (5BA-6BA-7BA-8BA-9BA): INTERPENETRATION *LINK (2K+L-4B): DOOR	**NODES+LINKS**  1.PUBLIC COM: NODES (1E+2K(+L)+3D), AXIAL ORG 2.PRIVATE COM: NODES (4B) 3.SERVICE CELL: NODES (5BA-6BA-7BA-8BA-9BA), CLUSTER ORG.
10-NEF-12-M-1+1 NODES  *NODE(1E):LIMINAL *NODE(2K): NICHE *NODE(3BA-4BA-5BA-6BA-7BA):REPETITIVE *NODE(8L):DUAL *NODE(9D): DUAL *NODE(10B-11B):REPETITIVE *NODE(10T): OPEN SPACE *CORE NODE (1E) – LINK (PUBLIC COM-SERVICE CELL) *CORE NODE-2 (8L) – LINK (PUBLIC COM-PRIVATE COM-OPEN SPACE)	**LINKS** *LINK (1E-2K):DEPTH *LINK (1E-8L-9D): DEPTH *LINK (9D-12T): DOOR *LINK (8L-10B): DOOR *LINK (10B-11B): INTERPENETRATION	**NODES+LINKS**  1.PUBLIC COM: NODES(1E-2K-8L-9D-12T),AXIAL ORG. 2.PRIVATE COM: NODES(10B-11B),AXIAL ORG. 3.SERVICE CELLS: NODES(3BA-4B-5BA-6BA-7BA), CLUSTER ORG.

Table 32: GR-3 Determination of ‘nodes-links-nodes+links’ rule

01-NEXTLEVEL-B51-1+1 NODES	**LINKS**-LINK (1E-2BA):DOOR *LINK (2BA-3BA-4BA): INTERPENETRATION *LINK (1E-5CR): DEPTH *LINK (5CR-6K): DENSITY,DEPTH *LINK (5CR-7L-8L): DEPTH,DENSITY *LINK(7L-9B):DOOR	**NODES+LINKS** 

 *NODE(1E):LIMINAL *NODE(2BA+3BA+4BA):REPETITIVE *NODE(5CR):INBETWEEN *NODE(6K):NICHE *NODE(7L):DUAL *NODE(8L):DUAL *NODE(9B-10B):DUAL *NODE(11CR):INBETWEEN *NODE(12DR):NICHE *NODE(13BA-14BA-15BA-16BA):REPETITIVE *CORE NODE (1E)–LINK (SERVICE CELL-PUBLIC COM) *CORE NODE (7L)–LINK (PUBLIC COM-PRIVATE COM)	*LINK (9B-10B): INTERPENETRATION *LINK (9B-11CR-12DR): DEPTH *LINK (11CR-13BA): DOOR *LINK (13BA-14BA-15BA-16BA): INTERPENETRATION	*PUBLIC COM: NODES(1E-5CR-6K-7L-8L),AXIAL ORG. *PRIVATE COM: NODES (9B+10B+11CR+12DR+13BA+15BA+16BA), AXIAL ORG. *SERVICE CELLS:NODES (2WC+3WC+4WC), CLUSTER ORG.
02-NEXTLEVEL-E-54-1+1 NODES  *NODE (1E):LIMINAL *NODE(2E):INBETWEEN *NODE(3WC):- *NODE(4H):INBETWEEN *NODE (5K): NICHE *NODE (6L): DUAL *NODE(7L): NICHE *NODE (8H): INBETWEEN *NODE (9B):DUAL *NODE (10BA-11BA-12BA-13BA): REP, *NODE 14T): OPEN *CORE NODE (6L) – LINK (PUBLIC COM-OPEN SPACE-PRIVATE COM)	**LINKS** *LINK (1E-3WC): DOOR *LINK (1E-2E): DEPTH *LINK (2E-4H-5K): DEPTH *LINK (4H-6L-7L):DEPTH *LINK (6L-10T-9B): *LINK (6L-8H): DOOR *LINK (8H-9B): INTERPENETRATION *LINK (8H-10BA-11BA-12BA): INTERPENETRATION	**NODES+LINKS**  *PUBLIC COM: NODES (1E+2E+4H+5K+6L+7L), AXIAL ORG. *PRIVATE COM: NODES (8H-9B-10BA-11BA-12BA-13BA) AXIAL ORG. *SERVICE CELLS: NODES (3WC)
03-NEF-12-H-1+1 NODES  *NODE (1E): LIMINAL *NODE (2WC):- *NODE (3H):INBETWEEN *NODE (4K):INBETWEEN *NODE (5K): NICHE *NODE (6L): INBETWEEN *NODE (7L-8L): DUAL *NODE (9H-10B):INBET *NODE (11B):DUAL *NODE (12DR):INBETWEEN *NODE (13DR): NICHE	**LINKS** *LINK (1E-2WC):DOOR *LINK (1E-3H):DEPTH *LINK (3H-4K-5K):DEPTH *LINK (4K-6L-7L-8L):DEPTH *LINK (7L-9H): DOOR *LINK (9H-10B-11B-12DR-13DR): DEPTH *LINK (8H-14BA):DOOR *LINK (14BA-15BA): INTERPENETRATION *LINK (11B-16T2-7L):DOOR *LINK(8L-17T1):DOOR	**NODES+LINKS**  *PUBLIC COM:NODES (1E-3H-4K-5K-6L-7L-8L),AXIAL ORG. *PRIVATE COM: NODES (3H-10B-11B-12DR-13DR-14BA-15BA), AXIAL ORG. *SERVICE CELLS: 3WC

*NODE (14BA-15BA):REPETITIVE *NODE (17T1-18T2):OPEN *CORE NODE (7L) – LINK (PUBLIC COM-PRIVATE COM-OPEN SPACE)		
04-TRUMPTOWER-1+1 NODES  *NODE (1E):LIMINAL *NODE(2WC):- *NODE(3CR):INBETWEEN *NODE (4K): NICHE *NODE (5L):INBETWEEN *NODE (6L): DUAL *NODE (7H-8B-9B):REPETITIVE *NODE (10BA-11BA-12BA-13BA):REP. *CORE NODE (6L)–LINK (PRIVATE COM-PUBLIC COM) *CORE NODE-2(1E)–LINK (PUBLIC COM-SERVICE CELL)	**LINKS** *LINK (1E-2WC):DOOR *LINK (1E-3CR):DEPTH *LINK (3CR-4K):DEPTH,DENSITY *LINK (3DR-5L-6L):DEPTH *LINK (6L-7H):DOOR *LINK (7H-8B-9B): DEPTH, INTERPENETRATION *LINK(7H-10BA):DOOR *LINK (10BA-11BA-12BA-13BA): INTERPENETRATION	**NODES+LINKS**  *PUBLIC COM: NODES(1E-3CR-4K-5L-6L)AXIAL ORG. *PRIVATE COM: NODES(7H-8B-9B-10BA-11BA-12BA-13BA-14BA-15BA), CROSS-AXIAL *SERVICE CELL:3WC
05-BOMONTI-RESIDENCE-1+1 NODES  *NODE (1E): LIMINAL *NODE (2S-3S):REPETITIVE *NODE(4CR):INBETWEEN *NODE(5K):INBETWEEN *NODE(6K):NICHE *NODE (7L-8L):DUAL *NODE(17T):OPEN *NODE (9B-10B):REPETITIVE *NODE (11DR): INBETWEEN *NODE (12BA-13BA-14BA-15BA-16BA):REPETITIVE *CORE NODE (8L) – LINK (PUBLIC COM-PRIVATE COM-OPEN SPACE)	**LINKS**-LINK (1E-2S):DOOR *LINK (2S-3S): INTERPENETRATION *LINK (1E-4CR-7L-8L):DEPTH *LINK (4CR-5K-6K):DEPTH *LINK (8L-17T):DOOR *LINK (8L-9B):DOOR *LINK (9B-10B): INTERPENETRATION *LINK(9B-11DR-12BA-13BA-14BA-15BA-16BA):DEPTH, INTERPENETRATION	**NODES+LINKS**  *PUBLIC COM: NODES (1E-4DR-5K-6L-7L-8L), AXIAL ORG. *PRIVATE COM.: NODES (9B-10B-11DR-12BA-13BA-14BA-15BA-16BA), AXIAL ORG. *SERVICE CELL: NODES (2S-3S),AXIAL
06-EDETOWER-1+1 NODES  *NODE (1E): LIMINAL *NODE (2L): INBETWEEN *NODE (3K):NICHE *NODE (4L):DUAL *NODE (5L):INBETWEEN *NODE (6BA-7BA-8BA-9BA-10BA):REPETITIVE NODE (11B): INBETWEEN	**LINKS** *LINK (1E-2L):DEPTH *LINK (2L-3K):DEPTH *LINK (2L-4L-5L):DEPTH *LINK (5L-17T):DOOR *LINK (1E-6BA): DOOR *LINK (6BA-7BA-8BA-9BA-10BA): INTERPENETRATION *LINK (1E-11B): DOOR *LINK (11B-12B-13DR):DEPTH-INTERPENETRATION *LINK (13DR-14BA):DENSITY *LINK (14BA-15BA-16BA): INTERPENETRATION	**NODES+LINKS**  *PUBLIC COM:NODES (1E-2L-3K-4L-5L), AXIAL ORG. *PRIVATE COM: NODES(11B-12B-13DR-14BA-15BA-16BA), CLUSTER ORG. *SERVICE CELL: NODES (2S-3S), CLUSTER ORG.

*NODE (12B): DUAL *NODE(13DR): INBETWEEN *NODE (14BA-15BA-16BA): REPETITIVE *CORE NODE (1E) – LINK (PUBLIC COM-PRIVATE COM-SERVICE CELL)		
07-BOMONTIRESIDENCE-1+1 NODES  *NODE (1E):LIMINAL, *NODE (2BA-3BA-4BA-5BA): REPETITIVE *NODE (6L): INBETWEEN *NODE (7K): NICHE *NODE(8L): INBETWEEN *NODE (9L): DUAL *NODE (11T): OPEN *NODE (10B): DUAL *CORE NODE (1E) – LINK (PUBLIC COM-SERVICE CELL) *CORE NODE-2 (9L) – LINK (PUBLIC COM-OPEN SPACE- PRIVATE COM)	**LINKS** *LINK (1E-2BA):DOOR *LINK (2BA-3BA-4BA-5BA): INTERPENETRATION *LINK (1E-6L):DEPTH *LINK (6L-7K):DEPTH *LINK (6L-8L-9L):DEPTH *LINK (9L-10B):DOOR *LINK (9L-11T-10B):DOOR	**NODES+LINKS**  *PUBLIC COM.: NODES (1E-6L-7K-8L-9L),AXIAL ORG. *PRIVATE COM.: NODES (10B),- *SERVICE CELL: NODES (2S-3S), CLUSTER ORG.
08-BOMONTI-7-1+1 NODES  *NODE (1E):LIMINAL *NODE (2WC):- *NODE (3LA):- *NODE (4K):DUAL *NODE (5D): INBETWEEN *NODE (6L-7L-8L): DUAL *NODE (9B-10B): REPETITIVE *NODE (11DR): INBETWEEN *NODE (12BA-13BA): REPETITIVE *CORE NODE (6L)–LINK (PUBLIC COM-RPIVATE COM)	**LINKS** *LINK (1E-2WC-3LA): DOOR *LINK (1E-4K-5D-6L-7L-8L): DEPTH *LINK (6L-9B):DOOR *LINK (9B-10B): INTERPENETRATION *LINK (9B-11DR):DEPTH, DENSITY *LINK (11DR-12BA):DOOR *LINK (12BA-13BA): INTERPENETRATION	**NODES+LINKS**  *PUBLIC COM.: NODES (1E-4K-5D-6L-7L-8L),AXIAL ORG. *PRIVATE COM.: NODES (9B-10B-11DR-12BA-13BA),AXIAL ORG. *SERVICE CELL: NODE (2WC), NODE(3LA),-
09-NEXTLEVEL-B59-1+1- NODES  *NODE (1E):LIMINAL *NODE (2BA-3BA):REPETITVE	**LINKS** *LINK(1E-2BA):DOOR *LINK (2BA-3BA): INTERPENETRATION *LINK (1E-4CR-6L-7L):DEPTH *LINK (4CR-5K):DEPTH,DENSITY *LINK (7L-16T-9B):DOOR *LINK (6L-8B):DOOR *LINK (8B-9B): INTERPENETRATION *LINK (98B-10CR-11DR):DEPTH *LINK (10CR-12BA):DOOR *LINK (12BA-13BA-14BA-15BA): INTERPENETRATION	**NODES+LINKS**  *PUBLIC COM.: NODES (1E-4CR-5K-6L-7L),AXIAL ORG. *PRIVATE COM.: NODES (8B-9B-10CR-11DR-12BA-13BA-14BA-15BA),AXIAL ORG. *SERVICE CELL: NODES (2WC-3LA),AXIAL ORG.

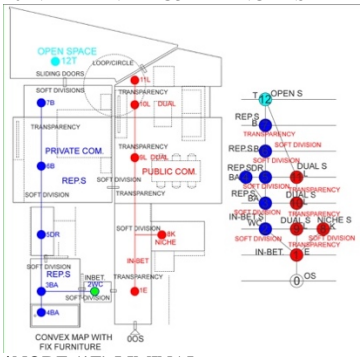
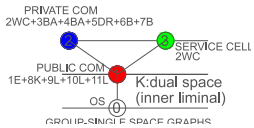
*NODE(4CR):INBETWEEN *NODE (5K):NICHE *NODE (6L-7L):DUAL *NODE (8B-9B):REPETITIVE *NODE (10CR): INBETWEEN *NODE (11DR): NICHE *NODE (12BA-13BA-14BA-15BA):REP. *NODE (16T): OPEN *CORE NODE (6L) – LINKS (PUBLIC COM-PRIVITE COM) *CORE NODE-2 (1E)–LINKS (PUBLIC COM-SERVICE CELL)		
10-NEXTLEVEL-C52-1+1 NODES  *NODE (1E):LIMINAL *NODE (2WC-3BA-4BA): REP. *NODE (5DR):INBET. *NODE (6B-7B):REP. *NODE (8K):NICHE *NODE (10L-11L):DUAL *NODE (12T): OPEN *CORE NODE (1E) – LINKS (PRIVATE COM-PUBLIC COM)	**LINKS-** *LINK (1E-2WC):DOOR *LINK (2WC-3BA-4BA): INTERPENETRATION *LINK (5DR-6B-7B):DEPTH *LINK (6B-9L): DOOR *LINK (1E-9L-10L-11L):DEPTH	**NODES+LINKS**  *PUBLIC COM:NODES (1E-8K-9L-10L-11L),AXIAL ORG. *PRIVATE COM: NODES (2WC-3BA-4BA-5DR-6B-7B),AXIAL ORG. *SERVICE CELL: NODE (2WC) , AXIAL ORG.

Table 33: Ratio of Space types of GR-1 / 2 / 3

GR-1	RATIO OF SPACE TYPES	GR-2	RATIO OF SPACE TYPES	GR-3	RATIO OF SPACE TYPES
1. MY-VIA-1+1	LIMINAL:1 INBET:1 REP:5 DUAL:1 NICHE:1 OPEN:1	BORN-CITY1+1	LIMINAL:1 INBET:1 REP:5 DUAL:1 NICHE:1 OPEN:-	NEXT LEVEL-1+1-B51	LIMINAL:1 INBET:2 REP:7 DUAL:3 NICHE:2 OPEN:-
2. NEF-D-1+1	LIMINAL:1 INBET:1 REP:5 DUAL:1 NICHE:1 OPEN:-	TRENDIST-1+1	LIMINAL:1 INBET:2 REP:7 DUAL:1 NICHE:- OPEN:-	NEXT LEVEL-E-1+1	LIMINAL:1 INBET:3 REP:4 DUAL:2 NICHE:2 OPEN:1
3. NEF-04-F-1+1	LIMINAL:1 INBET:1 REP:5 DUAL:1 NICHE:- OPEN:-	SOYAKSOHO-1+1	LIMINAL:1 INBET:2 REP:4 DUAL:1 NICHE:- OPEN:-	NEXT LEVEL-H-1+1	LIMINAL:1 INBET:5 REP:2 DUAL:3 NICHE:2 OPEN:2
4.MARKA-A-1+1	LIMINAL:1 INBET:1 REP:2 DUAL:3 NICHE:- OPEN:1	BOMONTI-27-1+1	LIMINAL:1 INBET:2 REP:6 DUAL:1 NICHE:- OPEN:1	TRUMP TOWERS-1+1	LIMINAL:1 INBET:2 REP:7 DUAL:1 NICHE:1 OPEN:-
5.MARKA-B-1+1 2	LIMINAL:1 INBET:2	BOMONTI-P-1+1	LIMINAL:1 INBET:1	BOMONTI-6-1+1	LIMINAL:1 INBET:3

	REP:4 DUAL:- NICHE:- OPEN:1		REP:4 DUAL:3 NICHE:1 OPEN:-		REP:9 DUAL:2 NICHE:1 OPEN:1
6. NEF-12-1+1D	LIMINAL:1 INBET:- REP:5 DUAL:2 NICHE:1 OPEN:-	NEF-H-1+1	LIMINAL:1 INBET:2 REP:4 DUAL:1 NICHE:1 OPEN:-	EDE TOWER-1+1	LIMINAL:1 INBET:4 REP:8 DUAL:2 NICHE:1 OPEN:1
7.NEF-03-E-1+1	LIMINAL:1 INBET:2 REP:6 DUAL:1 NICHE:1 OPEN:-	NEF-98-K-1+1	LIMINAL:1 INBET:1 REP:8 DUAL:2 NICHE:1 OPEN:-	BOMONTI-2-1+1	LIMINAL:1 INBET:2 REP:4 DUAL:2 NICHE:1 OPEN:1
8. NEF-12-E-1+1	LIMINAL:1 INBET:5 REP:2 DUAL:5 NICHE:- OPEN:-	NEF-12-1+1-T	LIMINAL:1 INBET:2 REP:6 DUAL:3 NICHE:- OPEN:-	BOMONTI-7-1+1	LIMINAL:1 INBET:2 REP:4 DUAL:4 NICHE:- OPEN:-
9. NEF-03-A2-1+1	LIMINAL:1 INBET:1 REP:5 DUAL:3 NICHE:1 OPEN:-	NEF-12-1+1-F	LIMINAL:1 INBET:- REP:5 DUAL:3 NICHE:1 OPEN:1	NEXT LEVEL-1+1-B59	LIMINAL:1 INBET:2 REP:6 DUAL:2 NICHE:2 OPEN:-
10.NEF-12-1+1-H	LIMINAL:1 INBET:5 REP:6 DUAL:1 NICHE:1 OPEN:-	NEF-12-1+1-M	LIMINAL:1 INBET:- REP:7 DUAL:2 NICHE:1 OPEN:1	NEXT LEVEL -1+1-C52	LIMINAL:1 INBET:2 REP:8 DUAL:2 NICHE:2 OPEN:1
1ST GROUP AVERAGE	LIMINAL:1 INBET:1.8 REP:4.5 DUAL:1.8 NICHE:0.6 OPEN:0.3	2ND GROUP AVERAGE	LIMINAL:1 INBET:1.3 REP:5.6 DUAL:1.8 NICHE:0.6 OPEN:0.3	3RD GROUP AVERAGE	LIMINAL:1 INBET:2.2 REP:5.9 DUAL:2.5 NICHE:1.4 OPEN:0.7

Abbreviations: Rep.: Repetitive space, Inbet.:Inbetween space.

GR-1 RATIO OF SPACE TYPES:
REPETITIVE=4.5>INBETWEEN=DUAL=1.8>LIMINAL=1>NICHE=0.6>OPEN= 0.3
GR-2 RATIO OF SPACE TYPES:
REPETITIVE=5.6> DUAL=1.8> INBETWEEN=1.3> LIMINAL=1> NICHE=0.6> OPEN= 0.3
GR-3 RATIO OF SPACE TYPES:
REPETITIVE=5.9> DUAL=2.5> INBETWEEN=2.2> NICHE=1.4>LIMINAL=1> OPEN= 0.7

As the average ratio of space types indicated that, repetitive space ratio is the highest at all groups and rises from GR-1 to GR-2 / 3. Second, ratio of dual and in between

spaces are high at all groups but there is a significant rise at GR-3 and decrease at GR-2. Niche spaces show a significant rise at GR-3 with 1.4 ratio which indicates the rise of sub-spaces of GR-3. Liminal space are all same and 1, which indicates all houses accommodate one entrance only, and open spaces show also rise at GR-3 by the rise of m2. This average space type ratio of cases also indicated that; due to ratio of repetitive spaces expandability of houses is very high, secondly due to ratio of dual and in-between spaces flexibility is also high, and lastly convexity is the lowest concept at small houses with the low ratio of niche spaces such as; EXPANDABILITY>=FLEXIBILITY>CONVEXITY.

As indicated by Tables 30-31-32 shape grammar application is used to determine new spatiality of cases with a graph-base method which nodes correspond to new space types, links correpond to new spatial relations & identifiers, and nodes+links correspond to public / private compartments and service cells. By this way, three-part methodology have been used respectively spatial identifications, syntactical demonstrations and graph-base representations focusing to spatiality concept.

4.5 Genotypes of Recent Day Small Houses

Dovey (1999) introduces space syntax as an important tool for definition of genotypes between some cluster of spaces and emphasizes that; ‘‘Saunders and Williams (1988) have argued that the house has a central role in the reproduction of social life. Their metaphors are mechanistic and deterministic but provocative, the house is a ‘social factory’, the ‘engine room’ of society’’ (p. 141).

Through Dovey (1999), space syntax has a significant role on determination of genotypes between some cluster of cases such as; ‘‘The plan is thus a signifier of

both the semantics and the syntax of domestic space...'' further Dovey indicates that ''Analysis reveal the model houses to incorporate anything from ten to twenty-five segments. While the individual plans show a myriad of variations there is a genotype which dominates to a remarkable degree'' (p.141). Space organizations of houses have been classified into four parts by Dovey such ; formal zone as living , dining, study spaces, informal zone as kitchen, game room, master suite as bedroom, bathroom with dressing room and single bedroom.

In addition, previous research for genotype, an important influential source was scholarly article of Cunha (2005) that was presented at Eight International Space Syntax Symposium and produced from Phd study of researcher, which investigates spatial organization of middle class apartments in Rio de Janeiro, Brazil, from the 1930s until the end of the 20^{th} century to reveal how different apartment plans could express numerous social changes. At the study researcher indicated that using the technique of space syntax is a useful tool to identify space characateristics with relevant repetitions within the different types of a specific society in relation to social factors. At this point researcher determines these patterns that structure spatial configurations when found in a consistent way in sample of architectural cases as; 'genotypes' by Space Syntax, while the accurance of these abstract patterns in different geometric forms are referred to as 'phenotypes', and indicates that genotypes can change over time however genotype characteristics are kept same, the social codes they are expressing may also have altered. This research open a influential way to the thesis study while determining genotypes of cases by space syntax results between three different groups. Differently from study of Cunha (2005), it's aimed to find out genotype formations between three groups of contemporary small houses, in relation to how much their spatial patterns are

different from prototype ones, indicating the integration versus segregation degrees, to reveal genotype changes in time in relation to sizes.

At this point; in the thesis study , genotype formation of contemporary small houses have emerged with two parts; through spatial organization of houses analysing by shape grammar, and through space syntax results of rank order of mean integration value of spaces analysing by space syntax. At first part three genotypes - A / B / C have emerged on case analyses indicating over justify graphs, at second part, genotype 1 / 2 / 3 / 4 / 5 / 6 have emerged and indicated by rank orders of RA values and are supported with growth percentages, but at the end this part is reduced three different genotype formations as genotype 4 / 1/ 3 by dominant patterns, and correponds to GR-1 / GR-2 / GR-3, which, GR-1 is informal, exhibit different spatial pattern from prototoype ones, but do not show continuity, diverse and heterogenous, GR-2 is formal, exhibit similar spatial pattern with prototype one, show continuity, and GR-3 is informal, exhibit different spatial pattern from prototoype ones, show strong continuity and homogenity. (Figure 85)

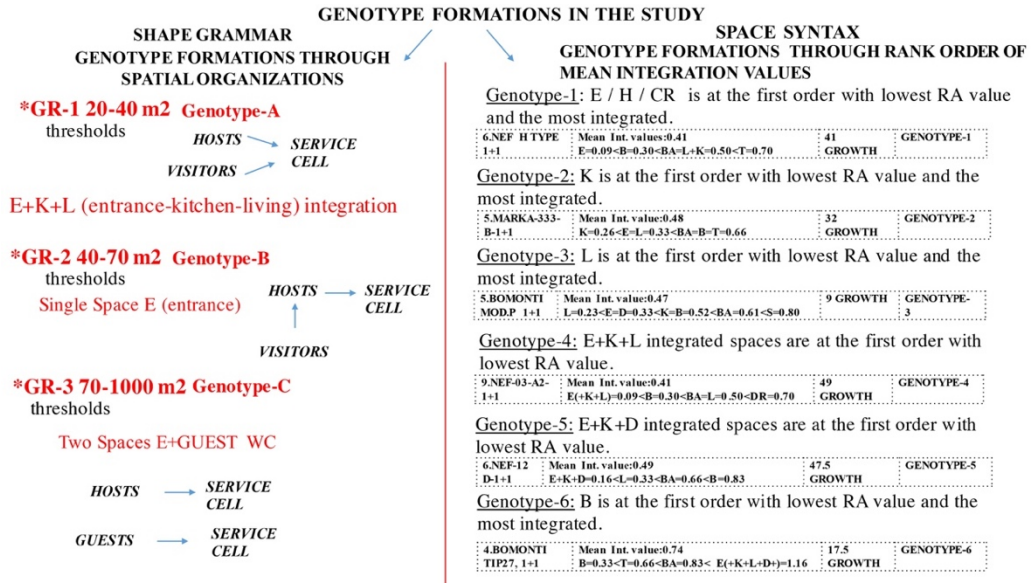


Figure 85: Genotype Formations of the Contemporary Small Houses

4.5.1 Genotype Formation by Spatial Configurations of Thresholds

At this part, after concluding syntactic analyses, genotypes have been determined for these new small houses through the analytical results. Syntactic analyses and justify graphs of thirty cases indicated that a different genotype formation is found over spatial configurations of ***thresholds*** of the cases. Thresholds of the houses in other words; liminal spaces as named at space types part (chapter 3 new space types), entrances of the houses, show diversity between three groups (20-40 / 40-70 / 70-100 m2) through their spatial configurations.

At GR-1, thresholds are generally formed by E+K+L (entrance-kitchen-living) integration, which one can enter directly to public compartment of the house and exhibit low RA value as the shallowest space of the house. This feature is commonly found at GR-1 and named as **Genotype-A** in the thesis study.

Secondly, at some 1st group houses and commonly at GR-2 a change at thresholds spatial configuration is found such as; they are formed by single space E (entrance) only and act like a hall between street and interior, like an entrance or a passage to public and private compartments of the houses. This feature is commonly found at GR-2 and named as **Genotype-B** at the thesis study. In fact, through small houses literature in architecture this genotype is the most common with threshold as an entrance hall configuration. Thereby, Genotype B is the most classic one.

And lastly at GR-3 an other different threshold spatial configuration is found which threshold consists of two spaces E+GUEST WC (entrance and guest wc/bathroom) which separates public compartment from private compartment totally and clearly. At this genotype which is named as **Genotype-C** by different spatial configuration of threshold two compartments have been transformed to single living units as its type

name ‘1+1’. Due to well organized service spaces, all private compartments exhibit their own bathrooms and all public compartments have their guest wc or guest bathrooms, by this way private compartments are separated from public strongly and explicitly.

In addition, this genotype definitions by spatial configuration of thresholds also observed by space syntax method with a workshop study of Özyeğin University in the executive of Torun at 09.04.2016 in Bomonti Ada İstanbul. Space syntax investigates as social function with spatial design and further asindicated by Torun, space occurs between the relationships of the objects and it’s expected that social structure of the spaces have been appeared by the physical structure of the spaces, thereby, space is not only a place for society it is also the creating and forming tool of society. Thereby, spaces is the determiner of the society, and it can be defined by two identifiers ; hosts who control the space and visitors who are under control, hosts & visitors are the duality of society. In addition, Jormakka (2008) stated that:

> Space syntax method of Hillier and Hanson is beyond imitating any architects’ style, and they indicated that social relations are irreducibly spatial and vice versa, and the social and spatial structures are called morphological formal languages, however they can not symbolize and reduce anything but themselves. Hillier and Hanson try to model spatial behaviors by assuming that there are two kinds of actors in the space hosts and visitors. (p.44-45)

From this point of view, in the study first definition of genotypes through thresholds include this formula. (Figure 86)

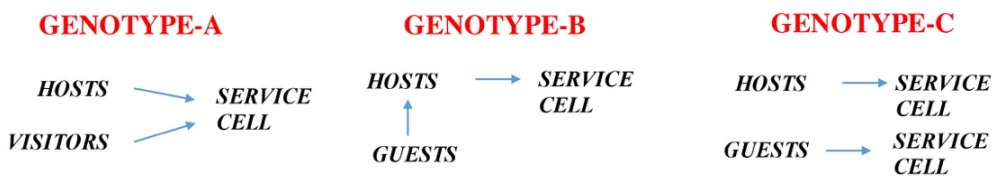


Figure 86: Definition of Genotypes by Hosts & Visitors Duality

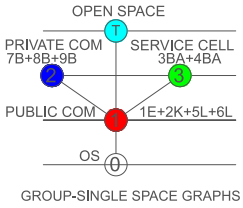
Table 34: Change of Syntactic Values Between GR 1 / 2 / 3 Average of Thresholds

GR-1	THRESHOLD RA/MD	GR-2	THRESHOLD RA/MD	GR-3	THRESHOLD RA/MD
1. MY-VİA-1+1	E+K+L 0.0/1.0	BORN-CITY1+1	E 0.09/1.2	NEXTLEVEL-1+1B51	E+GUESTWC 0.61/2.85
2. NEF-D-1+1	E+H+L+K 0.0/1.0	TRENDIST-1+1	E 0.3/1.6	NEXTLEVEL-E-1+1	E+GUESTWC 0.51/2.81
3. NEF-04-F-1+1	E+K+L 0.24/1.37	SOYAKSOHO-1+1	E+K+H+L 0.58/1.67	NEXTLEVEL-H-1+1	E+GUESTWC 0.47/3.15
4.MARKA-A-1+1	E+CR+K+L0.26/1.63	BOMONTI-27-1+1	E 0.47/1.25	TRUMPTOWERS-1+1	E+GUESTWC 0.56/2.71
5.MARKA-B-1+1	E+K+L 0.30/1.77	BOMONTI-P-1+1	E+K 0.42/2.28	BOMONTI-6-1+1	E+GUESTWC 0.40/2.43
6. NEF-12-1+1D	E+K+D 0.16/1.25	NEF-H-1+1	E 0.09/1.2	EDETOWER- 1+1	E+GUESTWC 0.33/1.71
7.NEF-03-E-1+1	E+H+K+L 0.36/1.73	NEF-98-K-1+1	E 0.26/1.66	BOMONTI-2-1+1	E 0.20/1.5
8. NEF-12-E-1+1	E+CR+K+L 0.34/2.22	NEF-12-1+1-T	E+CR+H+K+L,0.34/2.05	BOMONTI-7-1+1	E+GUESTWC 0.42/2.28
9. NEF-03-A21+1	E+L+D+K 0.45/1.6	NEF-12-1+1-F	E 0.0/1.0	NEXTLEVEL- 1+1B59	E+GUESTWC 0.54/2.93
10.NEF-12-1+1-H	E+H+CR+K+L 0.28/1.70	NEF-12-1+1-M	E+K+L+D 0.19/1.4	NEXTLEVEL -1+1C52	E+GUESTWC 0.30/1.92
1ST GROUP AVERAGE	0.23/1.52	2ND GROUP AVERAGE	0.27/1.53	3RD GROUP AVERAGE	0.43/2.42

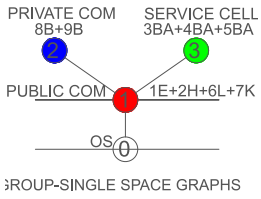
RA:GR-1:0.23<GR-2:0.27<GR-3:0.43
MD:GR-2:1.52<GR-1:1.53<GR-3:2.42

Through average syntactic results of mean integration (RA) and mean depth (MD) values, GR-1 thresholds are the most integrated ones that exhibit Genotype A (E+K+L) commonly, and GR-3 thresholds are more segregated and deeper ones that exhibit Genotype C (E+guest WC). (Table 34)

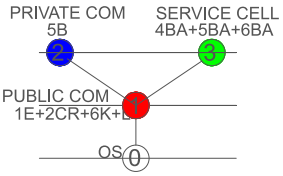
***Genotype A:** Threshold spatial configuration is formed by some cluster of spaces; 'E+K+L' (public compartment) integration and it is at the 1st step of mean depth graphs. (Figure 87)



MY-VIA-1+1



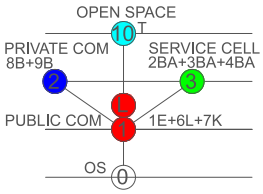
NEF-D-1+1



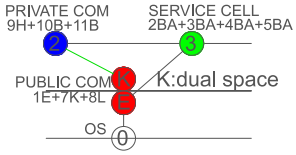
MARKA-A-1+1

Figure 87: Samples for Genotype-A.

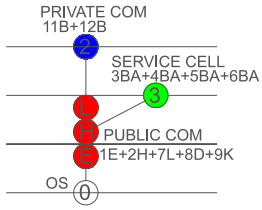
***Genotype B:** Threshold spatial configuration is formed by a single space: 'E' like a passage or hall between outer and inner space and at 1st step of mean depth graphs. (Figure 88)



BORN-CITY-1+1



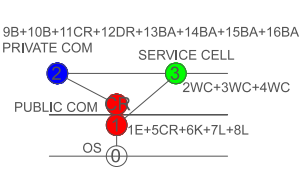
TRENDIST-1+1



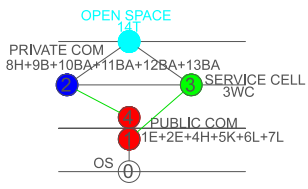
BOMONTI-P-1+1

Figure 88: Samples for Genotype-B

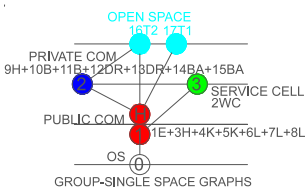
Genotype C: Threshold spatial configuration is formed by dual spaces: E+WC which act as outer liminal for public compartment and separates it from private compartment totally. All private compartments of this genotype also exhibit bathrooms. (Figure 89) (Table 35-36)



NEXT LEVEL 1+1 SUITE B51



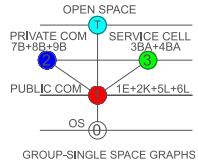
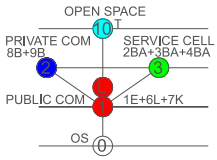
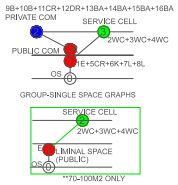
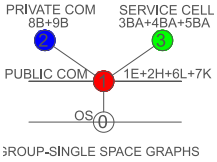
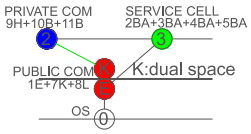
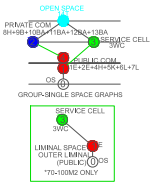
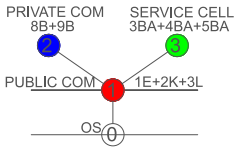
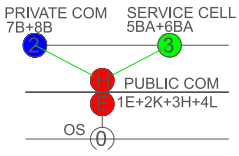
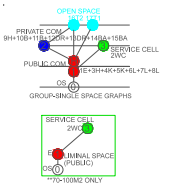
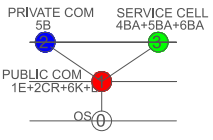
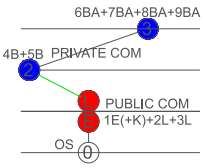
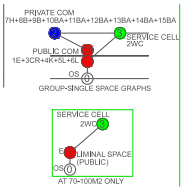
NEXT LEVEL SUITE E 1+1

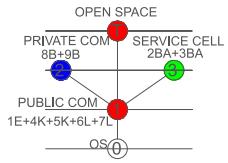
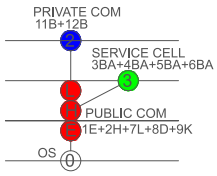
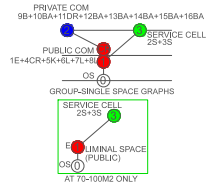
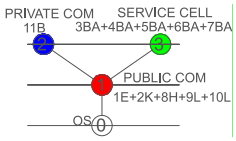
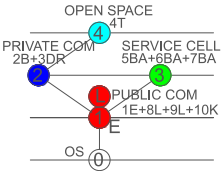
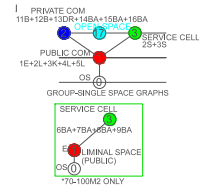
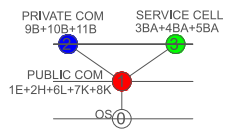
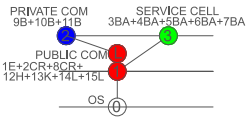
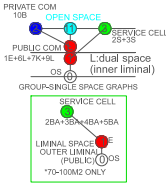
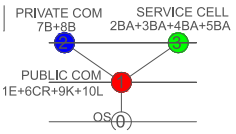
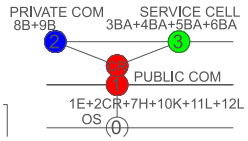
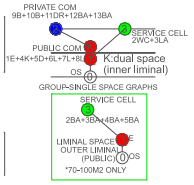
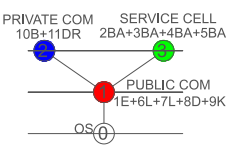
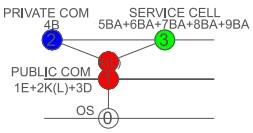
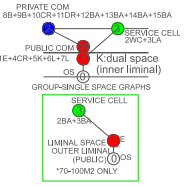


NEXT LEVEL-H-1+1

Figure 89: Samples for Genotype-C

Table 35: Justify Graphs of Compartments of All Plans Determining Genotypes.

GR -1	JUSTIFY GRAPHS OF COMPARTMENTS WITH RA VALUES	GR-2	JUSTIFY GRAPHS OF COMPARTMENTS WITH RA VALUES	GR-3	JUSTIFY GRAPHS OF COMPARTMENTS WITH RA VALUES
1. MY-VİA-1+1 ***GENOTYPE-A***	 PUBLIC:1E+2H+6L+7K, RA:0.27 PRIVATE:8B+9B, RA:0.35 SERVICE:3BA+4BA+5BA, RA:0.43	BORN-CITY-1+1 ***GENOTYPE-B***	 PUBLIC:1E+6L+7K, RA:0.29 PRIVATE:8B+9B,RA:0.41 SERVICE:2BA+3BA+4BA, RA:0.39	NEXT LEVEL-1+1-B51 ***GENOTYPE-C***	 PUBLIC:1E+5CR+6K+7KL+8L, RA:0.31 PRIVATE:9B+10B+11CR+12DR+13BA+14BA+15BA+16BA, RA:0.41 SERVICE:2WC+3WC+4WC, RA:0.49
2. NEF-D-1+1 ***GENOTYPE-A***	 PUBLIC:1E+2H+6L+7K, RA:0.34 PRIVATE:8B+9B, RA:0.55 SERVICE:3BA+4BA+5BA,RA:0.51	TREN DIST-1+1 ***GENOTYPE-B***	 PUBLIC:1E+7K+8L, RA:0.29 PRIVATE:9H+10B+11B, RA:0.51 SERVICE:2BA+3BA+4BA+5BA,RA:0.37	NEXT LEVEL-E-1+1 ***GENOTYPE-C***	 PUBLIC:1E+2E+4H+5K+6L+7L,RA:0.32 PRIVATE:8H+9B+10BA+11BA+12BA+13BA,RA:0.41 SERVICE: 3WC, RA:0.57
3. NEF-04-F-1+1 ***GENOTYPE-A***	 PUBLIC:1E+2K+3L,RA:0.34 PRIVATE: 7B+8B , RA:0.65 SERVICE:4BA+5BA+6BA, RA:0.55	SOYAK-SOHO-1+1 ***GENOTYPE-A***	 PUBLIC:1E+2K+3H+4L, RA:0.32 PRIVATE:7B+8B,RA:0.48 SERVICE:5BA+6BA, RA:0.4	NEXT LEVEL-H-1+1 ***GENOTYPE-C***	 PUBLIC:1E+3H+4K+5K+6L+7L+8L,RA:0.30 PRIVATE:9H+10B+11B+12DR+13DR+14BA+15BA, RA:0.37 SERVICE:2WC, RA:0.55
4.MARKA-A-1+1 ***GENOTYPE-A***	 PUBLIC:1E+2CR+6K(L), RA:0.26 PRIVATE:5B, RA:0.42 SERVICE: 3BA+4BA, RA:0.47	BOMONTI-27-1+1 ***GENOTYPE-B***	 PUBLIC:1E(+K)+2L+3L, RA:0.36 PRIVATE:4B+5B,RA:0.32 SERVICE:6BA+7BA+8BA+9BA,RA:0.43	TRUMP TOWERS-1+1 ***GENOTYPE-C***	 PUBLIC:1E+3CR+4K+5L+6L,RA:0.36 PRIVATE:7H+8B+9B+10BA+11BA+12BA+13BA,RA:0.43 SERVICE: 2WC,RA:0.60

5.MARKA-B-1+1 ***GENOTYPE-A***	 PUBLIC:1E+4K+5K+6L+7L,RA:0.33 PRIVATE:8B+9B, RA:0.63 SERVICE:2BA+3BA, RA:0.61	BOMONTI-P-1+1 ***GENOTYPE-B***	 PUBLIC:1E+2L+7L+8D+9K ,RA:0.32 PRIVATE:11B+12B, RA:0.45 SERVICE:3BA+4BA+5BA+6BA, RA:0.46	BOMONTI-6-1+1 ***GENOTYPE-C***	 PUBLIC:1E+4CR+5K+6L+7L+8L,RA:0.22 PRIVATE:9B+10BA+11DR+12BA+13BA+14BA+15BA+16BA,RA:0.27 SERVICE: 2S+3S,RA:0.37
6. NEF-12-D-1+1 ***GENOTYPE-A***	 PUBLIC:1E+2K+8H+9L+10L,RA:0.31 PRIVATE: 11B,RA:0.52 SERVICE:3BA+4BA+5BA+6BA+7BA,RA:0.34	NEF-H-1+1 ***GENOTYPE-B***	 PUBLIC:1E+8L+9L+10K, RA:0.31 PRIVATE:2B+3DR,RA:0.33 SERVICE:5BA+6BA+7BA, RA:0.37	EDETOWER- 1+1 ***GENOTYPE-C***	 PUBLIC:1E+2L+3K+4L+5L, RA:0.33 PRIVATE:11B+12B+13DR+14BA+15BA+16BA,RA:0.44 SERVICE:6BA+7BA+8BA+9BA+10BA, RA:0.39
7.NEF-03-E-1+1 ***GENOTYPE-A***	 PUBLIC:1E+2H+6L+7K+8K ,RA:0.4 PRIVATE:9B+10B+11DR ,RA:0.71 SERVICE:3BA+4BA+5BA ,RA:0.61	NEF-98-K-1+1 ***GENOTYPE-B***	 PUBLIC:1E+2CR+8CR+12H+13K+14L+15L,RA:0.32 PRIVATE:9B+10B+11B, RA:0.37 SERVICE:3BA+4BA+5BA+6BA+7BA,RA:0.41	BOMONTI-2-1+1 ***GENOTYPE-C***	 PUBLIC:1E+6L+7K+8L+9L, RA:0.33 PRIVATE: 10B,RA:0.60 SERVICE:2BA+3BA+4B+5BA,RA:0.38
8. NEF-12-E-1+1 ***GENOTYPE-A***	 PUBLIC: 1E+6CR+9K+10L, RA:0.38 PRIVATE:7B+8B, RA:0.52 SERVICE:2BA+3BA+4BA+5BA,RA:0.49	NEF-12-1+1-T ***GENOTYPE-A***	 PUBLIC:1E+2CR+7H+10K+11L+12L,RA:0.31 PRIVATE: 8B+9B,RA:0.47 SERVICE:3BA+4BA+5BA+6BA, RA:0.34	BOMONTI-7-1+1 ***GENOTYPE-C***	 PUBLIC:1E+4K+5D+6L+7L+8L, RA:0.36 PRIVATE:9B+10B+11DR+12BA+13BA, RA:0.47 SERVICE:2WC+3LA, RA:0.51
9. NEF-03-A2-1+1 ***GENOTYPE-A***	 PUBLIC:1E+6L+7L+8D+9K, RA:0.42 PRIVATE: 10B+11DR, RA:0.69 SERVICE:2BA+3BA+4BA+5BA,RA:0.61	NEF-12-1+1-F ***GENOTYPE B***	 PUBLIC:1E+2K(+L) + 3D, RA:0.29 PRIVATE:4B, RA:0.37 SERVICE:5BA+6BA+7BA+8BA+9BA, RA:0.36	NEXTLEVEL-1+1-B59 ***GENOTYPE-C***	 PUBLIC:1E+4CR+5K+6L+7L ,RA:0.3 PRIVATE:8B+9B+10CR+11DR+12BA+13BA+14BA+15BA ,RA:0.36 SERVICE:2WC+3LA,RA:0.28

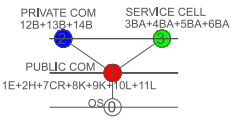
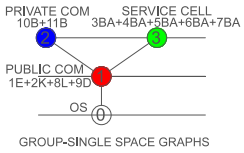
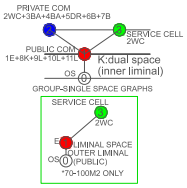
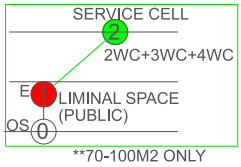
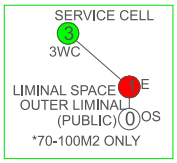
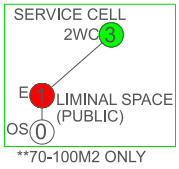
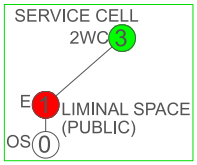
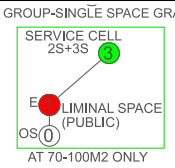
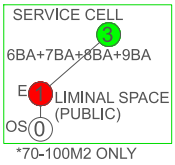
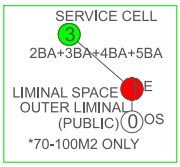
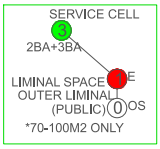
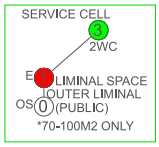
10.NEF-12-1+1-H ***GENOTYPE-A***	 PUBLIC:1E+2H+7CR+8K+9K+10L+11L, RA:0.27 PRIVATE:12B+13B+14B, RA:0.43 SERVICE:3BA+4BA+5BA+6BA,RA:0.41	NEF-12-1+1-M ***GENOTYPE-A***	 PUBLIC:1E+2K+8L+9D,RA:0.29 PRIVATE:10B+11B, RA:0.45 SERVICE:3BA+4BA+5BA+6BA+7BA, RA:0.39	NEXT LEVEL - 1+1-C52 ***GENOTYPE-C***	 PUBLIC:1E+8K+9L+10L+11L, RA:0.35 PRIVATE:2WC+3BA+4BA+5DR+6B+7B,RA:0.41 SERVICE: 2WC,RA:0.47
1st GRUP AVERAGE	PUBLIC:0.33 PRIVATE:0.54 SERVICE:0.5	2nd GROUP AVERAGE	PUBLIC:0.31 PRIVATE:0.41 SERVICE:0.39	3rd GROUP AVERAGE	PUBLIC:0.31 PRIVATE:0.41 SERVICE:0.47

Table 36: GR-3 Exhibit Commonly Genotype-C which Threshold Exhibit E+WC

 1.NEXT LEVEL-1+1-B51	 2.NEXT LEVEL-E-1+1	 3.NEXT LEVEL-H-1+1	 4.TRUMP TOWERS-1+1
 5.BOMONTI-6-1+1	 6. EDE TOWER- 1+1	 7.BOMONTI-2-1+1	 8.BOMONTI-7-1+1
 9.NEXTLEVEL- 1+1-B59	 10.NEXT LEVEL -1+1-C52		

As shown by the results, GR-1 exhibit genotype A commonly where thresholds are integrated spaces E+K+L and spatial configuration of threshold directly open to public compartment of the house. This also has relationship with growth percentages, which GR-1 exhibit the highest growth with 33.4% which indicates high integration and flexibility in the spatial configuration of the house. Thereby, genotype-A, exhibit the most inregrated character. Genotype-B, spatial configuration of threshold

consists of one space as hall that separates outside from inside, like passage from outside to public compartment. The common feature of both genotypes is the visual continuity from outside to public compartment without any doors or strongly closed spaces.

The third one, genotype-C is different from A and B by its different spatial configuration of threshold which all cases of GR-3 exhibit this one, genotype-C. At this type, thresholds exhibit service spaces which separate public from private compartments totally. Thereby, all of three genotypes are found commonly at spatial configurations of three different groups. This also indicates the changes between three different sizes of same typology, however, all cases are same type as 1+1. And this genotype diversity explains spatial configuration of different sizes with same typology.

4.5.2 Genotype Formation by Rank Order Of Mean Integration of Spaces with Growth Percentages

At previous part, genotype formations of three different groups were determined through cases spatial configurations and three different genotypes were introduced in relation to different spatial patterns. At this part, genotypes have been investigated through results of space syntax focusing on mean integration value (RA) results of spaces as rank order of mean integration values of spaces and growth percentages. Firstly, through the results of rank order of mean integration values of spaces, six different type have emerged as;

Genotype-1: E / H / CR is at the first order with lowest RA value and the most integrated.

Genotype-2: K is at the first order with lowest RA value and the most integrated.

Genotype-3: L is at the first order with lowest RA value and the most integrated.

Genotype-4: E+K+L integrated spaces are at the first order with lowest RA value.

Genotype-5: E+K+D integrated spaces are at the first order with lowest RA value.

Genotype-6: B is at the first order with lowest RA value and the most integrated.

GR-1 as the most informal type, very differently from prototype houses, do not indicate a strong spatial pattern with a diversification of most integrated spaces in the rank order. Most integrated spaces consist of two or three spaces commonly (E+K+L) (genotype-4) as these houses don't exhibit a separated entrance hall generally, therefore, GR-1 show a significant change in spatial pattern differently from prototype houses and growth percentage which is the highest with 33.4% indicates that this group as the most informal and flexible one. (Table 37)

Table 37: Rank Order of RA Values of GR 1 Houses and Growth Percentages

GR-1	GR-1 SMALL HOUSEHOLD HOUSES / RANK ORDER OF INTEGRATION VALUES	GROWTH %	GENOTYPE
MY VIA 414-1+1	Mean Int.value:0.29 L(+K+E)=0.0< B=T=0.33< BA=0.50	25	GENOTYPE-4
NEF-D-1+1	Mean Int.value:0.44 L(+K+E)=0<B=BA=0.66	34	GENOTYPE-4
NEF-04 F-1+1	Mean Int. value:0.45 L(+K+D)=0.16<E=0.33<B=BA=0.66	29.7	GENOTYPE-3
MARKA-333-A-1+1	Mean Int. value:0.39 CR=0.13<E=K+L=0.33<BA=B=0.46<T=0.66	11	GENOTYPE-1
MARKA-333-B-1+1	Mean Int. value:0.48 K=0.26<E=L=0.33<BA=B=T=0.66	32	GENOTYPE-2
NEF-12 D-1+1	Mean Int. value:0.49 E+K+D=0.16<L=0.33<BA=0.66<B=0.83	47.5	GENOTYPE-5
NEF-03-E-1+1	Mean Int. value:0.53 E=L=0.30<K=0.50<BA=0.70<B=0.89	31.9	GENOTYPE-1
NEF-12-E-1+1	Mean Int.value:0.32 CR=0.17<H=0.21<K=0.35<E=0.39<LA=B=0.42<BA=0.46<L=0.60	25	GENOTYPE-1
NEF-03-A2-1+1	Mean Int. value:0.41 E(+K+L)=0.09<B=0.30<BA=L=0.50<DR=0.70	49	GENOTYPE-4
NEF-12-H-1+1	Mean Int.value:0.32 H=0.06<E=0.26<K=L=B=BA=0.40	28.9	GENOTYPE-1

Avarage growth percentage: %33.4

Accordingly rank order of mean integration values of spaces of GR-2; Genotype-1 is the most common spatial pattern as E / H / CR spaces are the most integrated spaces in rank order with contribution of six cases, by this feature GR-2 don't indicate a significant change on genotype formation differently from prototype houses. And growth percentage also verifies this formal spatial organization with by being very low that indicates very less flexibility. (Table 38)

Table 38: Rank Order of RA Values of GR2 and Growth Percentages

GR-2	GR-2 SMALL HOUSEHOLD HOUSES / RANK ORDER OF INTEGRATION VALUES	GROWTH %	GENOTYPE
BORN-CITY 1+1	Mean Int. value:0.41 E+K+D=0.09<L=0.30<BA=B=0.50<T=0.70	23.5	GENOTYPE-5
TRENDIST 1+1	Mean Int. value:0.53 E=K(+L+D)=0.30<H=0.50<BA=0.70<B=0.89	16.4	GENOTYPE-1
SOYAK SOHO 1+1	Mean Int. value:0.51 H=0.19<E+K=0.57<L=B=BA=0.60	28.6	GENOTYPE-1
BOMONTI TIP27, 1+1	Mean Int. value:0.74 B=0.33<T=0.66<BA=0.83< E(+K+L+D+)=1.16	17.5	GENOTYPE-6
BOMONTI MOD.P 1+1	Mean Int. value:0.47 L=0.23<E=D=0.33<K=B=0.52<BA=0.61<S=0.80	9	GENOTYPE-3
NEF H TYPE 1+1	Mean Int. values:0.41 E=0.09<B=0.30<BA=L+K=0.50<T=0.70	41	GENOTYPE-1
NEF-98 K 1+1	Mean Int. value:0.45 H=0.20<E=0.26<L=0.40<B=0.53<BA=0.60<K=0.73	20	GENOTYPE-1
NEF 12 1+1 T	Mean Int.value:0.39 CR=0.14<E=H=K=0.33<BA=0.42<L=B=0.61	30	GENOTYPE-1
NEF 12 1+1	Mean Int. value:0.37 E+K+D=0.0<D=BA=B=0.5	17.3	GENOTYPE-5
NEF 12 1+1M	Mean Int.value:0.43 E+K=L=0.19<B=BA=T=0.60	16.3	GENOTYPE-4

Avarage growth percentage:%21.96

GR-3 which exhibit the largest cases, accordingly to rank order of mean integration of spaces, indicate a different strong spatial pattern (genotype-3). At GR-3, living room and kitchen appear as the most integrated spaces in the rank order differently from first two groups. This demonstrates the difference spatial pattern existence at this group differently prototype ones. Thereby, GR-3 indicate a strong change on genotype compared to prototype houses. (Table 39) And growth percentage also verifies this genotype formation as being optimum which indicates more strong spatial pattern than GR-1 and more flexible spatial organization than GR-2.

Table 39: Rank Order of RA Values of GR3 and Growth Percentages

GR-3	GR-3 SMALL HOUSEHOLD HOUSES / RANK ORDER OF INTEGRATION VALUES	GROWTH %	GENO TYPE
NEXT LEVEL 1+1 SUITE B51	Mean Int.value: 0.58 L=K=0.38<E=B=0.47<DR=0.66<WC=0.76<BA=0.96	29.5	GENOTYPE-3
NEXT LEVEL SUITE E 1+1	Mean Int. value: 0.43 L=0.25<K=0.28<H=0.35<E=0.39<T=0.42<B=0.53<BA=0.60<WC=0.64	39	GENOTYPE-3
NEXT LEVEL H TYPE 1+1	Mean Int. value: 0.38 L=0.19<H=K=0.26<T2=0.31<E=B=0.37<T1=0.39<BA=0.46<DR=WC=0.57	31	GENOTYPE-3
TRUMP TOWERS 1+1	Mean Int. value: 0.51 K=L=0.33<E=H=0.42<WC=B=BA=0.71	23	GENOTYPE-3
BOMONTI TIP 6 1+1	Mean Integration values: 0.35 K=0.17<L=0.25<E=0.28<BA=0.32<B=0.39<DR=0.42<T=0.50<S=0.53	24	GENOTYPE-3
EDE TOWER 1+1	Mean Int.value:0.45 E=0.19<B=0.28<L(+K)=0.38<DR=BA=0.47<T=0.66<MBA=0.76	20	GENOTYPE-1
BOMONTI TIP 2 1+1	Mean Int. value: 0.37 L+D=0.13<E=0.20<B=T=0.40<K=0.46<BA=0.53	24	GENOTYPE-3
BOMONTI TIP 7 1+1	Mean Int.value:0.50 E(+K)=L(+D)=0.28<B=0.38<WC=LA=DR=0.57<BA=0.85	35	GENOTYPE-3
NEXT LEVEL 1+1 B59	Mean Int. value:0.47 L=0.28<K=0.32<B=0.35<E=T=0.42<DR=0.53<WC=0.67<BA=0.78	23	GENOTYPE-3
NEXT LEVEL 1+1 C52	Mean Int. value.:0.36 E=0.28<K=BA=0.33<L=DR=0.38<B=T=0.42	16.8	GENOTYPE-1

Avarage growth percentage:%23.5

To sum up, accordingly to rank order of mean integration values of spaces , GR-1 reveal as the most informal type and exhibit significant change on spatial pattern from prototype houses which is weak and diverse (don't show continuity between cases). GR-2 is found as the most formal type and don't show strong changes in years spatial patterns when compared to prototype houses. Lastly, GR-3 is also a informal type but exhibit a strong spatial pattern (show continuity between cases) and genotype formation differently from prototype houses. Thereby, GR-1 and GR-3 both exhibit informal types which GR-1 doesn't show a continous spatial pattern (heteregenous) and it's very diverse, while GR-3 shows a continuity of strong spatial pattern (homogenous) which presents genotype formation different from prototype ones.

4.6 Main Findings

This part presents the main findings of thirty case analyses that have been studied firstly by spatial point of view, than by analytical point of view by space syntax application to confirm the spatial discoveries and lastly by shape grammer to make new spatiality of houses more visible over justify graphs.

4.6.1 Space Syntax Application Results

As a result of the correlations between the syntactic values and dimensional measures; %33, %21.96, % 21.32 growth percentages have been measured as a result of space dimensions and square meters, this growth respectively correspond to groups 1/2/3 which indicates GR-1 the most flexible one and accommodate a high growth ability due to changing conditions. Test of growth percentage of all plans have been proved by the test of mean integration values (RA) of all plans 0.41, 0.47, 0.44, emphasizing the GR-1 is the most integrated one and then a significant rise appears at GR-2 than again a decrease is found at GR-3. The tests that are performed between three different groups and mean integration values indicated that the most segregated organization is GR-2, which signs less flexibility and resemblance to traditional houses.

In addition, an other test between groups and mean depth values of all plans emphasized the deepening tendency from GR-1 to GR-2 and GR-3, from smaller to larger houses with the degrees of '2.50, 2.70, 3.44'. Mean depth values demonstrate that there is direct relationship between deepening tendency and m2 of the houses. This increasing tendency of integration value of GR-1 and GR-3 is also tested by space link ration (SLR) values and the same results have been collected; '1.23, 1.19, 1.24', where circulation values and loop abilities of space organizations at GR-1 and

GR-3 are higher, emphasizing a more integrated character, but at GR-2 SLR decreases parallel with decrease of integration value.

The tests performed between three groups and BDF values '0.54-0.56-0.79' as GR-1, GR-2 and GR-3 indicated that GR-3 exhibit less functional differences between spaces and homogenity. In addition, BDF values present an increase at convex maps; '0.77, 0.76, 0.82', which indicates differentiation between spaces decrease by convexity, spaces become more homogenized. In addition, average space numbers rise from 6 to 11.5, from space to convex maps, indicate the space definition ability of furniture without walls as Rietveld Schröder house, where depth of houses increase but integration and permeability does not decrease and visibility continues in the house.

The study scrutinized this increasing mean integration tendency of GR-1 with compartment analyses and same increase of mean integration at public compartments of 1st group is found. Same as all plans, public compartments (which consist of entrance, kitchen, dining, living area in one open space implicitly) emphasized the increasing tendency at GR-1 as 0.29 and GR-2 and GR-3 as 0.31, supports all plan results.

To sum up, today all groups of 1+1 small household houses from 20 to 100m2 exhibit highly integrated spatiality with cluster & axial organizations, especially with open type kitchens mostly integrate with entrance and living rooms. Especially space syntax tool demonstrates this high integrated spatial organization with comparative results of mean depth, mean integration, BDF and SLR. Thereby, at the end it is found that new type small houses spatiality exhibit highly integrated character with

implicit, permeable and indefinite space characteristics and ensures flexibility and adaptation to diverse lifestyles easily without making any constructions. In addition, when compared to traditional concepts 'Turkish rooms and small Japanese houses' and modern period minimum dwelling, today it is found that the integration of segregated two compartments is an important finding at recent day small houses / household houses differently from traditional small houses and minimum dwelling where integration was the only feature for flexibility. The group organizations / compartments are new spatiality of recent day houses, which, in addition to flexibility and adaptability, ensures the clear separation of public and private spaces whenever required easily.

4.6.2 Shape Grammar Application Results

Previously, its basically stated that recent day small houses spatiality consists of group and single space organizations that are formed by six new space types. All these spatial relations occur by depth, density, interpenetration with spatial identifiers such as; transparency, concealable / mobile partitions furniture and soft divisions. As the main research area, in the thesis study new spatiality is important due to its difference from traditional organizations. Informal and extraordinary space organizations have been revealed by depth, density, interpenetration relations without walls and doors, by this way, spatial depth can combine one, two or more different functional spaces in one open plan especially at public compartments. This indicates, depth relation create weak space segregation and diverse functions can occur in one space. It is not juxtaposition of spaces, its overlapping of spaces.

On the other hand, spatial density occur by openly juxtaposition of different functional spaces in one open space where transparency reveal with soft divisions and diversity. Spatial density occur by axial organizations commonly, by

juxtaposition of spaces on a linear axs without walls. At density relation different functional spaces are seperated from each other by floor coverings (wood, ceramics), ceiling designs (high-low), and by low furniture & equipment usage, that do not block visibility within an axial organization. Lastly, at spatial interpenetration, commonly duality of cluster organizations are found. Thereby; spatial depth has emerged at public compartment without walls, spatial interpenetration revealed at private compartment where bathrooms are separated from bedroom with walls. Thereby; depth and interpenetration are found at different compartments, but density can be seen at both. (Figure 90)

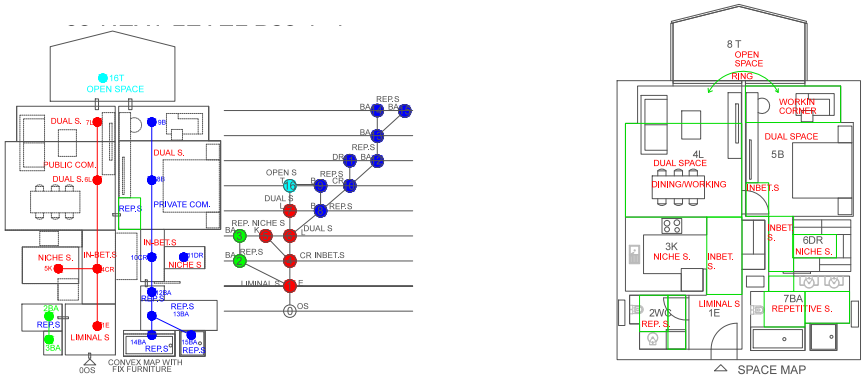


Figure 90: Space Types Presentation by Convex Maps with Justify Graph and Space Plan

Thesis mainly investigates new spatiality of recent day high density open plan typologies that are developed differently from traditional family house typologies. Because its found that at all high density housing developments, all public compartments are arranged as open plan concept and space types are experienced at all of them. These new space types (see figure 98) are as below;

1.Niche spaces:Have been revealed at both public-private compatments as; kitchen and dressing room.

2.Dual spaces: Have been revealed at both compartments, dining/working space, living room/bedroom spaces at public compartment, and makeup-working table, corridor/ironing spaces revealed as dual spaces in private compartments.

3.Inbetween spaces: Have been revealed at both compartments, entrance hall is used as kitchen fromtime to time and dressing room-bathroom passage can be used at study space from time to time.

4.Liminal spaces: are found at public compartments as 3 different types.

5.Repetitive spaces: are found at both compartments left for user occupation.

6.Open spaces: are found at both compartments, terraces are commonly designed as collectively, by this way rings occurs between two compartments.

All these definitions are conceptual, abstract and theorethical explanations and create spatiality of recent day houses. 2.nd part consists of space syntax application to measure abstract concepts with mathematical results by means of mean depth and mean integration values. (see appendices 4) In addition, changing spatiality of recent day small houses exhibit new group organizations such as; 'compartments'. Today housing typologies show diversity from small to big sizes with a mathematical presentation such as; 1+0,1+0.5, 1+1, 1+1.5, 1+1+1, 1+2, 1+3, 1+4, which all of them commonly exhibit public compartment with open plan concept. The difference between them occur by the number of private compartments as shown below.(Table 40)

Table.40: Compartment Formations of Recent Day Houses

X+Y	PUBLIC COMPARTMENT + PRIVATE COMPARTMENT
1 + 0	PUBLIC COMPARTMENT
1+0.5	PUBLIC COMPARTMENT+HALF SPACE INTEGARTED
1+1	PUBLIC + PRIVATE COMPARTMENT
1+1.5	PUBLIC COM + PRIVATE COM + HALF SPACE INTEGRATED
1 + 2	PUBLIC COM + 2 PRIVATE COM

However thesis main interest is small houses with 1+0, 1+0.5, 1+1, 1+1.5 types, the separation and existence of public-private compartments is very clear and visible on new housing areas. At small house, it is found that 1+1 type is the locomotive type with the highest occupation percentage in high density housing projects. Because today families buy two or three 1+1 type houses from the same project even at same block (parents with cildren going to university age) and they live together and when children leave the house, they rent these houses. By this way both space and money waste are blocked. And, especially at major cities, a sustainable domestic design and planning have been achieved, by open plan small houses, space waste is minimized. Today sustainable architecture is achieved at high density housing projects by open plan concept public compartments. Three different typologies have been found at private compartments such as;

1. GR-1 is commonly public and private compartments are integrated and new space types and groups have been revealed with new spatial relations.

2. GR-2 is the normal size group, segregation have emerged between public and private compartments with common service cells. New spatial relations and identifiers come forward at public compartments mostly between living spaces, while, private compartments are less developed at this group when compared to GR3, and consists of bedroom only without integrated bathrooms.

3. GR-3 exhibit max. separation between public and private compartments. (Figure 108) Thereby, at this group, separation of 1+1 type-base houses' public and private compartments are very visible with each compartments' own service cells which ables separations in years due to lifecycle and can be used as two different 1+0

houses, at this types ; A) Common terrace/balconies appear as collective open spaces exist between two compartments which links them from outside. B) Both compartments exhibit all of six space types;

* Public Compartment: Dual space is living room: living+dining+studing,Niche space is kitchen, Entrance hall exhibit a service cell (guest bathroom)+closet space.

* Private Compartment: Dual space is master bedroom: bedroom+desk wall for study+hall with closet, niche space is dressing room. (Figure 91)

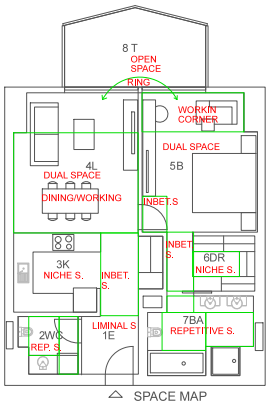


Figure 91: Space Types at Public and Private Compartments Are Mutual Same for Different Activities

By this way, sustainability at recent day housing developments has emerged as; sociological point of view by adaptation of lifecycle in years with additional and subtractive modular structural systems, New innovative structural systems at high density projects that are used to ensure additions and subtractions by modular compartment systems which increases sustainable architecture, and by adapting open plan concept with open building design principles which includes 2 parts support and infill as indicated by Deniz (2015), walls are minimized in the house and spaces get highly integrated with flexible usages due to changing circumtances as user friendly designs.

Accordingly Deniz (2015), open building approach is to lighten design and application stages, to respond increasing and diversified demands and necessities of users. By this way, open building creates flexibility, for not only recent users necessities but also open to future demands. By eliminating irregularity form building system and give flexibility a clear separation must be realized between support and infill parts of a building which are correspond to individual opinion versus collective opinion, permanent need versus variable need, long versus short lifecycle. Support parts consists of collective areas such as; stairs, elevators, corridors, halls, terraces, service spaces, and include elements such as; common structural elements (coloumn, bearing wall, post & beam), exterior shell (facade, balcony, roof), common circulation areas (stair, elevator, ramp), common installation. (Figure 92)

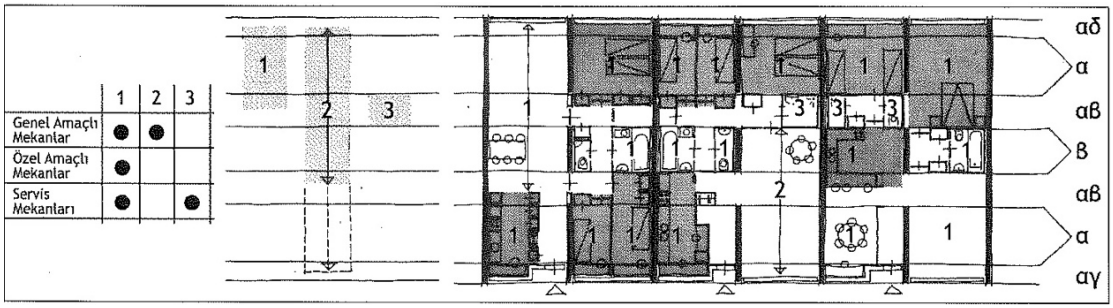


Figure 92 : The Classification of Different Functional Spaces at Support Part and Their Places on the Floor Plan

On the other hand infill parts (infill, fill-out, detachable unit, tenant work) consist of for individual usages and is totally the necessary physical configurations for creation habitable volumes in support part, and generally consists of as stated by Deniz;

- Interior partitions, doors, closets that are belonging to certain usage unit.

- Finishings such as wall, floor, ceiling coverings, and furniture, connections parts that are belonging to a certain usage unit.
- Circulation components that are belonging to a certaing usage units such as; stair, ramp, elevator.
- Installation componenets that are belonging to a certain usage unit such as; pipings, channels, cables, equipment. (p.63) (Figure 93)

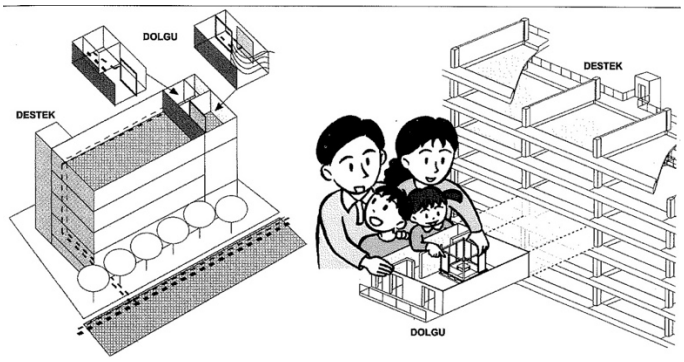


Figure 93: The Infill Part is a Total Configuration That is Determined for Individual Users or User Groups by Physical Elements

These integrated organizations are different from traditional organizations with new spatial relations (spatial depth, density, interpenetration), spatial identifiers (transparency, mobile equipments, soft divisions), with new space types (liminal, repetitive, inbetween, niche, dual, open spaces) that form group spaces (public com, private com, service cell).

Connections between different functional spaces are achieved with these new spatial relations and identifiers by integration and walls-corridors-doors as traditional separators got lost. Instead of walls-corridors-doors, tranparency / spatial liminal / concealable & mobile equipment / soft divisions come forward during separating

different functional spaces. And this new spatial identifiers create new space types such as;

1. By camouflauge & mobile equipment dual space reveal as dual functional spaces, and due to changing necessities such as bedroom that can be used as work room or living room can be used as bedroom-study room from time to time.

2. In-between spaces come forward by spatial liminal and transparency identifiers which a space can be used as transition and a functional space time to time. This space type was mutual to corridors at traditional organizations. With open plan configuration, and non-existence of walls, these corridors get integrated with other spaces and can response to changing necessities. Thereby, inbetween spaces can be used as an extra functional space from time to time, by spatial identifiers such as; camouflauge-mobility-soft divisions, for example, an inbetween space can integrate with kitchen by fold in/out kitchen equipments that are hidden in storage units, or dressing room or bedroom hall can be used as study space by fold in/out equipment. Thereby, in-between space is used both for circulation and functional space at open plan organizations.

3. Liminal spaces; which reveal as 3 typologies differently at GR1/GR2/GR3 due to spatial configuration of entrance. At GR1 public compartment is also entrance which is structured as; entrance+kitchen+livingroom integrated spaces. At traditional organizations entrance exist ‘entrance hall+closet hall+apron(wind blocker)’, but this spatial configuration has been changed by open plan configuration and reveal as three different typology in relation with square meters of the 1+1 houses such as;

* GR-1, spatiality of entrance consists of public compartment openly such as; ‘entrance+kitchen+living room’.

* GR-2, entrance consists of an open entrance hall with closets only. Here, entrance as liminal space seperates outside from inside and used as a passage.

* GR-3, entrance consists of developed service cells as guest bathroom, wc, laundry which seperates public and private compartments from the entrance. At this types, public and private compartments are separated from each clearly by developed service cells organizations. This indicates sustainable architecture feuture by eliminating service cells from house interior which able different configurations for compartments without constructions when needed. This shows importance of service cell organizations for sustainable architecture.

4. Niche spaces, at open plan configurations ensure the formation of open compact spaces , as U shape one side open room, all storages and electronic device applied to 3 walls compactly but still integrated with living space. For example, open kitchens are commonly planned as niche spaces and its linkage with living room is ensured by a table or a bar. With same manner, at private compartments, dressing rooms are organized as niche spaces, 3 walls occupy all closets but its not a closed space and its integrated with bedroom space.

5.Repetitive spaces; at this spatiality unnecessary repetition of a space is found. For example; a reception hall at the entrance of the house, than an other hall linked to that, and 2nd other empth hall with same sizes. This indicates Mies’s ‘Less is more’

slogan that emphasizes open plan. So these repetitive spaces are left free to user's choices as un-design concept.

6.Open spaces; as terraces and balconies of houses. It is added to space types due to high integration ability of these terraces to interior spaces by soft divisions such as; sliding glass partitions from floor to ceiling. By this transparent sliding mobile partitions terraces can contribute to living rooms or bedrooms and also creates ring between them.

Until now, all these findings are collected from theorethical-abstract-sociological data of the houses plan layouts. At this morphological plan readings some theories come forward such as;

* Open plan concept, 'Less is more' slogan.

* Publicity & privacy , their dual formations by segragations and integrations.

* Fold in / out concept, in years during family lifecyle these modular compartments can be added and subtracted easily by extensions. They can be multiplied such as; 1+0,1+0.5,1+1,1+1.5,1+2.

And at the second part of the thesis space syntax programme is applied to test all these theoretical-conceptual-sociological definitions by mathematical / analytical results such as; comparatively. Space syntax application is used by academic people commonly who make studies and investigations on housing typologies especially to recover sociological meanings by analytical results.

Space syntax programme presents spatial organizations of the houses by justify graphs with nodes and links. Space sequences are shown on justify graphs after

analysing on plan layouts. Two important values are calculated by justify graphs; mean depth and mean integration values of spaces, which reveal how integrated or segragated the spatiality of a house is. Integration value indicates existence of deep or shallow spatial configuration, closer and deeper spaces relations, connections of spaces, and it defines 'inner most area' of a house by mean depth value. Space syntax method is used commonly a lot at traditional housing studies and the sociological data of the house is revealed by this way. At this thesis study, different from traditional houses, new spatial organizations of recent day houses have been examined by space syntax as open plan concepts. and new spatial relations and organizations have been measured.

Space syntax and it's tool justify graphs consists of mainly two elements; nodes and links, which nodes represent spaces and links represent circulations. Thereby, nodes are spaces and links are corridors at traditional studies. At this thesis, open plan and spatially integrated small houses, nodes still represent spaces but links also represent spaces too. Because of open plan concept, walls-doors-corridors get lost at these new small houses by high integration of spaces, so, corridors of past transform to spaces here. So, nodes are spaces and links are spaces too between 6 new space types of the thesis study. For example; nodes are living room, dining room, kitchen, bedroom, parlour, guest room, bathroom, wc, servants room at traditional organizations and links are corridors, halls and stairs but at these new types; nodes are liminal, dual, niche, repetitive, open spaces and links are in-between spaces,and repetitive spaces are also introduced as halls at certain points.

This is the main difference between traditional and open plan configuration that is represented by space syntax and justify graphs. Living room of these new houses is

not like parlour of a traditional house, it is combination of several new space types and structured as;

*Living room: dual+niche+inbetween spaces or it can be only ‘dual space’.

*Master bedroom: inbetween+repetitive+dual+niche spaces or it is only ‘repetitive spaces’.

This spatial additions changes due to square meters of the houses and at larger types, spaces exhibit sequences which makes them compartments. All these houses are open plan, all spaces are integrated and they are separated by convexity of recesses, furniture and equipment as flexible organizations. In the thesis study space syntax is appplied comparatively between three groups of 1+1 types, equal by number; 20-40 sqm2, 40-70 sqm2, 70-100 sqm2 houses (10 for each group), and at the end important data have been collected by avarage mean depth and mean integration values such as;

- Through mean integration values, GR-1 is found as the most integrated organization with shallowest justify graphs. GR-2 is found more segragated by higher mean integration values and GR-3 is also integrated.
- Through mean depth values, GR-1 is the most shallowest with very low mean depth value, it has no depth, and occupy very little spaces at convexity. GR-2, mean depth value is higher, and it has a deeper justify graph with more convex spaces. GR-3 average mean depth value is the highest, with deepest justify graphs and much more convex spaces. This gorup is highly integrated and deep due to larger area.

Thereby, it is found by convexity that flexibility of the houses increase, however areas increase with deeper convex spaces, their integration is still very high due to loss of walls or usage of recesses and fix furniture as separators. This demonstrated the effect of open plan with new spatial relations and identifiers to increase flexibility and adaptability in the houses differently from traditional family houses and this is the new spatiality of recent day houses today.

In addition, sustainable architecture exist at the houses' spatial organizations by being adaptable to occupy diverse user typologies without making constructions. Service cells are arranged to support this organization where all compact units are arranged in niche spaces and can be closed with soft divisions when they are not in use. All transitions between different functional spaces are organized very weakly by depth-density-interpenetration relations and they are all open. By this new spatial feature, 'space-hall-space' relations transform to 'space-space-space' relations by elimination of walls and doors that is common at traditional houses.

Chapter 5

CONCLUSIONS

5.1 Main Findings

This thesis research had been developed on mainly three parts to explore changing dynamics of small house spatiality from minimised space usage to dynamic living space as; (1) investigations on the development of spatiality, (2) investigations of spatiality by concepts & theories and exploring the late discoveries, (3) application of three-parts method to test new spatiality of recent day small houses. Investigations compromises a historical research on the development of small houses with the themes of traditions, ideologies, and trends & lifestyles respectively which at the end study helped to reveal the diversity and development of spatiality. Thereby, the concept of the small house space have been investigated in the context of traditional Turkish rooms, traditional Japanese house, and small worker houses, social houses and minimum dwelling in relation to modernist ideologies. At the end it is found that there are some similarities in spatial organizations, all themes exhibit their crucial differences regarding to cultural-societal dynamics of the period lifestyle. Turkish rooms with its' symbolic divisions to create spatial organizations differ from Japanese houses which present perceptual divisions with the horizontal orientation of spaces thereby smaller spaces are perceived larger. On the other hand, in the modern world new ideologies had an effect on small house types which compromises respectively; small worker houses, social houses, minimum dwelling and collective dwelling. Investigations indicated that all these small living concepts exhibit

different spatial divisions / organizations, in fact a true spatial development and diversity had been found in the definition of small living by exhibiting various spatial quality from segregated to integrated spaces and from explicit to implicit weak spaces. Small worker houses show the segregated space organizations, while in social houses these segregation of spaces had been decreased by extra loops, circles and doors in between spaces but the segregation still exhibits dramatically reduced sizes of small rooms. Conversely, minimum dwelling exhibit totally different, new spatiality and had been declared as a reform on housing issue by famous architects of the period and mainly consists of integrated space organizations designed with mobile, concealable equipment which can respond day / night usages of same space for different scenarios and usages 1 to 4 people. In addition, architects of the period declared collective dwelling and hotel-type houses as further versions of minimum dwelling where they eliminated kitchens from inside of the houses and planned at each floor for common usage and small houses became minimum living units for basically resting, living, sleeping, studying activities placed within minimum area.

At this point, the study collects valuable data on diverse development of spatial organization of small houses. The basic differences between spatial organizations shed a light in the study while investigating contemporary small houses as recent day small house examples. The third and last issue which have a significant effect on the characteristics of small houses has been introduced as ‘trends & lifestyles’. Regarding to the type-base and size-base diversities of small houses such as; 1+0, 1+0.5, 1+1, 1+1.5 types with various sizes i.e. from 20 to 100 m2 seems to appear widely in the housing market especially in the big cities. Subsequently, it has been indicated that new trends on recent housing development projects have been extensively supported by the contemporary lifestyles. Thereby, for this part study

carried out an interactive investigation between contemporary small households and houses. For this reason, the study first discussed dynamics, diversities, dualities of contemporary small households' structures and find it necessary to analyze contemporary small households dealing with their dynamic structures, diverse lifestyles and dual preferences. In addition, the statistical evidence of TAYA (2011) shed a light to the study during investigations of dynamic structure of small households and through statistics it's found that number of household member generally in Turkey is 3.57 and household types throughout Turkey indicated that nuclear family inhabit the highest ratio with %70, then broken families with %17.7 and with the contribution of 'number of children of household type' statistical results have emerged the total percentage of small households totally as %49.5 including the families with no children and with one child. Investigating dynamism of the household structures three major cities, in Turkey; and value for the optimum sizes, the ratio of the types of contemporary small households have been checked. Statistical investigation has been carried out on diversity of the lifestyles with definitions which named; familism, careerism, consumerism and bohemianism. As a result, it has been realised that these are usually mixed types and most of the time combination of two or three. Finally, dualities presented social context preferences of the small households as family ties oriented vs social ties oriented and physical context preferences as city centre oriented / sub-urban oriented / work place oriented.

In the study, it's aimed to prove these dynamics, diverse, dual concepts interacting between small households that could be a kind of evidence to explain the extreme diversity of small houses today differently from past. To highlight recent developments of small housing implementation, interviews were conducted with architects and an important data has been collected. Analyses of the interviews

suggest that, due to the diversity of small households of 1 to 3 people, small house design types are becoming more diverse by type-bases as 1+0, 1+0.5, 1+1, 1+1.5 and the total size varies from small to large square meters. To accommodate and at the same time to attract these great variety of households, companies offer different living concepts and scenarios to the users, for example in city-centre, sizes of the small houses are getting smaller to accommodate small remarkably one person households or projects near to university campus provide mainly small-scale accommodation for students; however, at rural areas like Sütlüce and Kemerburgaz projects, house sizes are getting larger to accommodate family based small households like married couple with one or without any child. Additionally, resident projects sizes of small houses are again getting smaller for a compact living for professional single person households. Evidently, today diversity of these small houses is increasing in relation to demographic characteristics of the users.

After all studies and investigations on small house and households, it became obvious that dynamic character of living space can be clarified by dealing with three basic space concepts and theories; flexibility, expandability, convexity. Flexibility indicates space expansion /growth percentage and growing number of sub-spaces and in other words it is the result of expandability and convexity, which expandability exhibits duality due to changing form of spaces, while in use they expand to other spaces and appear larger, than shrink become smaller again. Thereby there is a duality between integrated (large) and segregated (small) usages. On the other hand, convexity exhibit diversity by sub-spaces without any separators as; liminal, in-between, dual, niche, repetitive, open spaces and creates diversity by space groups. To sum up, flexibility (dynamics) increase with expandability (duality) and convexity (diversity), and both expandability and convexity accommodate their sub-

categories such as; integration is the sub-category of expandability varying between weak / strong spatial relations and space groups (compartments) are the sub-category of convexity between heterogeneous / homogeneous space organizations. (Figure 102)

In addition to these, the physical components of building such as; columns, planes, walls, ceilings, floors, furniture have been investigated as they define the spatiality and how it changes from weak to strong degrees. When its weak and implicit it becomes more integrated and when it's strong and explicit it becomes more segregated and this is important comparisons for contemporary small houses where space quality rises when it's integrated. Thereby, by these physical elements study analyses interior spatial structure of small houses today and discovers integrated, informal, weak space structures are more adaptable. In the study, concept of spatiality have been determined as quality of spaces that increases by its' integration degree. At this point new spatial relations and identifiers, such as; spatial depth (dynamics), spatial density (diversity) and spatial interpenetration (duality) have been investigated to determine spatiality of contemporary small houses achieved by flexible space dividers. These spatial relations can usually show a clear proximity with each other and organized according to axial / cross axial or cluster ordering principles create space groups which named zones or compartments. The formation of the compartments accomplishes the integration of different functional spaces within their boundaries; however, each compartments segregated from each other at the same time; as being more public or private. This order is more visible at larger size small houses and reveals its' relevantly complex spatiality which has been achieved in different compartments. At this point new spatial identifiers have been determined which achieve spatial relations and create interior structures differently

from traditional wall structures such as; transparency as perforated dividers where visibility continue between spaces, concealable / mobile furniture and equipment which adapt different usages to spaces such as day / night usages and soft divisions as movable partitions which creates flexible and temporary usages of spaces. All these identifiers create the spatial relations between two, three or more spaces with an implicit way.

After determining new spatial relations and identifiers of contemporary small houses, new spatiality of these houses have been determined respectively by; (1) spatial organization / growth types (cluster / cross-axial / axial), (2) space groups and single space characteristics as public / private compartments and service cells, (3) new space types (liminal, in between, dual, repetitive, niche, open). These three topics create the new spatiality definition of contemporary small houses which have been analysed at fourth chapter with a three-part method; spatial expansion / space syntax / shape grammar. By space syntax application new conceptual findings have been measured analytical within a comparative way between different sizes of same types and demonstrated flexibility degrees and new genotype formations of recent day small houses. To sum up, graphical presentation at figure x explains the changing spatiality of small houses from the static space organization to dynamic spatiality in relation to duality and diversity. (Figure 94)

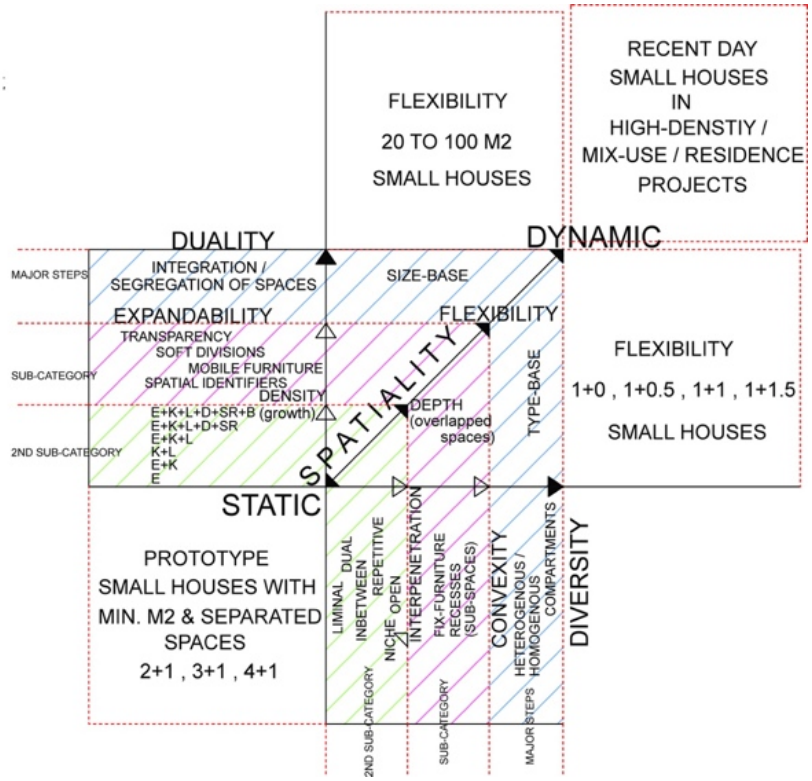


Figure 94: Cube of 'Dynamics-Duality-Diversity' Characteristics of Spatiality

5.2 Results of the Main Research Questions

1. What are the new space organization types which are observed in these contemporary small houses differently from prototype ones?

The new common type of spatiality are widely observed among the contemporary small houses with diverse type-base (1+0, 1+0.5, 1+1, 1+1.5) and size-base (from 20 to 100 m2) characteristics; and it is indicated that all these houses are different from prototype small houses regarding to their open plan and integrated spatial configuration. Firstly; new spatial relations and identifiers have emerged at spatial structures of these houses in relation to loss of walls and corridors in space organizations leaving their place to a new definition of spatiality such as; depth, density, interpenetration that are structured by identifiers such as; transparency (perforated divisions), concealable / mobile furniture, soft divisions (demountable partitions) physically. Secondly, new space types appear at interior architecture of these houses differently from traditional houses, there isn't a separated living room

or enclosed kitchen and even bedrooms exhibit very weak structures with sliding partitions. Due to loss of walls, weak structures and infinite spaces have emerged as dual spaces instead of separated kitchen and living room, liminal spaces instead of enclosed entrance hall, in-between spaces instead of corridors; repetitive spaces instead of halls, niche spaces instead of closed kitchen or closed dressing room. Thirdly, the new space types create new space groups and single spaces such as; public, private compartments and service cells with a proper organization type between cluster / cross axial / axial organizations.

2. What is the role of convexity at recent day small houses space organizations? And what are the relations between expandability-flexibility-convexity-integration?

In the study, four major tools are defined during analyses of interior architecture of these new small houses; expandability, flexibility, convexity and integration (as a result of these). And these tools present respectively; growth percentages of houses as temporal expandability, weak & infinite structures and high integration between spaces as flexibility degree, increase of defined sub-spaces (by recesses, fix-furniture) as convexity and effect of sub-spaces on the integration of total house as integration. Expandability has close relation with flexibility, if a house has high expandability percentage, it is more flexible. For example, GR1 has the maximum growth percentage and lowest RA (mean integration value) which means maximum flexibility, and GR2 has the minimum growth % and maximum mean integration (RA) value which means minimum flexibility. Thereby, flexibility and expandability move in parallel. On the other hand, convexity is sub-category of flexibility which defines sub spaces by using recesses and fix-furniture, increases integration and creates sub-spaces with a flexible way. Lastly, integration of new space types and compartments also effects flexibility, if integration of space types is high than

flexibility of compartments increase. Comparative space syntax results between flexibility & convexity (space maps & convex maps) indicated that by convexity a significant rise appear at space numbers which proved space definition ability of convexity. Mean integration value indicated that integration rises again by convexity and mean depth value verifies this with higher results of deep space configuration. Space link ratio shows a decrease at convex maps (1.08) which is higher at space maps (1.22) by the rise of defined space numbers that create a more controlled spatial organization. To sum up, flexibility and expandability connected each other, if house is flexible its' spaces can expand easily.

3. What is the relationship between space syntax results and households' dynamic-diverse-dual characteristics?

In the space syntax method, each syntactic tool presents a different social relation / meaning such as; mean integration (RA), mean depth (MD) values indicate importance of privacy for households, space link ratio (SLR) value is synonyms with the degree of freedom and basic difference factor (BDF) value indicates the heterogeneity or homogeneity character of spaces & households. (*RA + MD= public / private character of households, *SLR: free movements / controlled movements, *BDF: heterogeneous / homogenous characters) Thus, space syntax is comparatively applied between three groups indicated that however all thirty cases are 1+1, they present three different spatial organization and household characteristics.

GR-1 exhibit the highest integration degree with only a public compartment and privacy of the house is very low due to openness of private spaces and basic difference factor (BDF) indicates a heterogeneous and informal character. Mean integration values indicate high integrated spaces, mean depth values indicate very shallow space organization with a low depth between spaces, space link ratio values

present free movements and uncontrolled paths in the house, and basic difference factor value indicates a very differentiated space organization which GR1 consists of different space types thus heterogeneous in addition household patterns are very diverse and heterogeneous at this group. Household types commonly exhibit bohemianism or careerist lifestyles in relation to low privacy, are generally alone living working people or students and exhibit high diversity as heterogeneous spatial patterns.

GR-2 is the most formal type through space syntax results and mean integration, mean depth, space link ratio and basic difference factor results indicated that this group exhibit lower integration, higher depth due to larger sizes, lower free movements and less difference between spaces which mean spatial organization is structured by same space types at this group, thus homogeneous. Public / private compartment separation is more visible at this group, however public compartment is developed, private compartment is still less developed in order not exhibiting a dressing room and bathroom in. However privacy of the user becoming more visible in the spatiality of the houses.

Space syntax results of GR3 indicated that this group is also informal as GR1 but totally in a different way. GR3 exhibits the segregation two different compartments (public / private) very clearly which each compartment is well-developed by accommodating their own service cells and privacy in the house is very high and under control. There are extra loops and circles between different spaces which increase integration. Through space syntax results; mean integration value indicates high integration between spaces, mean depth value indicates high depth between spaces (in relation to increase of sizes and sub-spaces), space link ratio indicates free

movements between spaces and lastly basic difference factor with the highest value indicates low differentiation between different functional spaces and homogeneity of the group. Households can be couples, professional working people with the high income and demand for relevantly more developed public life within the house as well as private ones.

4. Its obvious that, growth / expandable ability of integrated spaces depends not only on house type with certain spatial layout characteristics, but how does it change between the different square meters of the same type? And what is the relationship between spatial layout characteristics and total square meters / dwelling area?

The results of growth percentages between three groups demonstrated that expandability of spaces is higher in small sized houses where GR1 (20-40m2) exhibits the highest growth than GR3 (70-100m2) comes with lower percentage and GR2 (40-70m2) exhibit the lowest growth, thus size is not the only determination. Consequently, growth / expandable is both related to the sizes and the spatial organization of houses which rises in smaller sizes with implicit, integrated, informal spatial organizations which are weak heterogeneous structures.

5. What are new conceptual / spatial discoveries of recent day small houses as group and single space characteristics and how have they been defined ?

Apparently, today small houses exhibit new forms of spatiality by new space types and space groups. In relation to open plan configuration, integrated / implicit / infinite space features come forward differently from prototype houses with the loss of walls, corridors and strongly separated spaces. Consequently, the spatial configuration of these small houses have been developed to more dynamic space organizations. Firstly, new spatial relations such as; depth / density / interpenetration and identifiers such as; transparency (perforated partitions), concealable / mobile

furniture, soft divisions (demountable partitions) have been determined to define interior architecture of these houses. Than, ‘new space groups and single spaces have been presented as; public / private compartments and service cells which are formed by new space types by using flexibility-convexity-integration tools. However, public compartments consist of diverse space types such as; liminal / in between / niche / dual / repetitive / open spaces (heterogeneous), private compartments exhibit less diversity of space types and generally formed by repetitive / niche / in-between spaces (homogenous). Basic difference factor values verify this features which is low at public compartments indicating heterogeneous character of spaces, and higher at private compartments indicating homogenous character. To sum up, public compartment is the most flexible, dynamic, inhabits spatial depth relation commonly especially at smaller sizes with cluster-type organizations and private compartment is less integrated, exhibits interpenetration relation with axial / cross axial type organizations, lastly service cells are the most segregated single spaces.

6. To reveal differences in spatial organizations of same type-base small houses as 1+1 with different sizes from 20 to 100 m2, what is the role of expandability (growth) and flexibility ? Can this determine anything in terms of genotypes ?

According to the comparisons of growth percentages of GR-1 / GR-2 / GR-3; GR-1 exhibits average %33.5 growth and seven cases show proximity between ten cases, while, GR-2 exhibit average %21.96 growth and eight cases show proximity, GR-3 exhibit average %26.53 growth with nine cases proximity. According to results, GR-1 exhibits the most expandable and flexible spatial organization. By this feature of expandability, three different genotypes have been determined between GR1 / GR2 / G3 in relation to their growth percentages and mean integration (RA) values such as; GR1 is genotype A as the most integrated group, GR2 is genotype B with lowest

integration value as most segregated group, and GR3 is genotype C with optimum mean integration value. This indicates that expandability is more visible and effective at smaller sizes of same type houses, and at larger sized houses spatial character become more similar and especially at GR-3 nine houses exhibit the same growth percentage. This indicates at larger sizes expandability character however is not as efficient as small sizes show more homogenity and at GR-1 as the smallest size group exhibit the highest growth and integration without a continuous similarity between rank order of cases, doesn't show a strong spatial pattern and heterogeneous spatial character. Lastly, GR-2 is the most formal one and the rank order of spaces indicate a continuous similarity between cases, but in a formal way and don't show a different spatial pattern from prototype ones. To sum up, genotype formations of three different groups of contemporary small houses comparative to prototype houses appear as;

** GR-1 (20-40m2) - INFORMAL - HETEREGENOUS - DOESN'T SHOW CONTINOUS SIMILARITY OF SPATIAL PATTERN - DIFFERENT FROM PROTOTYPE ONES – EXHIBIT HIGHEST GROWTH AND INTEGRATION.*

** GR-2 (40-70m2) - FORMAL - HOMOGENOUS - SHOW CONTINOUS SIMILARITY OF SPATIAL PATTERN - SIMILAR TO PROTOTYPE ONES – EXHIBIT LOW GROWTH AND INTEGRATION.*

**GR-3 (70-100m2) - INFORMAL TYPE – HOMOGENOUS - SHOW CONTINOUS SIMILARITY OF SPATIAL PATTERN - DIFFERENT FROM PROTOTYPE ONES – EXHIBIT HIGH GROWTH AND INTEGRATION.*

7. How the diversifications of the character of spatiality (space organization) which show clear differences regarding to influence the genotype variations? What is the relation between genotypes and the size of the total area of the houses?

After conceptual, analytical, graphical analyses of the cases, different genotype formations have emerged in relation to spatial organizations such as; GR-1 spatial configuration of thresholds is: E+K+L spaces as the most integrated area, GR-2 spatial configuration of threshold is: E (entrance) like a passage between outside and inside, and GR-3 spatial configuration of threshold is: E+guest BA/WC, which separates public-private compartments. In this manner, through spatial configurations of houses in relation to thresholds, three different genotypes have been revealed that are related to the sizes.

5.3 Future studies

For further investigation, this study will hopefully shed a light on the understanding of spatial design in small household house types that are designed with open plan and integrated space concepts such as; flexibility, convexity and expandability. Consequently, it could be expected that future studies may intent to explore new generation small household spatial configurations by the varying degrees of initially built and unfinished small houses to finally complete and luxury spatial diversities. It is also hoped that the spatial design of small houses will be supported more social sciences based research methodologies to investigate the changing characteristics and life styles of the small households in order to propose a new more appropriate space types and space organisation. Ultimately, it could be suggested that research methodology which is extensively used in this study will be more widely applied in different context i.e subcultures and ethnic groups in the big cities or metropolis or different geographical location to understand contextual differences and values influence small space usage. It would be a crucial contribution to the development of the new social housing policies in our global world which is still under threat of

poverty, migration, deconstructive displacement and accordingly confronted with a great shortage for affordable and sustainable housing development.

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APPENDICES

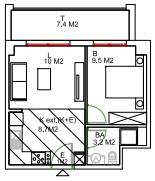
Appendix A: Case Analyses

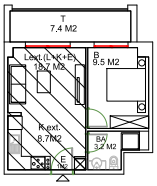
A-1) GR-1

01 _ 20-40 M2 - 1+1 TYPE (01 _MYVIA_414 1+1 38.7 SQM2)

GENERAL PLAN

1. GROWTH SEPARATED / INTEGRATED SPACES





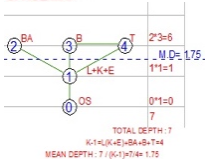
%25 GROWTH

1.SEPARATED SPACES: E=1 M2, K=7.6 M2, L=10 M2,B=9.5 M2, BA= 3.2 M2, T=7.4 M2,TOTAL= 38.7 M2

2.INTEGRATED SPACES_1: KITCHEN EXTENDED: E=1M2, K int.=K+E=8.7 M2, L=10 M2, B=9.5 M2,BA= 3.2 M2,T=7.4M2,TOTAL = 39.8 M2

3.INTEGRATED SPACES_2: LIVING ROOM INTEGRATED: E=1 M2, K int.=K+E= 8.7 M2, L int.= L+K+E=18.7 M2, B=9.5 M2, BA=3.2 M2, T=7.4 M2,TOTAL=48.5 M2

2.SYNTACTIC ANALYSES OF SPACE MAP

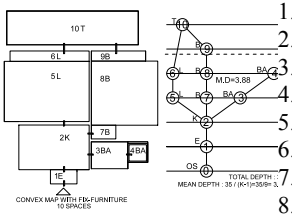


MD:1.75
1.L(+K+E):1.0
2.BA:1.75
3.B:1.5
4.T:1.5

RA:
1.L(+K+E): 0.0
2.BA:0.50
3.B:0.33
4.T:0.33
RA:0.29

1.Rank order of RA:0.29
L(+K+E)=0.0< B=T=0.33< BA=0.50
2.Order of MD:1.75
L(K+E):1.0< B:1.5=T:1.5<BA:1.75
3.BDF:0.09
4.SLR:1.5
5.S.NO:4

3. SYNTACTIC ANALYSIS OF CONVEXMAP WITH FIX FURNITURE



MD:3.88
1.E:2.5
2.K:1.8
3.BA:2.5
4.BA:3.4
5.L:2.2
6.L:2.6
7.B:2.2
8.B:3.0
9.B:3.0
10.T:3.0

RA:034
1.E:0.33
2.K:0.17
3.BA:0.33
4.BA:0.53
5.L:0.26
6.L:0.35
7.B:0.26
8.B:0.35
9.B:0.44
10.T:0.44

MD:3.88-RA:0.34-SLR:1.2-BDF:0.83 – S.NO:10

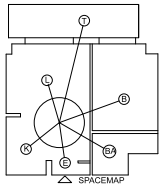
COMPARISONS OF SPACE MAP/CONVEX MAP WITH FURNITURE

RA: SPACEMAP:0.29< CONVEXMAPWITH FIX FURNITURE:0.34

MD: SPACEMAP:1.75<CONVEXMAP WITH FIX FURNITURE:3.88

BDF: SPACE MAP=0.09<CONVEXMAP=0.83

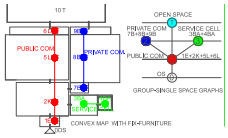
4.SPATIAL ORG. TYPE



Cluster-typr

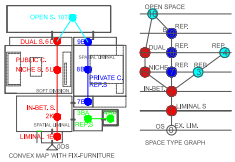
5. SPACE GROUPS / SINGLE SPACES/ SPACE TYPES

SPACE GROUPS / SINGLE SPACES



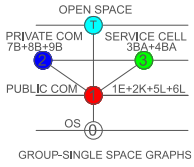
PUBLIC COM: 1E+2K+5L+6L

SPACE TYPES



LIMINAL: 1E RA:0.33 MD:2.5
REPETITIVE S.:

6.GENOTYPE



GENOTYPE-A

THRESHOLD:E+K+L

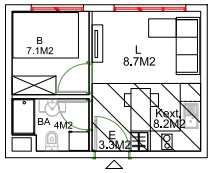
RA:0.27 MD:2.2
PRIVATE COM: 7B+8B+9B RA:0.35 MD:2.73
SERVICE C: 3BA+4BA RA:0.43 MD:3

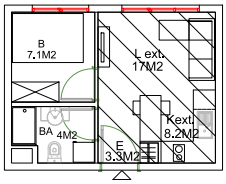
7B+8B+9B+3BA+4BA RA:0.38 MD:2.8
INBETWEEN S: 2K RA:0.17 MD:1.8
NICHE S: 5L RA:0.26 MD:2.2
DUAL S: 6L RA:0.35 MD:2.6
OPEN S: 10T RA:0.44 MD:3

02 _ 20-40 SQM2 - 1+1 TYPE (02- NEF D TYPE 1+1)

GENERAL PLAN

1. *GROWTH - SEPARATED / INTEGRATED SPACES*





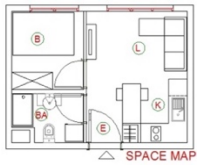
%34 GROWTH

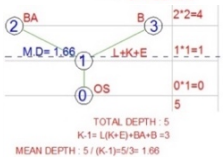
1.SEPARATED SPACES :
E=3.3 M2, K=4.8 M2, L=8.7 M2, BA=4 M2, B= 7.1 M2,TOTAL= 27.9 M2

2.INTEGRATED SPACES_STAGE-1:KITCHEN EXTENDED
E=3.3 M2, K int.=K+E=8.2 M2, L=8.7 M2, BA=4 M2,B= 7.1 M2,TOTAL = 29.3 M2

3.INTEGRATED SPACES_STAGE-2: LIVING ROOM INTEGRATED
E=3.3 M2, K int.=K+E= 8.2 M2, L int.= L+K+E=17 M2, BA=4 M2, B=7.1 M2, TOTAL=37.6 M2

2. SYNTACTIC ANALYSES OF SPACE MAP

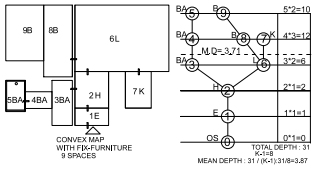




MD:	RA:
1.L(+K+E): 1.0	1.L(+K+E):0
2.BA:1.66	2.BA:0.66
3.B:1.66	3.B:0.66
	Mean Int:0.44

1.Rank order of RA:0.44
L (+K+E)=0<B=BA=0.66
L (+K+E) is the most integrated space whilst B, BA are the most segregated.
2.Order of MD:1.66
L(+K+E):1.0<BA:1.66<B:1.66
E (+K+L+D) are the shallowest. And B-BA is the deepest spaces.
3.BDF:0.05, 4.SLR:1.33, 5.S.NO:3

3. SYNTACTIC ANALYSES OF CONVEX MAP WITH FIX FURNITURE

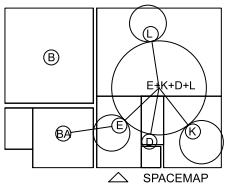


MD:	RA:
1.E:2.55	1.E:0.38
2.H:1.88	2.H:0.22
3.BA:2.33	3.BA:0.33
4.BA:3.0	4.BA:0.5
5.BA:3.88	5.BA:0.72
6.L:2.11	6.L:0.27
7.K:3.0	7.K:0.5
8.B:2.77	8.B:0.44
9.B:3.66	9.B:0.66
	RA:0.40

MD:3.71- RA:0.40-BDF:0.73- SLR:1.11,S.NO:9

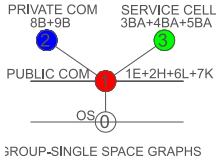
COMPARISONS OF SPACE MAP/CONVEX MAP WITH FIX FURNITURE
RA:
CONVEXMAP=0.40<SPACEMAP=0.44
MD:
SPACEMAP=1.66<CONVEXMAP=3.71

4.SPATIAL ORG. TYPE



CLUSTER TYPE

6.GENOTYPE



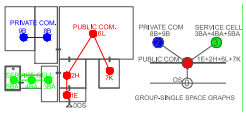
GENOTYPE-A (THRESHOLD:E+K+L)

5. SPACE GROUPS

SINGLE SPACE

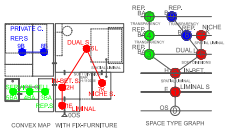
SPACE TYPES

SPACE GROUPS



PUBLIC COM: 1E+2H+6L+7K ,RA:0.34,MD:2.38
PRIVATE COM:8B+9B , RA:0.55,MD:3.22
SERVICE C:3BA+4BA+5BA , RA:0.51,MD:3

SPACE TYPES

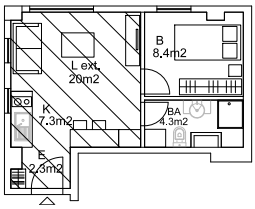


LIMINAL: 1E RA:0.38 MD:2.55
REPETITIVE S.: 8B+9B+3BA+4BA+5BA RA:0.53 MD:3.12
INBETWEEN S: 2H RA:0.2 2 MD:1.88 2H-6L
NICHE S. : 7K RA:0.5 MD:3 7K-6L
DUAL S: 6L RA:0.27 MD:2.11

03 / 20-40M2 - 1+1 TYPE (03- NEF04 F 1+1 32.6 SQM2)

GENERAL PLAN

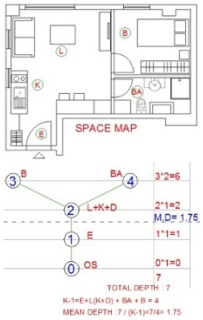
1. *GROWTH - SEPARATED / INTEGRATED SPACES*



%29.7 GROWTH

1.SEPARATED SPACES:
E=2.3 M2, K=7.3 M2, L=10.3 M2, B=8.4 M2, BA=4.3 M2, TOTAL=32.6 M2
2.INTEGRATED SPACES_STAGE-1: LIVING ROOM INTEGRATED
E=2.3 M2, K=7.3 M2, Lint.=L+K+E=20M2, B=8.4 M2,BA=4.3 M2, TOTAL=42.3 M2

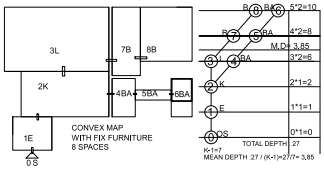
2.SYNTACTIC ANALYSES of SPACE MAP



MD:	RA:
1.E:1.5	1.E:0.33
2.L(+K+D):1.25	2.L(+K+D):0.16
3.B:2.0	3.B:0.66
4.BA:2.0	4.BA:0.66
	RA:0.45

1.Rank order of mean integration values of different functions: RA:0.45
L(+K+D)=0.16<E=0.33<B=BA=0.66
L (+K+D) is the most integrated space in the house, E is semi-integrated, B,BA are the segregated spaces.
2.Order of mean depth:1.75
L(+K+D):1.25<E:1.5<B=BA:2.0
L (+K+D)-E are the shallowest and BA-B are the deepest spaces.
3.BDF:0.68
4.SLR:1.25, 5.S.NO:4

3.SYNTACTIC ANALYSIS of CONVEXMAP WITH FIX FURNITURE

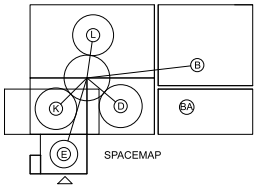


MD:	RA:
1.E:2.5	1.E:0.42
2.K:1.87	2.K:0.25
3.L:2.25	3.L:0.35
4.BA:2.25	4.BA:0.35
5.BA:2.87	5.BA:0.53
6.BA:3.75	6.BA:0.78
7.B:2.87	7.B:0.53
8.B:3.75	8.B:0.78

MD:3.85- RA:0.49-SLR:1.12
BDF:0.76 - S.NO:8

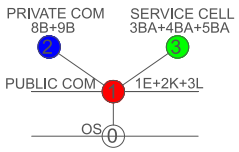
COMPARISONS OF SPACE MAP/CONVEX MAP WITH FURNITURE
RA VALUES: CONVEXMAP=0.49 <SPACEMAP=0.45
MEAN DEPTH: SPACEMAP=1.75<CONVEXMAP=3.85

4.SPATIAL ORG.TYPE



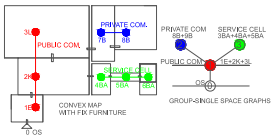
CLUSTER TYPE

6.GENOTYPE

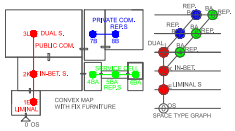


GENOTYPE-A
THRESHOLD:E+K+L

5.SPACE GROUPS – SINGLE SPACE SPACE TYPES



SPACE GROUPS
PUBLIC COM: 1E+2K+3L
RA:0.34, MD:2.2
PRIVATE COM: 7B+8B
RA:0.65, MD:3.31
SERVICE C: 4BA+5BA+6BA
RA:0.55, MD:2.95

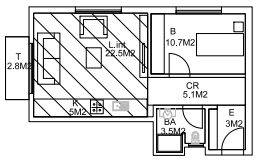


SPACE TYPES
LIMINAL SPACE: 1E RA:0.42, MD:2.5
REPETITIVE SPACES: 7B+8B+4BA+5BA+6BA
RA:0.59, MD:3
INBETWEEN SPACE: 2K, RA:0.25, MD:1.87
DUAL SPACE: 3L RA:0.35, MD:2.25

04 _ 20-40 M2 - 1+1 TYPE (04 _MARKA 333 1+1-A 44.7 SQM2)

GENERAL PLAN

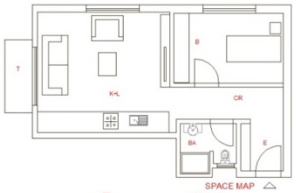
1. GROWTH - SEPARATED / INTEGRATED SPACES

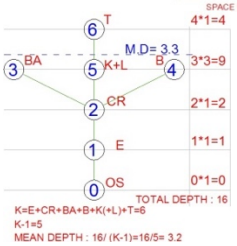


%11 GROWTH

1.SEPARATED SPACES:
E=3M2,CR=5.1,BA=3.5M2,B=10.7M2,K=5M2,L=17.4M2,T=2.8M2,TOTAL=44.7 M2
2.INTEGRATED SPACES:LIVINGROOM INT.
E=3M2,CR=5.1,BA=3.5M2,B=10.7M2,K=5M2,Lint.=22.5M2,T=2.8M2,TOTAL=49.8 M2

2.SYNTACTIC ANALYSES SPACE MAP



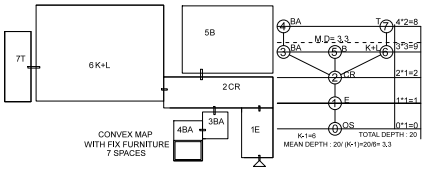


MD:
1.E:1.83
2.CR:1.33
3.BA:2.16
4.B:2.16
5.K+L:1.83
6.T:2.66

RA:
1.E:0.33
2.CR:0.13
3.BA:0.46
4.B:0.46
5.K+L:0.3
3
6.T:0.66
MEAN INT:0.39

1. Rank order of mean integration values of different functions:0.39
CR=0.13<E=K+L=0.33<BA=B=0.46<T=0.66
2.Order of mean depth:3.3
CR=1.33<E=K+L=1.83<BA=B=2.16<T=2.66
3.BDF:0.59
4.SLR:1.16
5.S.NO:6

3.SYNTACTIC ANALYSIS CONVEXMAP WITH FIX FURNITURE

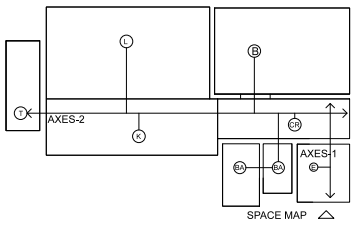


MD:
1.E:2.0
2.CR:1.42
3.BA:2.0
4.BA:2.85
5.B:2.28
6.K+L:2.0
7.T:2.85

RA:
1.E:0.33
2.CR:0.14
3.BA:0.33
4.BA:0.61
5.B:0.42
6.K+L:0.33
7.T:0.61

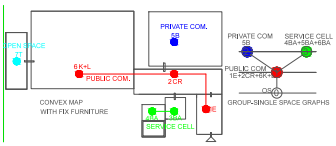
MD: 3.3 - RA: 0.39 - BDF:0.65 , S.NO:7
COMPARISONS OF SPACE MAP/CONVEX MAP WITH FURNITURE
RA:SPACEMAP=CONVEXMAP=0.39
MD:SPACEMAP=CONVEXMAP=3.3

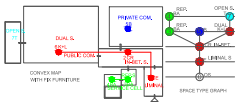
4.SPATIAL ORG.TYPE



CROSS-AXIAL TYPE

5.SPACES GROUPS-SPACE TYPES

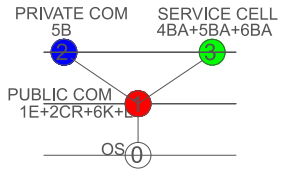




PUBLIC COM: 1E+2CR+6K(L)
RA:0.26, MD:1.8
PRIVATE COM: 5B
RA:0.42, MD:2.28
SERVICE C: 3BA+4BA
RA:0.47,MD:2.42

LIMINAL S: 1E.
RA:0.33-MD:2
REPETITIVE SPACES: 3BA+4BA, RA:0.47-MD:2.4
INBETWEEN S.: 2CR, RA:0.14-MD:1.42
DUAL S.: 6K+L, RA:0.33-MD:2
OPEN S.: 7T, RA:0.61-MD:2.85

6.GENOTYPE

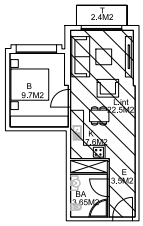


GENOTYPE-A

THRESHOLD:E+K+L

05 _ 20-40 M2 - 1+1 TYPE (05_MARKA 333 1+1 B 35.75 SQM2)

GENERAL PLAN

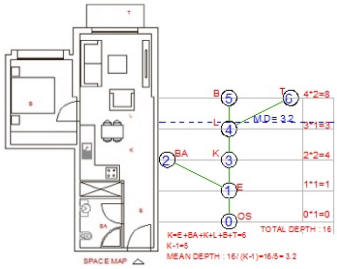


%32 GROWTH

1. GROWTH - SEPARATED / INTEGRATED SPACES

1.SEPARATED SPACES:
E=3.5M2,BA=3.65M2,K=7.6M2,L=11.3M2,B=9.7M2,T=2.4 M2,TOTAL=35.75 M2
2.INTEGRATED SPACES:LIVINGROOM INT.
E=3.5M2,BA=3.65M2,K=7.6M2,Lint.=22.5M2,B=9.7M2,T=2.4M2,TOTAL=46.95 M2

2.SYNTACTIC ANALYSES of SPACE MAP

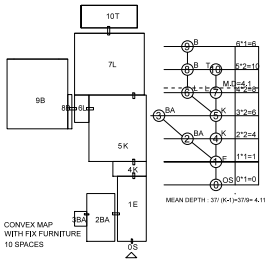


MD:
1.E:1.83
2.BA:2.66
3.K:1.66
4.L:1.83
5.B:2.66
6.T:2.66

RA:
1.E:0.33
2.BA:0.66
3.K:0.26
4.L:0.33
5.B:0.66
6.T:0.66
MEAN INT:0.48

1. Rank order of RA:0.48
K=0.26<E=L=0.33<BA=B=T=0.66
2.Order of MD:3.2
K=1.66<E=L=1.83<BA=B=T=2.66
3.BDF:0.84
4.SLR:1.16,
5.SLR:1.16,
6.S.NO:6

3.SYNTACTIC ANALYSIS CONVEXMAP WITH FIX FURNITURE

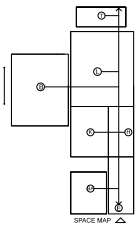


MD:
1.E:2.6
2.BA:3.3
3.BA:4.2
4.K:2.3
5.K:2.2
6.L:2.7
7.L:2.9
8.B:3.4
9.B:4.3
10.T:3.8

RA:
1.E:0.35
2.BA:0.51
3.BA:0.71
4.K:0.28
5.K:0.26
6.L:0.37
7.L:0.42
8.B:0.53
9.B:0.73
10.T:0.62
RA:0.45

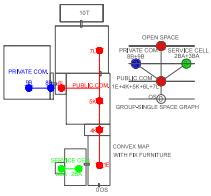
MD:4.1,RA:0.47,SLR:1.1 BDF:0.80 - S.NO:10
COMPARISONS OF SPACE MAP/CONVEX MAP WITH FURNITURE
RA:CONVEXMAP=0.47<SPACEMAP=0.48
MD:SPACEMAP =3.2<CONVEXMAP=4.1

4.SPATIAL ORG.TYPE

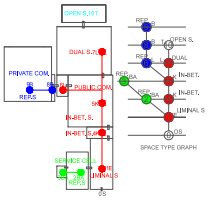


CROSS-AXIAL TYPE

5.SPACES GROUPS-SPACE TYPES

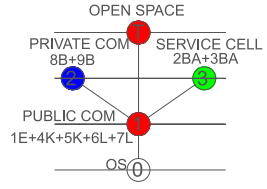


PUBLIC COM:
1E+4K+5K+6L+7L
RA:0.33-MD:2.54
PRIVATE COM: 8B+9B,
RA:0.63-MD:3.85
SERVICE C: 2BA+3BA ,
RA:0.61,MD:3.75



SPACETYPES
LIMINAL S.: 1E, RA:0.35-MD:2.6
REPETITIVE S.: 2BA+3BA+6L+8B+9B
RA:0.57-MD:3.58
INBETWEEN S: 4K+5K,
RA:0.27-MD:2.2
NICHE S:-
DUAL S: 7L, RA:0.42-MD:2.9
OPEN S: 10T, RA:0.62-MD:3.8

6.GENOTYPE



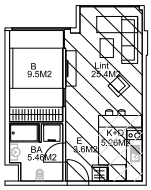
GENOTYPE-A

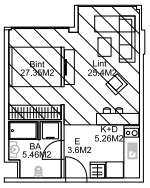
THRESHOLD:E+K+L

06_ 20-40 M2 - 1+1 TYPE (06_NEF 12 1+1D 40 SQM2)

GENERAL PLAN

1.GROWTH - SEPARATED / INTEGRATED SPACES





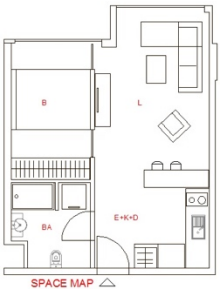
%67.5 GROWTH

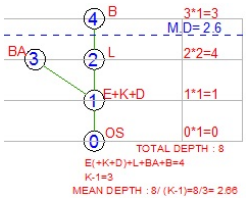
1.STAGE:SEPARATED SPACES: E=3.6M2,K+D=5.26M2,BA=5.46,B=9.5M2,L=16.5 TOTAL=40 M2

2.STAGE:INTEGRATED SPACES:LIVINGROOM INTEGRATED E=3.6M2,K+D=5.26M2,BA=5.46,B=9.5M2,L.int=25.4 TOTAL=49.22 M2

3.STAGE:BEDROOM INTEGRATED E=3.6M2,K+D=5.26M2,BA=5.46,B.int=27.35M2 ,L.int=25.4 TOTAL=67.07 M2

2. SYNTACTIC ANALYSIS of SPACE MAP



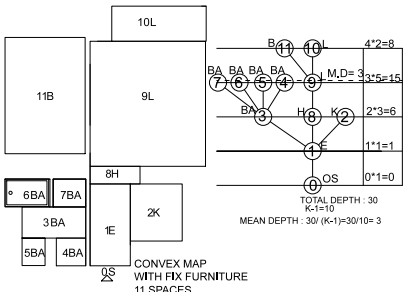


MD:
1.E+K+D:1.25
2.L:1.5
3.BA:2.0
4.B:2.25

RA:
1.E+K+D:0.16
2.L:0.33
3.BA:0.66
4.B:0.83
MEAN INT:0.49

1. Rank order of RA:0.49
E+K+D=0.16<L=0.33<BA=0.66<B=0.83
2.Order of mean depth:2.6
E+K+D=1.25<L=1.5<BA=2.0<B=2.25
3.BDF:0.69
4.SLR:1.25
5.S.NO:4

3.SYNTACTIC ANALYSES of CONVEX MAP WITHFIX FURNITURE



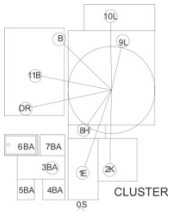
MD:
1.E:1.81
2.K:2.72
3.BA:2.0
4.BA:2.9
5.BA:2.9
6.BA:2.9
7.BA:2.9
8.H:2.18
9.L:2.72
10.L:3.63
11.B:3.63

RA: 0.33
1.E:0.16
2.K:0.34
3.BA:0.2
4.BA:0.38
5.BA:0.38
6.BA:0.38
7.BA:0.38
8.H:0.23
9.L:0.34
10.L:0.52
11.B:0.52
10.L:0.45
11.B:0.45
12.B:0.45

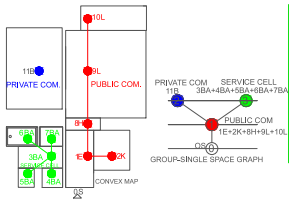
CONVEXMAP WITH FIX FURNITURE MD:3.09 , RA:0.34 , SLR:1.09 BDF:0.75, S.NO:12

COMPARISONS OF SPACE MAP/CONVEX MAP WITH FURNITURE
RA:SPACEMAP=CONVEXMAP=0.49
MD:SPACEMAP=2.6<CONVEXMAP

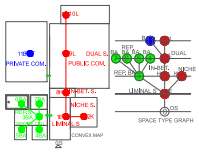
4.SPATIAL ORG.TYPE



5.SPACE GROUPS AND SPACETYPES

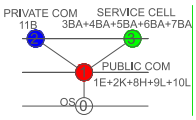


PUBLIC COM: 1E+2K+8H+9L+10L
RA:0.31-MD:2.61
PRIVATE COM: 11B
RA:0.52-MD:3.63
SERVICE C: 3BA+4BA+5BA+6BA+7BA, RA:0.34-MD:2.72



LIMINAL S : 1E, RA:0.16-MD:1.81
REPETITVE S: 3BA+4BA+5BA+6BA+7BA
RA:0.34-MD:2.72
INBETWEEN S: 8H,RA:0.23-MD:2.18
NICHE S: 2K, RA:0.34-MD:2.72
DUAL S: 9L+10L, RA:0.43-MD:3.17

6.GENOTYPE



GENOTYPE-A
THRESHOLD:E+K+L

07 _ 20-40 SQM2 - 1+1 TYPE (07- NEF- 03 E TYPE 1+1)

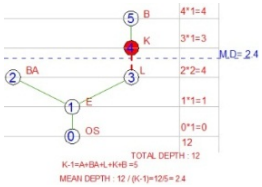
GENERAL PLAN

1. *GROWTH - SEPARATED / INTEGRATED SPACES*

1.SEPARATED SPACES :
E=4.9 M2, BA=4 M2, L=15 M2, K=8 M2, B=10 M2, TOTAL= 41.9 M2
2.INTEGRATED SPACES_1: LIVING ROOM INTEGRATED, KITCHEN EXTENDED
E=4.9 M2, BA= 4 M2, Lint.= L+K+E=28.4 M2,K=8 M2, B=10 M2, TOTAL=55.3M2

%31.9 GROWTH

2.SYNTACTIC ANALYSES of SPACE MAP

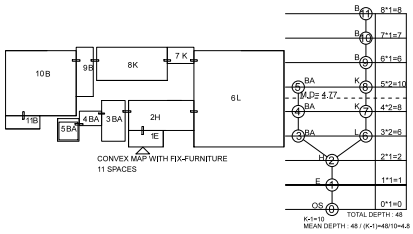


MEAN DEPTH:
1.E:1.6
2.BA:2.4
3.L:1.6
4.K:2.0
5.B:2.8

RA:
1.E:0.30
2.BA:0.70
3.L:0.30
4.K:0.50
5.B:0.89
Mean Int:0.53

1.Rank order of RA:0.53
E=L=0.30<K=0.50<BA=0.70<B=0.89
2.Order of MD:2.4
E:1.6=L:1.6<K:2.0<BA:2.4<B:2.8
3.BDF:0.77
4.SLR:1.2
4.S.NO:5

3.SYNTACTIC ANALYSES of CONVEX MAP WITH FIX FURNITURE



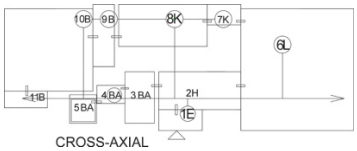
MD:
1.E:3.45
2.H:2.72
3.BA:3.27
4.BA:4.0
5.BA:4.90
6.L:2.72
7.K:2.90
8.K:3.27
9.B:3.81
10.B:4.54
11.B:5.45

RA:
1.E:0.49
2.H:0.34
3.BA:0.45
4.BA:0.6
5.BA:0.78
6.L:0.34
7.K:0.38
8.K:0.45
9.B:0.56
10.B:0.70
11.B:0.89

MD:4.77 ,RA:0.54
BDF:0.81, S.NO:11

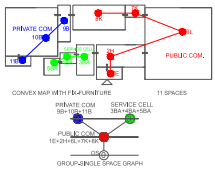
COMPARISONS OF SPACE MAP/CONVEX MAP WITH FURNITURE
RA:SPACEMAP=0.53<CONVEXMAP=0.54
MD:SPACEMAP=2.4<CONVEXMAP=4.77

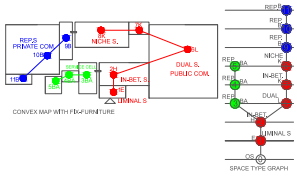
4.SPATIAL ORG.TYPE:



CROSS-AXIAL TYPE

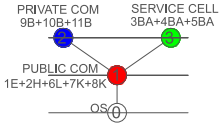
5.SPACE GROUP – SPACE TYPES





SPACETYPES
LIMINAL S: 1E
RA:0.49-MD:3.45
REPETITIVE S:
3BA+4BA+5BA+9B+10B+11B
RA:0.66-MD:4.32
INBETWEEN S: 2H, RA:0.34-MD:2.72
NICHE S: 8K, RA:0.38-MD:3.27
DUAL S: 6L, RA:0.34-MD:2.72

6.GENOTYPE



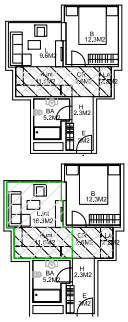
GENOTYPE-A

THRESHOLD:E+K+L

PUBLIC COM:
1E+2H+6L+7K+8K
RA:0.4-MD:3
PRIVATE COM: 9B+10B+11DR
RA:0.71-MD:4.6
SERVICE C: 3BA+4BA+5BA
RA:0.61-MD:4

08_ 20-40 SQM2 - 1+1 TYPE (08_NEF 12 1+1E)

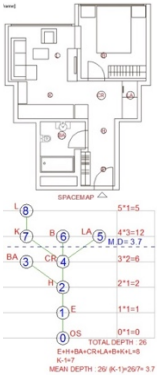
GENERAL PLAN ***1.GROWTH - SEPARATED / INTEGRATED SPACES***



%25 GROWTH

1.SEPARATED SPACES:
E=3M2,H=2.3M2,BA=5.2,CR=2.6M2,LA=2.2M2,B=12.3M2,K=6.7M2,L=9.6M2 TOTAL=44 M2
2.INTEGRATED SPACES:LIVINGROOM INTEGRATED
E=3M2,H=2.3M2,BA=5.2,CR=2.6M2,LA=2.2M2,B=12.3M2,K=6.7M2,Lint=16.3M2 TOTAL=50.6 M2
3.EXTENDED SPACES: KITCHEN EXTENDED+LIVING INT.
E=3M2,H=2.3M2,BA=5.2,CR=2.6M2,LA=2.2M2,B=12.3M2,Kext=11.5M2,Lint=16.3M2 TOTAL=55.4 M2

2. SYNTACTIC ANALYSES of SPACE MAP

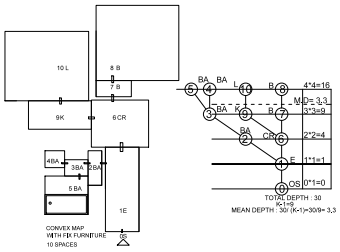


MD:
1.E:2.37
2.H:1.75
3.BA:2.62
4.CR:1.62
5.LA:2.5
6.B:2.5
7.K:2.25
8.L:3.12
MD:3.7

RA:
1.E:0.39
2.H:0.21
3.BA:0.46
4.CR:0.17
5.LA:0.42
6.B:0.42
7.K:0.35
8.L:0.60
MEAN INT:0.32

1. Rank order of RA:0.32
CR=0.17<H=0.21<K=0.35<E=0.39<LA=B=0.42<BA=0.46<L=0.60
2.Order of MD:3.7
CR=1.62<H=1.75<K=2.25<E=2.37<LA=B=2.5<BA=2.62<L=3.12
3.BDF:0.73
4.SLR:1.12
5. S.NO:8

3.SYNTACTIC ANALYSES of CONVEXMAP WITH FIX FURNITURE



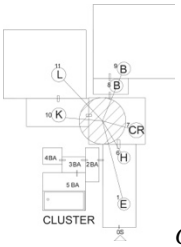
MD:
1.E:2.1
2.BA:2.4
3.BA:2.9
4.BA:3.8
5.BA:3.8
6.CR:2.2
7.B:2.9
8.B:3.8
9.K:2.9
10.L:3.8

RA:
1.E:0.24
2.BA:0.31
3.BA:0.42
4.BA:0.62
5.BA:0.62
6.CR:0.26
7.B:0.42
8.B:0.62
9.K:0.42
10.L:0.62

MD:3.3- RA: 0.45-SLR:1.1
BDF:0.83, S.NO:10

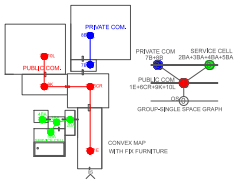
COMPARISONS OF SPACE MAP/CONVEX MAP WITH FURNITURE
RA:SPACEMAP=0.32<CONVEXMAP=0.45
MD:CONVEXMAP=3.3<SPACEMAP=3.7

4.SPATIAL ORG.TYPE

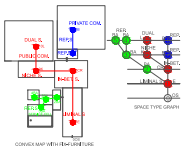


CLUSTER

5.SPACE GROUP – SPACE TYPES

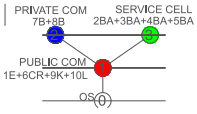


PUBLIC COM:
1E+6CR+9K+10L
RA:0.38-MD:2.75
PRIVATE COM: 7B+8B
RA:0.52-MD:3.35
SERVICE CELLS:
2BA+3BA+4BA+5BA
RA:0.49-MD:3.22



LIMINAL S: 1.E,
RA:0.24-MD:2.1
REPETITIVE S:
2BA+3BA+4BA+5BA
RA:0.49-MD:3.22
INBETWEEN S:
6CR, RA:0.26-MD:2.2
NICHE S: 9K
RA:0.42-MD:2.9
DUAL S: 10L,
RA:0.42-MD:2.9
OPEN S:-

6.GENOTYPE

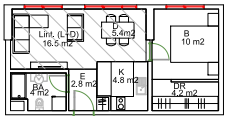


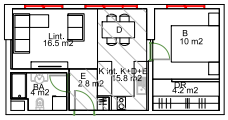
GENOTYPE-A
THRESHOLD:E+K+L

09 _ 20-40 SQM2 - 1+1 TYPE (09-NEF A2 TYPE- 03 1+1)

GENERAL PLAN

1.GROWTH - SEPARATED / INTEGRATED SPACES

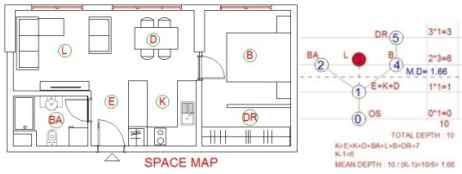




SEPARATED SPACES:
E=2.8M2, BA= 4M2, K= 4.8M2, D= 5.4 M2, L=11 M2, B= 9.8 M2, DR=4.2 M2 TOTAL=42 M2
1.LIVING INTEGRATED: L+D
E=2.8M2, BA= 4M2, K= 4.8M2, D= 5.4 M2, Lint.=L+K=16.5 M2, B= 9.8 M2, DR= 4.2 M2, TOTAL= 47.5M2
2.KITCHEN INTEGRATED :K+D
E=2.8M2, BA= 4M2, Kint.= K+E+D=15.8M2, D= 5.4 M2, Lint.=L+K=16.5 M2, B= 9.8 M2, DR=4.2 M2 , 58.5M2
3.BEDROOM INTEGRATED: B+DR
E=2.8M2, BA= 4M2, Kint.= K+E+D=15.8M2, D= 5.4 M2, Lint.=L+K=16.5 M2, Bint=B+DR: 14 M2, DR=4.2 M2 TOTAL= 62.7M2

%32 GROWTH

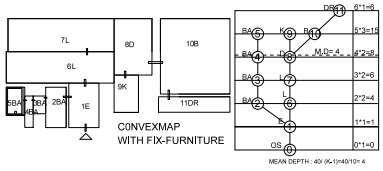
2.SYNTACTIC ANALYSES of SPACE MAP



MD:	RA: 0.41
1.E(+K+D):1.2	1.E(+K+D):0.09
2.BA:2.0	2.BA:0.50
3.L:2.0	3.L:0.50
4.B:1.6	4.B:0.30
5.DR:2.4	5.DR:0.70

1.Rank order of RA:0.41
E(+K+L)=0.09<B=0.30<BA=L=0.50<DR=0.70
2.Order of MD:1.66
E(+K+D):1.2< B:1.6< L:2.0=BA:2.0< DR:2.4
3.BDF:0.48
4.SLR:1.2

3.SYNTACTIC ANALYSES CONVEXMAP WITH FIX FURNITURE

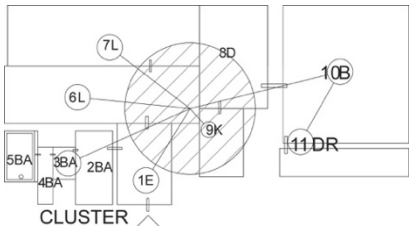


MD:	RA:
1.E:2.72	1.E:0.34
2.BA:3.09	2.BA:0.41
3.BA:3.63	3.BA:0.52
4.BA:4.36	4.BA:0.67
5.BA:5.27	5.BA:0.85
6.L:2.72	6.L:0.34
7.L:2.90	7.L:0.38
8.D:3.27	8.D:0.45
9.K:4.18	9.K:0.63
10.B:4.0	10.B:0.6
11.DR:4.90	11.DR:0.78

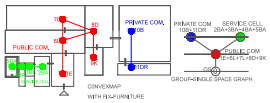
MD:4, RA:0.54, SLR:1.09
BDF:0.83, S.NO:11

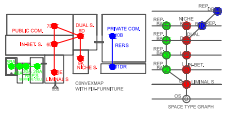
COMPARISONS OF SPACE MAP/CONVEX MAP WITH FURNITURE
RA: SPACEMAP=0.41< CONVEXMAP=0.54
MD:SPACEMAP=1.66<CONVEXMAP=4

4.SPATIAL ORG.TYPE



5.SPACE GROUP – SPACE TYPES

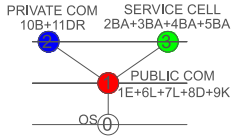




SPACE GROUPS:
PUBLIC COM:
1E+6L+7L+8D+9K, RA:0.42-MD:3.15
PRIVATE COM: 10B+11DR , RA:0.69-MD:4.45
SERVICE C:
2BA+3BA+4BA+5BA, RA:0.61-MD:4

SPACE TYPES:
LIMINAL S: 1.E, RA:0.34-MD:2.72
REPETITIVE S: 2BA+3BA+4BA+5BA+10B+11B,
RA:0.63-MD:4.2
INBETWEEN S: 6L, RA:0.34-MD:2.72
NICHE S: 9K, RA:0.63-MD:4.18
DUAL S: 8D, RA:0.45-MD:3.27
OPEN S:-

6.GENOTYPE



GENOTYPE-A

THRESHOLD:E+K+L

10_ 20-40 SQM2 - 1+1 TYPE (10-NEF 12 1+1 H)

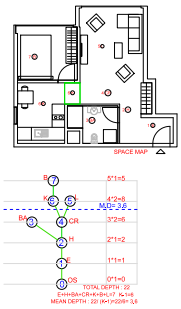
GENERALPLAN

%28.9
GROWTH

1.GROWTH/ SEPARATED / INTEGRATED SPACES

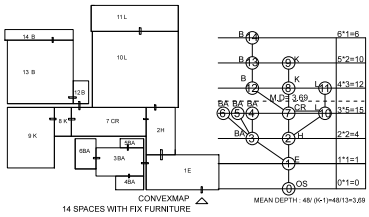
1.SEPARATED SPACES:
E=2.4M2,H=8.5M2,BA=4.8,K=7.4M2,B=9.5M2,L=13.8 TOTAL=46.4 M2
2.INTEGRATED SPACES:LIVINGROOM INT. L+K
E=2.4M2,H=8.5M2,BA=4.8,K=7.4M2,B=9.5M2,Lint=L+K:27.5 TOTAL=60.1 M2

2. SYNTACTIC ANALYSES of SPACE MAP



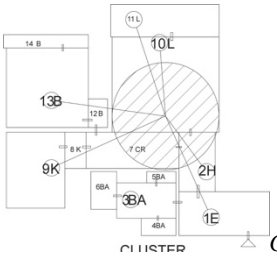
MD:	RA:0.32	**1. Rank order of RA:0.32**
1.E:1.66	1.E:0.26	H=0.06<E=0.26<K=L=B=BA=0.40
2.H:1.16	2.H:0.06	**2.Order of MD:3**
3.BA:2.0	3.BA:0.4	H=1.16<E=1.66<K=L=B=BA=2.0
4.K:2.0	4.K:0.4	3.BDF:0.54
5.B:2.0	5.B:0.4	4.SLR:1.16
6.L:2.0	6.L:0.4	6.S.NO:6

3.SYNTACTIC ANALYSIS CONVEXMAP WITH FIX FURNITURE



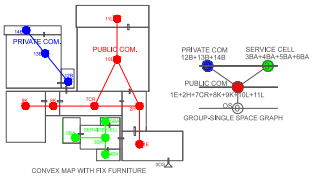
MD:	RA:	MD:3.69
1.E:2.5	1.E:0.23	RA:0.34,
2.H:2.28	2.H:0.19	BDF:0.77,S.NO:14
3.BA:3.0	3.BA:0.30	
4.BA:3.92	4.BA:0.45	**COMPARISONS OF SPACE**
5.BA:3.92	5.BA:0.45	**MAP/CONVEX MAP WITH FIX**
6.BA:3.92	6.BA:0.45	**FURNITURE**
7.CR:2.35	7.CR:0.20	MD: SPACEMAP=3<CONVEXMAP
8.K:3.14	8.K:0.32	RA: SPACEMAP=0.32<CONVEXMAP=0.34
9.K:4.07	9.K:0.32	
10.L:2.64	10.L:0.25	
11.L:3.57	11.0.39	
12.B:3.0	12.B:0.30	
13.B:3.78	13.B:0.42	
14.B:4.71	14.B:0.57	

4.SPATIAL ORG.TYPE:



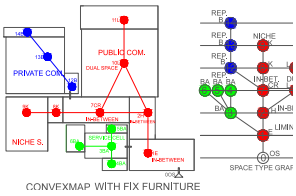
CLUSTER

5.SPACE GROUPS –SPACE TYPES



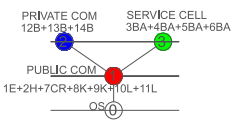
PUBLIC COM:
1E+2H+7CR+8K+9K+10L+11L
RA:0.27-MD:2.93
PRIVATE COM: 12B+13B+14B
RA:0.43-MD:3.83
SERVICE CELLS:
3BA+4BA+5BA+6BA
RA:0.41-MD:3.69

SPACE TYPES:



LIMINAL S: 1.E,RA:0.23-MD:2.5
REPETITIVE S: 3BA+4BA+5BA+6BA+12B+13B+14B
RA:0.48-MD:4.37
INBETWEEN S: 2H, RA:0.19MD:2.28
NICHE S: 9K, RA:0.32-MD:4
DUAL S: 10L+11L, RA:0.32-MD:3.1

6.GENOTYPE



GENOTYPE-A

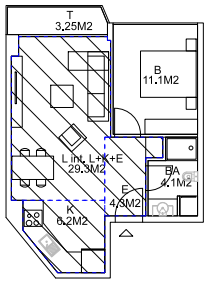
THRESHOLD:E+K+L

A-2) GR-2

01 _ 40-70 M2 - 1+1 TYPE (01_BORN-CITY 1+1 44.5 SQM2)

GENERAL PLAN

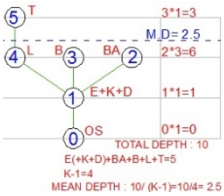
1.GROWTH/SEPARATED / INTEGRATED SPACES



SEPARATED SPACES:
E=4.3M2,
BA=4.1M2,K=6.2M2,L(+D)=18.81M2,B=11
.1M2,T=3.25,TOTAL=44.5 M2
1.INTEGRATED SPACES:LIVINGROOM
INTEGRATED
E=4.3M2,
BA=4.1M2,K=6.2M2,L(+D)int.=L+K+E:29.
3M2,B=11.1M2,T=3.25,TOTAL=55 M2

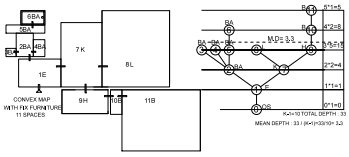
%23.5 GROWTH

2. SYNTACTIC ANALYSES of SPACE MAP



MD:	RA:	**1. Rank order of RA:0.41**
1.E+K+D:1.	1.E+K+D:0.09	E+K+D=0.09<L=0.30<BA=B=0.50<T=0.70
2	2.BA:0.50	**2.Order of MD:2.5**
2.BA:2.0	3.B:0.50	E+K+D=1.2<L=1.6<BA=B=2.00<T=2.4
3.B:2.0	4.L:0.30	3.BDF:0.78
4.L:1.6	5.T:0.70	4.SLR:1.2
5.T:2.4	MEAN INT:0.41	5.S.NO:5

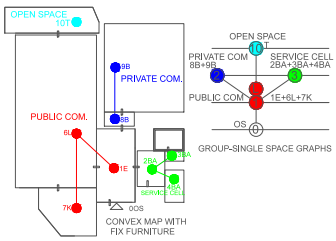
3. SYNTACTIC ANALYSIS CONVEXMAP WITH FIX FURNITURE

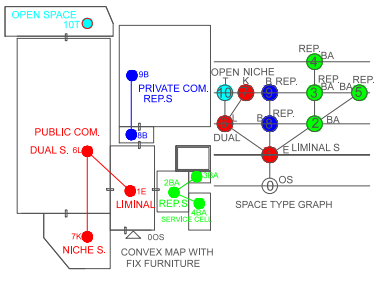


MD:	RA:	MD:3.44 RA:0.37
1.E:1.7	1.E:0.15	BDF:0.70
2.BA:2.0	2.BA:0.22	**COMPARISONS OF SPACE MAP/CONVEX MAP WITH FIX FURNITURE**
3.BA:2.7	3.BA:0.37	
4.BA:3.6	4.BA:0.57	RA:
5.BA:3.6	5.BA:0.42	CONVEXMAP=0.37=SPACEMAP=0.37
6.L:2.2	6.L:0.26	MD: SPACEMAP=2.5<CONVEXMAP=3.44
7.K:3.1	7.K:0.46	
8.B:2.4	8.B:0.31	
9.B:3.3	9.B:0.51	
10.T:3.1	10.T:0.46	

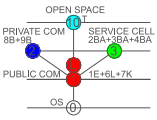
4.SPATIAL ORG.TYPE

5.SPACE GROUPS – SPACE TYPES





6.GENOTYPE GENOTYPE-B
THRESHOLD: E

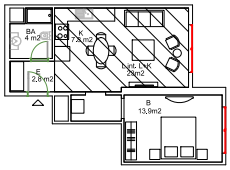


GROUP ORG:
PUBLIC COM: 1E+6L+7K
RA:0.29-MD:2.3
PRIVATE COM: 8B+9B
RA:0.41-MD:2.8
SERVICE CELLS:
2BA+3BA+4BARA:0.39-MD:2.97

SPACE TYPES:
LIMINAL S: 1E,RA:0.15-MD:1.7
REPETITIVE S:
8B+9B+2BA+3BA+4BA+5BA
RA:0.4-MD:2.93
INBETWEEN S:-
NICHE S: 7K,RA:0.46-MD:3.1
DUAL S: 6L, RA:0.26-MD:2.2
OPEN S: 10T, RA:0.46-MD:3.1

02 / 40-70 M2 - 1+1 TYPE (**02- TRENDIST 1+1 46.7 SQM2**)

GENERAL PLAN



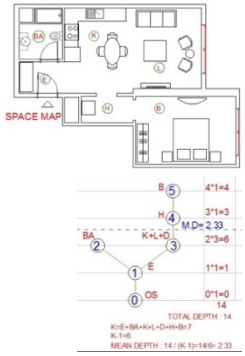
1.GROWTH - SEPARATED / INTEGRATED SPACES

1.SEPARATED SPACES:
E=2.8M2, BA= 4 M2, K=7.8 M2, L=15.3M2, H=2.9 M2, B=13.9 M2 ,TOTAL=46.7M2

2.INTEGRATED SPACES: LIVINGROOM INTEGRATED
E=2.8M2, BA= 4 M2, K=7.8 M2, Lint.=L+K=23M2, H=2.9 M2, B=13.9 M2 ,TOTAL=54.4M2

%16.4 GROWTH

2. SYNTACTIC ANALYSES SPACE MAP ANALYSES

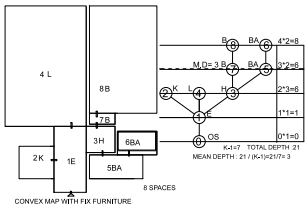


MD:
1.E:1.6
2.BA:2.4
3.K(+L+D):
1.6
4.H:2.0
5.B:2.8

RA:
1.E:0.30
2.BA:0.70
3.K(+L+D):0.30
4.H:0.50
5.B:0.89
Mean Int:0.53

1.Rank order of RA:0.53
E=K(+L+D)=0.30<H=0.50
<BA=0.70<B=0.89
2.order of MD:2.33
E=K(+L+D):1.6<H:2.0<BA
:2.4<B:2.8
3.BDF:0.58
4.SLR:1.2
5.S.NO:5

3.SYNTACTIC ANALYSIS CONVEXMAP WITH FIX FURNITURE

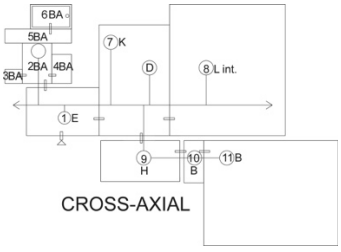


MD:
1.E:2.09
2.BA:2.27
3.BA:3.18
4.BA:3.18
5.BA:3.06
6.BA:3.90
7.K:2.27
8.L:3.18
9.H:2.81
10.B:3.54
11.B:4.45

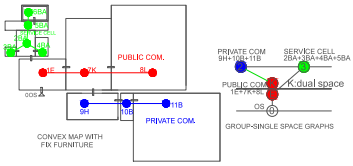
RA:
1.E:0.21
2.BA:0.25
3.BA:0.43
4.BA:0.43
5.BA:0.4
6.BA:0.58
7.K:0.25
8.L:0.43
9.H:0.36
10.B:0.50
11.B:0.69

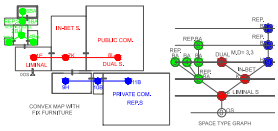
MD:3.3 RA:0.41
BDF:0.74, S.NO:11
COMPARISONS OF SPACE MAP/CONVEX MAP WITH FURNITURE
RA:CONVEXMAP=0.41<
SPACEMAP=0.53
MD:SPACEMAP=2.33<C
ONVEXMAP=3.3

4.SPATIAL ORG.TYPE



5.SPACE GROUPS AND SPACE TYPES

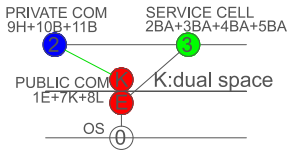




GROUP SPACES:
PUBLIC COM.: 1E+7K+8L
RA:0.29-MD:2.51
PRIVATE COM: 9H+10B+11B
RA:0.51-MD:3.6
SERVICE CELLS:
2BA+3BA+4BA+5BA
RA:0.37-MD:2.92

SPACE TYPES:
LIMINAL S: 1E ,RA:0.21-MD:2.09
REPETITIVE S: 2BA+3BA+4BA+5BA+6BA+9H+10B+11B
RA:0.45-MD:3.29
INBETWEEN S: 7K, RA:0.25-MD:2.27
NICHE S:-
DUAL S: 8L, RA:0.43-MD:3.18
OPEN S:

6.GENOTYPE

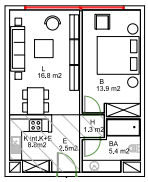


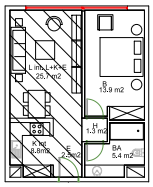
GENOTYPE-B

03 40-70M2 - 1+1 TYPE (03- SOYAK SOHO 1+1 45.7 SQM2)

GENERAL PLAN

1.GROWTH - SEPARATED / INTEGRATED SPACES

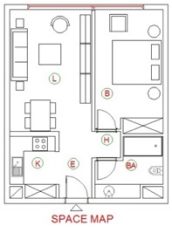


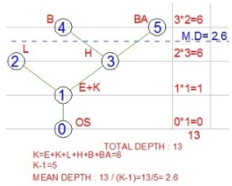


%28.6 GROWTH

1.SEPARATED SPACES:
E=3.6 M2, K04.6 M2, L=16.8M2, H=1.3 M2, B=14 M2,BA=5.4 M2, TOTAL= 45.7 M2
2. KITCHEN EXTENDED
E=3.6 M2, Kint.=K+E=8.8 M2, L=16.8M2, H=1.3 M2, B=14 M2,BA=5.4 M2, TOTAL=49.9 M2
3.: KITCHEN AND LIVING ROOM INTEGRATED:E=3.6 M2, Kint.=K+E=8.8 M2, Lint.=L+K+E=25.7M2, H=1.3 M2, B=14 M2,BA=5.4 M2, TOTAL=58.8 M2

2. SYNTACTIC ANALYSES SPACE MAP



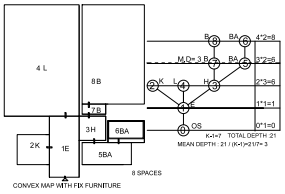


MD: 2.6
1.E+K:1.1
4
2.L:2.2
3.H:1.4
4.B:2.2
5.BA:2.2

RA: 0.51
1.E+K:0.57
2.L:0.60
3.H:0.19
4.B:0.60
5.BA:0.60

1.Rank order of mean integration values of different functions: RA:0.51
H=0.19<E+K=0.57<L=B=BA=0.60
2.Order of MD:2.6
E+K=H:1.4<L=B=BA:2.2
3.BDF:0.42
4.SLR:1.2
5.S.NO:5

3.CONVEX MAP WITHOUT FURNITURE ANALYSES

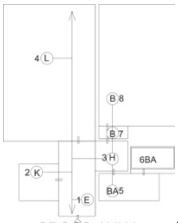


MD:
1.E:1.75
2.K:2.62
3.H:1.62
4.L:2.62
5.BA:2.25
6.BA:3.12
7.B:2.25
8.B: 3.12

RA:
1.E:0.21
2.K:0.46
3.H:0.17
4.L:0.46
5.BA:0.35
6.BA:0.60
7.B:0.36
8.B:0.60

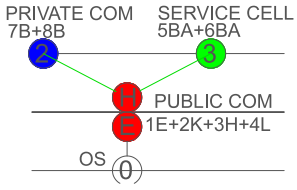
MD: 3 , RA:0.40
BDF:0.73, S.NO:8
COMPARISONS OF SPACE MAP/CONVEX MAP WITH FURNITURE
RA: CONVEXMAP=0.40<SPACEMAP=0.51
MD: SPACEMAP=2.6<CONVEXMAP=3

4.SPATIAL ORG.TYPE



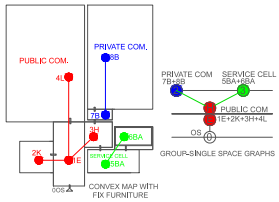
CROSS-AXIAL

6.GENOTYPE

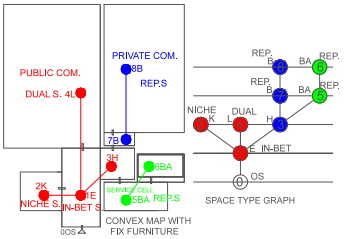


GENOTYPE-A

5.SPACE GROUPS – SPACE TYPES



GROUP SPACES
PUBLIC COM: 1E+2K+3H+4L, RA:0.32-MD:2.15
PRIVATE COM: 7B+8B,RA:0.48-MD:2.68
SERVICE CELLS: 5BA+6BA, RA:0.47-MD:2.68

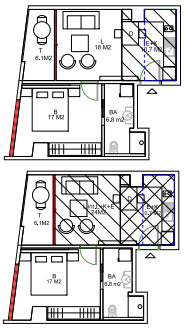


SPACE TYPES
REPETITIVE S: 3H+7B+8B+5BA+6BA, RA:0.41-MD:2.47
INBETWEEN S: 1E RA:0.21-MD:1.75
NICHE S: 2K, RA:0.46-MD:2.62,DUAL S: 4L, RA:0.46-MD:2.62

04 _ 40-70 SQM2 - 1+1 TYPE (04- BOMONTI APARTMENTS TIP 27 1+1 58.2SQM2)

GENERAL PLAN

1.GROWTH/ SEPARATED / INTEGRATED SPACES



%17.5 GROWTH

1.SEPARATED SPACES:
E+K=6.5 M2, L=18 M2,D=3.8 M2,T=6.1 M2,B=17 M2,BA=6.8 M2, TOTAL=58.2M2
2. KITCHEN EXTENDED
(E+K)int.= E+K+D=10.7 M2, L=18 M2,D=3.8 M2,T=6.1 M2,B=17 M2,BA=6.8 M2, TOTAL=62.4 M2
3. LIVING INTEGRATED
(E+K)int.= E+K+D=10.7 M2, Lint.=L+K+E=24 M2,D=3.8 M2,T=6.1 M2,B=17 M2,BA=6.8 M2, TOTAL=68.4 M2

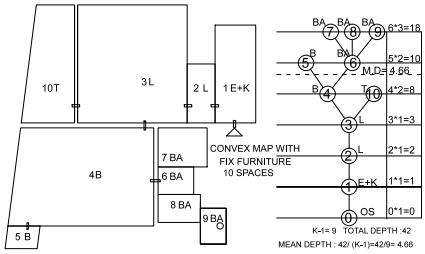
2.SYNTACTIC ANALYSES SPACE MAP

MD:
1.E(+K+L+D):1.25
2.B:1.5
3.T:2.0
4.BA:2.25

RA:0.57
1.E(+K+L+D): 0.47
2.B:0.33
3.T:0.66
4.BA:0.83

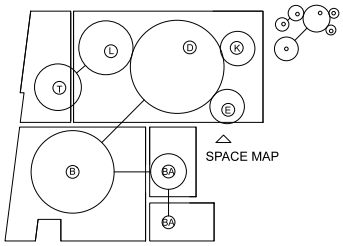
1.Rank order of RA:0.74
B=0.33<
E(+K+L+D+)=0.47<T=0.66<BA=0.83
2.Order of MD:3.33
E(+K+L+D):1.25<B:1.5<T:2.0<BA:2.25
3.BDF:0.55
4.SLR:1.25
5.S.NO:4

3.SYNTACTIC ANALYSIS CONVEXMAP WITH FIX FURNITURE



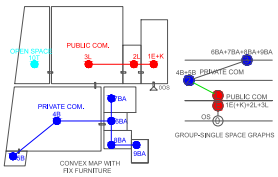
MD:	RA:	MD:4.66
1.E+K: 3.3	1.E+K:0.51	RA:0.38
2.L:2.6	2.L:0.35	BDF:0.86, S.NO:10
3.L:2.1	3.L:0.24	
4.B:2.0	4.B:0.22	**COMPARISONS OF SPACE MAP/CONVEX MAP WITH FURNITURE**
5.B:2.9	5.B:0.42	
6.BA:2.3	6.BA:0.28	
7.BA:3.2	7.BA:0.48	RA:CONVEXMAP=0.38<SPACEMAP=0.57
8.BA:3.2	8.BA:0.48	
9.BA:3.2	9.BA:0.48	MD:SPACEMAP=3.33<CONVEXMAP
10.T:3.0	10.T:0.44	

4.SPATIAL ORG.TYPE



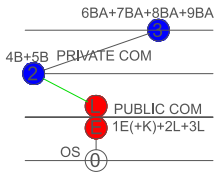
CLUSTER TYPE

5. SPACE GROUPS – SPACE TYPES



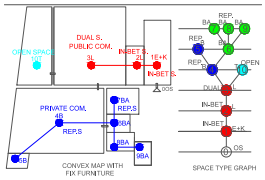
PUBLIC COM: 1E(+K)+2L+3L,RA:0.36-MD:2.66
PRIVATE COM: 4B+5B, RA:0.32-MD:2.45
SERVICE CELLS: 6BA+7BA+8BA+9BA, RA:0.43-MD:2.97

6.GENOTYPE



GENOTYPE-B

SPACE TYPES

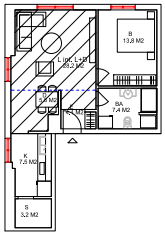


REPETITIVE: 4B+5B+6BA+7BA+8BA+9BA, RA:0.39-MD:3.36
IN-BETWEEN: 1E(K)+2L, RA:0.43-MD:2.95
DUAL: 3L, RA:0.24-MD:2.6,OPEN: 10T, RA:0.44-MD:3

05 _ 40-70 SQM2 - 1+1 TYPE (05_BOMONTI MODERN PALAS 1+1 61.6 SQM2)

GENERAL PLAN

1.GROWTH - SEPARATED / INTEGRATED SPACES



1.SEPARATED SPACES:
E=4.1M2,L=20.5M2,BA=7.4M2,B=13.8M2,D=5.6M2,K=7.5M2,S=3.2M2,TOTAL=61.6M2
2.INTEGRATED SPACES: LIVING ROOM INTEGRATED
E=4.1M2,Lint.=L+D+E=25.6M2,BA=7.4M2,B=13.8M2,D=5.6M2,K=7.5M2,S=3.2M2,TOTAL=67.2M2

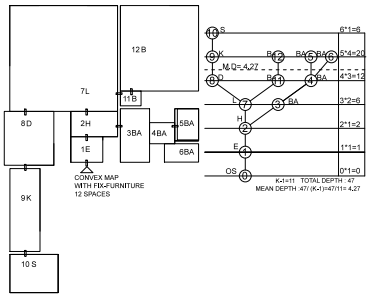
% 9 GROWTH

2.SYNTACTIC ANALYSES SPACE MAP

MD:	RA: **0.47**
1.E:2.0	1.E:0.33
2.L:1.71	2.L:0.23
3.BA:2.85	3.BA:0.61
4.D:2.0	4.D:0.33
5.B:2.57	5.B:0.52
6.K:2.57	6.K:0.52
7.S:3.42	7.S:0.80

1. Rank order of RA:0.47
L=0.23<E=D=0.33<K=B=0.52<BA=0.61<S=0.80
2.Order of MD:3.33
L:1.71<E:2.0=D:2.0<B=K:2.57<BA:2.85<S:3.42
3.BDF: 0.73
4.SLR: 1.14
5.S.NO:7

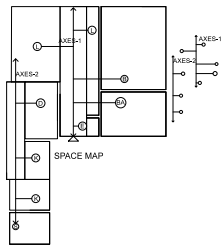
3. SYNTACTIC ANALYSIS CONVEX MAP WITH FIX FURNITURE



MD:	RA:
1.E:3.0	1.E:0.36
2.H:2.25	2.H:0.22
3.BA:2.66	3.BA:0.30
4.BA:3.25	4.BA:0.40
5.BA:4.16	5.BA:0.57
6.BA:4.16	6.BA:0.57
7.L:2.33	7.L:0.24
8.D:2.91	8.D:0.34
9.K:3.66	9.K:0.48
10.S:4.58	10.S:0.65
11.B:3.08	11.B:0.37
12.B:4.0	12.B:0.54

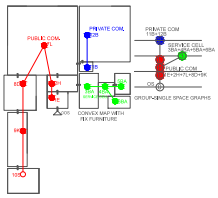
CONVEXMAP WITH FIX FURNITURE
MD:4.37 , RA:0.42
BDF:0.78, S.NO:12
COMPARISONS OF SPACE MAP/CONVEX MAP WITH FİX FURNITURE
RA:CONVEXMAP=0.42<SPACEMAP=0.47
MD:SPACEMAP=3.33<CONVEXMAP=4.37

4.SPATIAL ORG.TYPE:



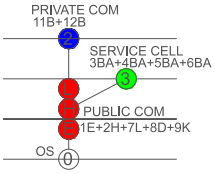
AXIAL TYPE

5.SPACE GROUPS – SPACE TYPES



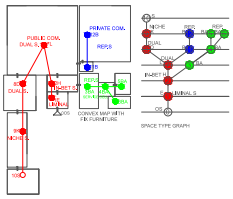
PUBLIC COM.: 1E+2L+7L+8D+9K, RA:0.32-MD:2.83
PRIVATE COM: 11B+12B, RA:0.45-MD:3.54
SERVICE CELLS: 3BA+4BA+5BA+6BA, RA:0.46-MD:3.55

6.GENOTYPE



GENOTYPE-B

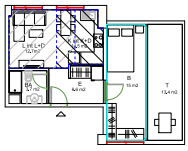
SPACE TYPES:



LIMINAL: 1E, RA:0.36-MD:3
REPETITIVE: 3BA+4BA+5BA+6BA+11B+12B
RA:0.41-MD:3.55
INBETWEEN: 2H,RA:0.22-MD:2.25
NICHE: 9K, RA:0.48-MD:3.66DUAL: 8D, RA:0.34-MD:2.91,OPEN:-

06 _ 40-70 SQM2 - 1+1 TYPE (06-NEF_TIP H 56.2 SQM2 / 1+1)

GENERAL PLAN



% 41 GROWTH

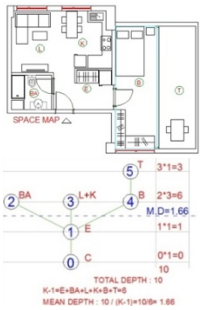
1. *GROWTH- SEPARATED / INTEGRATED SPACES*

1.SEPARATED SPACES :
E=6.6 M2, BA=3.7 M2, L=11.5 M2, K=6 M2,B=15 M2,T=13.4 M2, TOTAL=56.2M2

2. KITCHEN EXTENDED
E=6.6 M2, BA=3.7 M2, L=L+K=12.7 M2, K=K+D=14.5 M2,B=15 M2,T=13.4 M2, TOTAL=65.9M2

3. LIVING ROOM EXTENDED, BEDROOM ADAPTED
E=6.6 M2, BA=3.7 M2, Lint.=L+K=12.7 M2, K=K+D=14.5 M2,Badp.=B+T=28.4 M2, T=13.4 M2, TOTAL=79.3M2

2.SYNTACTIC ANALYSIS SPACE MAP ANALYSES

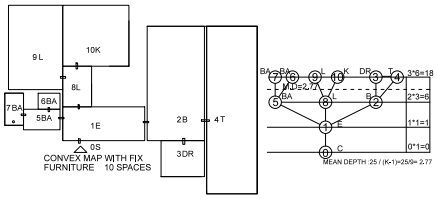


MD:
1.E:1.2
2.BA:2.0
3.L+K:2.0
4.B:1.6
5.T:2.4

RA: 0.41
1.E:0.09
2.BA:0.50
3.L+K:0.50
4.B:0.30
5.T:0.70

1.Rank order of RA:0.41
E=0.09<B=0.30<BA=L+K=0.50<T=0.70
2.order of MD:1.66
E:1.2<B.1.6<BA=L+K:2.0<T:2.4
3.BDF:0.48
4.SLR:1.2
5.S.NO:5

3.SYNTACTIC ANALYSIS CONVEXMAP WITH FIX FURNITURE



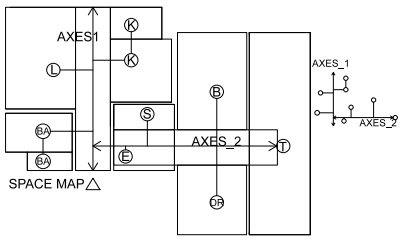
MD:
1.E:1.6
2.B:2.1
3.DR:2.9
4.T:2.9
5.BA:2.1
6.BA:3.0
7.BA:3.0
8.L:2.1
9.L:3.0
10.K:3.0

RA:
1.E:0.13
2.B:0.24
3.DR:0.42
4.T:0.42
5.BA:0.24
6.BA:0.44
7.BA:0.44
8.L:0.24
9.L:0.44
10.K:0.44

MD:2.77 - RA:0.34 - BDF:0.75-S.NO:10

COMPARISONS OF SPACE MAP/CONVEX MAP WITH FURNITURE
RA:CONVEXMAP=0.34<SPACE MAP=0.48
MD:SPACEMAP=1.66<CONVEX MAP=2.77
BDF:SPACEMAP=0.48<CONVEXMAP=0.75

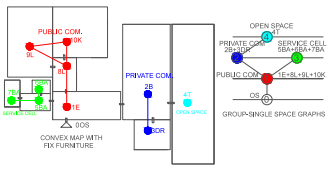
4.SPATIAL ORG.TYPE



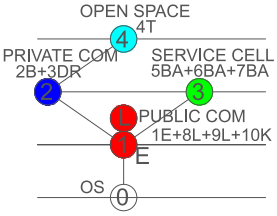
CROSS-AXIAL TYPE

5.SPACE GROUPS – SPACE TYPES

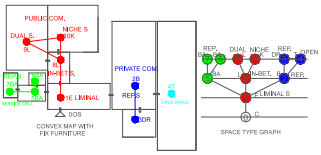
PUBLIC COM: 1E+8L+9L+10K, RA:0.31-MD:2.42
PRIVATE COM: 2B+3DR, RA:0.33-MD:2.5
SERVICE CELLS: 5BA+6BA+7BA, RA:0.37
MD:2.7



6.GENOTYPE



GENOTYPE-B

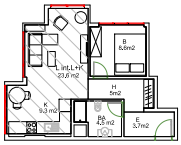


SPACE TYPES

LIMINAL: 1E, RA:0.13-MD:1.6
REPETITIVE: 2B+3DR+5BA+6BA+7BA, RA:0.37,MD:2.62
INBETWEEN: 8L, RA:0.24-MD:2.1
NICHE: 10K, RA:0.44-MD:3**OPEN:** 4T, RA:0.42-MD:2.9

07 40-70 SQM2 - 1+1 TYPE (07_NEF_98 TIP K 1+1 / 45.3 SQM2)

GENERAL PLAN



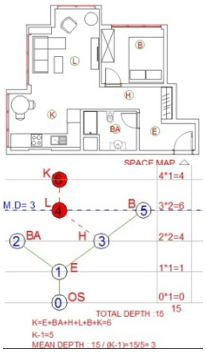
% 20 GROWTH

1.GROWTH - SEPARATED / INTEGRATED SPACES

1.SEPARATED SPACES:
E=3.7M2, BA=4.5 M2,H=5 M2, L=14.2 M2, B=8.6 M2, K=9.3 M2, TOTAL= 45.3 M2

2.INTEGRATED SPACES: LIVING ROOM INTEGRATED
E=3.7M2, BA=4.5 M2,H=5 M2, Lint.=L+K=23.6 M2, B=8.6 M2, K=9.3 M2, TOTAL= 54.7 M2

2. SYNTACTIC ANALYSES of SPACE MAP



MD:3
1.E:1.66
2.BA:2.5
3.H:1.5
4.L:2.0
5.B:2.33
6.K:2.83

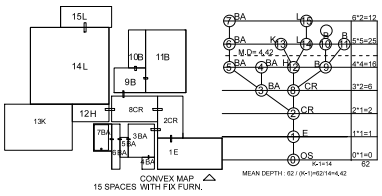
RA: 0.45
1.E:0.26
2.BA:0.60
3.H:0.20
4.L:0.40
5.B:0.53
6.K:0.73

1.Rank order of mean integration values of different functions:0.45
H=0.20<E=0.26<L=0.40<B=0.53<BA=0.60<K=0.73

2.Order of mean depth:3
H:1.5<E:1.66<L:2.0<B:2.33<BA:2.5<K:2.83

3.BDF: 0.70
4.SLR: 1.16
5.S.NO:6

3.SYNTACTIC ANALYSES CONVEXMAP WITH FIX FURNITURE



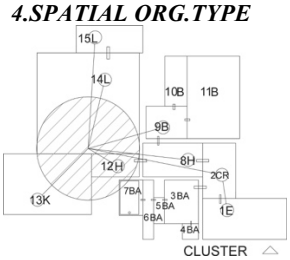
MD:
1.E:3.2
2.CR:2.4
3.BA:2.8
4.BA:3.73
5.BA:3.46
6.BA:4.26
7.BA:5.2
8.CR:2.4
9.B:3.06
10.B:4.0
11.B:4.0
12.H:2.93
13.K:3.86
14.L:3.73
15.L:4.66

RA:
1.E:0.31
2.CR:0.19
3.BA:0.25
4.BA:0.39
5.BA:0.35
6.BA:0.46
7.BA:0.6
8.CR:0.19
9.B:0.29
10.B:0.42
11.B:0.42
12.H:0.27
13.K:0.40
14.L:0.39
15.L:0.52

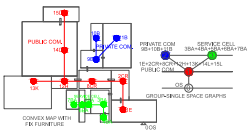
MD:4.4 – RA:0.36
BDF:0.81 – S.NO:15

COMPARISONS OF SPACE MAP/CONVEX MAP WITH FURNITURE
RA:CONVEXMAP=0.36<SPACEMAP=0.45
MD: SPACEMAP=3<CONVEXMAP=4.4

4.SPATIAL ORG.TYPE

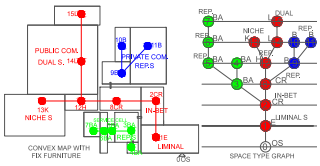


5. **SPACE GROUPS**



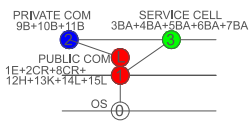
PUBLIC COM:
1E+2CR+8CR+12H+13K+14L+15L, RA:0.32-MD:3.31
PRIVATE COM: 9B+10B+11B, RA:0.37-MD:3.68
SERVICE CELLS:
3BA+4BA+5BA+6BA+7BA, RA:0.41-MD:3.89

SPACE TYPES



LIMINAL: 1E, RA:0.31-MD:3.2
REPETITIVE:8CR+9B+10B+11B+3BA+4BA+5BA+6BA+7BA, RA:0.37-MD:3.65
INBETWEEN: 2CR, RA:0.19-MD:2.4
NICHE: 13K, RA:0.40-MD:3.86
DUAL: 14L+15L, RA:0.45-MD:4.19
OPEN:

6.GENOTYPE

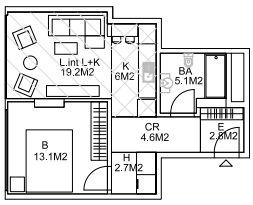


GENOTYPE-B

08 _ 40-70 SQM2 - 1+1 TYPE (08_NEF 12 1+1T 41 SQM2)

GENERAL PLAN

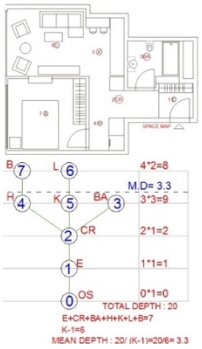
1.GROWTH - SEPARATED / INTEGRATED SPACES



1.SEPARATED SPACES:
E=2.8M2,CR=4.6M2,BA=5.1,H=2.7M2,K=6M2, L=13.1M2
B=13.1M2 TOTAL=41 M2
2.INTEGRATED SPACES:LIVINGROOM INTEGRATED
E=2.8M2,CR=4.6M2,BA=5.1,H=2.7M2,K=6M2, Lint=19.2M2
B=13.1M2 TOTAL=53.5 M2

%30 GROWTH

2. SYNTACTIC ANALYSES of SPACE MAP

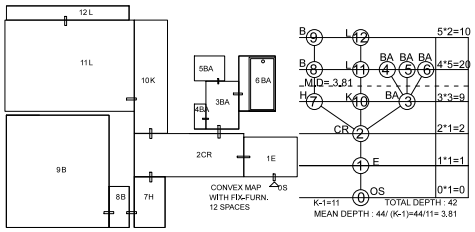


MD:3.3
1.E:2.0
2.CR:1.42
3.BA:2.28
4.H:2.0
5.K:2.0
6.L:2.85
7.B:2.85

RA: 0.39
1.E:0.33
2.CR:0.14
3.BA:0.42
4.H:0.33
5.K:0.33
6.L:0.61
7.B:0.61

1. Rank order of RA:0.39
CR=0.14<E=H=K=0.33<B A=0.42<L=B=0.61
2.Order of MD:3.3
CR=1.42<E=H=K=2.0<BA =2.28<L=B=2.85
3.BDF: 0.65
4.SLR: 1.14
5.S.NO:7

3.SYNTACTIC ANALYSIS CONVEXMAP WITH FIX FURNITURE

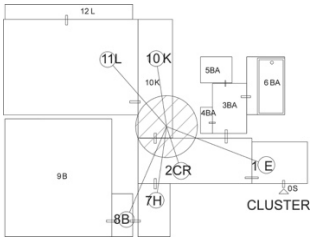


MD:
1.E:2.58
2.CR:1.83
3.BA:2.25
4.BA:3.16
5.BA:3.16
6.BA:3.16
7.H:2.41
8.B:3.16
9.B:4.08
10.K:2.41
11.L:3.16
12.L:4.08

RA:
1.E:0.28
2.CR:0.15
3.BA:0.22
4.BA:0.39
5.BA:0.39
6.BA:0.39
7.H:0.25
8.B:0.39
9.B:0.56
10.K:0.25
11.L:0.39
12.L:0.56

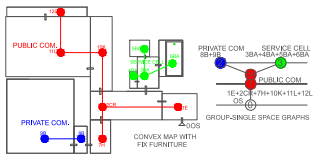
MD:3.81 – RA:0.35-
SLR:1.08
BDF:0.70 – S.NO:12
COMPARISONS OF SPACE MAP/CONVEX MAP WITH FURNITURE
RA:
CONVEXMAP=0.35<SPA CEMAP=0.39
MD: SPACEMAP=3.3 < CONVEXMAP=3.81

4.SPATIAL ORG.TYPE



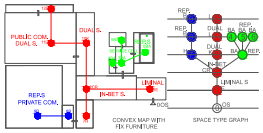
5.

SPACE GROUPS



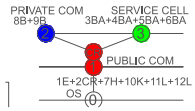
PUBLIC COM:
1E+2CR+7H+10K+11L+12L, RA:0.31-MD:2.74
PRIVATE COM: 8B+9B, RA:0.47-MD:3.62
SERVICE CELLS:
3BA+4BA+5BA+6BA, RA:0.34-MD:2.93

SPACE TYPES



LIMINAL: 1E, RA:0.28-MD:2.58
REPETITIVE:3BA+4BA +5BA+6BA+7H+8B+9B, RA:0.37-MD:3
INBETWEEN: 2CR, RA:0.15-MD:1.83
NICHE: 10K, RA:0.25-MD:2.41
DUAL: 11L+12L, RA:0.47-MD:3.58

6.GENOTYPE

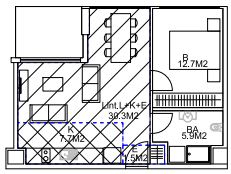


GENOTYPE-A

09 _ 40-70 SQM2 - 1+1 TYPE (09_NEF 12 1+1 F 49.5 SQM2)

GENERAL PLAN

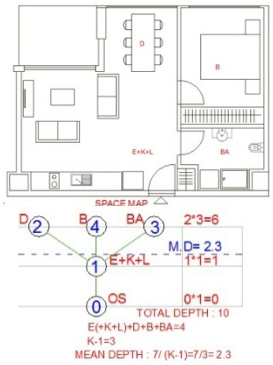
1. *GROWTH - SEPARATED / INTEGRATED SPACES*



%17.3GROWTH

1.SEPARATED SPACES:
E=1.5,K=7.7M2, BA=5.9M2,L=21.7M2,B=12.7M2
TOTAL=49.5 M2
2.LIVINGROOM INTEGRATED
E=1.5,K=7.7M2, BA=5.9M2,Lint.=30.3M2,B=12.7M2
TOTAL=58.1 M2

2 SYNTACTIC ANALYSES of .SPACE MAP

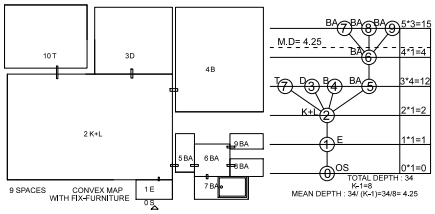


MD:
1.E+K+L:1.0
2.D:1.75
3.BA:1.75
4.B:1.75

RA: 0.37
1.E+K+L:0.0
2.D:0.5
3.BA:0.5
4.B:0.5

1. Rank order of RA:0.37
E+K+D=0.0<D=BA=B=0.5
2.Order of MD:2.3
E+K+D=1.0<D=BA=B=1.75
3.BDF: 0.025
4.SLR: 1.25
5.S.NO:4

3.SYNTACTIC ANALYSES CONVEXMAP WITH FIX FURNITURE



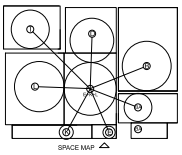
MD:
1.E:2.5
2.K+L:1.8
3.D:2.7
4.B:2.7
5.BA:1.9
6.BA:2.2
7.BA:3.1
8.BA:3.1
9.BA:3.1
10.T:2.7

RA:
1.E:0.33
2.K+L:0.17
3.D:0.37
4.B:0.37
5.BA:0.19
6.BA:0.26
7.BA:0.46
8.BA:0.46
9.BA:0.46
10.T:0.37

MD:4.25 - RA:0.34-
BDF:0.82
S.NO:10

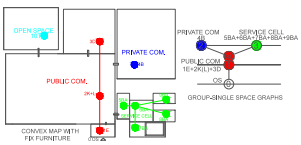
COMPARISONS OF SPACE MAP/CONVEX MAP WITH FURNITURE
RA:
CONVEXMAP=0.34<
SPACEMAP=0.37
MD:SPACEMAP=2.3<CONVEXMAP=4.25

4.SPATIAL ORG.TYPE



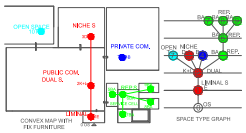
CLUSTER TYPE

5. SPACE GROUPS



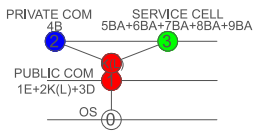
PUBLIC COM:
1E+2K(+L)+3D, RA:0.29-MD:2.33
PRIVATE COM: 4B, RA:0.37-MD:2.7
SERVICE CELLS:
5BA+6BA+7BA+8BA+9BA, RA:0.36-MD:2.68

SPACE TYPES



LIMINAL: 1E, RA:0.33-MD:2.5
REPETITIVE:
5BA+6BA+7BA+8BA+9BA, RA:0.36-MD:2.68
INBETWEEN: -
NICHE:3D, RA:0.36-MD:2.68
DUAL: 1K+L, RA:0.17-MD:1.8
OPEN: 10T, RA:0.37-MD:2.7

6.GENOTYPE

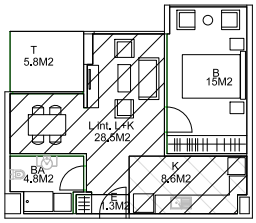


GENOTYPE-B

10 _ 40-70 SQM2 - 1+1 TYPE (10_NEF 12 1+1M 50 SQM2)

GENERAL PLAN

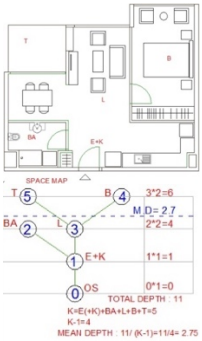
1. GROWTH - SEPARATED / INTEGRATED SPACES



%17 GROWTH

1.SEPARATED SPACES:
E=1.3,K=8.6M2,
BA=4.8M2,L=20M2,B=15M2,T=5.8M2 TOTAL=50 M2
2. LIVINGROOM INTEGRATED
E=1.3,K=8.6M2,
BA=4.8M2,Lint.=28.5M2,B=15M2,T=5.8M2
TOTAL=58.5 M2

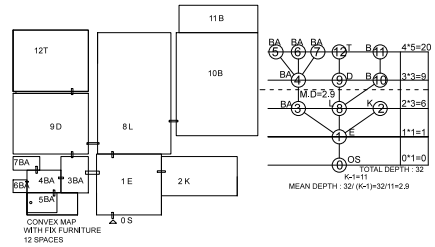
2. SYNTACTIC ANALYSES of SPACE MAP



MD:	RA:
1.E+K:1.4	1.E+K:0.19
2.BA:2.2	2.BA:0.6
3.L:1.4	3.L:0.19
4.B:2.2	4.B:0.6
5.T:2.2	5.T:0.6
	MEAN INT:0.43

1. Rank order of mean integration values of different functions:0.43
E+K=L=0.19<B=BA=T=0.60
2.Order of mean depth:2.7
E+K=L=1.4<B=BA=T=2.2
3.BDF: 0.78
4.SLR: 1.2
5.S.NO:5

3.SYNTACTIC ANALYSIS CONVEXMAP WITH FIX FURNITURE

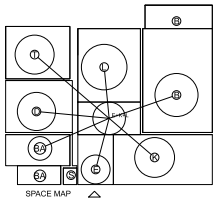


MD:	RA:
1.E:2.08	1.E:0.19
2.K:3.0	2.K:0.36
3.BA:2.33	3.BA:0.24
4.BA:2.75	4.BA:0.31
5.BA:3.66	5.BA:0.48
6.BA:3.66	6.BA:0.48
7.BA:3.66	7.BA:0.48
8.L:2.33	8.L:0.24
9.D:3.08	9.D:0.37
10.B:3.08	10.B:0.37
11.B:4.0	11.B:0.54
12.T:4.0	12.T:0.54

MD:2.9- RA:0.38-SLR:1.08-BDF:0.80 – S.NO:12

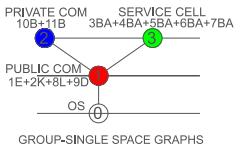
COMPARISONS OF SPACE MAP/CONVEX MAP WITH FIX FURNITURE
RA:CONVEXMAP=0.38<SPACEMAP=0.43
MD:
SPACEMAP<CONVEXMAP=2.9

4.SPATIAL ORG.TYPE



CLUSTER TYPE

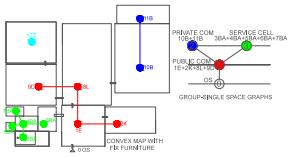
6.GENOTYPE:



GENOTYPE-A

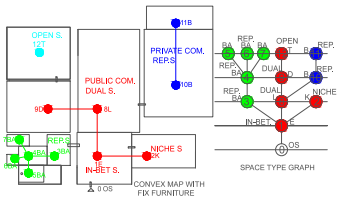
5.

SPACE GROUPS



PUBLIC COM:
1E+2K+8L+9D, RA:0.29-MD:2.62
PRIVATE COM: 10B+11B, RA:0.45-MD:3.54
SERVICE CELLS:
3BA+4BA+5BA+6BA+7BA, RA:0.39-MD:3.21

SPACE TYPES



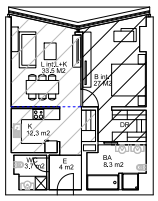
REPETITIVE:
3BA+4BA+5BA+6BA+7BA+10B+11B, RA:0.41
MD:3.29
INBETWEEN: 1E, RA:0.19-MD:2
NICHE: 2K, RA:0.36-MD:3
DUAL: 8L+9D, RA:0.3-MD:2.66
OPEN: 12T, RA:0.54-MD:4

A-3) GR-3 Case Analyses

01 70-100 SQM2 - 1+1 TYPE (01_NEXT LEVEL 1+1 SUITE B51)

GENERAL PLAN

1.GROWTH - SEPARATED / INTEGRATED SPACES



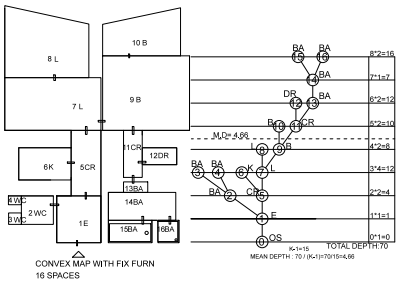
%29.5 GROWTH

SEPARATED SPACES:
E=4M2,
WC=3.7M2,K=12.3M2,L=20M2,B=19M2,DR=5.5M2,BA=8.3M2,
TOTAL=72.8M2
INTEGRATED SPACES: LIVING ROOM INTEGRATED
E=4M2,WC=3.7M2,K=12.3M2,Lint.=33.5M2,Bint.=27M2,DR=5.5M2,BA=8.3M2,TOTAL=94.3M2

2. SYNTACTIC ANALYSES of SPACE MAP

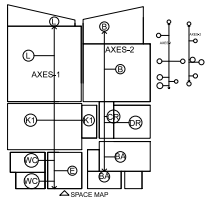
MD:	RA:	**1. Rank order of RA:0.58**
1.E:2.42	1.E:0.47	L=K=0.38<E=B=0.47<DR=0.66<WC=0.76<BA=0.96
2.K:2.14	2.K:0.38	
3.WC:3.28	3.WC:0.76	**2.Order of MD:3.84**
4.L:2.14	4.L:0.38	L=K:1.24<B=E:2.42<DR:3.0<WC:3.28<BA:3.85
5.B:2.42	5.B:0.47	3.BDF:0.83
6.DR:3.0	6.DR:0.66	4.SLR:1.14
7.BA:3.85	7.BA:0.96	5.S.NO:7
	Mean Int:0.58	

3.SYNTACTIC ANALYSES CONVEXMAP WITH FIX FURNITURE



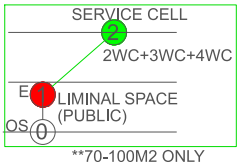
MD:	RA:	RA:0.39- MD:4.68
1.E:3.43	1.E:0.32	BDF:0.85 – S.NO:16
2.BA:4.12	2.BA:0.41	
3.BA:5.06	3.BA:0.54	**COMPARISONS OF SPACE MAP/CONVEX MAP WITH FIX FURNITURE**
4.BA:5.06	4.BA:0.54	**RA:**
5.CR:3.0	5.CR:0.26	CONVEXMAP=0.39<SPACE MAP=0.58
6.K:3.93	6.K:0.39	**MD:**
7.L:2.81	7.L:0.24	SPACEMAP=3.84<CONVEX MAP=4.68
8.L:3.75	8.L:0.36	
9.B:2.87	9.B:0.25	
10.B:3.81	10.B:0.37	
11.CR:3.18	11.CR:0.29	
12.DR:4.12	12.DR:0.41	
13.BA:3.75	13.BA:0.36	
14.BA:4.43	14.BA:0.45	
15.BA:5.37	15.BA:0.58	
16.BA:5.37	16.BA:0.58	
	MEAN RA:0.39	

4.SPATIAL ORG.TYPE



AXIAL TYPE

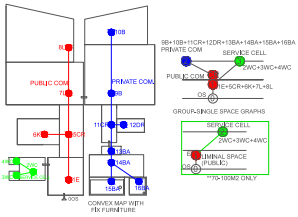
6.GENOTYPE OF THE CASE



GENOTYPE-C

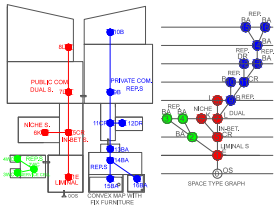
5.

SPACE GROUPS:



PUBLIC COM:
1E+5CR+6K+7KL+8L
RA:0.31-MD:3.38
PRIVATE COM:
9B+10B+11CR+12DR+13BA+14BA
+15BA+16BA
RA:0.41-MD:4.11
SERVICE CELLS:
2WC+3WC+4WC RA:0.49-MD:4.74

SPACE TYPES:

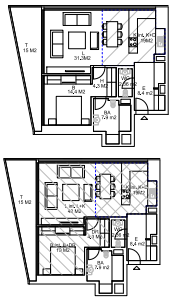


LIMINAL: 1E,RA:0.32-MD:3.43
REPETITIVE: 5CR, RA:0.26-MD:3
INBETWEEN: 2BA+3BA+4BA+9B+10B+11CR+12DR+13BA+14BA+15BA+16BA,
RA:0.43-MD:4.28
NICHE: 6K, RA:0.39-MD:3.93
DUAL: 7L, RA:0.24-MD:2.81

02 70-100 SQM2 - 1+1 TYPE (02- NEXT LEVEL SUITE E 78.66 SQM2 1+1)

GENERAL PLAN

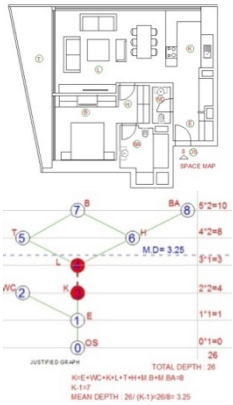
1.GROWTH - SEPARATED / INTEGRATED SPACES



SEPARATED SPACES:
E=8.4M2, WC= 2.36M2,K=10M2,
L=31.3M2,T=15M2,H=4.3M2, B=14.4M2,
BA=7.9M2 ,TOTAL=78.66M2
1-KITCHEN
INTEGRATED+LIVINGROOM
+BEDROOM INTEGRATED
E=8.4M2, WC=2.36M2,Kint.=19m2,
Lint.=42M2, T=15M2,
H=4.3M2,Bint.=19M2,BA=7.9M2,
TOTAL=102.96M2

%39 GROWTH

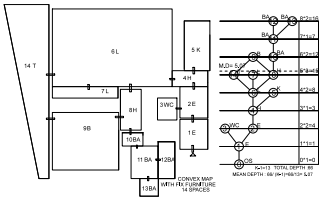
2. SYNTACTIC ANALYSES ***OF SPACE MAP***



MD:	RA:
1.E:2.37	1.E:0.39
2.WC:3.25	2.WC:0.64
3.K:2.0	3.K:0.28
4.L:1.87	4.L:0.25
5.T:2.5	5.T:0.42
6.H:2.25	6.H:0.35
7.B:2.87	7.B:0.53
8.BA:3.12	8.BA:0.60
	MEAN INT:0.43

1.Rank order of RA:0.43
L=0.25<K=0.28<H=0.35<E=0.39<T=0.42<B
=0.53<BA=0.60<WC=0.64
2.order of MD:3.25
L:1.87<K:2.0<H:2.25<E:2.37<T:2.5<B:2.87
<WC:3.25<BA:3.12
3.BDF:0.83
4.SLR:1.25
5.S.NO:8

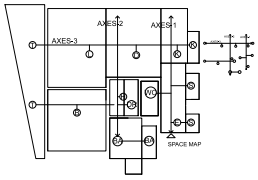
*3.*SYNTACTIC ANALYSIS CONVEXMAP WITH FIX FURNITURE



MD:	RA:
1.E:3.78	1.E:0.42
2.E:3.14	2.E:0.32
3.WC:4.71	3.WC:0.57
4.H:2.64	4.H:0.25
5.K:3.57	5.K:0.39
6.L:2.42	6.L:0.21
7.L:3.35	7.L:0.36
8.H:2.64	8.H:0.25
9.B:3.42	9.B:0.37
10.BA:3.14	10.BA:0.32
11.BA:3.78	11.BA:0.42
12.BA:4.71	12.BA:0.57
13.BA:4.71	13.BA:0.57
14.T:3.21	14.T:0.34
15.BA:4.75	MEAN RA:0.38
16.T:3.06	

RA:0.38
MD:5.07
BDF:0.86
S.NO:14
COMPARISONS OF SPACE MAP/CONVEX MAP WITH FIX FURNITURE
RA:
CONVEXMAP=0.38<SPACEMAP=0.43
MD:
SPACEMAP=3.25<CONVEXMAP=5.07
BDF:
SPACEMAP=0.83<CONVEXMAP=0.86

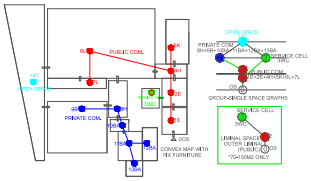
4.SPATIAL ORG.TYPE ***5.***



AXIAL TYPE

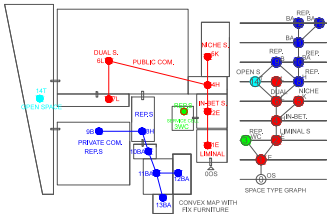
6.GENOTYPE OF THE CASE

SPACE GROUP

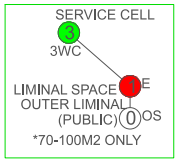


PUBLIC COM:
1E+2E+4H+5K+6L+7L,
RA:0.32-MD:3.15
PRIVATE COM:
8H+9B+10BA+11BA+12BA+13
BA, RA:0.41-MD:3.73

SPACE TYPES



LIMINAL: 1E, RA:0.42-MD:3.78
REPETITIVE:
8H+9B+10BA+11BA+12BA+13BA,
RA:0.41
MD:3.73
INBETWEEN: 2E, RA:0.32-MD:3.14



GENOTYPE-C

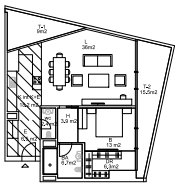
SERVICE CELLS: 3WC, RA:0.57-MD:4.71

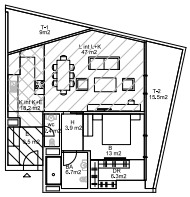
NICHE: 5K, RA:0.39-MD:3.57
DUAL: 6L-7L, RA:0.28-MD:2.28
OPEN: 14T, RA:0.34-MD:3

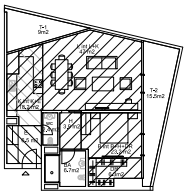
03 70-100 SQM2 - 1+1 TYPE (03- NEXT LEVEL H-49 1+1 86.5 SQM2)

GENERAL PLAN

1.GROWTH- SEPARATED / INTEGRATED SPACES



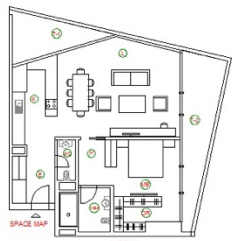


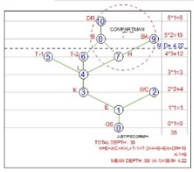


1.SEPARATED SPACES:
E=6.5M2, WC=2.4M2,
K=11.7M2, L=36M2,H=3.9M2,
MB=13M2,DR=6.3M2,MBA=6.7
M2, T-1=9M2,T-2=15.5M2,
TOTAL=86.5M2
2:KITCHEN+LIVING ROOM
+BEDROOM INTEGRATED
E=6.5M2, WC=2.4M2, K
int.=18.2M2, L int.=54.2M2,
H=3.9M2, B int.=23.2m2,
DR=6.3M2,BA=6.7M2
TOTAL=121.4M2

%31 GROWTH

2.SYNTACTIC ANALYSES OF SPACE MAP

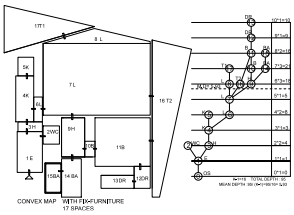




MD	RA:
1.E:2.7	1.E:0.37
2.WC:3.6	2.WC:0.57
3.K:2.2	3.K:0.26
4.L:1.9	4.L:0.19
5.T-1:2.8	5.T-1:0.39
6.T-2:2.4	6.T-2:0.31
7.H:2.2	7.H:0.26
8.B:2.7	8.B:0.37
9.BA:3.1	9.BA:0.46
10.DR:3.6	10.DR:0.57
	Mean Int:0.38

1. Rank order of RA:0.38
L=0.19<H=K=0.26<T2=0.31<E=B=0.37<T1=0.39
<BA=0.46<DR=WC=0.57
2.Order of MD:4.22
L:1.9<K=H:2.2<<T:2.4<B=E:2.7<T1:2.8<BA:3.1<
WC=DR:3.6
3.BDF: 0.79
4.SLR: 1.2
5.S.NO:10

3.SYNTACTIC ANALYSIS CONVEXMAP WITH FIX FURNITURE

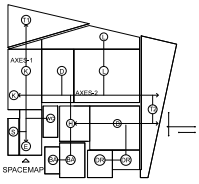


MD:	RA:
1.E:4.47	1.E:0.43
2.WC:5.41	2.WC:0.55
3.H:3.76	3.H:0.34
4.K:3.17	4.K:0.27
5.K:4.11	5.K:0.38
6.L:2.82	6.L:0.22
7.L:2.58	7.L:0.19
8.L:3.41	8.L:0.30
9.H:3.0	9.H:0.25
10.B:3.52	10.B:0.31
11.B:3.52	11.B:0.31
12.DR:4.35	12.DR:0.41
13.DR:5.29	13.DR:0.53
14.BA:3.82	14.BA:0.35
15.BA:4.76	15.BA:0.47
16.T2:3.11	16.T2:0.26
17.T1:4.3	17.T1:0.41

RA:0.35
MD:5.83
BDF:0.79, S.NO:17

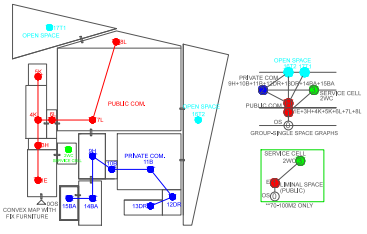
COMPARISONS OF SPACE MAP/CONVEX MAP WITH FIX FURNITURE
RA: CONVEXMAP=0.35<SPACEMAP=0.38
MD: SPACEMAP=4.22<CONVEXMAP=5.83
BDF: SPACEMAP=CONVEXMAP=0.79

4.SPATIAL ORG.TYPE



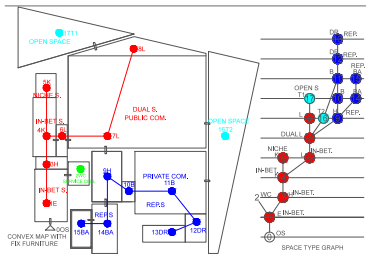
AXIAL TYPE

5. SPACE GROUPS



PUBLIC COM:
1E+3H+4K+5K+6L+7L+8L
RA:0.30-MD:3.48

SPACE TYPES:

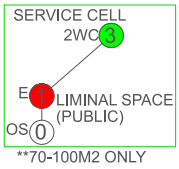


LIMINAL: -
REPETITIVE:
9H+10B+11B+12DR+13DR+14BA+15BA,

PRIVATE COM: 9H+10B+11B+12DR+13DR+14BA+15 BA, RA:0.37 MD:4
SERVICE CELLS: 2WC, RA:0.55-MD:5.41

RA:0.37-MD:4
INBETWEEN: 1E+3H, RA:0.38-MD:4.11
NICHE: 5K,RA:0.38-MD:4.11
DUAL: 7L,8L- RA:0.24-MD:3
OPEN: 17T1-16T2, RA:0.33-MD:3.6

6.GENOTYPE OF THE CASE

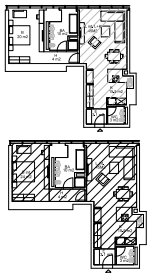


GENOTYPE-C

04 70-100 SQM2 - 1+1 TYPE (04_ TRUMP TOWER 1+1 84.9SQM2)

GENERAL PLAN

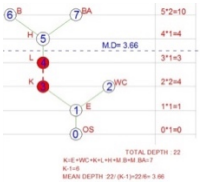
1.GROWTH- SEPARATED / INTEGRATED SPACES



SEPARATED SPACES:
E=3.1M2,WC=3M2,K=15.5M2,L=29.3M2,H=4M2,BA=10M2,B=20M2 , TOTAL=84.9M2
INTEGRATED SPACES:LIVING ROOM INTEGRATED,BEDROOM INTEGRATED
E=3.1M2, WC=3M2, K=15.5M2, Lint.=45M2, H=4M2, BA=10M2, Bint.=24M2, TOTAL=104.6 M2

%23 GROWTH

2. SYNTACTIC ANALYSES of SPACE MAP

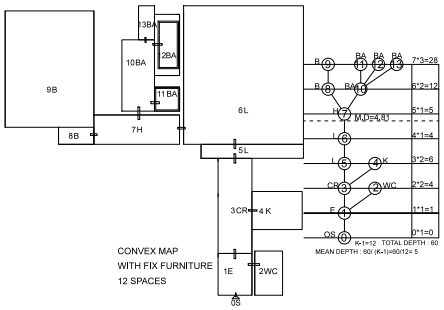


MD:
1.E:2.28
2.WC:3.14
3.K:2.0
4.L:2.0
5.H:2.28
6.B:3.14
7.BA:3.14

RA: 0.51
1.E:0.42
2.WC:0.71
3.K:0.33
4.L:0.33
5.H:0.42
6.B:0.71
7.BA:0.71

1.Rank order of mean integration values of different functions: RA:0.51
K=L=0.33<E=H=0.42<WC=B=BA=0.71
2.Order of mean depth:3.66
K=L:2.0<H=E:2.28<WC=B=BA:3.14
3.BDF:0.88
4.SLR:1.33
5.S.NO:7

3.SYNTACTIC ANALYSIS CONVEXMAP WITH FIX FURNITURE

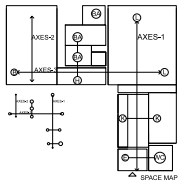


MD:
1.E:3.69
2.WC:4.61
3.CR:3.07
4.K:4.0
5.L:2.76
6.L:2.6
7.H:2.61
8.B:3.38
9.B:4.30
10.BA:3.07
11.BA:4.0
12.BA:4.0
13.BA:4.0

RA: 0.42
1.E:0.44
2.WC:0.60
3.CR:0.34
4.K:0.5
5.L:0.29
6.L:0.26
7.H:0.26
8.B:0.39
9.B:0.55
10.BA:0.34
11.BA:0.5
12.BA:0.5
13.BA:0.5

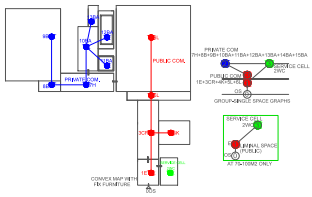
RA:0.42 - MD:4.81
BDF:0.86 – S.NO:13
COMPARISONS OF SPACE MAP/CONVEX MAP WITH FURNITURE
RA:CONVEXMAP= 0.42<SPACEMAP=0. 51
MD:SPACEMAP=C ONVEXMAP=4.81
BDF:CONVEXMAP =0.86<SPACEMAP= 0.88

4.SPATIAL ORG.TYPE



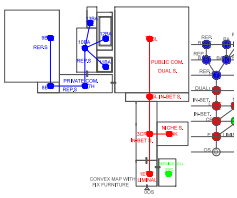
AXIAL TYPE

5. SPACE GROUPS



PUBLIC COM: 1E+3CR+4K+5L+6L, RA:0.36-MD:3.21
PRIVATE COM: 7H+8B+9B+10BA+11BA+12BA+13BA RA:0.43-MD:3.61
SERVICE CELLS: 2WC, RA:0.6-MD:4.61

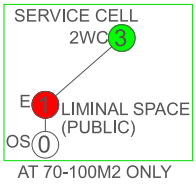
SPACE TYPES



LIMINAL: 1E,RA:0.44-MD:3.69
REPETITIVE: 7H+8B+9B+10BA+1 1BA+12BA+13BA - RA:0.43-MD:3.61
INBETWEEN: 3CR,RA:0.34-MD:3
NICHE: 4K, RA:0.5-MD:4

DUAL: 6L, RA:0.26-MD:2.6

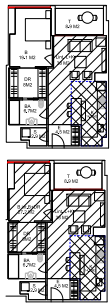
6.GENOTYPE OF THE CASE



GENOTYPE-C

05 _ 70-100 SQM2 - 1+1 TYPE (05_BOMONTI TYPE 6 1+1 88.2 SQM2)

GENERAL PLAN



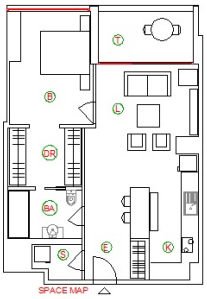
1.GROWTH/SEPARATED / INTEGRATED SPACES

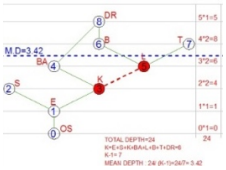
1.SEPARATED SPACES:
E=4.5M2, S=2.9M2, K=14.2M2, BA= 6.7M2, L=23.9M2, B=19.1 M2,T=8.9 M2,DR=8M2, TOTAL=88.2 M2

2.INTEGRATED SPACES:LIVING INTEGRATED
E=4.5M2, S=2.9M2, K=14.2M2, BA= 6.7M2, Lint.=L+K=34.5M2, B=19.1 M2,T=8.9 M2, DR=8M2, TOTAL=98.8 M2

%24GROWTH

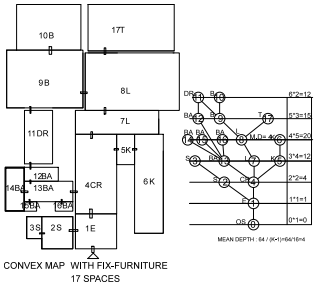
2. SYNTACTIC ANALYSES of SPACE MAP





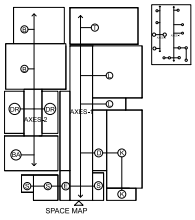
MD:	RA:**0.35**	**1. Rank order of RA:0.35**
1.E:2.0	1.E:0.28	K=0.17<L=0.25<E=0.28<BA=0.32<B=0.39<DR=0.42<T=0.50<S=0.53
2.S:2.87	2.S:0.53	
3.K:1.62	3.K:0.17	**2.Order of MD:3.42**
4.BA:2.12	4.BA:0.32	K:1.62<L:1.87<E:2.0<BA:2.12<<B:2.37<DR:2.5<T:2.75<S:2.87
5.L:1.87	5.L:0.25	
6.B:2.37	6.B:0.39	**3.**BDF:0.78
7.T:2.75	7.T:0.5	**4.**SLR:1.25
8.DR:2.5	8.DR:0.42	**5.**S.NO:8

2.SYNTACTIC ANALYSIS CONVEXMAP WITH FIX FURNITURE



MD:	RA: 0.27	RA:0.27 - MD:4
1.E:2.70	1.E:0.21	BDF:0.74 – S.NO:17
2.S:3.52	2.S:0.31	
3.S:4.47	3.S:0.43	**COMPARISONS OF SPACE MAP/CONVEX MAP WITH FIX FURNITURE**
4.CR:2.11	4.CR:0.13	
5.K:2.94	5.K:0.24	
6.K:3.88	6.K:0.36	**RA:** CONVEXMAP=0.27< SPACEMAP=0.35
7.L:2.52	7.L:0.19	
8.L:2.94	8.L:0.24	**MD:** SPACEMAP=3.42<CONVEXMAP=4
9.B:3.29	9.B:0.28	
10.B:4.23	10.B:0.40	<
11.DR:3.23	11.DR:0.27	**BDF:** CONVEXMAP=0.74< SPACEMAP=0.78
12.BA:2.82	12.BA:0.22	
13.BA:2.35	13.BA:0.16	
14.BA:3.29	14.BA:0.28	
15.BA:3.29	15.BA:0.28	
16.BA:3.29	16.BA:0.28	
17.T:3.88	17.T:0.36	

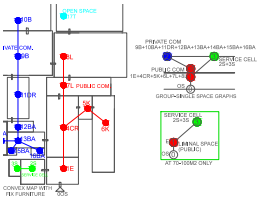
4.SPATIAL ORG.TYPE



AXIAL TYPE

6.GENOTYPE OF THE CASE

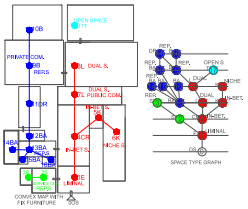
5. **SPACE GROUPS**



PUBLIC COM:
1E+4CR+5K+6L+7L+8L,
RA:0.22-MD:2.84

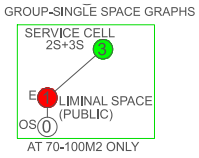
PRIVATE COM:

SPACE TYPES



LIMINAL: 1E, RA:0.21-MD:2.7

REPETITIVE:
2S+3S AND 9B+10B+11DR +12BA+13BA+14BA+15BA+16BA



9B+10BA+11DR+12BA+13BA+14BA+15BA+16BA, RA:0.27-MD:3.22
SERVICE CELLS: 2S+3S,RA:0.37-MD:3.99

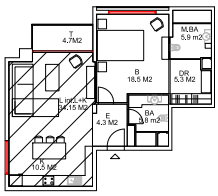
RA:0.27-MD:3.22
INBETWEEN: 4CR, RA:0.13-MD:2.11
NICHE: 6K, RA:0.36-MD:3.88
DUAL: 7L, RA:0.19-MD:2.52
OPEN: 17T,RA:.36-MD:3.88

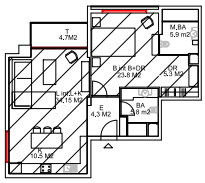
GENOTYPE-C

06 / 70-100 SQM2 - 1+1 TYPE (06_EDE TOWER 1+1 78.6 SQM2)

GENERAL PLAN

1.GROWTH- SEPARATED / INTEGRATED SPACES

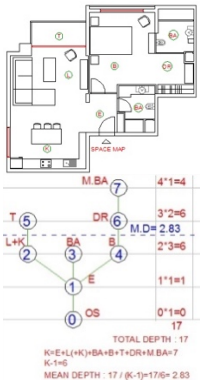




% 20 GROWTH

SEPARATED SPACES:
E=4.3M2, K= 10.5 M2,L=24M2,BA=5.8M2,
B=18.5M2, T=4.7M2,DR=5.3M2,MBA=5.9M2
TOTAL 78.6M2
INTEGRATED SPACES: LIVING ROOM INTEGRATED
E=4.3 M2, K=10.5M2, L.int.=L+K=34.15M2,
BA=5.8M2, B=18.5M2,
T=4.7M2,DR=5.3M2,MBA=5.9M2 TOTAL=89.15M2

2. SYNTACTIC ANALYSES of SPACE MAP

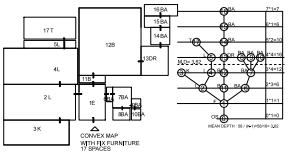


MD:
1.E:1.57
2.L(+K):2.14
3.BA:2.42
4.B:1.85
5.T:3.0
6.DR:2.42
7.MBA:3.28

RA: 0.45
1.E:0.19
2.L(+K):0.38
3.BA:0.47
4.B:0.28
5.T:0.66
6.DR:0.47
7.MBA:0.76

1.Rank order of RA:0.45
E=0.19<B=0.28<L(+K)=0.38<DR=BA=0.47<T=0.66<MBA=0.76,
2.order of mean depth:2.83
E:1.57<B:1.85<L(+K):2.14<BA=DR:2.42<T:3.0<MBA:3.28
3.BDF:0.67
4.SLR:1.14
5.S.NO:7

3.SYNTACTIC ANALYSIS CONVEXMAP WITH FIX FURNITURE

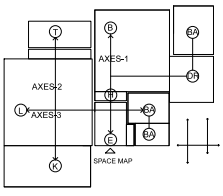


MD:
1.E:2.7
2.L:3.17
3.K:4.11
4.L:3.88
5.L:4.7
6.BA:3.17
7.BA:3.76
8.BA:4.7
9.BA:4.7
10.BA:4.7
11.B:3.05
12.B:3.52
13.DR:4.11
14.BA:4.82
15.BA:5.64
16.BA:6.58
17.T:5.64

RA: 0.40
1.E:0.21
2.L:0.27
3.K:0.38
4.L:0.36
5.L:0.46
6.BA:0.27
7.BA:0.34
8.BA:0.46
9.BA:0.46
10.BA:0.46
11.B:0.25
12.B:0.31
13.DR:0.38
14.BA:0.47
15.BA:0.58
16.BA:0.69
17.T:0.58

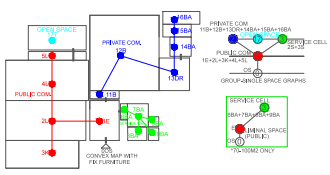
MEAN INTEGRATION VALUE:0.40
MEAN DEPTH:3.62
BDF:0.74 – S.NO:17
COMPARISONS OF SPACE MAP/CONVEX MAP WITH FIX FURNITURE
RA:
CONVEXMAP=0.40<SPACEMAP=0.45
MD:
SPACEMAP=2.83<CONVEXMAP=3.62
BDF:
SPACEMAP=0.67<CONVEXMAP=0.74

4.SPATIAL ORG.TYPE



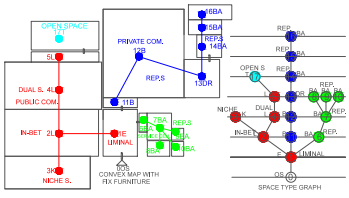
AXIAL TYPE

5.GROUP SPACES- SPACE TYPES



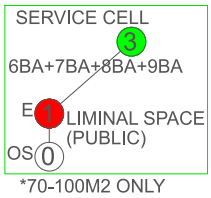
PUBLIC COM:

SPACE TYPES:



LIMINAL: 1E, RA:0.21-MD:2.7

6.GENOTYPE



GENOTYPE-C
THRESHOLD:'E+GUESTBATH'

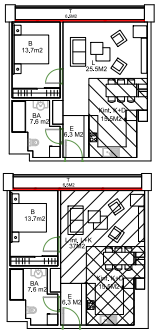
1E+2L+3K+4L+5L,RA:0.33-MD:3.71
PRIVATE COM:
11B+12B+13DR+14BA+15BA+16BA-RA:0.44-MD:4.61
SERVICE CELLS:
6BA+7BA+8BA+9BA+10BA,RA:0.39-MD:4.2

REPETITIVE:
11B+12B+13DR+14BA+A5BA+16BA,RA:0.44-MD:4.61
INBETWEEN: 2L,RA:0.27-MD:3.17
NICHE: 3K,RA:0.38-MD:4.11
DUAL: 4L,5L,RA:0.41-MD:4.29
OPEN: 17T,RA:0.58-MD:5.64

07 _ 70-100 SQM2 - 1+1 TYPE (07- BOMONTI APARTMENT TYPE 2 1+1 70.1 SQM2)

GENERAL PLAN

1.GROWTH-SEPARATED / INTEGRATED SPACES



1.SEPARATED:
E=6.3M2, BA=7.6 M2, L(+D)=25.5M2,B=13.7 M2, T=6.5 M2, K=10.5 M2, TOTAL=70.1M2
2.INTEGRATED SPACES:LIVINGROOM EXTENDED,KITCHEN EXTENDED
E=6.3M2, BA=7.6 M2, L(+D)int.=L(+D)+K=37M2, B=13.7 M2, T=6.5 M2, K int.=K+D=15.5 M2, TOTAL=86.6M2

% 24GROWTH

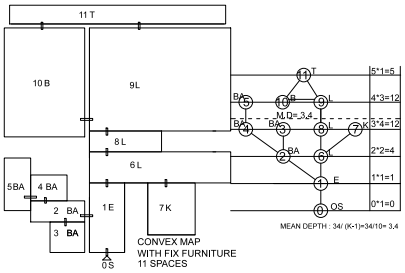
2. SYNTACTIC ANALYSES OF SPACE MAP

MD:
1.E:1.5
2.BA:2.33
3.L+D:1.33
4.B:2.0
5.T:2.0
6.K:2.16

RA:
1.E:0.20
2.BA:0.53
3.L+D:0.13
4.B:0.40
5.T:0.40
6.K:0.46
Mean Int:0.37

1. Rank order of RA:0.37
L+D=0.13<E=0.20<B=T=0.40<K=0.46<BA=0.53
2.Order of mean depth:2.8
L+D:1.33<E:1.5<B=T:2.0<BA:2.33<K:2.16
3.BDF: 0.68
4.SLR:1.33
5.S.NO:6

3.SYNTACTIC ANALYSIS CONVEXMAP WITH FIX FURNITURE



MD:
1.E:2.27
2.BA:2.63
3.BA:3.54
4.BA:3.36
5.BA:4.27
6.L:2.27
7.K:3.18
8.L:2.63
9.L:3.18
10.B:4.0
11.T:4.0

RA: 0.43
1.E:0.25
2.BA:0.32
3.BA:0.50
4.BA:0.47
5.BA:0.65
6.L:0.25
7.K:0.43
8.L:0.32
9.L:0.43
10.B:0.6
11.T:0.6

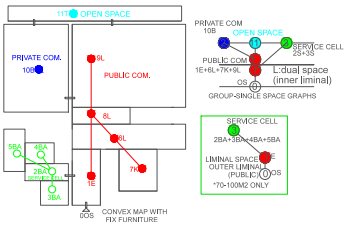
RA:0.43
MD:3.4
BDF:0.80 – S.NO:11

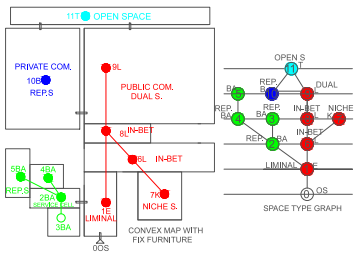
COMPARISONS OF SPACE MAP/CONVEX MAP WITH FURNITURE
RA: SPACEMAP=0.37< CONVEXMAP=0.43
MD:SPACEMAP=2.8<CONVEXMAP=3.4
BDF:SPACEMAP=0.68<CONVEX MAP=0.80

4.SPATIAL ORG.TYPE

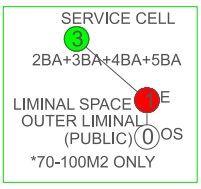
5 SPACES GROUPS-SPACE TYPES

SPACE GROUP





6.GENOTYPE



GENOTYPE-C (THRESHOLD:E+GUESTBATH)

PUBLIC COM: 1E+6L+7K+8L+9L
RA:0.33-MD:2.7
PRIVATE COM: 10B, RA:0.6-MD:4
SERVICE CELLS: 2BA+3BA+4B+5BA
RA:0.38-MD:2.76

LIMINAL: 1E, RA:0.25-MD:2.27
REPETITIVE: 2BA+3BA+4BA+5BA, RA:0.48-MD:3.45
INBETWEEN: 6L,8L, RA:0.28-MD:2.45
NICHE: 7K, RA:0.43-MD:3.18
DUAL: 9L, RA:0.43-MD:3.18
OPEN: 11T, RA:0.6-MD:4

08 _ 70-100 SQM2 - 1+1 TYPE (08_BOMONTI type7 1+1 82.3 SQM2)

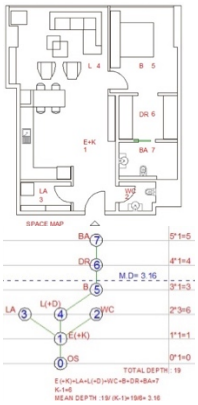
GENERAL PLAN

%35GROWTH

1.GROWTH-SEPARATED / INTEGRATED SPACES

1.SEPARATED SPACES:
E=4.8M2,
LA=3.7M2,WC=2.7M2,K=21M2,L(+D)=24M2,B=14.3M2,DR=6.6M2,BA=5.2M2,TOTAL=82.3 M2
2.INTEGRATED SPACES:LIVINGROOM INTEGRATED
E=4.8M2,
LA=3.7M2,WC=2.7M2,K=21M2,L(+D)int=45M2,B=14.3M2,DR=6.6M2,BA=5.2M2,TOTAL=105 M2

2. SYNTACTIC ANALYSES OF SPACE MAP

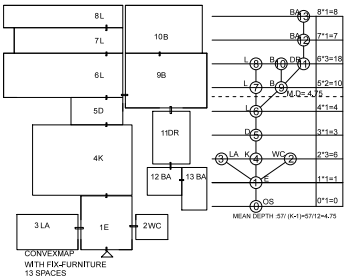


MD:
1.E(+K):1.85
2.WC:2.71
3.LA:2.71
4.L(+D):1.85
5.B:2.14
6.DR:2.71
7.BA:3.57

RA:
1.E(+K):0.28
2.WC:0.57
3.LA:0.57
4.L(+D):0.28
5.B:0.38
6.DR:0.57
7.BA:0.85
MEAN
INT:0.50

1. Rank order of RA:0.50
E(+K)=L(+D)=0.28<B=0.38<WC=LA=DR=0.57<BA=0.85
2.Order of mean depth:3.16
E(+K)=L(+D)=1.85<B=2.14<WC=LA=DR=2.71<BA=3.57,
3.BDF:0.77
4.SLR:1.14
5.S.NO:7

3.SYNTACTIC ANALYSIS CONVEXMAP WITH FIX FURNITURE

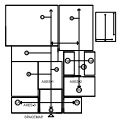


MD:
1.E:3.46
2.WC:4.38
3.LA:4.38
4.K:3.0
5.D:2.69
6.L:2.53
7.L:3.30
8.L:4.23
9.B:2.84
10.B:3.76
11.DR:3.46
12.BA:4.23
13.BA:5.15

RA: 0.43
1.E:0.41
2.WC:0.56
3.LA:0.56
4.K:0.33
5.D:0.28
6.L:0.25
7.L:0.38
8.L:0.53
9.B:0.30
10.B:0.46
11.DR:0.41
12.BA:0.53
13.BA:0.69

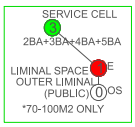
RA :0.43
MD:4.75
BDF:0.80 - S.NO:13
COMPARISONS OF SPACE MAP/CONVEX MAP WITH FURNITURE
RA:
CONVEXMAP=0.43<SPACEMAP=0.50
MD:
SPACEMAP=3.16<CONVEXMAP=4.75
BDF:
SPACEMAP=0.77<CONVEXMAP=0.80

4.SPATIAL ORG.TYPE



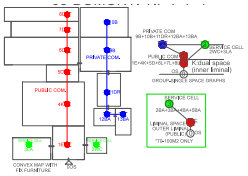
AXIAL TYPE

6.GENOTYPE



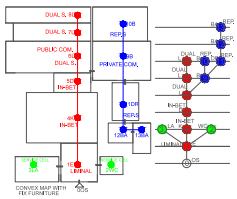
C

5. **SPACE GROUPS**



PUBLIC COM:
1E+4K+5D+6L+7L+8L
RA:0.36-MD:3.2
PRIVATE COM:
9B+10B+11DR+12BA+13BA
RA:0.47-MD:3.88
SERVICE CELLS: 2WC+3LA
RA:0.56-MD:4.38

SPACE TYPES:

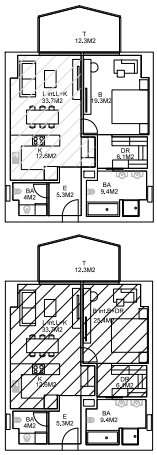


LIMINAL: -
REPETITIVE:
2WC+3BA+4BA+5DR+6B+7B,
RA:0.43-MD:3
INBETWEEN: 1E, RA:0.27-MD:2.5
NICHE: 8K, RA:0.43-MD:3.41
DUAL: 9L,10L,11L, RA:0.35-MD:3
OPEN: 12T, RA:0.42-MD:3.33

09_ 70-100 SQM2 - 1+1 TYPE (09_NEXT LEVEL B59 1+1 78 SQM2)

GENERAL PLAN

1.GROWTH- SEPARATED / INTEGRATED SPACES



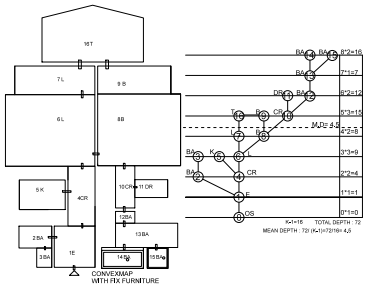
1.SEPARATED SPACES:
E=5.3M2,BA=4M2,K=12.6M2,L=21M2,B=19.3M2,DR=6.1M2,BA=9.4M2 TOTAL=78M2
2.INTEGRATED SPACES:LIVINGROOM INTEGRATED
E=5.3M2,BA=4M2,K=12.6M2,L.int=33.7M2,B=19.3M2,DR=6.1M2,BA=9.4M2 TOTAL=90.4M2

%23 GROWTH

2. SYNTACTIC ANALYSES OF SPACE MAP

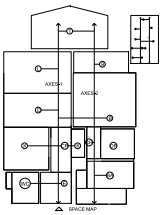
MD:	RA:0.47	**1. Rank order of RA:0.47**
1.E:2.5	1.E:0.42	L=0.28<K=0.32<B=0.35<E=T=0.42<DR=0.53<WC=0.67<BA=0.78
2.WC:3.37	2.WC:0.67	
3.K:2.12	3.K:0.32	**2.Order of MD:4**
4.L:2.0	4.L:0.28	L=2.0<K=2.12<B=2.25<E=T=2.5<DR=2.87<WC=3.37<BA=3.75
5.B:2.25	5.B:0.35	**3.**BDF:0.80
6.DR:2.87	6.DR:0.53	**4.**SLR:1.42
7.BA:3.75	7.BA:0.78	**5**.S.NO:8
8.T:2.5	8.T:0.42	

3.SYNTACTIC ANALYSIS CONVEXMAP WITH FIX FURNITURE

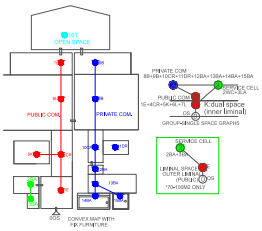


MD:	RA: 0.37	MEAN INTEGRATION VALUE:0.37
1.E:3.56	1.E:0.34	MEAN DEPTH:4.5
2.BA:4.37	2.BA:0.45	BDF:0.82 – S.NO:16
3.BA:5.31	3.BA:0.57	
4.CR:3.0	4.CR:0.26	
5.K:3.93	5.K:0.39	**COMPARISONS OF SPACE MAP/CONVEX MAP WITH FURNITURE**
6.L:2.68	6.L:0.22	
7.L:3.43	7.L:0.32	
8.B:2.68	8.B:0.22	**RA:**CONVEXMAP=0.37<SPACEMAP=0.47
9.B:3.43	9.B:0.32	
10.CR:3.0	10.CR:0.26	**MD:**SPACEMAP=CONVEXMAP=4.5
11.DR:3.93	11.DR:0.39	**BDF:**SPACEMAP=0.80<CONVEXMAP=0.82
12.BA:3.56	12.BA:0.34	
13.BA:4.25	13.BA:0.43	
14.BA:5.18	14.BA:0.55	
15.BA:5.18	15.BA:0.55	
16.T:3.81	16.T:0.37	

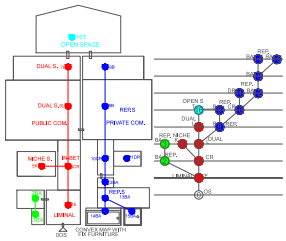
4.SPATIAL ORG.TYPE ***5.*** **SPACE GROUPS / SINGLE SPACES** **SPACE TYPES**



AXIAL TYPE

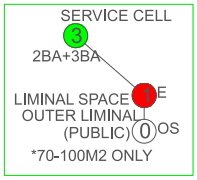


PUBLIC COM:
1E+4CR+5K+6L+7L
RA:0.3-MD:3.32
PRIVATE COM:
8B+9B+10CR+11DR+12BA+13B
A+14BA+15BA
RA:0.38-MD:3.9
SERVICE CELLS: 2WC+3LA,
RA:0.51-MD:4.84



LIMINAL: 1E, RA:0.34-MD:3.56
REPETITIVE:9B+10CR+11DR+12BA+13
BA+14BA+15BA , RA:0.4-MD:4.8
INBETWEEN: 4CR, RA:0.26-MD:3
NICHE: 5K, RA:0.39-MD:3.93
DUAL: 6L,7L, RA:0.27-MD:3
OPEN:16T, RA:0.37-MD:3.81

6.GENOTYPE

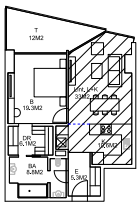


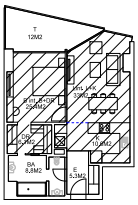
GENOTYPE-C

10 _ 70-100 SQM2 - 1+1 TYPE (10_NEXT LEVEL C52 1+1 72.4 SQM2)

GENERAL PLAN

1.GROWTH- SEPARATED / INTEGRATED SPACES

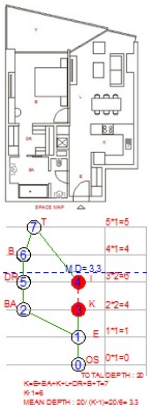




1.SEPARATED SPACES:
E=5.3M2,BA=8.8M2,K=10.6M2,L=22.3M2,B=19.3M2,DR=6.1M2
TOTAL=72.4M2
2.INTEGRATED SPACES:LIVINGROOM INTEGRATED
E=5.3M2,BA=8.8M2,K=10.6M2,Lint=33M2,B=19.3M2,DR=6.1M2
TOTAL=83.1M2

%16.8 GROWTH

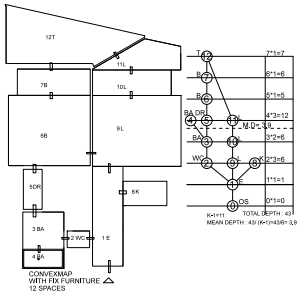
2. SYNTACTIC ANALYSIS ANALYSES OF SPACE MAP



MD:	RA:
1.E:1.85	1.E:0.28
2.BA:2.0	2.BA:0.33
3.K:2.0	3.K:0.33
4.L:2.14	4.L:0.38
5.DR:2.14	5.DR:0.38
6.B:2.28	6.B:0.42
7.T:2.28	7.T:0.42
	MEAN INT:0.36

1. Rank order of RA:0.36
E=0.28<K=BA=0.33<L=DR=0.38<B=T=0.42
2.Order of mean depth:3.3
E=1.85<K=BA=2.0<L=DR=2.14<B=T=2.28
3.BDF:0.96
4.SLR:1.28
5.S.NO:7

3.SYNTACTIC ANALYSIS CONVEXMAP WITH FIX FURNITURE

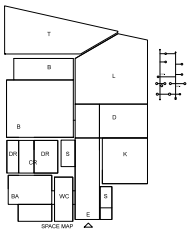


MD:	RA: 0.36
1.E:2.5	1.E:0.27
2.WC:2.58	2.WC:0.28
3.BA:2.66	3.BA:0.30
4.BA:3.58	4.BA:0.46
5.DR:2.91	5.DR:0.34
6.B:3.16	6.B:0.39
7.B:3.41	7.B:0.43
8.K:3.41	8.K:0.43
9.L:2.75	9.L:0.31
10.L:3.0	10.L:0.36
11.L:3.25	11.L:0.40
12.T:3.33	12.T:0.42

RA:0.36 - MD:3.9
BDF:0.94 – S.NO:12

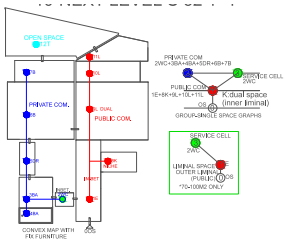
COMPARISONS OF SPACE MAP/CONVEX MAP WITH FIX FURNITURE
RA:SPACEMAP=0.36<CONVEX MAP=0.30
MD:CONVEXMAP=3.26<SPACE MAP=3.3
BDF:CONVEXMAP=0.94<SPACEMAP=0.96

4.SPATIAL ORG.TYPE



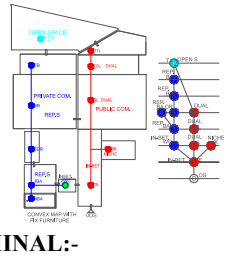
AXIAL TYPE

5. SPACE GROUPS



PUBLIC COM:
1E+8K+9L+10L+11L
RA:0.35-MD:2.98
PRIVATE COM:
2WC+3BA+4BA+5DR+6B+7B
RA.0.36-MD:3

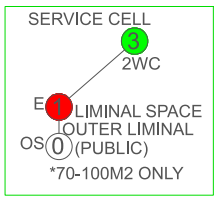
SPACE TYPES



LIMINAL:-
REPETITIVE:
2WC+3BA+4BA+5DR+6B+7B
RA:0.43-MD:3
INBETWEEN: 1E, RA:0.27-MD:2.5
NICHE: 8K RA:0.43-MD:3.41
DUAL: 9L,10L,11L, RA:0.35-

SERVICE CELLS: 2WC, RA:0.28-MD:2.58 MD:3
OPEN: 12T, RA:0.42-MD:3.33

6.GENOTYPE OF THE CASE



GENOTYPE-C

Appendix B: Architect Interviews

PROJE ADI-ŞEHİR	MİMARI	YAPI GÖRSELİ	ÇALIŞMA YAPILAN PROJE NO
STUDIO CITY SEYREK İZMİR	KADİR BEY		01

1. Konut mimarlığı veya tasarımında Küçük Konut nasıl bir farklılık yaratır?

-

2.Projenizin ; 'Studio-City' genel konsepti/ana fikri hakkında bilgi verir misiniz? Bu, projenizin hangi özelliklerinde görünür hale gelir?

K.D. : Bu proje dinamik hareketli bir tarzı olan, 600 birimlik bir 1+1 projesidir. Ana konsepti dinamizm ,7/24 yaşayan bir bina.

3.Marka ya da konsept projelerin sizce avantajı ve dezavantajları nelerdir ve marka/konseptin ön planda olduğu konut projeleri/uygulamalarıyla ilgili ne düşünüyorsunuz.

K.D. Studio-City projesi bir marka. Marka projelerin avantajları; güvenlik, konfor ve kalite oluşturmasını sağlar. Marka demek, projenin teslim edildikten sonraki devamlılığını da sağlamak anlamına geliyor. Bakım, onarımın sağlanması, 7/24 güvenlik olması gibi, insanlarda bir güven duygusu uyandırmaktadır marka kavramı. Marka projelerde insanlar kendilerini güvende ve konforlu hissederler. Mesela nerde oturuyorsun diye sorulduğunda , 'Studio-City ' gibi tek bir kelime ile ifade edebilme güveni ve konforu oluyor. Veya nerde oturuyorsun? Soyak'ta diyebiliyoruz, hangi semtte veya nerede olduğu çok önemli değil, Soyak demek yani marka adını vermek gerçekten yeterli, güvenli ve samimi oluyor.

4. Küçük konut tasarımında bu koncept nasıl sürdürülmüş ya da çeşitlenmiştir?

5. Projeye başlarken genelde konut tiplerini /alt tiplerini ve bunlara yönelik çözümleri geliştirirken M2'leri ve büyüklükleri saptarken; konut pazarı araştırması yaptınız mı? Hangi profildeki kullanıcılara yönelik olarak ne tür konutlara yöneldiniz? Yoksa yaptığınız tasarımlar mı kendi kullanıcı grubunu yaratmıştır.

K.D.: Konut pazarı araştırmasını , proje yerine yönelik mutlaka yapıyoruz. O bölgenin nasıl bir konut projesine ihtiyacı olduğunu, ileriye yönelik bölgenin kalkınma planı değerlendirilerek belli bir kullanıcı kitlesi saptaması yapılıyor.

Mesela Studio-City projesi Seyrek bölgesinde konumlanan bir konut projesi ve tasarım öncesi yapığımız Pazar araştırmasında öncelikle lokasyon olarak, Gediz Üniversitesine yakın oluşu, Organize Sanayi bölgesine yakın oluşu bakımından; çalışanlar, akademisyenler ve öğrencilerden oluşan bir kullanıcı profili çıkardık. Bu çalışanlar yalnız yaşayan ve yeni evli çiftler olarak kendini gösterdi. Çalışanlar haricinde yurtta kalmak istemeyen ve her gün İzmir'e gidip gelerek zaman kaybetmek istemeyen öğrenciler var tabii, bu da belli bir kullanıcı kitlesini oluşturdu. Tabii sıra dışı diyebileceğimiz örnekler de var; emekli çiftler gibi, onlarda hem bahçeli ve küçük olmasından bu konutları terci edebiliyor.

6.Küçük konutlarınızın tasarımında hedef kitlenizi ya da kullanıcı profilinizi nasıl tanımlar ve çeşitlendirirsiniz? (ait olduğu gelir/meslek ya da meslekler grubu; eğitim düzeyi, yaşam biçimi, hopileri vs.)

K.D.: Yurtta kalmak istemeyen ve İzmir 'e gidip gelmek istemeyen öğrenciler, İzmir'e atama ile gelen ve yalnız yaşayan memurlar, yeni evli çiftler, bekar doktorlar, emekli çiftler gibi çeşitli bir kullanıcı profili görülüyor.Genel olarak küçük konut kullanıcı profilini özellikle markalı projelerde belli bir orta ve orta üstü gelir sahibi, doktorlar, memurlar, yalnız yaşayan çalışanlar, mimarlar ve genelde üniversite mezunu kişiler ve öğrenciler tabii ki tercih ediyor. Aslında mesleki açıdan belli bir sınır yok, her çeşit meslekten orta ve orta üstü gelir sahibi genelde yalnız yaşayan veya yeni evli çiftlerin tercihi küçük konuttan yana.

7. Son yıllarda özellikle çok fazla görmeye başladığımız 1+1, 1+0, stüdyo tipi küçük konutların fazlalaşmasını ve yoğun talep görmesini neye bağlıyorsunuz. Bu tiplerin herbirinin kendi içlerinde alt tiplerinin üretilmesi sırasında, en yaygın olarak hangi tasarım kriterlerine (M2, mekânsal organizasyon, mekânsal donatı, malzeme ve teknoloji kullanımı vs.) bağlı olarak çeşitlendirilmesini uygun görürsünüz? Diğer bir deyişle Küçük konut tasarımında sizce öncelikli kriterler nelerdir?

K.D.: Genelde malzeme, teknoloji kullanımı ve mekânsal donatılar açısından yaptığımız küçük konutlar arasında bir fark yaratmıyoruz. Fark sadece m2'ler de ve mekânsal organizasyonlar ile farklı tiplerin

oluşmasını sağlıyor; bahçeli küçük konut, balkonlu küçük konut, balkonsuz veya küçük balkonlu küçük konut, bahçeli ve dublex küçük konut gibi kendi içinde çeşitlemeler olabiliyor. Bunların içinde en fazla ayrımı dublex küçük konutta görüyoruz tabii ki, galerili oluşu açısından, yatak katının tamamen zeminden ayrılarak bir üst kota alınması ve yine bahçe ile ilişkili olması açısından bu küçük konutlar ayrıca oldukça konforlu.

Bunların haricinde yaptığımız 600 1+1 konutun hepsi ortak teknoloji, malzeme seçimi, mekânsal donatı ve sosyal olanaklara sahip, 7/24 yaşayan konutlardır.

Tabi tüm bu anlattıklarım Studio-City projesi için geçerli. Küçük konut çeşitliliğini, kendi içinde ki farklılığını diğer projeler ile kıyaslayarak vermek gerekirse, mesela şuan Çeşme'de daha çok İstanbul'dan geleceklere yönelik olarak tasarlanan bir konut projemiz var ve burada 5+1 den 1+1 doğru azalan bir konut çeşitliliği mevcut. Burada ki fark tüm konutların salon, mutfak, banyo hacimlerinin aynı tutularak sadece oda sayısının artması veya azalması. Kullanıcı ben yeni evli bir çiftim bana yaşama mekanı haricinde tek bir oda yeterli dediğinde 1+1 i veriyoruz veya kullanıcı ben 3 çocuklu büyük bir aileyim dediğinde 5+1 veya 4+1 gibi seçenekleri sunuyoruz buradaki tek fark konutlarda ki oda sayısından ortaya çıkıyor. Hepsinde teraslar da aynı büyüklükte ve çok güzel bir manzaraya sahipler. Böyle bir projede küçük konut sahibi olmak çok avantajlı bence, çok ferah bir salon ve yaşama mekânı ile geniş bir terasa sahip küçük bir konut özellikle yeni evli çiftler ve yalnız yaşayanlar için oldukça ideal. Tabi bu projenin kullanım süresini yıl içinde 4-5 ay gibi düşünüyoruz, yani daha çok yaz tatili için İstanbul'dan gelecek kullanıcılara yönelik bir konsept proje.

8. Sizce günümüzde tasarlanan konutlarda iç mekân tasarımında varılan nokta ve bitmişlik ya da bazen aşırı tasarım denebilecek düzeydeki uygulamalar, detaylar ve malzeme kullanımları konut tipleri (yani büyüklükleri) arasında nasıl bir farklılık gösterir. Küçük konut tasarımı bu bakımdan diğerlerinden nasıl ayrılır.

K.D. : Konutun küçük ve minimal olması ister istemez sizi bazı çözümleri yapmaya zorlar. Ve bunu da dışarıdan gelen kullanıcıya yaptıramıyorsunuz. Örnek olarak, çamaşır makinesini de sen al gel diyemezsiniz çünkü hepsinin yeri ve ayrılan ölçüleri belli. Yani kompakt çözümler olduğu için her şeyin yeri belli ve her şeyi çözmüş olmanız gerekiyor. Yatak, komidin, tüm mobilyaları kendiniz yaşar gibi koyuyorsunuz. Büyük konutlarda bu bitmişliği çok fazla görmüyoruz çünkü içinde ki organizasyonu kullanıcı kendi yapabiliyor ama küçük konutta kullanıcının böyle bir şansı yok, kompakt bir ünite olarak bitmişlik olması gerekiyor.

9. Projelerinizde önerilen yaşam çevrelerinin biçimlenmesinde ve kalitesinde, teknolojinin veya teknolojideki yeni gelişmelerin yeri ve katkısı nedir?

K.D.: Altyapı çok önemli, internet her evde bulunmakta. Küçük konutta akıllı ev çok olması gereken bir durum değil ancak interneti mutlaka koyuyoruz. Isıtma –soğutma da kalorifer peteğini kullanmıyoruz yer açısından, büyük bir klima sistemi kullanıyoruz. Isı-pay ölçerler ile herkes kullandığı kadar ödüyor. Gri su sistemi var, lavabo ve duştan alınan su klozetlere veriliyor, ekolojik olarak.

10.Projenizde özellikle vaz geçmeyeceğiniz işlevsel ya da estetik esaslı mekân, mimari bileşen ya da detay ve malzeme düzeyinde çözümler var mıdır? Nelerdir?

K.D.: Hiçbir yerinden vazgeçemiyorsunuz, minimum mekanlar olduğu için her yer çok değerli. Tüm ev benim için vazgeçilmez.

11. İlham kaynaklarınız nelerdir? Sizce başarılı mevcut uygulamalardan nasıl esinlenirsiniz?

K.D.: Studio-City de olabildiğince hareketli olmasını istedik, stabil olmasın hareketli olsun dedik ve 7/24 yaşayan bir bina tasarladık.

12. Tasarladığınız konutların yerellikle ilişkisi var mı? Konut tasarımı ve uygulamalarında yerel olma konusunda ne düşünüyorsunuz?

K.D.: Yerel ile çok bir bağlantı hem malzeme hem yaşam tarzı açısından bir olamıyor. Tasarım olarak da yerele çok uydurmak istemiyoruz, yani standart bir konutla 3+1 gibi yan yana koyduğunuz da zaten farklı bir konut küçük konut. 7/24 yaşayan ve dinamik bir konut. Binanın kendisi çok dinamik ve hareketli.

13. Malzeme seçimiz nasıl oluyor?

K.D.: Cephede ahşabı seçmemizin nedeni doğayla iç içe olan bir tasarım ahşap daha sıcak oluyor. Cephe elemanları seçiminde özel ile geneli ayırmaya yönelik de çalışıyoruz.İç mekânlarda ki malzeme seçimi genellikle yer döşemelerinde ahşabı seçiyoruz çünkü daha sıcak bir malzeme. Küçük konut iç mekanlarında kullanılan malzemelerde optimal oluyor. Ne çok pahalı ne de çok ucuz.

Ayça arslan

PROJE ADI	MİMARI	YAPI GÖRSELİ	ÇALIŞMA YAPILAN PROJE NO
35.SOKAK KONUT PROJESİ ÇİĞLİ/İZMİR	YÜKSEK MİMAR AZİZ HAMDİ SÜMAN 13.08.2014		02

35.SOKAK KONUT PROJESİ – YATIRIM PROJELERİ DİZAYN KOORDİNATÖRÜ YÜKSEK MİMAR AZİZ HAMDİ SÜMAN İLE YAPILAN RÖPORTAJ

1.Projenizin ; '35. Sokak Konut Projesi' genel konsepti/ana fikri hakkında bilgi verir misiniz. Bu, projenizin hangi özelliklerinde görünür hale gelir?

Aziz Hamdi Sümen: Toplam 555 konut var. 'İpsos' firmasına araştırma yaptırılıyor ve genel tipoloji ve daire boyutları ve oda sayılarının dağılımları bu şekilde oluştu. 360-370 civarı büyük konut 3+1 ve 4+1, 50 küsür kadarı 1+1, 90 kadarı 2+1 idi. Ana lokomotif ürün de , projeye adını veren : 'Sokaklarda konumlanmış evler', 3+1 tipler oluyor. Türk konut tüketicisinin talepleri genelde 3+1 tip etrafında dönmekte. Ama 2+1 bizde çok iyi sonuç aldı ve ilk önce onlar bitti. Bunun nedenleri insanların bütçesine hitap etmesi alınabilir rakamlar olması. Özellikle yeni çiftler tercih ediyor.

Projenin ana lokomotifi yani asıl ürün '3+1 konut' , yani projenin ana üretim ünitesi 3+1 konut oluyor toplam 302 adet. Aslında projenin ana ürünü 302 adet sokaklarda konumlanmış 3+1 konutlar oluyor.

Türk konut tüketicisi genelde bu 3+1 etrafında dönmekte. Ama bizde 2+1 ve 1+1 de çok çok iyi sonuç aldı. Ve ilk önce onlar bitti, bir kere insanların bütçesine hitap ediyor, ekonomik. Kullanıcılar; yeni evli çiftler, single insanlar yaşlı hanımlar yaşlı beyler. 1+1'ler flat tek katlı bahçeli. 2+1'ler tipolojiden dolayı ters dublex yapısındalar yani yatak katından/kotundan girilip aşağıya salona/ yaşama katına ulaşılıyor.

2+1'lerin tersine 1+1'ler de iç mekan değiştirme ve yeniden düzenleme talebi çok fazla olmuş. Şimdi ikinci etap satışlarda 1+1'leri 2+1 e çeviriyorlar ve 3-5 yaşında çocuğu olan ailelerde fiyatları daha ekonomik olduğu için alıyorlar.

Bu projede ki 1+1 ve 2+1'ler farklı, standart stüdyo daireler gibi değil, gerçekten daire. Hepsinde mutfaklar kapalı mekânlarda, kapalı/duvarlı ama kapısız. Tanımlanmış bir mekanı var, paralel tezgahlı.3+1 ve 4+1'ler de aynı durum söz konusu, kapılı değil, projenin genel konseptinden. Ama güncel satışlarda 1+1'leri 2+1'lere çevirme isteği arzusu var çocuk odası yapıyorlar. Genelde İzmir'de sunulan küçük konutlar stüdyo daire gibi oluyor, ancak 35. Sokak ta öyle değil, 1+1 ev gibi, mutfağı kapalı oda içinde sadece kapısı yok, kendi mekânı var, kapalı ama kapılı değil. 3+1'lerde de kapılı değil, projenin genel konseptin de böyle mutfakların hiçbirinde kapı yok.

1+1'ler de bu revizyonu yapabilmek için, yani mutfakların oda haline dönüştürülebilmesi ve mutfağın salona taşınabilmesi için salon metrekarelerinin bun uygun olması lazım. Bizim 36-40 m2 arasında değişen salon boyutlarımız var, yani büyük salonlar var, bu da değişime olanak sağlıyor. 1+1'lerin genel boyutları 5.5-12 metre, 2+1'ler de 5.5m-9m boyutlarından oluşan iki kat. Proje hafif çelik bina olduğundan ve hafif çelik binalar geleneksel binalardan farklı olarak daha sonradan tadilat yapmaya çok müsait değiller. Dolayısıyla değişiklikler inşaat aşamasında yapılmalı. Bu duvarların taşıyıcı oluşundan kaynaklanan bir durum oluyor. Bu yüzden değişikliklere tasarım ve satış öncesi aşamalarda karar verilip sonlandırılarak, çelik projesinin ona göre düzenlenmesi ve hatta sahaya bu son hali ile gelmesi gerekiyor. Tabi insanlar çok önceden tercihlerini yapıp bize bildiriyorlar. Değişiklik ve tadilat durumları bu şekilde içeriye girdikten sonra, hafif çelik olmasından dolayı hiçbir değişiklik yapılmıyor.

Kullanıcı isteğine göre 1+1'ler 2+1'lere dönüştürülüp, küçük 2+1 flat konutlar haline getirilebiliyor. Çelik bir üretim olduğu için bu kararların konstrüksiyon aşamasında yapılması lazım, içeriye girildikten sonra istedikleri duvarları yıkmalarına izin verilmiyor, tadilat yapılamıyor.

Proje tamamen çelik, her şey İstanbul da fabrika da hazırlanıp geliyor. Ama bu proje geleneksel

bir çelik değil, sadece duvar elemanları prefabrik olarak İstanbul'dan geliyor. Buna hafif çelik ve/veya yapısal çelik deniliyor. Her çelik eleman fabrikada projeye uygun biçimde kodlanıyor ve sahaya o şekilde getiriliyor. Sonra sahada duvarlar birleştiriliyor ama geleneksel prefabrik gibi değil. Hiç bir yapı elemanı fabrikada hazırlanmış olarak gelmiyor sadece duvar elemanları prefabrik.

2.Marka ya da konsept projelerin sizce avantajı ve dezavantajları nelerdir ve marka/konseptin ön planda olduğu konut projeleri/uygulamalarıyla ilgili ne düşünüyorsunuz.

Aziz Hamdi Sümen: Avantajları var. Başta çok bir marka düşünmüyorduk ama ilerleyen süreçte 35. Sokak bir marka haline geldi. Aslında bu projenin lokasyonu çok uygun değil, menemen e yakın olması, ama bu algıyı marka unsuru kapattı. Satın alanların memnuniyeti, mimarın ödül alması, magazinlerde çıkmasıyla, insanların algısının artmasıyla bir marka haline gelmiş durumda. 35. Sokak bir marka oldu, satışları da hızlandırıyor, algıyı da arttırıyor. 5 yıl garantili konutlar oluyor, bakım onarım devam ediyor. Bizim de aklımızda bir markalaşma durumu söz konusu. Ege bölgesinde bir marka haline geldik gibi. Marka olunca lokasyondan çok ismi çarpıcı gelmeye başlıyor.

Tüm seramikler, mutfak dolapları, mantolama ..gibi tüm ürünlerde Kale markası ile çalışıyoruz. Konut içi kullanılan malzemelerde hepsi birer marka. Ankastre gruplarda Siemens, PVC doğramalarda Egepen, iç kapılar vestiyerler, parke Veryeri firması.

İnternet ve uydu sistemi hazır. Hem TTNET hem SUPERONLINE hemen bağlanılabiliyor, Digiturk vs. Hepsi kuruluyor, sonradan tek bir çizi bile çakılmaması açısından.

Ama akıllı bir ev sistemi yok.

3.Küçük konut tasarımında bu konsept nasıl sürdürülmüş ya da çeşitlenmiştir?

Aziz Hamdi Süman: Sokak konseptin ana çekirdeği. Bu projenin en önemli konsepti bir sokak üzerinde sıra evler oluşturmak, hem sokak hem sıra ev.8 mt.'lik sokaklar oluşturularak, insanlar günün belli saatlerini güneş olmadığı zaman sokakta geçirebilmeleri istenmiş, sokağa bakan mutfaklar özellikle küçük tutulmuş ki mutfaktan iç mekândan sokağa bir taşma olması öngörülmüş. Mutfakların sokağa açılan kapıları yok tabi ama giriş kapısı hemen mutfağın yanında olarak sokağa zaten açılıyor.

İzmir'in de kendine has bir sokak kültürü olduğu için bu konsept çok tuttu. İzmirlilerin sokakta vakit geçirmeyi sevmeleri ve bu kültüre alışkın olmaları projeyi oldukça başarılı kıldı, bir mimari proje-kültürel değerler birleşmesi oldu bir noktada.

Her evin önünde en az dört beş kişilik bir oturma düzeni olması, çocukların bisikletleri olması, yani sokak evin devamı gibi oldu ve çok tuttu. Büyük avlularda da ortak yaşam meselesi var, ortak avlular bir sosyalleşme alanları oldu, bir aileden 4-5 ailenin bir araya gelerek ortak partiler yapmaları gibi.

Sıra ev konseptin önemli bir bölümünü oluşturuyor. SIRA EVLİ SOKAK KONSEPTİ

Emsali imar durumu %60 olan bir arsa, burada geleneksel bir proje yapılsaydı dönecek yer kalmazdı, sıra ev yapınca proje kompaktlaştı ve peyzaja da çok fazla yer kaldı.

Modüler birleşimler yok, duvarların taşıyıcı özelliklerinin kaybolmaması açısından. Projenin ruhuna uygun değil, 3 katlı olarak yükselmesi o yüzden 1+1 zemin ve 2+1 üst dublex birleştirme isteklerine karşı geldik. Sistem tipolojilerde çok fazla değişiklik yapılmasına izin vermiyor, 6mt'lik akslardan oluşan bir genel kurgu var.

Yaşam alanları projede mümkün olduğu kadar büyük tutuldu, ama yatak odaları banyolar minimumda.

1+1 ve 2+1'ler sokak katında değil, eğimden kazanılan alt bölümlerden. 2+1 dublex-B (bodrum) akslar biraz farklılık yaratabiliyor.

Bu binanın prefabrik olduğu kendini gösteriyor. Mesela, DAÜ'deki Longson'da çelik bir yapı olmasına rağmen geleneksel bina izlenimi uyandırıyor.

3.Projeye başlarken genelde konut tiplerini /alt tiplerini ve bunlara yönelik çözümleri geliştirirken M2'leri ve büyüklükleri saptarken; konut pazarı araştırması yaptınız mı? Hangi profilde ki kullanıcılara yönelik olarak ne tür konutlara yöneldiniz? Yoksa yaptığınız tasarımlar mı kendi kullanıcı grubunu yaratmıştır.

Aziz Hamdi Sümen: Proje başında konut pazarı araştırması yaptırdık. İstanbul'dan İpsos firması burası için tipolojiye de ışık tutacak bir sorgulama yaptı. Genel sonuçlar ile satış sonuçları örtüşüyor.

4.Küçük konutlarınızın tasarımında hedef kitlenizi ya da kullanıcı profilinizi nasıl tanımlar ve çeşitlendirirsiniz? (ait olduğu gelir/meslek yada meslekler grubu; eğitim düzeyi, yaşam biçimi, hopileri vs.)

Aziz Hamdi Sümen: Baskın kullanıcı profili **'yeni evli + çekirdek aile'** ve **genç evliler** oluşturuyor.

2 çocuklu olanlar var, genel karakter burada genç evliler. Mesela örnek olarak bir şirketin yöneticisi buradan bir ev almış ve o şirketten birçok kişiyi de burada oturmaya ikna etmiş ve buraya çekmiş. Yani burada mahalle mahalle birbirini tanıyan insanların oluşturduğu kümeleşmeler var diyebiliriz.

Sonra bakıyoruz ki kendi içinde yatay ilişkiler oluştukça herkes birbiri ile ahbap olmuş, zaten proje konsepti **'SOKAK'** olarak bunu hedefliyordu.

Ama genç bir nüfus var burada, yeni evli çiftler köpekleri var, bahçelerin avantajına da kullanarak veya birer çocuklu çekirdek aileler olarak **genç bir nüfus hâkim**.

5. Son yıllarda özellikle çok fazla görmeye başladığımız 1+1, 1+0, stüdyo tipi küçük konutların fazlalaşmasını ve yoğun talep görmesini neye bağlıyorsunuz. Bu tiplerin herbirinin kendi içlerinde alt tiplerinin üretilmesi sırasında, en yaygın olarak hangi tasarım kriterlerine (M2, mekânsal organizasyon, mekânsal donatı, malzeme ve teknoloji kullanımı vs.) bağlı olarak çeşitlendirilmesini uygun görürsünüz? Diğer bir deyişle Küçük konut tasarımında sizce öncelikli kriterler nelerdir?

Aziz Hamdi Sümen: Proje bütününde 1+1'ler kendi içinde birçok fazla bir çeşitlilik göstermiyor, kullanıcı isteğiyle 2+1 e dönüştürülenler %10, bahçe 1+1'leri ve ara kat balkonlu 1+1'leri olarak, küçük konut kendi içine 3 tip oluşturuyor diyebiliriz.

Aslında tek tip 1+1 ve tek tip 2+1 imiz var. Sadece tek çocuklu çiftlerden gelen bir mutfak mekânlarını odaya çevirme talebi var, ancak orijinalin de konsept tipolojilerin tek tipleri mevcut. Sadece 1+1'lerden hepsi bahçeli fakat en ön blok flat şeklinde yani 1+1'lerin üstüne birer tane daha flat 1+1 yaptık toplam 12 adet oluyor.

2+1 de değişikliğimiz, dışa dönük yüzünde, aslında proje içe dönük bir proje kendi içinde çok büyük avlular var,2+1'lerde 24 tane dublex olmayan flat daireler var, bunlar sayıları çok az, bartır da kullanıldı, çabuk satıldı, kiralama yöntemine yönelik olarak yatırım yapıyor kullanıcılar. Yatırım amaçlı, bartır: mal karşılığı iş yapan firmalar, bu firmalar kiraya veriyorlar.

İzmir geneli için bir şey diyemiyorum ancak bizim bu projemizde yatırım amaçlı alanlar çok çok az, genellikle alıcılar kendileri oturuyorlar.

Öğrenciler çok fazla yok, 1+1'lerde genel olarak yeni evliler oturuyor. Aslında bu projede genel kullanıcı profili yeni evli, tek çocuklu aileler, yani çekirdek aile diyebileceğimiz kullanıcı profili bu projenin ana kullanıcı profilini oluşturmakta.

6.Sizce günümüzde tasarlanan konutlarda iç mekân tasarımında varılan nokta ve bitmişlik ya da bazen aşırı tasarım denebilecek düzeydeki uygulamalar, detaylar ve malzeme kullanımları konut tipleri (yani büyüklükleri) arasında nasıl bir farklılık gösterir. Küçük konut tasarımı bu bakımdan diğerlerinden nasıl ayrılır.

Aziz Hamdi Sümen: Aslında projenin genelinde yani sadece 1+1 ve 2+1'lere has bir şey değil; bizim teslim standartlarımız olarak, evleri tefriş etmeye hazır halde teslim ediyoruz insanlara, mobilya vermiyoruz, sadece girişte konumlanmış bir vestiyer dolabı, bitmiş bir mutfak ve banyo dolapları veriyoruz ve ankastre fırın, ocak ve davlumbaz veriyoruz. Buzdolabı, bulaşık makinesi, çay-kahve makinesi gibi elektronikleri vermiyoruz. Bizi iten İngilizlerin *'Breeam'* sertifikası yani 'very good' puanı oluyor. Projenin tefriş tasarımının çıkış noktası, 'Breeam' standartlarını yakalamak için oluşturuldu, bittikten sonra sertifika alacağız. Yani fosil yakıt kullanmıyoruz, doğalgaz yok sadece elektrik kullanımı var. Tamamen elektrikle ısınıyor, ocaklar elektrikli. Bu akıllı ev değil, onda daha başka bir otomasyon var. Sadece fosil yakıt kullanmıyoruz. Leed değil *'Breeam'* sertifikası. Dolayısıyla ocak ta elektrikli oluyor, dolayısıyla ocak ve davlumbaz projenin bir bütünü olmuş oluyor, beraberinde davlumbaz ve fırın da oluyor en azından insanları bir arayışa sokamamak için.

Evlerin tümünde döşeme, duvar , tavan kaplamaları ve tefriş üniteleri standart. Minimal tasarım tarzı.

(Konutların teslim tefrişleri Breeam standartlarına uygun olabilecek şekilde optimal olarak çözülmüş)

Yine döşeme duvar kaplamaları tüm tipolojilerde standart. Basit, minimalist tasarım çizgileri olan kapı tasarımlarımız var, duvar kâğıtlıdır evlerimiz ama boyanabilen duvar kâğıtlarıdır, beyaz boyalı olarak teslim ediyoruz. PVC doğramalar ve ısıcam Paşabahçenin bu bölge için ürettiği konfor cam, bu coğrafya için üretilmiş olan bir özel bir cam kullandık. Bir de 6 metre derinliğinde kullanıcılara kendi şahsi bahçelerini veriyoruz, genel peyzajlarını kendilerinin yapacakları.
Bir de bahçeli evlerde kendilerinin kontrol edebileceği, istedikleri şekilde peyzaj yapabilecekleri bahçelerini veriyoruz. Onun haricinde ki genel ve ortak peyzaj alanlarını, koru gibi site tasarlıyor ve bakımını üstleniyor. Bahçeleri kendi isteklerine göre kullanabiliyorlar.
Konutların aydınlatmalarını sağlamıyoruz, sadece basit armatürler, gömme spotlar gibi minimal aydınlatma elemanlarını koyuyoruz. Bu projeye klasik mobilyalar ağır mobilyalar kullanmak isteyenler gelmiyor. Minimalist, modern, az malzeme kullanarak çok fazla şey söylenmiş bir mimari ve buraya gelenlerin tarzı da bu doğrultuda oluyor.
'Yataya dönüştürülmüş bir apartman projesi, minimal tasarım çözümleri.'
Bu projenin adı sokak, İzmir'e de yakışması için 35 adını verdiğimiz bir sokak, hakikaten bir sokak, 2 kilometrelik bir sokak, başlangıç ve bitiş arasında 60-70 metrelik kot farkı ve yılan vari, kıvrımlı bir formu var. 8 metrelik bir sokak bu, hiç araba yok, sağlı sollu evler var, bunların eğimden dolayı bir kısmı giriş, bir kısmı bahçe oluyor. Eğimden kazançlar var. Bu 2 metrelik sokağın altında 18 metrelik bir baza var, bodrum olarak, ortada 8 m.lik araba geçiş ve 5 er metrelik sağlı sollu park yerleri ile, bodrum kat, projenin bazası olarak tamamen otopark yani bu yılan vari form aynı zamanda otopark oluyor. Dolayısıyla bu 2 kilometrelik sokağı, yaklaşık 130 bin dönüm, 3 noktadan otopark girişi var, evlerine yakın yerlere park edip asansörler vasıtası ile sokağa ulaşıp oradan evlerine gidiyorlar. Her 50 metrede bir asansörlü çıkış noktaları var. 2 katlı bir proje olmasına rağmen, 30'dan fazla dağıtılmış şekilde asansör var. Konutlar kendi içinde en fazla iki kattan oluşuyor, asansörler sadece otopark ile sokağı bağlıyor.
7.Projelerinizde önerilen yaşam çevrelerinin biçimlenmesinde ve kalitesinde, teknolojinin veya teknolojideki yeni gelişmelerin yeri ve katkısı nedir?
Aziz Hamdi Sümen : Proje de hem tasarım hem üretim hem konstrüksiyon aşamalarında teknoloji kullanımı var.
Tasarım aşamasında Revit programı kullanılmış, özellikle 3 boyutlu bir tasarım, planlama ve uygulama projesi oluşturulmuş.
Konstrüksiyon aşamasında ise; evler geleneksel bir bina değil, inşaat açısından kendisi teknolojik bir bina, 500 km. uzakta yapı elemanları üretiliyor, tırlar ile buraya gelir projesine göre vidalanıyor, sahada yerine konuluyor ve kendi içlerinde teknolojik elemanlar kullanılarak birleştiriliyor.
Konstrüksiyon aşamasını ıslak ve kuru olarak 2 kategoriye ayırıyoruz bu projede; betonarme bölümlerde, mantolamalarda ve seramiklerin yapıştırılması aşamalarında ıslak imalat, diğer tüm montajlarda kuru imalat yapılıyor. Dolayısıyla bina kendi başına aykırı bir teknoloji kullanımını içeriyor. Bizim bu yapı sistemimiz 60 derece sıcaklıkta da, don bölgelerinde de yapılabiliyor. Cnc tezgâhlarda kesiliyor bu yapı elemanları ve hepsinin birleşme yerleri, vida yerleri, montaj delikleri her şey hazır olarak geliyor ve insan inisiyatifi minimalize edilmiş oluyor. Eleman tecrübeli de olsa tecrübesiz de olsa, inisiyatif kullanmasına gerek kalmıyor, tüm parçaların yeri belli olduğu için başka bir yere bir vida çakamıyor veya takamıyor. Mecburen neyse onu kuruyor, bu bir poligon, yanlış bir yere bir vida sokulsa bile bu poligon kapanmıyor ve dolayısıyla hata payı neredeyse sıfıra iniyor gibi.
(Konstrüksiyon aşaması için bir 'object center design' diyebiliriz-CHAPTER 5)
Bu projede kaba yapı yaptığımız kısım 'çelik' olarak bir teknoloji zaten. Bir fabrikada üretiliyor, CNC tezgâhlarda kesiliyor ve elektrik kabloları için her yapıya yerine uygun deckler bırakıyoruz. Belli kotlarda delikler bırakılıyor, sonradan birisi tekrardan gelip matkapla uğraşmayacak şekilde. Bu tip yapı sistemine uygun olması için halojen, yanmaz tip kablolar kullanılıyor.
Bu projede çelik çok fazla kullanılıyor, betonarmeye ve geleneksel yapım tekniklerine göre her ne kadar daha pahalı gibi görünse de çok çabuk yapıyorsunuz, bu hız faktörü ekonomiyi sağlıyor. Yağmurda, karda konstrüksiyon devam eder, 2-3 katlı bir evi çeliği 1 günde bitebilir.
KONUTLARIN ISINIP-SOĞUTULMASI: ELEKTRİKLİ TEKNOLOJİK SİSTEM
Bu proje elektrik ile ısınıp soğuduğu için, ısı pompası denen bir sistem kullanılıyor. Bildiğiniz bir klima gibi bir fan-coil , evin içinde bir küçük odası ve çatıda da yeri oluyor, hava kaynaklı ısı

pompası kullanılarak ısı transferi ile havadan suya ısı transfer eden bir sistem. Bu pompa 3/2 sini havadan , 3/1 ini elektrikten sağlıyor, ısıtma soğutma bu sistemle sağlanıyor, klima gibi , soğutma üfleyerek ama ısıtmayı yerden de yapabiliyorsunuz ama böyle bir küçük mekanlarda gerek kalmıyor. Bir ev için 15 bin ytl gideri var, ama elektirkli bir sistem olduğu için önemli. Japon toschiba, daikan gibi..
BREEAM sürdürülebilir bir sistem, breeam in bir takım listesi var bunu sağladığınız takdirde puan topluyorsunuz, good, extra good, gibi. Proje başlangıcında görüşülüyor sonra proje bitiminde check yapılarak puanlama yapılıyor. Bu projede çelik dönüşebilir bir malzeme olarak artı bir puan oluyor, sürdürülebilir mimari olarak, fosil yakıt kullanmamakla mesela, projenin 60 dönümlük bölümü peyzaja yani yeşil alana ayrılmış durumda ve burada ki peyzajı su harcamadan yaşatma konusunda bir puan aldık. Az sulanacak bahçe tasarımları önerdik. Breeam sertifikalı bir ev almakta cazip ve çekici oluyor. En önemlisi fosil yakıt kullanmıyoruz. Yani Breeam'in teknoloji kullanımından başka kaygıları var. Yeşil, sürdürülebilir ve dönüşebilir olması önemli unsurlar. Kâğıt, ambalaj atıkları bile programlanıyor.

8.Projenizde özellikle vaz geçmeyeceğiniz işlevsel ya da estetik esaslı mekân, mimari bileşen ya da detay ve malzeme düzeyinde çözümler var mıdır? Nelerdir?

Aziz Hamdi Sümen : Sokak, sokağa taşan bir kapama yapılmak istenilirse proje kahrolur. Sokak konsepti bozulmamalı. Ancak cam bölümler ilave edilebilir. 3+1 tiplerde ki merdiven ve boşluğu önemli bir detay ve rijidler.

9.İlham kaynaklarınız nelerdir? Sizce başarılı mevcut uygulamalardan nasıl esinlenirsiniz?

Yok

10.Tasarladığınız konutların yerellikle ilişkisi var mı? Konut tasarımı ve uygulamalarında yerel olma konusunda ne düşünüyorsunuz?

Aziz Hamdi Sümen: Yerel malzeme kullanımı yok, yerel insan/işgücü kullanımı var. Zaten çok az malzeme kullanılan bir malzeme: sıva, çelik, cam o kadar, sokakta da dere çakılı var, teras çatılı bir proje.

Teşekkürler,

Ayça Arslan

PROJE ADI	MİMARI	YAPI GÖRSELİ	ÇALIŞMA YAPILAN PROJE NO
MY VIA 414 KONUT PROJESİ BORNOVA/İZMİR	SEMİHA GÜNEŞ EPİG MİMARLIK 02.09.2014		03

1. Konut mimarlığı veya tasarımında Küçük Konut nasıl bir farklılık yaratır?

Küçük konut bence toplumun gerekliliğinden kaynaklanan bir durum. Eskiden daha geniş aileler daha büyük evlerde oturuyordu. Şimdi gençler, yeni evliler hem ekonomik zorluklar nedeniyle hem de yalnız yaşamak için stüdyo dairelere yöneldiler. Ama bunun yeri ve konumu önemli. Bu tip konutları seçen insanlar genelde hastane veya üniversite yakınındaki bölgelerde daha çok yapılabiliyor. Ama işte genelde ailelerin olduğu sadece konutun olduğu, iş imkanlarının olmadığı bölgelerde tercih edilmiyor, en azından ben projelerimde bunu önermiyorum. Ama hastane yakınlarında ise özellikle doktor asistanlar, gençler, öğrenciler gelip bu daireleri kiralıyor. Mesela Ege üniversitesi ve çevresinde böyle, küçük konuta yönelik bir talep oluştu aynı şekilde Şifa Hastanesi ,Yaşar Üniversitesi çevresinde de bu talep var, dolayısıyla bu bölgelerde veya Bornova'nın çıkışında talep artmış durumda. Buralarda konut fiyatları yüksek, büyük konutları ekonomik açıdan zaten alamıyorlar birinci neden bu, ikinci neden de küçük konutlarda bir rezidans hizmeti oluyor. Bu da bir artı değer olarak karşımıza çıkıyor.

MYVIA-414 projesinde konutların her noktasında, küçük konutlar ama,1 veya 2 kişi yaşayabilir diye düşünüyoruz, orada yaşayacak kişilerin her türlü ihtiyacını karşılayacak teknolojiyi ve dolap çözümlerini getirdik, depolama ihtiyaçlarına çözüm getirdik bunun dışında ortak alan yarattık. Sadece evde kalmayacaklar, evin dışında ortak salonlar var bir davet veya toplantı yapmak isterlerse, onlara yönelik hacimleri var.

2.Projenizin genel konsepti/ana fikri hakkında bilgi verir misiniz. Bu, projenizin hangi özelliklerinde görünür hale gelir?

Burada otel hizmeti verilecek şekilde yapıldı. Evin içinde çok alanlar harcanmadı, ama kullanışlı mekânlar çıkmasına önem gösterdik. Rahat ve ferah, küçük olmasına rağmen büyük camlar kullandık, önünde teraslar kullandık, uzun koridorlar çıkmasın diye kat hollerinde kat bahçeleri yarattık. İşte öğrencilerin çalışması için ayrı mekânlar yarattık dolayısıyla bir sokak, bir semt gibi baktık olaya, açık bir meydan, o meydanın etrafında meydanı bağlayan bir cadde, o caddenin ve sokağın üzerinde günlük ihtiyaçlarını karşılayacağı, yeme içme ihtiyaçlarını karşılayacağı bir ticaret kompleksi, onun üzerinde de konutları yerleştirdik. Eğlence de koyarak aynı şekilde, sinema odaları, yüzme havuzu, fitness salonu bunun gibi bir takım sosyal aktiviteler, onun dışında gelen misafirlerini yatırabilmesi için kompleksin içersin de 3 tane misafir odası var,Vyöneticinden belli küçük bir bedel karşılığında kiralayarak misafirini ağırlayabilecek. Veya salonuna sığamayacağı kadar toplu bir davet vermek istiyorsa ona yönelik salonlar yaptık orada oturabilecekler. Dolayısıyla evin içinden çok dışarda bir arada olacağı sosyalleşeceği alanlar yarattık, öğrenciler için ders çalışma alanları yarattık, kafeteryalar ile besledik, orasını bir semt gibi düşündük.

Günümüzde insanlar artık çok sosyalleşemiyor, TV ve bilgisayardan sonra eskisi gibi komşuluk ilişkileri de kalmadı, onu yeniden canlandırmak ama evin içine hapsetmemek. Tabi kullanışlı mekânlar da yaratmak, mutfakta her türlü ihtiyaçları var, karşılıyor, bunun içinde daha minimalist yaklaşıp günün koşullarını karşılayan aletler koymayı düşünüyoruz. Dolap depolama alanlarını bol tutacak mobilyalar. Her noktada mesela betonarmenin elverdiği ya da kiriş kolon bağlantısının olduğu yerdeki küçük bir boşluk bile bizim için bir dolap ve depolama alanı, onu dekorasyonla hallettik.

Ve bence güzel, yaşanabilir, işte yeşil alanı çok olan, terasları çok olan, ferah ve birbiriyle yan yana olmasına rağmen aradaki mesafe 60-70 metreler olduğu için, ve ortada yaşanabilir bir meydan, canlı bir meydan yarattığımız için, göz açısı , bir manzara yarattık. Çevre de bir manzara yok, bir deniz veya dağ manzarası yok, dolayısıyla projenin kendi içinde bir manzara yarattık. Ve bence başarılı da olduğunu düşünüyorum. Açık renkler kullandık, ferahlığı ön planda tuttuk. Konfor ve ferahlık.

Alttaki alışverişi merkezi gibi değil, kapalı da değil, daha çok önünde bahçesi olan yeme içme mekânlarının olacağı, gençlere yönelik günlük giyim ihtiyaçlarını karşılayacağı mağazalar koyduk. İşte kuru temizleyicisi var, kuaförü var, bankası var bir kırtasiye, kitapçı var, bütün bunlar günlük ihtiyaçları karşılayacak, akşam eve gelindiğinde nereye gidiyim, ne yapayım diye düşünmeyeceği bir yaşam tarzı sunuyoruz aslında.

Yüzme, spor, veya sinema, küçük bir sinema salonu ile yaşamı renklendirmek. Aslında mimarların işi bu, konforlu mekânlar yaratmak, alanları iyi kullanmak, sadece ticari kaygılarla kötü binalar yapmak yerine , estetik kendi bir tutarlılığı olan hem görseliyle hem de iç mekanıyla bunu yapmak.

3.Marka ya da konsept projelerin sizce avantajı ve dezavantajları nelerdir ve marka/konseptin ön

planda olduğu konut projeleri/uygulamalarıyla ilgili ne düşünüyorsunuz.

MY-VIA 414 bence bir marka. Daha önce bir marka yaratılmış My-via markasının bir üst versiyonu diye düşünüyorum, öncesinde de birçok projeleri var, bu bir üst versiyon.Yani diğerleri sadece konut ve altındaki dükkanlardan oluşan bir konseptken, bunu günlük yaşama getirdiği farklılıklarla da , işte aşağıda ki yaşamlarında iyi kullanılmasıyla ilgili, mesela her dairenin kapalı otoparkları var, bunu zeminde o yeşil alanlar ile, havuz ve su oyunlarıyla da renklendirdiğimizi düşünüyorum. Onun için My-via'nın bir üst versiyonu ve bir marka tabii ki.

Marka olmasının bence faydası var. Bir defa alıcı o markaya güveniyor. Eğer markalaşmışsa zaten bir güven oluşur. O konutların düzgün bir şekilde biteceği daha sonrası kullanımda da aynı şekilde bakımın devam edeceği, mimarisinin bozulmayacağına güveniyor, bu önemli bir nokta oluyor. Yani satış sonrası hizmet. Şirketlerde buna daha profesyonel bakmaya başlıyorlar. Bir konutu bitirdim, oradan ayrıldım artık ne olursa olsun dememeye başlıyor. Markalaşmış şirketler satış sonrası hizmet sunuyorlar ve projelerin bozulmaması, işte birisinin gelip balkonu kapatıp o cepheyi bozmaması yada konutun rengini değiştirmemesi, yada balkonlarında çöp kovası, depolama karton kutularının bulunmasına engel oluyorlar. Bu da o projenin kalitesini yükseltiyor ve 2. eli de yükseltiyor, alan insan daha karlı bir şekilde satabiliyor, avantajlı oluyor.

4.Küçük konut tasarımında bu konsept nasıl sürdürülmüş ya da çeşitlenmiştir?

5.Projeye başlarken genelde konut tiplerini /alt tiplerini ve bunlara yönelik çözümleri geliştirirken M2'leri ve büyüklükleri saptarken; konut pazarı araştırması yaptınız mı? Hangi profilde ki kullanıcılara yönelik olarak ne tür konutlara yöneldiniz? Yoksa yaptığınız tasarımlar mı kendi kullanıcı grubunu yaratmıştır.

Konut pazarı araştırması yapıyoruz tabi ki. İlk defa önce bir yere gidip, yeri ve çevresini araştırıyoruz, çevrede neler var , bu projenin çekim noktası olması, hangi gruba hitap edeceği zaten oradaki oluşumdan belli oluyor, ilk önce onu tespit ediyorsunuz. Bunun dışında bir araştırma şirketiyle bölge araştırması yaptırıldı ama biz yine de uzman ekip olarak gidip, bakıp diğer projeleri görüp, orada ki durumu tespit ettik, orada ne ihtiyaç var, ve sonuçta My-via projesinden önce genelde daha büyük konutlar vardı, biz olmayanı sunduk. O gereksinim neyse onu tespit etmek biraz biz mimarların işi olduğu kadar yatırımcı ve araştırma şirketleri de devreye giriyor artık, birlikte karar verdik sonunda. Proje konsepti baştan öyle hazırlandı ve biz burada ne yapak istiyoruz bir değişiklik getirelim ki öne çıkalım fikri var. İkincisi arsanın formu, güneş, manzara yol bağlantıları bunlarda etkili oluyor tabi tasarımda. Hepsini birden harmanlayınca sonuç ortaya çıkıyor, o yüzden de baştan tasarlanan projede şimdi hiçbir değişiklik yok.

Konut büyüklükleri konusunda aslında yatırımcının My-via grubunun daha önceki deneyimlerinden edindiği büyüklükler var, kendilerinin istediği büyüklükler, onu kullandık.

6.Küçük konutlarınızın tasarımında hedef kitlenizi ya da kullanıcı profilinizi nasıl tanımlar ve çeşitlendirirsiniz? (ait olduğu gelir/meslek ya da meslekler grubu; eğitim düzeyi, yaşam biçimi, hobileri vs.)

Bence orta sınıf ve üst düzey, daha çok genç nüfuz ve yaşlı nüfuz bir kullanıcı kitlesi var, orta yaş grubu çok yok, üniversite öğrencisi olabiliyor ya da üniversiteyi bitirmiş yeni çalışmaya başlamış ve kendi hayatını kurmak isteyenler bir de büyük eve hakim olamayıp daha çok insanlarla bir arada olmak isteyen yaşlı nüfus. Gelir düzeyi olarak üst gelir düzeyi, ikincisi eğitimli kesim, yüksek tahsilli kesim alıyor.

7.Son yıllarda özellikle çok fazla görmeye başladığımız 1+1, 1+0 ,stüdyo tipi küçük konutların fazlalaşmasını ve yoğun talep görmesini neye bağlıyorsunuz. Bu tiplerin herbirinin kendi içlerinde alt tiplerinin üretilmesi sırasında, en yaygın olarak hangi tasarım kriterlerine (M2, mekansal organizasyon, mekansal donatı, malzeme ve teknoloji kullanımı vs.) bağlı olarak çeşitlendirilmesini uygun görürsünüz? Diğer bir deyişle Küçük konut tasarımında sizce öncelikli kriterler nelerdir?

Birincisi yoktu, piyasa açığını doldurdu, ikincisi lüks semtlerde daire fiyatları çok yüksek, alamayanlar, daha sonra belki büyük daireye geçerim düşüncesiyle o semtte oturmak istediği için, bir de 1+1 ler sadece konut hizmeti vermiyor , bu da insanların hoşuna gidiyor diye düşünüyorum.

(1+1 LERİN KENDİ İÇİNDEKİ ÇEŞİTLİLİĞİ : 1+1 ve 1+0 TİPLERİN 2+1 LERİ ÜRETMESİ : AİLE BİREYLERİNİN FARKLI TİPLERE DAĞILMASI)

Küçük konut tasarımında bir defa arsanın eni, boyu , pozisyonu, yönleri önemli, bir mimari projeye başlarken hepsini göz önüne alıyoruz. Sonra 1+1 ise yanına 1+0 bir konut gelirse ikisini birden alabilecek kişiler oluyor. Ya da bir aile oturacaksa kullanıcı yanında annesi için veya çocuğu için böyle bir konut alabiliyor. Genelde bu projeleri modüler sistem ile yapıyoruz, projeyi üretirken büyüyebilen, küçülebilen veya birleştirildiğinde de yaşanabilir mekânlar çıkabilen konutlar olmasına dikkat ediyoruz. O zaman da 1+1 varsa yanında 1+0 koyduğunuzda birleştiğinde 2+1 daire elde edebiliyorsunuz. Ya da iki tane 1+1, 3+1 ediyor. Buna tabi ki konstrüksiyon uygun olmuş oluyor.

Hem mimarisi hem tatbikat yapısı hem de betonarmesi buna uygun olmuş oluyor, tasarımda buna dikkat ediyoruz. Çünkü bu tip alıcılar çok çıkıyor.
Cepheler ile oynuyoruz tabi, projeyi düşünürken cephe ile hepsi bir bütün olması gerekiyot. Konutların küçük olması, zor projeler olmasını getiriyor. Çünkü bu sefer mekânların kullanışlı olması, yaşanabilir mekânların olması, mobilyaların oraya sığar pozisyonda olması, bunlarda bizim alanları çok düzgün kullanmamızı ve çok dikkat etmemizi gerektiriyor. Büyük bir projede 1m2'nin, yarım m2, hatta 5 m2'nin belki çok büyük bir önemi yok ama bunlarda çok önemli.

8.Sizce günümüzde tasarlanan konutlarda iç mekân tasarımında varılan nokta ve bitmişlik ya da bazen aşırı tasarım denebilecek düzeydeki uygulamalar, detaylar ve malzeme kullanımları konut tipleri (yani büyüklükleri) arasında nasıl bir farklılık gösterir. Küçük konut tasarımı bu bakımdan diğerlerinden nasıl ayrılır.

Tabi kesinlikle fark var, 3+1 ve 4+1'lerde siz alanı çok daha rahat kullanabilirsiniz, bir takım dekorasyon öğeleri için yer kaybedebilirsiniz veya işte tavan hareketleri yer hareketleri, onlarda çok daha farklı kriterle bakabiliriz, çünkü büyük mekânlardır ve yer vardır ve malzemede de çeşitlilik sağlayabilirsiniz.
Ama ben 1+1'lerde çok çeşitli malzeme kullanılmasında, daha açık renk daha bütün, mekânı ferah, geniş ve yüksek gösteren öğeler seçiyorum. Ve dediğim gibi bir tv ünitesi ise o başka amaçlara da hizmet ediyor, sadece tv ünitesi olmuyor. Veya bir elektrik dolabının altı ayakkabı dolabı olabiliyor, öyle bir girintiniz varsa, banyoda ki dolabı banyoyu hiç bozmayacak bir noktaya koymanız gerekiyor, yani görsel olarak bizi rahatsız etmeyecek, mekânı da daraltmayacak ama bütün ihtiyaçları da karşılayacak. Burada ki tasarım kriteri budur aslında.
Ama daha büyük konutlarda zevke göre değişen bir çok kriter kullanabiliyoruz. Hem minimal, hem işlemeli, gözü yoracak, koyu renkler, işte kabartmalar desenler bunlardan kaçınıyoruz.

9.Projelerinizde önerilen yaşam çevrelerinin biçimlenmesinde ve kalitesinde, teknolojinin veya teknolojideki yeni gelişmelerin yeri ve katkısı nedir?

Dizayn ofiste bir defa proje sırasında bütün teknolojik aletlerin altyapısının hazırlanması gerekiyor. Ve mutfak dolabı ve banyo dolaplarında bunların yerlerinin belli olması gerekiyor yani onlar ortada olmamalı, çünkü mutfak ve salon bir arada ve bir yerde olanların bir şıklık sergilemesi gerekir, orada ki insanların yaşamları için, klima ısıtma-soğutmanın halledilmesi gerekiyor, akıllı ev sistemi var.Tüm bu düzenlemeler, ilk bina ve iç mekân yapılırken baştan yapılıp tamamlanır, bu hem yüklenicinin işini kolaylaştırıyor hem de projeyi bozmuyor. Daha sağlıklı ve güzel oluyor.

10.Projenizde özellikle vaz geçmeyeceğiniz işlevsel ya da estetik esaslı mekan, mimari bileşen ya da detay ve malzeme düzeyinde çözümler var mıdır? Nelerdir?

1) asma tavan, 2) mutfak çözümleri, 3) beyaz renk kullanımı
Asma tavandan vazgeçemeyeceğim herhalde, çünkü oradan kiriş geçmesini veya tavanın basık olmasını, veya gözü yoran büyük malzemelerin kullanılmasını istemem, düz olmasını isterim.
Loft tarzı şeylerde yapılıyor küçük konutlarda, ama 1+0 da en küçük konutta istemem daha ferah olmasını isterim, daha büyük konutta düşünürüm onu.
İkincisi mutfak çözümlerinde, mutfak masası ile yemek masasının birleşim detaylarının çok iyi halledilmesini isterim ki oturmaya da yer kalsın ve güzel bir yemek masası da elde edelim. Ama o yemek masası başka amaçla da kullanılabilsin. Multi-use kriterler. Hem işlev olacak hem de şık olacak.Bir de beyaz renkten vazgeçmem.

11. İlham kaynaklarınız nelerdir? Sizce başarılı mevcut uygulamalardan nasıl esinlenirsiniz?

Mutlaka hepimiz birbirimizden etkileniyoruz asında, gördüğümüz yaşadığımız yaptığımız ya da başkalarının yaptığı, projelerin iyi ya da kötü taraflarından mutlaka etkileniyoruz ama ben daha çok neden etkileniyorum dersem, hepsinin bir bütünü , ama ben daha çok orada olmayanı yapmak isterim, yani o çevrede ne yoksa onu yapmak isterim. Projeye başladığımızda çevredeki binaları incelediğimizde hep, dikdörtgen ve katlı binalar gördük, hiç teraslama yoktu, iç bahçeler yoktu, onu getirelim dedik. Yoksa 1+1 , modül modül yan yana dizdiğinizde bütün projeler birbirine benziyor. O zaman bir farklılık getireceksiniz, bizim farkımız; zemindeki kullanımlarımız, 1.kattaki bahçelerimiz ve katlardaki teraslarımız diye düşünüyorum mutlaka bir esinlenme varsa da teras yüzyıllardır şey, sizin onu projede farklı sunmanızla, proje değişiyor, birebir aynısını koyduğunuzda taklit oluyor. Ama projede yorumladığımızda hepimiz bir şeylerden etkileniyoruz. Yurtdışında yapılanlardan da, tarihi binalardan da hepsinden etkileniyoruz.

12.Tasarladığınız konutların yerellikle ilişkisi var mı? Konut tasarımı ve uygulamalarında yerel olma konusunda ne düşünüyorsunuz?

Yerellikle bu projenin ilgisi çok yok aslında yeni bir yaşam biçimi sunması önplanda, çünkü Bornova'nın belli bir yapısı vardır, işte eski bahçeli evler daha sonra apartman konutları olan bir bölge, farklı bir yaşam sunuyor aslında. Ama yeşil, eski yeşili buraya dahil etmek belki odur. Kat hollerinde, kat teraslarında, bahçemizde yeşili kullanıyoruz, sokak olması yerellik o.

13.PROJEYE ÖZEL DETAYLAR (mimardan)

Küçük konutta donanımlar ve detaylar genelde mobilya çözümlerinde ve dekorasyonda sağlanabiliyor. 1+0 da yatağın açık olmasını istemiyoruz, dolap görüntüsü veriyoruz yatak onun içerisine gizleniyor, açıldığında yanında hazır kitaplığı oluyor, kitaplığın içerisine yerleşiyor mesela. İşte bir çalışma masası varsa onu çekerek daha büyük yemek masası haline getirebiliyoruz. İkinci bir yatak ihtiyacı varsa aşağıdan çekilen bir yatakla onu sağlıyoruz. Veya koltuklarımız, şık bir koltuğun siz yatak olduğunu fark etmiyorsunuz ama açıldığında, bu klasik bir koltuk modunda değil daha modern tasarım şeklinde, bunları hazırlamaya çalışıyoruz. Kat hollerinde 5-6 daireden sonra bir boşluk var, onlar iki kat yüksekliğinde galeriler şeklinde, oralara oturma alanları yaratıyoruz, işte o kattaki insanların gelip orada oturup aşağıdaki hareketi görmeleri, birbirleriyle bir kahve içmeleri, küçük kahve makineleri koyuyoruz, sosyalleşme sağlanabiliyor. Mobilyalarda öyle, bir küçük dolap birçok şeye hizmet ediyor.

Ayça arslan

PROJE ADI	MİMARI	YAPI GÖRSELİ	ÇALIŞMA YAPILAN PROJE NO
FOLKART TOWERS BAYRAKLI/İZMİR	MEHMET YAĞCIOĞLU10.01. 2015 /İzmir		04

1. Konut mimarlığı veya tasarımında Küçük Konut nasıl bir farklılık yaratır?

Bunca zamandır proje çizen bir mimar olarak ve grubu temsilen söylüyorum ki;

Şuana kadar ciddi anlamda bir metrekare israfı vardı. Yani şu ana kadar üretilen konutların ve evlerin hepsinde ciddi bir metrekare israfı oluyordu. Türkiye'de kimilerine göre ekonomik anlamda bir ilerleme kimilerine göre gelir dağılımında ki farklılıklar olsun düne kadar konut alabilmek için çok büyük bedeller ödenmesi gerekiyordu. Açıkçası küçük konutta insanın temel ihtiyaçlarını baz alarak, minimize ederek ve optimum çözümlerle, insanların mülk sahibi olacakları barınma ihtiyacını karşılar hale geliyor ama şu an yapılan konutların büyük bir çoğunluğu özellikle 1+1 ler,1+0 lar da özellikle hedef kitle genelde yatırımcılar oldu. Kullanıcılara da tabi verilmekle beraber şehir dışından yatırımcılara yönelik. Mesela gözde Onton grubunun yaptığı 'bahçe' diye bir proje vardı o da aynı. Tabi son kullanıcıya da satışlar söz konusu oldu ancak yatırımcı hedef kitlesi. Gerçekten 150-200 binler gibi fiyatlara insanlar belli değerleri olan bir sitede yer temin etme şansına eriştiler bu da bence yatırımcıların oluşturduğu ticari anlamda bir başarı.

Bu birazda aslında şeyi de sağlıyor, site kendi içinde bazı sosyal aktiviteleri barındırdığından dolayı, metrekareler ne kadar ufalırsa yani optimuma giderse, o sosyal alanlardan istifade de o kadar artıyor. Bir anlama konutlar ufaltılarak bir anlamda kaybolmuş o komşuluk ilişkisi tekrar ortaya çıkar bir hale geliyor. Ama temelde ufak konuta çok bağlamamak gerek, şöyle ki emlak ve arsa fiyatları şu anda çok artmış olduğundan yatırımcıda mümkün olduğu kadar kabul edilebilir tasarımlar arıyor, hem belli hedef kitlesine ulaşabilmek için hem arsa payını da düşüremeyeceğinden dolayı, çok talep olan küçük konuta yöneliyor. Ve konutu ufaltarak satış payını arttırmayı hedefliyor benim bildiğim kadarıyla. O sebepten dolayı bu kadar çok ufak birim üretilmeye başlandı. Tabii daha sonra eklemlenerek büyütülebilme imkânları var olan modülasyon sistemler var.

2. **Projenizin, 'Folkart Towers', genel konsepti / ana fikri hakkında bilgi verir misiniz? Bu, projenizin hangi özelliklerinde görünür hale gelir?**

Aslında formal yapısını hamile kadına, yelkene benzeten var, analojik bir altyapısı olduğunu düşünen bir çevre var ama aslında farklı fonksiyonlardan böyle bir form ortaya çıkmış durumda, yapının belli bir yüzdesi konut olarak kalan kısmında ofis olarak tasarlanmıştı. İzmir'de konutlarda en önemli kriterlerden birisi de balkondur.

Bir konut yapısı olarak İstanbul'dakilerden en önemli farkı 'balkon' kullanımı olması, balkon İzmir'de çok aktif olarak kullanılan bir eleman ve mimari enstrüman açıkçası. Yapının fonksiyonlarını da göz önüne aldığımız zamanda, bir kısmı balkonlu, ofis katlarında böyle bir ihtiyaca gerek yok, balkon kapalı alan olarak değerlendiriliyor. Dolayısıyla bu yapının tasarımında 2 tane prizmanın hani birbiri içerisine geçip, birisinin maniple edilmesiyle oluşan bir formdur ve aslında fonksiyon ayrılığını ekspoze edebilmek için yapılmıştır. Bir manipülasyonla yapı ikinci bir kabuk halini almış. Özellikle alttaki konut ile üstteki ofisi birbirinden ayırmak için ve ortada ortak bir kullanım alanı oluşturan bir

yapı oluşuyor. Esasında bu kadar yüksek katlı bir yapıda, hem görsel açıdan rahatsız edici bir ritmi ortadan kaldırmak hem de o fonksiyon ayrılığını vurgulamak ve kurgulamak için yapılmış bir manipülasyon olmuş oluyor.
Tabi konumundan dolayı burada binanın bütün birimlerinin deniz manzarası görme gerekliliğinde var, yani bina 4 cepheli tasarlanmadı, ana çekirdek alanını geride tutup, mekânların denizi görmesi sağlandı. Tabi özellikle yatırımcının istediği bir şey bu, statik anlamda bazı extra maliyetler getirsede bu şekilde tasarlandı ve projede ki tüm birimler en azından körfez manzarası alır hale geldi.
Bu proje mix bir proje, en alt ticari sonra otopark katları sonra konut katları sonra da ofisler sıralanmakta. Ve hedef olarak da hepsinin körfez manzarasına baktırılması hedeflendi.
Balkonlu olmasından dolayı, otoparktan sonra ki ilk katlar konut olmuş oluyor, balkonlular. Ofislerin konutun üstüne gelmesi, balkonsuz tasarlanabilir olmasından , yani balkonun eve daha ait bir mimari enstrüman olmasından, böyle yüksek bir yapıda da yukarılara çıkıldıkça rüzgarın balkon konforuna engel olacağından dolayı, ofisleri en üste alıp, balkonsuz bir tasarım uygulandı. Bu konuda piyasa araştırması da yapıldı, İzmir de balkonlu konut kullanımının daha uygun olduğuna karar verildi ve bunu da konforlu bir şekilde yapmak için alt katlarda yapmak gerekiyordu.

3.Peki aslında küçük konutu kendi başına göremiyoruz, bir apartman içinde yok, ya kapalı siteler de, ya kondominyumlar diyebileceğimiz rezidans projelerde, donanımlı sosyal olanaklar ile yer alıyor ,bu konuyu nasıl yorumluyorsunuz?

Bunlar bence öngörülerek yapılan şeyler değil, sadece netice. Ama tercihin önemli sebeplerinden bir tanesi artık aile de kadın erkek her ikisi de çalışmaya başladı, dolayısıyla, evde geçirdiği zaman oldukça sınırlı olmaya başladı. Dolayısıyla da ihtiyaçlar ona göre oluşmaya başladı, mutfak her ne kadar çok önemli de olsa ev satışında mümkün olduğunca optimum alanları elde etmek tercih ediliyor ama sosyolojik sebepleri olan bir şey değil, temelde maliyetleri düşürme amaçlı, yatırımcının kar amacı. İşte bir takım insanlar risk alıp ufakta olsa konut sahibi olma yoluna gidebiliyor. Artı olarak site dışı apartmanlar da artık devrini kapatmış durumda çünkü siteler daha güvenlikli, daha sosyal donatıları, havuzları olsun yeşil alanları olsun insanlar bunları daha çok istiyor. Bir de ne kadar çok birim koyarsanız, o kadar tekil kullanıcı sayısı veya hane halkı sayısı artıyor ve o kadar da aidat alma şansınız artıyor. Dolayısıyla ortak kullanım alanları gibi, o alanların yaşayabilmesi için gerekli olan masraf oradan temin ediliyor.
Yani aslında projede ne kadar çok küçük birimler üretilirse aynı matematiksel oranda, ortak ve sosyal alanlar da üretilmiş oluyor, kısaca mantık bu; 'KÜÇÜK BİRİMLER = ORTAK BAKIMLI SOSYAL ALANLAR!!'
Ama temel sebebi çok net satılabilitesini arttırmak bence. Ben İstanbul'da bir yatırımcı ile görüşmüştüm, ilk etapta projesinde çok varyasyonlar ve alternatif tipolojiler olsa da daha sonra taleplerden dolayı hepsini 1+1 e çevirmiş.
Arsanın bu kadar maliyetli olmasının sebebi de yerel yönetimlerin çok da fazla arsa üretmemesinden yâda yatırımcıların rantın peşinde hareket etmesinden dolayı. Pompalanınca rant ve arsa fiyatları çok artıyor. Bayraklı bölgesinde mesela şu an metrekare fiyatları oldukça yükseldi. 3000 dolarlardan bahsediliyor. Dolayısıyla metrekare fiyatının bu kadar yüksek olduğu bir yerde arsa maliyetini düşürebilmek için mümkün olduğunca çok birimler oluşturmak gerekiyor.
Bayraklı esasında konut bölgesi olarak düşünülmüyor. Orası daha çok ofis, mevcut emsalin 3 te 1 i konut olacak şekilde tasarlanmış. Orası esasında Amerika'da ki down town'lar gibi, iş merkezi olarak ön görülmüş bir yer. Orada daha ziyade ofis olacak, yani konutun mevcut imarda ki yeri belli.

4.Konutta marka olma konusunda ki fikriniz nedir?

Marka sahibi her zaman imajını güçlü ve stabil tutabilmek adına müşterisini her zaman mutlu etme yolunu taşır. O sebepten marka önemli bir şey ama ayarını bilmek lazım, biraz dozaj arttığı zaman marka lüksleşiyor. Ama marka bir güvence.1970'lerde ve 1980'lerde başlayıp devam etmemiş yarım kalmış inşaatlar vardı, o sebepten dolayı marka önemli. Artık inşaat sektörü büyük sermayenin eline geçtiğinden dolayı marka böyle bir standart ve güvenirlilik oluşturuyor.

5. Sizce küçük konutun farkı sizin projenizde 'Folkart Towers' nasıl öne çıkıyor ?

Şimdi burada yaklaşık 1200 metrekarelik katlar var, binanın derinliği yaklaşık 9 metreleri filan buldu dolayısıyla, 8.5 metre kolon açıklığı mekanda belli bir flexibilite sağlıyor, bu yatırımcı grup Sancak grup işe başladığı zaman bizim ilk ürettiğimiz konutlar biraz daha büyüktü. Fakat ufak konuta ciddi anlamda talep olunca biz hani birimleri ufaltmaya başladık. Ve esasında Residence olunca 'ev-otel' mantığında bir yapı ortaya çıkıyor. Folkart o anlamda aslında konsierge hizmeti olsun, Residence hizmeti gerçekten veriyor.
Böyle İş merkezlerinin olduğu bir yerde esasında doğru bir konut üretimi olduğunu düşünüyorum. Burada 4+1' lik bir ev çok match etmiyor bölge ile hâlbuki stüdyo daireler daha sirküle bir konut yaşantısının olduğu bir yaşam stilini barındırıyor. Ve yanında ofis ile beraber daha bölge ile uyuşuyor.

6.Folkart Towers projesinin konutlarında ki kullanıcı profili nasıl?

Genelde benim de bildiğim insanlar yatırım amaçlı bu konutları almışlardı, kira garantisi diye yeni bir model var ; 'KİRA GARANTİLİ SATIŞ SÖZLEŞMESİ', dolayısıyla yatırım amaçlı kiralamaya yönelik alınan konutlar. Ama genel itibari ile alıcılar , Folkart nitelikli konut açığı olduğu için İzmir'e gelmiş bir proje, ilk İstanbul'da yapılmış. İlk Arolat mimarlığın Narlıdere'de Folkart projesi ile standartlar yükseldi ve başarı oldular. Yani öyle bir yapının İzmir'de olabileceğini İzmir halkına gösterdiler. Tabi İzmir ticari anlamda ne derece başarılı olduğunu bilemiyorum ama genel olarak belli bir standardın üstünde bir kullanıcıya hitap ediyorlar. Genelde orta üstü kullanıcı grubuna hitap eden bir kullanıcı kitlesi var.

7.Konut tiplerinin belirlenmesinde nasıl bir yöntem izlediniz ?

Şimdi onlar aslında bize paket olarak verilen veriler, bunlar büyük yatırımlar olduklarından dolayı dolayısıyla bir piyasa araştırması yapılıyor oradan gelen analizlere göre bize veriler aktarılıyor. O analizin neticesinde de biz mimari grup olarak onu yorumluyoruz. Yani şu hedef kitlesinin gereksinimi şudur diye bizim bir öngörümüz olmuyor açıkçası. Dolayısıyla kullanıcı profilini de belirlemiyoruz, A, A+ gibi konutlar var, pahalı olduklarından dolayı. Otomatik olarak kendi müşterisini seçen bir nitelik kazanıyor.

8.Projenizde ki küçük konutlarda çeşitlilik var mı?

Biz ana projeyi yaparken kat başına 5 ya da 6 tane birimimiz vardı, dolayısıyla, binanın ana formunu oluşturan birimler oldu. Ama binanın formal kesintinde ki değişkenlikten kaynaklanan çeşitlilikler oldu. Katlar birbirinden farklılık gösteriyor. Genellikle formdan kaynaklanan değişiklikler söz konusu. Ama 1+1 in kendi tipolojileri içinde çok fazla çeşitlilik yapmak istediğimiz bir şey değil. Yani aynı metrekare içerisinde varyasyon çokta tercih ettiğimiz bir şey değil.

9. 2+1 tip konutu küçük konut tipolojisi içine alıyor musunuz projelerinizde?

2+1 artık vakti zamanının 3+1 yerini almaya başladı, 4+1 yerini 3+1 bıraktı. Ailenin yaşayacağı bir ev olarak görülüyor. 3+1 çok tercih edilen bir konut yaklaşımıydı; 1 oda ebeveyn odası, 1 oda çocuk odası ve 1 oda da misafir odası olarak kullanılıyordu, ama mekan israfı oluyordu , röportajın başında bahsettiğim metrekare israfından kastım buydu ve tüm tipolojilerde yaşanan bir küçülme söz konusu. Şu an özellikle maliyetler çok yükseldiğinden dolayı, 3+1 biraz arka plana atılıp yerini 2+1 bıraktı. O yüzden, o da yerini 2+1 aile konutu olarak bıraktı diyebiliriz. Her şey mekân israfını önlemek amaçlı,2+1 burada esasında yaşanılacak çekirdek aile konutu oluyor.

10. Projelerinizde ki küçük konutlarda 1+1 'lerde aşırı bir tasarımlanma donanım ve bitmişlik oluyor mu?

Artık tüm konut tipleri öyle satılıyor, mobilyalı, donanımlı, çantanızı alıp gelip yaşayabileceğiniz şekilde. 3+1 de alsanız satılan evlerin alayında mutfak ankastresinden diğer donanımlara kadar hepsi veriliyor. Eşyasız, kabuk şeklinde verilen bölümler genelde ofisler oluyor, o da kullanıcının tercihlerine uyması açısından. Ama konutların hepsi çok donanımlı diyebilirim, bu donanım sadece 1+1 lerde yok artık. Hepsinde teknik donanım ve bitmişlik var.

11.Projeniz de teknoloji kullanımı nasıl ve ne derecede ön plana çıkıyor ve kullanılıyor?

Lead sertifikası var, yeşil yapı niteliği burada çok yok. Ama temel imalatı olsun gerekse betonarme imalatı ve hazırlık aşamalarında, zemin çalışmalarında ve yüksek bir yapı olmasından dolayı teknolojik sistemler kullanıldı. Tabi yüksek bir yapı olduğu için bina otomasyonu kullanıldı. Özellikle asansör kullanımında bir teknolojik akıllı sistem var. Özellikle temel projelendirmesinde teknoloji ve yenilikçi methotlar kullanıldı.

12.Projenin 1+1 tiplerinde şu mekândan veya detaydan vazgeçmem diyebileceğiniz özellikli bir nokta var mı?

Binanın konseptini oluşturan ana silüeti haricinde o ana karardır zaten. Bu yüzden iç mekanlar belli bir fleksibilitesi olan mekanlardır. Bir konser ve sergi salonu gibi değil, o yüzden taviz verilemeyecek bir mekân veya detay yok. Mekânlarda dönüşümler olabilir.

13. 1+1 de kapalı bir mutfak yapmayı tercih ederdim diyebilir misiniz?

Normalde bizim kültürümüzde kapalı mutfak tercih edilmesine rağmen, bunlarda açık mutfak tasarlanmasının en önemli sebebi, az metrekareyi oluşturabilmek için, çünkü kapalı mutfak dediğiniz zaman cepheye almanız gerekiyor, cepheye aldığınız zaman bir birim için harcadığınız cephe genişliğiniz artıyor, dolayısıyla 100 metrekare üretmek istediğiniz bir birim 120-130 metrekare olmaya başlıyor. Açık mutfak aslında o istenilen metrekareleri ticari anlamda karşılayabilen bir çözüm oluyor. Yani açık mutfak bir anlamda metrekare çözümü oluyor.

14. Balkondan vazgeçmezdim diyebilir misiniz?

Balkondan vazgeçmezdim çünkü İzmir de tercih edilen bir yer.

15. 1+1 sizce en fazla kaç metrekare olmalı?

30 metrekarelik 1+0 da ürettiğimiz oldu. Ama bunu içinde 30-40-50 metrekareler 1+1 için normal diyebiliriz. Mesela 125 metrekarelik bir 1+1 İzmir de pazarlanması zor bir durum, bunlar niş

mekânlar, sıra dışı olan, az alıcısı olan tipler oluyor.

16. İlham kaynağım diyebileceğiniz veya esinlendiğiniz bir kaynak var mı?

Yok

17.Projenizin yerellik kavramı ile bir bağlantısı var mı?

Yok. Aslında İzmir eski bir kent ama maalesef İzmir'in mevcut kent dokusu kalmış durumda yok, o yüzden bizim proje biraz 'alien' (yabancı) kaldı, çünkü bizim çevre dokudan referans alabileceğimiz bir ey yoktu maalesef. Paris te veya Roma da bunu yapamazsınız ama İzmir şehircilik anlamında ciddi anlamda katliam görmüş bir şehir. Bizde buna destek mi verdik yoksa kendimizce karşı mı çıktık o zamanla ortaya çıkacak.

18. Yerel malzeme kullanımı var mı ? Yok. Sadece cam ve alüminyum ,ana iki malzeme var.

Phd Student,EMU,Ayça arslan

PROJECT NAME	ARCHITECT	YAPI GÖRSELİ	CASE NO
NEXT LEVEL MIX USE PROJECT ANKARA	**BRIGITTE WEBER**		**05**

(15.04.2015 dated interview)

1. How to do small dwelling make a difference in residential architecture and design?

Brigitte W.: *'Small house'* in what meaning, small buildings or interiors of houses as small?

Ayça a.: Small flats and apartman houses like 1+0,1+1.

Brigitte W.: Houses with small square meters have big difference when compared to houses with big square meters. Firstly everything has to be much more compact. One space has to respond five different functions. In a big flat/house; there exists, dining space, TV space, living space, sometimes a second living space exist next to kitchen, you have study room etc. in other words, you have too many rooms and spaces in a big house. Now in a small house/flat of course you have to solve everything more multifunctional. A kitchen table can be used as study table, design must afford this transformation. We generally make open kitchen for not to lose any square meters. Because here square meters are not only important for functional uses, it is also important for physiologically too. Sitting in a big space is important. In a small houses, when kitchen is divided, if room-room divisions will be made, very small rooms and spaces reveal. For this reason, we try to achieve multi functions in a 1 big room.

2. Could you please give information about the main idea and concept of your project. And, how does this small dwelling difference, show in your project?

Next Level is a mix-use, complex project, with a shopping center, residence tower and a office tower. From conceptual point of view, we try to separate all functions in architectural design, both visually and functionally and you can find/see this from outside. In my opinion this must also be seen outside the building. For example, office tower is a monolith structure which reflects outside conditions. This means that building reflects whether conditions so well, for example, at nights, building transforms to a different structure. This exbihits a philosophic point of view on the other hand, such as, an office building as reflecting economy, is effected from outside too much, and we want to reflect this to our building. Mirrored glass façade reflects things that are outside, just like economy, it reflects you too, economically as an office and company. At the same time, it is a monolith block, which means power. So it represents a powerful company as tower.

Just reverse is for the other tower, residence tower, it is a very different thing. Just like a NAKIŞ, very small proportions within a human scale, everything is for human, to feel well, there are balconies, you can go out, with inside-outside connections, it's very individual, each flat is different from the other, it's a very individual design. Everybody lives in a different flat/house because everybody's balconies are also different. People/users can choose one of three styles, all of them is different from each other. Materials, balconies, all of them different, in other words designed individually for one person.

But more important it is designed with human scale too and looks like home. And you can feel /see it from outside too. More small divisions exist at residence tower but other one, office tower is a more powerful building. For this reason, office tower is placed just next to road, directly, two important main road axes, Konya and Eskisehir roads intersection.

Shopping center is acting like a podium for Towers, of course with green areas. There is a courtyard and around this courtyard is like a square in the city and there are social lives on this courtyard. We can say that they are looking from this square.

Office is looking to the main road; this means that Office indicates movement, mobility and dynamism. Due to economy itself is very dynamic and mobility, it must be seen and tower shows itself. But residence block is at back stage, looking to courtyard, like houses are placed in private area.

3. What are the advantages and disadvantages of brands and branding strategies at housing projects? And, what do you think about the housing projects and applications which branding and concept be at the forefront?

Now there are two types of brand, for example our Trump Towers. Trump organization for many years reached a name by construction and by operating diverse buildings in America got prestige and became a brand. This is a very random situation. As I said, there used to be an opportunity at Trump Towers like this. But many people and companies try to become a brand, they want to be brand; of course it is a long period, because to be a brand you have to achieve something good. Because brand means like, if i use that brand, because i know that brand and i know that it is good. For example, at first sight, what Trump Towers image in minds is 'luxury'? Other brands remain you other things. So

to create a brand means which keyword do you want to create?
Brand has an advantage, to work with a brand that you know is advantageous, people trust, it creates trust. Disadvantage is a specific mass uses that brand, it attracts people who know, but it can push people who do not know that brand. Second disadvantage to use too much brand can be, just marketing the value of brand, but what is the real value back of this brand. We always hope and wish from last users to investigate it. Unfortunately mostly they buy by the impact of brand. Like women while buying a bag use brand, but is it makes us blind, we must think about it. So behind a brand there must always be a quality. Because of this, by been the last user and buyer, 'open eyes and make investigation'.

4. How does this concept be continued and diversified at small dwelling design?

In brand issue, to be small or big is not important, so both at small and big houses, brand is important issue. Some brands represent younger, more different lifestyle, there are mostly small houses, but some brands represents mostly through families and family houses. But small houses mostly bought for investments, maybe my daughter or son will accommodate at that house while university education till marriage later we can rent it, they generally think like this. So investigators buy and prefer small houses much more, later periods they rent easily.

5. Did you do research on the housing market at the beginning of the project while developing and creating typologies, general housing types, sub types and while developing solutions for these typologies, determining the size of the square meters, number of the rooms? What kind of housing typologies did you develop for what kind of user profiles?

Before starting the project, place and location is important, where is the project site, what are the needs of that area, this must be investigated. There are some companies, we work with, they investigate and create a concept, what is concept ? For example, site is at Mecidiyeköy, there is a different demand there, for example Ankara Çayyolu valley, our new project is starting now there, there is very different demand there.

a. İstanbul – Ankara is different generally,

b. In the city center and off-center city, this is important.

But it's not finish here, because there are types such as; A, A+, B, B+, kitchen is different at B+ and A+, for example A+ household does not cook she has a maid, but B+ household cooks, thereby kitchen at A+ is closed and B+ is open integrated kitchen, this is a very important criteria. All interior design changes through these criteria. Sizes change, balcony decision vary depending on site land. Who will leave there, you must think like her/him. Which car he/she uses? For example, B + has one car but A+ has three cars, mother father son all of them have cars for example. A+ has too many guests but B+ does not. Thereby, there are lots of differences occur between B+ and A+.

Then, you must think about business, what do you offer for social activities? At houses for low level income households you design bigger social areas, bigger sports center for huge user, but it's different at A+, you must put a swimming pool for 10 housing units because monthly payments of that households are very high. But lower than B we put one swimming pool for 1000 housing units; these are economic point of design criteria that match with housing types. We decide all these with job owner /boss if he is experienced, or we work with companies that do this job.

6. At your small dwelling designs, how do you identify your audience, user profile and how do you diversify your user profile? (Through incomes, occupations, education levels, lifestyles, and/or hobby. etc.)

You draw that picture, where is site area, for example is it near a university, is it a private university or government, concepts vary due to this criteria, student/kid will live that house, we design for him/her, or what is the professional area of that household; bank manager, doctors, advocate etc.. This indicates households' income level thereby, houses design level.

7. In recent years, we begin to see a lot of 1+1 and 1+0 type small dwellings designs and high demand for small dwellings, what do you attribute this increasing strong demand? During the production of sub-types of each these small dwelling types, which is the main design criteria
For example: square meters, spatial/space organizations, spatial reinforcement, use of materials and technology, etc. Which design criteria did you use while creating diversity between small dwellings. In other words, what are the priority criteria at small dwelling design for you?

It depends on what level you are doing, this effects square meters. For example, we have 40 sqm2 1+1 and 90 sqm2 1+1, and the important thing is which level you match. But one thing is very important that we separate 1+1 from 5+1, because they have different lifestyles.

8. What do you think about the reach point of today's residential interior designs that can be seen as finished and sometimes excessive level implementations, details and materials used in, how does this show the distinction and diversity between housing types (in size). How does small dwelling separate from other types by this excessive level design?

It totally depends on what investor wants to give. Some give totally empty and users decorate themselves. We, for example, do not give bed ,but today at Turkey market, fix furniture is given generally like kitchen, bathroom or parquet floor coverings but non-fix furniture, for example curtains are not given generally, they are individual pieces.

9. At your projects, while forming recommended living environment and their quality, what are the contributions of technology and new developments at technology?

Technology can be both good or bad, because if your client does not want to use technology it's bad for them, but if your clients want to use technology it's very good for them. We make intelligent houses, users call us and say that they do not understand anything form this buttons, so, it's bad for them. So they must want to use, of course we always put intelligent systems to a high profile house.

10. At your project, are there any especially functional and/or aesthetic based space, and/or architectural component, and/or a special detail, material usage that is indispensable for you?

11. What are your sources of inspiration? How do you inspire from current successful applications and designs?

Location, site, nearby area, close circle effects design decisions, we want to respond these criteria.

12. Do your designs and projects have relationship with locality? What do you think about being in the local housing design and applications?

You are making a building in a field, you will use more vernacular materials for example, but you are designing a building in city center that you must use acoustic materials, more technological materials that will resist to environment buildings and traffic. What exist near that building, they are important. You cannot make a big building in a small site for example.

Phd Student,EMU,Ayça arslan

PROJE ADI	MİMARI	YAPI GÖRSELİ	CASE NO
NEF 03_Flats KÂĞITHANE İSTANBUL	Proje tasarım mimarı ZEYNEP ERTUĞRAL ile yapılan röportaj		06

*23.06.2015 tarihli röportaj

Nef 03 projesinde toplam 460 konut var, 332 konut A Blokta 7 adet 2+1 ile ve 130 konut B blokta 39 adet 2+1 ile projelendirilmiş.

Toplam 462 konutta 46 2+1 tip, 416 adet 1+1 tip küçük konut bulunmakta. Nef 03 te %90 oranında 1+1 konut tipoloji üretilmiş.

Nef markasının genel konsepti üzerine: projelerde kullanıcı tiplerin göre farklılaşan kollektif alan aktiviteleri ön planda:

Nef bugüne kadar yaklaşık 10 projeye yakın, İstanbul ve Mersin olmak üzere, teslim yaptı ve şuan yaklaşık eşzamanlı olarak 14 proje yürütüyor. Bunun bir kısmı Amerika bazlı olarak Amerika'da bir kısmı İstanbul'da devam ediyor. Bunun dışında Türkiye de farklı şehirlerde de çalışmalarımız devam ediyor.

Bir kere ***Nef***'in kendi markası altında serileri var; 'Nef_dormitory, Nef_flats, Nef_points, Nef_residences', bunlar kullanıcı tipine ve bölgeye göre önerdiğimiz konsept projeler. Mesela, Kemerburgaz'da yaptığımız projede konut metrekareleri daha büyük oluyor. Aynı şekilde Sütlüce'de yaptığımız projelerde de metrekareler daha büyük.

Ama Kâğıthane'de mesela, şehrin merkezine yaklaştıkça metrekareler küçülerek, orda ki kişilerin ihtiyaçlarına yönelik, kullanıcılara yönelik mekânlar ve imkânlar sunuyoruz. Ve bunları da serileştiriyoruz. Yani Nef'in serileri var, bir kere bu şekilde bir markalaşmamız var, en önemlisi temelde ***Nef*** bize neyi veriyor; ***'Kullandığın kadarını al, ihtiyacın olduğu kadarını al'***. Aslında Nef'in burada en kritik özelliği sağladığı ortak alanlar. Mesela konuta girdiğimizde ne yapıyoruz, en çok mutfağı kullanıyoruz, yatak odasını kullanıyoruz, çünkü çok fazla çalışıyoruz, ***Nef*** size şunu soruyor; ***'5000 metrekare eviniz olsaydı neler olmasını isterdiniz?'***. Sizde sayıyorsunuz; sinema odam, yoga odam olsun, spor salonu olsun isterdim. Biz diyoruz ki bunların hepsine sahip olmanız gerekmiyor, biz size sadece yatak odanızı ve mutfağınızı verelim, ya da oturma alanınızı ; ***'Maximum kullanıldığınız minimum metrekareyi verelim, siz ihtiyacınız oldukça diğer mekânlardan da faydalanabilin ve bu mekânları da satın alma durumunda kalmayın***'. Bu sayede de Nef'in konsepti ortaya çıkmış oluyor. Yani ihtiyacı olduğu kadar metrekareyi müşteriye satıyoruz, geri kalanını müşteriye kiralayarak, ortak alanlardan kiralayarak ihtiyaçlarını gideriyoruz. Yani aslında temel çıkış noktamız bu.

Bu sistemi tüm projelerimizde uyguluyoruz çünkü ***Nef***'in olmazsa olmazı bu sistem. Tüm projelerde ortak alan kullanımı var. Bu ortak alan seçimlerini yine ihtiyaca göre belirliyoruz. Mesela daha geniş nüfuzlu bir kullanıcı varsa ona yönelik bir ortak kullanım tasarlıyoruz, çevrede bir üniversite varsa mesela oraya bir *'etüt odası'* koyuyoruz ya da *'laundry room'* olmasını kesinlikle şart koşuyoruz ki orada ki ihtiyaçlara cevap verebilsin yada daha eğlenceye yönelik üniteleri koyuyoruz. Ama mesela bir 'Ataköy projesine' gittiğimiz de oraya bir *'business room'* da koyuyoruz ki orada home-office olarak kullananlar ya da daha çok iş odaklı kullananlar var ve business room'dan faydalanabilsinler. Bu şekilde seçimler yapıyoruz bu da bölgeye göre kullanıcıların tipine göre ortak alanların farklılaşmasını sağlıyor.

1. Konut mimarlığı veya tasarımında Küçük Konut nasıl bir farklılık yaratır?

Bu kültürel değişime kadar gidecek bir fark yaratıyor toplumda aslında. Çünkü tarihten baktığımızda küçük konut hikâyesine; eskiden aile kavramı ve çekirdek aile kavramı çok farklı bir boyuttaydı günümüzde çok daha farklı bir boyutta. Dolayısıyla hani o eski ölçekteki ebeveynler, bir arada yaşama, o bir arada yaşarken işte kendi yaşadığın bölgeyi içeren ticaret alanlarının daha küçük ölçekte olması, dolayısıyla hani ulaşım konularında daha rahat hareket edebilme, dediğim gibi büyük bir aile ile yaşamanın getirdiği mekânsal ihtiyaçlar ile şimdiki çok farklı.

Dolayısıyla, şu an kentleşmenin artması ile merkezi iş alanları ve artık endüstrileşme ile beraber yoğun insan ihtiyacı ve yoğun iş gücü ihtiyacının oluşması kentler de bir kere bir konut ihtiyacını arttırıyor. İkincisi insanların geldiği bu yüzyıldaki ihtiyaçlar ve tüketim alışkanlıklarına bağlı olarak, bireyselleşmesi daha fazla ön planda olduğu için, kendi mekânını ve kendi sınırını daha fazla da belirlemiş olmak istiyor. Dolayısıyla da 18 yaşından sonra herkesin, her gencin aklında ki şey yalnız yaşamak ve biran evvel evden kopmak. Bu sefer de merkezde yaşamak istiyorsan bu sefer ekonomi işin içine giriyor ve oradan da küçük konut ihtiyacı gerçeği çıkıyor. Yani 200-250 bin liraya

özgürlüğünü ilan edebileceğini sandığın ev almak istiyorsun artık.
Dolayısıyla bu tabii kimsenin aklına hemen gelmiyor, yaşadığımız yüzyılda, toplumsal kültürel sistemin bize getirdiği bir şey. Dolayısıyla, bu pazarda da tabi yatırımcılar açısından büyük bir ihtiyaç olarak ön plana çıktığı için, son 10 yılda özellikle, bu konuda tabi ki talep varsa arz yaratılıyor. Talep edenlere karşılık bu sefer bu işe soyunan insanlar bunu üretir hale geliyor ve gerçekten de özellikle kent merkezin de bu tür işler çok da yapılıyor çünkü dediğim gibi kent nüfuzu büyüyor, kentin dinamiklerinden gelen finans, ekonomi, ticaret, beyaz yakalı nüfusların satın alma gücü artıyor. O satın alma gücüne bağlı olarak da kendilerini daha rahat ve özgür ifade edebilecekleri bölgeye gidiyorlar.
Türkiye'de bir de şöyle bir durum var, nüfusun çoğunluk yüzdesi genç olduğu için, 35 yaş altı, biraz Türkiye o konuda da, gelişmekte olan ülkeler içinde gözükmekle beraber çok da dinamik bir yapısı bulunmakta. Oradan da bence küçük konut talebi patlıyor, yani dediğim gibi 18-20 yaş üstü insanların bağımsız olma talebi ve bunu sağlarken de merkezden kopmama isteği. O zaman da işte daha küçük alanı, yani daha küçük satın alınabilir ölçeği, yakalıyor işte aslında yatırımcı. 200-250-300 bin tl'ye ama şehrin göbeğinde yani seni merkeze maksimum 5 kilometre çapta seni tutabilecek bir evi sana vadediyor.

2.Projenizin, NEF 03, genel konsepti / ana fikri hakkında bilgi verir misiniz? Bu, projenizin hangi özelliklerinde görünür hale gelir?

Aslında ikiye bölüyoruz. Cephe önemli ilk etki açısından yani bir kere bir kimlik vermek istediğimiz için, ***Nef*** kimliği dahilin de güzel bir binada yada tasarım bir binada yaşadığınız hissini aktarmak istiyoruz. Yani şöyle ***Nef***'te iki şey var aslında, iki kilit şeyi var bunlar projede de süreçte de bulunan unsurlar aslında. 1.si kimliğini, yani, Nef brand'i yaptığı projede dışarıya cephe olarak, eser olarak ifade etmek ve bu mevcutta bildiğiniz alışkın olduğunuz konut tipolojisinden farklı bir cephe tasarımı ile ortaya çıkmakta. 2.si biraz evvel söylediğimiz o küçük konut mantalitesini yani, destek üniteleri ile siz sadece bir 50 metrekare bir ev almıyorsunuz, aslında size bir dünyayı veriyoruz konsepti. Yani içerde aslında bir lifestyle satmak ve oluşturmak, dışarda da buna çevresel kentsel bütünlük anlamında, diğerlerinden ayrışmış, farklı bir cephe tasarımı ile daha çok yüksek ve modern bir mimari yapı imajı ile ortaya koymak.
Siz ben ***Nef***'liyim dediğinizde biliyoruz ki, çevresinden ayrışan bir binada, tasarım açısından güçlü bir binada yaşıyorsunuz, bu en temel fark. Bunların hepsi tabi ki 03 projemizde var.
Bir de benim konsept olarak söylemek istediğim, iki konut bloğu var, biri 18 biri 15 katlı, altta da bu iki bloğu yine destekleyen otopark , bodrum kat alanları var, bu bahsettiğimiz ortak yaşam alanlarımız var, fold alanlarımız var. Ve ***Nef***'in brand serileri/skalaları arasından flat serisine uygun düşüyor 03.
Bizim bir takım proje metrekareleri ve malzeme seçimlerine bağlı olarak oluşturduğumuz alt kimlikler var, 1+1'lerin içinde ayrışmalar var. Ve ***Nef***_03, flat serisine karşılık gelen bir proje. Dolayısıyla burada aslında biraz önce söylediğimiz mimari farklılaşma cephesel anlamda mimari bir farklılaşma var, ki bizim bu farklılaşmayı internetten 03 projesine girer ve planları incelerseniz fark edebilirsiniz, bir binamız çekirdekten üç metre sağlı sollu disc olarak kayan bir bina. Yani son derece iddialı ve farklı bir mimari. Aynı zamanda mimarın söylediği bu binaları, history'si ya da kökü nerelere dayanıyor çok fazla bilmiyorum çünkü ben projelere sonradan dahil oldum, *biri gece biri gündüz gibi*, bu binaların cephesel ve konseptsel olarak bir hikayesi var. Bir binamız daha böyle bir aydınlık, bir binamız daha koyu tonlar da olacak. Mesela o koyu tonlarda olan binamızda mesela böyle güneş kırıcı paneller sarı tonlarında sanki ay ışığı imajı gibiyken. Biri böyle daha beyaz paneller ve olduğu gibi cam cephe. Kendi içinde öyle bir ayrışması var. Ama bu hikayenin gece ve gündüz temelinde yatan şey nedir tam olarak bilmiyorum. Bunlar aynı kaideye oturuyorlar ve alttan da birbirlerine bağlılar. Çok genel olarak böyle.

3.Marka ya da konsept projelerin sizce avantajı ve dezavantajları nelerdir ve marka/konseptin ön planda olduğu konut projeleri/uygulamalarıyla ilgili ne düşünüyorsunuz.

Marka olmak hem müşteri açısından avantajlı, şöyle avantajlı marka olduğunuz zaman bir güvenirliği sürdürmek zorundasınız. Çünkü ***Nef***'te zaten bunu sağladığı için, birçok projenin devamını getiriyor. Çünkü bir projeden alan memnum kaldığı için diğer projeden alabiliyor. Bu ne demek; o zaman siz bu güveni korumak zorundasınız, seçtiğiniz malzeme ile yaptığınız imalat ile bu kaliteyi korumak zorundasınız ki üretime devam edebilesiniz.
Bu nedenle ben markalaşmayı önemli buluyorum. Eğer bir markaysanız, o markanın hakkını verecek hizmeti müşteriye vermek zorundasınız. Bu da bence bir tık üretimi artıran bir şey. Ya da üretim kalitesini arttıran bir detay olarak görüyorum.
Son yıllarda marka adı altında üretim yapan firmalar var. Markanın avantajlarının yanında taşıdığınız bir risk te var, challenge yani. Sen marka olarak onu koyduğun sürece var olduğunu biliyorsun ve buna çok dikkat ediyorsun. Yani işte taahhüt ettiğin tarihte bu işi bitirmen gerekiyor, 3d görsellerdekileri yapmayı organize etmen gerekiyor. Yani o da işte markanın kendi içinde ki zorlayıcı

unsuru oluyor.
Biz Amerika'da ki yatırımcılarla da görüşüyoruz, onların söylediği şey, biz marka olarak girmiyoruz, neden ben ismimi her projeye aktarıyım konusunda onlar çekinik davranıyorlar. Ama biz burada bir riski ve challange'ı ele alıp, hayır biz her projemizi marka olarak ilerletip, müşterimizi uzun vadede taahhütlerimizi yerine getirerek memnun etmek istiyoruzun altına giriyoruz aslında. Ama yurtdışında o marka şeyi bu kadar güçlü değil. Biraz kültürel bir konu sanırım. Orda zaten sistem olduğu için bir brand'e gerek duymuyor adam, zaten güveni var.

4.Küçük konut tasarımında bu konsept nasıl sürdürülmüş ya da çeşitlenmiştir?

Önceki sorularda cevaplandı.

5.Projeye başlarken genelde konut tiplerini /alt tiplerini ve bunlara yönelik çözümleri geliştirirken M2'leri ve büyüklükleri saptarken; konut pazarı araştırması yaptınız mı? Hangi profilde ki kullanıcılara yönelik olarak ne tür konutlara yöneldiniz? Yoksa yaptığınız tasarımlar mı kendi kullanıcı grubunu yaratmıştır.

İlk history'i bilmiyorum ama elimizde şu an yeteri kadar bir data var. ***Nef***'te bir bölgesel alım yüzdelerine bağlı olarak oluşturulan bir sistem var. Zaten şu an kendi altyapısını oluşturabilecek bir info'ya sahip oldu yani *'know-how'* dediğimiz tanım içerisinde şuan. Evet, *know-how* var ve gelen arsa yatırım beklentilerini de o bakış açısıyla yani bölge, bölgenin trendi, dönüşüm süreci öngörülerek yapılıyor. Zaten yola çıkarken de hedef benim anladığım kadarıyla da, ***Nef*** merkezi oluşturup yola çıkarken, üst yönetimimiz tarafından, böyle bir marka yaratacağım ve konsepti içeriği de bu olacak denerek, yani pazara bakarak bu ihtiyaç tespit ederek ve bu yönde ben inşaat sektöründe yer alacağım, öncelikli hedefim veya 'ana lokomotif türü yatırımım bu olacak' dendiğini düşünüyorum, dolayısıyla, o arsa seçimleri ve bölgelerde ben burada bunu yapabilir miyim bakış açısıyla ortaya çıkışıyla, hani arsa var buraya ne yapayım değil de, ben böyle bir şey yapacağım hangi arsada bunu yapsam uygun olur mantığında bakılmış gibi geliyor bana.

Farklı yerlerde farklı projeler yapıp, kullanıcı profilini değiştirme potansiyeline sahip. Mesela Gültepe'ye gerçekten farklı bir kitleyi getirebiliyoruz. Bu hem Gültepe için bir katma değer olurken aslında katma değer exchange'i gibi bir değişim var orda. Normalde siz Gültepe'ye o profili getiremezsiniz ama ***Nef*** projesi ile o profili oraya getirebiliyor ya da Kağıthane'ye getirebiliyor, Nef kullanıcı kitlesini getirebiliyor. Burada aslında mevcut sınırların ötesinde bir şey yaptığımızı düşünüyorum. Yani sadece mevcut değerler içinde orası için yapmak değil, buraya nasıl çekerim ve nasıl getiririmi yapmak için çalışıyoruz. Tam olarak bir gentrification/soylulaştırma olmasa da bölgeye bir artı değer kattığını düşünüyoruz, birde tasarladığımız projelerde, bu proje hangi bölge de olsa satar ve kullanıcısını bulur mantığı olduğu kesin.

Projelerin baskın kullanıcı profili: genç ve çocuksuz, projelerin %80-90'ı 1+1 ,çok az ölçekte 2+1 bulunmakta. Mesela 03 projemizde şuan, 462 konut var, %25 filan bile değildir 2+1 ve 3+1 zaten yok. Yani inanılmaz 1+1 sayısı yüksek. Benim diğer projelerimde de mesela, Merter 13 projesinde, 900 küsür daire var, en fazla 250-300 ü 2+1 ve 3+1 toplamı, geri kalanların hepsi 1+1 tipler. 1+0 da yok, **1+1** projelerimizin baskın tipi oluyor. Ve bunlar bize bir konut pazarı araştırmasıyla, datalarımız ile geliyor. İlk başta kullanıcı profilimiz belli oluyor, tasarımdan önce.

6.Küçük konutlarınızın tasarımında hedef kitlenizi ya da kullanıcı profilinizi nasıl tanımlar ve çeşitlendirirsiniz? (ait olduğu gelir/meslek ya da meslekler grubu; eğitim düzeyi, yaşam biçimi, hobileri vs.)

Mesela, Nef 11 projesinin teslimlerinde bulunduğum da, kimler yaşıyor diye baktığımızda çeşitlilik görmüştüm. Öğrenciler vardı, bekar çalışan insanlar, yeni evli çiftler var, emekliler var, yaşı yüksek olan kullanıcı kitlemizde var. Emekli de çok var. Mesela yurtdışından gelmiş, emekli olmuş, yatırım amacıyla alan yabancılar da var, yani emekli profili de var. Çünkü şey diyor kadın; iş yapmak istemiyorum, ev işlerinden yoruluyorum artık diyerek küçük konut tercih edenler var. Yani işten de kurtuldum burada işte çocuklar geldiği zaman herşey var işte parasını verip kiralıyoruz, işte 'guest room' (misafir odası) da var, kiralıyoruz, yemek yeme yeri de var, ben de böyle çok rahatım diyorlar.

7.Son yıllarda özellikle çok fazla görmeye başladığımız 1+1, 1+0, stüdyo tipi küçük konutların fazlalaşmasını ve yoğun talep görmesini neye bağlıyorsunuz. Bu tiplerin herbirinin kendi içlerinde alt tiplerinin üretilmesi sırasında, en yaygın olarak hangi tasarım kriterlerine (M2, mekânsal organizasyon, mekânsal donatı, malzeme ve teknoloji kullanımı vs.) bağlı olarak çeşitlendirilmesini uygun görürsünüz? Diğer bir deyişle Küçük konut tasarımında sizce öncelikli kriterler nelerdir?

Alt segmentin ana dağılımı ***malzeme ve metrekare***. Biz de tabi bir de ciddi bir fonksiyon farklılığı var, biri dormitory (nef_dormitory) oluyorken, öyle bir scalamız var, diğeri flat (nef_flats) diğeri işte residence (nef_residents), bir diğeri points (nef_points), bunlarda aslında sırasıyla; lokasyon, metrekare birim satış fiyatı, oradan malzeme farklılaşması, ve tabi ki daire metrekaresi, yani konut birimleri arasındaki farklılaşma bu şekilde. Ama Nef olarak konuşursak alt branding de de işte

dormitory dediğim bir şey de var, ya da hotels de girmesi tartışılan bir koncept. Dolayısıyla, fonksiyona yönelik bir farklılıkta söz konusu. ***Ama konut özeline baktığımızda benim algım alt segment daha çok bizde bu metrekare ve malzeme ile sağlanıyor.*** O da stratejiden geliyor yani, yapılacak olacak arsada ki yatırımın hangi markanın alt brand'ine uygun olacağı zaten stratejik karar olarak üst yönetim tarafından veriliyor ve ona göre zaten tasarım şekilleniyor. Burada points olacak deniyorsa, dairlerin metrekaresi, onun içindeki fold-home konseptinin adet ve içeriklerinin ne olacağı, işte konutun tasarımında mekânsal organizasyondan ve malzeme bitiş kararlarının neler olacağı gibi aslında bir takım brand e özel high-light konular oluşmuş durumda aslında. Bunlar üzerinde çalışmalara devam ediyoruz, 1 yıl içinde ***Nef*** brand'lerinin tam konseptleri çıkacak.

8.Sizce günümüzde tasarlanan konutlarda iç mekân tasarımında varılan nokta ve bitmişlik ya da bazen aşırı tasarım denebilecek düzeydeki uygulamalar, detaylar ve malzeme kullanımları konut tipleri (yani büyüklükleri) arasında nasıl bir farklılık gösterir. Küçük konut tasarımı bu bakımdan diğerlerinden nasıl ayrılır.

Bizde bitmişlik gibi bir şey yok aslında tam tersine yani detayları güzel bir şekilde çözülmüş konutları en sade şekilde teslim ediyoruz. Tefriş yok bizde yani. Ama tabi ki de bir mutfağın seçimi tasarımcı yapıyor ama koltuk kanepe koymuyoruz. Fix- furniture var, mutfak ünitesi, vitrifiye, banyo dolabı, bunları tabi koyuyoruz ama buzdolabı koymuyoruz. Bir örnek dairemiz var, tasarımcılarımızın hazırladığı, müşteri isterse o örnekte ki mobilyaları da dışarıdan edinebilir, ama biz mobilya vermiyoruz ama yardımcı oluyoruz, yapana yönlendiriyoruz.

Biz ev veriyoruz aslında, cephesi, tavanı, yeri tamamlanmış her şeyi bitmiş dört duvar ve işte mutfak banyo. Şu da önemli bir nokta; biz kapı kolunu da prizlerini de özel tasarım veriyoruz. Yani, normal standart piyasada bulunan ürünleri bir şeklide ***Nef*** farkı ile orada bulundurmaya çalışıyoruz. Bu da yine bahsettiğimiz kimlik kapsamına giriyor, ***Nef*** kimliğini ev içlerinde kullandığımız malzemelere de aktarmaya çalışıyoruz. Yani biraz endüstri ürünleri tasarımına doğru da giden bir yönü de var. Yani burada tasarımcıya da aslında çok değer veriyoruz, mesela parke geliyor ama tasarımcı beğenmiyor, üretici ile oturup değiştiriyoruz. Biz her şeyi tasarımcıya seçtiriyoruz.

Küçük konut projeleri bizde; mass-house (çoklu üretim) modunda. Yürütmekte olduğumuz projelerin kapsamı 6000 daire civarında yani özelleşmek pek mümkün değil. 20 ya da 30 daireleri bir apartman dairesi yapmıyoruz, bizim bir projemiz 1000 konut, bir başka projemiz 1500 konut veya diğer bir projemde hem hotels,hem dormitory hem flats olan 1500 konut gibi bir boyutta dolayısıyla bu büyüklükte ki bir projenin teslim dinamiklerini düşündüğünüzde özelleşmek hiç mümkün değil. Şuan bir kapının yönünün değişmesi talebi bile yatırımcı tarafında organizasyonda büyük sorunlar yaratıyor. Ama şöyle bir şey yapıyoruz inşaatın belli bir aşamasına kadar talep alabiliyoruz ama belli bir aşamadan sonra projeyi donduruyoruz ve talep almıyoruz.

Mesela kullanıcı oda planında bir değişlik istediğinde onu işleyebilecek seviyedeysek çözüm üretiyoruz ama parkemi değiştir dediği zaman cevabımız, kusura bakmayın 1200 konut için aynı parkeyi alıyoruz, sizin parkenizi değiştirmemiz maalesef mümkün değil, yani o karışıklıkta. Zaten finishings malzemede kesinlikle bir değişiklik söz konusu olamaz, duvar hizaları ile ilgili değişiklikleri de ancak inşaatın belli bir yerine ve aşamasına kadar yapabiliriz.

İstanbul'da 100 ve üzeri metrekarelerde 1+1 görmeniz mümkün değildir, aslında İstanbul tam bir metropolitan olarak çok daha farklı, bir Ankara veya İzmir gibi kesinlikle değil. Burası dünyanın 10. en büyük kenti.

Ekonomik veya lüks konutlar diyemeyiz ama bu üretim büyüklüğü, çeşitliği ve pratikliği bizim projemizde lüks oluyor. Tüm malzemelerimiz kaliteli ve A+ standard dışı bir malzememiz yok. Ya da vitra ve kale kullanıyoruz.Bizce lüksü furniture belirlemez, yapım yöntemi, inşai pratiklik, asansörler, yangın koridorları belirler. ***Nef***'te mesela ***Nef****'e* özel üretilmiş seramikler kullanılıyor. Dolayısıyla aslında Nef'in en büyük başarısı o oluyor, gerçekten brand'in altı kendine özel standart ve detaylar ile doldurulmuş durumda. Malzeme ve kalitesi burada, bizde ön plana çıkıyor diyebiliriz.

Nef'te üç önemli kriter var,

1.si; cephe kentsel tasarımda ve ölçekte farklılığı sağlıyor, projenin kendi tarzını yansıtıyor (domitory, flats, points, residence).

2.si; kullanıcı kitlesi tercih sebebi yani sosyolojik açıdan farklılığı sağlayan fold concept'i dir. Yani bu evin yanında verdiğimiz yan destek üniteleri.

3.sü; iç tasarım anlamında farklılaşmayı sağlayan, kendine özel markasının altında, yine ***Nef***'e özel tasarlanmış ürün kullanımı ve piyasada standardizyonu belli ürün kullanımı ayni x,y,z marka değil de *'Nef markası Nef marka seramik kullanıyor'* gibi.

9.Projelerinizde önerilen yaşam çevrelerinin biçimlenmesinde ve kalitesinde, teknolojinin veya teknolojideki yeni gelişmelerin yeri ve katkısı nedir?

Şuana kadar bu konuda çok bir çalışma yapılmamış, lead sertifikası yok mesela, ama gelecek yatırımlarda teknoloji sistemlerin içine giriyor ve bunların kullanılması planlanmaya başlandı.

Özellikle bu yeşil sistemler, eco-çevre sistemler, malzemeler ve daha sürdürülebilir olması gibi, onlarla ilgili çalışmalarımız devam ediyor.

Şuan için ***işletmesel sistemler'***den bahsedebiliriz, işte ***fold konsept***'lerin kurulumu gibi. Ya da işte inter com sistem var. Bina otomasyon sistemler zaten var, sprinkler, yüksek yapılar yaptığımız için işte bunların otomasyon senaryoları falan bunların hepsi zaten var. Yangın senaryosu, mutlaka bir danışman oluyor projede.

10.Projenizde özellikle vaz geçmeyeceğiniz işlevsel ya da estetik esaslı mekân, mimari bileşen ya da detay ve malzeme düzeyinde çözümler var mıdır? Nelerdir?

Ortak alanlar, fold, lobi, lobi de ki karşılama, oradaki estetik, orada oturabiliyorlar, bir otel lobisi gibi bizim binalarımız, bir konuta giriyor gibi değilsiniz de otele giriyor gibisiniz. Sizi karşılayan birileri var, ilgili daire ile connection sağlıyor, oturma gruplarımız var, insanlar beklerken dergi gazete okuyor, daha sıcak ve daha farklı bir mekânsallık var. Her projenin kendine özel malzeme seçimlerine bağlı özellikleri var, interior tasarımları var ve tabi ki ***Fold*** kurgusu ***Nef*** in olmazsa olmazıdır.

11.İlham kaynaklarınız nelerdir? Sizce başarılı mevcut uygulamalardan nasıl esinlenirsiniz?

Nefes'ten gelen bir kurgu var diyebiliriz; aldığını vereceksin, aldığını verdiğin sürece aslında huzur bulabilirsin ve süreklilik arz edebilirsin. Müşterilere aldıkları şeyin karşılığını hak ettikleri şekilde verebilmek. Buna çok özel gösteriliyor gerçekten.

12.Tasarladığınız konutların yerellikle ilişkisi var mı? Konut tasarımı ve uygulamalarında yerel olma konusunda ne düşünüyorsunuz?

Sütlüce projesinde biraz yerelleştik diyebiliriz, Fold-home kurgusuna yeni bir 'Local-room' diye bir konsept ekledik orada, biraz aslında sosyalleşme ve insanların iletişim kurma mekânı olarak bu ihtiyaçlarını giderebilecekleri, daha rahat hissedecekleri, aslında köylerden gelen imajların da tasarımda yer alacağı bir mekan, böyle bir konsept şu an düşünülüyor. Ama bu da kökten gelen ama kesinlikle modern bir şekilde yansıtılan bir konsept olacak.

Yani yerellik burada ortak alanlarda ön planda ve yeni projelerde daha çok ortaya çıkacak. Konsept olarak, tasarımsal boyutta bir yerellik olarak göreceğiz. Konut iç mekânların da yerellik kullanılmıyor. Malzeme ve konut içi üniteler de çok fazla bir yerellikten bahsedemeyiz.

Doktora öğr. Ayça Arslan,DAÜ,Mim Böl.

PROJE ADI	MİMARI		ÇALIŞMA YAPILAN PROJE NO
ODTÜ ÖĞRETİM GÖREVLİLERİ LOJMANLARI	PROF. DR. CELAL ABDİ GÜZER		O7 22.04.2015

1. Konut mimarlığı veya tasarımında Küçük Konut nasıl bir farklılık yaratır?

Şimdi, küçük konut kavramı aslında çok yerleşik bir kavram değil, çünkü bu metrekare bazlı bir kavram mı yoksa yaşam bazlı bir kavram mı çok fazla bilmiyoruz. Mesela Türkiye'de konut büyüklükleri şeye göre fazla gibi görünüyor işte uluslararası büyük metropollere göre karşılaştırdığınız zaman. Ama oda başına düşen insan sayısında mesela biz Avrupa ortalamasının 2 katı gibiyiz veya 1.5 katının üzerindeyiz. Dolayısıyla yani konutun büyüklüğü tek başına bir kriter değil, konut içinde de bir yoğunluk meselesi var.

Şimdi Türkiye gibi yalnız yaşamanın geleneksel olarak yeni yeni kabul gördüğü, ondan sonra yaygınlık sadece büyük şehirlerde ve kazandığı ortamlarda dolayısıyla konut büyüklüklerini değerlendirirken yoğunluk faktörünü göz ardı etmemek lazım. Dolayısıyla konutun kaç metrekare olduğunun yanı sıra, ortalama konutlarda kaç kişinin yaşadığı meselesi de çok önemli. Şimdi küçük konut tabi, neye göre küçük neye göre büyük dediğiniz zaman, dendiğinde Türkiye'de geleneksel olarak, 1+1 -2+1 veya stüdyolar anlaşılıyor. Bunlarda aşağı yukarı 35-30 metrekareden başlıyor ve 70-80 metrekarelere kadar, çıkan bir metrekare aralığında. Kişi sayısı olarak da, 1, 2 ender olarak da 3 kişiyi tanımlıyor. Dolayısıyla şöyle bir pazara karşılık geliyor genellikle: öğrenciler, bekarlar, gençler, yeni evliler, veya emekli olmuş çocuğunu evlendirmiş ve artık küçük konutta yaşayanlar.

İkinci bir konu var, Türkiye için çok önemli olan, başka ülkelerde de var ama Türkiye'de çok yaygın, ikinci konut meselesi. Yani giderek insanlar birden fazla yerde ve şehirde yaşamaya başlıyorlar, işte yazın 5 veya 6 ayı bir tatil beldesinde yaşayanlar olabiliyor. Veya iş nedeniyle Ankara-İstanbul arasında sürekli gidip gelenler olabiliyor. Başka şehirlerle büyük metropoller arasında gidip gelenler olabiliyor. Dolayısıyla bu kişilerinde ikinci konutları, küçük konut olabiliyor. Üçüncüsü de, tabi kurumların özellikle tercih ettiği kısa süreli kalınan işte lojman, vs gibi konutlar var.

Dolayısıyla böyle bir küçük konut tanımı yaptıktan sonra, küçük konut mimari de birkaç tür fark yaratıyor. Bunlardan bir tanesi; bir servis kovasından fazla sayıda konuta girdiğiniz için, plan tipolojileri değişebiliyor birincisi. Bu da vaziyet planı üzerinde sayısal olarak, fazla konut olduğu için, kurgusal olarak, alternatif tipolojiler geliştirmeye olanak tanıyor. Örneğin bizim yerleşik kent içi parselinde çokça tekrar eden, bu apartman adalarında genellikle üç ya da dört konut bir katta yer alıyor işte dolayısıyla bunun ortasında bir çekirdek veya bir ucunda bir çekirdek, etrafında da konutlar olurken, küçük konutlarda daha lineer blok, avlulu blok, ondan sonra işte birden fazla bloğun bir araya gelerek kentsel tasarım ölçeğinde bir farklılık yaratması gibi, konular söz konusu olabiliyor.

İkinci farklılıkta tabi, bu kişilerin konutlarını küçülttükçe, sosyal ihtiyaçları için ek mekânlar yapma imkânı ve şansı doğuyor, dolayısıyla bu tür konutların işte altında özellikle son dönemde pazarlanalar da işte jimnastik salonları ve işte ortak etkinlik yapabilecekleri kafeler, şunlar bunlar olabiliyor. Veyahut bu tür konutlar başka tür kentsel kullanımlarla kolay entegre olabiliyor. Yani işte aile konutu dediğimiz daha büyük konutlar çok alışveriş merkezi ondan sonra kent içinde ki ofis gibi kavramlarla bir araya kolay gelmezken, bu tür şeyler işte home-office kavramı adı altında veyahut işte AVM'lerin yanı başında biraraya gelebiliyor. Çünkü buradaki küçük konutta yaşam geçiren kişilerin sosyal, ekonomik ve kültürel profillerin de bir farklılaşma var, bu çok önemli. Bu profil farklılaşması da işte daha çok bunların öğrenci, beyaz yakalı çalışan yoğun bir şekilde, ondan sonra iş insanı kimliği öne çıkan kişiler olduğu, dolayısıyla konutlarını aynı zamanda iş yapmak için kullandıkları veyahut iş ortamıyla entegre kullandıkları işte çok fazla bizim annelerimizde anneannelerimizde gördüğümüz gibi, evde aşırı yemek pişirmedikleri, dışarıyla ilişkilerinin yoğun ve geçirgen olduğu falan görünüyor. Dolayısıyla bu projelerin lokasyonları ve başka projelerle entegrasyonu artıyor. Bu home-office kavramı günümüzde giderek yaygınlık kazanıyor. Bazı yabancı firmalar özellikle tamamen bir ofis yapısını iptal ettiler, insanların evden çalışmasına izin veriyorlar.

Şimdi, böyle bir çerçeve içinde baktığımız zaman küçük konut tabi sadece metrekaresi küçültülmüş konut değil aynı zamanda işte toplum içinde belli bir gruba hizmet eden, belli bir sosyal ve kültürel yapıyı daha çok içine alan, tersten gittiğimizde de belli bir yapıyı içermeyen dışında bırakan bir konut türü olarak ortaya çıkıyor. Dolayısıyla bunların kent içinde ki yer seçiminden başka projelerle nasıl bir araya geleceğine kadar, ondan sonra birçok özelliğini etkiliyor.

2.Projenizin, 'ODTÜ Öğretim Görevlileri Lojmanları', genel konsepti / ana fikri hakkında bilgi verir misiniz? Bu, projenizin hangi özelliklerinde görünür hale gelir?

Dolayısıyla benim gerçekleştirdiğim birkaç tane küçük konut projesi var böyle baktığımız zaman,

bunlardan belki de en son yapıldığı için, sizin de örnek aldığınız ODTÜ öğretim görevlileri için yapılmış olan lojman yapısı var. Bu yapı bize rektörlüğün talebi ile geldi, daha çok benim demin tanımladığım profil içinde kalan, genç bekar yada yeni evli öğretim üyesi ya da öğretim elemanlarının barınmalarına hizmet verecek bir alternatif konut alanı olarak biz bunu tasarladık. Çünkü ODTÜ'de biraz daha büyük diyebileceğimiz işte 2+1, 3+1, hatta dublex niteliğinde konutlar var, lojmanlar var, bunlara da bir talep vardı, bir de sayısal olarak bir talep vardı. Ve sayıyı arttırmak için alternatif olarak yapıldı.

Şimdi genelde projenin büyüklükleri ve tipolojinin ötesinde bir projenin gelişmesini etkileyen en önemli girdilerden bir tanesi, içinde yer aldığı ortam yani 'yer'. Dolayısıyla bu projede birinci derecede belirleyici bu yer oldu. Biliyorsunuz ODTÜ büyük ölçüde bir orman ve yeşil alan içeriyor, yapı yapılacak yerlerin sayısı az ve sınırlı dolayısıyla benim yaptığım bölgede de aşağı yukarı bir uçtan bir uca böyle bir lineer yapılaşmaya izin veren bir alan vardı, biz de bunu programla uyumlu gördük, yani küçük yapıları yerleştirmek için ikincisi yönlenme açısından ilginç bir şekilde bir lineer kurguda bütün çekirdekleri arkaya alıp, konutların hepsini de güneye baktırma ağırlıklı olarak şansı doğdu. Dolayısıyla o da konut için istenen iyi bir yön aynı zamanda eğim ile de uyumluydu, önünün açık olması önemli bir şeydi.

İkinci kriter şuydu, mümkün olduğu kadar bu eğimden yararlanarak, az katlı kolay ulaşılan bir yerleşke yapmaya çalıştık. Dolayısıyla alt kottan ve üst kottan ayrı girişler tanımladık, dolayısıyla hemen hemen bu aslında dört katlı bir bina olmasına rağmen 1.5 kat çıkarak veya 1.5 kat inerek veya düz ayak girerek herkes konutuna ulaşabiliyor, bu bizim için önemliydi. Buna rağmen engelliler için işte asansörler vs yer alıyor.

İkincisi bunun önündeki dolaşım alanını adeta bir sosyal sokak, konutların önündeki bahçeleri de bahçeler gibi düşündük. Bu eğimli yapı bize iki ayrı kotta iki ayrı konut birimi için bahçe üretme şansı verdi, en üst katlarda da terası yine bir dış mekân olarak kullanınca konutlar küçük olmasına rağmen hepsinin neredeyse bir kat hariç hepsine bir dış mekânla ilişkilenme şansı verdik. Bunlar asıl öne çıkan ve görünür olan özellikleri oldu.

İç planlamasına gelince de, iç planlamasında belli asgari büyüklüklerden ve oranlardan hareket ettik böylece 1+1 ve 2+1 şeklinde konutlarımız oluştu bunların bazılarında daha büyücek olanlarında ebeveyn odasında ayrı bir ıslak hacim koyduk, salon büyüklükleri birbirine yakındır. Çünkü yaşam alanında büyüklüğün çok oda sayısı ile orantılı olmadığı asgari bir yemek yeme imkânı, bir oturma sohbet etme ve çalışma imkanının olmasını düşünüyoruz.

Bunun dışında tabi biz burada, Orta Doğu Teknik Üniversitesi'nde ki eğitmenlerin profillerinden ve beklentilerinden ve daha önceki konut birikimlerinden hareket ederek bir büyüklük ve program oluşturmaya çalıştık. Bu program beraberce rektörlükten gelen talep ve bizim bunu yorumlamamızla birlikte oluştu.

3.Marka ya da konsept projelerin sizce avantajı ve dezavantajları nelerdir ve marka/konseptin ön planda olduğu konut projeleri/uygulamalarıyla ilgili ne düşünüyorsunuz.

**Şimdi marka ya da konsept; tabi böyle bir talepte yani rektörlükten gelen bir şeyde tabi çok fazla bir marka kaygısı yok, pazarlanmayacak satılmayacak bir konut. Ama başka kaygılar vardı, ODTÜ kendi başına bir marka, bunun işte mimari özellikleri var, bu özelliklerini ve öne çıkan duyarlılıklarını sürdürmeye çalıştık. Bu duyarlılıklardan bir tanesi yeşil alan ve dış mekânla ilişkinin öne çıkarılmasından bütün ODTÜ kampüsünde ve binalarında. Dolayısıyla burada da dış mekânla ilişkiyi öne çıkarmaya çalıştık. Kullandığımız malzemede doğal malzeme kullanmaya çalıştık, tuğla, brüt beton gibi şeyleri ODTÜ dilini temsil edecek şeyleri sürdürmeye çalıştık ve de tabi kendi bütçelerimiz için de çok ekonomik, bakım masrafı çok gerektirmeyen, bir yapı yapmaya çalıştık. Burada çok önemli konulardan bir tanesi, bu yapının sürekli bir sahipliliğinin olmayacağı. Yani bir kimse burdan daire satın almadığı için sürekli değişen sahipleri olacak. Dolayısıyla bunun böyle dayanıklı ve ODTÜ'nün sahipliğinde kullanılacak bir şey olması nedeniyle işte boya-badana yerine böyle press tuğla, malzemesini tercih etmemizin cephede ve diğer malzemelerde de daha böyle kalıcı ve sağlam malzemelere gitmemizin temel nedeni odur.

Ancak genelde bu şeye baktığımız zaman bu marka ve konsept konusuna, şu an içinde yaşadığımız tüketim toplumu olgusu içinde marka bir ürünün Pazar değerine ek bir katkı sağlayan bir unsur olarak algılanıyor ve görülüyor. Dolayısıyla bu herşey de; giyim kuşamdan tutunda kaldığınız otelden, kullandığınız arabaya kadar herşey de bir marka değeri, pazar değerinin üstüne eklenen bir değer olarak geliyor, elbette mimarlık gibi inşaat gibi temel tüketim alanlarından bir tanesini tanımlayan alanlarda da bu marka işinden kaçılmıyor ve kullanılıyor.

Bu marka değeri birkaç şekilde kullanılıyor, bir tanesi işte yapının görselliği yani işte değişik olması insanları çağrıştırması, içinde barındırdığı olanaklar, işte yok yüzme havuzu var, yok işte spor tesisi var vs ilave ekleri, veya konulan isim veya işte burayı seçen insanların kimlikleri üzerinden olabiliyor işte, şehrin üst gelir grubu veyahut işte sanatçıları ünlüleri şunları bunları gibi veyahut da mimarın

ismi üzerinden de olabiliyor, ünlü mimarların. Dolayısıyla marka konusu karmaşık bir konu genellikle de bunu temsil eden bir takım pazarlama stratejileri belirleniyor, bu stratejiler ile de konutlar ve konut çevreleri bir şekilde öne çıkarılıyor işte yeşil çevre, duyarlı çevre, kolay ulaşılabilir çevre, şudur budur isimler takılıyor, reklamlar yapılıyor ve bunların tabi gerçek yaşamla elde edilen konutla sunulan marka değeri arasında bir ilişki olup olmadığı. Bunun ne kadar gerçekçi olduğu bir tartışma konusu.

4.Küçük konut tasarımında bu konsept nasıl sürdürülmüş ya da çeşitlenmiştir?

Ama genel olarak benim Türkiye'de gördüğüm, ben pazarlama yanının çok öne çıktığını konutların esas varoluş biçimlerinde büyük radikal farklılıkların olmadığı, plan tiplerinin birbirine benzediği, asıl farklılığın gelir grupları bazında ve donanım bazında olduğunu düşünüyorum yani işte şehrin iyi bir yerindeki konut çok pahalıya satılırken, dış çeperdeki konutların biraz daha fiyatı düşüyor. Ve iç donanımları da bu fiyatlara bağlı olarak ankastresi, banyosu seçilen mobilyası, dış cephe malzemesi, veya bahçe düzenlemesi değişebiliyor. Onun dışında büyük radikal farklılıklar görmüyorum. Yoğunluğu fark ediyor, az katlı, yüksek blok olması. Veya belirttiğim gibi başka bir mevcut projeye entegre olması olmaması gibi konularda fark ediyor.

5.Projeye başlarken genelde konut tiplerini /alt tiplerini ve bunlara yönelik çözümleri geliştirirken M2'leri ve büyüklükleri saptarken; konut pazarı araştırması yaptınız mı? Hangi profilde ki kullanıcılara yönelik olarak ne tür konutlara yöneldiniz? Yoksa yaptığınız tasarımlar mı kendi kullanıcı grubunu yaratmıştır.

Alt tipler şöyle; benim ürettiğim, baştan rektörlük tarafından verilen program bir yada iki odalıydı, gençlere, bekarlara ya da yeni evlilere hitap edecek bir şeydi, dolayısıyla bu nedenle bu konutlara yönelik kullanıcı grubu belli olduğu için. Ama genelde de benim son dönemde işte demin söylediğim gibi bu tür konutlarda yani 2+1 ,3+1 gibi çünkü bütün bu tartıştığımız boyutun dışında bir de insanların satın alma gücü oldukça düşüyor, ekonomik bir boyuttu var. Bu tür konutları almak özellikle gençler için daha kolay oluyor, Türkiye'de çok önemli konulardan bir tanesi ,konut aynı zamanda biriktirme amacı, rant amacı yani küçük konutlar belki daha kolay kiralanıyor, daha kolay değerlendiriliyor.

6.Küçük konutlarınızın tasarımında hedef kitlenizi ya da kullanıcı profilinizi nasıl tanımlar ve çeşitlendirirsiniz? (ait olduğu gelir/meslek ya da meslekler grubu; eğitim düzeyi, yaşam biçimi, hopileri vs.)

Soru.6' da tüm bunların hepsi ok önemli tabi küçük konut tasarımında, hobiler, gelir grubu, eğitim düzeyi vs. Ama daha önemlilerden bir tanesi yoğunluk, öbürü ise lokasyon. Yani bunlar arasında doğrudan bir ilişki var, işte home-office gibi kullanılan evlerin özellikleri ile işte emeklilerin kullandığı veya ikinci konut olarak kullanılan konutlar çok farklı birbirinden. Bu anlamda şunu ihmal etmemek lazım; Türkiye'de giderek kent dışı, metropol dışı özellikle yazlıklarda yerleşen eskisinden farklı olarak küçük konuta dönen müthiş bir talep var. 2+1, 1+1, stüdyo tarzı çok sayıda konut üretiliyor. Bunların bir kısmı da uzun süreli kullanılıyor yani insanlar özellikle emekliler veyahut home-office kullananlar oluyor. Çünkü her hafta sonu gidip gelebiliyorsunuz bir de kentin çeperinde ise bu yazlıklar. İşte İzmir, İstanbul gibi denize yakın yerlerin çeperindeyse.

7.Son yıllarda özellikle çok fazla görmeye başladığımız 1+1, 1+0, stüdyo tipi küçük konutların fazlalaşmasını ve yoğun talep görmesini neye bağlıyorsunuz. Bu tiplerin herbirinin kendi içlerinde alt tiplerinin üretilmesi sırasında, en yaygın olarak hangi tasarım kriterlerine (M2, mekânsal organizasyon, mekânsal donatı, malzeme ve teknoloji kullanımı vs.) bağlı olarak çeşitlendirilmesini uygun görürsünüz? Diğer bir deyişle Küçük konut tasarımında sizce öncelikli kriterler nelerdir?

Bu 1+1 ve 1+0 tiplerin artmasının nedenini başta ekonomik nedenlere bağlıyorum. İkincisi, aile yapısının Türkiye'de değişmesine, öğrenci nüfusunun artmasına, yalnız yaşama alışkanlıkların artmasına, ondan sonra büyük aile modelinin çekirdek aile modeline dönmesine vs tüm bunların hepsini sayabilirim.

Ve burda insanlar çok önemli kriterlerden bir tanesi şu; Türkiye'de konut değiştirme hızı artıyor. İşte insanlar eskiden bir ev alıp 20-30 sene otururken, şimdi çeşitli nedenlerle, öğrenci nüfusunun artması, iş değiştirmeler, şehir değiştirmeler, emeklilerin artması gibi etkenler ile, giderek daha az, işte bir konutta oturma yılı işte 2-2.5 senelere düşüyor. 2-2.5 senelere düşünce de bir sahiplilik meselesi oluşmuyor. Mahallelilik meselesi oluşmuyor. Bunun içinde kendi içinde kendine yeten konut siteleri ve kapalı konut siteleri, daha tercih edilir olmaya başlıyor. Yani çok sayıda insan bir araya geliyor bir site oluşturuyor fakat aralarında bir mahallelilik ve komşuluk ilişkisi olmamaya başlıyor, bu modeller, yeni modeller, birçoğu eleştiriliyor, bunların aşılması için çabalar gösteriliyor filan.

**Birde tabi hiç unutmamamız gereken Türkiye'de ki çok önemli girdilerden bir tanesi, TOKİ'nin sosyal konut adı altında yaptığı tip projeler ve çok sayıda üretim, bunlar çok sayıda oldukları için genellikle birçoğu küçük konut sınıfına girmese bile, küçük konutla rekabet edebilir bütçeler sunuyorlar. Yani siz başka bir yerde 1+1 alabileceğiniz bir fiyata, TOKİ konutunda 3+1 ve belki 4+1

alabiliyorsunuz dolayısıyla bu da böyle bir pazarda alternatif çeşitlenme yaratıyor. Öbür taraf bunun üzerine standartlarıyla, donatı alanlarıyla, çevre düzenlemesiyle ve lokasyon ile , TOKİ'yle yarışmaya başlıyor, insanlar o zaman tercihlerini ya büyük konuttan veya küçük ama donanımlı konuttan yana yapıyorlar, böyle bir Türkiye'ye özgü, bir ikilem var, bunun altını çizmek isterim.

**Küçük konut tasarımında öncelikli kriter demin söylediğim gibi hakkaten mekanların akıllı kullanılması yani metrekare düştükçe daha verimli kullanılması önemli hale geliyor bir de bunların bir araya getirilmesinde bir üst ölçekte alternatif tipolojiler ve sosyal bir ortam, ortak alanlar yaratmak mümkün oluyor, aksi taktirde bu küçük konut olgusu toplumsal olarak içe dönük bir yapı ön görüyor.

8.Sizce günümüzde tasarlanan konutlarda iç mekân tasarımında varılan nokta ve bitmişlik ya da bazen aşırı tasarım denebilecek düzeydeki uygulamalar, detaylar ve malzeme kullanımları konut tipleri (yani büyüklükleri) arasında nasıl bir farklılık gösterir. Küçük konut tasarımı bu bakımdan diğerlerinden nasıl ayrılır.

*İç mekan tasarımında k aşırı bitmişlik? Şöyle bir şey, insanlar konut yapısında diğer yapılardan farklı olarak konutları ile birebir bir aidiyet ilişkisi kuruyorlar. Yani kendisini temsil ettiğini düşünüyor, ondan sonra kendi bir takım beğeni ve tarzlarını da konut aracılıyla ön plana çıkarmaya çalışıyor. Anılarını orda biriktiriyor, işte kendi mahrem alanını vs. Sonuç itibariyle de küçük olsun büyük olsun konutlarda kendi varlığını temsil etmek istiyor. Onun için iç mekân tasarımlarının bence çok abartılı ve çok kesin olarak belli yaşam tarzlarını ifade eden biçimlerde olmaktansa kullanıcının katkısına yer açacak biçimde bir arka plan yapısı olmasını ben şahsen önemsiyorum. Bu anlam kullanıcıların da eklemelerini çıkarmalarını yaparak işte mobilyasıyla duvara astığı resimle vs ile şekillenecek dolayısıyla ben mesela genellikle seramikti şuydu buydu seçiminde çok iddialı olmayan sade ondan sonra düz kaplamaları tercih etmeye çalışıyorum, kullanıcıya yönelik bir takım imkânları bırakmaya çalışıyorum.

9.Projelerinizde önerilen yaşam çevrelerinin biçimlenmesinde ve kalitesinde, teknolojinin veya teknolojideki yeni gelişmelerin yeri ve katkısı nedir?

**Teknoloji tabi önemli, özellikle bu enerji verimliliğine yönelik konutlarda çok önemli, çevrenin korunması açısından çok önemli. Bunun için işte iyi izole edilmiş, ısıtması vs düşünülmüş, mümkünse yer ve yön özellikleri açısından ısı yüklerini düşüren, konfor koşullarını arttıran bir takım, işte güneş paneli gibi eklemelere imkân veren yapılar önemli teknolojik açıdan.

İkinci konu güvenlik; güvenlik tabi özellikle abartılarak hayatımıza sokulan bir kavram, bunda da teknolojiden yararlanıyor, onun dışında tabi müthiş bir iletişim toplumu içinde yaşıyoruz, iletişim altyapısı çok çok önemli, hepimiz artık bilgisayarlar kullanıyoruz, işimizi evimize taşıyoruz, onun için oturma ve yemek masası alanlarında oluşan konuta şimdi bir de çalışma köşeleri ister istemez ekleniyor, internet ekleniyor vs.

Akıllı ev yerine enerji konusunda ki yatırımı yararlı buluyorum. Burda da akıllılık birşeyler takıp takıştırmaktan ziyade tasarım başında alınacak önlemler ile oluyor, işte siz zorunluluktan üşüyen cepheye büyük pencereler açar, asıl güneşin geldiği yeri unutursanız, sonra bunu ne kadar akıllı sistemlerle ısıtırsanız ısıtın çok zekice bir iş yapmış olmazsınız, tasarım kriterleri önemli.

10.Projenizde özellikle vaz geçmeyeceğiniz işlevsel ya da estetik esaslı mekân, mimari bileşen ya da detay ve malzeme düzeyinde çözümler var mıdır? Nelerdir?

**Işık meselesini önemsiyorum, dolayısıyla camları mümkün olduğunca büyük, dışarıyı gören, mümkünse, ana yaşam mekânların da yere kadar uzanan camlar yapmaya çalışıyorum, vazgeçilmezlerim. Ondan sonra iç-dış mekân ilişkisini ve sürekliliğini oldukça önemsiyorum, onun dışında belli oran ve boyutlara dikkat etmeye çalışıyorum. Malzeme olarak da asal malzeme yani inşai malzeme ile mimari dil arasında bir süreklilik oluşturmaya çalışıyorum. Yani sonradan pek böyle yapıştırma şeylerle yapay kimlik arayışlarına kapalı olan bir mimarinin peşinden gidiyorum.

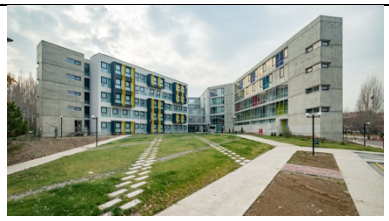
11.İlham kaynaklarınız nelerdir? Sizce başarılı mevcut uygulamalardan nasıl esinlenirsiniz?

**İlham kaynakları; mesela ODTÜ'de ki yapı için ODTÜ'nün kendisini bir esin kaynağı olarak kabul ediyorum. Burada ki çevreyi başarılı bulduğum için. Ama onun dışında ilham kaynağı benim bir eleştirel süreçten geçerek oluşuyor, ne yapmam gerektiği çok ne yapmamam gerektiğinin üzerinde duruyorum. Ne yapamam gerektiği de eğer çok zorunlu değilsem bu tipolojik patetes baskısı projelerden yani mirror ve copy-paste'ler ile üretilmiş ortada bir apartman kovası işte dört tarafında hangi yöne bakarsa baksın aynı olan koskoca bir arsanı üzerinde yalnız bir nokta gibi duran yapılar yapmak yerine işte avlusu olan veya işte kendinde böyle koridoru olan sosyal ve ortak alanları da dışarıya açılan yapılar yapmaya çalışıyorum.

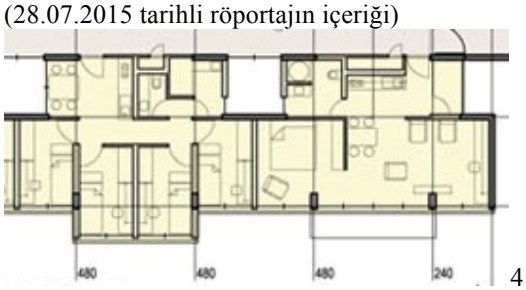
12.Tasarladığınız konutların yerellikle ilişkisi var mı? Konut tasarımı ve uygulamalarında yerel olma konusunda ne düşünüyorsunuz?

Yerellikle ilişki, tabi yerellik ile geleneksellik farklı kavramlar, yerellik denildiği zaman içinde bulunduğu ortama referans vermeye kastediyoruz. O da yeni bir ortam da olabilir eski bir ortam da olabilir. Örneğin işte benim çok önemsediğim bir konu yön ondan sonra çevredeki konutlarla ilişki,

iklimle ilişki, topoğrafyayla ilişki, kültürle ilişki, gibi. O zmn belki birkaç başka konuttan da örnek verecek olursak benimde çok sevdiğim, Adolis konutları var Çay yolun' da, işte bu tüm bu ortada kova tipolojik konutların arasında kendi avlusunu oluşturan ondan sonra, arsayla konutlar arasında iyi bir dış mekan ilişkisi kuran, alternatif bir konut tipolojisidir bu anlamda da sevdiğim bir proje ,kendi oturduğum ev işte bitişik nizamda o bitişik nizama ters dönen bir avlu yapan dolayısıyla işte o avluyu kullanmaya çalışan bir projedir.
Bütün projelerim de o projenin konumuna bağlı olarak bir tür kendi anlayışıma göre yerelliği katmaya çalışıyorum. Bu projede de yani ODTÜ'de yaptığım projede de ODTÜ dili içinde yadırganmayacak, o topoğrafya içinde aykırı düşmeyecek ondan sonra kullanıcının kültürüyle de uyumlu ve sürekli olan bir konut tasarlamaya çalıştım.
Ayça A.: Çok teşekkür ederim hocam.
Phd Student,EMU,Ayça arslan

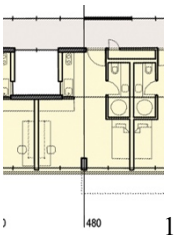
PROJE ADI	MİMARI	YAPI GÖRSELİ	ÇALIŞMA YAPILAN PROJE NO
ODTÜ LİSANSÜSTÜ ÖĞRENCİLERİ KONUKEVİ PROJESİ ANKARA	**SEMRA UYGUR ÖZCAN UYGUR ESER KÖKEN İŞLEYİCİ ZÜMRAL AYGÜLER KARTAL SEVDA ÖZKAN İMAMOĞLU**		**08**

(28.07.2015 tarihli röportajın içeriği)



4 modül üniteler

(1) 4 modül ayrışmış mekanlar (4 kişi/arkadaş) , (2) 4 modül entegre mekanlar (1 - 2 kişi, çiftler/yeni evliler)



1 kişilik 1 modül,  genel konsept plan

1.Konut mimarlığı veya tasarımında Küçük Konut nasıl bir farklılık yaratır?

S.U.: Bir kez her şeyden önce ekonomi yaratır, mekanların kullanımında daha ekonomik olmayı getirir. Aynı büyüklükte ama farklı tasarımlar yapma zenginliğini getirebilir.

E.K.: Pratik ve kompakt çözümler getirir, daha yenilikçi çözümler sağlayabilir. Çünkü daha kısıtlı mekân da bütün işlevleri gerçekleştirmeniz gerekir bunun için daha kompakt çözümler üretmeniz lazım. Yani büyük konut, standart konut tarzında genele yayılmış fonksiyonların hepsini küçük konutta daha sıkıştırılmış bir şekilde standart bir şekilde üretmeniz lazım.

2.Projenizin, genel konsepti / ana fikri hakkında bilgi verir misiniz? Bu, projenizin hangi özelliklerinde görünür hale gelir?

S.U.: Bu projeyi yaparken düşündüğümüz, mahremiyet, çünkü yurtta kendilerine özel yaşam hücreleri oluştururken, bu büyük kütleyi arazi içerisine dağılarak, etrafa çevreyle bütünleşerek var olmalarına yönelik bir çalışmamız oldu, bu da onun için böyle 4 kol olarak yayılır arazinin içerisine, bunun dışındaki aslında yaptıklarımız zaten projenin bizden istediklerini yerine getirdik. Bunu yaparken de kompakt, minimum dolaşımla, küçük konut ihtiyaçlarını bir konuk evinde karşılayabilecek kadarını yapmaya çalıştık. Burası bir küçük evin varsayabileceği özgürlükte bir yer.

Bütün birimleri cepheden algılamak mümkün. Her pencere bir birim demek. Bir de burada tek kişilik ve iki kişilik birimler var, onlarda genel kütle içerisinde fark edilebilecek şekilde.

E.K.: Küçük ünitelerden büyüye ulaştık aslında burada, küçükten büyüye gittik genel olarak. Farklı üç tip istenmişti, işte, 4 kişilik, 2 kişilik bir de evli çiftler için odalar. Biz bunları lego parçaları gibi, bir araya getirdik ve cephede buradan çıktı, bloklarda buradan çıktı, aslında her birime iki tane 2+1, veya 1 tane evli çift odası ya da 1 tane 4 kişilik odayı farklı farklı yerlere yerleştirmemiz mümkündü proje içinde. Biz bunları cepheye de yansıyacak şekilde yerleştirerek cephenin de oluşumunu sağladık. Aynı şekilde farklı sayıda mekân istenseydi yine bu çözüm üstünden sayılar değişebilecekti.

Yani bir tip bir yerde, bir tip bir yerde değil, hepsi birbirinin içinde, o karmaşanın içinde kendi birimlerini oluşturuyorlar. Lego sistemi. Yani binanın bir kolu sadece 4+1'ler ile oluşmuyor.

Tamamen karmaşık bir yapısı var. Bu da aslında günümüz yaşantısına bir sokak yaşantısına varacak şekilde bir çıkarımı var. Belli bir klas oluşturmuyoruz. Belli kesimlerin oturduğu klaslar oluşturmadık. Aslında aynı birimlerin tekrarı ve o tekrar içerisinde farklılaşarak zenginleşme var. Her kişinin bireysel olarak özgür ve mahrem mekânını yaratmaya çalıştık. 4 kişilik odalarda bundan oluşuyor, 4 kişilik odalarda her bir bireyin kendi odası var. Bir de 4 kişinin bir arada bulunabileceği mutfak mekânı var, sosyalleşebileceği, buradan koridor mekânına çıkıp diğer yaşayanlar ile karşılaşıyor. Yani karşılaşma mekânı koridor. Küçük mahrem bir mekândan büyüye doğru gidiş var.

3.Marka ya da konsept projelerin sizce avantajı ve dezavantajları nelerdir ve marka/konseptin ön planda olduğu konut projeleri/uygulamalarıyla ilgili ne düşünüyorsunuz.

4.Küçük konut tasarımında bu konsept nasıl sürdürülmüş ya da çeşitlenmiştir?

5.Projeye başlarken genelde konut tiplerini /alt tiplerini ve bunlara yönelik çözümleri geliştirirken M2'leri ve büyüklükleri saptarken; konut pazarı araştırması yaptınız mı? Hangi profil de ki kullanıcılara yönelik olarak ne tür konutlara yöneldiniz? Yoksa yaptığınız tasarımlar mı kendi kullanıcı grubunu yaratmıştır.

Tren kompartmanı, yataklı vagonun biraz daha gelişmişi aslında. Hepsi aşağı yukarı aynıdır. Bir tarafta işte yatağı, ayakkabılarını depolayacağı dolaba kadar var, hatta valiz yeri bile var. Yani biz o hücrenin boyutlarını belirlerken, mobilyaları ile birlikte hepsini boyutlandırdık. Ama özet olarak aslında yataklı vagonun ranzasız halini düşünürsen, işte elbise dolabı ve dolapları da katarsan böyle bir ünite oluyor. Bir tek lavabosu dışarda.

Mesela 4 kişinin ortak kullandığı iki ortak hacim var. Mesela, sabah herkes telaşla işine giderken, iki kişi aynı yerde tuvalete gidemeyeceği için, 1 tuvalet, 1 lavabo ünitesi, bir de; 1 duş, 1 tuvalet, 1 lavabo ünitesi ayrı ayrı koyduk. Birde mutfak var, isterlerse yemek yapılabilir. Buzdolabı var, masası var. Yani ufak bir evde olabilecek her şey var 4 kişiye ait.

Burası konut ile konuk evi arası bir şey olduğu için bütünüyle kişiselleştiremese de , kendi varlığı orayı kişiselleştirebilir. Zaten her kişinin kullandığı oda farklı, başkası kullansa başka olur aynı mobilyalarla. Onun gibi işte halısını, yatak örtüsünü koyar, kendi eşyaları ile kişiselleştirir ama o çıktığı zaman bir başkası da aynı şekilde kullanabilir.

Yani aslında biz renk ve tarz olarak baskın bir iç mekân yaratmak özellikle istemedik. Çünkü hani baskın karakterli iç mekânlar yarattığımız zaman kişiselleştirmesi daha zor. Onun için işte açık renk tonlar, duvar ve yer döşemeleri, mobilya renkleri, hep açık tonlarda seçtik ve böylece kullanıcı girdiği zaman kendinden daha çok şey katabileceği bir mekân yaratmak istedik.

6.Küçük konutlarınızın tasarımında hedef kitlenizi ya da kullanıcı profilinizi nasıl tanımlar ve çeşitlendirirsiniz? (ait olduğu gelir/meslek ya da meslekler grubu; eğitim düzeyi, yaşam biçimi, hobileri vs.)

7.Son yıllarda özellikle çok fazla görmeye başladığımız 1+1, 1+0, stüdyo tipi küçük konutların fazlalaşmasını ve yoğun talep görmesini neye bağlıyorsunuz. Bu tiplerin herbirinin kendi içlerinde alt tiplerinin üretilmesi sırasında, en yaygın olarak hangi tasarım kriterlerine (M2, mekânsal organizasyon, mekânsal donatı, malzeme ve teknoloji kullanımı vs.) bağlı olarak çeşitlendirilmesini uygun görürsünüz? Diğer bir deyişle Küçük konut tasarımında sizce öncelikli kriterler nelerdir?

8.Sizce günümüzde tasarlanan konutlarda iç mekân tasarımında varılan nokta ve bitmişlik ya da bazen aşırı tasarım denebilecek düzeydeki uygulamalar, detaylar ve malzeme kullanımları konut tipleri (yani büyüklükleri) arasında nasıl bir farklılık gösterir. Küçük konut tasarımı bu bakımdan diğerlerinden nasıl ayrılır.

9.Projelerinizde önerilen yaşam çevrelerinin biçimlenmesinde ve kalitesinde, teknolojinin veya teknolojideki yeni gelişmelerin yeri ve katkısı nedir?

Teknolojik olarak, aslında yapının kendisini uzun yıllar sürdürülebilir olarak ayakta tutması gerektiğini düşündüğüm için, bunları teknoloji olarak görmüyorum.

Bu proje de belli bir maliyet çerçevesi, sınırlı bir bütçesi olduğu içini burada biz sürdürülebilir bir yapı olabilmesi, performansı açısından, mimari olarak her şeyi yaptık. Yani karanlık ışık almayan bir mekân yoktur. Bütün ıslak hacimler dahil ışık ve hava alır, doğal ışık ve havalandırma var.

10.Projenizde özellikle vaz geçmeyeceğiniz işlevsel ya da estetik esaslı mekân, mimari bileşen ya da detay ve malzeme düzeyinde çözümler var mıdır? Nelerdir?

Yani burada odaların düzeni çok iyi oldu, toplanma alanı, 4 koldan oluşan bir yapı aslında bir ana holde toplanır, işte oranın merdiveni asansörü bir kenarında toplu çalışma yeri, ama sadece bu değil, her şeyi vazgeçilmez çünkü proje bir bütün. Her tarafını detaylandırdık. Sonuç ürün.

11.İlham kaynaklarınız nelerdir? Sizce başarılı mevcut uygulamalardan nasıl esinlenirsiniz?

Aslında bir kolye, o kolyenin içinde aynı aynı giden parçalar içinde farklılaşmaları var, o da işlevden gelen farklılıklar veya lego sistem diyebiliriz, çünkü birimler gerçekten birbiri üstüne geçebiliyor ve tüm tesisatı sabit kalarak. Farklı birimlerin bir araya gelmeleri aslında.

Bizim aslında tüm birimlerimiz 4 aks arasında yer alıyor ve farklı birimler var. 1 kişilik, 2 kişilik, 4 kişilik ve çiftler için olan tipler. Tüm birimler doğaya açılır ve hiçbir oda diğerini görmüyor aslında. Burada ki özelleşme odur. Hepsi dışarıya bakar ve kimse kimseyi görmez.

Bir de ilham kaynağı, kendi özel yaşamlarımız diyebiliriz. Bize bir program verildi ama herkes ayrı ayrı odalarda olsun diye bir şey belirtilmedi. Bunu biz ürettik. Biz yurtlarda kendimiz yurtlarda yaşamış olduğumuz için, kendi deneyimlerimizden ilham aldık.

Mesela bazı yurt projelerinde, odaları yan yana koğuş gibi dizmekte bir behis görmüyorlar, âmâ bu yaşta bir kullanıcı için daha özgür mekânlar olmalı, öyle özgür mekânları olmalı, istediği de rahatça soyunabilmeli. Aslında özgürlük mekânlarına sahip olmaktır. O yüzden bizim burada yapmak istediğimiz konsept, kendi deneyimlerimizle şekillendi. Bir noktada insanların yalnız kalmaya ihtiyaçları da var tabi, o yüzden böyle mekânlara da ihtiyaçları var.

Böyle bir ranzalı sistem yaratmak istemedik, mesela 4+1 de 4 yatağı yan yana koyabilirdik ama farklı bir çözüm getirdik. Birde bu binayı kullananlar bir de lisansüstü artık belli bir yaşa gelmiş gençler. O yüzden bireysel mahremiyete çok önem verdik ve bu şekilde bir projelendirme yaptık.

4+1'lerin 1+1'lerden farkı ortak alanlar oluyor. Bir de birlikte kalmak isteyen eşler için 1+1 ev ve 4 modülden oluşuyor.

12.Tasarladığınız konutların yerellikle ilişkisi var mı? Konut tasarımı ve uygulamalarında yerel olma konusunda ne düşünüyorsunuz?

Brüt beton kullanımı, aslında, ODTÜ yerleşkesi bütününde brüt betonla var olmuş bir yerleşke o yüzden brüt beton kullanımı diyebiliriz, yani oranın doğal malzemesi gibi sayabiliriz.

Phd Student,EMU,Ayça arslan

PROJE ADI	MİMARI	YAPI GÖRSELİ	ÇALIŞMA YAPILAN PROJE NO
SOYAK SIESTA PROJESİ-İZMİR **Konsept tip 1+0.5**	**SİBEL ÇETİNSOY**		**09**

(22.07.2015 tarihli röportajın içeriği)

1+0 ile 1+1 tipleri arası İzmir projesi için tasarlanan daireler.
29.92 m2 net area, brüt 36.27-51.37 m2,balkon:5.60 m2, duvarlar: 6.35m2

1.Konut mimarlığı veya tasarımında Küçük Konut nasıl bir farklılık yaratır?

Küçük konut tasarımı daha çok büyük şehirlerde, daha çok metropollerde, yalnız yaşayan kişileri aslında hedefleyen bir çalışma veya yeni evli çiftleri veya konut almakta zorlanan ama bir yerden başlayan, başlamayı hedefleyenleri karşılıyor, dolayısıyla minimal bir yaşamı hedefliyor aslında 1+1, en az ihtiyaç duyacağınız eşyayla yerleştiğiniz, size bir yaşam alanı sunan bir projenin içinde bir daire sahibi oluyorsunuz. İşte sonrasında belki ileride onu bir derece genişletip 2+1 e geçebilirsiniz, bir derece daha genişletip 3+1, dolayısıyla bir mülk edinmenin, daire edinmenin ilk adımı gibi düşünüyoruz. O yüzden de biz küçük metrekare de konut seçeneklerini her projede mutlaka sunuyoruz ki, bu bir başlangıç olabilsin diye.

2.Projenizin, 'Soyak Siesta', genel konsepti / ana fikri hakkında bilgi verir misiniz? Bu, projenizin hangi özelliklerinde görünür hale gelir?

Soyak Siesta projesi İzmir'de Karşıyaka bölgesinde bir proje, toplam 2600 konuttan oluşan, altı ayrı etap halinde, beş ayrı konut etabı ev bir ticari etap olmak üzere geniş alana etaplar halinde yayılmış olan bir proje. Şu anda son etabı yapılıyor. Bu projenin kriteri, yani başlarken biz daha çok İzmir için özellikle farklıydı, mesela İstanbul için küçük konut alışılmış bir şeydir, çok fazla bekar vardır, çok fazla öğrenci vardır, çok fazla yalnız yaşayan insanlar var. O yüzden İstanbul'da çok fazla yadırgamıyordu insanlar ama İzmir öyle değil, İzmir'de daha çok büyük metrekare de konutlarda oturmayı severdi insanlar, insanların alışkanlıkları bu yöndeydi. Biz ilk Siesta'yı çalışmaya başladığımızda, oraya bir farklı konsept ile gittik. Küçük ölçekte; 1+1 ile 1+0 arasında bir daire tipolojisi yarattık, bunda bizim bile soru işaretlerimiz vardı, İzmirli bunu alır mı diye, talep görür mü acaba diye. İlk etapta denedik ve satıldı. Çünkü insanlar mal sahibi olmak istiyorlardı ve böyle bir projeden daire almak istiyorlardı, kiraya vermek istiyorlardı veya kendi çocukları, o şehirde okuyan, henüz yeni çalışma hayatına başlamış, daha evlenmemiş veya evlenmek üzere olan insanların, tercih ettiği konut oldu ve çok umduğumuzun üzerinde bir hızla satıldı.

Sonra da projenin devamında ki, etaplar da biz, 1+1 oranını bile arttırdık bazı etaplarda yoğun talep gördüğü için.2+1 de küçük ve orta büyüklükte olmak üzere daire metrekareleri oluşturduk, İzmir'in geneline göre düşündüğünüzde daha küçük metrekareli hayatlar oluştu.

Projenin genel konsepti şuydu; sonuçta Soyak sadece konut veya daire tasarlamıyor, bir yaşam alanı tasarlıyor, bölgesi ile birlikte geliştiren, insanların yaşam alışkanlıklarını değiştiren projeler yapıyoruz. Burada, *SIESTA*' da ki, az katlı, 6-8-10 katlı binalardan oluşan daha çok yatay konseptte, bir toplu konut alanının içinde biz biraz daha tatil havasında, sanki insanlar burada kendilerini bir tatil köyünde gibi hissetsin, İzmir'li daha relax'tır, daha rahattır, daha müsaittir, seçtiğimiz bitkiden yaptığımız aydınlatmaya ve kullandığımız malzemelere kadar, hep bu ön planda tutuldu, özellikle sosyal alanlar, ortak alanlar, havuz çevresi, dışarıda mesela hamaklar dinlenme alanları gibi, insanların sosyalleşebileceği, dışarıda da yaşayabilecekleri ortamlar yarattık. Japonya'da da öyledir, küçük metrekareli evlerde yaşayan insanlar, ama ortak alanlarda bir araya gelirler. Misafiri gelen bir 1+1 sahibi veya kullanıcısı, iner Kafe'ye orada ağırlar misafirini mesela böyle alanlar oluşturduk biz.

'İçerde küçük metrekare satılabilir alınabilir' insanlar için müşteri ve kullanıcı için, ama dışarda da olabildiğince insanların konforlu rahat mutlu yaşatacak ortak alanlar yaratma hedefi koyduk. Aslında proje buradan çıktı. Gidip görüyorum keyifle de kullanıyorlar.

3.Marka ya da konsept projelerin sizce avantajı ve dezavantajları nelerdir ve marka/konseptin ön planda olduğu konut projeleri/uygulamalarıyla ilgili ne düşünüyorsunuz.

Marka yada konsept projeler dediğim gibi sizin yaşam kalitenizi yükselten, sizi bir derece yükseğe taşıyan, pek çok parametrenin bir arada düşünüldüğü tasarlanmış yaşam alanları. Aslında işin içinde bir çok disiplin var, mühendisinden mimarına içmimarından peyzaj mimarına kadar çok fazla bu alanda uzmanlaşmış ekiplerin bir araya geldiği projeler bu projeler. İnsanlara belli bir kalite standardı sunan belli bir hayat ve yaşama alışkanlıkları sunan projeler ve yavaş yavaş kullanıcıların farkında olmadan da insanların kalite standardını her bir etapta attıran projeler oluyor genelde, beklentileri giderek artıyor. Bilinçliliği artıyor hani yaşadıkça ve kullandıkça insanlarda gelişir ya siz ne sunarsanız ona göre gelişir. Mekân tasarımı bu yüzden çok önemli, bulundukları yani yaşadığı bölgede ki, algıyı belki detayı çok fazla fark etmezler ama bu tip projelerde fakat genel hava insanların ve toplumların alışkanlıklarını da değiştirir. Marka konut projeler bu yüzden önemli, birincisi bu; yaşam kalitesi, yaşam standartlarını geliştiren projeler olduğunu düşünüyorum.
İkincisi güven, güvenlikli her açıdan, hem yaşarken içinde bulunduğunuz evde kendinizi güvende hissedebileceğiniz, hem de alışta /satışta daha güvenli alanda olduğunuz projeler. Bir de getirisi olan projeler aslında. Güven duygusu uyandırıyor, belli bir kalite var, yaşam standardı var. Dolayısıyla aldığınız ürün belki ilk anda pahalı olabilir dışarıdakiler ile kıyasladığınızda fakat getirisi fazla. Hem yaşamsal olarak hem maddi olarak getirisi fazla. İkinci ve üçüncü kullanıcılarda çünkü alırken marka ya önem veriyor. Dışarda kimin yaptığını bilmediğiniz hani çok emin olamadığınız bir projeden almaktansa bilinmiş güvenilir, ileri de teslim sonrasında da hizmet alabileceğiniz, herhangi bir sıkıntınızda danışabileceğiniz türde projeler de oturmak tabi çok daha avantajlı.

4.Küçük konut tasarımında bu konsept nasıl sürdürülmüş ya da çeşitlenmiştir?

Küçük konut yaptığınız zaman çok küçük alanlarda aslında günlük yaşam fonksiyonlarınızı konutta, barınma da ki fonksiyonlarınızın cevabını da verebiliyor olmanız gerekiyor. Orda yaşayan kişi belki çok küçük alanda ihtiyacı olan pek çok aktiviteyi yapabiliyor. Tasarımını yaparken cm. cm. her alanını çok düşünerek ve irdeleyerek tasarlıyoruz. Biz örnek daire yapıyoruz mesela, bunu insanlara tecrübe ettirebilmek ve deneyimleyebilmek için, İzmir de de yapmıştık bunu siesta da, ilk anda çünkü insanlar algılayamıyor, ama bakın bu daireyi böyle dekora ettim derseniz, daha kullanışlı bir şekilde faydalanabilirsinizi biz anlatmak istiyoruz. Az önce bahsettiğimiz o yaşam standardını yükseltme dediğim konu aslında şuraya geliyor insanlarda genelde çok büyük mobilyalar vardı bir dönem öncesine kadar, ağır, bizim çocukluğumuzda büfeler vardı hiç kullanmadığımız, hiç kullanmadığınız eşyalar vardı. Hiç kullanmadığımız kıyafetler dolaplarda yer kaplıyordu. Ama siz yavaş yavaş bu yüklerden ve fazlalıklardan arınıp gerçekten ihtiyacınız olan giyisiyi veya ihtiyacınız olan mutfak eşyasını kullanıp minimum da tuttuğunuzda o evlere sığabiliyorsunuz. Biz onu örnek dairede gösteriyoruz nasıl sığılacağını. Mobilyayı seçerken mesela ona göre seçiyoruz. O mekânı daha daraltan daha küçükmüş hissi uyandıran değil de, daha ferah algılatan, aynı koltuk ama orda bir şey seçiyorsunuz o size orada daha genişmiş duygusu yaratıyor. Böylelikle işin püf noktasını anlatmaya çalışıyoruz insanlara ve ben duyuyorum, mesela İzmir'de çalışan bizim şirketten arkadaşlar var, ilk taşındığımızda nasıl sığacağız eşyalarımız sığmıyor derken bir iki ay içinde o sistemi, o yerleşmeyi ve dekorasyonu oturttular ve şimdi çok mutlular. Daha az daha minimal ve daha öz aslında yaşamı hedefliyoruz. Çünkü çok fazla büyük alanlar sunduğunuz zaman hani bu küçük alanı oluştururken, küçük metrekareye gitmenin bir de başka bir parametresi daha var. Gereksiz enerji tasarrufu, yani gereksiz enerji harcamalarının önüne de geçmeye çalışıyoruz, bu bizim projelerde çok önemli kriterlerden biri; sürdürülebilirlik, yeşil proje, yeşil konut, dediğimiz olabildiğince her projenin kendi segmentine göre yapabildiğimiz max. da çevreye ve doğaya az zarara veren sürdürülebilir min. enerji harcaması yaratan konutları hedefliyoruz aslında, onlarında çoğu konutta harcanmış oluyor. Kullanmadığınız alanı ısıtmak/soğutmak, temizletmek zorunda kalmıyorsunuz.
1+1'ler hemen satılıyor, küçük 2+1'ler hemen satılıyor, ama 3+1'ler daha yavaş satılıyor, çünkü alım gücü ile alakalı. Bu tiplerin giderleri farklı aidatları farklı olabiliyor.
Önce 1+1 al , 1+1'le başla, yaşa orada, yaşayabiliyorsan yaşa, test et , teksen yaşayabiliyorsun zaten, sonra evlenmek istiyorsan evleneceğinde 2+1'e geç ondan sonra çocuk istiyorsan çocuklu oturabileceğin bir 2+1 dene veya 3+1'e geç. Aslında hayat standardın arttıkça konut alımı da ondan ona sıçrar. Bu sıçrayışlar mümkün zaten bizim müşterilerimizde bu tarz davranışlar oluyor.
Daha çok 1+1'ler de gençler kalıyor veya bir aile mesela, annesini babasını 1+1'e yerleştiriyor ama kendi 2+1'de veya 3+1'de oturuyor. Ya da işte çocuğuna alıyor, kızına oğluna ayrı 1+1, kendine ayrı bir daire ama yakın oluyorlar. Aynı sitede yaşıyorlar ama farklı dairelerde yaşayabiliyorlar.

5.Projeye başlarken genelde konut tiplerini /alt tiplerini ve bunlara yönelik çözümleri geliştirirken M2'leri ve büyüklükleri saptarken; konut pazarı araştırması yaptınız mı? Hangi profilde ki kullanıcılara yönelik olarak ne tür konutlara yöneldiniz? Yoksa yaptığınız tasarımlar mı kendi kullanıcı grubunu yaratmıştır.

Lokasyona göre, projenin geliştirileceği alana göre pazar araştırması mutlaka yapılıyor, ihtiyaçlar belirleniyor, bunu bizim pazarlama grubumuz yapıyor. O bölge ile ilgili geniş kapsamlı bir çalışma

yapıyorlar, o bölgede hangi büyüklükte hangi oranlarda hangi dağılımlarda konutunu yaparsak katkı ve başarı sağlarız, brifini biz bu araştırmalardan alıyoruz. Ya da kendi öngörümüzle, şirketin deneyimlerinden daha önce yaptığımız projelerdeki sonuçlardan hareketli hep birlikte kollektif bir çalışmayla hareket ediyoruz. Farklı farklı pek çok disiplinler bu sürece giriyor. Dolayısıyla önce pazar araştırması, ondan sonra proje başlıyor.

6.Küçük konutlarınızın tasarımında hedef kitlenizi ya da kullanıcı profilinizi nasıl tanımlar ve çeşitlendirirsiniz? (ait olduğu gelir/meslek ya da meslekler grubu; eğitim düzeyi, yaşam biçimi, hobileri vs.)

Genelde bekar bir kullanıcı profili var, profesyonel çalışan, beyaz yakalı diyebileceğimiz kesimden kişiler daha çok ev sahibi oluyorlar ve 1+1 dairelerde yaşıyorlar. Bir yoğun kesim bu, diğeri üniversite öğrencisi olabiliyor, ailesi onun için satın alabiliyor, o orada yaşamaya başlıyabiliyor. Üçüncü profil de ailenin farklı profilleri aynı sitede farklı evlerde yakın yerlerde yaşayabiliyor. Bizim projeyi tasarlarken ki hedefimiz beyaz yakalı çalışan, orta gelir grubuna sahip kişilerin konut sahibi olması.

7.Son yıllarda özellikle çok fazla görmeye başladığımız 1+1, 1+0, stüdyo tipi küçük konutların fazlalaşmasını ve yoğun talep görmesini neye bağlıyorsunuz. Bu tiplerin herbirinin kendi içlerinde alt tiplerinin üretilmesi sırasında, en yaygın olarak hangi tasarım kriterlerine (M2, mekânsal organizasyon, mekânsal donatı, malzeme ve teknoloji kullanımı vs.) bağlı olarak çeşitlendirilmesini uygun görürsünüz? Diğer bir deyişle Küçük konut tasarımında sizce öncelikli kriterler nelerdir?

Küçük konut tasarımında öncelikli kriter; 1.si fonksiyon çözümleri, yani yaşamsal fonksiyonların *'küçük metrekare içinde maximum verimlilikle çözümü'* 1.kriter, 2.si *malzeme*, innovatif ve yaratıcı çözümler, kullandığınız malzeme ve teknoloji, onları da kullanarak işte bu bahsettiğim küçük alanda çok büyük çözümleri oluşturmak mümkün olabiliyor, yani bir konutta aslında şunu düşünün; mesela siz 100 m2 bir evde yaşıyor olabilirsiniz ama aslında gün içinde kullandığınız alan **15-20 m2**'yi geçmiyordur. Mutfak, salonda bir köşe bir de yatağınız bir de banyo zaten fix oluyor. Aslında bunları bir araya getirdiğinizde, bu metrekare oluşuyor zaten, fakat bunları çok verimli bir şekilde çözmek lazım, o noktada malzeme, teknoloji, tasarım, 3.boyutta mekân algısı mekân tasarımı ve bunların hepsi birleşip ilk anda ki kriterler oluyor. Diğeri de kullanıcı ihtiyaçları, neden insanlar 1+1 tercih ediyorlar, 1.si alabildiği için daha kolay olabiliyor daha kolay ödeyebiliyor, 2.si yatırı amaçlı, hani kendi, evi var, 1+1 alıyor kiraya veriyor. Hem yatırım için hem de satın alınabilirliği daha kolay olduğu için 1+1 ler daha çok tüketiliyor.

8.Sizce günümüzde tasarlanan konutlarda iç mekân tasarımında varılan nokta ve bitmişlik ya da bazen aşırı tasarım denebilecek düzeydeki uygulamalar, detaylar ve malzeme kullanımları konut tipleri (yani büyüklükleri) arasında nasıl bir farklılık gösterir. Küçük konut tasarımı bu bakımdan diğerlerinden nasıl ayrılır.

Küçük konut tasarımı bizim projelerde genelde çok sade fonksiyonel ve daha minimal çözümler oluyor. Çok fazla gereksiz tasarımlar yapmıyoruz. Olabilen en verimli alanla çözmeye çalışıyoruz daire içlerini. O konuda da aslında çok fazla birikimimiz var, çok fazla konut yaptığımız için 1000'lerce. O konuda uzmanlaştık zaten ama gereksiz enerjiyi düşündüğünüzde, gereksiz milli servet, hepsi bir bütün düşünmek gerekiyor, tabi ki hedeflediğiniz kitleye bağlı, sattığınız lokasyona bağlı, projenin geliştirildiği bölgeye bağlı olarak bunlar değişebiliyor, İzmir'de farklı oluyor İstanbul'da farklı, örnek İzmir'de balkonu daha geniş yapıyorken, ama İstanbul'da insanlar balkon kullanmıyor, öyle bir alışkanlıkları yok, olabilen en küçük alanlarda balkonlarla hani yapacaksak çözüyoruz böyle kriterler de oluyor.

Bitmişlik derecesi; biz o kapsamda yapmıyoruz, yani yapmadık şu zamana kadar, bunu düşündük, ama o kadarda insanları kısıtlanmak istemedik. Örnek dairelerde önerilerimizi gösterdik, onun dışında daire içi çözümü kullanıcıya kaldı ama şöyle ki biz mesela neleri veriyoruz verdik bu projede, bütün mutfak ve mutfakta kullanabileceği işte tezgah üstü ocak, aspiratör gibi ürünlerini verdik, ama ankastreleri mesela burada vermedik, teslim kapsamı dışında tuttuk, kullanıcı kendi ankastresini aldı. Ama İstanbul'da başka bir projemizde verdik. Dediğim gibi lokasyona göre bu değişebiliyor. Dolapları, mesela portmantoları gömme dolabını İzmir'de vermedik, sadece girişteki tesisat ve pano dolaplarını verdik. Onun dışındakileri vermedik, nasıl yapılacağını yine örnek dairede gösterdik. Çünkü onları yapıp dairenin fiyatını arttırmaktansa olabildiğince düşük tutalım, daha kolay alabilsin kendi yaptırsın veya işte bir takım kampanyalarla bunlar desteklendi, hediye çekleri ile vs.

Ama başka bir projede de mesela tamamını verdiğimiz de oldu, olabildiğince makisimum'da dolaplarıyla .Örneğin Soho projesinde yaptık 1+1, Residence şehrin göbeğinde Mecidiyeköy'de, onda herşey var. Sadece mobilyanız alıp yerleşiyorsunuz, konsept farklılıkları var, İzmir'de de var, İzmir'de 4 konsept , 4 ayrı dekorasyon alternatif sunuldu, malzemesi yerinde, tabi Soho'da çok daha fazla parametre var çünkü, lokasyon ve satış m2'si, orada ki kullanıcının beklentisi, segmenti değiştiği için, orada ki bitmişlik biraz daha fazlaydı. Ama sizin dediğiniz anlamda mobilyasından sadece

bavulunu alıp gideceği projelerde aslında var, bunlarda metropoller de, mantıklı çözümler bence çünkü küçük dairelerde siz inovatif birkaç mobilyayla çok iyi çözümler sunabiliyorsunuz. Ve bunu tasarlayan yapan geliştiren firma olduğu sürece, kullanıcı ve alıcı bu konuda çok da fazla yorulmamış oluyor, daha ekonomik oluyor.
Mesela yurtdışında Hong Kong'da, özellikle orada çok örnek incelemiştik, o inovatif mobilyalar, çevirirsin kitaplık olur, arkasını döndürürsün mutfak olur gibi. O tip şeyler, Türkiye'de de yavaş yavaş yapılmaya başlandı zaten. O da bir alternatif. Özellikle küçük m2' lerde faydalı olabilecek çözümler bunlar.

9.Projelerinizde önerilen yaşam çevrelerinin biçimlenmesinde ve kalitesinde, teknolojinin veya teknolojideki yeni gelişmelerin yeri ve katkısı nedir?

Zaten teknoloji olmazsa olmaz, gelişen yeni tasarlanan malzemeleri, gerek dünyadaki gelişmeler, farklı ülkelerde yapılan konutlar, benzer projeler, oralarda kullanılan malzemeler, Türkiye'de geliştirilen kullanılan veya üretilen yeni malzemeler, bunların teknoloji geliştikten sonra yeni yeni sürekli gelişmesi, her geçen gün yeni ürünler çıkıyor, kendi kendini temizleyebilen boyalar işte ısı yalıtım sıvaları gibi sürekli farklı ürünler çıkıyor ve biz bu ürünleri projelerde projenin bütçesine segmentine ve lokasyonuna göre kullanabilmeye çalışıyoruz. Araştırıyoruz ,zaten kendi bünyemizde arge grubu da var, yani tasarım grubunun dışında şirket kapsamında birçok farklı disiplinin bir arada olduğu ve arge ekibi var. Birlikte çalışıyoruz, farklı malzemeleri araştırıyoruz ve kullanabilirsek kullanıyoruz çünkü giderek gelişen teknoloji ile siz, daha az kalınlıkta ısı yalıtım malzemeleri ile aynı ortamı sağlayabiliyorsunuz küçük alanlarda bu önemli. Eğer bu proje bütçesine uygunsa, bunu kullanmak bir avantaj sağlıyor size. O yüzden teknoloji ve **yeni ürünlerin** kullanımı çok önemli.

10.Projenizde özellikle vaz geçmeyeceğiniz işlevsel ya da estetik esaslı mekân, mimari bileşen ya da detay ve malzeme düzeyinde çözümler var mıdır? Nelerdir?

Tasarladığınız alanda yaşamsal fonksiyonları sağlamak zorundasınız, dolayısıyla, dairenin içini bir konutun içini düşündüğünüzde vazgeçemeyeceğiniz, net alanlar var. Ama onun dışında ortak alanlarda, çocukların oynayabileceği bir alandan vazgeçemiyoruz mesela projenin segmenti ne olursa olsun mutlaka bir oyun alanı var, mutlaka insanların bir araya gelip oturup beraber vakit geçirebilecekleri ortak alanlar oluşturmaya çalışıyoruz. Mutlaka projelerde olmazsa olmazımız elektrikli şarj ünitesi koyuyoruz. Bu henüz yaygın değil ama biz koyuyoruz projelere, bundan 3-5-10 sene sonra çok yaygınlaştığında bizim projemizde bu eksik olmamalı diyoruz. Önümüzde ki 10 yıl sonrayı da görüp, bugünden belki çok fazla teknolojik şeyler kullanamasakta, fonsksiyonel ihtiyaçları ön görüp, şimdiden sağlamaya çalışıyoruz. Yoksa konut içinde zaten bir banyo, salon, oturma alanı işte kitap okuyabileceği, yatıp uyuyabileceği bir alan olmalı ama onun dışında bisiklet parkları mesela hiç vazgeçmiyoruz, projelerimizde mutlaka koyuyoruz. Havuz, spor mutlaka oluyor çok küçük ayırabilsek bile mutlaka koyuyoruz. Spor yapabilecekleri, hani 2-3 koşu bandı bile olsa koyuyoruz. Bunlardan hiç vazgeçmiyoruz ama çok abartmıyoruz. Mesela Soho da hiç yoktur. Ama Soho da sosyal merkez olsun fitness olsun gibi bir hedefle tasarlamadık. Siesta'da da öyle ama yaşayan insanların ihtiyacını görecek kadar aktivite alanı olsun, basketbol mutlaka oynayabilsin, tenis belki koyuyoruz belki koyamıyoruz ama basketbol mutlaka koyuyoruz, yarım potada olsa.Çocuklar ve gençler oynuyor çünkü, herkes tenis oynamıyor ama basketbol oynuyor.

11.İlham kaynaklarınız nelerdir? Sizce başarılı mevcut uygulamalardan nasıl esinlenirsiniz?

Siesta için, biz projelerimizi çok fazla out-source ediyoruz, mimarlarla çalışıyoruz, iç mimarlarla, peyzaj mimarlarıyla onların yaratıcı katkılarından da faydalanıyoruz projelerimizde ama ilk daha arazi boşken önümüze geldiğinde biz kendi içimizde başlıyoruz çalışmaya, pazarlama, tasarım, iş geliştirme, mekanik gibi çok farklı grup bir araya gelip kafa patlatıyoruz o proje ile ilgili ne yapmamız lazım ne segmentte olmalı mimara gidene kadar biz pek çok şeye önceden çalışıp karar vermiş oluyoruz. Ürüne, yani ortaya bir ürün çıkacak sonuçta bu ürün nasıl bir ürün olmalı burada diye, bunu yaparken mesela siesta'nın arazisi bomboşken o bölgede çok güzel taşlar arazinin taşlarının rengi dokusu o kadar çok hoşumuza gitti ki bu taşlar bu projede mutlaka kullanılmalı dedik. O bizim olmazsa olmazımızdı mesela proje kriterimizde ve projeyi incelerseniz görürsünüz Ata Turak ile çalışmıştık peyzaj mimarımız oydu, ona bunu anlattık o da bize bir gabyon duvar tasarladı, dış site duvarları tamamen örgü sepetler içinde o bölgenin taşları ile tasarlandı. Yani sepetler yapıldı farklı farklı ordan hafriyattan çıkan taşlar o sepetlerin içine kondu ve bu aslında projenin bir sürdürülebilirlik örneği de oldu. Orda mutluyuz onu kullandığımız için o yöreye o iklime uygun bitki seçimleri yapıldı.
İlham kaynağı da aslında araziye gidip düşündüğünüzde, bir doğadan gelen nedenler var, doğaya özgü o yerin kendi ekolojisinin, kendi çeşitliliğinin getirdiği bir takım nedenler var, tasarıma başlarken bir de orda ki insanların yaşam ihtiyaçlarının giderilme nedenleri var. Geri kalanda bütün bunları harmanlayıp en uygun en optimum çözümlerle yola çıkmak.

12.Tasarladığınız konutların yerellikle ilişkisi var mı? Konut tasarımı ve uygulamalarında yerel

olma konusunda ne düşünüyorsunuz?

Yüzde yüz her malzemede yerelliği sağlayamasakta, üretilmediği için her bölgede ,ona çok dikkat ediyoruz, gereksiz enerji gereksiz milli servet tüketmeye karşı düşüncedeyiz diye. O yüzden bu taşta bunun bir örneğidir tamamen arazinin kendi taşı, bitki seçiminde de İzmir'de peyzaj da kullanılan bitkilerle İstanbul'da ki bitkiler asla aynı olmaz. O bölgede yetişen doğal bitkiler seçiyoruz mesela İzmir'de az su tüketen bitkiler, o iklime uygun bitkiler kullanıldı. İstanbul'da o iklime uygun bitkiler kullanıldı. Ama az su tüketen hep olmazsa olmaz.

İkincisi yerellikte, yine o bölgeye özel insan davranışlarının getirdiği ihtiyaçları karşılamak. Balkon örneğinde verdiğim gibi. İzmir daha dışa dönük daha çok dışarda yaşamayı seviyor daha çok balkon kullanmayı seviyor, ona göre yaklaşıyoruz tasarımda ama İstanbul öyle değil. İstanbul'da dışarda yaşamayı seviyor ama evinde de çok büyük balkon olması onu ilgilendirmiyor.

Yerellik önemli her yerde aynı projeyi yapmıyoruz bu yüzden.

İlave olarak; projelerde bir de vazgeçmediğimiz noktalardan biri atık yönetim sistemi, site yönetimi. Özellikle ilk bir yıl site yönetimini biz yapıyoruz, konutlar teslim edildikten sonra o süre için de de insanların yaşama alışkanlıklarını değiştirme geliştirme veya o projedeki yaşam konseptini yaşatmak ve insanların alışkanlıkları değişmek zorunda çünkü oraya geçtiğinde, bunu sürdürebilmek içinde ilk yıllarda site yönetimini bizzat biz yapıyoruz Soyak olarak.

Atık yönetim sistemi uygulanıyor mesela, çevrede kullandığınız pek çok ürünün nasıl bakılacağı bitkilerin nasıl sulanacağı gibi konular yerleştirilmeye çalışılıyor daha sonra da sitenin kullanıcılarına devrediliyor.

Bu tip alışkanlıkları da oturtmaya çalışıyoruz elimizden geldiğince. Atık yönetimi bilgilendirme panoları yapıyoruz blok girişlerinde, insanlara daire kullanım kitapları veriyoruz. Dairesiyle ilgili bütün teknik özellikleri ve neyin nasıl yapılacağını anlatan kitapçıklar veriyoruz.

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Appendix C: Abbreviations

In this thesis study abbreviations have been used during determining the spaces of the small houses that are used as case studies.

B: Bedroom

BA: Bathroom

DR: Dressing room

E: Entrance

K: Kitchen

L: Living room

LA: Laundary

MB: Master bedroom

MBA: Master bathroom

OS: Outdoor space

S: Storage room

T: Terrace