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ICONARP INTERNATIONAL JOURNAL OF ARCHITECTURE & PLANNING

ICONARP as an e-journal considers original articles, research briefs, book reviews and viewpoints in peer-reviewed. ICONARP is an exciting new venture occurred with experiences, theoretical approaches, critical and empirical studies in the field of architecture and urban planning.

SCOPE and AIM

The journal aims to be a platform for the studies of design, education and application and has a goal to be a bridge in between traditional/modern, east/west, local/global in the disciplines of Architecture / Planning.
Architecture and Planning, as two interconnected fields, are strongly affected by other disciplines such as fine art, urban design, philosophy, engineering, geography, economics, politics, sociology, history, psychology, geology, information technology, ecology, law, security and management. However, there are no academic journals which specifically focus on the connections of architecture and planning with other social fields. ICONARP aims to fill that gap. Our scope is to provide a suitable space for theoretical, methodological and empirical papers, which use global and local perspectives together, in architectural and urban studies.

ABSTRACTING AND INDEXING

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EDITORIAL

ICONARP began its broadcast life as peer-reviewed faculty journal in the field of international architecture and planning and now it is the eleventh issue.

ICONARP is continuing its growing process with this new issue.

The twentieth issue will be published in December 2018 and we wait for your contributions with your scientific studies until September 2018.

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The Evaluation of Trade Area Models and Analysis Methods for Site Selection from International Quick Service Restaurants' (QSR) Perspective

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Abstract

International quick service restaurants (QSRs) have become a stand-alone sector due to their significant market share throughout the world instead of being considered under the food and beverage sector. The success of QSR site selection is directly related to land use and market potential estimation. This relationship has a significant influence on urban texture, identity and cities' development processes, given the high number of QSRs in urban spaces. Diverging from the current retail sector dynamics, the QSR sector brings to the table different needs in terms of trade area characteristics and spatial characteristics. In this respect, the aim of this research is to deliberate a methodological framework investigating site selection decisions of international QSRs and to establish a conceptual framework for an applicable model. Accordingly, first, the relationship between trade area analysis and site selection of international QSRs is examined. After that, trade area models of The Proximal Area Model, Reilly's Law of Retail Gravitation Model, Central Place Theory, Huff Model, Analog Model and Geographic

Keywords: *Trade Area Models, Site Selection, Quick Service Restaurants, Food & Beverages Industry.*

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Interdependence Model are discussed according to their competence of QSRs' site selection. Then they are analytically evaluated within the framework of today's economic, social and spatial development variables. Finally, Regression Analysis Methods and Geographical Information Systems (GIS), which are encountered in literature and used in practice are examined, and a new theoretical framework for a site selection model integrating Regression Analysis Methods and GIS is proposed.

INTRODUCTION

The globalizing, sprawling and diversifying cities have transformed economic production processes and relations, giving rise to a fast-moving and fast-consuming society (Giddens, 2009). This transformation ushered in a new era by popularizing fast food culture and by changing people's food consumption patterns starting from the 1950s, both processes leading to significant changes in people's habits of eating out (Jacobs and Scholliers, 2003). The changes in ways of consumption, coupled with the availability of cheap eating out options have brought about the emergence of increasingly fast-growing chains of international QSRs, which helped the retail sector in this field to develop rapidly.

Following the developments of the retail sector, the structure of society changed, the quality of service became more pronounced, and competition among QSRs intensified. These developments have enabled food and beverage businesses not only to provide people with the opportunity to eat out but also to offer them entertainment and convenience while doing so (Park, 2004). The food and beverage industry's focus on social mobility and on offering delicious and affordable options in alignment with the quick-paced life style has led to a boom in the number of such businesses (Türksoy, 2002).

The sharp divergence of international QSRs from traditional eating and drinking establishments in terms of service, production and low-cost standard products; the rapid increase in the numbers of such QSRs and changing living conditions have all contributed to changes in the factors that affect the market potential of trade areas. In addition to this, the fact that international QSRs hold the largest share of all food and beverage businesses in the world has made the site selection decisions of their restaurants even more critical.

The decision of suitable site selection depends on many factors including correct and proper collection, compilation and analysis of data about the area. It is also essential to analyse the trade areas of the location thoroughly before determining the correct

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location. Applebaum's (1966) argument that the performance level of any retail function depends on the interrelation of the urban characteristics of its trade area and market potential is still valid today. The resulting balance of this relationship is of vital importance for conscious city planning. Contemporary global economy, the incorporation of new technologies into people's everyday lives, and the emergence of consumerist society have created a pressing need to redefine the market potential of trade areas in the quick service sector. This need affects many fields ranging from trade area definition, market potential, planning hierarchy to site selection models.

As a result of globalization, technological advances and rapid changes that have occurred in recent years; the inability of the QSRs to correctly predict the impact of trade area characteristics on site selection decisions emerges as a significant problem. To address this problem, this research analytically evaluates the trade area models and analysis methods used for the site selection of international QSRs, to propose a theoretical framework which can help measure the level of interdependence between the economic volumes of restaurants and the characteristics of their trade areas. To this end, first, the relationship between the site selection of QSRs and trade areas is explained. In terms of international QSRs, it is questioned how traditional models can make the right place selection and market potential measurement within the framework of current variables. While doing this, all models are analysed systematically in terms of their objectives, scope, data, and results. GIS and Regression Analysis Methods are also evaluated separately in the frame of site selection. Finally, the limitations and potentials of the analysis are discussed in terms of economic, social and urban dynamics; guidelines are provided to outline the proposed model, and suggestions are made for further studies.

The Relationship between International Quick Service Restaurants' Trade Area Analysis and Site Selection

The economic growth of cities creates a demand for space in the city centres and causes the cities to be restructured, with changes particularly prominent in their forms and uses. Economic and social changes transform urban spaces constantly, leading to further changes not only in globalized and culturally homogenized cities but also in the development policies, strategies and physical structures of international corporations which grow continuously and independently of states (Wang and Zhou 1999). The sustainability of rapidly expanding and rapidly consumed urban spaces depends on reasonable site selection decisions based on

economic development strategies that are explicitly devised to respond to the needs of such rapid urbanization.

For the retail sector, the choice of the right location seems to be the single most important strategic decision that ensures long-term success (Cottrell 1973; Ingene & Lusch 1980; Kuo et al. 2002). As Craig et al. (1984) argue, the search of consumers for both affordable price and easy accessibility are still two most critical criteria that give site selection a competitive advantage. In addition to consumer preferences, trade area characteristics need to be analysed carefully before site selection.

The concept of trade area has diverse definitions in literature; however, in this study, this concept is used to refer to trade impact area (trade area/trading area/market area/catchment area). Within this context, trade area is considered to be the place where potential consumer mass is concentrated rather than an urban area where the commercial activity takes place (Patel et al., 2007). Trade area, i.e. the geographic area where the majority of similar businesses is concentrated in, can be drawn as a neat geometrical shape such as a circle, square or polygon; however, the shape does not necessarily have to be a clear-cut geometrical one. It seems that more accurate outcomes will result when shaping takes place in accordance with the road network, topography, geology, land use, and natural boundaries and thresholds of the area.

When defining the trade area shape, not only the geographical and physical features but also a consumer and product-based traits should be taken into consideration. At this point, the determination of the size/boundaries of the trade area becomes crucial. The size of the trade area is usually defined as the distance between the customer's home or business and the location or area to be visited.

In the determination of the layers of trade area, usually three measures are used: linear distance (e.g., concentric rings drawn around a location), travel distance (by car or public transport) or time spent (by car or public transport). Mapping techniques are used for forecasting or researching store trade area volumes and for creating maps (McGoldrick, 2002). Examples of trade areas of international QSRs created with different methods are shown in Figure 1.

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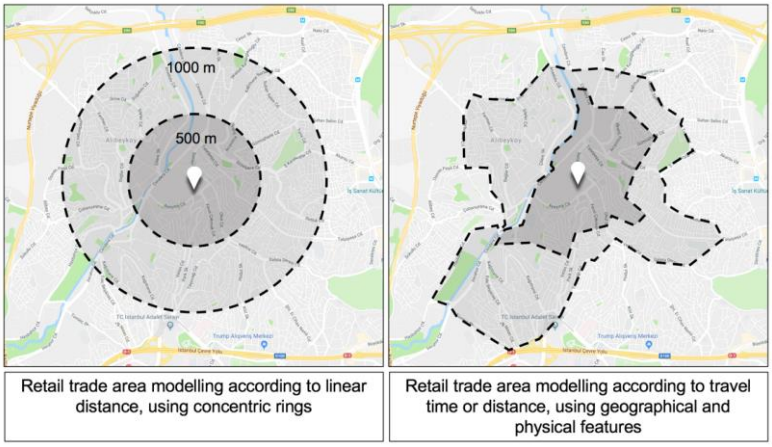

Figure 1. Trade Area Modelling Examples

After the trade area is defined and its boundaries are determined, it becomes necessary to conduct trade area analysis, in order to figure out the suitable trade area characteristics for site selection. This analysis focuses on defining the target market and determining the right location. In this context, defining the target market and reaching this target successfully means that location choice has been successful (Dunne and Lusch, 1999). To stress the importance of this decision, Jones and Simmons (1987) state that the most critical three components of a successful retail store are "location, location and location". This statement is still valid today.

The most crucial point in the site selection decisions is to make a sales forecasting after the analysis of the trade area. Sales forecast, which means the realistic estimation of the profit and the amount of goods that a business can sell over a predetermined period, is influenced by macro-level factors as well as by micro-level factors such as the characteristics of its physical location. The food and beverage sector differs from other sectors in terms of working days and hours, product and service variability, personnel supply and transportation facilities, and consumer proximity. For this reason, market potential estimation based on site selection and sales forecasting analysis is also carried out differently from other sectors (Sarışık et al., 2010).

For QSRs, various criteria such as investment risk, food quality, management strategy, eating habits and cultural differences should be assessed carefully especially when international growth is at stake (Bhutta et al., 2003). Studies investigating the factors that influence location preference and market potential of QSRs often examine the relationship between the QSR sector and socio-cultural factors such as the health conditions or eating habits of consumers (Powell et al., 2007; Larson et al., 2009; Black et al., 2011).

In addition, it is found by the current studies in literature that factors like proximity and ethnicity (Eckert and Shetty, 2011; Morland et al., 2002), household income (Cummins et al., 2005; Walker et al., 2014) and culinary culture (Zhang et al., 2014) play a significant role in the spatial distribution of international QSRs. However, the most important criteria for achieving success on the international scale seem to be the correct analysis of local data on the trade area scale and the choice of location based on sales forecasting made with these data (Thomadsen, 2007; Nieh and Pong, 2012).

Since the QSRs are primary drivers of their market, their site selection decisions based on correct sales forecasting influence urban planning more than do other sectors. For this reason, it is crucial that they make their site selection decisions in accordance with trade area characteristics. Since there seems to be a disparity between the trade area characteristics used to determine the market potential and the criteria used in the conventional trade area models, this study re-examines trading area models for international QSRs, by taking into account global economic, social and spatial changes.

Evaluation of Trade Area Models Used in Site Selection Decisions

In the trade area analysis literature for site selection, there are many trade area models that investigate the relationship between the spatial characteristics of retail store use and trade area characteristics. Trade area analysis, which is conducted particularly for each type of retail store, determines the characteristics of the area around a store or the network of stores, and attempts to answer questions such as where the store's customers come from, how many customers are in a trade area, and where to look for new customers.

The models analysed in the scope of this study are as follows: The Proximal Area Model, which makes sales forecasts and site selection decisions based on the framework of similar locations; Reilly's Law of Retail Gravitation Model, which takes into account factors of population and proximity; Central Place Theory, which analyses the spatial behaviour of trade; Huff Model, which emphasizes the importance of product features and customer preferences; Analog Model, which is the first model to measure the first systematic sales potential by drawing on the concept of similar stores; and finally Geographic Interdependence Model, which measures the dependence of neighbouring areas to one another.

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TRADE AREA MODELS

The Proximal Area Model

The Proximal Area Model is based on the assumption that, among all similar stores, customers tend to choose the store that is closest to them. According to this model, after the trade area is determined, sales analysis is carried out based on the demographic variables and spending habits of customers. For this reason, the trade area of a store consists of the combination of all the geographical points that are closer to the other stores around the consumers. The model suggests that stores within this area have a spatial advantage. Thiessen and Alter (1911) suggest that accurate sales forecasts can be made in this model by analysing the characteristics and purchasing habits of the surrounding population.

Illustrated below is the model known as Thiessen Polygons. In this model (as illustrated in Figure 2) a line is drawn between two attraction centres (like A, B, C, D, E and F in Figure 2) and another vertical line (i.e. the dotted lines in Figure 2) is drawn from their middle point, to intersect two lines. As Ghosh and McLafferty (1987) argue, owing to the resulting a, b, c, d, e, f and o polygons, it is possible to correctly and efficiently estimate the revenues of the businesses in distinct areas.

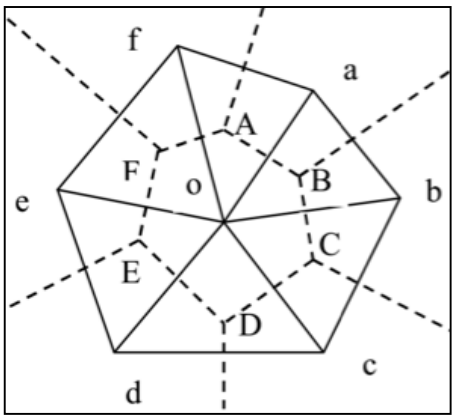

Figure 2. Thiessen Polygons (Source: Wang et al., 2014)

The Proximal Area Model is suitable for defining the trading areas of new stores. It is also useful in identifying areas with low accessibility, areas of potential future growth, and the geometric distribution of surrounding areas. Proximal areas are used both for the sales forecasting of stores in new locations and for evaluating the feasibility of a store/location. As Ghosh and McLafferty (1987) point out, this method is particularly suitable for sales forecasts where the stores are similar in terms of scale, attractiveness and products sold, and physical accessibility is an important determinant of store selection.

The number of criteria the model uses is insufficient for international QSRs under today's circumstances. Nowadays, diverse factors such as product variety, the availability of outdoor seating areas or playgrounds for kids; drive a significant portion of consumers' store or restaurant preferences. However, the model is still reliable in that it draws attention to demographic features, and defines trade area volumes both quantitatively and geographically.

Reilly's Law of Retail Gravitation

Inspired by Newton's law of gravity, Reilly devised the Law of Retail Gravitation Model in the 1930s to explain trade area boundaries. The main premise of the model is the view that as the population of the city increases or the distance of the consumer to a store decreases, the possibility that the customer may purchase from a particular store will increase (Levy and Weitz, 1998).

To differentiate the trade areas of two competing cities, Retail Gravitation Model uses a calculation method based on the populations of the two cities and the distance between them. The model rests on three assumptions: (1) The areas in the competition are equidistant, (2) Retailers on both sides are equally capable, (3) The population is homogenous (Berman and Evans, 2001). The authenticity of Retail Gravitation Model lies in the fact that it was the first-ever model to attempt to the draw trade area boundaries. However, the model's most significant shortcoming is assuming the population as a homogenous entity, thus overlooking diverse cultural characteristics. This model has been used by various companies; however, it has also been subject to criticism for being based on the assumption that customers are only interested in shopping at stores closest to them (Dökmeci, 2005).

The model developed by Converse in the 1940s suggested that consumers' shopping preferences may be shaped differently in different cities (Dunne and Lusch, 1999). The method is considered suitable for defining trade areas mostly in rural areas: the tendency of consumers to travel more frequently in urban areas makes it difficult to distinguish trade areas in urban areas (Converse, 1949). This is considered to be the most important limitation of the model under today's conditions: it offers an analysis based only on travel distance and on two cities or areas that are necessarily equidistant.

Today, travel distance is not considered synonymous with travel time, and most people are more preoccupied with time than with distance. This limitation makes the model ill-suited for international QSRs in determining locations. Moreover, since

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customers who prefer international QSRs may come from different socioeconomic backgrounds, it is erroneous to accept them as a homogenous entity, because such an assumption entails the problem of not being able to define the right trade area and boundaries.

Central Place Theory

Another theoretical study examining the spatial behaviour of retail trade is Central Place Theory. The basic aim of this theory, designed by Christaller in the 1930s and developed by Lösch in the 1950s, is to establish the principles that determine the number, size and distribution of urban settlements, in accordance with service activities that take place. According to Dennis et al. (2002), this theory presents a model in which the shopping visits of the consumers to the nearest mall for a single purpose are determined by the relationship of the retail sales area size, and the distance travelled to reach the mall.

Central Place Theory is based on two concepts: distribution and threshold. In this context, distribution refers to the maximum distance the customer will travel to buy a product. Threshold, on the other hand, refers to the minimum demand necessary for a store to survive; this demand also represents the population of the area. The model predicts that as long as local demand is sufficient, stores (together with other stores) will try to keep contributing to the urban economy, by getting concentrated in areas that are close in proximity to big cities (Mulligan et al., 2012).

However, as Christaller (1933) and Wheeler et al. (1998) state, this theory ignores the notable role of industry in the development of cities. According to Lösch (1954), the developer of the model, the most suitable location for a store is the location that will yield most massive profits. The model assumes that production and demand conditions are homogeneous. Also, it argues that the market areas will develop in the periphery of big cities and hence the stores that aim for profit-benefit maximization should focus on these areas (Koschatzky, 2012).

The theory, which divides the spatial areas into hexagons, attempts to analyse the hierarchy and city systems that play a role in the growth of cities. The model was put to the test by different researchers in different regions. However, since all of these attempts were empirical studies based on observation, they could not go beyond the definition of trade areas.

Due to the heavy emphasis placed on the system of hierarchical relationships among the existing centres, the theory is ill-suited for properly guiding international QSRs site selection decisions.

However, the hierarchy of centres is a cornerstone for the market potential estimations of such restaurants. To estimate the commercial volume, a more detailed study is required. Nowadays, the proximity or distance to the central business areas has lost its importance, because the dynamic structure of many cities led to an expansion of their access areas and changed people's shopping preferences. It seems that the definition of trading areas and the method of market potential estimation should also change in parallel with the changing demographic

Huff Model

Spatial gravity law of Huff Model (developed in the 1960s) assumes that in the cases where there are multiple stores to choose from, the customers' preference will be determined by the attractiveness of the store, and the distance between the customer and the store. According to this assumption, the more critical a product is for a customer, the less likely s/he will be to heed the distance s/he has to travel to get it.

Different from Reilly's Model, Huff Model is not based on a single variable, but on diverse variables related to the size of the trade area. In this model, trade areas are determined according to product variety in stores, time spent from the consumer's home to alternative shopping centres, and how much time the consumer is willing to spend on the way (Huff, 1964). In short, Huff's model takes account of customer preferences. Product variety in the model is ensured by allocating a specific m^2 of sales area for each product category. Moreover, in the determination of product variety, factors such as customers' sensitivity to travel time, their reasons for shopping and the specific shopping needs that drive customers to travel are taken into account (Berman and Evans, 1992). According to the model, a customer who wants to buy a speciality good will be more willing to travel than a customer who wants to access a product easily (Hasty and Reardon, 1997).

In Huff Model, the trading area is divided into hierarchical zones. The model is the first in the retail sector to take a new perspective on the sales area and travel time, and to help the two concepts coalesce into a single formula (Wee and Pearce, 1985). It is also a strong model in that it explains individual shopping behaviours more clearly than the previous models and suggests that trading areas can be continuous, complex or overlapping. The identification of the variables that are used to measure the attractiveness and distance of stores constitute the limitation of the model. In the model, attractiveness is measured by the number of stores, the number of employees, sales revenue, retail sales area and the type of store. Distance, on the other hand, is

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measured by geographical distance, travel distance, travel time and cost (Clarkson et al., 1996).

In the 1980s, Gautschi criticized the model on the grounds that the variables used in Huff Model were determined by subjective responses and that the model was based merely on prediction. In the same vein, Eppli and Benjamin (1994), and Gaustchi (1981) stressed that taking "store size" as the only criterion for store attractiveness can lead to misleading results. These criticisms are still valid today.

Today, customer preferences are shaped by many criteria, among which are the image of the store, quality, price, cosiness, and service speed. Thus, from the perspective of international QSRs, the model's use of store size as the only criterion for attractiveness constitutes its most notable weakness. In addition, time is considered to be a very valuable asset in the contemporary world; hence, travel time is crucial for QSRs in the determination of trade area boundaries.

Analog Model

The Analog Model, published by William Applebaum in 1966, is one of the first systematic methods to predict retail sales (Ghosh, 1994). In addition, it is the first model to relate the geographical dependence of the consumer to the trade areas in urban spaces. The principal aim of the model is to define residential and trade area characteristics for stores and to facilitate the search for places with similar properties (Levy and Weitz, 2009). In this simple model that gained popularity in the 2000s, the potential sales of a store are estimated by comparing the sales of other similar stores located in the same trade area (Berman and Evans, 2001). For this reason, the model is frequently used by the chains that prefer a simple and subjective approach.

The first step in the creation of this model involves dividing the sales areas of the store as primary, secondary and tertiary. In this context, the primary area refers to the area that most customers visit, the secondary area refers to the one where customer density is relatively lower, and the remaining areas are considered as tertiary areas. These areas may not necessarily have definite shapes. In the second step, the market interaction of these areas is calculated using their demographic characteristics. Next, potential sales rate is calculated comparing these characteristics to the current sales. Finally, trade areas are compared with the areas which have a similar market share, market interaction, and market characteristics and the location of the store is determined by analysing similar trade area characteristics.

The Analog method is often used in combination with Regression Analysis. Measuring the level of geographical dependence according to the results of the analysis presents a more reliable customer profile and trade area boundaries. For this reason, this method provides a significant advantage when choosing a location and creating a retail strategy. The Analog model is based on two premises: (1) the population in the commercial area is not homogeneously distributed; (2) some market conditions in a trade area may not lend themselves to being measured and may require subjective evaluation. However, two urban areas may not have similar market characteristics, and they may engage in different public interactions at different times. For this reason, the results of each measurement may be unlike one another (Özuduru, 2006). In addition, the demographic characteristics of trade areas may be dissimilar to each other.

This model is often used in the site selection of international QSRs nowadays. However, its most important shortcoming is that it forecasts sales based on subjective evaluation. In order to minimize subjectivity, similar locations in the model should be selected by a numerical program, and a Regression Analysis should be carried out based on the trade area and the physical characteristics of the store. It is thought that a sales analysis based on such Regression Analysis will yield more accurate results.

Geographic Interdependence Models

The concept of Geographic Interdependence put forward by Russell in 1950s is the first attempt in the retail sector to explain the extent to which the locations or surroundings of stores influence each other and their customers' preferences. Russell found high geographical dependence among retailers in urbanized areas, but low geographical dependence in closed communities. The level of geographical dependence between retailers is crucial for determining trade area boundaries and for enabling retailers to reach realistic information about their customers. For this reason, the principal aim of these models is to determine trade area boundaries and to measure the level of dependence between customers and stores.

In literature, different methods (most notably Regression Analysis), have been used to measure Geographical Dependence. Anderson and Kaminsky (1985) attempted to explain this issue in the 1980s by drawing an explanatory framework. To this end, first, they analysed the customers, and then the goods and services these customers bought. The result of this analysis revealed that retailers do influence customers' decision making processes.

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Geographic Interdependence Model, developed by Mushinski and Weiler (2002) in the 2000s, states that there are significant geographic dependencies between the place of the store and its neighbouring areas and that such dependencies change according to retail sector groups. The model measures the geographical interdependence between the number of stores in an area and the number of stores in neighbouring areas (Mushinski and Weiler, 2002).

The model suggests that the level of geographic dependence changes according to the retail sector groups and the population of the trade area. The model categorizes the retail sector into three groups: The stores in the first group, i.e. building stores, food stores and pharmacies, are not found to be geographically interdependent. This result shows that the presence of these stores in a region does not affect the population and settlements outside the region. The stores in the second group, i.e. commercial stores, cars, clothing and furniture stores, are only interdependent on the supply-side. It demonstrates that only the number of settlements has a statistically significant impact. According to the model, if there are more settlements in the surrounding areas, the number of settlements in the region will decrease. The stores in the third group, i.e. petrol stations and food and beverage venues, are found to be interdependent regarding both supply and demand. The results point to the conclusion that both the number of settlements and population in the surrounding areas have a statistically significant impact on the area under scrutiny. The importance of Mushinski and Weiler's (2002) study lies in the fact that it focuses mainly on the food and beverage sector. Their research has proven that the level of interdependence between a store's place and its neighbouring area differs according to sectors.

In recent years, geographical interdependence has been measured using models and indices. The determination of geographical interdependence is a cornerstone in site selection for international QSRs, and a fundamental building block for drawing trade area boundaries. Since Geographic Interdependence Models rely on Regression Analysis for measuring dependence, they constitute the scientific basis for this research as well. However, there are also views that correct site selection cannot be made if it is not supported by market potential estimations and that although the model provides a strong foundation, it still falls short of determining market potential. This model is suitable for the determination of trade area boundaries but not for correct site selection

Evaluation of Trade Area Models for International Quick Service Restaurants

Trade area models have evolved in accordance with the ever-changing urban needs from past to present. It would not be a scientific approach to select a model that is best-suited for all needs as all models have been developed to cater to different needs and are used for different purposes. Table 1 below systematically tabulates all the models used in this study according to their purpose, scope and data, for the international QSRs. In Table 2, the strengths and weaknesses of each model are identified.

A quick glance at this chronologically arranged table demonstrates that the aims and scopes of models have diversified over time. The Proximal Area Model developed in the 1910s using Thiessen Polygons offers a simple method for site selection and sales forecasting. Reilly's Gravitation Model, proposed in the 1930s, establishes trade area boundaries by using population and distance between two cities as measurement units, while Central Place Theory of 1960s explains the spatial behaviour of retailers through central hierarchy determined according to population density and product type. Huff Model, again developed in the 1960s, attempts to reanalyse the theory of gravitation in the context of multiple stores by factoring in consumer behaviour patterns and other variables such as store size, travel time, product variety. The goals of the Analog Model are to incorporate market interaction and effects of globalization into the current models at hand. The distinctive feature of this model, which is considered to be the cornerstone of trade volume estimation, is that it is comparison-based. Geographic Interdependence Models identify the geographic interdependencies of population and trade area boundaries; however, they are not viable for market potential estimation.

This analysis demonstrates that all the models mentioned above require comprehensive data and that most of them require data collected through extensive surveys. In addition, there is a need for company-specific data such as sales volume, which is difficult to obtain in models measuring trade volume. On the other hand, primary models require the subjective evaluation of the analyser, which leads them to be criticized for lack of reliability and accuracy.

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Table 1. The Aim, Scope and Data of Trade Area Models

	AIM	SCOPE	DATA
Proximal Area Model	- To determine location - To make sales forecasts	- Choosing the closest location among similar locations and calculating sales volume the determination of the location	- Similar locations - Geographic area - Trade area characteristics
Reilly's Retail Gravitation Model	- To explain trade area boundaries - To analyse the spatial behaviour of the retailer and the consumer	-Determining trade area boundaries by calculating the population and distance between two cities/areas	- Population - Distance
Central Place Theory	- To explain the spatial behaviour patterns of retailers	- Establishing a central hierarchy between the population density of the market area and the type of product sold	- Trade area size (population) - Distance
Huff Model	- To improve the model of spatial gravitation in the context of multiple stores	- Integrating into the model the number of products in a store and travel time, thereby proposing a probabilistic approach based on consumer preferences	- Store size (m^2) - Travel time - Product variety - Customer preferences
Analog Model	- To determine trade area boundaries, market interaction and potential sales	- Making sales analysis (after the determination of trade area) based on the comparison of similar stores taking account of demographic variables and customers' spending habits	- Trade area data (e.g. demographic data) - Sales volume
Geographic Interdependence Models	-To measure the interdependence of a location with its neighbouring areas	- Measuring geographic dependence based on the retail sector groups and trade area population - Determining trade area boundaries	- Type of retail sector - The population of trade area - Location and neighbouring areas

The choice of a viable model depends on sectoral or local characteristics. The area and/or sector characteristics analysed in similar ways may lead the data in Table 1 to diversify and to change in number. For this reason, it seems better to make the site selection decision taking account of sectoral needs and local characteristics.

Table 2. The Strengths and Weaknesses of Trade Area Models

	STRENGTHS	WEAKNESSES
Proximal Area Model	- The first-ever model to mention the spatial advantage of a store	- Unsuitable for sectors with no differentiated products - Insufficient criteria under today's circumstances
	- The simple and direct prediction of store revenue in different areas	
	- The identification of the geometric distribution of surrounding areas, areas with low accessibility and areas with potential future growth	
	- The evaluation of the feasibility of a new sales point by estimating the store sales in new locations	
Reilly's Retail Gravitation Model	-The first model to define and draw trade area boundaries	- Assuming population as a homogeneous unit, ignoring cultural differences
	- The creation of a formula to define trade area boundaries in cities	- Misleading because today travel distance is no longer equal to the travel time
Central Place Theory	- The first model to investigate the spatial behaviour of retail trade	- Overlooking the pivotal role of industrialization in the growth of cities.
	- A hierarchical outlook on modelling	-Assuming that production and demand conditions are homogeneous.
	- A systematic framework that is easy to organize	- Too theoretical for practical use
Huff Model	- The determination of probable catchment areas	- Based heavily on prediction
	- The first ever model to factor in consumer behaviour	- Lack of data when measuring store attractiveness makes it ill-suited for QSRs
Analog Model	- The first systematic sales prediction model	- Deciding on the location of a new store based on the comparison of current stores or areas may present misleading results
	- Providing potential sales estimate, market interaction and trade area boundaries	
	- The first model based on empirical data	- Unsuitable for the use of stores in different areas because of diverse local dynamics that influence the market
	- Using the most popular and simple method	
	- Predicting sales via a comparison-based method	
Geographic Interdependence Models	- Dividing the sector into groups and measuring their geographic interdependence according to their trade area population.	- Not offering any insights into market potential or sales forecasting
	-The first model to measure the interdependence between a location and neighbouring areas	

In recent years, journeys within and between cities have increased globally. The desire to travel more and longer has

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grown parallel to the developments in economic conditions: likewise, the increase in GDP per capita seems to have led to using diverse means of transportation. Such changes in global economic and social systems have influenced international QSRs' site selection criteria as well. In this frame, trade area models have been investigated and evaluated according to the sector, for international QSRs (Table 2).

Each model has strengths and weaknesses. The strengths of the trade area models examined above may forge the basis of a feasible trade area analysis that will guide site selection decisions of international QSRs. These strengths can be listed as the sales forecasting concept of Proximal Area Model, trade area definition of Reilly's Model, the hierarchical system of Central Place Theory, the importance of consumer behaviour in Huff Model, the comparison-based method and first systematic sales forecasting of Analog Model and the concept of geographic interdependencies as used in Geographic Interdependence Model.

The weaknesses of the model can be listed as the lack of sufficient criteria for today's conditions in Proximal Area Model, the assumption of a homogeneous population and of equating travel distance with travel time, the lack of practicality of Central Place Theory, the use of insufficient criteria when measuring store attractiveness in Huff Model, the possibility of misleading results when choosing the new store location through the comparison of current stores or trade areas in Analog Model, lack of insight into trade area dynamics and sales forecasting in Geographic Interdependency Models. It is thought that trade area analysis of international QSRs can be made by Regression Analysis Methods and GIS, which are used in literature and practice

The Evaluation of Geographical Information Systems (GIS) and Regression Analysis Methods for Trade Area Analysis and Site Selection from International Quick Service Restaurants' Perspective

The comprehensive analysis of Trade Area Models for international QSRs reveals the weaknesses of all models. However, such problems could be solved spatially by GIS and statistically by using Regression Analysis Methods. Below, GIS and Regression Analysis Methods are systematically analysed for international QSRs in terms of aim, scope and data (Table 3).

Table 3. The Aim, Scope and Data of GIS and Regression Analysis Methods

	AIM	SCOPE	DATA
GIS	- To reach commercial area data and calculate market potential	- Digitizing data by combining physical and cultural geography	- Physical and cultural geography
		- Visualizing data with geocoding	- Maps
		- Providing data for trade area analysis and drawing trade area boundaries	- Geographic coding
		- Calculating the market potential using different models	- Sales Points
Regression Analysis Methods	- To measure store performance/trade volume through trade area characteristics and/or spatial characteristics	- Analysing the relationship between trade volume and spatial, urban, demographic, social and economic characteristics	- Performance
			- Sales estimates
			- Trade area characteristics
			- Spatial characteristics

As Levy and Weitz (1998) argue, although Regression Analysis Methods use similar logic to that of Analog Method in site selection, statistics are relied on more heavily than forecasts in site selection or economic volume estimations in Regression Analysis Models. The main premise of this method is that the factors influencing existing stores in the chain will also influence the new stores in the same way (Levy and Weitz, 2009). Population, average income, number of households, near competitors, transportation barriers, traffic or any desired data can be examined as independent variables (Berman and Evans, 2001). After the data is collected, regression procedure can start, unlike in the Analog Model. This model uses mathematical equations instead of the subjective experience of the site analyst who compares the trade area characteristics of the existing store with the potential new store (Levy and Weitz, 1998).

In 1984, Jones and Mock stated that sales sites could be divided into homogeneous groups and that regression model should be created for each group separately. As pointed out by Gosh and McLafferty (1987), Regression Analysis Models suffer from two disadvantages: (1) Multicollinearity and (2) The heterogeneity of sample stores. These criticisms are still valid today. Multicollinearity occurs when there is a clear internal correlation between the independent variables in the regression model. According to statistical theory, these variables should be uncorrelated and independent of each other. The heterogeneity of

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sample stores is borne out of the difficulty of combining all sales locations in a model, because all locations may accommodate different trade area information. Other criticisms levelled at Regression Analysis models include discrepant definitions of store types, images and service qualities; the difficulty of measuring competition, the mistakes in defining market areas, and random distance measurements when gauging consumer characteristics (Ghosh and McLafferty, 1987). These criticisms of the 1980s should be dealt with in today's analyses, and the margin of error should be reduced.

Regression models are often preferred over other models by international QSRs because of their ability to analyse the relationship between trade area characteristics and sales volume, their competence in facilitating the analysis of complex relationships, and their objectivity owing to the use of statistics and not analyst's evaluations. However, the spatial relations of the models, which are highly reliable mathematically, need to be reinforced with geographical information. At this point GIS, which is used both in trade area analysis and in market potential measurement, comes to the fore. GIS is seen as an important tool in trade area analysis because it has the ability to map results to various geographical regions and to map results to different map scales and to collect large data volumes in different coordinate systems. GIS can combine several databases into common data groups, each of which can be combined into a common data set, and this combination provides visibility into key market trends as well. Retailers, and restaurant chains in particular, often use GIS in site selection decisions.

Many researchers have applied GIS methods to measure economic volume when examining commercial units with regression models. Like other sectors, the international QSR sector also uses GIS through programs that work with the GIS database, where some data are digitized and transferred to maps for visualisation. Each location is transferred to the program as a point through geographic coding. After the transfer, the boundaries of the trade area are determined by performing Catchment Analysis with the GIS database program. Finally, all the data of the trade area (demographic, socioeconomic, urban, etc.) is reached through this interface.

GIS contains statistical applications supported by maps and it is becoming widespread that GIS is used as a decision tool in site selection with spatial statistical models. The main types of spatial analysis carried out by GIS are; Spatial Query, Spatial Analysis, Spatial Econometric Analysis, Statistical Analysis and Geographically Weighted Regression Analysis. There are spatial

statistical methods that have the ability to model spatial relationships compared to traditional statistical methods (Fotheringham et al., 2002). GIS, when combined with statistical methods, provide an effective set of tools to analyze, display and manage spatial data (Anselin, 2003). When studies on geographically weighted regression are examined, it can be seen that the first studies have been put forward by Fotheringham, Brunsdon and Charlton. Brundson et al. (1996) defines geographically weighted regression as a technique, which tries to capture the variation using a sensitive approach for a multiple regression model which enables various relationships to exist at various points in space. Apart from this, market potential measurements can also be made using traditional trade area models and various methods within GIS.

Within this framework, the strengths and weaknesses of GIS and Regression Analysis Methods regarding international QSRs have been identified (Table 4).

Table 4. Strengths and Weaknesses of GIS and Regression Analysis Methods

	STRENGTHS	**WEAKNESSES**
Regression Analysis Methods	- Measurement with a large number of variables	- Multicollinearity - Non-numeric data not incorporated into the regression model
	-Ability to analyse the relationship between spatial factors or trade area factors and sales volume	
	- Facilitating the analysis of complex relationships	- Heterogeneity of sample stores
	- Objectivity as a result of using statistics rather than subjective evaluation	
GIS	- Visual output using numerical data	- Not sufficient for trade area analysis or market potential measurement on its own -Failure to meet performance expectations for data at different scales, due to working with pixels -The inclusion of subjective judgements since visual testing is necessary
	- Ability to create different maps for different analyses and syntheses	
	- Allowing access to trade area data	
	- Ability to make market potential measurement by modelling it within	

The combination of the strengths of Regression Analysis Models and GIS seems to offer feasible guidelines for the site selection decisions of international QSRs, within the framework of today's dynamics. The most notable strengths of Regression Analysis

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methods for international QSRs are their objective approach and the incorporation of a plethora of variables in measurement. The strongest aspect of GIS for this analysis is offering access to trade area data. On the other hand, the most significant weaknesses of Regression Analysis Methods are the heterogeneity of sample stores and the inability of the model to incorporate non-numerical data into the regression formula. GIS is an insufficient method to measure market potential or analyse trade areas unless combined with other methods. In addition, since it works with pixels, it may fail to meet performance expectations when the data comes from different scales. The final shortcoming of GIS is that, apart from mathematical outputs, it relies on subjective evaluations to a considerable extent since visual testing is necessary for all conditions. For all the reasons stated above, it is thought that the strengths and weaknesses of both models will complement each other.

Theoretical Framework Proposition for A Site Selection Model for International Quick Service Restaurants

Being based on the idea that international QSRs should be located in the right places for sustainability and considering that restaurant site selection has a significant impact on city planning, this research emphasizes the importance of the evaluation of the trade area potential, and provides a theoretical state-of-the-art framework for site selection model by reassessing in today's conditions the traditional trade area models, Regression Analysis models and GIS methods in terms of site selection for the international QSRs.

A new theoretical framework is posited in this research because the current guidelines of trade area models used in trade area analysis fail to respond adequately to the contemporary dynamics of QSRs. It appears, after the detailed analysis of Regression Analysis methods and GIS, that the shortcomings in Trade Area Models can be complemented by the strengths of these two methods. The shortcomings of trade area models have qualitative and quantitative reasons. Qualitative problems can be overcome by using data that incorporates contemporary dynamics. However, Regression Analysis Methods should be used for the quantitative analysis of the evaluation of large data.

The model, based on the proposed theoretical framework in this study, will reach the demographic, social and urban data of the trade area by determining the trade area boundaries with GIS, and the data gathered by GIS will be used in measuring the dependence level of sales volume by Regression Analysis, thereby creating an integrated trade area model with which sales forecasting can be made. The aim of the model is to identify what

characteristics of trade area influence the sales volume for international QSRs' site selection and to determine viable locations in alignment with the results. The resulting model is based on the assumption that the demographic, social and urban characteristics of the trade area influence the economic volumes of international QSRs.

The scope of the proposed conceptual framework constitutes of making the site selection decision after the trade area is determined, and data is obtained by GIS, a model is established by Regression Analysis Models, and finally, the economic volume is measured. The model has four consecutive steps (Figure 3):

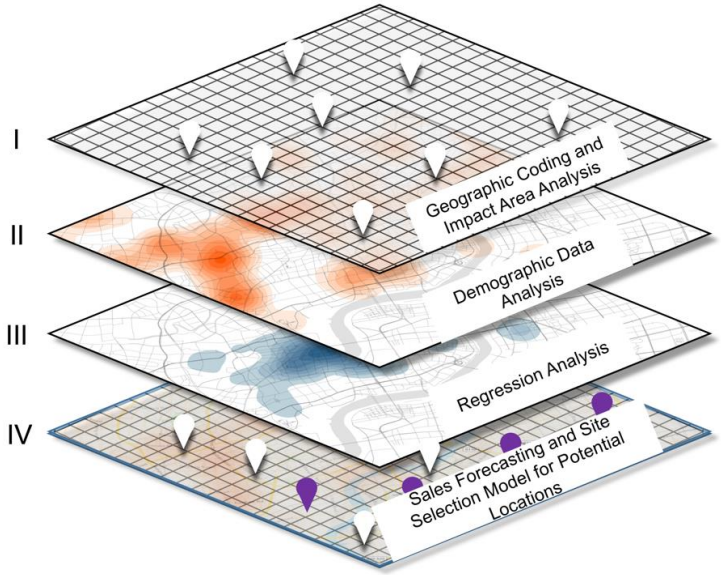

Figure 3. Conceptual Framework Steps for International QSRs Site Selection Model

In the first step, the locations are identified and geographically coded by a GIS database program, and catchment analysis is conducted on a trade area, the size/boundaries of which have been determined prior to the analysis. In the second step, data on the demographic, socioeconomic and urban characteristics of commercial areas are obtained, and all urban and spatial data are digitized through GIS to create maps and to reach trade area data. In the third step, first, the sales data of locations are obtained. Combining the sales data and trade area data, a Regression Analysis is made using SPSS. It is aimed that a relationship between the performance of international QSRs trade area and the demographic, socioeconomic and urban data will be revealed as a result of the analysis. In the fourth and final step, the data will be analysed to check whether there is a statistically significant relationship between them, and if there is, then a model should be established to reflect this relationship. The flow chart of the steps can be seen in Figure 4.

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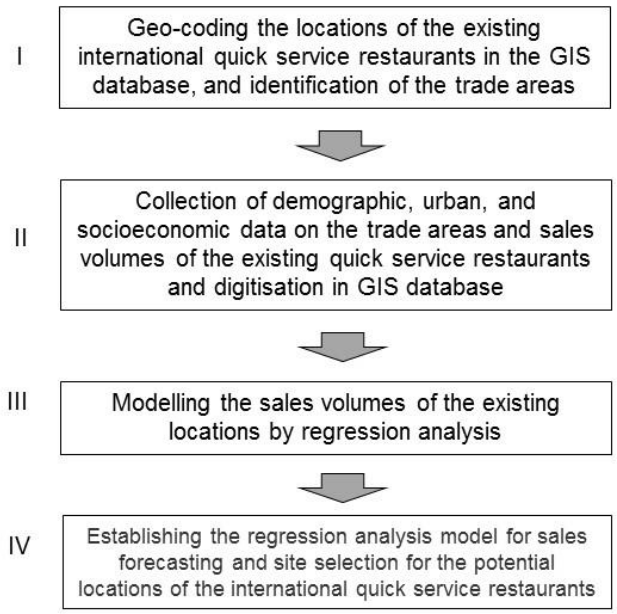

Figure 4. Flow Chart Proposing a Model for International QSRs Site Selection

Before Regression Analysis begins and the model is established, it is crucial to decide which specific variables dependence will be sought. By using a Regression Analysis Method of analyst's choice, all variables are used individually and separately to establish the model. Since a plethora of variables need to be used for international QSRs, the most suitable of all Regression Analysis models seems to be Multiple Regression Analysis model. The main reason why market volume is determined by so many variables is that the sector dynamics differ from the needs of other retail companies. The principal aim of the establishment of the desired model is to express the dependent variable as a function of the independent variables and to forecast or predict the value of the dependent variable at hand. In a model constructed as such, the dependent variable of the economic volume is expected to be a function of demographic, socioeconomic, and urban data.

Following the hypothesis that "economic volume is a function of demographic, urban, and socioeconomic variables", it is suggested that all of the available demographic, urban, and socioeconomic variables should be modelled as independent variables, based on the results in the literature and practice. As for the economic volume, the restaurant sales should be modelled as the dependent variable.

Owing to the framework presented above, it is expected that the points which are not measurable in the conventional trade area models and which are questionable for the international QSRs will be clarified. In this model, it is foreseen that multiple variables can be handled, contrary to the single criterion approach of the Proximal Area Model. Furthermore, it is also expected that, unlike

Reilly's model, the population can be considered heterogeneous and different population categories can be used in the model separately, and that the travel distance and time can be modelled separately. Unlike the Central Place Theory, which is quite theoretical, the framework at hand is expected to have practical and viable applications, where production and demand conditions can be used in many different ways. It is argued that, in addition to Huff model's store variety, the framework will be able to use diverse criteria; that it will be a statistical and objective model unlike the subjective Analog Model; and that potential markets can be determined by sales forecasting, which is absent in the Geographic Interdependence Model. Thus, the inadequacies in the Traditional Trade Area Models regarding the site selection of the international QSRs, encountered in the literature and investigated in this study, can be overcome by an integrated model applicable in today's conditions, in which Regression Analysis Methods and GIS are used in combination.

CONCLUSION

With this study, it is recognised that the sites of the international QSRs cannot be selected independently of the Trade Area analysis. The shortcomings of the Proximal Area Model, Reilly's Retail Gravitation Model, Central Place Theory, Huff Model, Analog Model and Geographic Interdependence Model in today's conditions for site selection of the international QSRs have been identified and following this path, GIS and Regression Analysis Methods have been examined within the scope of site selection for the international QSRs. As a result, a four-step theoretical framework incorporating GIS and Regression Analysis Methods have been put forward for modelling the site selection problems.

Taking into consideration that, due to their high number, the international QSRs would affect city planning as well as the economic volume that they would create with a site selection based on the correct sales forecasts, an emphasis has been placed on the site selection according to trade area characteristics. In order to calculate the sales volume and to determine the market potential, the shortcomings of the conventional trade area models have been identified, and a theoretical framework, which can accommodate today's variable dynamics and cover a wide range of criteria, has been developed to deal with such shortcomings.

The principal aim of this assessment and the resulting proposed theoretical framework is to identify the characteristics of the international QSRs that affect the sales volume, and following this identification, to determine potential locations for the site selection and to measure the economic volume of the trade area

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in the most accurate way. Owing to the accurate measurement of the economic volume, it is expected that the restaurants will be established in the right locations. It is expected that the research topic at hand will contribute to the development of sub-centres in urban areas and that the transportation planning and supply-demand balance will be affected positively by the land use decisions.

This study, being of the quality to guide the companies that have chosen Turkey as their new expansion market, provides a theoretical framework for establishing the right growth strategies for the city and regional planning systems, and for identifying which factors and methods should be used while determining investments. By adapting this theoretical model to different sectors, it is believed that it will positively affect the performance of the potential trade volume measurements for the decision of the correct site selection. For the future work, it is important to note that this study will shed light on the application phase and that a robust forecast for the economic volume will be made using the urban, demographic, and socioeconomic parameters of an international QSR, provided that a sufficient number of examples and reliable data are used in practice, and hence a correct site selection decision can be made

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Designing Neighborhood for Communal Activities: Low-Rent Housing for Rural-to-Urban Migrants in China

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Abstract

Few researchers have observed the Chinese rural-to-urban migrants have the need to have communal activities to help them with the process of managing their spatial transition from the rural setting to the urban setting. This study investigates planning strategies regarding low-rent housing for Chinese rural-to-urban migrants through an examination of the intermediary spaces combined with functions shared among such Chinese migrants in their urban settlements. Chinese migrants gradually transfer from their home rural settlements to establish city lives and engage in urban occupations, but their sense of identity and family network remain grounded in a village culture. The high level of communal activities found in the spontaneous urban settlements of rural-to-urban migrants, can be understood as one aspect of the adherence to the lifestyle of their rural settlements. This research employs Canter's place model for organizing a data collection framework to understand the perception of high level of communal activities. As a

Keywords: *Rural-to-urban Chinese migrants, the extended family, Low-rent housing, Communal activities, Transitional spaces, Shared functions*

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result, this study is to show that the sharing of certain functions situated in the transitional spaces, namely, in front of the rental room, in front of the rental house and between the rental houses, must be joined with functions that residents can share or must share with each other. The shared functions situated in the transitional spaces actually allow communal activities to take root.

INTRODUCTION

The current trends of residential living in low-rent high-rise neighborhoods reveal that migrant tenants hold a different perspective on high-rise living. They expect a vibrant urban setting and close-knit communal activities with their neighbors. Rural-to-urban move are moving to modern low-rent high-rise apartments to update their living situation but this results in the loss of communal life that they had before. Moreover, the loss of communal life, more precisely, the lack of communal activities among residents reflects humans' withdrawal from traditional social structures.

While existing research on Chinese migrants' rental housing has dealt with the relations between low-rent and the poor situation of housing, their interrelationships with migrants' mental needs of communal activities are poorly understood. The current trends of residential living in low-rent high-rise neighborhoods reveal that migrant tenants hold a different perspective on high-rise living. They expect a vibrant urban setting and close-knit communal activities with their neighbors. Rural-to-urban move are moving to modern low-rent high-rise apartments to update their living situation but this results in the loss of communal life that they had before. Moreover, the loss of communal life, more precisely, the lack of communal activities among residents reflects humans' withdrawal from traditional social structures.

Analysis of this study suggests three points. Firstly, Chinese rural human's traditional social structures, mutual support, traditional extended family reflects migrants' need to have communal activities. It allows the continuation of rural migrants' lifestyle. Secondly, the high level of communal activities occurring in the transitional spaces mostly appertains to residents using the shared functions. These functions become a given condition that residents can share with other residents. Thirdly, all these shared functions provide a medium by which communal activities are actualized. The available shared functions help to build up the relationship of migrant residents to the functions of their choice, and also make it possible to generate communal activities among residents.

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This paper attempts to understand:
1. Need to have communal activities is important for Chinese rural migrants in low-rent housing
2. What are the causes of high levels of communal activity in migrants' spontaneously-developed low-rent housing?
3. How do the findings learned from this case study provide grounds for the future pattern of low-rent housing?

IMPLICATIONS FOR THE NEED TO HAVE COMMUNAL ACTIVITIES FOR RURAL MIGRANTS

The cultural differences between rural Chinese and urban Chinese are quite distinct. At this point, it is pertinent to revisit an image of the family in the eyes of the Chinese. Family, is in fact an extended family living under one protecting roof. In the Chinese countryside, until now this family type stands for the permanence of a family's full lineage (A. Xu, Xie, Liu, Xia, & Liu, 2007). People in the countryside grow up and live surrounded by the group; they do not prefer to be alone.

In rural part of China, a high proportion of extended families with elderly parents living with their sons remains a distinct characteristic of the Chinese family today (Yu, 2013). The extended families are characterized by traditional family values, devoted mothers and fathers, and warm cooperative bonds with broader community. This extended living circle constitutes the typical adaptive mode of many cooperative, kin-based rural communities and contrasts with the individualistic strategies more common within the urban community (Graves & Graves, 1974).

One role of a 'rural migrants' settlement' is to provide connection between migrants' rural background and their new urban background for generations of rural-to-urban migrants, and to have an influence on the transformation in their lifestyles (M. K. a. P. Whyte, W. L. , 1984). Many scholars question the positive assessment of the pattern of migrant settlements if government-subsidized low-rent high-rise projects are to be viewed as a great contribution (Cai, 2001; Chen, 1998; Jie & Taubmann, 2002; M. K. a. P. Whyte, W. L. , 1984). They argue that the government-subsidized low-rent neighborhood design for a common good does essentially suggest that 'people living with dignity' (Tian, 2008) is to assume that a satisfied life is a shielded life (Fan, 2002).

Most of scholars concerning various aspects of migrants settlements have been dedicated to the procedures of the radical social change taking place in such accommodation while studies of Chinese low-rent housing rarely focus on the aspect of

communal activities and its value for this specific residential group (Beja & Bonnin, 1995; Xiang, 1993).

It is important to distinguish between migrants' low-rent neighborhoods and common neighborhood design. The Chinese cities look as if they deliver poor prospects for rural-to-urban migrants' integration into local neighborhood life (Bray, 2005; Read, 2003), except to the extent that they form a controversial migrant shelter/community (Zhang, Zhao, & Tian, 2003; Zhu & Wu, 2003)or gather in a urban villages, ChengZhongCun in Chinese (thereafter, CZC) as an adaptive feedback to discrimination (Chan & Zhang, 1999). Some academic research, have recently contributed to the basic comprehension of several features of migrant accommodation (Chen, 1998; Piante, 1995; Su, 1996; W. Wu, 2002; Xiang, 1993). Most of them have concentrated on the progression of fundamental social changes happening in migrants' dwelling (F. Xu, 2008). However, few researchers have observed CZCs in urban areas with close knit communal activities. Despite this, some recent studies into communal activities have focused on urban residents in both middle-class housing estates (Li, Zhu, & Li, 2012) and (more rarely) in rural-to-urban migrant communities (F. Wu, 2012).

In an earlier investigation, King et al (2000) true subject is the retirement from migration or migration for pursuing a better life, and Lipman (1971) showed us his consideration of architects' philosophy on community (Lipman, 1971). Well-organized city neighborhoods (no matter if they are for locals or for rural-to-urban migrants) which match the life-styles of their residents and deliver communal activities for their inhabitants are able to nurture the emotional sense of togetherness that is decisive to mental well-being (Sarason, 1974).

As seen in scholars' studies, many low-income and working class people are content to live in so-called shantytown spaces as they have strong communal activities linked to their neighborhood areas (Gans, 1962; W. F. Whyte, 1943). Take the migrants' spontaneously-developed neighborhood for instance, the physically dilapidated neighborhood nurtures its individual sub-culture and a recognized 'lifestyle' which are shared by migrant residents (Zhang et al., 2003).

In rural settings where the individualistic effect is negligible or even absent, people still hold onto traditional values and put the family, village, farm and/or community in front of the individual. One role of a 'rural migrants' settlement' is to allow the continuation of rural migrants' lifestyle (Chung, 2013) or provide

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connection between migrants' rural background and their new urban background (Li, Zhu, & Li, 2009).

Dwellings in urban areas give the impression of having no neighborly spirit or community identity. Whether urban residents have come from the working class or not, they are usually person-oriented. Their living preference generally depend more on how well they can protect their privacy, create a sphere of privacy, and live in an environment that shields residents from multiple stresses and disturbances. However, for rural migrants, their living strategies are based on a close network, and even though they have settled down in cities their geographical location is a kinship or peer-group membership-gathering space.

A truth that the planning standards which are applied to the current public low-rent housing cut the maintenance of the migrants' lifestyle, it actually imitates the value pattern of middle class specialists. These expectations, belonging to designers, allocate an autonomy or privacy-based value to housing greater emphasis on 'living in the housing' than 'living in the neighborhood'. Designers' evaluation of low-rent housing is based on their urban-defined standards and provides services founded on their values.

The following study, I try to investigate the level of communal activities in the rural-to-urban migrants' spontaneous-developed settlement in Beijing city of China. Migrants' neighborhoods can virtually be considered as Chinese rural cultural territories. One example of this is the Yimuyuan community, it is one of the biggest migrants' spontaneous-developed housing areas in Beijing.

METHODOLOGY

Referring to Canter's place model, to achieve a livable and meaningful place, three dimensional experiences of places are emphasized (Canter, 1977) They are: (1) spatial structure, (2) activities and (3) perception. Those three components, then, are not separate features in a place, but inter-connected elements that help to generate a place. By means of this connection of three components in a place, Canter clarifies how this place model can arise in an examination of urban redevelopment. When urban redevelopment causes major changes in spatial characteristics and those changes can be identified, meanings in relation to those spatial alterations can be recognized and people's activities can be tied to the spatial changes and in doing so various meanings in the place can be identified.

This study uses Canter's place model for forming data collection framework to understand physical characteristics and to find practical evidence for comprehending the residents' communal activities in rural-to-urban migrants' low-rent housing neighborhoods. To triangulate this study of transitional places in the low-rent housing, each component in Canter's place model can be used to support elucidation of the level of communal activities and the awareness of place vitalization in these migrants' low-rent neighborhoods. The study attempts to examine migrants' communal activities through questionnaires and interviews. Also, in the context of migrants' low-rent neighborhood development, this research of migrants' regular gatherings seeks to learn people's perceptions based on the environmental settings. The migrants' views were gathered by conducting a survey which comprised a qualitative method and some quantitative methodology. In a succeeding survey, questions about communal activities and neighboring were involved in closed and open-ended answers.

Such settings and the characteristics of the typical rural-to-urban migrant housing and neighborhoods are the chief subjects for comprehending how migrant users observe communal activities and why the different perceptions emerge in their neighborhoods. This research uses three important levels of man-environment relationship which are essential components for comprehending the communal activities in migrants' low-rent housing neighborhoods. They are:

1. Spatial structure: what the physical parameters of that setting are (I draw layouts of spatial characteristics and schematic diagrams of the spatial elements from my own living experience and daily field-observations)
2. Activities: what behavior is associated with, or it is anticipated will be housed in, a given locus (I Map the kinds of daily residential activities and observing residents' communal activities in the corresponding spatial environment)
3. Peoples' perception: the descriptions, or conception, which people hold of that behavior in that physical environment (I draw cognitive images from residents and fill out questionnaires and the interviewing of residents)

The research method was based on my own living experiences, field observation and questionnaire survey and was developed to allow the empirical study to be done in a clear, objective, and replicable manner. The results of the analyses in relation to the spatial pattern of the low-rent spaces and the corresponding communal activities are shown.

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CASE STUDY: CHINESE RURAL MIGRANTS' SPONTANEOUSLY-DEVELOPED NEİGHBORHOOD IN THE YIMUYUAN IN BEIJING CITY

Yimuyuan low-rent neighborhood is a distinctive character as a case study (Figure 1) because it has already been designated as a migrant enclave, in which the biggest desirability included the low cost of accommodation and consumption in Beijing city of China.

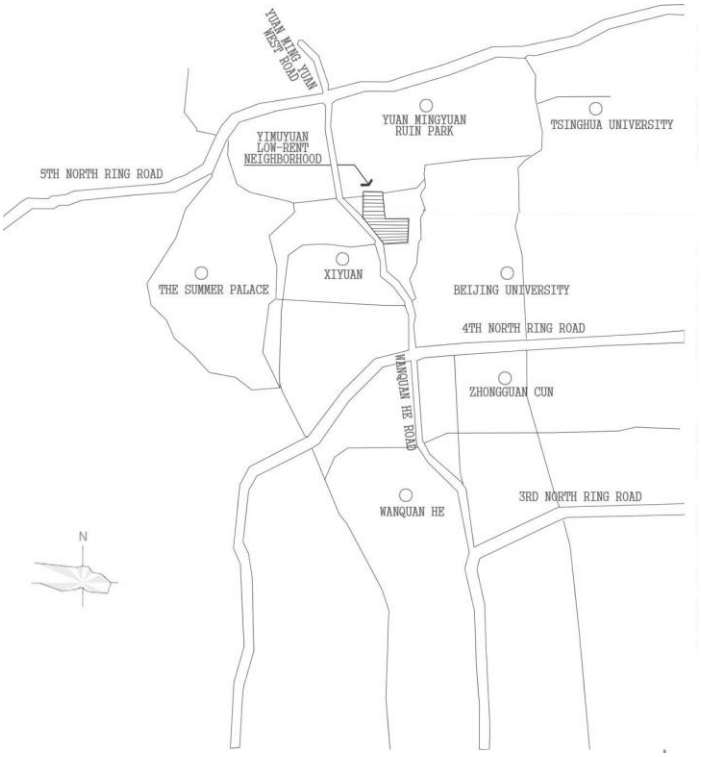

Figure 1. The location of Chinese rural migrants' spontaneously-developed housing in the Yimuyuan in Beijing city (Drawing by author)

The spatial structure

Migrants' rental room

Figure 2 supply representative features of Yimuyuan housing can best be explained by my drawing. To begin with, private low-rise houses are scattered as a common village neighborhood. Since the house owners decided to transform their normal houses into the rental rooms, the most major transformation was the maximum simplification of functions in the housing. The normal functions in private housing (family-gathering, playing, cooking, cleaning) have been completely taken away and replaced by a collection of bedrooms of different size.

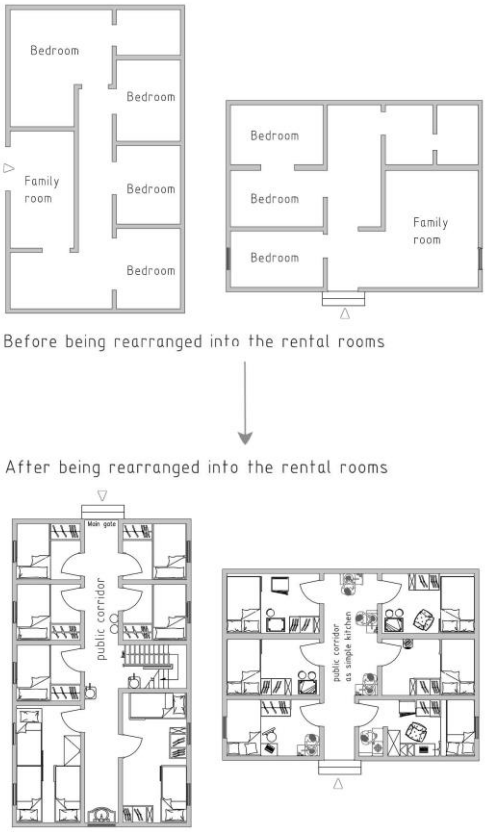

Figure 2. Comparison drawing of the before and after rearrangement of rental rooms by local landowners in Yimuyuan neighborhood (Drawing by author)

I drew out 8 typical housing patterns (Figure 3, 4, 5) according to 3 different groups of migrant residents, they are, single, family-accompanied and couple migrant residents. In most cases, a rental room was not equipped with specified utilities; functions were all mixed. Owing to the rearrangement, the rooms inside the housing became the same in terms of a single function.

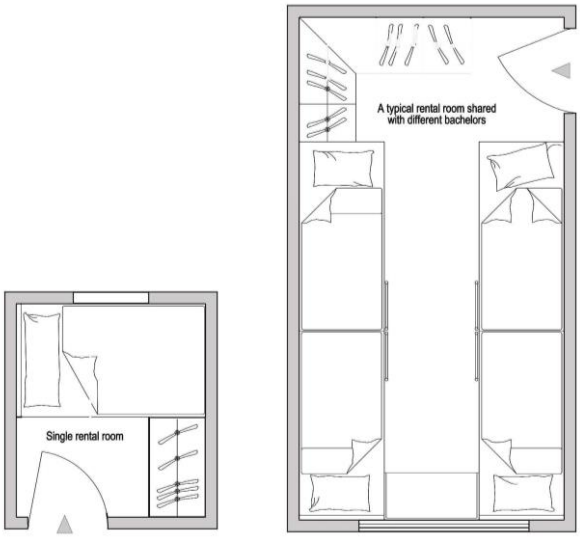

Figure 3. A room layout of single tenants in Yimuyuan neighborhood (Drawing by author)

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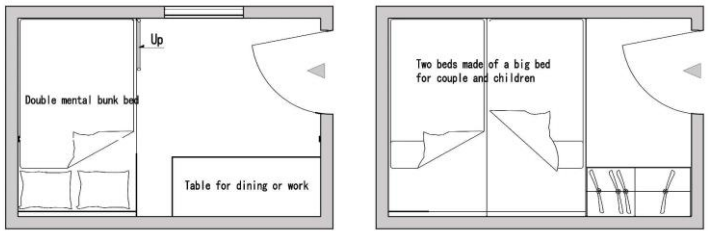

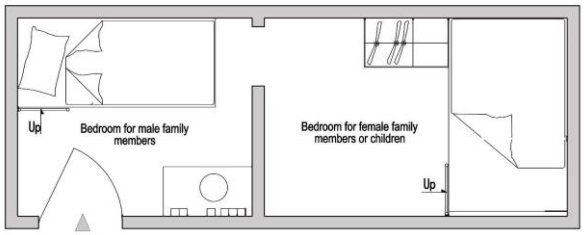

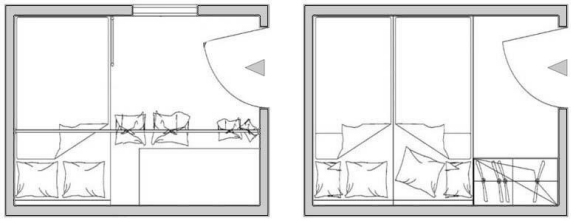

Figure 4. A room layout of parent-accompanied migrants in Yimuyuan neighborhood (Drawing by author)

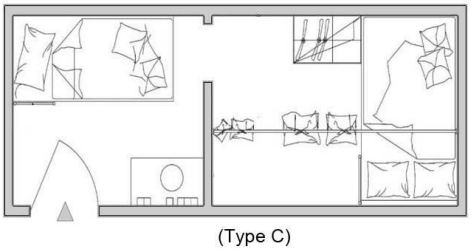

Figure 5. Typical room layout of sampled couple-only tenants in Yimuyuan neighborhood (Drawing by author)

Inside of the housing, the corridor served as a spatially distinctive entry place to the interior spaces. The function of the corridor inside of the house is expanded unconsciously in terms of its location and its function as an access point connecting inside and outside. The other characteristic of the latter houses in Yimuyuan neighborhood is, the space in front of each single rental room in a corridor extended as an individual property area for private living-related use. Between the rental rooms, the front of the rental room might have enabled the migrant residents to use as another major living space to make up the lack of private space.

Actually, couple migrant residents are inclined more to the functionality of their living quarters, having a separate kitchen and a lavatory. A typical rental room consists of one living room with an adjoining separated small space for cooking fuel. Truly, these service quarters were not planned as a necessary part in most of the migrants' settlements. More than half of the rental rooms in the Yimuyuan neighborhood had simple access to a

cooking stove, including a poorly maintained cooking facility in front of their rental room or at best a shared cooking facility on the bottom floor of the whole building. Narrow corridor is always crammed with cooking utensils, shelves and a drying rack.

Migrants' rental house

After 1987, the local residents gradually recognized that renting was enormously money-spinning. So an increasing number of families got used to living under the same roof with rural-to-urban migrants. So this regional area occupies the rental rooms (Figure 6).

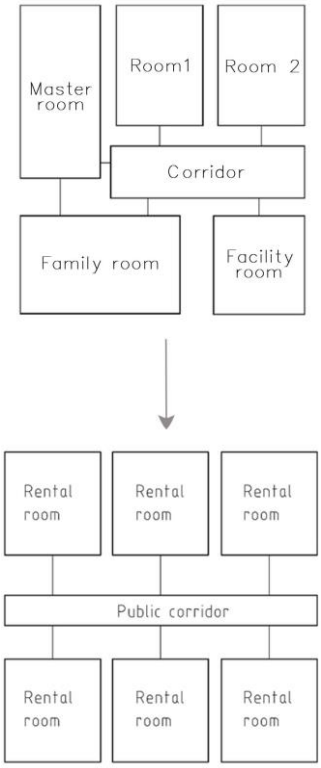

Figure 6. The schematic diagram of changes of house plan in Yimuyuan neighborhood (Drawing by author)

Front stoops, sidewalks and many other forms of transitional spaces, between the house and the communal alleyway or lane, are characteristic surroundings around the rental house. Whereas the inside of the rental room looks like being a space into which private activities overflowed from inside the house, the space at the front of the house logically has formed a barricade between the privacy of the room and the completely communal feature of the adjacent houses in the neighborhood, as well as a connection between the small social group of different person/families and the larger social group of the community.

Between the rental houses

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Personal, regular household work, daily-used shared infrastructure and leisure/social entertainment are the main focuses of the communal activities (Figure 7). In the Yimuyuan area, because the rental rooms have extremely simple functions, so the people need to depend on the outside spaces and public facilities to take care of themselves. The facility place is detached from the main body of the rental house, and served as a part of the neighborhood instead of as a part of inside of the rental house.

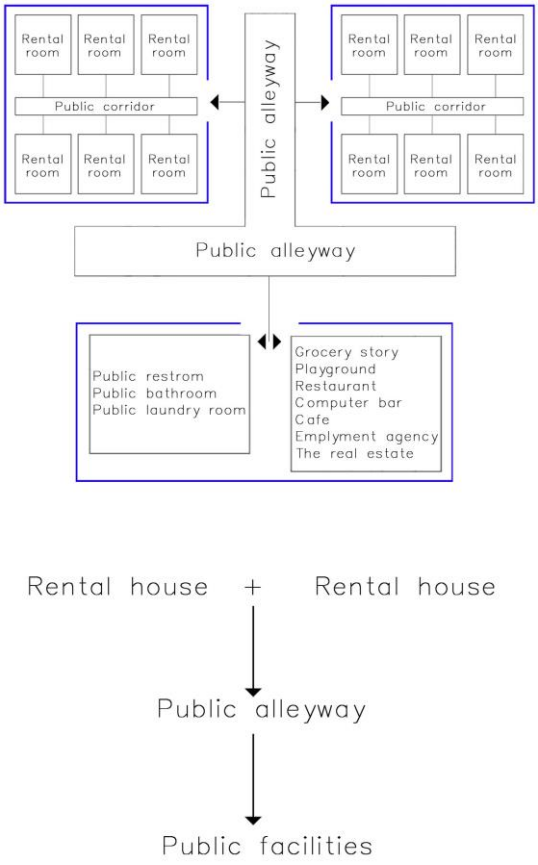

Figure 7. Schematic diagram of set of functional network in Yimuyuan neighborhood (Drawing by author)

Thus it can be said that the space between the rental houses maintains important migrant-support functions of the normal house, and so becomes an integrated part of the house. The whole neighborhood becomes an intertwining set of 2 forms of function categories. They are labeled as 'necessary function', and 'migrants-support functions'. These functions help to build up the relationship of residents to the function of their choice, and also enable a relationship to form among residents. Consequently, functions of sharing create communal activities, for instance, the cooking, cleaning, the bathing, laundry as necessary provided functions are shared by the whole residents. This characterizes the role of the public alleyways between the rental houses in fostering communal sharing.

A five-story tenement is the main building type. These buildings are small and several houses had to share bathroom and toilet facilities. Residential streets, the corners and sidewalks, and small scale open spaces such as play grounds, courtyard are major physical environment for the space between the rental houses in the Yimuyuan neighborhood. Computer rooms around the corner, front of the corner stores, restaurant and other social places are the other situations between the houses. Walking through the neighborhood, the phenomenon of using these public functions as an individual's extended home ground can be named as the 'domestic territory function'.

The Migrant Residents' Activities

Three patterns of spatial environment serve migrants conduct their communal activities. They are: front of their rental room, the open space front of their rental house and their neighboring small blocks. The three spaces result in residents' three types of activities, such as a necessary activity, a transitional activity and a social activity.

Front of migrants' rental room

The most dominant function in front of migrants' rental room in the Yimuyuan neighborhood is to serve as a cooking/storage activities (Figure 8, 9, 10). The narrow size of rental room enables the migrant residents to use the space in front of their room as a supplementary living space (for cooking, cleaning, stuff-gathering). Between the rental rooms, the corridor has enabled the residents to use it as kitchen.

Figure 8. Schematic diagram of arrangement of migrant tenants' public corridor as kitchen in front of their room (Drawing by author)

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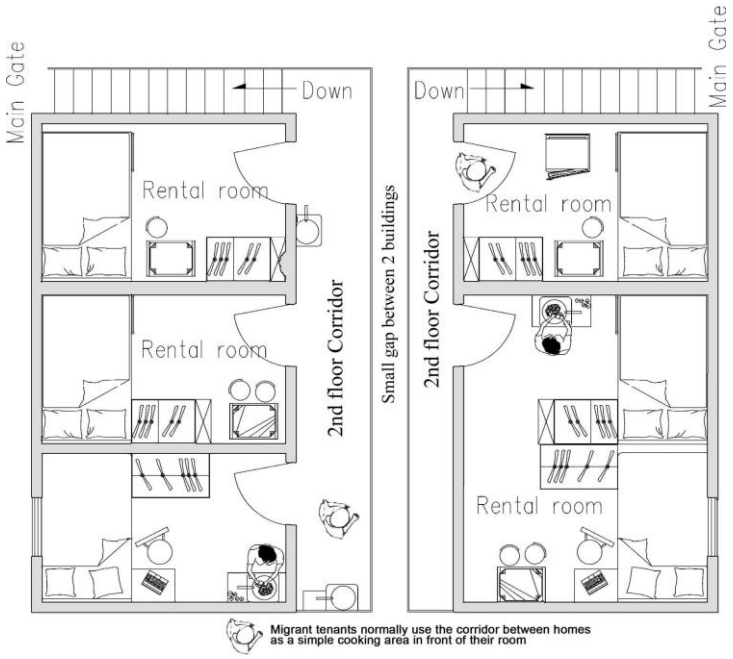

Figure 9. Schematic diagram of arrangement of migrant tenants' public corridor as kitchen or storage space in front of their room (Drawing by author)

The rental room in the Yimuyuan, strictly speaking, is a public home, not a private residence. Physical evidence of the typical forms of rental room environment—heavy use of private space and extended private space in the public corridor. When the inside space gets busy or stuffy, family members use their public corridor often to satisfy the spatial inadequacy, and carry on their activities near their rental room door. The seemingly diverse purposes of each room come together inside of the rental house due to the willingness for communication. When preparing daily things, the corridor is used for other constant daily usage. So, there is no effort to stress the need for private living compartments. Many members, nuclear families, generations living within rental room(s), their natural activity level regarding cooking housework actually happens in the corridor, in front of their rental room. This is the most significant of household activities where the communal activities take place.

Figure 10. Schematic diagram of arrangement of how migrant tenants' public corridor as storage space in front of their room (Drawing by author)

A simple kitchen in the public corridor is not in a minority option. A corridor of 1.5m wide, is composed of minimal cooking furnishings. One stove and one table are set for meeting the minimum requirements of simple cooking. The location of food preparation could be considered as being at the very core of the house. In the Yimuyuan neighborhood, this core location is seldom placed inside of a private rental room, but it cultivates a shared feeling. Cooking and housework are not just solitary activities performed by a person or family members together. These functions are the background through which self-enclosed individualism is conquered in support of an empathy that nurtures collective sharing, cooperative measures.

Under these conditions, the neighborly communication for residents starts from in front of their room. The cooking function combined with a corridor during a day is shared by the group of people who reside in the same floor. The cooking, and storage functions serve as the character that describes the relationship between residents and space, the relationship between the sharers. Cooking and storage have both a spatial character and a character of the inter-residents.

Front of migrants' rental house

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(Figure 11) In the Yimuyuan neighborhood, the residential housing includes the most traditional form of Beijing residential housing—the Pingfang (bungalow) and low-rise houses. The Pingfang houses are normally equipped with more adjacent rooms on all four sides around the courtyard. The strong association between the place in front of the rental house and the residents is simply expressed in two activity patterns that are dominant in the process of forming the intimate communal spaces. They are: use of water facilities by residents and drying clothes on ropes and bamboo pipes in the narrow alley front.

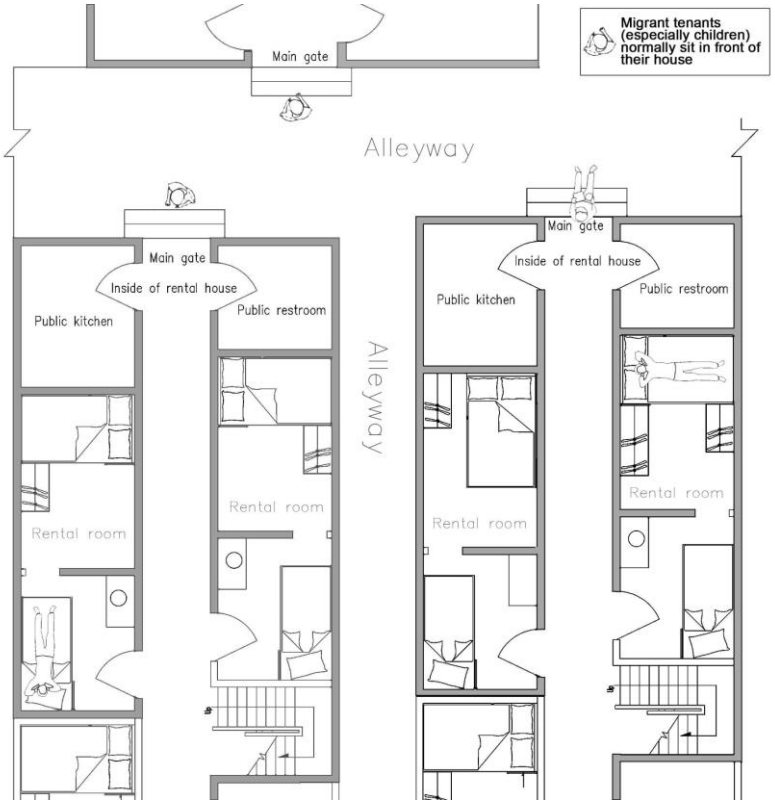

Figure 11. Schematic diagram of arrangement of migrants' use space in front of rental house (Drawing by author)

Normally in their daily context in front of residents' rental houses, activities are rarely done by one person on their own. When this does come about the resident will all the time invite others present to be with him/her. This invitation is an emblem of hospitality and inclusion. It is significant that the working on laundry, sitting, taking of foods or drinks, spending time in front of the rental house are a normal part of daily visiting for residents living in the Yimuyuan.

Residents minimize the connection between specific areas of the neighborhood and men or women, saying 'it is not calculated', strictly followed. It is difficult to ascertain whether such integration is more observed in the Yimuyuan than elsewhere. A facility-based spatial hierarchy is particularly clear in the relations between in front of the rental rooms and in front of the

rental houses, but between the houses most communal facilities and services are shared.

In the Yimuyuan houses, most of the water comes from a public pump in the street, normally outside of the house, residents fetch water, do minor laundry (for major clothes washing they use a public laundry room nearby), and perform other chores. Food preparation occupies a lot of time, because of the location of their water they spend a great deal of time outside of their house. Residents' own perception of communal activities is that they are rather occasional, its daily necessities. In the Yimuyuan neighborhood, different areas of the rental neighborhood have a tendency to not be strongly associated with particular people but linked with specific spatial utilities.

Co-resident nuclear families have an extended area existing in front of the house for their household use. Household members do, however, have their customary household space either in the corridor or the street in front of their rental house, where these are all functionally a part of its interior. The door of each single rental room extends to the interior space, the entrance of the related housing functions as division between inside and outside. The residents are 'at home' inside of the house instead of just inside of their own room.

Between the rental houses

The space between the rental houses provide activities such as simple gymnastic, karaoke, games, and playing music, as well as support the elderly residents. In this facility, the migrant residents create companionship between each other. These activities are not a responsibility to be followed by the migrant residents who dwell in the neighborhood, rather they are provided for those who want and need activities.

The alleyway in front of the rental house is likely to be more public than corridor in front of the rental room, and communal activities occur in the corridor within relations of next-door neighbors. Between the rental houses, the space refers to a neighborhood place which is not legally owned by specific people, but under certain circumstances, is occupied and used exclusively to produce a collective-symbolic ownership for a certain group of people (Figure 12, 13). Corner grocery stores, markets, public restroom, public bathroom are the main settings for meeting tenants' everyday necessities. In other words, the activities in which those involved are to a greater or lesser degree required to participate.

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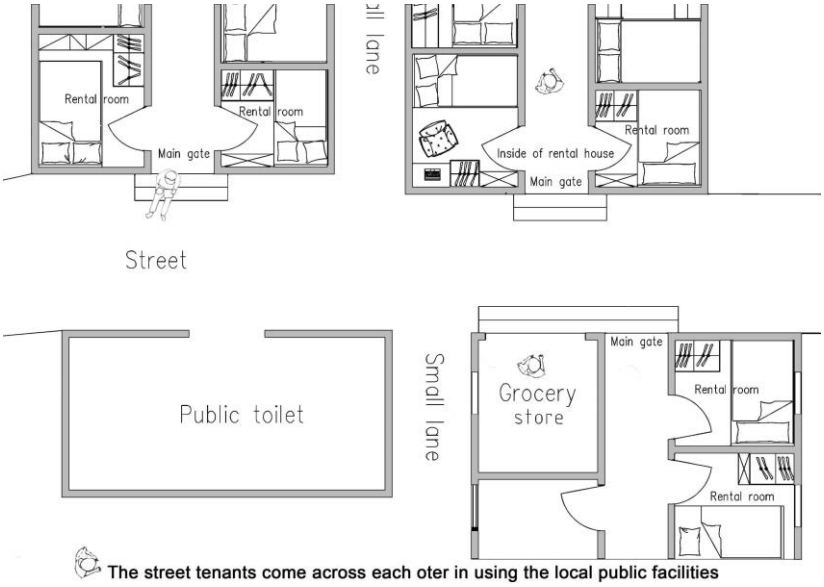

Figure 12. Schematic diagram of arrangement of space of between the rental houses (Drawing by author)

Figure 12 shows the diagram of a typical situation of tenants' social interaction around the public facilities (public restroom) in the Yimuyuan neighborhood. The basic layout is quite simple. When I asked some residents the street name or the name of one restaurant, they answered: that they didn't know exactly, here there is no exact name for each small alleyway or corner. People use their own ways to recognize places. For example, somebody's house.

Figure 13. Schematic diagram of arrangement of space between the houses (Drawing by author)

In residents' minds, they associate Yimuyuan with the people there instead of the place itself. For example, a housewife, one of my interviewee, although she has lived in here for almost 5 years, she always says, Yin's house or Min's rental room instead of using the exact name of the alley. Because people recognize this neighborhood through the people they know. They go to these places to meet them.

In the Yimuyuan, radios and stereo players are listened to at a very high volume, and television sets are always located near the window. Both forms of leisure are shared with neighbors. Radio and television and gossip are the main source of recreation and

information about what is happening around the city (especially for a migrant's wife). The streets are not calm in the morning either. Most migrant residents are also running small business, morning is their busiest time for preparing. On a hot summer day, they take good care of the space in front of their rental house by sprinkling water to settle the dust.

Although the rental room in the Yimuyuan leads to minimizing privacy, this may in turn, foster an atmosphere that boosts the desire to dedicate dwellers' time to being spent with others. Since the ground floor serves as the best communal gathering place for amusement and handling business, all dwellers spend their time on these public activities. Individual pursuits are customarily disregarded in contrast to the welcome given to public spaces, but both of them are filled with the soul of impartiality and community.

The Migrants' Residential Perception and Survey

From a cognitive point of view, migrant residents' cognitive image becomes an index of their communal activities. Migrant residents were asked to list places that they considered to be related to their daily life in the Yimuyuan area. I seek to discern how residents perceive their communal activities in relation to their everyday experiences.

Cognitive image of rural-to-urban migrants

(Figure 14) Xu who is one of the Yimuyuan migrant tenants who lives in and works in this area. Xu's image map presents he understands his (his family) communal activities in relation to supporting their lives of working and living. The majority of time I met Xu for this interview and their informal talk was conducted either in their rental houses or at their stalls while they worked. Xu and his wife rented a big room on the first floor in the Yimuyuan as their business place. They worked together every day, opening their restaurant at 5:00am and closing it at 6:00pm. Customers are almost all from the Yimuyuan neighborhood.

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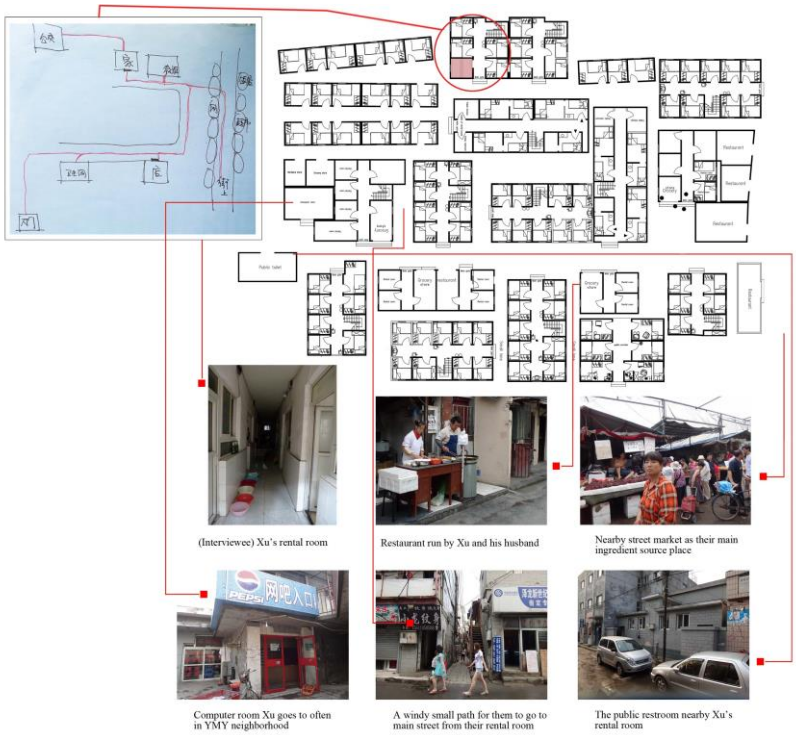

Figure 14. Cognitive image of Yimuyuan neighborhood by a rural-to-urban migrant, Xu (Drawing by author)

During my interview, they showed they have an image of the Yimuyuan area based on the composite elements in the built-up environment near their rental room, the business they make, people they met and the daily sources they use. They focus on these elements of the living environment which marks it as a close knit web of communal activities.

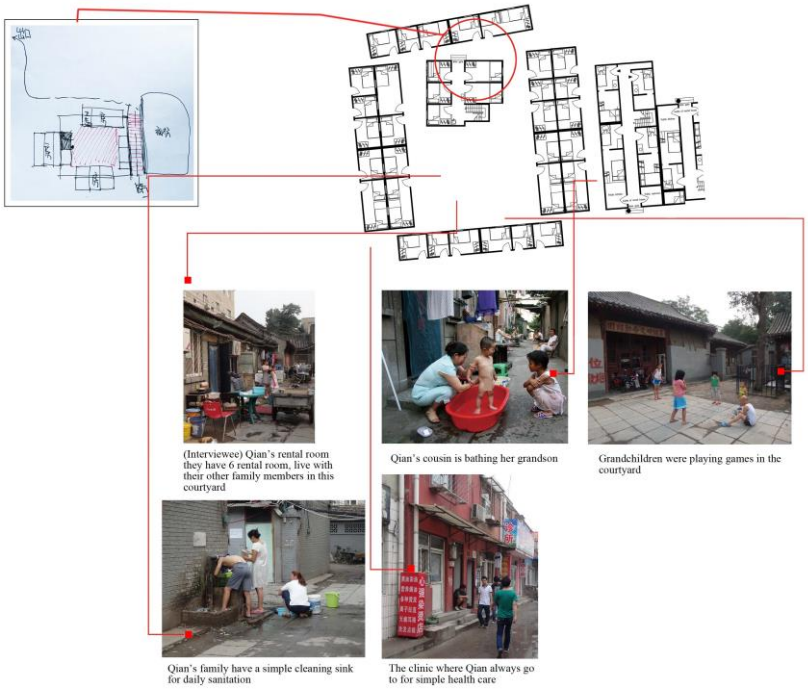

Figure 15. Cognitive image of part of Yimuyuan neighborhood, Qian (Drawing by author)

(Figure 15) The second cognitive image is from family-accompanied migrant resident, Qian. After migrating to Beijing

city, she and her extended family (3 generations) live together in the Yimuyuan neighborhood. It is striking that her understanding of communal activities is on an inter-personal level. Her image is an example of the perceptions of communal activities by communication through face to face within small physical boundaries.

Qian draws major activities among their daily life. She locates her activities within her adjacent environment. Moreover, her everyday life is not spent alone, but is accompanied with the locals, family members, and neighbors. She explains that her daily life in the Yimuyuan neighborhood looks like the previous life she lived in her hometown. Qian's image map shows that she understands her (her family) communal activities in relation to the washing clothes, bathe her little boy, sitting, taking of foods or drinks, with families and neighbors.

Figure 16. Cognitive image of part of Yimuyuan neighborhood, Kang (Drawing by author)

(Figure 16) During my interview, single migrants occupied the greatest ratio of residents living in the Yimuyuan neighborhood. They mentioned they started their migration life before they finished their high-school education. Actually, dense accommodation and sharing places provide emotional support to one another. Their knowledge of Yimuyuan life is rooted in personal necessities and daily life. A migrant tenant said that:

Beijing local people are all cold treating migrant workers. Yimuyuan is a good place for migrants to live together.

A 17-year-old girl tenant surveyed said:

The neighborhood is a small world in which has a full range of everyday activities that can be conducted without dependence in the outside environment.

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How they understand their communal activities as is the relationship between spatial cognition and residents' activities present residents' communal activities as not isolated with places, but being closely related to their daily necessities and sharing these daily supplies.

I examine qualitative interviews conducted on 2013 with 45 rural-to-urban migrant residents who live in the Yimuyuan CZC, to illustrate their communal activities integrated within their neighborhoods. These 45 interviews, while not representative of all rural-to-urban migrant residents, provide insights into the close relationship between spatial planning and residents' participation level of communal activities. In Table 1 and 2, it informs us of the general statistics of the three communities of migrants. The questionnaire, consequently, was made in such a way that the responses could elucidate migrant tenants' perceptions of their neighborhood in addition to supplying information regarding their forms of neighborhood area usage.

Table 1. General statistics related to community experience of the three groups (source: *Yimuyuan* community survey in 2013

Measurement value of sense of community	Migrant type (15 people in each group)		
	Parent-accompanied migrants (above 15 old)	Single(unmarried) migrants	Couple-only migrants.
Number of friends and/or relatives in this neighborhood (Number of interviewer, present %)			
Nobody	1 (6.7%)	0 (0%)	0 (0%)
1-3	2 (13.3%)	3 (20%)	4 (26.7%)
3-5	5 (33.3%)	8 (53.3%)	6 (40%)
5-10	3 (20%)	2 (13.3%)	4 (26.7%)
More than 10	4 (26.7%)	2 (13.3%)	1 (6.7%)
	15 (100%)	15 (100%)	15 (100%)
Sequence of place where migrants meet their neighbors and relatives living in this area (present %)			
In your rental room	6.1	10.2	4.1
In the front area of your room	20.2	24.1	23.3
In the public kitchen	7	20.2	26.2
In the public bathing room	14.2	18	10
Front street of your house	22.3	13.3	23.1
In a local market or restaurant	5.1	9.1	4.2
Parks or other facilities within neighborhood	12	4	5.1
Some streets within few blocks	13.1	1.1	4
Neighborly Relationship (present %)			
Sociability	68.1	65.8	49.3
Common assistance	70.3	65.2	62.5
Mutual trust	69.8	50.1	45.9
Acquaintance	68	55.5	50.4
Attention to the Community Involvement (Number of interviewer, present %)			
Not pay attention	2 (13.3%)	1 (6.7%)	3 (20%)
Pay a little attention	8 (53.3%)	10 (67%)	10 (67%)
Pay much attention	5 (33.3%)	4 (26.7%)	2 (13.3%)
	15 (100%)	15 (100%)	15 (100%)
Community Belongingness (Number of interviewer, present %)			
Merely provisional dwelling	2 (13.3%)	1 (6.7%)	3 (20%)
Hard to tell	5 (33.3%)	6 (40%)	3 (20%)
As a real home (a place where I/we belong to)	8 (53.3%)	8 (53.3%)	9 (60%)
	15 (100%)	15 (100%)	15 (100%)
Reason to stay in this neighborhood (present %)			
Cheap rental room	56.5	85.4	81.2
Kinship (friend)-based neighborhood	68.8	56.5	45.5
Hard to say	34.2	23	24.7

Note: in a random sample of 15 parent-accompanied migrants, our survey selected people above 15 years old who were asked to give detailed information on their sense of community in their neighborhood. Among the 15 interviewees of each group, we also excluded those migrants who provided inconsistent or untrue information.

Table 2. General statistics for social networks and experience of the three groups (source: *Yimuyuan* community survey in 2013)

Measurement value of expectation	Migrant type (15 people in each group)		
	Parent-accompanied migrants (above 15 old)	Single(unmarried) migrants	Couple-only migrants.
In which perspective of housing is meaningful for you to live in this neighborhood (Number of interviewer, present %)			
Decent look	3 (20%)	4 (26.7%)	7 (46.7%)
Safety	3 (20%)	4 (26.7%)	5 (33.3%)
Accessibility to daily facilities	7 (46.7%)	8 (53.3%)	9 (60%)
Feeling of attachment (sense of community)	13 (86.7%)	12 (80%)	10 (66.7%)
Good community relations	14 (93.3%)	11 (73.3%)	11 (73.3%)
Visiting neighbors (Number of interviewer, present %)			
Often	6 (40%)	6 (40%)	4 (26.7%)
Sometimes	6 (40%)	4 (26.7%)	7 (46.7%)
Seldom	2 (13.3%)	3 (20%)	2 (13.3%)
Never	1 (6.7%)	2 (13.3%)	2 (13.3%)
	15 (100%)	15 (100%)	15 (100%)
Helping neighbors (Number of interviewer, present %)			
Often	4 (26.7%)	5 (33.3%)	3 (20%)
Sometimes	7 (46.7%)	6 (40%)	6 (40%)
Seldom	3 (20%)	2 (13.3%)	4 (26.7%)
Never	1 (6.7%)	2 (13.3%)	2 (13.3%)
	15 (100%)	15 (100%)	15 (100%)
Reason of rich communicating experiences among neighbors (percent %)			
Frequent meet in space of life necessities (public kitchen, laundry, bathroom, aisle)	67.3	69.2	60
Welcoming physical settings (old-style front stoops of rental house or adjacent sidewalks)	78.4	56.8	55.3

More than 65% of single migrants and 62% of couple migrants said they agreed with the statement that this neighborhood has high level of communal activities. Migrants' evaluations of items gauging neighborly relation are quite positive, regarding sociability, with the grand mean being 61%, as associated with neighborhood acquaintance's having an average value of 58%, mutual trust's average value being 55%.

I asked: "is Yimuyuan an area to which you belong, or simply a place to live for a moment", 55.6% of respondents answered that Yimuyuan neighborhood can be their real home where they feel belonging and community satisfaction. In respect to the attitudes towards 'reason to stay in the Yimuyuan neighborhood', a great deal of economic advantage (cheap rent) and intimate neighborhood with kinship and friends, especially those in the areas of the working migrant class population, becomes the main consideration factor of continuing to stay in this neighborhood. Consequently, while migrants in the Yimuyuan neighborhood live a humble life, they consider the neighborhood they dwell in to be a comparatively welcoming or intimate one.

Finding: Low Living Standard But High Level of Communal Activities

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The finding indicated that migrants' spontaneously-developed housing has high level of communal activities (Figure 17, 18, 19). The reasons are listed as follows.

(1) The experience of shared functions allows communal activities to emerge or lead to increased communal activities

The space is only a physical fact, however, the functions combined with the space determine the true character of the space. Making use of functions or sharing functions supplied by the spaces are the real reasons for residents to contribute to communal activities. The communal activities occurring in the three transitional spaces mostly concern how residents use these functions. These functions become a given service that residents can share or have to share with each other.

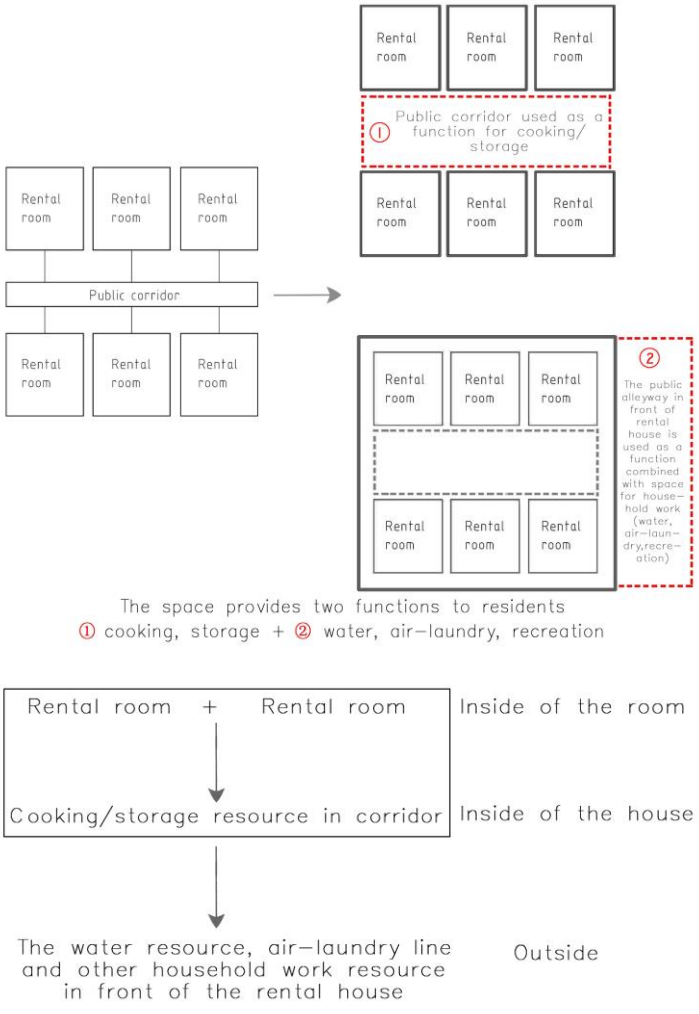

Figure 17. Graphic representation of spatial changes in terms of in front of rental room and rental house in the Yimuyuan neighborhood (Drawing by author)

(Figure 17) Function 1 (cooking, storage) in front of the rental room and function 2 (water, airing-laundry line, household work) in front of the rental house combined with the free space available form the main characteristic of each given area. Residents use the space immediately adjacent to their rental room for the functions

it provides. The functions serve as the qualities that define the relationship between residents. This is the reason why the existence of the functions in such areas or spaces can be combined with and can be added to the number of communal activities.

The corridor is a function extension of part of its interior. When inside gets crowded, the residents go out of their rental house to continue their activities. The adjoining alleyway (in front of the rental house) becomes an extremely effective extension of the interior of the rental house. (Figure 18) The public alleyways (between the houses) are an intertwined set of daily-used function, migrant-support functions.

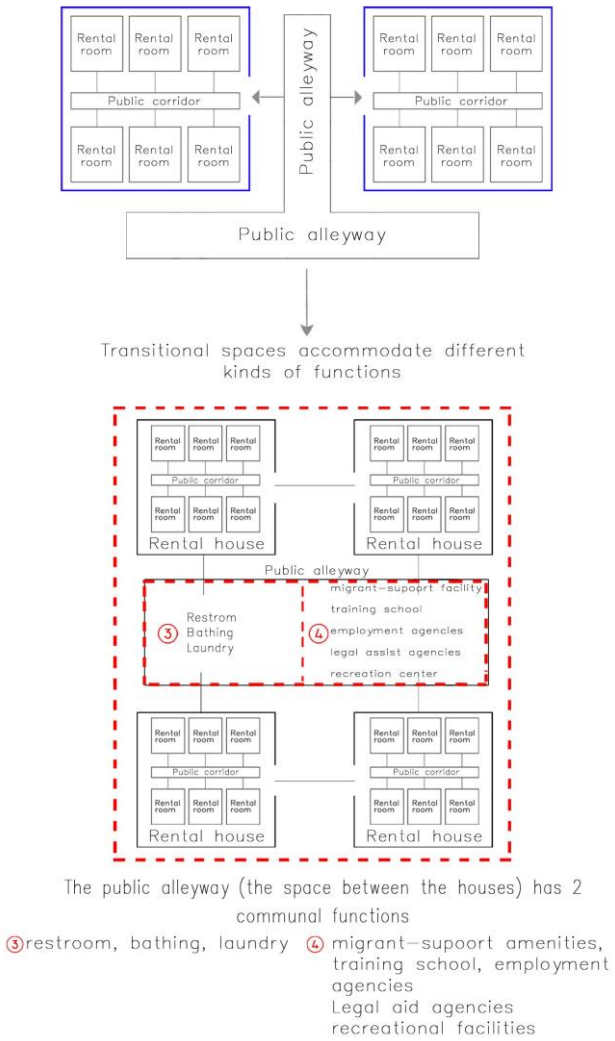

Figure 18. Graphic representation of residential space as interweaving forms of functions in terms of between the rental houses (Drawing by author)

(2) Different categories of shared functions result in different communal activities

(Figure 19) Different categories of shared functions result in very different communal activities happened in the different spaces, respectively: necessary daily activities (in front of the rental

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room); commercial activities (in front of the rental house); and social service activities (between the rental houses).

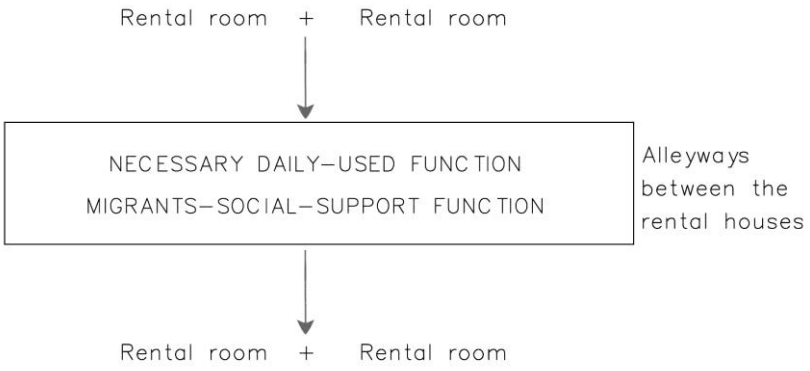

Figure 19. Graphic representation of residential space as interweaving forms of functions in terms of between the rental houses

The cooking and storage shown in the corridor; water source, airing-laundry line and household work like working in the alleys in front of the house; daily-used shared facilities and communal used services performed in the space between the rental houses—all these functions or facilities and services, provide a medium by which communal activities are actualized.

(3) Shared experiences develop three types of relationships that support continuity of migrants' 'way of life'

Shared experiences develop three types of relationships, namely, the relationship between residents and the space, the relationship of residents to the function of their choice, and the inter-personal relationship among residents. Rural-to-urban migrant residents are physically living in a decayed neighborhood, but they are satisfied to live in so-called shantytown areas as they feel a strong 'sense of belonging' to their area. Their physical decayed neighborhood generates its learned 'way of life' which is shared by rural migrant residents. And this subculture matches their inherent lifestyle, and it receives their appreciation and energy which both offset the difficulties presented in the decayed accommodation.

(Figure 20) There is considerable connection in the kinds of ties which are obtained: relatives are often neighbors; mutual help in household activities is both possible and frequent; and the various ties become intertwined through many activities within the neighborhood. To reiterate, the spatial functions are more than a physical, environmental issue; it is the concern of the sharing of experiences among rural-to-urban migrant residents and by which their communal activities can be located. Concretizing the argument, the low-rent housing for rural migrants should differ from the conventional housing.

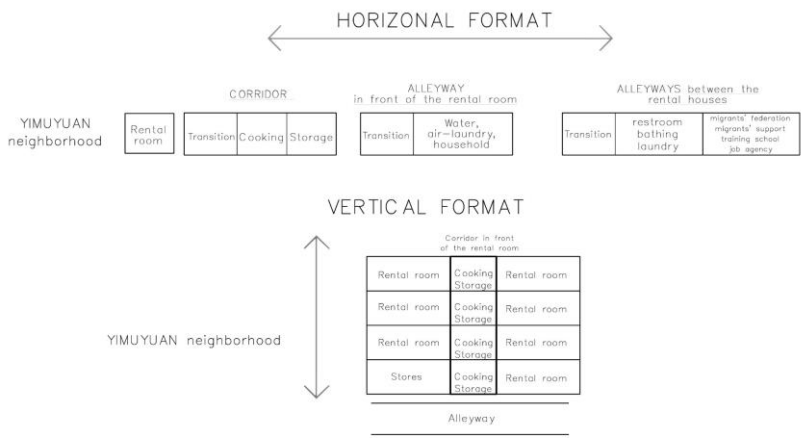

Figure 20. Spatial elements in horizontal and vertical format in *Yimuyuan* neighborhood (Drawing by author)

LOW-RENT HOUSING SHOULD DIFFER FROM THE CONVENTIONAL HOUSING

Without professional design, it has been presented that the migrants' spontaneous-developed Yimuyuan neighborhood has succeeded in making a low-rent neighborhood with close-knit communal activities. However, the contemporary low-rent housing is: dwelling units contain the full range of functions for individual use, and shared functions are absent in the transitional spaces. Planners and designers provide functions and services grounded on middle-class values and use these values to solve migrants' difficulties and improve their residential conditions. The rural-to-urban migrant residents prefer to live in high enough densities so that many related families could live near each other and are satisfied to live in so-called slum areas. Chinese migrant residents' lifestyle cannot be changed simply by presenting it with middle-class services, such as open space, ground garden and peaceful environment.

Proposed approach to housing migrant residents in low-rent housing

Based on the study, I propose three strategies that are compared to the contemporary low-rent housing:

Cut the size of each private dwelling unit; simplify the functions in each private unit

For single family homes we go to the 2006 International Residential Code. It states that each dwelling unit shall have at least one room with a minimum of 11.1 square meters. In current major contemporary low-rent housing, the size of each type of rental room is far greater than what is needed to be comfortable. Compared to the standard residential unit, the private units are smaller because only functions such as sleeping and personal hygiene are kept inside the private unit, and the other functions

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(cooking, dining, resting) are relocated outside the private unit. Typical rental units have simplified functions into two parts: 1. Bedroom; 2. Restroom. This is because using communal spaces and shared functions decrease the repetitive need to use the same functions individually. Acceptable compactness as a feature can be one of the finest methods to attain sustainability, low cost and finally more low-rent dwelling units can be created. By sharing such functions, people living in low-rent housing have access to many more facilities than they would on their own.

(2) Increase the size of the communal spaces for the shared functions and enrich the functions for the sake of migrant residents.

Compared to the standard corridor, there are more shared functions within the space, but shared functions differ according to the location of the transitional spaces (for example, corridors on upper floors, halls on ground floors, and streets between the rental houses). Regarding the strategies using shared functions, the following shared functions comprise the basis for designing low-rent housing for rural-to-urban migrants in China: hygiene and sanitary functions; cooking and dining functions; storage and rest functions; social service and education functions; and recreation and hobby functions.

(3) The transitional communal spaces within the neighborhood ought to serve more than one main function in order to make residents show up at different times by using different functions combined with different spaces. The 'collaborated communities' 'central living' and 'housing with (more) shared functions' will comprise the future low-rent housing I propose. It can be as 'housing that features spaces and facilities for joint use by all residents who also maintain their independent living'.

CONCLUSION

This study investigates rich communal activities in low-rent housing for Chinese rural-to-urban migrants through an examination of the intermediary spaces combined with functions shared among such Chinese migrants in their urban settlements. Such functions are to help rural migrants with the process of managing their spatial transition from the rural setting to the urban setting. Chinese migrants gradually transfer from their home rural settlements to establish city lives and engage in urban occupations, but their sense of identity and family network remain grounded in a village culture. The high level of communal activities found in the spontaneous urban settlements of rural-to-

urban migrants, can be understood as one aspect of the adherence to the lifestyle of their rural settlements.

The typing should be Analysis of the migrants' spontaneously-developed housing in the Yimuyuan case suggests two points. Firstly, the high level of communal activities occurring appertains to residents using the shared functions. These functions become a given condition that residents can share with other residents. Secondly, all these shared functions provide a medium by which communal activities are actualized. The available shared functions help to build up the relationship of residents to the functions of their choice, and also make it possible to generate communal activities among residents.

Therefore, the results of this study reveal that housing typology (low-rise or high-rise) is not fundamental in influencing the high or low level of communal activities. If low-rent neighborhoods are rich in communal activities, this is not because they are crowded or are more suitable places, but because they have sufficient functions to allow that sharing to take place. The same can be applied to places which have few communal activities, it is not resulting from a lack of people or open places, but it is caused by the absence of functions that can be shared, thereby preventing the occurrence of communal activities.

Finally, I defend this study that the role played by the transitional spaces must be joined with functions that residents can share or must share with each other. The shared functions situated in the transitional spaces actually allow communal activities to take root. Founded on concepts of the person-to-environment relationship in terms of communal activities, the study emphasizes that low-rent housing has an explicit role to play for each rural migrant, since every individual develops a different emotional connection with the environment and with the other migrants. Therefore, the different categories of shared functions form not only communal shared activities among migrant residents, but also develop diverse relationships between residents and their low-rent housing as they adjust to new environments in their destination cities.

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Planning Process of Sinan's Ferhat Pasha Complex in Çatalca

Nil Orbeyi*

Abstract

Mimar Sinan served as the chief architect from 1538-1588 in the Golden Age of the Ottoman Empire. He was responsible for the design and construction of over 470 buildings of different sizes and functions. Unfortunately, Sinan's methods of shaping, sizing, and construction are unknown since no records of his design principles have been found; however, the simultaneous construction of many buildings throughout the empire suggests that he used a common method, especially in the design of simple buildings of similar size and shape. In this study, The Ferhat Pasha Complex in Çatalca, İstanbul has been chosen as an example to investigate Sinan's design principles. In the first phase of the study, the compatibility of the examined building's plan with the methods known to be used in different civilizations, like quadrature, golden ratio, grid system, etc., were investigated, revealing that the sizes, forms, and locations of buildings in the complex are in accordance with a modular grid system which was created with zira, an Ottoman unit of measurement. In the study's second phase, the stages in the emergence of building design were shown by the inductive method. This system also played an important role in estimating the cost of the buildings and, tracing the outlines of the plans to the ground in cases where the designer cannot be found personally.

Keywords: *Ferhat Pasha Complex, modular grid system, mosque, planning process, Sinan's architecture*

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INTRODUCTION

For many civilizations, we can learn their structural design principles from written sources (Alberti, 1485; Palladio, 1570), but this is not true for the architecture of the Ottoman Empire or its greatest architect, Mimar Sinan. The oldest documents that describe Ottoman architecture consist of a limited number of plans, sketches, and estimation reports and can be found at the Prime Ministry Ottoman Archives and the Topkapı Palace Museum Archives (for documents, see: Altan, 1936; Ünsal, 1963; Erdenen, 1965; Necipoğlu, 1986). The only drawing we have from Sinan is among these documents and is the estimated project of the Kırkçeşme Water Supply System. If we depend on this document alone, it is impossible to understand what Sinan's architectural drawings looked like or which methods he used in his designs. So far, although many groups have studied Sinan's architectural style and the plan typologies of his buildings (for the bibliography of works related to Sinan, see: Batur, 1968; Ödekan, 1988; Mülayim, 2011), there are few studies that try to identify his design principles (Kuran, 1973; Söylemezoğlu, 1986, 1988; Arpat, 1986; Cantay, 1986; Sönmez, 1999; Tuncer, 1999; Erdem and Özakın, 2006; Tuncer, 2008, 2010; Alioğlu and Orbeyi, 2011; Eilouti, 2012). These studies, which are based mainly on architectural analysis and reviews, aim to identify Sinan's system via the methods that were used by different civilizations throughout history on Sinan's constructions. In these studies, most of which focused on monumental mosques, whether Sinan used systems like quadrature, abjad calculation, the golden ratio, nine square grid (9SG), and grid in his designs was examined through studying Sinan's mosque projects.

In imperial mosques, where Sinan showed all his skills with the desire to achieve unique and magnificent designs, he may have used particular systems for each structure. However, it is likely that Sinan used a common method in his designs during the period in which over 470 buildings were designed and Sinan was very busy with the imperial mosques[1]. This method also should be easily applicable and repeatable in order to minimize the problems that may occur during construction. In this study, building on this idea, the presence of a system that could have been used in the design process of the Sinan's Ferhat Pasha Complex (*kulliye*) is examined and it has been determined that complex design was made according to the modular grid system which was created with zira[2].

Abdal Ata Bektaşi Tekkesi in Çorum is the oldest plan that shows the usage of this universal order in Ottoman architecture is from the early sixteenth century (for documents, see: Ünsal, 1963;

[1] Sinan was personally involved in the construction of the buildings in Istanbul, but also directed, on site, some constructions within the region from Edirne to Izmit. The constructions that are away from İstanbul were built by a journeyman or local architect according to the project, which was designed by the corps of royal architects.

[2] The unit of measurement used by Ottoman architects. One zira is appoximately equal to 75,7738 cm in the metric system (Arseven, 1950).

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Necipoğlu, 1986)[3]. However, we don't have any evidence that Sinan used this system; few studies have examined the modulation and / or grid system used in Sinan's mosques (Arpat, 1986; Çamlıbel, 2000; Kuban, 2007; Tuncer, 2008, 2010; Alioğlu and Orbeyi, 2011; Orbeyi, 2016). This study is differentiated from similar studies in the following ways:

- This is the first study that shows the overlap between the grid and modular systems based on zira dimensions.
- In this study, the whole complex, including its land, was analyzed according to defined systems, which is different from similar studies that analyzed the mosque alone, even if it is a part of the complex.
- In this study, the effect of a defined system on the pre-construction planning process of the building is questioned with a cause and effect relationship, which is different from similar studies that examined only the architectural projects of buildings.

Finally, the modular grid system that was created by zira dimensions has been determinant in the planning of the buildings that constitute the complex and also it provides convenience for pre-construction preparation processes, such as cost estimation and application. This system is also believed to provide advantages for the correct transfer of the project to the land in projects where the designer and the practitioner are different people.

METHODOLOGY

In this study, the planning process of the Çatalca Ferhat Pasha Complex, which was chosen because it is a state mosque and is in close proximity to our region, was examined in two stages. The first stage was conducted according to the deductive method, since there is no document that describes the building's construction process. By comparing this building's construction with systems that were used by different civilizations throughout history, it was determined that the design (with its land) was formed according to the modular grid system. In this stage, the effect of this system on the structure's planning process was questioned over the buildings that constituted the complex, and the obtained data were presented with plans and sections. In the second stage, the possible emergence stages of the design were re-examined with the inductive method, depending on the modular grid system and presented with drawings.

[3] Contrary to Unsal (1963), who claimed that the drawings belonging to Abdal Ata Bektaşi Tekkesi in Çorum (originally located at the Topkapı Palace Museum Archives) can be dated to the 17th or 18th centuries, Necipoğlu (2005) said that there was a mistake in the dating of the documents. According to her, these plans can be dated to the 15th and 16th centuries via the paper with a watermark.

FERHAT PASHA COMPLEX IN ÇATALCA (1575-88)

Sinan designed two mosques for a statesman called Ferhat Pasha, who was a vizier during the reigns of Sultan Suleiman I (Suleiman the Magnificent) (1520-1566) and Selim II (1566-1574). One of the mosques was built in Kastamonu during Ferhat Pasha's lifetime and the other was built in Çatalca, İstanbul (Figure 1) after Pasha's death. The memorial mosque in Çatalca is a part of a complex. The land of the complex is located on a fairly steep slope and has a six-sided irregular polygon form, which was bounded on the east and the south by streets and the north and west by neighboring parcels (Figure 2, 3). The complex, which consists of a mosque, an elementary school, and a public fountain, has hitherto kept its classical view despite two restorations (in the 18th century and between the years 1968 and 1970).

Figure 1. The map of Çatalca, Istanbul (Redrawn from Google map)

Figure 2. Satellite view of the Çatalca Ferhat Pasha Complex (Redrawn from Google map)

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a) b) c)

Figure 3. Vezir Ferhad Pasha street view of the Çatalca Ferhad Pasha Complex: a) wall fountain; b) mosque; c) elementary school

FIRST STAGE OF PLANNING PROCESS: DEDUCTION

In this stage, the complex was measured and the plans were updated. Based on the analytical studies that were done on the plans, it was seen that the dimensions of its land and the buildings that constitute the complex could be defined by zira, and so the complex was examined by a zira grid system. The public fountain that is a part of the complex was designed independently from this system because it is parallel to the west-angled land wall. Also, the fountain *(shadirvan)* was not analyzed in this study because it had substantially lost its original identity.

Mosque

The mosque, which is the main building of the complex, has a single dome and a square plan. Its triple-domed inner portico, which is adjacent to the northern wall of the mosque, is raised on columns with muqarnas capitals. The outer portico, which surrounds the inner portico from three directions, is covered with a slanting wooden roof that is carried on by columns and pilasters with lozenge capitals. The simple prayer hall is symmetrical, with two-tiered windows that are similarly located in four directions. The axis of symmetry is even more emphasized with the gate, mihrab, and niches, which are located between the windows. The 9.00-meter dome is supported by four pendentives rises on a blind octagonal base. A muqarnas-galleried minaret is adjacent to the western wall of the mosque (Figure 3).

The outer dimensions of the prayer hall are 11.40 x 11.40 m, equivalent to 15 x 15 zira. When this square space is divided into 15 equal parts horizontally and vertically, a zira-spaced grid system is obtained. This system defines:

- The outer boundary of the prayer halls' walls (15 x 15 zira).
- The outer boundary of the inner portico (5 x15 zira).
- The outer boundary of the outer portico (5 x15 zira; Figure 4).

The spaces that constituted the mosque and the mosque's borders can be described with this system.

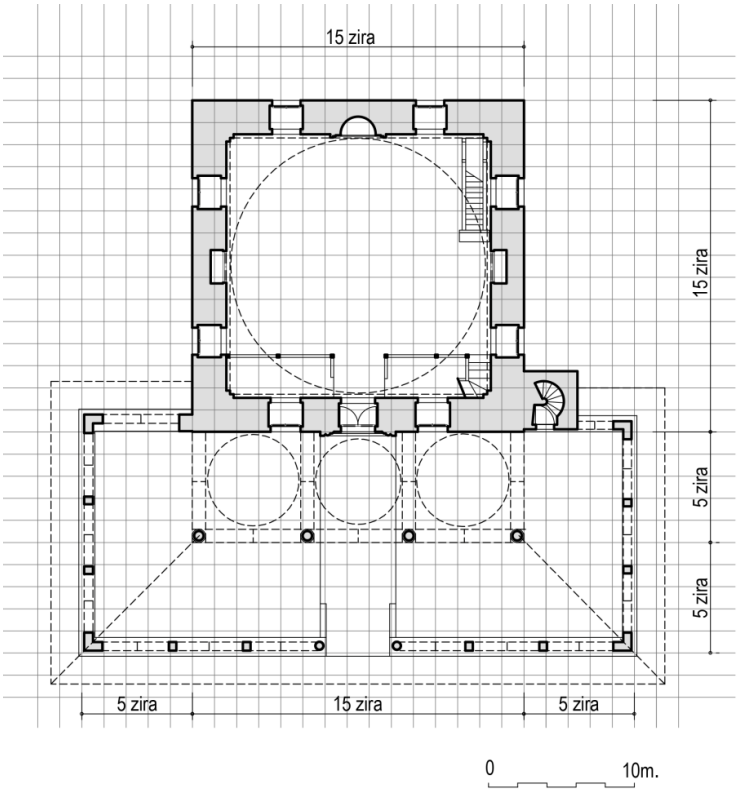

Figure 4. Grid system that was created with one zira in the Ferhat Pasha Mosque plan

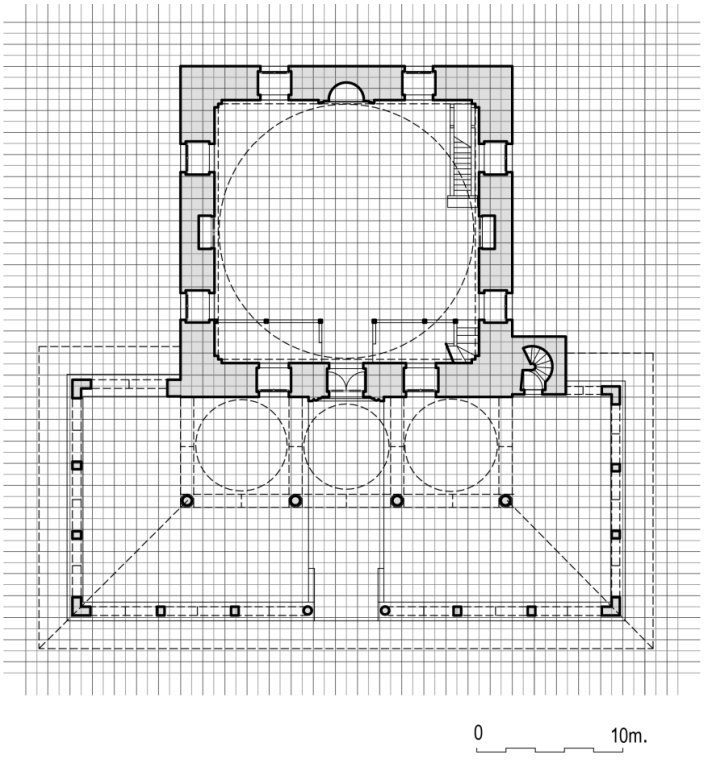

Figure 5. Grid system that was created with ½ zira in the Ferhat Pasha Mosque plan

The walls are 1½ zira thick, whereas the arches located in the inner and outer porticos are ½ zira thick. According to these measurements, the system that is obtained when we divide the grid system into ½ zira units in the horizontal and vertical planes can define the location and approximate dimensions of the building elements.

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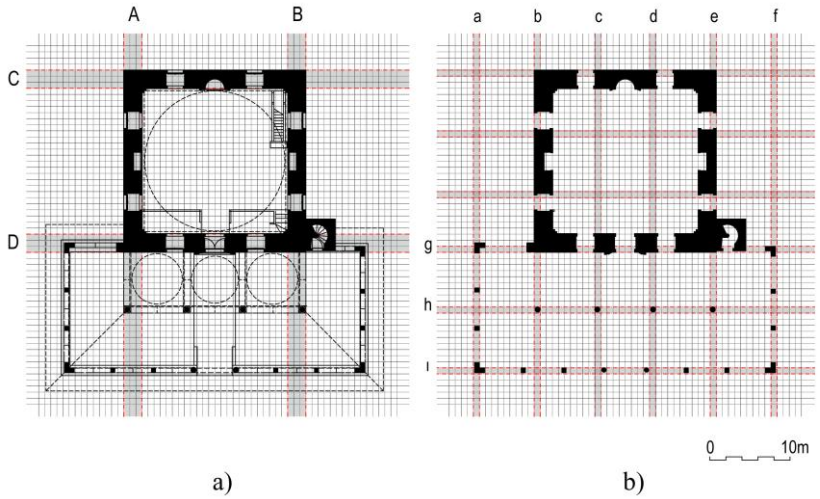

Figure 6. Grid system that was created with ½ zira in the Ferhat Pasha Mosque plan: a) A-D grid spacing in prayer hall; b) a-ı grid spacing in the inner and outer porticos

The grid system created by the ½ zira defines:

- Structural elements' sizes and locations in the mosque (Figure 5). The prayer hall's outer walls are located in A-D grid spacings, whereas the arches and vertical carriers of the inner and outer porticos are located in a-ı grid spacings, which are ½ zira thick (Figure 6a, b).
- Building elements' (door and window) location and size (door is 2 x 1 ½ zira, windows are 1 ½ x 1 ½ zira; Figure 5).
- Approximate boundaries of the base area of the minaret (Figure 5). The minaret cannot be defined only in the southern direction.

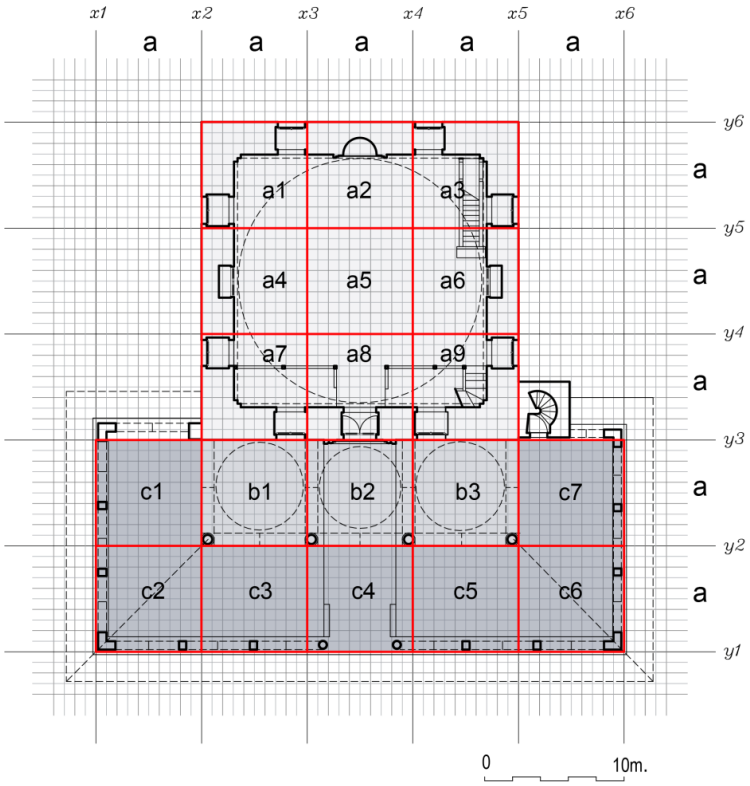

Figure 7. Modular grid system in the Ferhat Pasha Mosque plan

At this stage, the spaces of the mosque can be defined with a 5 x 5 zira grid and its multiples. This size that can describe the whole building is the unit module. Accordingly, the prayer hall was designed in a total of nine modules, such that there are three modules in the horizontal and three in the vertical (a1-a9 in Figure 7). The inner portico, which is the same width as the prayer hall, was designed with expanded one module towards the northern direction from the mosque wall and three modules in the horizontal plane (b1-b3 in Figure 7). Furthermore, the three domes, which are the same size in the inner portico, are located in three separate modules. The outer portico is located in seven modules that surround the inner portico (c1-c3 in Figure 7). According to this system, the prayer hall and porticos were designed in a total of 19 modules.

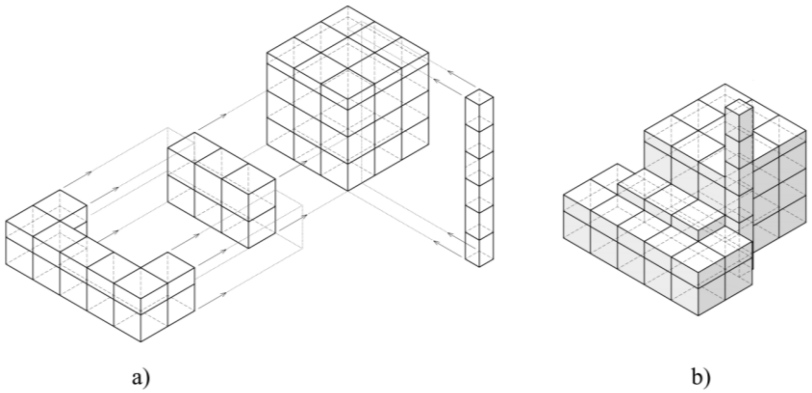

Figure 8. a) Module formation scheme of the mosque (prayer hall, inner portico, outer portico, and minaret); b) Module formation scheme of mosque

The modular grid system is also identified for the following sections (Figure 8, 9):

- In the prayer hall: the heights of the main dome and arches, inner and outer cornices, altar, gate, and windows.
- In the inner portico: the heights of the domes, arches, and columns.
- In the outer portico: the heights of the wooden roof eaves, arches, and columns.
- In the minaret: the heights of the minaret top, spire, cornice, and balcony (Figure 8).

With the grid system, the size and location of building elements and spaces can be exactly determined in plan and section. Even though the modular system is descriptive for the whole plan, it can only define the height of the inner portico and minaret in section.

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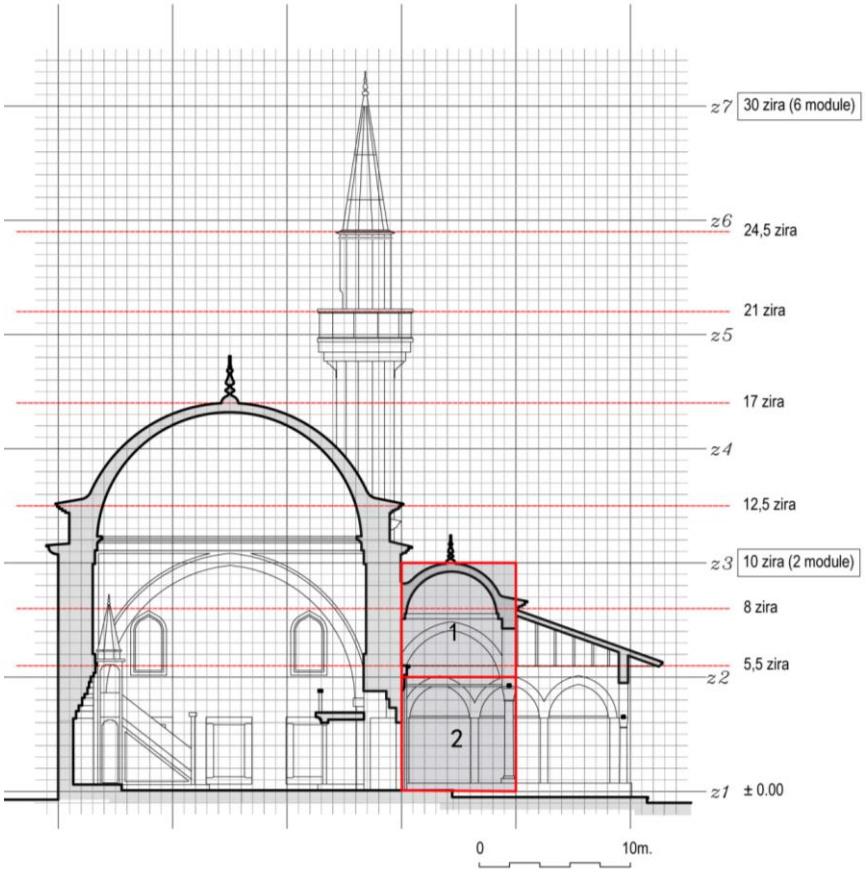

Figure 9. Modular grid system in the Ferhat Pasha Mosque section

Elementary School

The elementary school is located in the southwest corner of the land (Figure 2, 3) and its north and east sides are in the boundaries of the land. The school has a single dome and a square plan and its portico is covered with a slanting wooden roof, which is carried on three wooden pilasters. The indoor space is symmetrical, with double-tiered windows located on the top and bottom of the east and west walls. The entrance door is in the south. In the middle of the north wall, there is a stove surrounded by two niches on each side. The school has a 5.20-meter dome, which is supported by angular pendentive rises on a blind octagonal base. The western facade of the portico is a continuation of the courtyard wall and has a window (Figure 10).

It is seen that the spaces of the elementary school cannot be identified by the full module; the grid system was decisive in its design. Accordingly, the grid system, in the plan:

- Defines the dimensions of the spaces– the outer dimensions of the indoor space is 9 x 9 zira, and for the portico is 5 x 8 zira.
- Defines the sizes and locations of structural elements- the thickness of the indoor space walls and western wall of the portico are 1 zira.

- Defines the locations and sizes of building elements (window, door, niche, and stove) - the windows and door are 1 x 1 ½ zira and the closet niches are 1 x ½ zira (Figure 10).

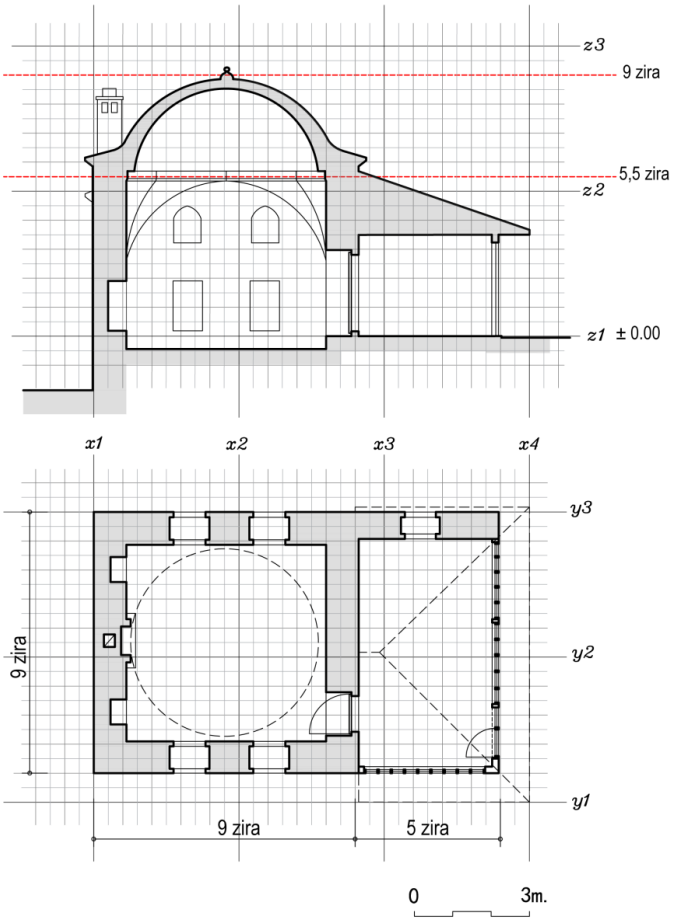

Figure 10. Modular grid system in the Elementary School plan and section

The grid system, in the section:

- Defines the outer height of the dome– the indoor space of the elementary school is planned in a 9 x 9 x 9 zira cube.
- Defines the dome's arches and the dome's and portico's eaves (Figure 10).

At this stage, there is an association between the mosque size and the land size according to the study done on the location plan of the complex. The distance between the outer boundaries of the mosque's walls and the land border is one module in the south and two modules in the east and west. The modular system does not only determine the boundaries of the mosque, but it also plays a significant role in determining the location of it on the land (Figure 11).

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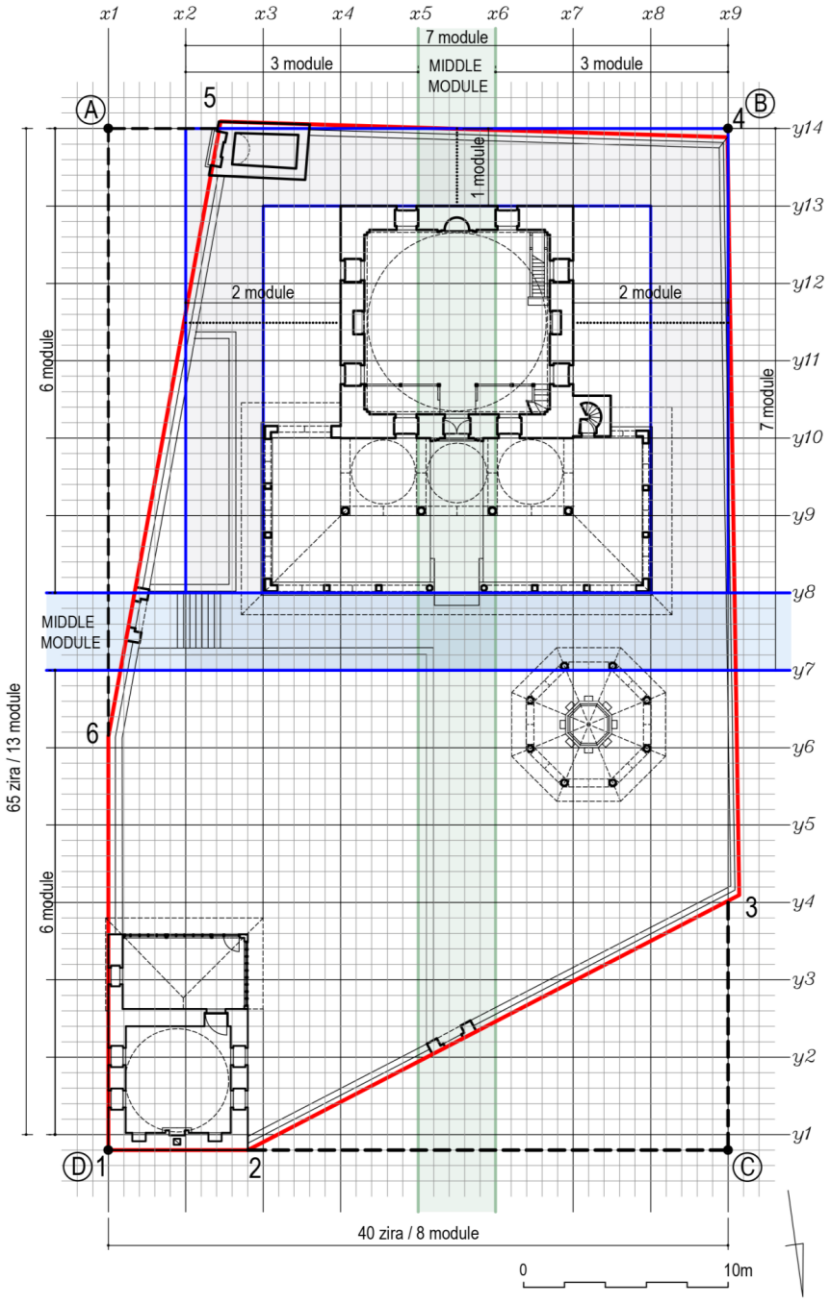

Figure 11. Modular grid system in the Ferhat Pasha Mosque site plan

SECOND STAGE: PLANNING PROCESS – INDUCTION

When the complex was built, a series of studies should have been made in contrast to the steps of the first stage. The possible steps that may have been followed in these studies made before the construction include:

1. Surveying the land
2. Transferring measured drawings to the grid paper
3. Determination of the module size
4. Design of the complex

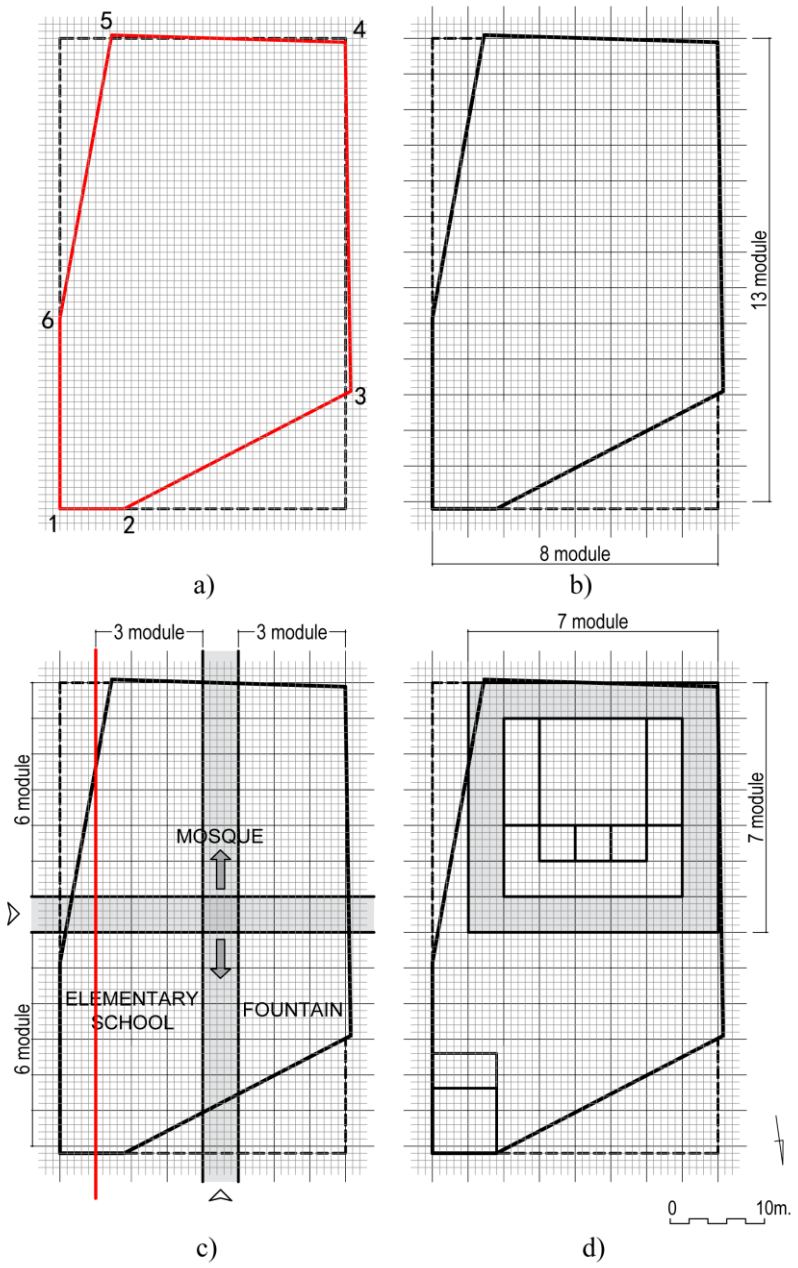

Figure 12. Modular grid system in the design of the Çatalca Ferhat Pasha Complex: a) transferring measured drawings of the land to the grid system; b) determination of module size; c) determination of the buildings' positions on the land; d) positioning of the mosque and the elementary school

The technical preparations start with the selection of the land where the complex will be built. Following this, settlement to the land is the first step of design. As happens today, a sketch showing the topographic condition of the land is drawn. After completing all necessary investigations and drawing the sketches of the land, one proceeds to the design phase. Firstly, the measured drawing of the land should be transferred to squared paper. At this stage, it must be determined in which direction the grid lines will be placed, because that will affect the formation of the whole complex's design; the positioning obligation in the south-east direction of the mihrab (*Qiblah*) axis of the mosque is determinant on this decision. Therefore, the grid system's lines have been arranged in such a way that they are perpendicular and parallel to

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the southeast direction (Figure 11, 12a). After this stage, the dimensions and forms of the buildings that are required to be in the complex and how these buildings should be positioned on the land will be decided. The mosque is the building that has a leading role in the design; the other buildings in the complex were planned according to the mosque. Therefore, the mosque's size, shape and location should be determined first.

There are many factors that determine/affect mosque design in Ottoman architecture: the patron's *(bani)* identity and requests, historical data, location and size of the mosque, boundaries and topographic diversity of its land, relationship between the mosque and the environment, and obligations required by its function (direction on land, forming of the covering elements, etc.). The buildings' locations will be determined while considering these limitations. The gathering of the community at the entrance of the mosque and the necessary space requirement for the other buildings in the complex caused for the mosque to be positioned in the southern half of the land, while the elementary school and fountain are located in the northern half of the land. After this step, grid paper should be used to identify the relationship between the land and the buildings' sizes. The fact that the dome is an important symbol in Ottoman architecture has caused its dimensions to be determined according to the patron's hierarchical significance; accordingly, the maximum size of a vizier mosque's dome is approximately certain[4]. The dome size of the Çatalca Ferhat Pasha Mosque (9.20 m) should have been determined by trial and error, like today, to be both within these boundaries and be suitable for the land's dimensions. After the dome size has been approximately decided, the module sizes associated with the land size should be determined.

The six-sided land, defined by the numbers 1-6, is at the same time located in a hypothetical rectangle ABCD. This rectangle, measuring 40 x 65 zira, can be horizontally and vertically divided by five ziras. In this way, modules that are 5 x 5 zira in size are obtained (Figure 11, 12b). In this stage, it must have been decided that the obtained module size was suitable for the desired mosque's dimensions and the design must have been made according to this system. The module interval, defined by *y7* and *y8* lines, is where the complex's entrance divides the land into two equal parts in the northeast direction. The mosque is located in the south, whereas the fountain and elementary school are located on the north side of this module (Figure 11, 12c); the mosque's outer portico is adjacent to this module. The mosque is located in the area that is described with the *x3, x8* and *y8, y13* lines and 5 x 5 module sizes (Figure 11, 12d). The module interval that was

defined by the *x5* and *x6* lines describes the mosque's entrance axis in the north-south direction; the second entry in this direction of the complex is located in this module interval too. The intersection of these module intervals, which defines the complex's entrances, emphasizes the mosque's entrance and center of the land. The elementary school is located on the east and the fountain is located on the west side of this module (Figure 11, 12c). Finally, the structural details of the mosque and elementary school were determined according to the grid system and the design of the complex has been completed.

AFTER PLANNING PROCESS

The modular grid system is decisive not only in the planning process, but also in the processes of estimation report preparation and transferring the project to the land. In Ottoman architecture, after the planning stage, to determine the approximate cost of the building, alternative estimation reports were prepared to give patrons the chance to choose among different designs and costs.

The remuneration of the work was determined according to the measure of zira. Accordingly, the material and workmanship could easily be calculated by just counting the squares on the plan, without using any measuring tool, in a project made according to the zira grid system. For example, the thickness of the Ferhat Pasha Mosque's walls are 1 ½ zira. The zira value of the walls could be calculated simply by counting the squares of the walls in the plan. When the gaps of the door, windows, and niches are removed from this measurement and multiplied by the unit cost, the cost of the construction of the wall could be calculated correctly and quickly. When piece works (such as columns, doors, windows, and mihrab) are added to this calculation, it is possible to obtain a highly reliable estimate in a short time. Because the size of the structure details could be determined in the planning stage, they can be pre-ordered, avoiding possible delays during construction (Necipoğlu, 2005).

After the project chosen by the patron is approved by the sultan, it can be moved into the construction stage. This system also facilitates the transfer of the project to the land. In the working drawing *(karname)* of Suleymaniye Mosque, the application of the mosque plan was made with the help of stakes and ropes. By the method specified in the source, after the application grid had been marked to the ground, the master could determine the location where it should be and could describe to the bricklayer how to put up the wall in the size specified in the plan in the direction of the application rope. Points in the grid system are certain; therefore, it is not necessary to give another dimension to the bricklayer. At

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this point, the important thing is to be able to read the project correctly and explain it to the master in the right way.

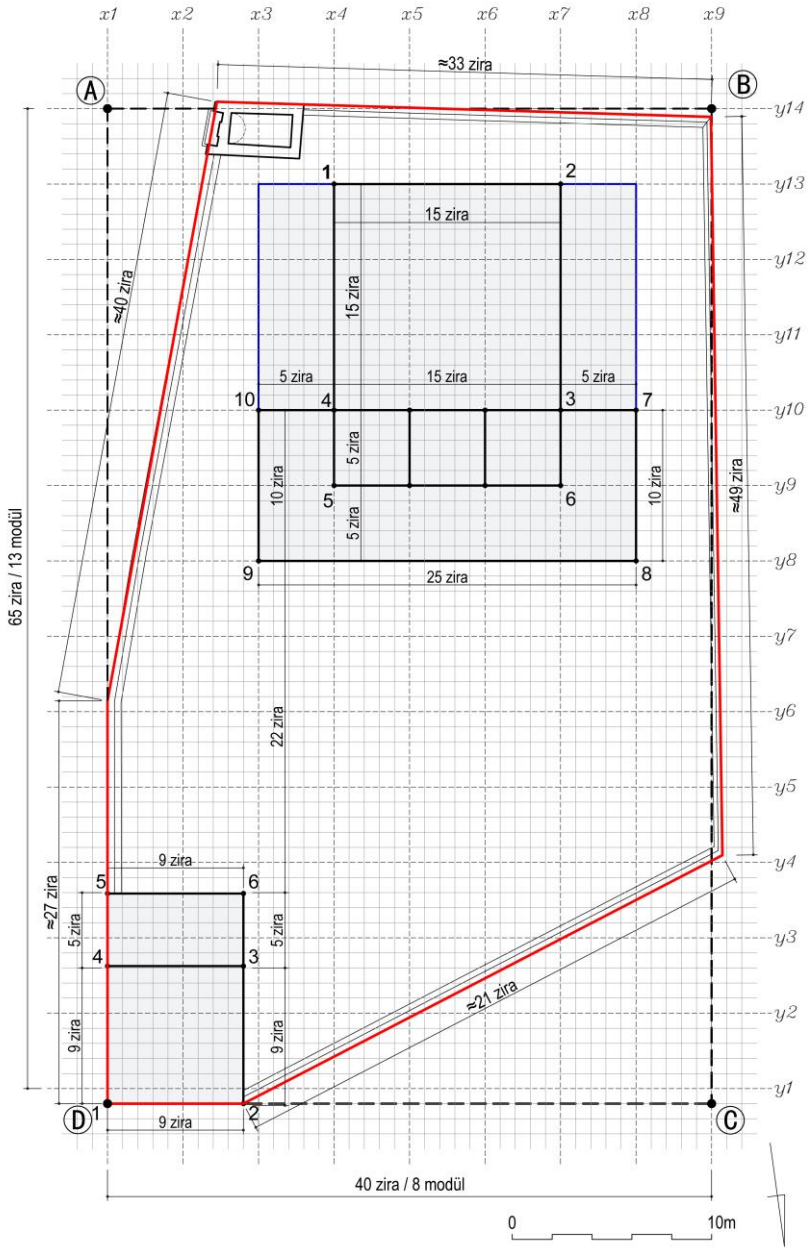

Figure 13. The application grid of the Ferhat Pasha Complex

A similar system must have been used in the Ferhat Pasha Mosque's design. The hypothetical rectangle ABCD that was formed in the land plan also makes the positioning of the modulation grid on the ground easier. According to this, the AD edge that is parallel with the grid system also overlaps with the east wall that was located in the *x1* line. The application grid could be completed easily with width lines that will be marked in parallel and perpendicular to the *x1* line.

With the marking of the numbers shown in Figure 10 into this grid through the help of piles, the outer boundaries of the mosque will

be determined on the ground. The boundaries of the prayer hall are defined by the numbers 1-4, the boundaries of the inner portico are defined by 3-6, and the boundaries of the outer portico are defined by 7-10 (Figure 13).

Similarly, in the elementary school, the indoor boundaries are defined by numbers 1-4 and the boundaries of the portico are defined by 4-6 (Figure 13). After this stage, the construction of buildings, of which their boundaries have been determined on the ground, can be done through simple explanations without any errors.

CONCLUSION

It is still unclear today how the hundreds of works designed by Sinan, which significantly changed the visual culture of the empire's geography, were mathematically handled, measured, visualized, and projected. This is a major shortcoming in terms of the definability of the architectural language we inherited. This study was conducted to solve this deficiency, specifically for the design process of the Çatalca Ferhat Pasha Complex. As a result of this investigation, it has been determined that building design was made according to a modular grid system, which was created with zira, and the system is determinative for pre-construction preparation processes, such as cost estimation and application. Also, it is thought that the described system is advantageous for the accurate transfer of the project to the land in cases where the designer cannot be found personally. According to this:

- The module size is particular to this structure and was determined in the first stage of design and depended on the size of the mosque, which is the main building of the complex, and the land.
- The module was used to determine the size of the mosque and its position on the land.
- The module is also the identifier for the height of the inner portico and minaret in section.
- The grid system is the identifier for the sizes and locations of the building elements, such as walls, arches, and columns, in the mosque and elementary school.

The data obtained from this study are clear enough to leave no room for any doubt. Undoubtedly, the studies which will be done in this direction will ensure that Sinan's designs are better understood in the future.

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Resume

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A Rank-Size Rule Analysis of The City System at The Country and Province Level in Turkey

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Vedia Dökmeci**

Abstract

The present study investigates the rank-size distribution of cities above 10,000 in Turkey for the years 2000 and 2012, and the results are compared with the findings related to 1945 and 1975. A regression analysis is employed to reveal the relationships between the slopes of city size distribution and the characteristics of provinces. The results show that despite the political and economic transformations of the last decade, there is a perfect adjustment of the city size distribution to the rank-size rule at the country level due to existence of a well-established urban system. Furthermore, when the metropolitan areas began to decentralize, urbanization levels start to increase in their surrounding areas, as observed in this study.

Keywords: *Urbanization, City size distribution, Economic development, Zipf's law*

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INTRODUCTION

During the last two decades, an extensive literature on city-size dynamics in developed and developing countries has come about through the use of Zipf's law. According to this law, the size distribution of cities in a country, or even across the World, shows a striking regularity. If the cities of a country are ranked according to their log sizes, the slope of the line is close to -1. Zipf's law has

been applied in economic geography as a metric to judge the rank-size distribution of the sizes of cities, firms and the scales of industrial sectors (Brakman, Garretsen, & Van Marrewijk, 2001; Mu & Wang, 2006; Zipf, 1949). Although previous studies mostly applied Zipf's law at the country level, there are also few applications at the regional level such as those of Dökmeci (1986) in Turkey and Grisen and Südekum (2010) in Germany. The present study attempts to apply Zipf's law in even more smaller spaces such as the Turkish provinces.

A review of the literature reveals that a large portion of the application of Zipf's law has been carried out in developed countries. Guerin-Pace (1995) illustrated the rank-size distribution and the process of urban growth by taking into consideration data on French cities' populations over the course of almost two centuries. The development of middle-sized cities based on industrial and economic development affected the adjustment of the city system to the rank-size rule. Eaton and Eckstein (1997) compared the populations of the top 40 urban areas of France and Japan. According to their results, large cities remained very constant during these countries' periods of industrialization and urbanization, and are described quite well by the rank-size rule. In the study by Reed (2002) an explanation for the rank-size distribution for human settlement formation is to be found in Spain, and an excellent fit lends support to the model and to the exploration for the rank-size law. In a later study, Gallo and Chasco (2008) studied the evolution of population growth among a group of 722 municipalities included in Spanish urban areas over the period 1900-2001. The application of Zipf's law showed the existence of two main phases: divergence (1900-1980) and convergence (1980-2001). Saichev et al., (2010) found that Zipf's Law holds for cities above 1000 people in England. Cori (Cori, 1984) stated that the initial rank-size distribution of cities in Italy was concave and that it was later adjusted to the rank-size rule distribution (Waugh, 2000) due to changes in government urbanization policies.

The rank-size distribution of US cities has been proved many times using Zipf's law, and the power value is around 1.0 (Gabaix, 1999; Kali, 2003; Zipf, 1949). Dobkins and Ioannides (2000) investigated the dynamic evolution of U.S. cities and showed their adjustment to rank-size over time. In a study by Ioannides and Overman (2003), metropolitan areas in the United States between the years 1900-1990 were used to test the validity of Zipf's Law for cities. According to their results, the local Zipf's exponents are broadly consistent with Zipf's Law. Similar results were obtained by Black and Henderson (2003), Gan et al. (2006) and Berry and

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Okulicz-Kozaryn (2012). Mu and Wang (2006) verified Zipf's law with the 2000 data by using all 273 MSA and CMSA's to achieve a slope value of 1.15. In another study, Eeckhout (2004) delivered a rigorous work on the relationship between city rank and city size for 23,539 U.S. settlements in the year 2000. According to him, most studies built on the US city-size distribution accept the validity of Zipf's Law because they work on truncated distributions. Similarly, Parr (1985) suggested that in many cases, the linear rank-size distribution might be only the upper part of a truncated log-normal distribution. In a more recent example, Jiang and Jia's (2011) paper lead to the finding that Zipf's law holds remarkably well for the entire country to explain the distribution of settlements in the U.S. This implies that cities are power-law distributed and that the Zipf value is around 1. However, this does not hold for individual states.

There are also studies about the application of rank-size rule in developing countries. Usually, primary city characteristics are observed in many developing countries such as Peru, Argentina and Uruguay (Waugh, 2000). On the other hand, there are developing countries which have a more regular distribution of cities due to their historical background such as Turkey (V. F. Dokmeci, 1986). Anderson and Ge (2005) examined the manner in which cities of different sizes grow relative to each other in China and, contrary to the common empirical finding that the relative size and rank of cities remained stable over time, it was found that the Economic Reforms and the 'One Child Policy' that has been in place since 1979 have delivered significant structural changes to the Chinese urban system (Fan, 1988). Another study by Schaffar and Dimou (2012) compared the rank-size Dynamics in China and India between 1981 and 2004. The evolution of these two distributions over the last twenty years differs. The Chinese rank-size distribution reveals the contrasting evolution between the 1980s, when small-sized cities grew faster, and the 1990s, which produced higher growth trends for medium-sized cities. The Indian city-size distribution, however, appears to systematically reject Zipf's law, through a substantial presence of small cities and a small group of very large metropolises. At the same time, intra-distributional mobility is higher in China than in India, despite previous cross-region migration restrictions and anti-megacity policies. Indian urban hierarchies are much more stable, which could reveal parallel growth patterns. In a worldwide analysis, Soo (Soo, 2005) assessed the empirical validity of Zipf's law for cities by using new data on 73 countries and two estimation methods. Zipf's law was rejected for 53 out of 73 countries using OLS, and for 30 out of 73 countries using the Hill estimator. Variations in the value of the Pareto exponent are

better explained by political economy variables than by economic geography variables.

Although there are numerous studies regarding the rank-size analysis of urban systems in developed countries, there have been few studies conducted in Turkey. In one of the earliest studies, Dokmeci (1986) showed that the adjustment of the city system to the rank-size rule over time (1945-75) was parallel to the economic development of the country. At the same time, this study revealed the existence of urban sub-systems and a strong regional influence in the city-size distribution which reflected regional inequalities. In a further period between 1980 and 1997, Turk and Dokmeci (2001) reported a better adaptation of city system to the rank-size rule at the country and regional level in Turkey. In a more recent study, Zeyneloğlu et al. (2005) revealed a perfect adjustment of the urban system to the rank-size distribution of Turkish cities due to the urban growth of middle size cities due to the industrial and economic development between 1975-2000. In their comprehensive study on the distribution of cities in Turkey, Deliktaş et al. (2013) found that the location of a city has a positive impact on migration and agglomeration of services as well as specialization in manufacturing industry. Kaya and Dökmeci (2017) showed that due to economic constraints and higher emigration rates, the hierarchical distribution of cities differentiates in the Eastern and Western parts of Turkey.

The present study investigates the rank-size distribution of cities above 10,000 at the country and province level within changing economic and urbanization conditions in Turkey. The organization of the paper is as follows. In section 2, the dynamics of city system with respect to different city size groups is explained between 1945-1975 and 2000-2012 by looking at changes in relative city size distribution and mobility of cities in their rank order. In addition, rank-size rule applications at the country and province level are given. In section 3, the relationships between the slope of city size distribution and the characteristics of provinces such as population density, population growth rate, net migration ratio, number of physicians per 10,000 people, education level, the number of industrial and service employment, and energy consumption per capita are investigated by the use of regression analysis and their results are discussed. The final section is devoted to a conclusion and suggestions for further research.

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THE URBANIZATION TREND AND THE APPLICATION OF THE RANK-SIZE RULE AT THE COUNTRY AND PROVINCIAL LEVEL IN TURKEY

Urbanization and Economic Characteristics

After the 1950s, Turkey experienced a rapid increase in urbanization due to rural migration and population growth. While Turkey's population growth rate per year was 2.5% during the period 1965-70, it fell to 1.62% between 1995 and 2000. In 2000, the annual growth rate of urban population was 2.68% and was still higher than Turkey's annual growth rate of population (1.82%) (Table 1). In 1927, during the early years of the Turkish Republic, the urban population consisted of 24% of the total but this ratio had reached 64.9 % according to the 2000 census. Although urbanization depends on the growth of industrial and service sectors, the ratio of agricultural employment (47%) was still higher than industrial (22%) and service employment (32%) (Statistics, 2002).

Table 1 Regional Urban and Rural Population in 1990 and 2000 and Annual growth Rate (Statistics, 2002)

	1990		2000		Annual Growth Rate (%)		
Region	**Urban**	**Rural**	**Urban**	**Rural**	**Total**	**Urban**	**Rural**
Marmara	10,350,307	2,945,571	13,730,962	3,634,065	2.66	2.82	2.10
Aegean	4,344,471	3,250,506	5,495,575	3,443,206	1.62	2.35	0.57
Mediterranean	4,051,596	2,974,893	5,204,203	3,501,802	2.14	2.50	1.67
C. Anatolia	6,412,910	3,500,396	8,039,036	3,569,832	1.57	2.25	0.19
Black Sea	3,373,392	4,799,321	4,137,466	4,301,747	0.36	2.14	-1.09
East Anatolia	2,285,798	3,062,714	3,255,896	2,881,518	1.37	3.53	-0.61
S.East Anatolia	2,873,801	2,283,359	4,143,136	2,465,483	2.47	3.65	0.76
TOTAL	33,656,275	22,816,710	44,006,274	23,797,653	1.82	2.68	0.42

Since the beginning of the 20th century, there have been great socio-economic differences between the East and the West of the country (Gezici & Hewings, 2007; Tekeli, 2008). These differences between the East and the West have continuously stimulated migration to the West and thus while it caused the growth of the cities in the West, it has brought depopulation in the East and increased inequality. To a large extent, the out-migrants had higher incomes than those left behind, as has already been observed in some developed countries (Coulton, Chow, Wang, & Su, 1996). With respect to the characteristics of the regions, the Marmara Region was more industrialized (30.9%) and had more services (28.2%) than other regions in 2003 (Table 2), and its urbanization rate was the highest (79%) in 2000. The Aegean

Region was the second most industrialized region (17.2%) and the fourth with respect to services (21.0%) in 2003, while its urbanization ratio was the third (61.4%) in 2000. In 2003, in the Central Anatolia Region, industrial employment was the fourth largest (15.3%), its service employment was the third largest (25.1%) and its urbanization ratio was the second largest (69.2%) in 2000. The Mediterranean Region was the fifth highest (12.1%) with respect to industrial employment, had the second largest service employment ratio (27.6%) and its urbanization ratio was the fourth largest (59.7%) in 2000. A large amount of investment in tourism played an important role for the development of service sector in this region. The East and South East Anatolian, Black Sea Regions were much less developed and had lower urbanization ratios due to the large amount of out-migration from these regions (Yazgi, Dokmeci, Koramaz, & Kiroglu, 2014).

Table 2 The ratios of Industrial, Service and Agricultural Employment Distributions 1990-2003 (Statistics, 1994, 2003)

	Agriculture (%)		Industry (%)		Services (%)		Other (%)	
Regions	**1990**	**2003**	**1990**	**2003**	**1990**	**2003**	**1990**	**2003**
Marmara	28.9	14.2	23.6	31.0	17.4	28.2	30.1	26.7
Mediterranean	57.3	33.8	9.6	12.1	10.0	27.6	23.1	26.6
Aegean	54.1	37.9	12.5	17.2	10.2	21.0	23.2	23.8
C. Anatolia	50.5	21.3	10.2	15.3	10.6	25.1	28.7	38.3
S.E. Anatolia	67.3	43.7	5.9	16.9	6.4	17.6	20.4	21.8
E. Anatolia	71.9	53.2	3.5	3.8	4.3	16.9	20.3	26.0
Black Sea	71.1	61.1	6.2	7.3	5.5	13.8	17.2	17.8
TOTAL	53.7	33.9	11.9	17.3	10.2	22.7	24.2	26.1

City Size Groups and the Rank-Size Rule between 1945 and 1975

In order to show the evolution of the distribution of different city size groups over time, the number and size of cities has been investigated by dividing cities into three groups by population (10,000-50,000; 50,000-100,000; and 100,000+) for 1945 and 1975 (Dökmeci, 1981). Between 1945 and 1975, the number and population of the first group of cities having a population of 10,000 to 50,000 rose almost threefold. Although their number and population increased, their ratio to the total urban population decreased from 48.7% to 33.2% (Table-3).

Both the number and population of the second group of cities having a population of 50,000 to 100,000, was increased almost fivefold during 1945-1975. Despite the increase in their numbers

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and population, they accounted for only a small ratio of the urban population and their ratio to the total urban population remained stable (Table 3) due to a limited amount of investment in industry and services in these cities during this period.

In the third group of cities, 100,000 and over, their number and population increased almost sevenfold between 1945 and 1975. This was a rapidly growing group, and their ratio to total urban population grew from 39.9% to 55.4% within the same period (Table 3). This was due to the increased job opportunities in these cities and also lead to greater rural migration.

Table 3 City groups in Turkey between 1945-1975 (Statistics, 1945, 1975)

	1945			1975		
City groups	Number of cities	Urban Population	Urban/Total Population	Number of cities	Urban Population	Urban/Total Population
10,000-50,000	91	1,693,000	0.487	269	5,544,000	0.332
50,000-100,000	6	396,000	0.114	29	1,897,000	0.114
100,000+	4	1,386,000	0.399	27	9,264,000	0.554
TOTAL	101	3,475,000		325	16,705,000	

Although there were no cities with a population of over a million in 1945, there were three in 1975. Thus, the results of the urbanization analysis between 1945-1975 illustrated that cities having a population 100,000 and over were growing much faster than any other group. The cities between 10,000-50,000 grew faster than those between 50,000-100,000 but more slowly than the larger ones. Thus, the ratio among different city groups was changing in favor of large cities at the expense of small settlements with regard to the total urban population(Dökmeci, 1981). As might be expected, there were important regional differences in the growth patterns of different city groups due to regional socio-economic inequalities. Thus, the growth of large cities started from the West, which offered the greatest potential for their development and gradually moved to Central and East Anatolia.

The rank-size distribution of cities from 1945-1975 and their gradual adjustment to the Zipf's law, as illustrated by V. F. Dokmeci (1986), was dependent on the economic development of the country. The slope of the rank-size distribution of cities was 0.75 in 1945 and it increased to 0.89 in 1975. It became more adjusted to the rank-size rule, except in the case of the middle size cities due to the insufficient investment in industry and services.

At the same time, a review of the shifts in rank-size distribution revealed that while there were no changes in the rank order of the top five largest cities, the shifts in the rank order of smaller cities occurred more frequently. During this period, government policies to indirectly control the growth of large cities to some extend played an important role in this trend (Dokmeci, 1986).

City Size Groups between 2000 and 2012

In order to evaluate the current rank-size distribution of cities, the number and size of cities has been investigated according to different size groups for the years 2000 and 2012 (Table 4). The results of the analysis illustrate that while the number of cities between 10,000-50,000 decreased from 335 to 261 (21.7%), their population decreased from 7,289,292 to 5,612,550 (23%). 12.5% of the decrease in numbers was due to the population decrease in some of the cities below 10,000 or movement to a higher city size group due to population increase. Meanwhile, for the group containing cities of 50,000 and 100,000, their number increased from 68 to 107 (57.3% increase) and their population rose from 4,704,588 to 5,593,528 (18.8%). In addition, the cities between 100,000 and 500,000 also had a dynamic nature. While their number increased from 43 to 63 (51%), their population increased from 4,704,588 to 5,593,528 (47.5%). While the number of cities between 500,000 and 1,000,000 remained stable, their population increased from 4,500,521 to 4,857,410 (7.9%). Moreover, the growth rate of cities with a population of 1,000,000 and over was the highest with respect to their number and population due to a free trade policy and the easy-going application of urban planning regulations at the service of the national and international real estate investors during this period. While their number increased from 5 to 9 (80%), their population increased from 16,935,249 to 29,015,054 (71%). Finally, a review of city system development between the years 1945-2012 revealed that while the number of cities increased by more than fourfold, the national urbanization ratio rose only threefold.

Thus, the changes in the size and the number of cities have been influenced by transformation of an agricultural economy to one made up of industry and a service sector which includes services in finance, management and consulting, insurance, advertisement, law, research and education, engineering and architecture, and business (credit, computer, personnel, etc.). These services were mostly concentrated in large cities which resulted in population decreases in some of the small cities.

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Table 4 City Groups in Turkey between 2000-2012 (Statistics, 2000, 2012)

	Population		Number of Cities		Urban/Total Urban Population		Number of cities /Total Number	
City Groups	2000	2012	2000	2012	2000	2012	2000	2012
10,000-50,000	7,289,292	5,612,550	335	261	17.46	9.79	73.14	62.29
50,000-100,000	4,704,588	5,593,528	68	107	11.27	9.75	14.85	15.51
100,000-500,000	8,313,138	12,263,370	43	65	19.92	21.39	9.39	15.51
500,000-1,000,000	4,500,521	4,857,410	7	7	10.78	8.47	1.53	1.67
1,000,000+	16,935,249	29,015,054	5	9	40.57	50.60	1.09	2.15
TOTAL	41,742,778	57,341,912	458	419				

The Rank-size Rule Application at the Country and Province Level between 2000-2012

The rank-size rule is a statistical evaluation of population size of cities regarding to their rank among all cities of a country or region. The typical expression of the formula is:

$$P_x = \frac{P_1}{x}$$

where:

x is the rank of the city's population,

P_x is the population size of the city which is ranked x

P_1 is the population size of the largest city in the sample

The current rank-size rule application to the distribution of cities of Turkey for the years 2000 and 2012 are given in Figure 1. While the slope was 1.11 for 2000, it increased to 1.19 for 2012. Although the slope of the year 2000 fit perfectly to the rank-size rule, the slope of the year 2012 shows a reduction of small cities in size and number as already discussed above, and a small bump for the second small city group (noted in Table 4) due to the rapid increase in the number of cities between 50,000-100,000. Meanwhile, the cities around 1,000,000 illustrate a population growth above the rank-size rule slope, such as Kayseri, Konya, Antalya and Kocaeli due to their international trade and tourism activities.

Moreover, the shifts in the rank order of cities are investigated and the results are illustrated in (Figure 2). During 2000-2012, the top 12 cities maintained a stable position with one exception. Kocaeli,

an important industrial center, was replaced by Antalya which grew more rapidly due to its intensive tourism investments and provided many service jobs to stimulate a large amount of in-migration from economically backward provinces(Yazgi et al., 2014). In addition, Antalya attracted retired people from economically advanced cities such as Ankara, Istanbul and Izmir due to its amenities and climate as explained by Bahar et al. (Bahar, Laçiner, Bal, & Özcan, 2009) and Var et al. (2014), which is a phenomenon also observed in some other countries (Walters, 2002). At the same time, it can be observed that more top level cities became stabilized due to economic development and economic integration than during the period between 1945 and 1975. Investigation of the mobility in the rank order of cities with populations between 500,000 and 1,000,000 shows that while the rank order of 24% of cities increased, it decreased for 58% of the cities. Meanwhile, the rank order of 18% of the cities remained stable. For the 43 cities between 100,000-500,000, while 14% of them experienced a population decrease, the populations of the others increased. With respect to the mobility within the rank order of cities, while the rank order of 24% of cities decreased, 60% increased and 16% remained stable. While the rank-order of 72% of cities between 50,000-100,000 increased, 24% decreased and 4% remained stable. Meanwhile, 33% of cities moved up to the population size group between 100,000-500,000. Mobility in the rank order of cities was higher for cities between 10,000-50,000. While 48.9% of their population increased to some extent as a result of counter-urbanization (Akgun, Baycan-Levent, & Nijkamp, 2010), 31.7% decreased and 19.4% fell below 10,000. According to Zeyneloğlu (Zeyneloğlu, 2008), in general, while the small towns which have a central position are gaining population, the ones which are located in the periphery are losing inhabitants. Only 8.3% moved to the group that has a population between 50,000-100,000. As can be observed from Figure 2 and Table 4, there was a shrinking trend in both number and size for this group. This could be the result of transformation of an agricultural economy into an industrial and service economy which stimulated the mobility of certain cities to the higher level of the urban hierarchy while others could not adjust to the new system and fell below the 10,000 population limit.

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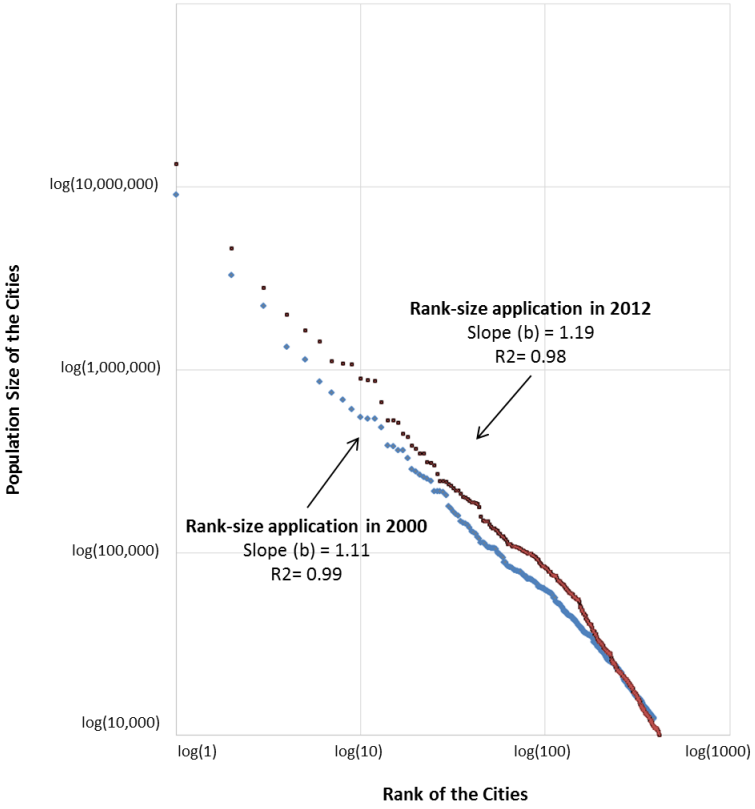

Figure 1 Rank-size Rule Application in Turkey in 2000 and 2012

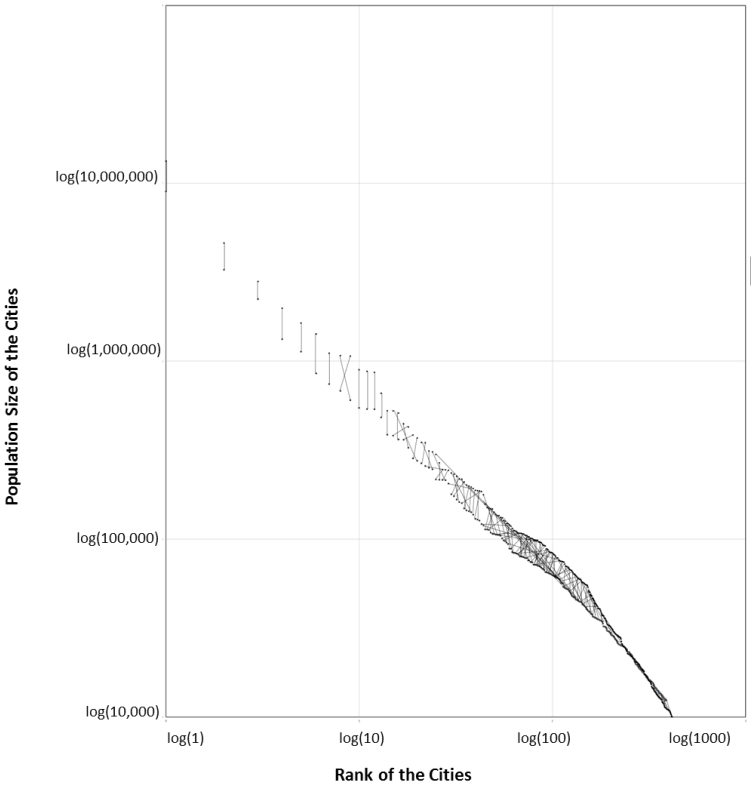

Figure 2 Rank-size shift of Turkish cities between 2000 and 2012

Moreover, the rank-size rule has been applied at the provincial level for the year 2000. According to the results of this analysis, there are primacy characteristics in 76% of the provinces due to their high level of production and trade at the country and/or

international level, and the concentration of industry in provinces such as Bursa, Kocaeli, Adana and Gaziantep (Akgüngör, 2006; Falcioğlu & Akgüngör, 2008) (Figure 3). This trend can be explained by Krugman's (Krugman, 1991) hypothesis that regions become more specialized and industries became more concentrated with economic integration. The provinces with higher slopes have higher concentrations of industry and service sectors than the surrounding provinces which may serve to determine the economically integrated sub-regions, as illustrated by Gezici and Hewings (Gezici & Hewings, 2004), and the development axes in the country (Figure-3). These growth centers have become magnets for in-migration from neighboring provinces and less developed provinces from different parts of the country (Akın & Dökmeci, 2014; Yazgi et al., 2014). Eventually, the decentralization of industry and trade from the growth centers to their periphery, urbanization and primacy level of these provinces increased in 2012 (Figure 4). Thus, the ratio of the provinces which had primacy reached to 83% at the country level.

In addition, over urbanization in some developing regions can be explained by Clark's (1998) study that cities have grown because of the influx of manufacturing and service jobs from developed economies, and the in-migration of workers displaced by agricultural adjustment. In particular, China's recent urban development has benefited from trends in land and housing marketization and economic globalization (Wu, 2001). While urban concentration, and especially the tendency of some developing countries to have very large primary cities, benefits from larger market potential and lower transportation costs (Krugman, 1996), the necessary infra-structure construction and operation costs are beyond the means of developing countries. Even in some of these cities, such as those in Mexico, traffic congestion can reach such a high level that residents abandon their homes, resulting in ghost towns (Burnett, 2014).

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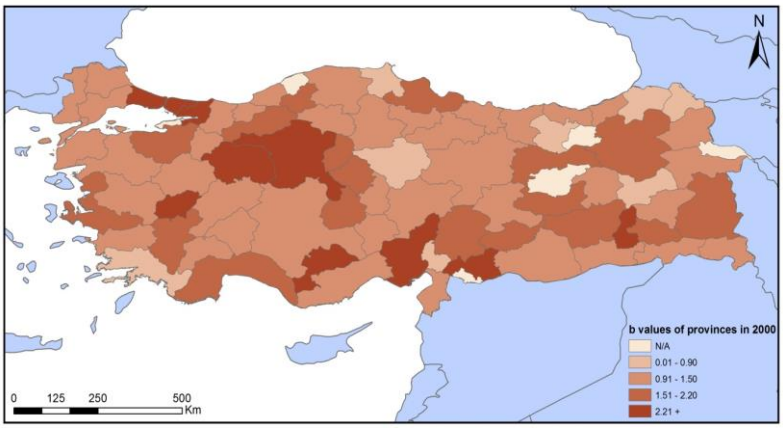

Figure 3 b values of the slope of city size distribution in the provinces in 2000

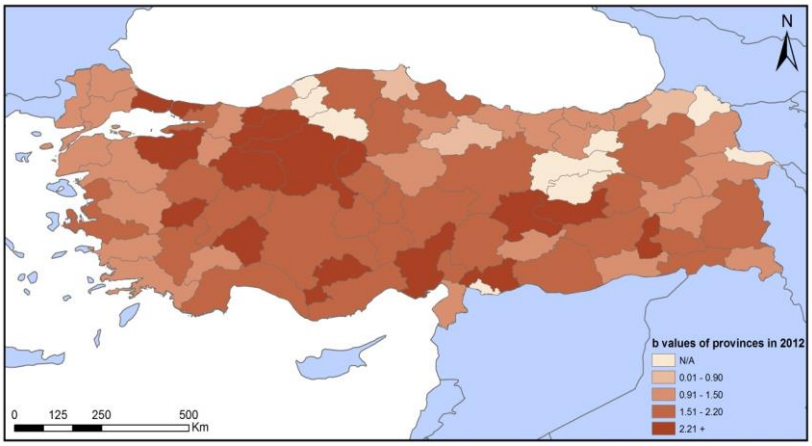

Figure 4 b values of the slope of city size distribution in the provinces in 2012

REGRESSION ANALYSIS OF THE RANK-SIZE RULE WITH RESPECT TO CHARACTERISTICS OF THE PROVINCES

The relationships between the slope line of city distribution according to their rank order and the characteristics of the provinces have been investigated by the use of a regression analysis. The slope of the distribution of city sizes is taken as a dependent variable, and the characteristics of the provinces such as population growth rate, population density, net migration, number of physicians per 10,000 people, education level, energy consumption per capita, industrial and service employment ratios are taken as independent variables. The results of the regression analysis are shown in Table 5 for the year 2000 and Table 6 for the year 2012.

Among the variables which are taken into consideration for the year 2000, the number of physicians per 10,000 people has the highest value (β=0.37) in relation to the slope of city size distribution. This is parallel to the results of Dokmeci et al., (1994) in which the physician ratio increased according to the urbanization level in Turkey. The second important factor is the population growth rate (β=0.35), which is an expected result. The third is the population density, which is closely related to urbanization as illustrated by Henderson (2002) and Chen et al.,

(2008). The fourth is the industrial employment ratio (β=0.27), which is parallel to the findings of some the previous studies such as (Moir, 1976; Scott & Storper, 2007).

Table 5 Regression Results of the Relationships between the Slopes of City Size Distributions and the Characteristics of Provinces in 2000

Variables	B	STD. Error	Beta	t	Sig.
(Constant)	.136	.282		.483	.630
Population growth rate	.000	.000	.357	3.131	.003
Net migration ratio	-5.829E-005	.000	-.304	-2.349	.022
Population density	.095	.032	.300	2.994	.004
Number of physician per 10,000	.057	.016	.377	3.574	.001
Industrial employment ratio	.015	.006	.278	2.669	.009

R^2= .450 Adj. R^2= .411 Std. Error= .541

Table 6 Regression Results of the Relationships between the Slopes of City Size Distributions and the Characteristics of Provinces in 2012

Variables	B	STD. Error	Beta	t	Sig.
(Constant)	-1.615	.735		-2.198	.032
Population density	.051	.025	.181	2.030	.046
Education ratio	.148	.026	.478	5.761	.000
Electric consumption per capita	.000	.000	-.331	-3.401	.001
Number of physician per 10,000 (log)	1,634	.625	.229	2.613	.011
Industrial employment ratio	.036	.011	.331	3.241	.002
Service employment ratio	.018	.008	.189	2.169	.034

R^2= .599 Adj. R^2= .562 Std. Error= .582

According to the results of regression analysis for the year 2012, the most important factor to be related to the slope of city size distribution is the education ratio (β= 0.47). This is an expected result since the educational level is an important component of industry and services and thus development of the urban system. It has been analyzed by Lai and Zheng (2005) in China, Audretsch et al. (2005) in Germany and Faggian and McCann (2009) in England. In the Turkish case, it is probable that the government policy to increase the number of universities to answer to the keen demand at the country level, and also to increase the competitiveness of the country at the international level, has affected the role of education. The second important variable is the industrial employment ratio (β=0.33), as illustrated by cities with high industrial employment such as Istanbul and Bursa

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becoming magnets for higher in-migration rates (Yazgı et al., 2013). The third is the number of physicians per 10,000 people (β=0.22) which is parallel to the findings in 2000. The fourth is the service employment ratio (β=0.189) which has already been illustrated by several studies that show that the service sector is the basic function of urbanization, especially due its high importance in the post-modern period (Daniels, 2002; Sassen, 2013). The fifth is population density (β=.181), which is in general considered to be another basic variable for urbanization as illustrated by previous studies (McDonald & Bowman, 1976; Shoshany & Goldshleger, 2002). The relationship between electric consumption per capita and the slope of city distribution line proved to be negative (β= -0.33). As illustrated by Poumanyvong and Kaneto (2010), urbanization decreases energy use in the low income groups while it increases energy use in the middle and high-income groups. Thus, the slope of city size distribution is a result of contradicting forces in a region.

With regard to the comparison between the years 2000 and 2012, the number of significant variables and the R^2 values increased over time. Meanwhile, it is to be expected that if the slope of the city size distribution is higher than the Zipf value, then the industrial and service sectors not only serve the province itself but also the surrounding provinces and/or country. If the slope is much lower than the Zipf value, the province is not yet economically fully developed and it is dependent on the cities of surrounding provinces or on higher levels of the urban hierarchy. Usually, the economy of these provinces is still heavily dependent on the agricultural sector and includes places such as Kars, Igdır and Ardahan, which are located in the East of the country. At the same time, these provinces are located in the periphery of the urban system, which is a handicap to attract in-migrants (Siegel and Woodyard (1974). Thus, the result of the rank-size rule is a representative of economic development and the integration of the regions is dependent on their location within the urban hierarchy.

CONCLUSION

An increasing concern of scholars from various disciplines of social sciences is whether the rank-size rule is still an accurate representation technique for city size distribution. In this study, the city size distribution is analyzed at the country and provincial level by the use of rank-size rule in Turkey for the years 2000 and 2012, and the results are compared with the findings related to 1945 and 1975. The results of this study show that despite the political and economic transformations of the last decade, there is a perfect adjustment of the city size distribution to the rank-size

rule at the country level due to existence of a well-established urban system which has developed throughout the centuries. In addition, mobility in the rank order of cities for the years 2000 and 2012 are analyzed and the relationships between the slopes of city size distribution and the characteristics of provinces are investigated by the use of a regression analysis for the same years.

After the 1950's, Turkey experienced a rapid urbanization process due to the transformation of its economy from rural to industrial, which caused rural migration to the cities. Between 1945-1975, while the number of cities was increased threefold, their urban population grew by x4.8. However, between 2000 and 2012, while the number of cities decreased 8.5%, especially due to a decrease in the number of small cities, their urban population increased 37%. Current urbanization is affected more by urban-to-urban migration than rural-to-urban migration. Moreover, recent urbanization can also be explained to some extend by the influx of manufacturing and service jobs from developed countries. Between 1945-2012, while the number of cities increased fourfold, the urbanization ratio increased only threefold. Thus, the rapid urbanization process was reflected in the dynamic characteristics of rank-size distribution and shifts in the rank order of cities.

In general, the rank-size distribution of cities in Turkey is quite regular when compared with other developing countries. Since 1945, the city system has moved to a state more adjusted to the rank- size rule in parallel to economic development and integration of the country and especially after the development of middle size cities, which were below the expectation of the rank-size rule, during the period between 1945-1975. Recent city-size distribution between 2000-2012 show that despite the regular growth of large and middle size cities, some of the small cities were shrinking in number and size due to the transformation of an agricultural economy into an industrial and service economy. However, it may be expected that recent large infrastructure and urban development projects in both the center and the suburbs of Istanbul (Eraydin & Taşan-Kok, 2014) will definitely increase the 'attractiveness' of the city, but they will also add to its 'primacy' characteristics both now and in the future.

Moreover, investigation of the mobility in the rank order of city sizes for the years 2000 and 2012 reveals that the top level of the city hierarchy is more stable than that of smaller cities. Mobility in the rank order is upward as investment increases, such as that for tourism, new industry and/or higher education facilities since it stimulates in-migration, and is downward if an existing industry is closed down and produces out-migration of jobless people.

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Application of the rank-size rule at the province level reveals different results according to the characteristics and location of provinces. While 76% of city size distribution of provinces shows 'primacy' characteristics in 2000, this ratio increased to 83% in 2012. This means that their growing industrial and service production not only serves at the provincial level but also at the country and/or international level. Their location illustrates the economically integrated sub-regions as well as the development axes in the country. Thus, the level of their primacy represents a hierarchy in terms of the degree of their integration with the national and international economy.

Moreover, the relationships between the slope of city size distribution and the characteristics of the provinces have been analyzed through regression analysis for both 2000 and 2012. According to the results, the number of significant variables and the values of R^2 have increased during over the last decade. While the number of physicians per 10,000 people had the highest relationship to the slope of city size distribution in 2000, the education ratio had the highest value in 2012, probably as a reflection of tremendous increase in the number of universities throughout the country during the last decade. Although the industrial employment ratio was found to be meaningful in both periods, the service employment ratio became meaningful in 2012, probably as a reflection of the increasing importance of the service sector in the post-modern era. As expected, population density is meaningful during both periods since it is considered to be one of the basic characteristics of urbanization. Energy consumption produced a negative relationship, in line with previous studies showing that it is common in low-income communities. Thus, the characteristics of city size distribution are a function of the development and integration of the provinces and their geographical potential with respect to their location, and market potential in relation to their environment.

Superior sites are those with better geography – better climate and on the coast – and better market potential. As trade theory predicts, better market potential – larger neighbors nearby – enhances a city's demand and growth potential. However, the potential effect of a positive marginal market die out as the market potential becomes very large and nearby competitors erode the market (Black & Henderson, 2003). During this process, when the metropolitan areas began to decentralize, urbanization levels start to increase in their surrounding areas, as observed in this study.

The results of the study can be useful for urban and regional planners, economists, geographers, demographers, investors and

policy makers. Investigation of the relationships between the hierarchy of cities and trade, the development of transportation networks, migration and the economic development of the provinces is suggested for further research.

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Resume

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Rural Gentrification in The North Aegean Countryside (Turkey)

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Abstract

This article examines rural gentrification as experienced on the North Aegean coasts of Turkey. The study area chosen is the closest Aegean coast to İstanbul and it attracts attention because of its archeological and mythological values, as well as its natural beauty and vernacular landscape. The most important element determining the rural landscape of the region is olive production. The study is based principally on in-depth interviews with village mukhtars, local people, newcomers, tourism entrepreneurs, and professionals.

While the rural gentrification process in Turkey, a Mediterranean country, shows similarities with the gentrification process in rural areas of developed Western countries, differences can be observed as well. Depopulation in rural areas since 1950s and development of tourism in coastal areas after 1980 has brought about the investment-disinvestment cycle, which is in the rural gentrification theory. It has been observed that in the rural area where tourism facilities have been improved, gentrification occurs in parallel. The migration of middle class to the villages has transformed the traditional land use and rural

Keywords: *Rural gentrification, rural landscape, rural transformation, Adatepe*

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landscape. The newcomers, who are well educated and having a profession, use the houses in the villages as summerhouses. While stone houses unique to the region are purchased and restored, buildings used for agricultural production are transformed into summerhouses or buildings used for tourism. The increase in the demand for new housing threatens the olive groves and increasing real estate prices make it difficult for local people to acquire property in the villages. Reinvestment, social class change and the process of displacement, pointed out in the literature on the rural gentrification, are also observed in the North Aegean countryside. However, the real estate market did not yet play a significant role in the rural gentrification in this area, unlike in developed Western countries. On the other hand, replacement of the agricultural sector by the service sector and change in land use creates post-productive landscape in North Aegean Countryside.

INTRODUCTION

Some urbanites settle in rural areas in order to escape the city's intensive tempo, be alone with nature and lead a calmer and simpler life. Despite the best of intentions, newcomers from cities transform rural settlements. Urban to rural migration and its effects on rural areas are commonly discussed within the framework of the concepts of counterurbanization, suburbanization and rural gentrification. (Cloke, 1985; Weekley, 1988; Van den Berg & Klaassen, 1987; Dean, 1984; Phillips, 1993; Phillips, 2010). Within the process, while the migration to the rural from the city has diversified, the conceptual ground of studies on the subject has expanded and new definitions have emerged through these concepts which interact with each other. While the concept of counterurbanization focuses on changing population and migration rates, the concept of rural gentrification emphasizes class differences and displacement, and has a political component as well (Phillips, 2010). In this study, the physical and social transformation of rural areas of the Northern Aegean region of Western Turkey, is handled within the framework of rural gentrification.

Rural gentrification literature has to a significant extent developed with research that addresses the United Kingdom (Phillips, 1993; Chaney & Sherwood, 2000; Smith D. P., 2002; Phillips, 2004; Phillips, 2007; Stockdale, 2010; Heley, 2010) and United States of America countryside (Ghose, 2004; Friedberger, 1996; Darling, 2005; Walker & Fortmann, 2003; Hines, 2010; Gosnell & Abrams, 2011; Nelson et al, 2010). Researches that discuss gentrification processes in rural areas of other developed countries (Bijker et al., 2012; Guimond & Simard, 2010) and Mediterranean countries (Solana-Solana, 2010) are informative, but are limited in number and point to a significant gap in the literature. The transformation in rural areas of Turkey should, to

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a great extent, be discussed within the scope of suburbanization and urban sprawl pressure in metropolitan fringes (Dinçer & Enlil, 2011; Öğdül, 2013a; Çamur & Yenigül, 2009). Regulations on the metropolitan municipalities in 2012 led to a rapid shift of attention to rural areas close to suburban areas and led to an increase in research on rural areas (Öğdül, 2013b; Öğdül & Olgun, 2015; Yaşar et. al., 2016). On the other hand, there are a limited number of studies in Turkey that emphasize the class aspect of rural change (Dinçer & Dinçer, 2005; Tuna & Özbek, 2012; Kurtuluş, 2011; Başaran-Uysal, 2017).

How traditional land use changes with newcomers? According to Darling (2005), changes in land use are a "silent" but quite important indicator to defining of post-productive landscape. Socio-spatial change actually shows how the rural economy has changed. This study aims to contribute to filling two gaps in the literature. The first aim is to underline the existence of urban-rural migration, which is overlooked in the Turkish countryside that struggles with the problems of depopulation and unemployment, and to draw its effects on the countryside into larger discussions about the region. The second objective is to address the deficit in literature in rural gentrification by examining a case outside of Anglo-American regions and to open the door for comparative studies.

In this article, the five small rural settlements (Adatepe, Yeşilyurt, Büyükhusun, Kozlu, Ahmetçe villages) are examined in the North Aegean region. The research is based on individual interviews held in rural settlements and observations made in the field. The first section briefly evaluates the existing literature on rural gentrification. The second section explains the methodology of the study. The third section addresses the history of the case study area, including long-term depopulation and transformation of rural landscape. Furthermore, this section addresses the findings obtained from the field work.

A BRIEF DISCUSSION ON RURAL GENTRIFICATION

The term "gentrification" was first introduced by sociologist Ruth Glass in 1964 to describe both the influx of middle-class newcomers and the physical upgrades they made to "shabby" homes in a working-class neighborhood of London, England (Glass, 1964). Gentrification is a concept that is commonly used to explain the social class changes in urban areas (Smith N., 2002; Davidson & Lees, 2005). While population changes in rural areas were first defined in 1960s and 1970s as rural repopulation, rural regeneration, rural development, and rural renaissance (Phillips, 2005; Phillips, 2009), research which drew attention to the class

dimension of this population change began increasing in the 1980s (Cloke & Thrift, 1987; Cloke & Thrift, 1990; Urry, 1995). Some pioneering studies (Phillips, 1993; Chaney & Sherwood, 2000; Smith & Phillips, 2001; Smith N., 2002) demonstrated that a class change and displacement process which is similar to urban areas is also experienced in rural areas.

Gentrification is examined via two different approaches; the production and consumption theory sides (Phillips, 2009; Phillips, 2004; Stockdale, 2010; Guimod & Simard, 2010). Production theory explains the process with a Marxist approach by focusing on alteration of production methods and economic structure. The fall in workforce in the agricultural and industrial sectors and the increase in employment in the service sector is a major indicator of the post-productive economy (Walker & Fortmann, 2003; Darling, 2005; Gosnell & Abrams, 2011; Phillips, 2009). According to production theory state-led gentrification via planning decisions and housing policies play a significant role in both rural and urban communities. Another common feature is the active role assumed by the private sector in the gentrification process, through the activities of developers, realtors and financiers (Smith, 1979; Phillips, 2004; Phillips, 2005; Phillips, 2007; Phillips, 2009; Ghose, 2004; Darling, 2005; Chaney & Sherwood, 2000; Stockdale, 2010).

The basic components of a gentrification process are (1) reinvestment of capital, (2) social upgrading of locale by incoming high-income groups, (3) landscape change, and (4) direct or indirect displacement of low-income groups (Davidson & Lees, 2005). In rural areas, homes and other structures built for an agricultural economy lost value over time as agricultural production decreased, but present an opportunity to gain value through new investments. In this process (Darling, 2005), explained by Neil Smith's “rent gap” theory (1979, 1987), houses, local service buildings (schools, post offices, railway stations, churches) and other structures (barns, stables, cottages) are become profitable for reinvestment when the “gap” between current and potential use is reached. Upon purchase by new owners or developers, the structures are refurbished and turned into housing (Phillips, 2009; Phillips, 2005; Phillips, 2004). In fact, the gentrification process can be seen as a flow of capital rather than merely a population movement (Smith, 1979; Phillips, 2009).

The consumption theory focuses on consumption and population change in rural and urban areas; individual preferences and consumption demands of gentrifiers as well as culture stays in the center of research (Guimond & Simard, 2010; Stockdale, 2010). Rural gentrification is described as consumption of nature by

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wealthy households, along with their importation of urban amenities to rural areas- in other words, the changing of the consumption habits in rural areas (Gosnell & Abrams, 2011). The settlement patterns in rural areas re-shape depending on the preferences of newcomers (Ghose, 2004; Grabbatin et al. 2011; Walker & Fortmann, 2003). Preferences such as single detached homes on extensive grounds, isolation from the village center, proximity to water, or having a view change the traditional development patterns (Ghose, 2004). Developers divide existing field plots into smaller pieces and sell them at a profit, further causing the land use pattern to change, private property ownership to increase and open spaces and agricultural lands to decrease (Walker & Fortmann, 2003). The enclosure of large lands and increase in gated communities further changes the natural vegetation and even affect the local economy (Hurley et al., 2008; Grabbatin et al., 2011). This alteration in traditional land use is both a result of the post-productive economy, as newcomers alter the rural landscape, and its trigger on the other hand, as the new settlement patterns begin to resemble typical suburban neighborhoods and attract further investment and newcomers.

Conflicts between old production styles and new activities emerge as struggles between local people and newcomers in rural. Conflicts occur between local people and newcomers on matters of the changing identity of the community, increasing privatization of resources, housing affordability and environmental conservation (Walker & Fortmann, 2003; Ghose, 2004; Gosnell & Abrams, 2011). Phillips (2009) argues that the new middle class has colonized rural areas and established a r. Well educated, wealthy and politically active newcomers affect the rural housing market and planning system (Phillips, 2009). Walker & Fortmann (2003) and Darling (2005) reveal the conflicts between newcomers and long-time residents particularly in the protection and planning of natural resources. On the other hand, Gosnell & Abrams (2011) point to the fact that politically active newcomers can have a positive impact on conservation of natural resources and cultural heritage.

RESEARCH METHODOLOGY

The aim of this paper is to set out evidence of gentrification through analysis of transformation in Turkey's Northern Aegean countryside. The five villages (Adatepe, Yeşilyurt, Büyükhusun, Ahmetçe and Kozlu) chosen as the case study area are located in the south of Çanakkale Province along Edremit Gulf (Figure 1).

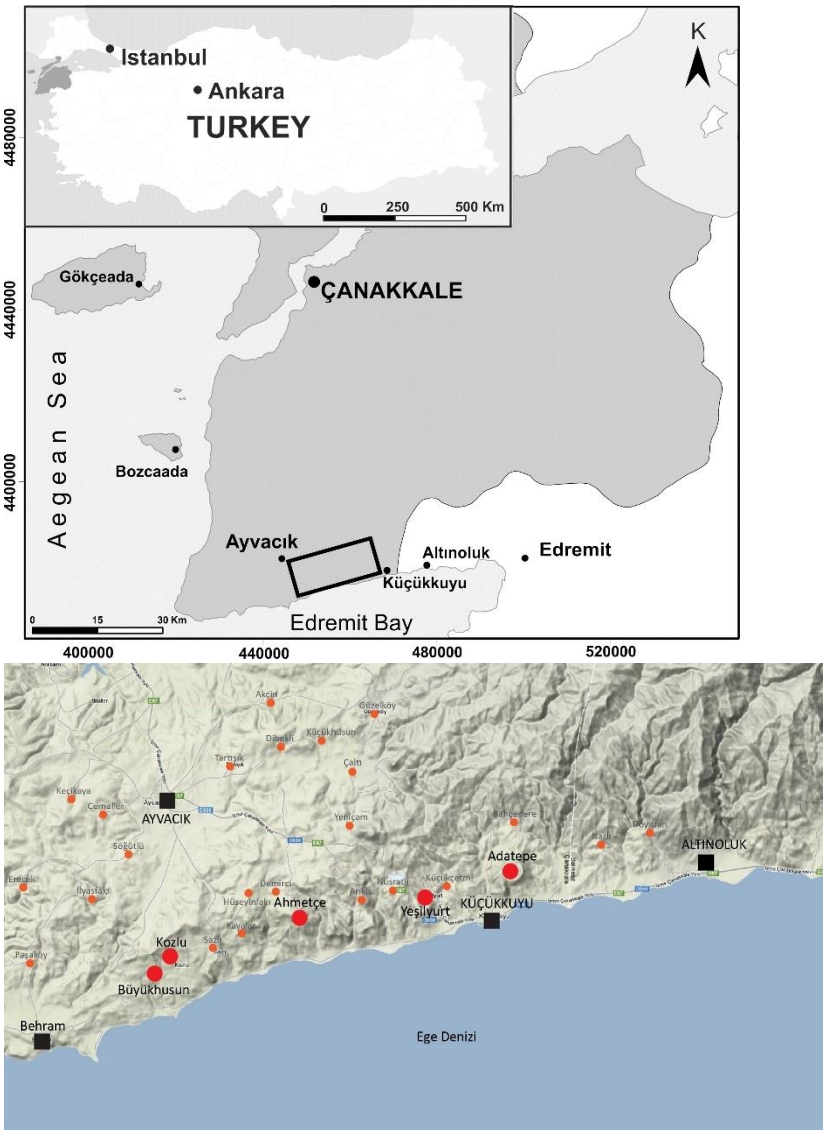

Figure 1. Location of Çanakkale Province and case study area

With this research, it is analyzed that the historical background of the region and the sectoral change in the region in order to explain the lack of disinvestment and the new investment cycle that led to the gentrification process. How has the new investment process to the rural settlements begun? Which actors have been involved in this process? Who are the new settlers in the countryside? Is it possible to define the newcomers as middle-class? The study is based on in-depth individual interviews made with individuals who are highly affected by or have been instrumental in the rural gentrification process. Individual interviews were made with village mukhtars, local people (residents born in these villages), newcomers and new entrepreneurs in the village (if any could be found). In addition, two architects who practice design in these villages and one official from the Çanakkale Special Provincial Administration[1] were interviewed. Forty-five face to face interviews were made in total. The interviews were numbered from 1 to 45 in the order of performance. A significant part of the

[1] "Special provincial administration" means a public entity having administrative and financial autonomy which is established to meet the common local needs of the people in the province and whose decision-making body is elected by voters;" (Article 3-a Law On Special Provincial Administration, 2005). Special provincial administration is the authority for planning and building in rural areas (in the areas outside the municipal boundaries).

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fieldwork was conducted in the summer of 2011. Table 1 demonstrates distribution of interviews conducted in villages and groups.

Table 1. Distribution of interviews conducted in villages and groups

Villages	Mukhtar	Local people	Newcomer	Entrepreneur	Professional	Total
Adatepe	1	1	1	2	-	5
Yeşilyurt	1	3	1	2	-	7
Büyükhusun	1	8	3	1	-	13
Kozlu	1	6	2	0	-	9
Ahmetçe	1	6	1	0	-	8
Total	5	24	8	5	3	45

The absence of adequate official data on the countryside at the village scale was the most difficult challenge encountered in the research. Official data related to employment and migration is available on a district level, but no detailed data is kept regarding villages. While official population data is provided, it does not account for seasonal residency. According to official records (TSI, 2011), a total of 1800 people live in five villages where the study was conducted (Table 3 and Figure 3). The number of new families and local families were acquired from records in the office of the muhktar (Table 3).

How the preferences of newcomers affect land use decisions and rural landscape? The change in rural landscape has also been accepted as an important indicator of the existence of rural gentrification. Transformation of the rural landscape, building refurbishments and new house typologies were considered on the basis of observation. Data obtained as a result of individual interviews and observations were divided into four categories and evaluated; (1) new investment- depopulation, a circuit of disinvestment and investment, conservation decisions, development of tourism sector, the flow of capital; (2) class change– newcomers' socioeconomic profile and motivation to relocate; (3) displacement– increase in real estate prices and accessibility of local families to housing, the number of new residents and local families; (4) change in rural landscape– development of the service sector, refurbishment, restoration, new housing demands, alteration in demographic structure, demand of infrastructure, use of natural resources.

RURAL GENTRIFICATION EVIDENCES IN THE CASE STUDY AREA

Rural Characteristics and Depopulation

The rural settlements in this countryside date back to ancient times. Homer mentions Adatepe under the name "Gargara" in the Iliad Epic. Mount Ida is the mountain of Zeus, god of gods in Greek Mythology, and Zeus commanded the Trojan War from the Zeus Altar, located today in Adatepe Village (Karaata, 2008; Özarar, 2008). Written sources demonstrate that the village itself in Adatepe has been countinuously occupied since 15th century (Karaata, 2008). Yeşilyurt village (formerly known as Büyük Çetmi- Big Çetmi), which is one of the villages examined, was established by the Chepni (Özarar, 2008). Chepni, which was one of the Oghuz tribes, settled in the region in 10th century when the Turks settled in Anatolia (Atabay, 2008). Greeks, Turkmen and Yuruks were made to reside in the region during the Ottoman era. In the photographs below are the examples from the traditional villages of the research area (Figure 2).

Figure 2. A view of traditional pattern from Adatepe (a), Büyükhusun (b), Kozlu (c) and Yeşilyurt (d)

The case study villages are situated at the altitude where olive groves end and forests begin, on the hillside a few kilometers inland from the sea. Olive production has been the most important (and nearly only) income source in the region since the Ottoman Empire. The fact that olive is an industrial product allows the local community to have economic accumulation. Small peasant ownership within olive-based production is widespread in the region and household effort is used intensively in olive production. However, local production is no longer as high as it once was.

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The problem of rural to urban migration experienced throughout Turkey has also affected this region to a significant extent. Olive-based industry and olive oil production shifted to other centers following 1950 in the region. This was partly a result of urbanization and industrialization policies pursued by the Turkish government, as well as the fact that marine transportation has lost its importance with the construction of highways. The mukhtar of Ahmetçe village narrates initiation of the migration and the events that followed; "... Ahmetçe is a rich village with abundant olive groves. It was one of the most populated settlements in the region in 1940s. In these years, it had a school, health centre and a post office. Our sewage system was constructed 100 years ago… They used to come to reap olives from the villages in the vicinity as seasonal workers. In 1950s, the village started to disperse. First of all, the wealthy and notable people of the village went to İstanbul..." (interview).

Tourism activities began to increase in the region in the 1970s. During these years, recognition of the region was boosted by the fact that the ancient city of Assos (Behramkale) became a tourism destination, use of coastal settlements such as Küçükkuyu and Altınoluk for summer purposes increased, and became preferred by the retired people for permanent settlement (Aksoy, 2008). Currently, usage of hotels, pensions, restaurants and camps have also increased, as well as use of the summer houses on the coastline. Summerhouses are the main factor that triggers urbanization and drives the rural population to the more urbanized areas of the coastline. Construction and service sectors have created a field of employment for local people with the improved tourism and urbanization. Young men in the village began working seasonally in construction and transportation jobs. In the 1970-1980s, migration from villages to the urban areas in the vicinity –Küçükkuyu, Altınoluk, Ayvacık, Edremit, Çanakkale- increased because of new job opportunities and demand for a better social infrastructure. Interviews reveal that during these years, villagers sold their olive groves, especially on the coastline, and bought houses from the surrounding cities. In addition, the fall in the young population and the fact that only the elderly remain in villages are presented as important problems by interviewees. Population change of rural settlements from 1970-2016 is seen in Figure 3.

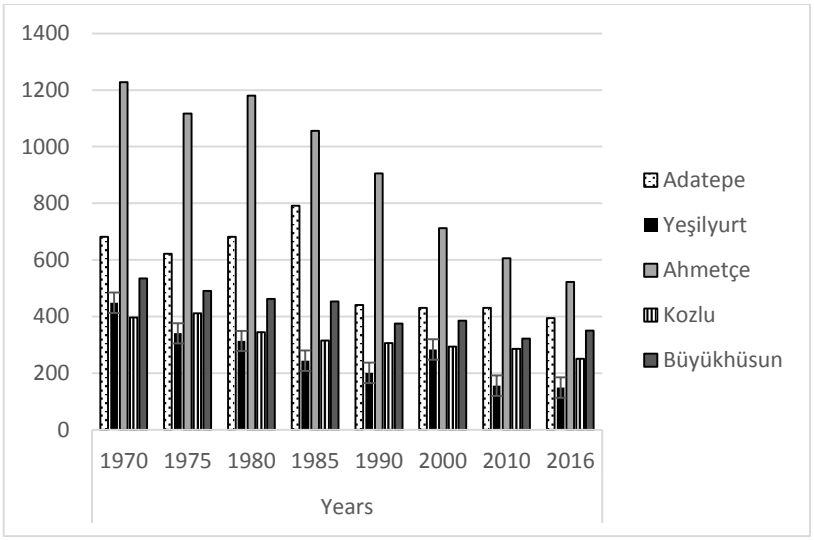

Figure 3. The population change in the case study area (1970-2016) (TSI, 2017)

The depopulation process has had two significant impacts on the transformation of rural landscape. Firstly, agricultural production tools, which have lost their importance, were disposed of more easily. Secondly, it caused technical and social infrastructure facilities in rural areas to be reduced. According to the mukhtar of Ahmetçe village, the villagers' selling of their property is a new behaviour: "In our times, selling houses or fields were disgraceful. It used to be something shameful. Villagers would wear torn trousers but still would not sell their properties. Now, young people are not interested in cultivation and have no connection with fields or villages. They can easily sell even their father's houses …" (interview).

As the population of villages decreased, social infrastructure investments such as education and health were abandoned, and the financial sources required for restoration of technical infrastructure investments such as road, water and sewage were restricted. The social institutions in the villages, such as primary schools and health centers, are not used any more. Beginning in the 1950s but felt more intensively in 1980s, the rural areas of Turkey's Northern Aegean seems to have reached the stage of depreciation and lack of investment which is emphasized in the rural gentrification literature (Phillips, 2009; Darling, 2005) as coinciding with depopulation and ageing of population.

How Did Began Repopulation And New İnvestment Period?

Adatepe and Yeşilyurt, which are the first villages inhabited significantly by newcomers, have considerable amount of touristic activities, the highest level of external recognition and high real estate values. The first group to arrive at Adatepe consisted of artists, writers and academicians in the mid-1980s. The group, which can be described as the "national elite", and

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movie-makers who used Adatepe as movie set, played a significant role in recognition of this rural area .

It can be said that this small pioneering groups caused the awareness about Adatepe to increase, and they have contributed to the preservation of the village as a conservation site. Adatepe was announced as an "urban conservation area" and was taken under preservation in 1989 because of its vernacular architectural value. Some areas around Adatepe were designated as natural protected areas and archaeological protected areas. Some houses in Yeşilyurt village and three olive oil factories on Küçükkuyu coast were taken under protection in 1999. We can say that there is a close relationship between the gentrification process and the conservation decisions in Adatepe (Başaran-Uysal, 2017). The renovation and the restoration of the ancient houses made of hewn stone had become an expensive and bureaucratic process which the villagers could not afford. In addition, the decree for preservation had increased the attraction of the village, and the demand for hewn stone houses increased because the construction of new buildings was not allowed within the limits of the village. Thus, the empty and "valueless" buildings which were abandoned by the villagers a long time ago were bought by the newcomers.

The protection decision rendered for Adatepe and Yeşilyurt was effective in recognition of the village and attracting interest of tourism investors. Conservation of vernacular architecture was seen as an important advantage for tourism professionals. It has been observed that in rural areas where tourism facilities have been improved, gentrification occurs in parallel (Hines, 2010; Darling, 2005; Gosnell and Abrams, 2011; Guimod and Simard, 2010). Existing structures were restored not only for the purpose of marketing homes to middle- and upper-middle income group at high prices, but also to market the experience of living in rural areas to tourists by using them for tourism functions (Phillips, 2009). The tourism investments and gentrification have developed simultaneously in Adatepe and Yeşilyurt. When boutique hotels entered into service at Adatepe and Yeşilyurt in the mid-1990s, the changes in the rural landscape accelerated. In 1997, a building which was used for educational purposes in the past (Hünnap Han) was restored and transformed into a boutique hotel in Adatepe. This process continued with the openings of a café, a restaurant and a souvenir stand. In this same period, the first boutique hotel in Yeşilyurt was opened by a return-migrated lawyer and in the following years, the number of luxury boutique hotels, restaurants and cafes increased rapidly. Below (Figure 4) are the examples from the tourism places.

[2] Feyzi Tuna´s "Kuyucakli Yusuf (Yusuf from Kuyucak)" (1985), Engin Ayca´s "Bez Bebek (Rag Baby)" (1987) and Bilge Olgac´s "Ipekce" (1987) movies were shot in Adatepe village and its vicinity. Engin Ayca is a director born in Edremit, and an important female Turkish director, Bilge Olgac, is one of the first notable people who settled in Adatepe. The other movies using Adatepe and Yeşilyurt as a movie set are Çetin İnanç's „Devlerin Öcü (Revenge of the Giants)" (1969) and Ömer Kavur´s „Karsilasma (Encounter)" (2003). In addition, Orhan Aksoy´s movie "Hasanboğuldu (Hasan Drowned)" (1990) was shot in the rural area which is protected today as Kaz Mountain National Park and played a significant role in outside recognition of the region. In 2012, 16 short films were shot by young Turkish and Greek artists under the sponsorship of Istanbul Digital Culture and Arts Foundation under the title "Stories of Northern Aegean". The filmmakers conducted their workshop in Adatepe (Web site of Sondakika). There is a website about the movies shot in Adatepe and the artists living in village (Web site of Adatapekoyu).

Figure 4. Tourism places in Adatepe (a) (b), Büyükhusun (c), Yeşilyurt (d)

In 2000s, Adatepe and Yeşilyurt had become more popular nationwide. In 2001, an entrepreneur who moved to Adatepe from İstanbul transformed an old soap factory into an olive oil museum in Küçükkuyu and began using the brand "Adatepe" for the products manufactured (Boynudelik, 2008). In the same year, "Adatepe Taşmektep (stone school) Summer Activities" began being held; these activities were influenced by the school of philosophy Aristotle had established in Assos, issues regarding arts and philosophy were discussed in this school (web site of Taş Mektep). On the other hand, Adatepe and Yeşilyurt villages gained popularity and were exposed to domestic tourist flow after exposure from TV series.[3]

A female scholar summarizes the change of Adatepe: "One of our friends working as a tourist guide brought us in this village for the first time. We rented a house in 1993; then we bought a stable and turned it into a house with a simple restoration. … There was no social or physical alteration when we came to Adatepe. I can say that transformation began with Taş Mektep. It became very popular for the first 2-3 years. [TV] Series shot there increased its popularity further…" (interview).

Büyükhusun village has the highest newcomer household rate after Adatepe, became known due to its coverage in national and international media after the architect Han Tümertekin won the Ağa Han Architecture Award (web site for Arkiv) with the B2 house he constructed in Büyükhusun in 2004. Tourism activities have not yet been very developed in Büyükhusun, Ahmetçe and Kozlu, but it is observed that some pioneer initiatives have started.

[3] A part of "Yılan Hikayesi (Endless Story)" in 2000 and the whole "Karadağlar (Black Mountains)" in 2010 were shot in the rural areas of Adatepe and Yeşilyurt. As soon as "Karadağlar" was released, Adatepe and Yeşilyurt became frequent destinations of domestic tourist groups.

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Rural studies (Phillips, 2004; Phillips, 2009; Ghose, 2004; Darling, 2005; Chaney & Sherwood, 2000) indicate that the real estate sector (developers, realtors and financiers) play a significant role in rural gentrification in UK and USA countryside. However, in this rural, no professional service has yet emerged in real estate purchase, sale and rental that would compare to Anglo-American real estate firms (or even large Turkish cities). Even though there are not any systematic advertisement campaigns related to houses in this rural area, there are various activities and investments that increase the popularity of the villages. A process where life in rural areas is romanticized and marketed, which is observed frequently in Western examples, is not observed in the study area. In generally, mukhtars manage the purchase and sale processes in the villages informally to a great extent. When you wander the streets and alleys in villages, it is possible to see many 'for sale' flyers and get in touch directly with a property owner. Some examples from these flyers are seen below (Figure 5). In addition to this, local real estate agencies in nearby cities carry out purchase and sale transactions as well. However, these local offices are quite small individual enterprises compared with the real estate agencies in metropolitan areas.

a b

Figure 5. Sale flyers in Adatepe (a) and Büyükhusun (b)

The fact that real estate agency and developer services are not sufficiently developed and the marketing and sales processes are carried out by local actors reveals lack of a large real estate market. On the other hand, the house prices in these villages are generally high for a rural area. House price ranges in the villages can be seen in Table 2. House values vary depending on factors such as whether they are traditional stone construction, whether the structure is restored, their garden size and their sea view. In addition to high housing values, limited number of houses and restrictions on the settlement in the countryside are the main reasons of immaturity of the real estate sector.

Table 2. House values in the villages (Compiled from individual interviews (July 2011) and internet real estate websites (November 2012)).

	Adatepe	Yeşilyurt	Büyükhusun	Kozlu	Ahmetçe
House value range (Euro)	110 000 – 370 000	110 000 – 750 000	65 000 – 130 000	85 000 – 470 000	45 000 – 110 000

Motivation and Socioeconomic Profile of Newcomers

In urban areas, living preferences of gentrifiers revolve around consumption and cultural activities found near city centers, including proximity to business districts, nightlife, shopping and service facilities (Zukin, 1987). On the other hand, "rural idyll" or "proximity to the wildness" are cited as the most important motivators for migration to rural areas. The appeal of rural landscapes, clean air, more green areas, peaceful living or reasonable living costs are the primary reasons for gentrifiers who come to rural areas (Ghose, 2004; Nelson et al. 2010; Smith & Phillips, 2001; Heley, 2010; Bijker et al., 2012). The North Aegean region generally attracts attention because of its climatic and natural characteristics, along with its vernacular landscape. All of the interviewees stated that proximity to İstanbul did not play a role in selection of the region, and that even transportation to the region was difficult. The fact that this region has a temperate climate in both summer and winter, and it is much cooler during summer when compared to other Mediterranean coasts, are important reasons of preference. Hurley and Arı (2011) also say that the microclimate of the region is an important motivator for new settlers in Edremit Gulf.

The newcomer families mostly come from İstanbul. While lesser in number, citizens from the European Countries also settle in this rural area.[4] The foreigners prefer respectively Büyükhusun, Ahmetçe and Yeşilyurt Villages more. In 2011, there were a total of 1156 households in five villages, 219 of which were newcomers. Approximately 30 households out of 219 (13.6%) were foreign citizens. Because of its geopolitical position, properties are not allowed to be sold to the foreigners in the province of Çanakkale.[5] Even though distances to international airports and restrictions on property sales, the number of foreign settlers is remarkable.

[4] also Austria, the Netherlands, France, Italy, US and Russian citizens. The figures given in here are from oral statements of the mukhtars and only cover foreign household numbers. Exactly who owned the property was not inquired.

[5] Under Cabinet Decree No 2007/11672, which was accepted on the 2nd of June 2007, The Foreigners can not acquire property in The Anatolian Part of the Dardanelles and Gallipoli Peninsula.

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Although gentrifiers are described as the "middle class" in both rural and urban areas, family structure is distinctly different. While urban gentrifiers are defined as variously young, single, dual income no kids, single-parents (Chaney & Sherwood, 2000; Nelson et. al., 2010; Ghose, 2004), those who prefer rural areas are mostly retired, summerhouse vacationers, those who are looking for new job opportunities (Ghose, 2004; Phillips, 2009; Darling, 2005; Solana-Solana, 2010; Stockdale, 2010). Furthermore, the motivation to raise children under perceived safer and healthier environment, which is seen in rural areas of developed Western countries (Ghose, 2004; Spencer, 1997; Phillips, 2004; Chaney & Sherwood, 2000), does not apply to the Northern Aegean countryside. This rural area lacks social infrastructure facilities (such as schools and sports) that are convenient for families with children to stay permanently. For this reason, only couples without children, or those whose children already live separately, decide to stay here permanently. The newcomers use their houses mostly in summer months. There are also families who spend the first six months of the year, and even a few who reside year-round. On the other hand, all of the interviewees expressed the desire to stay permanently once their children completed their education or they retire. Short term uses for tourism purposes, later turning into permanent stays, could also come true in this region, as was identified by Darling (2005) during gentrification process of Adriondack Park.

With the demand for increased restorations and a larger consumer market for services, gentrification creates new jobs in the construction (including skilled restoration), real estate and tourism sectors (Darling, 2005; Stockdale, 2010; Hires, 2010; Guimod and Simard, 2010). There is also a new group of settlers who would like to take advantage of job opportunities offered by the region and its gentrification, who run cafeterias and restaurants, work in real estate sector, or manufacture olives or olive oil. Whichever groups they belong to, all newcomers are well educated, have professions, are middle-aged or older individuals or couples.

Displacement of Local People and Agricultural Production

The development of tourism and the increase in popularity for visitors has led to the rise of real estate prices in Adatepe and Yeşilyurt. Especially in Adatepe, houses were turned into investment tools and changed owners two or three times. The popularization of the villages and the increase in real estate values has affected the newcomers profile and village preferences. While some villagers prefer to wait for selling property, a small group decides to establish an enterprise such as tea garden, pension. As

a result of the popularization of Adatepe, some of the new settlers from the first generation left the village, while some of them sold their houses in Adatepe and moved to villages in surrounding areas. In the other three villages where the field study was conducted (Büyükhusun, Ahmetçe, Kozlu), the process of changing ownership of properties began after 2000. The popularity provided by Adatepe and Yeşilyurt has led the newcomers to the region, but the high house prices and tourism activities caused the nearby villages to be preferred instead. Lees (2003) defines the seizure of the settlements by the upper income group again, in which the gentrification process have been experienced before, as supergentrification. Based on this conceptual approach, it is understood that after 2000, supergentrification process has been experienced in Adatepe as well.

When the villages are evaluated in terms of number of newcomers, the highest number of houses bought by families is located in Adatepe, followed by Büyükhusun and Ahmetçe villages. Below (Table 3), you can see the local family and newcomer family number in the villages. In this research, newcomer household rate is evaluated within the total number of households. Ahmetçe village has the highest number of households and the lowest rate of newcomer household (8%). Even though Adatepe village has the lowest number of households, it has the highest newcomer household rate (73%). It can be said that there is an inverse proportion between the local population living in these villages and the number of newcomers. This outcome points out that the agricultural production continues and the local people save their property for a longer time in the villages where the local population is high. On the other hand, the rates of villagers and newcomers show that location preferences of newcomers are more determinative. Adatepe and Yeşilyurt villages which are preferred by newcomers at a higher rate, are the most popular villages at nationwide.

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Table 3. The number of local and newcomer households

Villages	2011 population *	Total number of households **	Local Households**	Newcomer Households **	newcomer household rate
Adatepe	423	82	22	60	%73
Yeşilyurt	166	154	125	29	%19
Büyükhusun	337	140	90	50	%35
Kozlu	267	130	100	30	%23
Ahmetçe	607	650	600	50	%8
Total	1800	1156	937	219	%18

* TSI, 2011
** Mukhtars oral answers (July, 2011).

The villagers point out that they are happy with the rise in real estate values, but there are not any house or olive grove sales between villagers, and it is not possible for villagers to pay these prices. The rural families who migrate to cities (the small cities close to these villages) mostly continue olive production through their elderly parents who stay in the village and return to their villages at harvest time. Elderly parents whose families migrated to urban settlements and nearby cities on the coast carry out the maintenance of their olive grove during the whole year by themselves. The rise in house values has particularly caused these families who do not permanently live in the village to sell their houses. Another group of people who were affected by the rise in real estate prices were young people. It became impossible for young people who got married to buy house or lands from their villages. Büyükhusun village administration has set aside and an area which belonged to the treasury before to be developed for young people to purchase the property. When a young man from the village gets married, he can buy land from this area if he pays a subsidized market value (it is equal to 1/20 of the market value). In order to benefit from this right, the man who is to get married must not already have land or a house in the village, and he has to live in the village permanently (interview).[6]

[6] This method was developed by the village administration in order to encourage young people to stay in the village. During the field research, this land belonged to the Treasury, which was subdivided and was defined as a village development area, was an empty lot. However, mukhtar stated that despite this encouragement, young people did not want to stay in the village.

Transformation of Land Use

According to Boyle (2008) a visible indicator of the impact of the urban preferences on rural life is without a doubt the effect on the vernacular and rural landscape. In these villages, the rural landscape, which has been shaped by olive production for centuries and created by the different cultures, is being reshaped with newcomers. Rural production is one of the important components of rural landscape and change in population changes rural production and consumption patterns. In other words, the

agricultural production declines and the role of the tourism sector grow in the countryside economy. In addition, newcomers bring urban consumption habits and urban amenity together with them (Gosnell & Abrams, 2011).

These rural settlements established on slopes to the sea, almost every house faces the view. The villages are grouped around a small square and they have a traditional pattern. The streets are designed to be narrow, curved and appropriate for pedestrian walks. It is hard for the cars to move within the village and find empty spaces to park. The need of parking for cars and tour buses due to new residents and tourism activity has become one of the most important problems of the villages. Closely spaced settlement prevents both the olive groves from being replaced with housing and the subdivision of land, and decreases technical infrastructure costs. The newcomers' demand of house with garden outside the village brings along the division of agricultural land and the transformation of the traditional settlement structure. Furthermore, community solidarity is still important among local people in rural production economies, and living together allows for this. With new residents, a dual social structure emerged in the villages and the traditional neighbour relations weakened. These changes in social and cultural setting of the villages negatively affect the social solidarity and cooperation culture that is important for agricultural production.

In the rural settlements surveyed, the change in land use preferences is clearly visible. This change can be summarized under five headings; (i) single house out of the village, (ii) new house in the traditional pattern (iii) the demand of restoration and renovation (iv) the transformation of the buildings related to agricultural production into a house or moving them out of the village, (v) increase in the demand of urban infrastructure.

In the villages other than Adatepe (because Adatepe has a decision on urban conservation area), there are new settlers who purchase houses inside the village, but it is more common for new residents to move outside the settlement area into new villas with large gardens, high walls and pools. Since the parcels inside the current settlement pattern are rather small, the demand for new homes that encroach on the olive groves outside of the settlement area is rising. Another reason why housing demands are outside of the settlement area is newcomers do not want to be in the village where traditional rural life is maintained (interview). Even though there are many empty houses in Ahmetçe and Kozlu villages, newcomers prefer the houses and lands that are on the border or outside of the settlement area. You will find some

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examples of the new houses in the Figure 6, and refurbished houses.

Figure 6. New houses in Kozlu (a) and Yeşilyurt (b)

Figure 7. A refurbished house from Adatepe (a) and Ahmetçe (b)

Generally, the newcomers are sensible about conservation of the vernacular landscape. However, houses designed for rural life needed to be modernized and made more comfortable. One of the architects conducting restorations in Adatepe describes local architecture as follows; the houses are made of hewn stone and they consist of two stories and a garden. Every house has one storied outhouse and a corral or a barn for the animals, which are located at the garden edge. The kitchen, toilet and bathroom connected to the main building and they are located in the garden close to the main building. The roof of the spaces reserved for kitchens-storehouses-pantries are used for food drying in summer time (Erten, 2008: 21). This traditional house type has characteristics that do not conform to modern life style. Kitchen, toilet and bathroom are outside of the house. The barn and cellar in the garden became non-functional places for urbanites. For this reason, the first physical intervention made on houses is to move kitchen, bathroom and toilet facilities inside the house (interview).

One of the most important indicators of change in land use is the change in the function of the buildings related to agricultural production. The change in land use, which Phillips (2005; 2004; 2009) defined as a "barn conversion", is an important indicator of rural gentrification. Phillips points out (2005), the service

buildings, especially schools and agricultural production structures (olive oil plant, barn, sheep pen) which are common properties of the village, have changed their function. While the education buildings in Adatepe started to be used in tourism activity, the barns, sheep pens and warehouses converted into houses. Another land use change that shows the presence of the barn conversion is the move of barns and sheep pens out of the village.

Despite the diminishing husbandry activities, the present animal shelters in the village cause conflict between newcomers and local people. A 25-year-old female complains about interventions of newcomers: "We had a lot of problems with a family who had recently moved in the village. We have a stable right outside of the village. This family was bothered by the smell and voice of animals, so they complained about us [to the official authorities]. [According to what they claim], the stables had to be at least 500 metres away from the nearest house. They filed a lawsuit against us. I don't know whether there really is such a rule or not…" (interview). Traditionally, animal shelters such as stables and barns are next to houses. However, the newcomers intervene in the traditional life and attempt to establish rules comparable to city ordinances.

Another issue the mukhtars expressed is the need for assistance in increasing the technical infrastructure such as spaces of car park and garbage. As lifestyles in the rural settlements changes, the consumption of fresh water and the quantity and the quality of the domestic waste change. The drinking water problem, which arises every summer, is the issue most frequently stated by the mukhtars and local people. The villagers state that this lack of water is a result of the swimming pools and the irrigation of lawns in the gardens of hotels and villas. The environmental infrastructure of the villages is insufficient, and it cannot meet the increased demand.

CONCLUSIONS

The rural gentrification process in Turkey, a Mediterranean country, shows similarities with the gentrification process in rural areas of developed Western countries. The process of disinvestment that began with depopulation in the 1950s and the reinvestment process that started with the development of tourism since the 1980s created the cycle in the North Aegean countryside which was defined as "rent gap" by Smith (1979, 1987). According to production theory (Phillips, 2004; Phillips, 2005), state led policies and planning decisions have significant role in the rural gentrification process. Tourism and conservation

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decisions also play an important role in the reinvestment process in the North Aegean countryside. Since 1990s, the development of tourism infrastructure in the region, the decisions made to protect the local architecture has accelerated the development of the tourism sector in Adatepe and Yesilyurt villages.

It can be said that due to the influence of real estate sector, the Northern Aegean countryside examples are different from the western examples. The researches on Anglo-American examples points out that in addition to states's role in housing policies and investment decisions, also the real estate sector (developers, realtors and financiers) has an effective role in the rural gentrification process. (Phillips, 2004; Phillips, 2005; Phillips, 2009; Ghose, 2004; Darling, 2005). The North Aegean countryside has become very popular with TV series and tourism activities even though there is no professional advertising and marketing. At the beginning, while the mukhtars have intermediary role in real estate purchase and sale(s), since 2000s real estate services have developed in the region.

The population in rural areas does not increase, but the numbers of houses that change owners or are refurbished do increase. Wealthy families who use their houses as summerhouses constitute the majority of newcomers. There are also those who come for additional reasons, such as setting up their own businesses. Whichever group they belong to, all newcomers are well educated and have professions. Due to the inadequacy of education and health services, families with children do not prefer these villages, unlike the Anglo-American examples (Ghose, 2004; Spencer, 1997). The number of converted and renovated houses in the villages and the socioeconomic profile of newcomers points out the existence of the class change, indicated in the gentrification literature (Davidson & Lees, 2005; Zukin, 1987). The real estate values have increased to such an extent that local people could not afford real estate purchase and sale(s). From 2000s, even the supergentrification defined by Lees (2003) has been experienced in Adatepe village. Latterly, tourism investors are taking the place of "newcomers" such as artists, writers, and academicians having cultural and intellectual capital who have first come to Adatepe village.

Transformation of rural landscape is one of the most important indicators of rural gentrification (Boyle, 2008; Ghose, 2004; Darling, 2005; Walker& Fortmann, 2003). The rural landscape is transformed, and natural vegetation mostly olive groves are being destroyed as a result of land demands for new homes in the North Aegean. The preference for detached housing on broad land, outside of the existing built-up areas of villages, transforms the

rural settlement pattern. In addition, as Phillips (2004; 2009) pointed out, "barn conversion" is observed within the traditional settlement pattern, which is also seen in the countryside of Western nations. While animal shelters are turned into houses, common properties of the village assume a tourism function. The change in the countryside creates conflicts between local people and newcomers, such as the use of natural resources, land use, conservation. Middle-class is hegemonic culturally, politically over the local people in the North Aegean countryside overlapping with the definition of Phillips (2009). Well-educated and politically active newcomers are more effective in decisions regarding rural settlements. On the other hand, this effectiveness of the newcomers is particularly positive in terms of conservation of cultural and natural heritage (Gosnell & Abrams, 2011). Newcomers are highly sensitive about the conservation of local architecture and natural resources and they can influence decision-making processes positively through their network of relationships (Başaran-Uysal, 2017).

The change in North Aegean Countryside did not only cause displacement of the local people by the middle class and transformation of the rural landscape, this also restructured the rural economy. The replacement of the agricultural sector by the service sector which is a major indicator of the post-productive economy as Darling (2005) points out is one of the most significant outcomes of the rural gentrification in the region. Depending on the findings of the research, it is expected that the number of new residents who live permanently in the rural area will increase and the effects of change will become more significant.

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Universal Access in Historic Environment and Accessibility of The Haci Hasan Mosque in Eskisehir

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Abstract

Urban heritage is one of the primary sign and symbols of human evolution through history. It means inherited civilization of predecessors and it is a unique and irreplaceable resource which reflects a rich and diverse expression of past societies and forms an integral part of cultural identity. It is not limited to the language or literature alone, but in the same time it reflects the capacity of man to overcome surrounding environment. It also includes the physical and sentimental elements of the community together with philosophy, religion, science, art and architecture in a society. In this context urban heritage, especially historic buildings and places, are significant because of their uses as places where people's daily life activities. However, many heritage buildings also offer specific challenges that need to be overcome when providing access for all. Therefore especially for people with disabilities, elderly people or other types of temporary impairments, barriers exist which make visiting and using historic buildings and places difficult or sometimes impossible. For a society based on freedom and equal rights, making the built heritage more accessible is a key to providing its citizens with autonomy, freedom of choice and the means to pursue an active social and economic life. Accessibility is therefore fundamental

Keywords: Mosque accessibility, universal design, historic environment, Eskisehir

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right to access to the other rights and to fully participate in to the daily life.

This study, which focuses on the accessibility of historic environment, is to discuss what actions are essential to ensure access and equal mobility conditions within mosque architecture to all people, regardless the diversity of their (dis)abilities.

INTRODUCTION

One of the key requirements for a sustainable society is that everyone should be able to participate in and enjoy the social, economic and cultural assets of that society. Therefore, sustainable and inclusive society recognizes that everyone should be able to enjoy easy and inclusive access the historic environment. Improving the universal access and removing the barriers to access in historic environment can allow more people to visit and use the historic environment. Providing accessibility of the built environment, especially historical buildings, will also increase the awareness and cultural, social and economic value. Moreover, it is also essential to be aware of people's different needs and how these needs can be met in a variety of ways. Although well-planned access strategies, developed at an early stage, can avoid excessive intervention and cost, making historic buildings accessible can be more difficult than making non historic buildings accessible. For this reason, for successfully improving access to historic buildings and places, it is necessary to address both conservation and accessibility needs in an integrated and balanced manner (Güler & Tutal, 2017). It is important to remember that often the best and most appropriate way to make historic places more accessible is through management solutions which may sometimes require little physical intervention or alteration of historic fabric.

HISTORIC ENVIRONMENT AND UNIVERSAL DESIGN

All aspects of the environment resulting from the interaction between people and places through time like cultural heritage, protected areas, historic buildings and monuments, monumental buildings and other archaeological areas are all heritage assets. They are an integral part of our cultural identity and contribute towards a strong sense of place, whether in a local, regional or national context. The historic environment including heritage assets is the physical evidence of past human activity and it is a rich and diverse part of countries' urban heritage. It brings together people with their past life, place, and with traditions, stories and memories linked to those places. It also gives some messages to the future from past. So, it takes in all aspects of the

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environment as a whole that have been shaped through human activity.

Although conservation responsibilities and building codes have special allowances for making changes to existing buildings, for historic environment (buildings and places) the best and most appropriate way to protect them is to keep them in active use. The survival of most historic environments depends upon their continued and viable use, among other interventions and they require adaptations and alterations to improve access. For this reason, the survival of most historic buildings depends upon their continued, viable use. They are irreplaceable, but sometimes they need to be functional or structural changed or regenerated (Sawyer, 2015). Changes to improve access may well contribute to a building's continued viability. Well-planned/designed alterations and access strategies, developed at an early stage, can avoid excessive intervention and cost. Nonetheless where intervention is inevitable, best appropriate designed solutions should be prepared. Furthermore, it can be possible to provide access for all without compromising a building's special interest with careful planning and designing.

For people with disabilities, barrier exist which make visiting and using historic environment difficult or commonly impossible. It is essential to be aware of people's different needs and how these needs can be met in a variety of ways for making the built heritage more accessible, usable and visitable. In terms of accessibility, it is not always necessary to remove an obstacle. In many cases the accessibility can be provided by reasonable adjustment, little physical intervention or adaptations and alterations of historic fabric. Sometimes, the same desired result can also be achieved by rearranging the use of the space without the need for wide physical adaptations.

Among the little physical intervention or adaptations, particularly reasonable adaptation is an important step for countries that do not have inclusive or universal design practice. "Reasonable adaptation" means necessary and appropriate modification and adjustments not imposing a disproportionate or undue burden, where needed in a particular case, to ensure to persons with disabilities enjoyment or exercise on an equal basis with others of all human rights and fundamental freedoms (URL-1).

It is very important that some simple questions such as;
•what is a reasonable adaptation?
•what are the statutory obligations that have to be met in terms of accessibility and conservation principles?
•who is going to be responsible for reasonable adaptation?

•how much will adaptation cost and how long is adjustment going to take?

are answered for the access strategy of any planning and designing (Sawyer, 2015). With well-planned/designed access strategy together answers of the questions above should be possible to provide accessibility for people with disabilities. In this planning/designing process every effort should be made to minimise loss of, or damage to, the qualities of the built environment.

Everyone has an equal right to participate fully in daily life and places where this life passes, to the maximum extent possible. Especially people with various disabilities are to have the same opportunity to participate as others. This has been made clear through the Convention on The Rights of Persons with Disabilities which entered into force in October 2009. The purpose of the present Convention is to promote, protect and ensure the full and equal enjoyment of all human rights and fundamental freedoms by all persons with disabilities, and to promote respect for their inherent dignity (URL-1).

Although there are some professionals write about Universal Designing (Steinfeld & Tauke, 2002), or Design for More (Herssens, 2013) to express the unceasing endeavour, today Universal Design (UD) is an important strategy for creating a society where everyone can take part in an equal manner. Therefore UD is a non-exclusive design concept. Everyone is affected by universal design and universal design affects everyone. It was first used and promoted in the United States by Mace in 1985 to communicate a design approach that could be utilized by a wider range of users. (Mace, 1985; Preiser & Ostroff, 2001). Universal design is defined by the late Ron Mace as follows: "The design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design" (Mace, 2013). Among the international community, there are multiple names for and definitions of universal design. Some are broader, others are narrower, but the basic idea is the same; it is about rights and the avoidance of exclusion (Manley, 2011). Regardless of wording, the goal is profound: buildings and places have to be accessible and usable as possible for as diverse a user population as possible.

As a design concept, UD has a greater effect on specific groups of people who are concerned about the design of the built environment. For instance, wheelchair users, pregnant women, caregivers of the elderly, people with various functional limitations, people with babies in strollers, and bicycle riders are

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concerned about curb cuts or sloping curbs. This synergy of diverse groups makes the design universal (All, 2008). UD for majority-world countries can then be defined as a concept that not only extends beyond issues of accessibility of the built environment, but also covers the social, cultural, and economic issues, which are major influences in uniting normal people and people with different physical, mental, or psychological abilities. UD should be accepted as an approach that values and celebrates human diversity (Balaram, 2001).

The aim of universal design is to develop theory, principles and solutions to enable everybody to use the same physical solutions to the greatest extent possible. It is helpful to educate planners, architects, designers, builders and citizens about the purpose and benefits of universal design for the whole community so that they understand its value and work to find good solutions to problems (All, 2008). Therefore, universal design opposes, ideologically and politically, all unnecessary and stigmatizing specialized solutions, whether they are intended for people with disabilities or other groups of the population. Equal status, equal treatment and equal merit are key concepts. The intent of the universal design concept is to simplify life for everyone by making products, communications, and the built environment more usable by more people at little or no extra cost. The universal design concept targets all people of all ages, sizes and abilities (Aslaksen, Bergh, Bringa, & Heggem, 1997).

UD is not a standard, either national or international, but it may include design factors which might ordinarily adhere to national or international standards. UD may or may not include standards, but the design must be universally acceptable and usable by the population that will use the specific piece of the built environment. UD does not have hard and fast rules. It is whatever the designer intends for it to be, but it must follow some general principles (All, 2008)

A set of universal design guidelines was developed by the Centre for Universal Design, North Carolina State University with a group of experts (architects, product designers, engineers, and environmental design researchers). The resulting Principles of Universal Design were as follows (URL-2):

Principle 1: Equitable Use
Principle 2: Flexibility in Use
Principle 3: Simple and Intuitive Use
Principle 4: Perceptible Information
Principle 5: Tolerance for Error
Principle 6: Low Physical Effort

Principle 7: Size and Space for Approach and Use

Each of these principles should be applied in making decisions about how to make historic buildings accessible to all persons, regardless of disability. These principles was also defined and then expanded in a set of guidelines. The purpose of the Principles of UD and their associated guidelines was to articulate the concept of universal design in a comprehensive way. The principles reflected the authors' belief that basic universal design principles applied to all design disciplines, including those that focused on built environments, products, and communications. Therefore, the principles are intended to guide the design process, allow systematic evaluation of designs, and assist in educating both designers and consumers about the characteristics of more usable design solutions (Story, 2001)

ACCESSIBILITY OF THE HISTORIC ENVIRONMENT

Historically, most buildings and places of the World Heritage Sites, protected areas and landscapes (historic/registered-natural-parks and gardens) were not designed to be readily to be accessible for people with disabilities. However, today's common design approaches Universal Design-UD (Ostroff, 2011), Inclusive Design-ID (Clarkson, Coleman, Hosking, & Waller, 2007; Coleman, 1994) and Design for All-DfA (Europe, 2004; Grosbois, 2001)used in the USA, UK and Europe respectively, are almost synonyms sharing the same objectives. Despite the fact that each term is region specific, all have the same purpose: more inclusivity. While differences exist in how these approaches have evolved, the similarities are more apparent (Ostroff, 2011). Among these design approaches accessibility is a considerable challenge. It involves rethinking the design of not only the buildings but also built environment (urban spaces, public transportation systems, urban landscapes, parks, interior spaces and sacred places). It needs also not only people with disabilities but for all (Heitzman, 2005).

Change is a reinterpretation of the continuity of cultural identity. Each value passed from the past according to the requirements of the time includes the update (Çakmak, 2013). When changes, attachments, deteriorations are accepted as a definite principle of life, changing process of processes and conditions of structures emerges as one of the indispensable parameters of theoretical thinking. Except for very symbolic monuments, because of their intrinsic cultural heritage value and their uses as places where people's daily life activities, historic environments need to be modified to meet the changing needs of their occupants. Especially, historic environments have many difficulties

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(functional, structural, accessible, usable etc.) for people with disabilities. The survival of most historic buildings depends upon their continued, viable use and this may, among other things, require alteration or little physical intervention to improve access. No theory can deny this historic property of architecture, and be satisfied with the ideal intervention fictions based on the original design and function of the building (Kuban, 2000). Thus, these interventions both meet the requirements of everyday life for the structure used actively and provide it to survive by using them. Therefore universal design, or access for all, is an overriding objective that should always be aimed for when upgrading a heritage place, but there are also cases where this is not achieved (Gökaltın, 2014).

From the smallest to the most comprehensive ones, the discussion on whether these integrated interventions done for the purpose of the design are the requirements of daily life or not, does not affect the structures' usability borders in terms of comfort conditions. Therefore, it is needed both to improve the availability of historical environments and to protect them as in an integrated way for anyone visiting or accessing them. However, it is not possible to talk about the approaches of designs that put people to the centre of the design. In this regard, that the ongoing design concept has always been shaped by the needs of the average user groups is not an exaggeration. It is nothing but only an optimism that standard design shaped according to average user groups is an inclusive approach, in other word to say that it is for all.

Man-made monuments and sites very often originated at a time when universal design was a completely foreign idea. For all that, today many buildings of architectural heritage also play an important role in people's daily life. Mosques, among the other public buildings, have a special place in the built environment in terms of public accessibility and usability. Because a mosque regularly used at least five times a day for praying should be accessible for all. Eskişehir Odunpazarı Hacı Hasan Mosque is one of the distinguished accessible mosque in Turkey after the restoration (Tutal, 2012). The process of restoration based on accessibility for all, made the mosque even more remarkable. The conversion process of Hacı Hasan Mosque which experience these deteriorations and serving as an "accessible mosque", and in the settlement pattern and coming to the fore with its features close to civil architecture.

ACCESSIBILITY OF THE HACI HASAN MOSQUE

The mosque is located at Eskisehir Odunpazarı Urban Conservation Area, Karapınar Quarter, Hacı Hasan Street (Figure 1-2). Although the exact date of construction of the mosque is unknown. It dates back to the thirteenth century. Although blast from the plaster during restoration of the building confirms that it was converted into a mosque, the mosque as it stands today, with its typological features compared to a religious architecture, is more akin to residential properties civil architecture (Cerasi, 1999).

Figure 1-2. Odunpazarı Urban Conservation Area and Hacı Hasan Mosque.

The mosque is rectangular in the direction from the gate to the altar. Place of main worship is close to a square, is separated from the entrance by the wooden studs carrying Mahfil (space for the women) at the top. While to the left of the entrance is a wooden staircase, to the right of it is a door which is for entering its minaret. The main prayer hall has a swallow ceiling with the squares in squares. The mosque is lighted with one small window located on each side of entrance door of the basement, and on the Mahfil with two small windows located in the eastern and western pockets, and two windows on the top of the entrance windows. Apart from the windows lightening the entrance to the mosque, and woman section, the mosque is also lit by two large windows located in the western and eastern fronts, and two small windows located over the altar. Windows are rectangular and arched ones. The pulpit whose two side panels are decorated with geometric paneling is just right of the altar which is in form of a niche.

Although the body walls of the mosque are made of stone materials, minaret and the arches of windows are made of brick. The body walls were ended with the application of hedgehog eaves made of bricks walls. The roof is covered with tiles. Located in the north-western corner of the building is the brick minaret in cylinder shape rests on a square base made up of cut stones. Bottom of the balcony of the one balcony mosque is adorned with rows of saw tooth-shaped bricks. The mosque which was repaired by a local association in 1950, has also received small and large

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renovations since then. The mosque was restored in 2011 by the Municipality of Odunpazarı.

There used to be a small courtyard of the mosque before the restoration, people used enter to the yard through a courtyard gate (Figure 3-4). Imam's house is used to reach by climbing a stairs adjacent to the wall of a mosque in the courtyard. Mosque entrance is located under the stairs. Hence, the mosque's entrance was closed by the house of the imam which was an attachment and its height of the roof was higher than the structure, and eastern façade of the structure was also closed by other attachments. The minaret of the mosque whose facade was plastered over the time, and moved away from the original character, and base section was of the mosaic, the body of the minaret was covered with ceramic tiles.

Figure 3-4. Hacı Hasan Mosque, before and after the restoration.

Figure 5-6. Interior space of the Hacı Hasan Mosque, before and after the restoration.

Facades except for the western one was uncovered form the existing attachments during the restoration, in accordance with the documents. Rasps made on the exterior facades revealed that building has under the plastered surface alternating (stone-brick) wall system, and the minaret which was tile covered has walls built of bricks in different colors. In the rasp of the interior made by chemical and mechanical methods, stenciled marks were found on the wall surfaces. After overlying oil painting surfaces, paste, and water-based paint layers were cleaned from the surface decoration all elements of the motif ornament decoration with the effects of westernization from 19th and end of 20th century were unearthed both in color and composition. By the wooden pole painted with oil paint, ceiling with beams and floor elements, surface cleaning for the protection and repair, and retouching and putting protective cover on complementation, it has been the original (Figure 5-6). Structural cracks seen in original plaster

have been reinforced. And the exterior façades have been original pattern of stone and brick walls by extracting of the plasters and tile covers form the original surfaces. All materials which were subsequently added to the original facades cleaned, maintained and complements for necessary portions to the surface protective applications have been performed (Alabay & Guzel, 2011).

During the restoration, studies on the mosque's accessibility were initiated and accessibility projects were prepared in accordance with standards. Instead of widely accepted accessibility which was reduced to ramps, elevators, toilets for the disabled, decisions taken on what can be done according to disability levels were discussed separately, and integrated into the restoration project. In the design process, except for standard applications, the design concept for the average user groups was rejected and the principle of "universal design" has been adopted. In the process which was distinguished with the accessibility solutions applied for a historical structure, the mosque has distinguished itself in numerous examples in the name of accessibility. In the process of restoration, the studies related to accessibility of the mosque were conducted in three categories.

Accessibility for the Hearing Impaired

Three different arrangements consisting of the Induction loop (IR) System, Sign Language and Written Information, Warning Lights for Ezan were made in terms of accessibility for the Hearing Impaired (Dorken, 2012). Induction Loop (IR) System, in simple sense, It works by the waves of magnetic induction. The audio source is connected to an IR amplifier, the amplifier by turning the signal into low-voltage electrical current, convert waves in to the magnetic induction waves through the cables laid the space. While these waves are browsing through the space, 'telecoil' in the hearing receives them, and converted into sound by the hearing aid amplifier again. The signal in this way, without any impairment in the mosque reaches from the speakers to the listeners. In practice process, two important points in the case of Hacı Hasan Mosque are noted differently from the other places in which the system is applied;

1. First, the cabling was made perimeter based because when the users' head to put on cables which were laid based on large rooms or purpose of usage during the prostrate position, they may hear a very loud noise and interference,

2. Because the users must hear the sounds both in vertical, horizontal positions an upright position wiring was made in order for the users hear the sound both in bowing and prostration positions. Cables laid not only on the floor but also on the walls for

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the sound to be heard for the hearing impaired without interruption.

Written information and sign language is reflecting the sermon preached to a big screen using a projector system and discussing the issue by the muezzin who is a sign language translator. The hearing impaired participates in worship using these two communication ways (Figure 7). Projection system is used to listening to prayer and Friday sermon. It is also used in order for the hearing impaired to learn the Quran.

Figure 7. The written and sign language information in the mosque.

Figure 8. RGB light system for Ezan warning.

Ezan warning lights, are located on the minaret balcony and flash in order for those who don't hear call for prayer during the call to prayer (Figure 8). Because RGB light system reflects to the best during the daylight according to the level of emissions, green warning lights are selected and LED lighting system is applied.

Accessibility for the Visually Impaired

For the mosque to be used for both those who are visually impaired sensible walking surfaces have been arranged. Surface materials have contrasting colors in order for people with low vision to see the floor. Sensible walking surface materials were laid from on the sidewalk in front of the mosque to the paths in the courtyard and entrance of the mosque and other facilities (fountains, toilets, etc.) and they were made accessible to the visually impaired (Figure 9). The connection from the sidewalk to

the interior of the mosque were leveled and the connection was arranged as no hindrance path for both visually impaired and for the orthopedically. The carpets laid on the floor of interior of the mosque were so woven so that they can be sensed by the soles of the feet in order for the visually impaired to perceive the lines (Figure 10). Braille Quran set given by Mufti of Eskisehir has large letter characters of both Turkish translation, Original Arabic. Quran and other publications are available including basic religious information. However, the mosque was purchased used in voice transmissions.

Figure 9-10. Tactile surface for visually impaired in the courtyard and interior space of the mosque.

Accessibility for the Orthopedically Handicapped

During the restoration, differences in all of the internal and external spaces were leveled and a walking surface was created on both exterior and interior surfaces without barriers. While the outdoor sidewalks were made as accessible, in both mosque entrance and other facilities such as courtyard of the mosque, nursing room for mothers, toilets for the disabled, and baby care rooms were arranged to be accessible. Vertical accessibility of the first floor was provided by means of stair lift. To the interior of the mosque is provided. The wheelchair users who are among the existing prayers may both go into the mosque and whisper their prayers on them (Figure 11-12). In the side courtyard which is in the entrance area, a toilet for the people with disabilities and ablution room for the women and a nursing room they may use were built.

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Figure 11. A place of worship for wheelchair users in the mosque.

Figure 12. Wheelchair users in the mosque.

Consequently, like Hacı Hasan Mosque, each historic building or place is unique, irreplaceable resource which reflects a rich and diverse expression of past societies and the level of accessibility that can be achieved is dependent on the characteristics of the site itself (Figure 13-14). Universal access is an innovative and dynamic strategy which focuses on constantly seeking better solutions in a context where technology, knowledge and awareness such as universal design/design approach for al are rapidly changing. Thus it is necessary continually to consider new solutions as a means of minimizing technical and environmental limitations.

Improving the universal access strategy in and around the historic environment should aim to include the following goals wherever practicable:

• Comprehensive previsit information about access available in accessible formats (written, visual and audio) and providing

information about the accessibility level of the building, site and services,
• Accessible transportation to historic environment (accessible transportation vehicle, building and services),
• Accessible car parking as close as is reasonable,
• An accessible open spaces, landscapes, garden and routes,
• Simple and intuitive wayfinding and orientation (well designed and legible signage),
• An accessible principal entry (This is usually referred to as the principle public entrance, and may or may not be the original or historic entry)
• Staff trained in disability and equality awareness,
• Access to, and between all levels of the building and site (usability and visitability of the space)
• Programme, services (services such as telephones, vending machines, counters and retail outlets), toilets, activities and events that are accessible for all,
• Interpretive information available in a variety of formats,
• Emergency evacuation for everyone.

Figure 13-14. Hacı Hasan Mosque before and after restoration.

CONCLUSION

All of the technical and architectural interventions for prolonging the life of a structure with artistic value are activities of restoration. While in the context of modern restoration techniques, restoration has a scientific dimension; in terms of sensitivity to the environment it has a universal human nature dimension. When in a contemporary restoration, it is taken into account that intervention is done for extending the life of work of art and maintaining its existence. It is mandatory that the universal dimensions are only provided with universal designs or "design for all" approach.

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Worship would exist in the venues as long as people can do it. When accessibility and availability of the venue is provided for all, it can be said that the functionality of the historic environments materializes. Thus, the difference between the design which is made for the average people and the design for all arises. There is no doubt that this difference includes more accessibility than the accessibility measures which are widely misunderstood and reduced to elevators, ramps, and toilets. These measures at Odunpazarı Hacı Hasan Mosque are inclusively qualified. We wish the same for the all historic environments.

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The Impact of Architectural Design of Shopping Malls on Consumer Behaviours: A Case of Konya

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Abstract

Subject of consumer behaviours has been critical importance for business platform and related disciplines from past to present. Being able to understand consumer behaviour and identify strategies in this direction have become the most important condition for survival in competitive conditions. Many researchers produce new studies in order to understand and direct consumer behaviours more accurately. In time, researchers have elaborated these studies and have begun to link various disciplines such as law, economics, geography, architecture with consumer behaviour. In this study, it is aimed to determine the relationship between consumption concept and architectural discipline. Design criteria that increase and decrease consumption preference and quantity have been investigated by determining the extent to which the interior and exterior architecture affected the consumption habits.

Method: In this study, based on the literature, a conceptual survey of the daily shopping malls has been conducted from past to present. The basic literature is based on classification and description. By the determined hypotheses, observations, researches and surveys are conducted in the shopping centers located in Konya. Findings are tabulated and compared by morphological analysis technique. Survey data is analysed by SPSS

Keywords: *Shopping malls, architectural design, consumer preferences, consumer behaviors.*

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program. In these analyses, differential hypothesis tests (Independent Two Sample T Test, One Way ANOVA Test) and relationship hypothesis tests (Pearson Correlation Coefficient) are used.

Result: As a result, it has been found that the effect of interior and exterior architectural design of shopping centers on consumer behaviour is related to preferences, demographic data and consumer behavior. The results of the questionnaire application are influenced by the architectural design of the shopping centers, the amount of consumption and consumer behaviour. Therefore, the relationship between architectural design and consumer behaviour for shopping malls should be considered as an important factor in planning

INTRODUCTION

All living creature has to consume certain resources in order to meet its basic needs and to maintain its life. We see that diverse needs and products are added to the concept of time consumption when we look at the history of daily humanity from past to present as well as vital needs such as water, food, and housing. The transition from individuality to collective life has brought new needs, the development of cultures, industrialization and technological advances have consistently provided new needs and offered different products to people to be consumed. The effects of this change and consumption habits, consumer behaviours, factors that affect consumer behaviour have constantly changed. In terms of companies, this change has become the first condition to keep up with the competition and to set the marketing strategies in line with the ever changing needs and demands of the consumers.

Studies on consumer behaviours, which are the most basic aspects of marketing discipline, have shown that consumer behaviour is related to many different disciplines (economy, architecture, sociology, law, etc.). In other words, all disciplines have studied consumer behaviours from a different point of view and investigated their effects on their own fields.

Consumption habits, which are constantly changing day by day from past to future, have changed in consumption places. In the old ages, in the hans, bazaars, agoras, shopping places have been replaced by modern bazaars, supermarkets and shopping centres. These modern consumption spaces that emerged with the aim of enabling consumers to reach the products and services more easily and faster have become shopping centres that have differentiated over time and provide the opportunity to meet the spectacular and diverse needs spreading over large areas with the support of technology. As of the second half of the 20th century, the number of shopping centres in the world, which have been

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rapidly increasing, has become widespread, and especially the purchases of final consumers have begun to gather in these centres. Shopping centres that started opening even in some places, has made the need to differentiate by the effect of competition and the designers had to design different projects on the subject such as gigantic buildings in large square meters, aesthetically pleasing and impressive exterior designs, large landscaping areas, and interior designs providing comfort inside.

In this study, it is aimed to investigate consumption concept, consumer behaviours, shopping centers and architectural designs and evaluation the effects of these designs on consumer behaviour.

Consumption and Consumer Concepts

The concept of consumption has been subject to many researches from the past to present. Basically consume concept means finishing or destroying but it gains a broader meaning and developed over time. Researchers from different disciplines have studied this concept and different definitions have emerged about the concept of consumption. For example; Karalar (2002) made a definition about consumption like; ''in order to meet the needs and requests of goods and services produced to be used by people'', the definition that Odabaşı (2009) makes is; it's an ongoing process from birth to death which a product or service is searched, purchased, used or destroyed to satisfy certain needs. Another definition about consumption is made by Torlak (2000) which is; ''legitimate whether or not one is needed, these needs to be satisfied, or spent on imported material and spiritual values be mobilized afford to spend''.

From all these definitions, it is possible to make a definition as ''to use goods or services for consumption by the individuals or organizations to remove the necessities from the way''.

When societies are examined, it is seen that people come to the world as a consumer and continue to play the role of consumer constantly in various fields throughout their entire life. Especially today, with the increase of product and service variety, it is seen that every moment we have passed through a consumption activity and become insatiable consumers.

Consumer Behaviours and the Factors Affecting Consumer Behaviours

There are different definitions for consumer behaviours. It is the process in which decisions such as which product, who, (Orhan, 2002). Consumption is a process which has the methods used when deciding consumption, the attitudes formed with internal or

external factors against the product, selecting and using the product.

The factors that affect consumer behaviour and the dimensions of these effects are the most important issues to be investigated. This issue, which is at the core of marketing activities, is one of the most important elements in determining the direction of consumer demands.

Although many models of consumer behaviour have been developed, there is no model that can fully explain consumer behaviour. The common feature of existing models is that they accept that consumer behavior is influenced by a number of factors (İslamoğlu, 2002). The following table shows the factors affecting consumer behaviours.

The Factors Affecting Consumer Behaviors			
Personal Factors	**Socio-cultural Factors**	**Economic Factors**	**Psychological Factors**
Age Gender Job Education Status Marital Status Income Rate	Family Caste Groups Culture	Monthly Personal Income Family Income Transportation prizes Consume amount rate	Motivation Perception Learning Faith and Attitudes

Figure 1. Factors affecting consumer behaviours (İslamoğlu, 2003: 52-53).

From past to present, working in the field of consumer behaviour, the researchers examined the factors that affect consumer behaviour according to their own disciplines. Today the subject of consumer behaviour, economics, business, sociology, psychology, biology, philosophy, anatomy, architecture, mathematics, statistics, geography, anthropology, and many different disciplines such as law, benefit actively (Koç, 2012).

The Relation Between Shopping Mall Architecture and Consumer Behaviours

The fact that most of the consumption is done in the shopping centers and the shopping centers are the most visited places outside the residence and the work place shows the importance of the shopping concept and the shopping centers in the lives of the people and the shopping structures are shaped in the direction of the society needs and requests. The search for a place where people can meet the need for shopping as well as travel and enjoy in their spare time or leisure time plays an important role in shaping shopping centers (Uslu, 2006).

The relationship between architectural discipline and consumer behaviour is mainly concerned with the development and implementation of general and specific designs of shopping malls, stores and supermarkets. The design and implementation of shopping centers and units in a way that allows customers to buy more and more products and services in a more convenient way

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requires a combination of consumer behaviour and architectural knowledge (Koç, 2012).

Shopping Malls

Shopping malls; Is a shopping unit created by specially designed shops and stores with comfortable working environments and technical spaces for employees at the shopping mall that provide customers with the convenience of shopping, enjoying, having fun and resting, meeting the needs of customers in addition to being able to meet their shopping needs (Uslu, 2006).

Shopping Centers are large spaces that combine consumer areas such as large national or local markets, multi-department stores, restaurants, cafes. With this feature, the different needs of consumers, by saving time on places which are easily and lets meet. For example, a family visiting a shopping mall can visit different stores to meet their children's clothing needs, shop for their homes, and return to their homes by eating dinner under the same roof. İn this way, shopping centers that offer more and easier shopping for people have a huge share, especially in retail consumption.

The Architecture of Shopping Centers

The development of a shopping mall requires certain steps. These steps are a mixture of economic, financial, commercial and design decisions. The analysis of the market, the political and legal situation, architectural design, tenant structure and choice, traffic planning, energy use and protection of the environment, advertising and public relations constitute the sub-details of the mixture (Yılmaz, 2008).

In the shopping centers, it is firstly to determine the criteria function areas that should be evaluated in terms of architecture. It is possible to examine the functional areas, the sales spaces, the unifying qualities, the circulation system, and the parking spaces where the vehicles of the persons coming to the building can leave. In addition to this, the standing of the structure is determined and investigated as the functions forming the whole of the structure in the visual arrangements which we call the characteristics of the carrier system and the aesthetics (Yılmaz, 2008).

The shopping malls are designed to ensure that the architectural consumer remains in these isolated small cities for a long time. The outside of the building does not give information about what is inside, the inside is not connected to the outside. This is the result of time-space separation. The breakup of the relationship with the outside is also the separation from the outside time-space relations. The time out of the rhythm has its own internal rhythm.

As size increases, is moved into the city shopping malls, self-sufficient, and the interior has a great importance in this case, a new format is born publicity. Light stability eliminates the difference day and night. It's always daytime, time is up. When everything is under the same roof, a self-sufficient new urban-public space emerges. The fact that there are no large transparent openings to the outside opens the relation between the environment and the internal rules. Thus, the outside of the room becomes a "crust" surrounding it (Yırtıcı, 2002).

The interior of the shopping center must also be designed to support the exterior architecture. The layout of the shops and service departments in the shopping mall should be such as to provide the continuation of the outside influence. For example, the color of the store exterior ceiling and the material used leave different effects on consumers. It can be the first or even the only clue that most of the storefront's external counterparts will be related to the store (Arslan, 2004) or store shopping can be arranged as the perimeter of a supportive or restrictive. The environmental-psychological environment is brought together by the consumer in a meaningful sense, and this meaning influences the shopping attitude experientially (Argan, 2007).

Case Study

Shopping centers have been opened in Konya since 2000 and they are being used actively. Within the scope of the thesis study, four major shopping centers in the center of Konya will be examined. In traditional classification; The four malls that are the subject of study are included in the "regional modern shopping malls" group.

Konya Kulesite, Kentplaza, M1 Konya and Novada, are the most used shopping centers in terms of their location, size and possibilities. In terms of construction year, M1Konya was first built, followed by Kulesite, Kentplaza and Novada shopping centers. The general characteristics of these shopping centers are given in the table below;

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MALL	IMAGE	LOCATION	FLOOR NUMBER	SIZE	FUNCTION	PARK CAPASITY
KULE SITE			MALL GROUND FLOOR+2 FLOOR OFFICE 42 FLOOR	37.285 m2	MALL AND BUSSINES CENTER	1700
KENT PLAZA		KENT PLAZA  ALAADDIN HILL	MALL GROUND FLOOR+4 FLOOR PLAZA 22 FLOOR	110.000 m2	MALL AND BUSSINES CENTER	1750
M1 KONYA			MALL 1 FLOOR	180.000 m2	MALL	2200
NOVADA		 NOVADA	MALL GROUND FLOOR+2 FLOOR	34.592 m2	MALL	1600

Figure 2. General characteristics of these shopping centers

Figure 3. Locations and relations of shopping centers

Kule Site Shopping Mall

Kule Site shopping Mall is one of the major malls in Konya. It was built in June 2004 by Seha. 28 thousand people visit on average every day during the week, also 45 thousand people visits on weekends. It is the center for social and cultural life with its rentable area of 44,570 m^2 with a 100% occupancy rate. (Topçu, 2011).

Figure 4. The atrium of Kule Site shopping mall

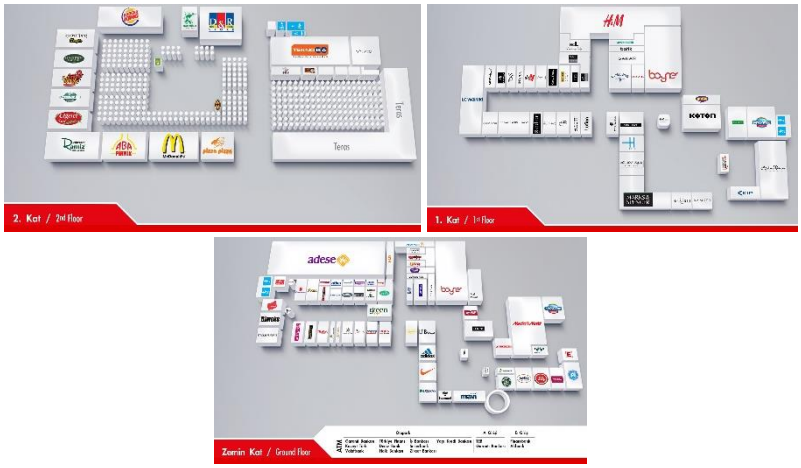

Figure 5. The floor plans of Kule Site shopping mall

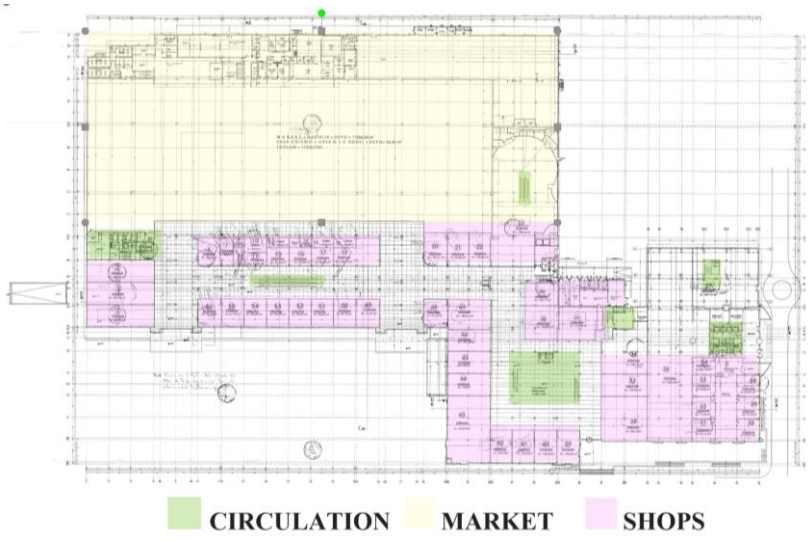

Figure 6. The layout of circulation market and shops in Kule Site shopping mall

Kent Plaza Shopping Mall

Kent Plaza Shopping Mall was built in November 2012 and it is the only international shopping mall in Konya. Kentplaza, located in the Kentplaza Complex, a candidate for being one of the new iconic buildings of Konya, has an area of approximately 110 thousand

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square meters with the tower comprising the office block. Kentplaza Shopping Center is the shopping and living center with the biggest brand in Konya. More than 60 brands, including national and international brands, will be serviced in Kentplaza for the first time in Konya where 160 stores are located.

Figure 7. The atrium of Kent Plaza shopping mall

Figure 8. The floor plans of Kent Plaza shopping mall

Figure 9. The layout of circulation and shops in Kent Plaza shopping mall

M1 Konya Shopping Mall

It was opened in 2002 around the Konya national bus terminal. M1 Konya Shopping Center, which operates as a one storey building, is located on a large area of 180.000 m2. In front of the Shopping Center, there is an open car park with 2200 cars and a large amusement park next to this area. Storey building, is located on a large area of 180.000 m2.

Figure 10. The atrium of M1 Konya shopping mall

Figure 11. The floor plan of M1 Konya shopping mall

Figure 12. The layout of circulation market and shops in M1 Konya shopping mall

Novada Shopping Mall

Novada Shopping Center, which operates in 2015, is the city's first outlet mall. The shopping center, which serves with 127 stores on a 34.592 m2 leasable area, has a parking capacity of 1600 vehicles including indoor and outdoor.

Figure 13. The atrium of Novada shopping mall.

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Figure 14. The floor plans of Novada shopping mall.

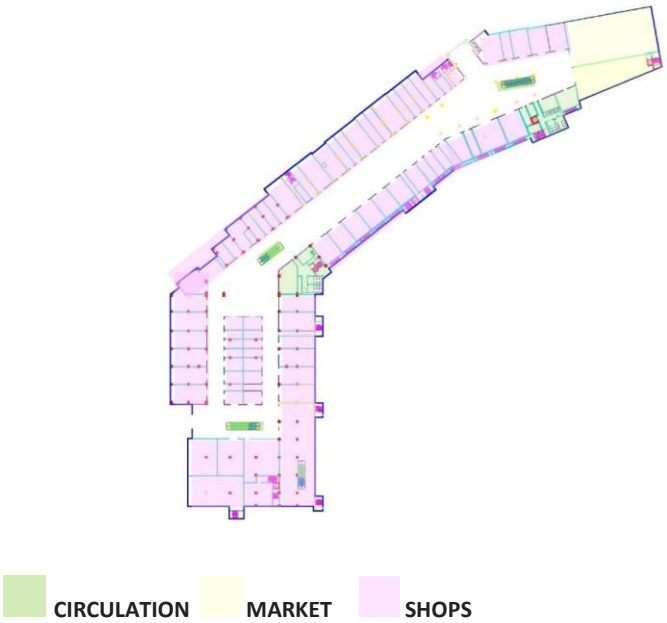

Figure 15. The layout of circulation market and shops in Novada shopping mall.

Survey Study

A survey study conducted including the malls located in Konya, Kentplaza, Kulesite, M1 Konya and Novada shopping malls. The survey was conducted with 100 participants. Careful attention has been paid to selecting the consumers participating in the survey study in different occupational groups, different age groups and different socio-economic levels. In addition, the questionnaire was conducted on weekdays and weekends, at different times of the day, and was sensitive about the homogeneity of the study. Participation in the study; shopping habits, reasons for visiting shopping centers, preferences for shopping centers, and the effects of interior and exterior architectural designs.

Analysis of the data was done with SPSS 22 program and it was worked with 95% confidence level. An analysis of the relationship between shopping center architectural design elements on the shopping center preference effect and the consumption effect score was analyzed by the nonparametric Spearman correlation test (Yılmaz 2017).

		n	%
GENDER	WOMAN	249	62,3
	MAN	151	37,8
AGE	under 25 age	113	28,3
	25-35 age	143	35,8
	36-45 age	86	21,5
	46-55 age	42	10,5
	above 56 age	16	4,0
MARITAL STATUS	single	231	57,8
	married	169	42,3
EDUCATION STATUS	primary education	31	7,8
	high school	117	29,3
	license	240	60,0
	graduate	12	3,0
INCOME STATUS	under 1400 TL	116	29,0
	1400-2799 TL	198	49,5
	2800-4199 TL	58	14,5
	4200-5600 TL	15	3,8
	above 5600 tl	13	3,3
WORKING STATUS	Student	114	28,5
	Paid employee	243	60,8
	Self-employment	17	4,3
	Retired	19	4,8
	Unemployed	7	1,8

		n	%
How often do you go to shopping center	Every day	18	4,5
	Once a week	115	28,8
	Once in 15 days	89	22,3
	Once a month	40	10,0
	If neccessary	138	34,5
Which transportation do you use to reach the shopping center?	personal transport	230	57,5
	public transport	115	28,8
	taxi	7	1,8
	pedestrian	43	10,8
	services	5	1,3
how long do you spend in the shopping center	less an hour	33	8,3
	1-3 hour	303	75,8
	4-6 hour	60	15,0
	all day	4	1,0

Figure 16. Findings about usage period of shopping centers, (Yılmaz 2017).

Analysis of The Relationship Between The Effect of Shopping Center Architectural Design Elements on Shopping Center Preference and The Effect of Consumption Quantity

According to data analysis,

There is a positive positive correlation between shopping center architectural design elements and shopping center architectural design elements ($p < 0,05$ rho =, 756).

There is a statistically significant difference between different age groups in terms of the consumption amount of shopping center architectural design elements ($p < 0,05$).

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When the average of the points is examined, it is seen that the shopping center architectural design elements have the greatest effect on the consumption amount, whereas those aged 25 years or less have the effect at least between the ages of 36-45.

According to the Bonferroni-adjusted Mann Whitney test for binary comparison, shopping center architectural design elements have a greater impact on consumption than those aged 25-35 and 36-45 years old and under.

There is a statistically significant difference between shopping center architectural design elements and shopping center preference among groups with different education status ($p < 0,05$). When the rank order of the points is examined, it is seen that the shopping center architectural design elements have the greatest effect on the preference of the shopping center in the graduate graduates, but there is an effect at least at those who graduated from primary education.

Bonferroni corrected Mann Whitney test for dual comparison According to those who graduated from high school and primary school graduates, According to those who have graduated from primary schools in the undergraduate and high school graduates, shopping center architectural design elements have more influence on shopping center preference.

There is a statistically significant difference between shopping center architectural design elements and shopping mall preference among groups with different income status. ($P < 0.05$). When the point average is examined, it is seen that the shopping center architectural design elements have the greatest effect on shopping center preference while the revenue is less than 1400 TL.

Conclusions and Recommendations

Human beings, in all stages of life from the first ages to the present days lives in an endless consumption. Consumer actions, which has been unconsciously started from the first moment of life, continues until the last breath is given. While the basic necessities such as food and shelter, which are necessary for the maintenance of life, constitute the major consumer goods, today's differentiated and diversified needs have made the concept of consumption much more comprehensive. In the past, the only option for meeting the need for food in the past is the opportunities offered by nature. Today, thousands of alternatives can easily be reached in restaurants, cafes, markets to meet the same needs. The manufacturing facilities that industrialization

and technology brings together have enabled the provision of innumerable options in all matters for people to consume.

These changes in the concept of consumption have made it possible to create a highly competitive environment for producers and sellers. Every product and service produced is among many options available to consumers and has to complete with similar products and brands. This has led marketing departments to seek out different ways to stand out from the competition and to be different from others, and to investigate consumers preferences, shopping habits, and purchasing motivations. There are many researches on consumer behaviors today. These studies have shown us that consumer behaviors should be studied together with basic human behaviors. Another result emerging from the researches is; the only way to build a successful marketing strategy in terms of brands is the accurate and detailed analysis of personal, psychological, socio-cultural and economic factors affecting consumer behavior. Markets that conduct these analyzes will be able to create more effective and efficient marketing strategies.

The evolution of consumption has created changes simultaneously in consumption spaces. In the past, arastas, bedestens, caravanseraies, bazaars, while today, these places are replaced by modern shopping centers. These shopping centers, which emerged in the early 20th century, are increasing day by day and differentiated. Today, there are many shopping mall types that vary according to their characteristics.

Today's shopping centers have become centers of life built on large square meters, with many different functions inside, where people can meet their needs like clothing, market, food, and where people have the opportunity to socialize. These centers offer different architectural designs both indoors and outdoors in order to be places that consumers prefer.

In the questionnaire survey, shopping center's architectural design was divided into 'interior architecture design' and 'outdoor architecture design', and the effects of these elements on consumer behavior and consumption amounts were investigated.

According to the results of the research;

- The effect of the outdoor architectural design of the shopping centers on the consumer behavior is related to the consumers,

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- The effect of outdoor architectural design of shopping centers on consumer behavior is related to consumers' preferences of shopping center,

- The effect of the interior design of the shopping centers on the consumer behavior is related to the consumers,

- The effect of interior design of shopping centers on consumer behavior is related to consumers' preference for shopping center,

- The effect of the outdoor architectural design of the shopping centers on the amount of consumption differs according to age groups (under 25 years and between 36-45 years),

- The effect of the outdoor architectural design of the shopping centers on the amount of consumption differs according to the income situation (under 1400 TL and over 5600 TL),

- The effect of the interior design of the shopping centers on the amount of consumption differs according to the education level (High School Graduate and Undergraduate Graduate), results, have been achieved.

It is seen that the results of the questionnaire application are influenced by the architectural design of the shopping centers, the amount of consumption and consumer behavior. Therefore, the relationship between architectural design and consumer behavior for shopping malls should be considered as an important factor in planning.

Research has been conducted on the impact of architectural design of shopping centers on consumer behavior. Within the scope of this subject, shopping centers and stores on the streets can be added to create a useful work by interpreting the effects of lighting, smell and music on consumer behaviors and the effect of architectural design.

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Resume

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The New Systemic Re-use For Old Italian ANAS Houses

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Chiara Bonaiti**
Alessia Silvetti***

Abstract

The paper is about conservation and new use of four ANAS Company houses (along the last 19-early 20 centuries roads) located on Lake Como. The conservation project is on the roadmen's houses for workers of "ANAS", the Italian Company for building and maintenance of Italian roads.

These houses are architectural buildings that characterize the Italian intercountry streets. They have been built along Italy every 50 km, with the same typology and dark red colour. Currently they are abandoned. In these last years, ANAS Company has fired several workers and now the houses aren't in use.

The project aims to conserve and maintain the existing materials and structures and reuse the buildings with a systemic project about accommodating functions (food and drinks).

Not just to a systemic use and to conservative interventions, during planning we make particular attention to the link among the four roadmen's houses chosen as study cases. We want to create a slow tourism path by increasing existing cycle and pedestrian mobility.

Keywords: *Roadman's house, minimum intervention, compatibility, authenticity.*

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INTRODUCTION

The ANAS house, with a typical Pompeian red colour on its facades, was created to provide accommodation for workers who had to take care of maintaining a specific section of Italian roads. There are 1.244 houses in Italy, half of which are used as operational sites, for working employees, warehouses or other functions. Over the years many of these structures have lost their function becoming abandoned places and degraded points in the city. The solution to revitalize these structures was found with the redevelopment project proposed in agreement with the Ministry for Cultural Assets and Activities (Mibact), the Ministry of Infrastructures and Transport (Mit) and the State-owned Agency. The goal is to redevelop these typical Italian places through the characteristics which make them unique: colour, architecture, strategic position and panoramic view.

In the map below (ANAS, 2016), the roadmen's houses are symbolically represented on the national territory. It is easy to note that the buildings were all born along the main national distribution routes, like '*Via del Nord*' and '*Valle d'Ampezzo'*, '*Via Francigena'* and '*Via Appia'*. The density of construction is higher in the upper part of Italy, while houses are less widespread towards the Mediterranean Sea, according with the concentration of the Italian roads' network.

Figure 1. National distribution of roadmen's houses. *(ANAS, 2016).*

On the Official Gazette (Gazzetta Ufficiale, 2016) a call for proposals has been published. Its aim is recover the existing building heritage and create a modern reference point to support drivers, offering high-quality hospitality and catering. The goal is improving the territory in which these houses are located.

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The spirit of our design is "Travel, stop, rediscover" exactly as proposed by the initiative *(*Case Cantoniere, 2016*).*

Figure.2. Drawings from www.casecantoniere.it

The pilot scheme concerns the assignment and redevelopment of the first 30 roadmen's houses selected, according to the greatest potential, within the heritage of the government property.

This paper deals with the project of four houses located in Lecco along the route that runs along the well-known Lake Como: Airuno, Garlate, Abbadia Lariana and Dervio's houses. We start from a large-scale concept in which we determine the project idea, in order to create a real network that connects the four buildings.

Figure 3. Main views of the four ANAS houses: Garlate, Abbadia Lariana, Airuno and Dervio. Lombardia, Italy.
[Restoration class at the School of Building Architecture and Engineering at Polytechnic of Milan in Lecco, 2017]

Tourism, culture, hospitality and catering (food and beverage): these are the services offered to customers of the roadmen's houses. *(*Case Cantoniere, 2016*).*

Starting from a proposed use at a systemic level, we move to the project of the specific building giving all necessary details: from a geometric survey we start an analysis of the materials typical of the building, then we make a degradation survey in order to identify the best intervention to restore materials by strengthening them without modifying their original appearance.

The design process described in this paper takes up an academic path of analysis and study carried out during the restoration course at the Polytechnic of Milan in Lecco.

The project proposed wants to underline as much as possible the architectural features typical of ANAS houses:

- Pompean red tint on facade;
- Three entrance arches, often reproduced on the upper floor;
- External doors in wood with green oil paint;
- Roof tiles;
- Garden and outdoor green furniture.

Figure 4. Architectural features of ANAS houses.

The conservative project of restauration, designed for each of the four houses, determines a precise solution in which the objective is to fully underline the peculiar characteristics of the building. We want to show each house in the best way, but accurately, in respect to what has been, we always keep in mind the essential principles of a good restoration: reversibility, minimum intervention, recognizability, compatibility and respect of the existing object. All of these rules must be combined with a touch of innovation through the principle of sustainability.

'The good restoration can be called a drowning of itself in the face of the past. The more the artist today bows, kneels, gets married against the monument, the better he performs his own.' – (Boito, 1880).

PLANNING AIMS

These are the goals of the redevelopment and re-use of ANAS houses:

- Preserve the buildings with their specific features (red colour);
- Realize a systematic reuse with a unique end use;
- Enhance the connection system among the four buildings with an application of slow tourism;
- Develop local traditional products to create an attractive hub for residents and tourists.

TYPOLOGY OF THE ROADMAN'S HOUSE

The houses are located in different geographical areas within the Italian territory and have different features depending on the climate, the altitude and the local building techniques. In our

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specific study case houses are located in the north of Italy and have different characteristics compared to houses built in other Italian areas. The structure of the architectural asset has a very simple volume consisting of a single building of three floors above ground and a loggia with three arches on the main facade that characterizes the building. The wall, made by local stone of Moltrasio in the basement and bricks in the upper floors, is covered with cement mortar and Pompeian red tint as finishing.
The place on which they are built is generally lakefront. This is an element that gives a particular environmental value to the houses.

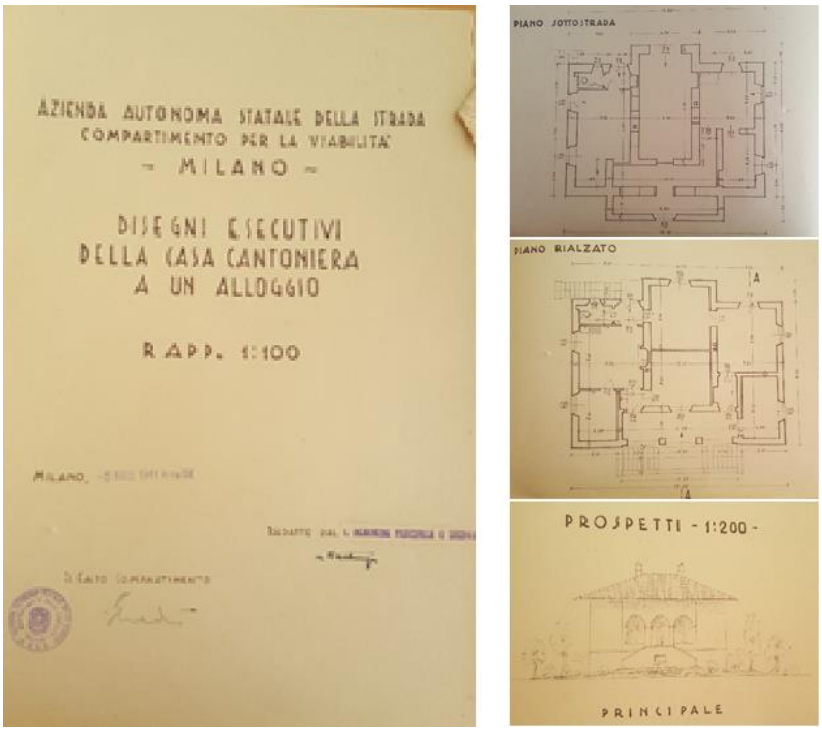

Figure 5. Drawings found in ANAS archive, Rome.

ANAS HOUSES: PLANNING OF CONSERVATION AND SYSTEMATIC REUSE

The actions identified in the proposed systematic re-use of the four ANAS houses are defined giving a key role to the criteria of conservative restoration, such as minimum intervention aimed at keeping untouched the authenticity of the buildings on which we are going to make a restoration project.

The conservative interventions proposed to give a new life to the buildings want to keep untouched the original view that identifies the traditional image of the roadman's house situated on the lakefront road. The houses 'with the red-façade', nowadays in a state of abandon, are identified with traditional materials that are fixed in the common idea.

We don't have to change or damage the original materials during the intervention of reuse. This goal comes from the wish to keep alive the authenticity of existing edifices.

The interventions are conservative, reversible, distinguishable and compatible with the existing structure. With the new project we want to preserve existing building's integrity according with the principle of minimum intervention.

'Reversible changes should be considered temporary. Non-reversible change should only be used as a last resort and should not prevent future conservation action' – (ICMOS, 1979)

Figure 6. The typical 'red facade': Roadman's house in Dervio.

The methodology based on research and analysis is aimed at identifying a new use respecting the traditional image of the roadman's house and the surrounding landscape. We propose a suitable use after a careful study of the four ANAS houses and of the countries where they are located in. The reuse of the buildings wants to create an attractive pole for local population and tourists.

The project describes the reuse of the four houses located along Lake Lecco, with the purpose of creating a slow tourism way that increases cycle-pedestrian mobility (Grandtour, 2016). The buildings are situated along an existing lakefront cycle path that in some parts is under construction (Marcarini, 2005). Slow tourism wants to be employed to ensure a sustainable accessibility to the reused edifices. The study of slow mobility is part of the systemic project that aspire to connect the different roadmen's houses with a single design's concept in order to generate a masterplan that fixes a solid link among the different buildings situated along the same road (Guidelines,2009).

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Figure 7. The lakefront road: '*Viandante* path' (Marcarini, 2005).

The countries that host the buildings described in this paper have very different qualities: Abbadia Lariana and Dervio have a well-developed tourist vocation in their territory thanks to their strategic position and panoramic view on the lake; Garlate and Airuno, further from lake, are in a less privileged position. We choose to put in a tourist-accommodating use to revitalize the roadmen's houses according with the requests of the competition announcement. The indoor and outdoor spaces are studied using the hosting theme in an original way. After the phase of knowledge characterized by a careful analysis of the territory and the possible services needed in the places around the four houses, we propose structures that offer refreshment areas for tourists and local people. The catering function is designed to offer the opportunity to taste local products that comes from the territory around houses. The idea is to propose different dishes for each ANAS house, linked to the background in which they are situated. The food and beverage's tasting itinerary of typical local dishes begins with the Airuno's house where you can taste appetizers linked to culinary tradition of Lake Lecco. After Airuno, we can reach the first courses offered in Garlate's house. The main courses are available in the houses of Abbadia Lariana and Dervio, where, in order, meat and fish dishes are proposed.

Figure 8. Roadman's house in Dervio: fish dishes.
[Restoration class at the School of Building Architecture and Engineering at Polytechnic of Milan in Lecco, 2017]

The central theme that connects the four houses is wine, a traditional product of the territory, which is offered in each new receptive hub. The suggestion is well strengthened because some countries of Lecco and Como, including the four countries studied, belong to the '*Terre Lariane* consortium' (Terre Lariane, 2016), which produces many certified DOC and IGP wines. The project is

called 'Tasting Houses' to highlight the activities chosen during the planning. The receptive theme is applied in order to revitalize enogastronomic traditions in a vision of touristic promotion and implementation of opportunities offered to citizens. We want to create a food&drink path organized in stages that connects the different houses creating a unique linking project.

Figure 9. Design concept: 'Tasting houses' (in Italian 'Le case del gusto') *[Restoration class at the School of Building Architecture and Engineering at Polytechnic of Milan in Lecco, 2017]*

The connection among the buildings is also underlined by the improvement and valorisation of the existing cycle path along the lakefront. In each building we plan to install a fixing and parking place for bicycles for users who follow the slow tourism path. The roadmen's houses located in different countries have specific aspects that are repeated. All buildings have a front situated on a high traffic road and a lakefront facade, more or less close to the coast. Behind the buildings there is a garden where we propose to have social vegetable gardens which can be used by local population and tourists. The gardens are designed to allow users to work on some local crops used to prepare food served during tastings in the 'Tasting houses'. In this way we use the project theme to revitalize countries by showing traditions consolidated in the territory.

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Figure 10. Example of masterplan: roadman's house in Airuno.
[Restoration class at the School of Building Architecture and Engineering at Polytechnic of Milan in Lecco, 2017]

Figure 11. Example of projects. *(ANAS, 2016).*

The conservative interventions of restoration and the distribution of indoor spaces are studied in detail for each of the four buildings described in this paper. For example, in the study of the house of Abbadia Lariana we turn into a strengthness the exfoliation of the main part of plaster on roadfront façade: this aspect could superficially appear a point of weakness. In the part where plaster has lost its distinctive red colour becoming grey, we create a mural that recalls the characteristic product offered inside the building: grilled meat. In this way we confirm the respect of minimum intervention and the recognisability of the existing building that are essential principles in restoration (ICOMOS, 2003).

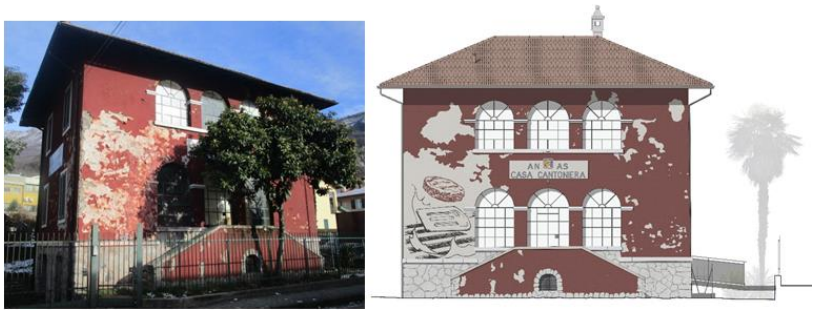

Figure 12. Roadman's house in Abbadia Lariana: 'before and after reuse intervention'.
[Restoration class at the School of Building Architecture and Engineering at Polytechnic of Milan in Lecco, 2017]

CONCLUSIONS

Over the years, the roadmen's houses have become recognizable architectures along the route. They are symbols of an era in which road mobility became a key resource for the connections among cities and for the economic development of Italy. Preserving buildings in their typology and materiality is essential to maintain the identity of a historical period of Italian culture. The conservation and transmission to future generations of ANAS houses and their reuse in respect of buildings generates an important process of urban regeneration and the possibility of producing a new local economy (Della Torre, 2010). Conservation creates an interesting and unique environment, a place that gives physical expression to local identity, history, heritage and culture. The old building combined with the new function preserves the visual perception and the historical memory of the urban and landscape environment creating new economic dynamics and new scenarios of connection between the different countries (Yelenik, 2009). The roads' link is no longer only tangible, but imperceptible as our conservative project would create a connection between today's human reality and the history that has preceded it (UNESCO, 2003). Historic buildings are a tool to generate a sense of importance and identification for city residents. Conserving the building heritage must be conceived as a key tool to strengthen the unique nature of the city and attract tourists. Conservation must be an action that contributes to the development of activities related to culture, entertaining activities and leisure. A new use contributes to the creation of a widespread economic tourism (ICOMOS, 1999).

The identification of new methods of use for architectural and urban cultural heritage suggests the exercise of active protection, in a dynamic conservation, defined through projects of reuse and adaptation, and of valorisation also for cultural touristic purposes.

'To preserve rather than restore' (Bellini, 1994).

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Traces of The Past Utopias in Contemporary Architecture: Parasitic Architecture

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Abstract

Utopia, a phenomenon shaped in the frame of criticism, can be described as a proposal representing hope for the future. Architecture, which is a critical practice, creates new grounds for debate in the discipline with utopia designs. When utopian approaches of the past and contemporary architectural products are examined, it can be observed that utopias can be transformed into the facts of today. In this sense, this article aims to question whether contemporary approaches are inspired by the utopian propositions of the past. It was tried to be comprehended the utopian examples of parasitic architecture and the manifestations of currently produced samples. Examples were criticized with the aid of the analysis sheet prepared in the light of the specified parameters and the contributions of the utopias to the embodiment process of the design in the real world were questioned. In the context of parasitic architecture, it can be seen that approaches of both are similar. The accuracy of the thesis on that, no matter how much time passes over the utopian spatial productions, they continue to be valid and embody in the case of sufficient technology is debated. It is right to say that architecture continues to criticize, produce solutions for the current situations in every period, and doing so, it benefits from the pioneering attitude of utopias. In this sense, the article reveals that utopias are shaping both

Keywords: *Contemporary architecture, parasitic architecture, utopia*

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the human life and the future of architecture, and thus the traces of the past utopias can be encountered today.

INTRODUCTION

The utopias have existed from the past to the present and it can be said that the process of their production will continue as long as human beings put forward views about life. Jameson (2009: 29) says that a compulsive component of creative genius, which brings up a problem to be solved and suggests a solution to this problem and tests the proposals, is utopia. According to Benhabib (2005: 193-194), utopia implies what 'not yet', 'possible but not now'. Lefebvre (1995: 15) states that thinking about change necessitates thinking in utopian form, foreseeing possible future outcomes. It is possible to say that utopias criticize their period, searching a solution for them and offer a vision of the future. This property of utopias suggests the possibility to discuss them by comparing the proposals presented in the past with contemporary architectural products. Hence, it seems that one of the utopian representations of the past is the concept of 'parasitic architecture', which still exists today. In this study, the parasitic architecture, which is a common approach of contemporary architecture and utopias of the past, is evaluated and a comparison is made between the two processes in order to question whether contemporary approaches are inspired by the utopian propositions of the past.

When the utopias representing parasitic architectural character are examined, it is seen that the proposals are put forward as a place of accommodation. This is because, the 1960s and afterward, the date on which the proposals were laid down, following to the Second World War, displayed the intense search for solutions to the city. In the solutions proposed by the utopian approaches, the concept of "housing" has always existed potentially. A great majority of the proposals for housing, which is a basic requirement, have emerged as a reaction to negative/unhealthy living conditions. This comprehension that moves from permanent and settled proposals to momentary and transient ones can be read as different representations both from the utopias seeking solutions for the future and from the designs produced today.

It can be said that the changing process of the accommodation content has gained an important impetus with industrialization. After industrialization; the borders of human have begun to be drawn by the modern world. The mass production process, which is called Fordism, has been included in the building activity realizing accommodation spaces fast and cheaply like every space.

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Due to the increase in the employment opportunities in the cities, there have been intensive migrations from town to city and along with the convenience brought by the industrial developments, various solutions for housing have participated in the urban space. Architecture criticized the concept of accommodation in the modernization period through the discourses it produced, suggesting new propositions based on utopias. For this reason, approaches have been put forward as a product of architecture which invaded city by using its existence.

Over-urbanization, which is criticized by utopias after World War II, and therefore the search for new places are still a self-sustaining concern. For this reason, a unit of accommodation jointed to the city proposed by contemporary architecture is similar to the 'parasitic architecture', one of the utopian approaches of the 1960s and later. In this context; the concept of today's new housing and utopias that is the parasitic architectural products are evaluated; also, it is argued that the utopia production in architecture is shaping the today's solution proposals in terms of accommodation facts. This discussion is carried out according to the determined parameters which are adjoining to existing structure, relationship with the existing structure, accessibility, form, material and purpose of production, and an evaluation is made by means of the analysis sheet generated in the light of parameters. The relationship with the existing structure parameter evaluates the spatial and structural relationship that the parasite establishes with the structure. This assessment is based on the use of the space of the existing structure or only on the adjoining to the structure. Accessibility concerns the provision of parasite's access from within or outside the existing structure. The study suggests that utopias can be re-questioned in contemporary architecture and incorporated into the design approaches as a production idea.

A REPRESENTATION FORMAT IN ARCHITECTURE: PARASITIC ARCHITECTURE

A parasite can be described as an organism fed from the host on which it is located, depending on the host's presence to exist. This statement is described in architecture as using a building as a floor or surface by joining it. Structural differences between a parasite and a host also continue themselves in architecture as structural differences between existing and adjoining spaces.

Parasitic architecture has emerged as a design that uses the model of nature as the generating force for their form and as a contrasting character in the city's massive, permanent and static buildings in the 20th century. Because of this, parasitic space

which grows under specific environmental conditions and adapt to their context was a starting point for considering the necessity of solutions that ensure the extension of space in dense structured cities. The emergence of a self-organized and adaptive system that can potentially extend the existing space providing answers not only to the need of low-cost and temporary accommodations but also to the problem of non-existent available space. (Kachri, 2009: 9-59)

It is necessary to perceive that the word of 'parasite' doesn't mean consumption of place rather it refers to a conceptual difference in the approach to the space usage. Because parasitic architecture promotes the retention of space as future potential through transient usage. So, the space becomes the location for facility, functions and experiential events within the lifecycle of the city and exhibits this transience acquisition of the space as a design feature (Brown, 2003) and also bring new order to the city with the layer that constituted by constantly multiplying. (Yıldırım, 2013: 30)

It can be argued that parasitic spaces tend to re-question the relation between architectural space and permanent settlement. That questioning focuses on the potentials of space design and also the relationship between architectural design and urban design. Because of this, parasitic architectural examples should be evaluated in the context of the relationship with the city not as singular forms or structural elements. (Yorgancıoğlu and Seyman Güray, 2018: 146) In this sense, it is possible to say that the concept of parasitic architecture has been included in the urban design as a critique of the lack of public spaces. It is aiming to build a connection between architecture and the city and invites to rethink the capacity of design (URL-1). In this sense, it can be said that parasitic architecture has established a new denotation between the city and architectural space. This concept, which is occupying present structures and criticizing cities, can also be interpreted as a rebellion in architecture. At the same time, architecture is out of the ordinary and offers a vision of the future.

PARASITIC ARCHITECTURE IN THE UTOPIAN APPROACHES AFTER SECOND WORLD WAR

After World War II is the period that rapid and unhealthy urbanization emerged along with the industrial revolution and the sense of solution brought by modern architecture towards these problems are criticized. These criticisms and the new solutions presented were shaped by world wars which were a cause of rapid destruction and environmental and social problems that were increasingly affecting the world. The need for a rapid

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recovery after the mentioned conditions caused an increase in the number of architectural utopia proposals produced in this period. It has become the main goal to re-plan by removing the destructive consequences of both wars, at the same time, to criticize city and to discover new possibilities for housing in an unhealthy and disorderly city. These approaches were shaped by space technology, scientific developments, and technological beliefs, and at the same time, it has been tried to take advantage of the rapid and cheap production opportunities that are a result of the industrial revolution. Both city and architecture are now being criticized, and for this reason, utopia insights offer suggestions that will lead to further architecture.

An important factor in shaping the search for solutions has also been the including society into the design approaches. Especially in the process of modernization, where cheap labor turned into an aim, the emergence of the separation between the class of workers and executives, resulting in the decline of human value were criticized. The reflection of this critique in architecture emerges as convertible, transformable spaces that are shaped by human needs, incorporating society into the process and approaches. It still continues to separate places on the modern architecture period from the real spirit and context and to exhibit an independent approach from the topography and environmental data. This approach, however, is now being addressed through the situation that human being is mobile. Thus, the speed, motion, transience and not belonging anywhere achieved along with the modernization process turn into the situation where the dynamism is realized through space. In this period, space becomes mobile with people, and the city becomes a dynamic phenomenon. As space is constantly changing, transforming and being shaped in accordance with the human needs, the final state of the city has become a vague representation. Designs that are similar in basic approaches, not just at the urban scale also at the micro-space scale, have been put forward. Human beings can have basic needs within an accommodation unit, and they can be relocated constantly with this accommodation unit; so, different units can come together to create a community of settlement. Thus, it would be true to say that the micro space constitutes the dynamic structure of the city. This is a reaction to the products of modern architectural understanding and is also a representation of the search of the human for better place alternatives in continual and unhealthy urbanization. These approaches are shaped as nomadic inflatable home projects that can be used as a backpack, be carried on the pocket, or worn as a garment, or these are shaped as cities that can be mounted and dismantled, in the form of vertically and

horizontally expandable, settled in space, water and air, or permanently mobile.

One of the utopian representations formed by urban and architectural critics has been accommodation units jointed to the city. These approaches, which form a new place by clinging to existing structures, provide alternative living spaces enabling mobility within the city, in accordance with the view that cities are continually expanding horizontally. Pascal Hauserman's Settlement Unit Application Design in 1962, Chanèac's Design of Parasitic Cells in 1968, Haus-Rucker-Co's Balloon For 2 Vienna and Oasis no 7 designs in 1967 and 1972 are important examples of this approach. In addition, the fact that Chanèac named his design as 'Parasitic Cells' also reveals the concept of 'parasitic architecture', which represents an approach in architecture. Hauserman and the Haus-Rucker-Co group did not use this form of expression in their design which can be said to have been presented with a similar sense.

Pascal Hauserman is one of the earliest examples criticizing city and defining parasitic architecture, with accommodation units he has produced in the 1960s. The project demonstrates a modular approach and contends that, contrary to modern architecture, space should be mobilized together with the individual. The adjoining of units on building surfaces, which are in a form that is contrary to the existing city, reveals a parasitic approach.

The units that are revealed by the idea that the cities spreading rapidly in the horizontal direction will decrease the productivity of the land use are adaptable to the situation and to any place. A living unit is designed as a whole with water, electricity and heating services, taking advantage of industrialization both in terms of cost and speed, and can be built in a few hours. (Hausermann, 1962 and Isozaki, 1962 cited from Sevinç, 2005: 115)

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Reference: Hausermann, 1962 and Isozaki, 1962, cited from Sevinç, 2005: 115

Design
Implementation of Settlement Units
Designer
Pascal Hauserman
Place
Grilly, France
Year
1962

User	Recommended Life Cycle	Realization Status	Adjoining to the Existing Structure	Relationship with the Existing Structure	Form and Material	Accessibility
Undefined	Permanent	Suggestion	Adjoined	Spatial and Structural Relationship	Amorphous Plastic	Through the Structure

Purpose: Searching for New Places in the City

Figure 1. Evaluation Sheet of Implementation of Settlement Units

Jean-Louis Chanèac was one of the designers who used parasitic architecture as a basic design input. Chanèac, who advocated the idea of settlement freely and mobile units since 1958, has become an important figure of the experimental architect in the 1960s and 1970s. By exploring the visual richness of organic forms, he has developed the concept of "Industrialized Poeticized Architecture" with cells designed for the comprehensive purposes. These cells, which are produced from plastic materials in the direction of mobility approach in architecture, can come together in various forms and create new settlement communities. The design of Chanèac's Parasitic Cells, which advocates that the environment should always be adaptable to the needs of individuals is one of the projects he developed on the approach of these cells. Developed as an additional area on the temporary and existing living areas, these Parasitic Cells are volumes which can be obtained by mass production and which have a contrary geometry to the present structures. The project, which can be directly adjoined to the facades or placed on the terraces, is presented with the manifestations of Anarcho Architecture or Pirate Architecture. These manifestations, which have become a critical approach for post-war urban areas, along with modularity, scalability and the transformation of the living environment realized against the visual solidity of the city, confirmed the statement 'this concrete is not poured in vain' said for existing

constructions. This theoretically generated approach was then experienced in a mass housing project in Geneva (URL 2-3).

Reference: http://www.hiddenarchitecture.net/2016/12/cellules-parasites.html (23.12.2016)

Design
Parasitic Cells
Designer
Jean-Louis Chanèac
Place
Geneva, Switzerland
Year
1968

User	Recommended Life Cycle	Realization Status	Adjoining to the Existing Structure	Relationship with the Existing Structure	Form and Material	Accessibility
Undefined	Permanent	Experienced	Adjoined	Spatial and Structural Relationship	Amorphous Plastic	Through the Structure

Purpose: Searching for New Places in the City

Figure 2. Evaluation Sheet of Parasitic Cells

The Haus-Rucker-Co group, one of the first people to make the principle of protecting the environment in their active period, argues that they fulfill their responsibilities to humanity by preparing scenarios for industrial zones where pollution and crowding are more common. They also expressed these approaches through utopias who argue that space has gained new sense by harming cartesian plans. They were exhibiting the Balloon For 2 Vienna project in 1967 in the window of the Viennese building, arguing their suggestion that architecture is now turned into plastics and there is no need for concrete. During the exhibition process, a sphere is inflated so that it can be seated inside, and this volume, which has two seats inside, is suspended to building temporarily. The design adds a new layer of meaning to the interrelationship between the private and the public space. Thus, they say that space takes the responsibility of acting in an extraordinary way and produces new meanings. According to the group, the city, which is already composed of unlimited, multi-centered and simultaneous story, is getting used to this aesthetic that is foreign to itself. This process brings about the revision of the relations between natural and artificial, artificial and artificial, human and human. According to the members of the group, people will have to adapt to the exhaustion of the space with the reason of the excessive population coming into being uncontrolled. Thus, the group revealed their trust in technology and their optimistic beliefs, inspiring by the fears that people have

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on the environment; in the 1960s and 1970s, they transformed these hopes into realistic and feasible projects (URL-4).

Reference: http://zamp-kelp.de/?p=146 (23.12.2016)

Design
Balloon For 2 Vienna
Designer
Haus-Rucker-Co
Place
Vienna, Austria
Year
1967

User	Recommended Life Cycle	Realization Status	Adjoining to the Existing Structure	Relationship with the Existing Structure	Form and Material	Accessibility
Undefined	Temporary	Experienced	Adjoined	Spatial and Structural Relationship	Amorphous Plastic	Through the Structure

Purpose: Reestablishment of Relationship Between Public Space and Private Space

Figure 3. Evaluation Sheet of Balloon For 2 Vienna

One of the projects with a similar approach is the 1972 Oasis no 7 project made for Documenta 5 in Kassel Germany. Like in the Balloon For 2 Vienna project, exhibiting inflatable structure from the building ceiling, they have created an area of relaxation and play. It can also be argued that these installations under the name of ''disposable architecture'' aimed at criticizing the limited environment of bourgeois life (URL-5).

Reference: http://www.spatialagency.net/database/haus-rucker-co (23.12.2016)

Design
Oasis nº 7
Designer
Haus-Rucker-Co
Place
Kassel, Germany
Year
1972

User	Recommended Life Cycle	Realization Status	Adjoining to the Existing Structure	Relationship with the Existing Structure	Form and Material	Accessibility
Undefined	Temporary	Experienced	Adjoined	Spatial and Structural Relationship	Amorphous Plastic	Through the Structure

Purpose: Reestablishment of Relationship Between Public Space and Private Space

Figure 4. Evaluation Sheet of Oasis nº 7

It appears that one of the representation forms of utopia designs revealed after the Second World War is the creation of new living spaces that are adjoined the city. The rapid and cheap production realized by the industrial revolution has brought the space to be produced in a short time. These volumes, which emerged together with the search for new places in the city, both criticized the modern city and moved the architecture beyond the usual conception. When an evaluation is made on the designs, it can be said that space is moved with the people and that the role of architecture with unchanging clear boundaries and spatial associations has taken on new changeable spatial meanings and relationships. Thus, the accommodation unit adjoined the existing structure add a perspective of meaning to the city by suggesting a new space between the urban space and the architectural space. The traces of this utopian representation, considered as parasitic architecture, continue to present itself as a solution of accommodation adjoined city.

REPRESENTATION OF PARASITIC ARCHITECTURE IN MODERN APPROACHES

Architecture is a practice that is shaped by being influenced by the developments of the times and also producing discourses on situations that arise due to the conditions of the times. It continues his critical identity today as it did in the utopias of the past. “The criticism allows the situation to be interrogated and questioned again, and because it brings together the discourse about how the ‘ideal’ can be developed, it is the most effective factor in the production of the novel.” (Şensoy, 2016: 2) While the social and physical conditions are changing in the framework of periodic developments, the human-oriented fundamental concern and the critical identity of architecture are not changed, making use of the discourses of the past to actualize production for the present. Especially, the utopians who are representatives of solution and hope for the future can now become a reality and new architectural concepts of today. With a critical perspective, it is possible to give contemporary examples that produce solutions for the current situation and pursue the traces of utopias produced after the Second World War in the direction of the parasitic architecture approach.

Stephan Eberstadt's Rucksack House project is an additional room that can be hung from the front of any residential building. In the city where the apartments occupy quite a lot of space, this design provides a momentary additional space, both expanding the living space of the person and allowing the person to enjoy daylight. This 9m2 additional room, made of steel (main frame) and wood plywood (inner cover), is given a property that absorbs the light

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by using plexiglass on the outer surface. The room is hanged upon the existing structure with steel cables and the entrance is provided with a window of existing building. The sections in the walls can be opened and the hidden units can be transformed into the table, shelf, reading and sleeping platform, so that this additional space can allow all kinds of activities. Due to the fact that it is a mobile design made of light material when a person needs to relocate it, this additional area can be taken to the new residence. Indeed, the project has had the opportunity to be exhibited in Leipzig in 2004, in Cologne in 2005 and in Bamberg in 2011 (URL-6).

Reference: http://inhabitat.com/stefan-eberstadts-rucksak-house-provides-instant-space-light-for-a-cramped-apartment/ (07.01.2017)

Design
Rucksack House
Designer
Stephan Eberstadt
Place
Leipzig / Cologne / Bamberg, Germany
Year
2004 / 2005 / 2011

User	**Recommended Life Cycle**	**Realization Status**	**Adjoining to the Existing Structure**	**Relationship with the Existing Structure**	**Form and Material**	**Accessibility**
Undefined	Permanent	Experienced	Adjoined	Spatial and Structural Relationship	Static Wooden Plexiglas	Through the Structure

Purpose: Increasing Spatial Use

Evaluation: The design has similarities with all utopian proposals in terms of adjoining, relationship with the existing structure and accessibility.

Figure 5. Evaluation Sheet of Rucksack House

Boğaçhan Dündaralp, with his project named Urban Nomad proposed in 2006 in Turkey, proposed to convert the gaps in the third dimension of the existing city into the small settlements. (Akcan, 2011: 111) The design is the accommodation units that come into contact with the various typological buildings which are constantly reorganized in the context of cosmopolitan-global city life and space-individual relation, and also move in different parts of the city. In line with the metropolitan structure defined by a global economic network, these accommodation units, which have also feature an advertising board, are located on the building surfaces. The design can be incorporated into unforeseen gaps created by the increasing new buildings or unused buildings in the historical texture, and it can use the structure it jointed as an

infrastructure. (Tan, 2011: 115-116) The project aims to explore new life possibilities and potentials in the metropolis.

Reference: Senyücel et al., 2011: 12

Design	
URBANnomads	
Designer	
Boğaçhan Dündaralp	
Place	
Istanbul, Turkey	
Year	
2006	

User	Recommended Life Cycle	Realization Status	Adjoining to the Existing Structure	Relationship with the Existing Structure	Form and Material	Accessibility
Defined	Permanent	Suggestion	Adjoined	Spatial and Structural Relationship	Amorphous Lightweight Structure	Through the Structure and also from Outside the Structure

Purpose: Discovering New Space Possibilities

Evaluation: The design has similarities with all utopian proposals in terms of adjoining, relationship with the existing structure and form. Besides, it has accessibility from outside the structure that differs from utopian proposals.

Figure 6. Evaluation Sheet of Urban Nomads

Mike Reyes' Parasitic Emergency Houses project was designed for the Brazilian city of Sao Paulo, where the deadly flood and landslide are important events. The design was proposed with the aim of sheltering those who survive the flood disaster that has a potential to realize in the future. The proposal consists of modular housing units that can be implanted like parasites in an abandoned building. These units can be pre-built and transported for installation at the required location with the help of a helicopter. Each unit can be manufactured from recycled materials and includes beds, lighting tools, and warehouse. The project also includes some details such as solar energy utilization and water purification. Reyes says that the concept of the project is to build a new community with survivors and to design sustainable houses with the aim of providing future development. Parasitism is based on the fact that emergency shelters are owned by the abandoned building to sustain themselves (URL-7).

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Reference: http://inhabitat.com/parasitic-emergency-homes-can-be-implanted-onto-abandoned-buildings/ (08.02.2017)

Design
Parasitic Emergency Shelters
Designer
Mike Reyes
Place
Brazil
Year
2010

User	**Recommended Life Cycle**	**Realization Status**	**Adjoining to the Existing Structure**	**Relationship with the Existing Structure**	**Form and Material**	**Accessibility**
Defined	Permanent	Suggestion	Adjoined	Spatial and Structural Relationship	Static Recycled Material	Through the Structure

Purpose: Discovering of New Living Areas Against the Flood Disaster

Evaluation: The design has similarities with all utopian proposals in terms of adjoining, relationship with the existing structure and accessibility.

Figure 7. Evaluation Sheet of Parasitic Emergency Shelters

Milo Ayden de Luca put forward 'Excrescent Utopia' idea for the homeless in 2013. In the design, it is proposed that the accommodation units, called parasitic houses, would be wrapped around the street poles. When the designer traveled to the center of London early; seeing many homeless people sleeping in the streets of the city, he thought about how this life could be overcome. The project foresees street lamps as temporary living spaces for homeless people, and these units, which can be created using alternate cheap materials, were designed as light as possible so that they can be easily replaced and transported. During the projecting phase; he was inspired by the structure of the sailboat that creates a sense of transparency, lightness, and movement. Luca thinks his design has made a nice contrast to opaque, earthy and static structures around London. Because the street lamps are not structurally very safe; the accommodation unit is connected to other street furniture and existing buildings by ropes, cables, and clamps. The ropes can create private smaller spaces that pass through the structure. In the design, the horizontal units are used as lying and sleeping areas, while the vertical units provide space for buskers (URL-8). (Entwistle et al., 2013: 35)

Reference: Entwistle et al., 2013: 35

Design
Excrescent Utopia
Designer
Milo Ayden de Luca
Place
London, England
Year
2013

User	Recommended Life Cycle	Realization Status	Adjoining to the Existing Structure	Relationship with the Existing Structure	Form and Material	Accessibility
Defined	Permanent	Experienced	Adjoined	Structural Relationship	Static Recycled Material	From Outside the Structure

Purpose: Creating New Shelter Area

Evaluation: The design has similarities with all utopian proposals in terms of adjoining, structural relationship with the existing structure.

Figure 8. Evaluation Sheet of Excrescent Utopia

Stéphane Malka's design, named A-Kamp47, includes homeless people and urban travelers. The tent-shaped accommodation units are climbing the factory wall, like an ivy, in an industrial part of Marseilles. Malka, by criticizing the promise of the French state about universal housing, chooses to make the interpretation through an architectural product which is resolved in minimal scale and located around the truss system. Thus, by producing a discourse on the global housing crisis, design criticizes the situation in which the market cannot afford the entire humanity. The truss system, which constitutes a structure for the accommodation units, is fixed to the factory surface and each unit is covered with a heat-insulated material. In the project, the dimensions of the living area are radically reduced to the minimum. A simple, light and easy-to-install design is considered, instead of a tendency of architecture to develop long-term and costly spaces. The accommodation unit can be used both as a temporary or semi-permanent residence and as an emergency shelter (URL-9).

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Reference: http://www.archdaily.com/461696/a-kamp47-stephane-malka (23.12.2016)

Design
A-Kamp47
Designer
Stéphane Malka
Place
Marseille, France
Year
2013

User	**Recommended Life Cycle**	**Realization Status**	**Adjoining to the Existing Structure**	**Relationship with the Existing Structure**	**Form and Material**	**Accessibility**
Defined	Permanent	Experienced	Adjoined	Structural Relationship	Amorphous Steel Structure and Tensile Membrane System	From Outside the Structure

Purpose: Creating New Shelter Area

Evaluation: The design has similarities with all utopian proposals in terms of adjoining, structural relationship with the existing structure and form.

Figure 9. Evaluation Sheet of A-Kamp47

Mateusz Mastalski and Ole Robin Storjohann wished to design a housing unit on the blind fronts of the buildings and put forward these approaches with the label "Live Between Buildings". The design was put forward as part of the New Vision of Loft 2 competition, which aims to create a new lifestyle in the city. The project offers new residential facilities within the intensive texture of the city by invading the existing blind walls of the buildings, offering the opportunity to live close to both nature and city life with the spaces created between buildings. The spaces that are produced take the natural light in space as much as possible and aim for a sustainable future by offering the maximum quality of life with minimum footprint. It may also be argued that the project suggests a new urban typology (URL-10).

Reference: http://www.archdaily.com/412590/live-between-buildings-new-vision-of-loft-2-competition-entry-mateusz-mastalski-ole-robin-storjohann (08.02.2017)

Design	
Live Between Buildings	
Designer	
Mateusz Mastalski and Ole Robin Storjohann	
Place	
Densely Populated Cities like New York, Tokyo and London	
Year	
2013	

User	Recommended Life Cycle	Realization Status	Adjoining to the Existing Structure	Relationship with the Existing Structure	Form and Material	Accessibility
Undefined	Permanent	Suggestion	Adjoined	Structural Relationship	Different Forms -	From Outside the Structure

Purpose: Creating a New Life Style in the City

Evaluation: The design has similarities with all utopian proposals in terms of adjoining and structural relationship with the existing structure.

Figure 10. Evaluation Sheet of Live Between Buildings

James Furzer's design of Sleeping Pods, which is adjoined external side of the structure, has been put forth at the sixth "Space for New Visions" competition and announced as the best solution for the homeless. The designs in the competition were evaluated in view of user comfort, environmental impact, functionality, and natural light. Furzer's proposal focuses on making a design for homeless people in London harboring a large number of them stands out as an approach that meets the demands of the competition and creates a safe space for the homeless. (Hauart, 2015: 10)

Each of the wooden shelters in a light structure has a sleeping platform and a foldable seating element. These designs are called 'parasitic sleep divisions', which aim to create shelters and to be attached to the outer wall of existing buildings in the capital with the aim of protecting homeless from hard and unpredictable weather conditions of the UK. These volumes, which also have a steel frame, can be produced from unused materials for the purpose of lowering the production cost and can be adapted according to the color of the existing structure. Accessing to these shelters which will be located above the street level will be possible with the help of a staircase; when the staircase is not in use, they will be stored in the volume. Furzer believes that this

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project will lead to a change in the perceptions of homelessness (URL11).

Reference: Hauart, 2015: 10

Design
Sleeping Pods
Designer
James Furzer
Place
London, England
Year
2015

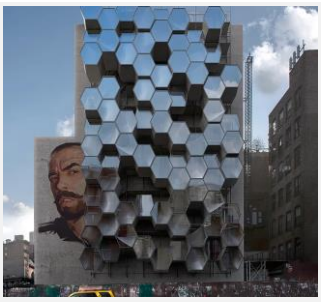
User	**Recommended Life Cycle**	**Realization Status**	**Adjoining to the Existing Structure**	**Relationship with the Existing Structure**	**Form and Material**	**Accessibility**
Defined	Permanent	Suggestion	Adjoined	Structural Relationship	Static Wooden	From Outside the Structure

Purpose: Creating New Shelter Area

Evaluation: The design has similarities with all utopian proposals in terms of adjoining, structural relationship with the existing structure.

Figure 11. Evaluation Sheet of Sleeping Pods

Framlab's Homed project suggests that homelessness has increased substantially in New York since the Great Depression of the 1930s. The project offers safe, clean and comfortable spaces for the homeless, considering the thought that the city's housing areas are full. This project is a proposal to take advantage of the vertical areas in the city, criticizing the exhaustion of the places in metropolises such as New York City and the high cost of existing housing areas. Hexagon-shaped housing modules become an active second layer on the empty walls by adjoining the existing surfaces of the city, thus forming a micro-neighborhood. Wood-covered organic forms created by 3D printing technology suggest a warm interior while the exterior construction of steel and oxidized aluminum struggle with urban conditions. 3D printing technology enables us to obtain infinite spatial and functional needs in interior space, expanding the space, integrating furniture, storage, lighting, and devices into a hexagonal shape. Thus, a minimal space is created that makes the exterior scenery a hexagon view, designed according to specific needs and desires (URL-12).



Reference: https://www.framlab.com/homed (12.12.2017)

Design
Homed
Designer
Framlab
Place
New York, America
Year
2015

User	Recommended Life Cycle	Realization Status	Adjoining to the Existing Structure	Relationship with the Existing Structure	Form and Material	Accessibility
Defined	Permanent	Suggestion	Adjoined	Structural Relationship	Organic Plastic	From Outside the Structure

Purpose: Discovering New Shelter Possibilities

Evaluation: The design has similarities with all utopian proposals in terms of adjoining, structural relationship with the existing structure and material.

Figure 12. Evaluation Sheet of Homed

It is seen today that architecture is still using criticism as it is in utopia productions and it is trying to make its own interpretation and trying to produce solutions for the existing conditions. When the projects presented are examined, it can be seen that the most important common direction is that urban adaptation was selected as a design manifestation in designs that allow short-term housing for homeless people or urban nomads. Designers create a discussion platform by producing approaches that use the existing surface of the city. It is possible to say that these accommodation units, which are solved at a minimum, are a representation of alternative place searches in the city. It is seen that the criticisms after the Second World War are still being continued and the designs which are similar in form and understanding are still being generated. In this context; it is possible to say that architecture seeks to provide better living conditions for human beings by exploring solutions for life in each period and it is possible to say that it also continues its previous approaches.

DISCUSSION

Although utopians, which describe what is not anywhere and is a kind of dream element, have an imaginary attribute, they are absolutely based on reality. (Erkmen, 2008: 2) This is due to the fact that utopias are critical designs. Utopian thought is a method of creating change, a different awareness and a critical review of how we will live. (Hatuka and D'Hooghe, 2007: 22-26) These proposals, which say things that should be in their own time and that anticipate what may happen in the future, can be turned into reality within the possibilities of the future. Both architecture and utopia are in the effort to change the world, and they are designing

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and realizing new worlds with the experiences they have today. (Coleman, 2011: 2-22) Thus, utopian designs that critically intersect architecture in the scope of criticism and space can now take a place in the current architectural approaches. In this sense, it is necessary to think about whether architecture is taking advantage of the leading position of utopias.

When the utopias of the 1960s and the architectural spaces produced today are evaluated together, it can be seen that approaches are similar. If these approaches are presented in an analysis sheet, the similarities can be observed together:

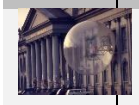
Figure	Design	Designer	Year	User	Recommended Life Cycle
	Implementation of Settlement Units	Pascal Hauserman	1962	Undefined	Permanent
Realization Status	**Adjoining to the Existing Structure**	**Relationship with the Existing Structure**	**Form and Material**	**Accessibility**	**Purpose**
Suggestion	Adjoined	Spatial and Structural Relationship	Amorphous Plastic	Through the Structure	Searching for New Places in the City
Figure	**Design**	**Designer**	**Year**	**User**	**Recommended Life Cycle**
	Balloon For 2 Vienna	Haus-Rucker-Co	1967	Undefined	Temporary
Realization Status	**Adjoining to the Existing Structure**	**Relationship with the Existing Structure**	**Form and Material**	**Accessibility**	**Purpose**
Experienced	Adjoined	Spatial and Structural Relationship	Amorphous Plastic	Through the Structure	Reestablishment of Relationship Between Public Space and Private Space
Figure	**Design**	**Designer**	**Year**	**User**	**Recommended Life Cycle**
	Parasitic Cells	Jean-Louis Chanèac	1968	Undefined	Permanent
Realization Status	**Adjoining to the Existing Structure**	**Relationship with the Existing Structure**	**Form and Material**	**Accessibility**	**Purpose**
Experienced	Adjoined	Spatial and Structural Relationship	Amorphous Plastic	Through the Structure	Searching for New Places in the City
Figure	**Design**	**Designer**	**Year**	**User**	**Recommended Life Cycle**
	Oasis nº 7	Haus-Rucker-Co	1972	Undefined	Temporary
Realization Status	**Adjoining to the Existing Structure**	**Relationship with the Existing Structure**	**Form and Material**	**Accessibility**	**Purpose**
Experienced	Adjoined	Spatial and Structural Relationship	Amorphous Plastic	Through the Structure	Reestablishment of Relationship Between Public Space and Private Space

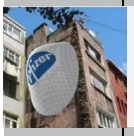
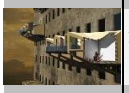
Figure	Design	Designer	Year	User	Recommended Life Cycle
	Rucksack House	Stephan Eberstadt	2004 2005 2011	Undefined	Permanent
Realization Status	**Adjoining to the Existing Structure**	**Relationship with the Existing Structure**	**Form and Material**	**Accessibility**	**Purpose**
Experienced	Adjoined	Spatial and Structural Relationship	Static Wooden Plexiglas	Through the Structure	Increasing Spatial Use
Figure	**Design**	**Designer**	**Year**	**User**	**Recommended Life Cycle**
	URBANnomads	Boğaçhan Dündaralp	2006	Defined	Permanent
Realization Status	**Adjoining to the Existing Structure**	**Relationship with the Existing Structure**	**Form and Material**	**Accessibility**	**Purpose**
Suggestion	Adjoined	Spatial and Structural Relationship	Amorphous Lightweight Structure	Through the Structure and also From Outside the Structure	Discovering New Space Possibilities
Figure	**Design**	**Designer**	**Year**	**User**	**Recommended Life Cycle**
	Parasitic Emergency Shelters	Mike Reyes	2010	Defined	Permanent
Realization Status	**Adjoining to the Existing Structure**	**Relationship with the Existing Structure**	**Form and Material**	**Accessibility**	**Purpose**
Suggestion	Adjoined	Spatial and Structural Relationship	Static Recycled Material	Through the Structure	Discovering of New Living Areas Against the Flood Disaster
Figure	**Design**	**Designer**	**Year**	**User**	**Recommended Life Cycle**
	Excrescent Utopia	Milo Ayden De Luca	2013	Defined	Permanent
Realization Status	**Adjoining to the Existing Structure**	**Relationship with the Existing Structure**	**Form and Material**	**Accessibility**	**Purpose**
Experienced	Adjoined	Structural Relationship	Static Recycled Material	From Outside the Structure	Creating New Shelter Area
Figure	**Design**	**Designer**	**Year**	**User**	**Recommended Life Cycle**
	A-Kamp47	Stéphane Malka	2013	Defined	Permanent
Realization Status	**Adjoining to the Existing Structure**	**Relationship with the Existing Structure**	**Form and Material**	**Accessibility**	**Purpose**
Experienced	Adjoined	Structural Relationship	Amorphous Steel Structure and Tensile Membrane System	From Outside the Structure	Creating New Shelter Area

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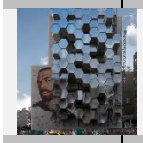
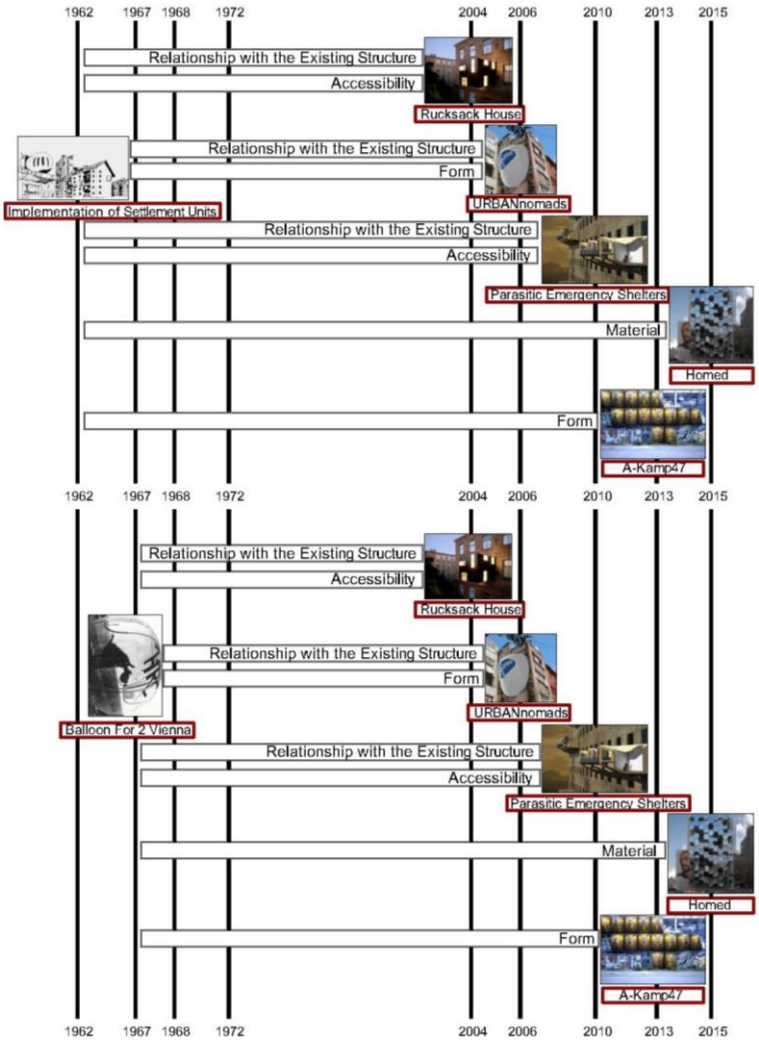
Figure	Design	Designer	Year	User	Recommended Life Cycle
	Live Between Buildings	Mateusz Mastalski Ole Robin Storjohann	2013	Undefined	Permanent
Realization Status	**Adjoining to the Existing Structure**	**Relationship with the Existing Structure**	**Form and Material**	**Accessibility**	**Purpose**
Suggestion	Adjoined	Structural Relationship	Different Forms -	From Outside the Structure	Creating a New Life Style in the City
Figure	**Design**	**Designer**	**Year**	**User**	**Recommended Life Cycle**
	Sleeping Pods	James Furzer	2015	Defined	Permanent
Realization Status	**Adjoining to the Existing Structure**	**Relationship with the Existing Structure**	**Form and Material**	**Accessibility**	**Purpose**
Suggestion	Adjoined	Structural Relationship	Static Wooden	From Outside the Structure	Creating New Shelter Area
Figure	**Design**	**Designer**	**Year**	**User**	**Recommended Life Cycle**
	Homed	Framlab	2015	Defined	Permanent
Realization Status	**Adjoining to the Existing Structure**	**Relationship with the Existing Structure**	**Form and Material**	**Accessibility**	**Purpose**
Suggestion	Adjoined	Structural Relationship	Organic Plastic	From Outside the Structure	Discovering New Shelter Possibilities

Figure 13. Evaluation of the post-World War II Utopias and Today's Architecture Approach

Within the analysis sheet, it can be said that the most important common point of the approaches belonging to the two different periods is to adjoin the existing buildings. This manifests itself in all approaches to exploiting the presence of the present structure, invading the surface, and thus being a parasite. The foreign volume included in the surface is amorphous and can form a contrast with the city, as well as be in a static structure, and it can establish just a scalar contrast. Nowadays URBANnomads and A-Kamp47 designs are produced in amorphous structure as they are in utopian accommodation units. It has also benefited both the post-World War II utopias as well as the gains of industrialization in contemporary architectural productions; rapid, cheap production concept and use of plastic materials in utopias have been transformed into the fast assembly, recyclable material and light structure in the modern designs. This is because today's concerns and developments also shape the means of production. Another important parameter is the relationship of the parasitic accommodation units with the existing structure. All of the utopian approaches do not only utilize the surface of the existing

structure, but also make accessing through this structure, thus establishing both spatial and structural relations with the existing structure. The structural relationship is also present in all contemporary approaches and it is seen that the spatial relationship is maintained in the designs of Rucksack House, URBANnomads, and Parasitic Emergency Shelters. The creation of a general discourse over the city in utopian accommodation units makes the user undefined, and a similar situation continues today in the designs of Rucksack House and Live Between Buildings. Other contemporary solution proposals focus on problems such as homelessness and natural disasters, thus addressing a defined group of users, such as homeless and disaster victims. Besides, although the forms of expression of parasitic architectural products vary, it can be said that discovering the potential of a new space is mainly aimed at all designs. These similarities between the utopian and the present-day accommodation proposals provide questioning of the existence of the leading role of utopia. In this context, the idea that utopias shape modern contemporary approaches can be presented in parasitic architecture in the following way:



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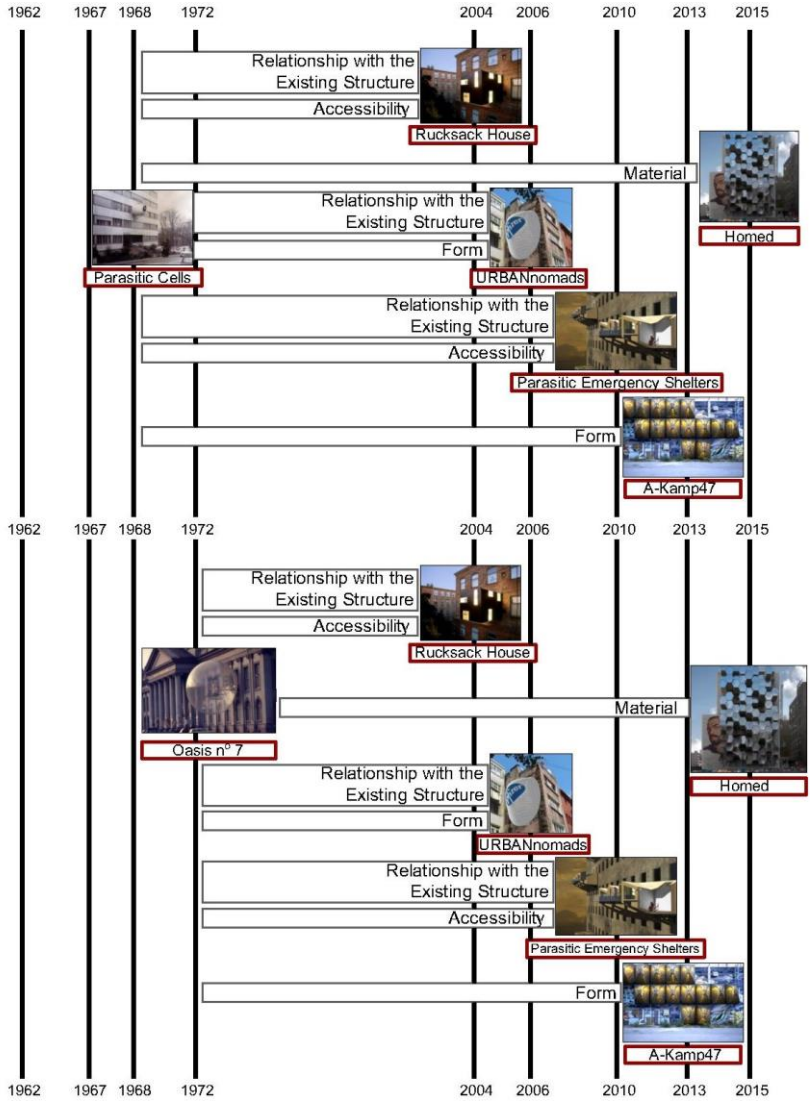

Figure 14. Similarities Between Utopian and Contemporary Parasitic Proposals

CONCLUSION

The search for new places in the utopias of the past continues as a search for a new place of accommodation in the direction of today's affairs. Along with the changing world, the parasitic architectural products are formed with the change of the architectural thought. These products, which are considered to be only volumetric size in the utopias belonging to the past, are now designed according to environmental, sociological and economic problems. In this sense, while utopian thought produces enduring or transitory singular functions with the assessment of the current urban situation, multiple functions can be found in the present-day productions. Today, the content of parasitic accommodation has changed and has become a permanent solution for a specific purpose. However, in this period, the approach of utopian parasitic accommodation proposals was seen to be maintained. It is possible to say that criticism still continues both in utopias and in today's designs. The Haus-Rucker-Co group

presents a critique of the limited environment of bourgeois life, while Chanèac and Hauserman criticize the city's visual solidity in mobile and contradictory forms that they produce. James Furzer, Milo Ayden de Luca, Stéphane Malka and Framlab question the homelessness problem and develop solutions for this. Stephan Eberstadt, Mateusz Mastalski, and Ole Robin Storjohann think that the buildings occupy a lot of space in the city, and Boğaçhan Dündaralp thinks that the urban productions continue to be accumulated.

It can be said that architecture continues to criticize every period, producing solutions for the situations, and doing so, it benefits from the leading position of utopias. Utopias shape both the human life and the future of the discipline of architecture so that the traces of utopias of the past can be found today. In this sense, architecture can respond to the current problems with similar forms of representation of utopias in the past.

Utopias provide dynamic contributions to the design process by creating new controversies where the architectural environment exhausts itself. Proposals, which cannot be realized in their own period, are awaiting realization at the moment when technology allows. This incubation process is also the maturation process of the proposed design idea. In the scope of the study, it has been seen that utopias of the past can turn into a reality in view of parasitic architecture, so, architecture can now offer solution possibilities by taking advantage of past experiences. In this sense, utopias must be rethought and included in contemporary architecture debates.

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