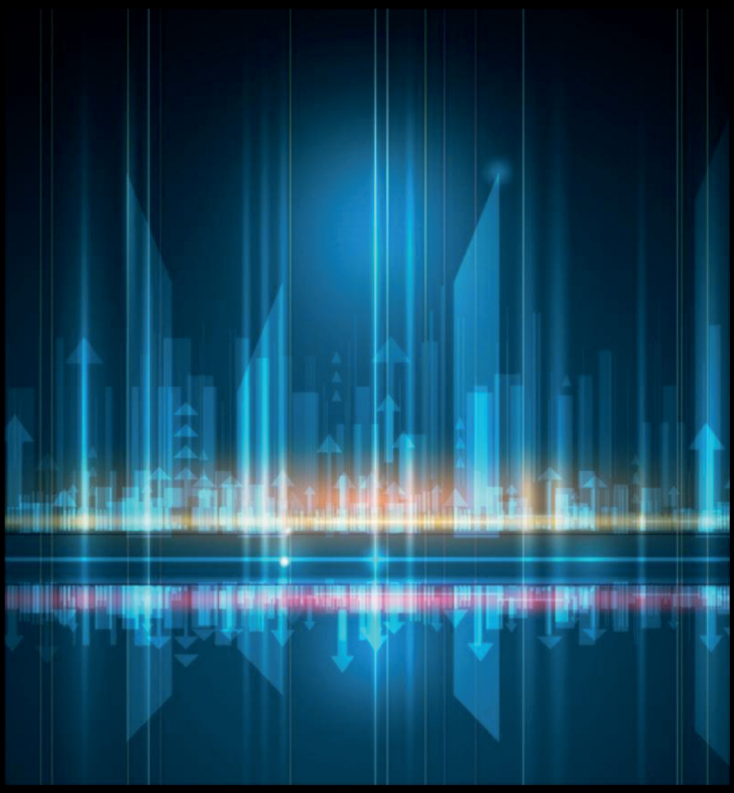

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PIONEER AND CONTEMPORARY STUDIES IN ARCHITECTURE, PLANNING AND DESIGN

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Chapter 1

The Use of Industry Areas for Urban Recreation Purposes, Tekirdağ-Süleymanpaşa Example

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Abstract

With the spread of the industrialization revolution that started in England in the 18th century, changes began in the cities and this change continues today. With the effect of technology, industrial areas have differentiated and different preferences have arisen in terms of location, thus the phenomenon of moving industrial areas to cities has emerged. As a result of this situation, idle and abandoned dysfunctional areas have emerged in the city centers. Within the scope of the study, firstly, the functions of the city, urban open green space and urban open green areas were examined. The concept of recreation, recreational activities and their benefits are mentioned. By examining the concept of urban transformation, the issues that need to be taken into account in the urban transformation process are specified, and examples of urban transformation from the world and our country are examined. Then, the concept of industry was defined and the chronological development of industrial development was examined, and the benefits of industrial areas were mentioned. The industrial areas that have lost their function and the transformation processes are examined with examples. Finally, suggestions have been developed for the use of such areas.

1. Introduction

Today, people live in cities with a large population density and meet all their needs (nutrition, shelter, education, rest, health, etc.) in the crowded and stressful life of the city. In line with all these needs, in cities; Commercial areas that contain factories, workshops and other production areas such as apartments, estates or detached housing areas, business centers, office-offices, shopping centers and organized industrial zones, neighborhood parks, urban parks, picnic areas, recreational areas with functions such as sports areas and public spaces such as courthouses, hospitals, schools, municipal buildings, and transportation axes were built.

Due to the increasing urban population and density, residential areas, commercial areas and public areas are gradually increasing, and the natural habitats around the cities are destroyed and the areas allocated for recreation areas are gradually decreasing, and the existing green areas are transformed into different functions. As a result of this unplanned transformation and growth. aspect; environmental problems and natural disasters increase, as well as negative effects on human health and psychology. Land uses that do not take into account natural resources; It disrupts the topography of the area, soil structure, plant and animal populations, in short, the structure of the ecosystem on which it is located, and causes environmental problems over time (Çelikyay and Aytekin 2016).

Industrial areas; They are anthropogenic ecosystems that have been created by humans and cause great habitat destruction and environmental problems by affecting the natural ecosystem in the most severe way. In the last 100 years, the extraordinary developments in the fields of industry and technology increase our chances of benefiting from the blessings offered by civilization, on the other hand, it causes the unconscious use of natural resources with excessive population growth and unplanned urbanization (Kelkit 2003). In this study, the recreational use of such areas, which were used as industrial areas and later lost their function, will be examined.

2.1 Urban Open Green Spaces and Their Functions

2.1.1 Definition of Urban Open Green Spaces

According to Öztan (1968), Özbilen (1991), open spaces are one of the cornerstones of the urban fabric and are defined as openings or empty spaces outside the architectural structure and transportation networks. In other words, they are perceived as areas where there is no construction on the exterior and suitable for any recreational use. For example; open areas are defined as water surfaces (ponds, wetlands, etc.), squares with no or few vegetation on them, transportation areas (roads, medians, etc.) (Önder ve Polat 2012).

The green area is; Existing open spaces can be expressed as areas designed and created with plant material (trees, shrubs, shrubs, groundcovers, wrapping plants, grass, etc.) (Önder and Polat 2012).

Unbuilt empty spaces in or outside the city that have a specific land use feature (forest, agriculture, heathland, lake, etc.) and respond to certain functions (park, garden, square, promenade, etc.). are open spaces. When the definition of open space is considered physically, it is an unbuilt empty space that is not reserved for any permanent and determined use, but can fulfill many temporary functions such as games, exhibitions, marketplaces, and squares (Öztürk 2014).

2.1.2. Functions of Urban Open Green Spaces

Research has been carried out for many years in order to understand the effects of green areas on urban life. As a result of these researches, the functions of open green areas; It is grouped under four main headings as economic, ecological, physical and social functions.

a. Economic Functions

Vegetated areas in cities make a great contribution in terms of fuel savings. As a result of the researches, it has been understood that when the correct afforestation work is carried out, the energy spent for heating in the buildings can be saved to a great extent. For example; With the right planting to be done in a very windy area, the cooling effect of the wind can be broken and fuel savings can be achieved. In addition, trees that help us gain economic gain by preventing the wind in winter, create a cooling effect by preventing the environment from heating in summer.

b. Ecological Functions

Plants emit a significant amount of oxygen (O2) to the atmosphere as a result of photosynthesis. Also in the air; they increase air quality by absorbing harmful particles such as ozone, sulfur dioxide, sulfur dioxide, carbon monoxide, nitrous oxide.

According to researches; the benefits of trees in green areas vary with the amount and size of leaf area. For example; It has been determined that the uptake of CO2 and other toxic gases by plants is directly related to the degree of closure of the plants in the urban green area. Increasing the leaf area also increases the adhesion of toxic gases absorbed by the leaves by this surface area (Turna 2009).

c. Physical Functions

Open green spaces are spatial elements that adjust the mass-space ratio during urbanization. A wide variety of different open spaces prevent undesirable settlements in dense residential areas and can have an impact on the spatial structures and form of the city by dividing the city. In addition, green areas are also effective on traffic circulation and often change the transportation networks in cities and have a share in relieving traffic. Green areas break the mass image in cities, break the pressure on people and reduce spaces to human scale. In addition, the plant materials used in these areas provide aesthetic value to the urban space with their features such as form, size, texture, color and line (Anonymous 2019a).

d. Social Functions

In addition to the effects of open and green spaces on the physical structure of the city, they also have important effects and functions on the social, psychological and condition of the people living in the city (Turna 2009).

In the stress of city life; Open green areas such as parks, recreation areas, forests provide the residents of the city with options for many recreational activities, allowing people to get away from the daily stress of the city (Bekiryazıcı 2015).

Urban open green spaces; They are important venues that host social and cultural activities such as theatre, concerts, exhibitions and festivals, and they contribute to the socialization of the individual by improving social relations (Anonymous 2019a).

Industrial zones

The word industry is derived from the Latin word “industria” and means skill. However, the word industry can have different meanings in different disciplines. For example; industry in the field of economy; It is defined as all of the actions aiming to increase the benefits and values of the products at hand, with the help of capital and by spending effort (Akdaş 2000).

According to Akdaş (2000), it is possible to collect industrial zones under two main headings as regular and irregular industrial areas. Irregular industrial areas are mostly located outside the municipal boundaries, closest to the city and on the side of the main road route (Figure 2.15). Irregular industrial areas are generally uncontrolled areas. Regular industrial areas, on the other hand, are areas with infrastructure and transportation axes, where producers are operated in accordance with business economy rules in order to avoid irregular industrial areas (Figure 2.16). Regular industrial areas mostly aim to have the companies

with similar productions in the same position and are divided into three within themselves. These;

- Industrial bazaars and industrial sites
- Industrial complexes and
- Organized industrial areas (Akdaş 2000).

Benefits of Industrial Zones

According to international authorities; have a developed industry and industry; It is seen as the most basic necessity of ensuring the economic and social development of a country. Because the nations that can produce by processing their own resources efficiently do not have external dependencies and have strong economies. When we look at the examples, it has been seen that the countries that have not reached a sufficient level in terms of industry cannot keep up with the developments by frequently experiencing economic depressions and political impotence due to foreign dependency. Regular industrial areas are important in terms of regular urbanization and planning. Industrial areas that are not properly planned remain in the city centers over time, negatively affecting the city aesthetics. However, regular industrial areas will develop far from the city centers in a planned and controlled manner, and both the urban aesthetics will be preserved and the people living in the city will have a positive effect on industrialization over time (Öcal 2008).

One of the most important benefits of industrial areas is that they provide employment. People working in regular industrial zones have the opportunity to work within the framework of social security determined by the states. In addition, the research and development studies carried out by the producers in the regular industrial zones can be counted among the benefits of the industrial areas in providing development in the fields of science and technology. (Koç ve Bulmuş 0214).

Damages of Industrial Zones

Although industrial areas have many benefits in terms of country and city economy, they cause various problems. Due to the diversity of job opportunities and the increase in employment capacity in the regions where regular industrial areas are located, immigration from outside to the cities increases and this causes an uncontrolled increase in the urban population. The rapid increase in industrial areas creates the need for more land and in this direction, forests and agricultural areas are destroyed and converted into industrial areas, which disrupts the ecology of the city and its surroundings and puts plant and animal populations in danger. If the capacities of physical infrastructure and superstructures are not

taken into account when establishing organized industrial areas, infrastructures such as natural gas, electricity, water and sewerage systems and superstructures such as roads will be insufficient in the cities where the industrial areas are established, and this will adversely affect the life in the city. Slums are increasing in the immediate vicinity of industrial areas. This shantytown is increasing gradually if precautions are not taken and it harms the aesthetic appearance and image of the city. There are new constructions under the name of luxury residences in the close vicinity of industrial areas, and as a result of these settlements, the integrity of the city is disrupted and there are social balance differences. Agricultural areas, forests and pastures destroyed in order to establish industrial zones disrupt agricultural production in the region and cause the people dealing with agriculture and animal husbandry to quit these production activities (Bayülken 2017).

Industrial areas and industrialization also have various negative effects on landscape elements. These disadvantages; It is possible to distinguish three main headings: negative effects on natural landscape, effects on agricultural landscape and effects on urban landscape (Akdaş 2000).

Effects on the natural landscape; In order to meet the continuity of life and its needs, people have to use natural resources to a certain extent. However, this situation causes physical changes on the natural landscape (such as the physical appearance of the landscape with various mines, or the massive poles and towers of the base station or power transmission poles), biological imbalance (as a result of the pollution created by industrial wastes on the air, water and soil) of the natural habitat. extinction of plant and animal species, etc.) and visual pollution. (It is the visual pollution created by industrial facilities such as mines, stone and coal mines).

Agricultural areas are directly or indirectly affected by industrial activities and technological developments. With the technological developments, mechanization in agriculture is increasing and this situation causes the structural and physical deterioration of plant species by causing the agricultural texture to change along with the applied methods. In addition, chemical pollution caused by industrial wastes negatively affects animal and plant species.

The production areas of industrial areas and the wastes they create create a bad image and reduce the aesthetic value of the city. In addition, with the effect of industrial establishments, the population density in the city increases and the need for housing occurs. In order to meet this need, an area is sought and many houses are built. As a result of this situation, the amount of green space in the city is gradually decreasing and the city has a concrete appearance away from nature. (Akdas 2000)

Transforming Industrial Spaces

With the decrease in production or the closure of the facilities over time, the necessity of a new planning and spatial change has arisen in the cities where these facilities are located. In parallel with the rapid growth of cities, industrial areas that have lost their function have begun to be changed into different spatial functions. Especially in cities that have the quality of production cities in America and Japan; Ports, industrial areas, shipyards and production areas, which have lost their function due to reasons such as the changing economy, differentiating spatial needs, globalization and the displacement of production activities, have begun to be transformed (Koçan 2011). Industrial areas, which have lost their functions over time, damage the urban aesthetics, and their desolation over time can also create security problems in the region and its surroundings. While squatting may increase around the area, this may also cause an increase in social imbalances in the city.

Duisburg Nord Park

Duisburg Nord Park; It is located in the northwest of Germany, in the city of Duisburg, at the confluence of the Rhine and Ruhr rivers, and one of the most important iron and steel centers in Western Europe. The fate of the region, which functioned as an agricultural land until the 1850s, was transformed into a coal and steel production facility in the following period. The region, which continued to be used industrially until 1985 and where excessive pollution was observed, was abandoned in these years. Duisburg Nord Park, designed by Latz+Partner founders Peter and Anneliese Latz for a competition in 1991, has the goals of improving and reintegrating the area where these intense industrial activities take place in the background. The park is divided into different areas, whose borders were carefully developed by looking at existing conditions (such as how the site had been divided by existing roads and railways, what types of plants had begun to grow in each area, etc.). This piecemeal pattern was then woven together by a series of walkways and waterways, which were placed according to the old railway and sewer systems. While each piece retains its character, it also creates a dialogue with the site surrounding it. Within the main complex, Latz emphasized specific programmatic elements: the concrete bunkers create a space for a series of intimate gardens, old gas tanks have become pools for scuba divers, concrete walls are used by rock climbers, and one of the most central places of the factory, the middle of the former steel mill, had been made into a piazza. Each of these spaces uses elements to allow for a specific reading of time. The site was designed with the idea that a grandfather, who might have worked at the plant, could walk with his grandchildren, explaining what he used to do and what the

machinery had been used for. At Landschaftspark, memory was central to the design. Various authors have addressed the ways in which memory can inform the visitor of a site, a concept that became prevalent during Postmodernism. (Anonymous 2023).

Battersea Power Station

The factory, which started to operate in 1930, was closed in 1975 and was declared as a conservation area in 1980 as a result of the studies carried out thereafter. Today, the factory serves with the aim of carrying out artistic and cultural activities (Kaya ve ark 2015).

High Line Parkı, Amerika/New York

The High Line project is one of the projects that can be shown as an example of urban transformation. The project was implemented in 1930 by the New York central railways organization to prevent accidents on the street and served industrial warehouses. However, with the development of new technologies over time, the railway lost its function and was completely closed to use in 1980. After the year it was closed, ecological life began to form on it, and then the railway was turned into a park by making arrangements. (Kaya ve ark 2015).

A nonprofit organization called Friends of the High Line was formed in 1999 by Joshua David and Robert Hammond, advocating its preservation and reuse as public open space, an elevated park or greenway. Celebrity New Yorkers joined in on fundraising and support for the concept. The administration of Mayor Michael Bloomberg announced plans for a High Line park in 2003. Repurposing the railway into an urban park began in 2006 and opened in phases during 2009, 2011, and 2014. The Spur, an extension of the High Line that originally connected with the Morgan General Mail Facility at Tenth Avenue and 30th Street, opened on June 4, 2019, as the final part of the park to open.

Since opening in June 2009, the High Line has become an icon of American contemporary landscape architecture. The High Line's success has inspired cities throughout the United States to redevelop obsolete infrastructure as public space. The park became a tourist attraction and spurred real estate development in adjacent neighborhoods, increasing real-estate values and prices along the route. By September 2014, the park had nearly five million visitors annually, and by 2019, it had eight million visitors per year (Anonymous 2022).

Tekirdag Old Industrial Area Transformation Recommendations

The study area has been determined as the old industrial area in Tekirdağ Province Süleymanpaşa district and has an area of 106,981 m^2. Although there

are different trade activities in the study area, it is generally in a neglected state. In the plans made, the area was determined as a commercial area. There is no residential area in the study area and it is mostly reserved as a commercial area. In the commercial area, buildings with a maximum of 5 floors are allowed according to the 1/1000 scaled implementation development plans.

As a result of all these field studies and analyzes, it is thought that it will be more beneficial for the city to change the status of the area in the zoning plans and plan it as a park area. In the proposed park, it is suggested that there should be activities to meet the sports needs of people from all parts of the city and of all ages, children's playgrounds for different age groups and social activity areas. Thus, the lack of sports fields in and around the area will be eliminated, and different activities and entertainment opportunities will be offered for children. In addition to all these benefits, the amount of green space in the neighborhoods and the city will be increased (Fig 1.).

Fig.1. Industrial Area

Based on the environmental analyzes made, a list of needs was created in the project area, primarily based on sports fields, children's playgrounds and social activity requests (Fig 2).

Fig 2. View of Industrial Area

Depending on this need program, entry and exit points, sports fields (Basketball, Football, Volleyball and Tennis Fields), jogging track, training stations and fitness equipment, parking area, children's playgrounds, playgrounds, mini zoo, adventure track, It is planned to build social facilities, cafes, restaurant areas, concert and fairgrounds, green areas, thematic garden examples and resting areas.

While determining the needs and use of space, it is aimed to meet the sports, rest, entertainment, recreation, social and cultural activity needs of the people living in the city. In the area use plans; A total of 5 entrances are planned, 1 in the North, 1 in the South, 2 in the East and 1 in the West.

Due to the high vehicle and pedestrian traffic in the east direction and the equal access distance from the entry points to all parts of the area, 2 entrances are foreseen. The entrances from the North and South facades provide easier access to different functions. In addition, with the entrance placed on the western façade, it is possible to enter the area from all directions. Sports fields are located in the Northwest and South of the area, and two different locations are placed in groups for ease of use in positioning these areas, and the sports areas in the Northwest direction are located especially with the aim of being close to the school located on the western border of the area. Thus, the students studying will easily benefit from these srop facilities. In the planning study, two different car parks were located in the North and South directions, and the North car park was planned for 320 vehicles and the South car park for 250 cars. The north and south directions were chosen because the parking areas are close to the main road axes and there is no level difference. Due to the high-level difference in the east direction, there is no parking lot in that area.

The cafe, restaurant, toilet and dressing cabins were considered together as a social facility, but due to the large area, it was planned to position social facilities in two different locations, in the north and south directions.

It is thought that the old flour factory located in the city will be preserved and restored and evaluated within the social facility area.

In the middle of the area, there is an amphitheater and a fair, bazaar, exhibition, etc., for activities such as concerts, theater and cinema screenings. The fair area was designed for the realization of the events.

In addition, playgrounds were created in 2 different areas for different age groups in the area. Equipment that appeals to different age groups has been placed in these playgrounds. There are also mini zoos and adventure trails in these areas (Fig 3).

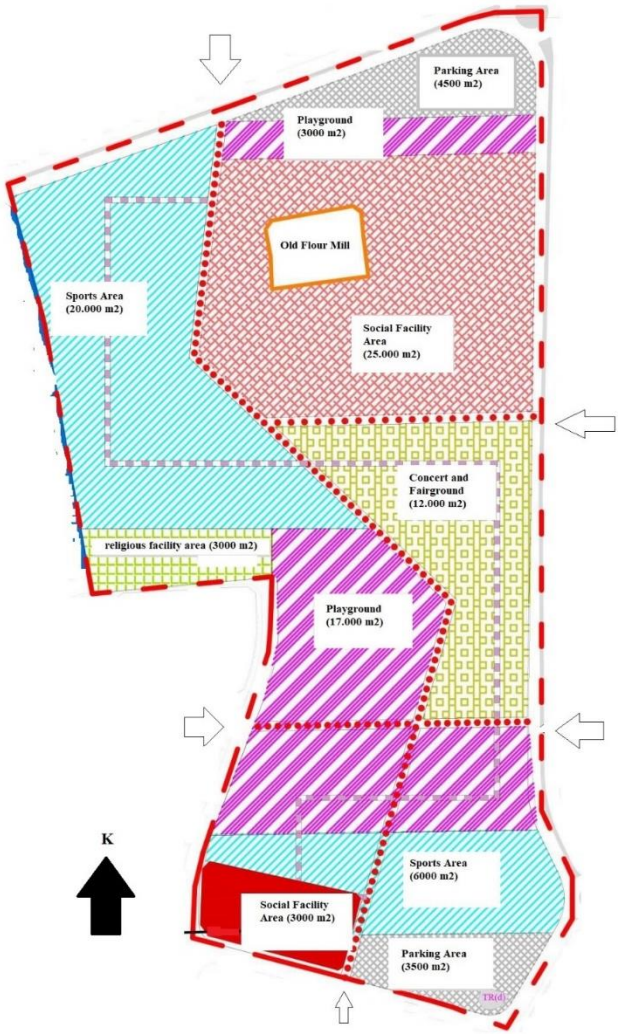

Figure 3 . Land use planning (1/5000)

Discussion and Conclusion

In today's cities, wrong land use, in addition to this, the rapid increase in the population in the cities and the conversion of open green areas to different land uses to meet the needs of this population cause the destruction of green areas in this city and negatively affect the urban ecosystem. The lack of green space in the cities affects the people of the city negatively, physically and psychologically, causes health problems, and this situation can also affect public health and lead to the formation of an insecure, violent society with a high crime rate. In terms of the health of the society and the individual in the city, there should be areas where people can relax and their recreational needs are met. However, the lack of space

in cities makes it difficult to create recreational areas. For this reason, it is an important issue to determine the areas that have lost their function depending on time in the city and to transform these areas for recreation purposes. With the effect of the industrial revolution and economic currents such as capitalism, the cities started to industrialize by moving away from agriculture and were shaped in this direction. However, these established factories either closed over time or were moved to the organized industrial zones and started to continue their activities there. for this reason, these areas remained dysfunctional in the city. This process has given rise to the idea of transforming the old industrial areas that have damaged the image of the city by creating a bad image, as well as meeting the recreation needs of the people. Thus, both the image of the city will be increased by removing the bad image in the cities and the recreation needs of the people will be met.

The idea of transforming the old industrial area of Süleymanpaşa, which is our working area, was shaped in this direction. Within the scope of the area analysis, population analyzes were made by looking at the current green area status, planned green area status, population information and 1/5000 scale plans. As a result of the analysis, according to the 1/5000 scale plans; It is foreseen that a total of 81,990 people will live in the 100th Yıl and Yavuz Districts located within the borders of the area, and a green area of 520,253 m2 (52.02 Ha) is planned. When the existing green areas are added to this situation, a total of 694,169 m2 (69.41 Ha) green areas are formed. According to these results, when the planned population density is reached and all the planned green areas are created, 8.41 m2 green area per person will be created.

When the immediate surroundings of the area are investigated in terms of existing green areas and children's parks; It was determined that there was no qualified area in the immediate vicinity and it was determined that the closest children's park to the area was the children's park located in Yavuz Neighborhood and 500-550 m from the area. As can be seen from satellite images, this children's park is in a very old condition and cannot meet the needs of the surrounding area. Apart from this park, other parks around the area are old and neglected. Another need analyzed is that there are no sports fields and social facilities in the immediate vicinity of the area. The closest sports facility to the area is İsmet İnönü Sports Complex within the borders of Ertuğrul Neighborhood, which is at a distance of at least 1000 m (1 km) from the area. In addition to all these analyzes, it has been determined that the area is very neglected and has inadequate infrastructure and superstructure. It is clear that this situation contradicts the urban identity of Tekirdağ and damages the image of the city, and the renewal of the area by transforming it into a park area in line with a certain concept is

important for the revitalization of the urban identity and the regional economy. The design was shaped in this direction, with the aim of meeting the sports needs of the surrounding people and creating children's playgrounds that will appeal to different age groups while making the proposal plan study related to the area.

In addition to these activities, it has been tried to create areas where different recreational and social activities can be done in the area. Accordingly, areas for football, basketball, volleyball, tennis, fitness and walking activities were located in the area, and then easily accessible children's playgrounds were created from different locations. While determining the areas where social activities will be carried out, the places where the existing structures with a historical background are selected and it is aimed to restore these structures and put them into use, as in the Izmir gas factory. In accordance with these criteria, the building of the old flour factory has been identified as potential. It is also aimed to open the area to the use of the people of the region by creating large and qualified green areas and resting areas, as in the example of Duisburg Park, Germany.

As a result of all these facilities and works to be done, it will be ensured that the people of the region will be able to meet their sports, recreation and social needs, and that children of different age groups can play with different activities and play equipment and continue their development in a healthy way. In addition, after the transformation, people from different neighborhoods and districts who will visit this city park will revive the economy by engaging in economic activities here.

As a result of all these planning and analysis, it is thought that the situation of the Old Industry area in the zoning plans will be changed and the transformation work will be more beneficial to the region and will improve the city image positively by making a positive contribution to the city image.

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Chapter 2

Planning of University Campus Areas in the Context of Urban Design[1]

Şura GÜVEN ŞENEL[2]

Murat ÖZYAVUZ[3]

1 This Study was produced from The Master's Thesis named "EVALUATION OF UNIVERSITY CAMPUS AREAS IN THE CONTEXT OF URBAN DESIGN, YEDITEPE UNIVERSITY CASE STUDY"

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ABSTRACT

Universities are institutions that undertake to raise educated and cultured individuals around the world. These are educational and instructional venues where information is produced and produced and shared with the community in a clear and understandable way. In addition to undertaking educational duties, university settlements are the most effective and special functions in the city with both physical magnitudes and public and social duties. After 2006 in Turkey, the construction of university institutions accelerated and the number of these institutions increased. However, not enough space has been provided for the rapidly increasing number of universities in the city, and in the establishment of universities, the urban areas and the non-urban settlement model emerged. The planning and design of these areas by combining many functions such as education and scientific activities, social and cultural life, shopping and housing in the city or other universities in the city are in terms of architectural and urban environment is very important. When examining the examples in the world, university settlements have different planning models. However, regardless of the morphological structure, the area of the campus expresses a whole with open spaces surrounding buildings and buildings. The use of architectural and urban design principles in the creation of this effective and holistic structure is very important in terms of the quality of the current situation and sustainability. The purpose of this study is to examine the functions and planning principles of campuses.

Introduction

Universities in the city we live in are institutions that have had a significant impact on the criteria in social, economic and political life since the past. These important national and global positions of universities make it one of the key institutions that make sustainable development successful at different scales and in all its dimensions. This situation increases environmental and social responsibilities inside and outside the campus, and education and training are seen as the most comprehensive tool in fulfilling these responsibilities.

With the rapidly developing technology, the policies of raising educated and equipped people are increasing their importance in the current period. Universities are at the forefront of educational institutions where qualified manpower is trained, which can set an example for the future of society. The main functions of universities are education and research. However, today's education system of universities requires; work, rest, shopping, entertainment, sports, recreation, health, etc. It should also contain the physical features that will form the basis for the functions. Especially, universities with large landscape areas can easily meet these needs of users with the right landscape planning and design. For this reason, the fact that the campuses that provide physical functions consist of different units, that these functions and units are associated and that they can work as a whole reveals the necessity of planning and this planning in accordance with certain principles. As a result of this requirement, university settlement systems formed by different design principles have emerged and a systematic order has been created for university campuses (Eminağaoğlu and Muhacir 2018).

The main purpose of this study is to develop proposals for the planning and design of university campuses, which occupy a macro-scale in the city, in a way that faculty members, administrative staff, students and other users can interact socially. University campus areas, which are considered as a small city on their own, are they should include the spatial arrangements it needs. In addition to the primary goal of education, it is necessary to create common areas where social and cultural relations will develop in correctly planned and designed campuses (Sıramkaya and Çınar 2012).

1. Campus Definition

The origin of the word university is based on the word “universitas”, which is the student guild established by Italian students in 1000 AD to hire teachers for themselves. As the equivalent of the word, the Arabs used the name "kulliye" and "camia", while the Ottomans used the name "darülfünun". It is known that the word, which is used all over the world with similar phonetic information, is a

quote from the word "universal" used as "universal" in French (Anonymous 2017).

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Universities have been established to provide education, scientific research, publication and consultancy at various levels based on secondary education, to serve the country and humanity in which they are located, with the aim of raising manpower in accordance with the needs of the nation and the country in an order based on modern education and training.

Based on this information; It can be said that the main purpose of universities is to research, produce, transfer and renew knowledge (Anonymous 2017).

The word "campus" means "faculties, institutes, colleges, etc., which have scientific autonomy and public legal personality, and conduct high-level education, scientific research and publications. It is defined as an educational institution consisting of institutions and units”.

From past to present, university campuses have gone beyond this duty, besides the main purpose of education and training, they have turned into a life center where other vital activities such as socialization, cultural and sports activities are carried out, as well as producing science with students and academic staff, providing services with administrators and support personnel. Today, the word campus is defined to include all the buildings within the borders of the university and the whole including the spaces between the buildings and open green areas (Açıkay 2015).

There are four basic aspects that make up university campuses. These;

a. With the increase in the academic functions of universities, the expansion and growth of the capacities of the units that make up these institutions,

b. Increasing interdisciplinary relations and the necessity of keeping the units forming the campus close to each other,

c. The obligation of all users to increase their performance by providing a living environment close to these areas instead of providing access to their work areas from distant locations,

D. It is the absence of large lands suitable for the establishment of such facilities in urban areas (Açıkay 2015).

University campuses should be established in or near the city center. It has become an important institution in the city to create social, cultural and recreational activity spaces for all users. At the same time, considering the necessity of the use of the people in cultural, social and health activities, it is clear how important the contributions of the campuses are in the city where they are established. Apart from this, it is among the important institutions among the areas where both domestic and foreign tourists want to visit, see and learn.

In order for the university campuses to fulfill their functions in a healthy way, they should be resolved in line with long-term academic plans and the development of the campuses should be ensured by taking these studies into consideration.

2. Campus Planning

Universities are institutions and organizations that take many years to establish and maintain since they have a structure that constantly develops. Campus planning, which is one of the privileged and detailed issues in country planning, is a long-term and costly issue. In the establishment phase of university campuses, the purpose must first be determined. Then, it is necessary to decide on the selection of the right place from the macro scale to the micro scale, to determine and evaluate the land, to decide on the general character of the university, to create an organizational chart, and to prepare growth and sustainable development plans (Yıldızoğlu 2006).

University campuses, which have become a great need and a great opportunity in medium-sized cities, can turn into an activity center and living space throughout the year. With the planning and implementation of the design of the campus areas, a successful university campus with indoor and outdoor recreation area arrangements, a physical environment that can set an example for urban change and development can be created (Yıldızoğlu 2006).

University campuses, which have become a great need and a great opportunity in medium-sized cities, turn into an activity center and living space throughout the year. Therefore, when the efforts to create green areas, recreation and sports areas are considered as a part of the urban landscape, the presence of green areas in urban spaces adds a universal urban feature to the settlements. Open green spaces in campus planning; they fulfill ecological, economic, aesthetic, recreational and psychological functional needs (Aksu and Yılmaz 2018).

University campuses in urban and rural areas significantly affect the urban ecology in terms of their surface area and are important in terms of creating a small climate area on their own. For this reason, structural and plant design studies should be planned and care should be taken (Aksu and Yılmaz 2018).

During the establishment of university campuses, one of the most important issues to be considered in making settlement decisions is to analyze the land and the region well. The shape and width of the land, the climatic conditions of the region where it will be located, the transportation situation, water resources, infrastructure, soil characteristics and the characteristics of the environment where it will be located should be investigated and evaluated very well. In existing campuses, apart from these elements, pedestrian and vehicle traffic, lighting, prominent structures of the campus, places with scenic value and places that allow attractive areas should be taken into consideration (Karakaş 1999).

3. Basic Approaches in University Campus Planning

Campus planning principles and design principles have been the subject of many studies. Researches emphasize that it is important that the designed campus is primarily functional. Planning should be in clear order and buildings should be able to be constructed simply. The spaces between the buildings should be neat, aesthetic, legible and meet the need (Anonymous 2017).

Another research topic is the application of sustainability criteria in university campuses. For example, reuse of rain water and waste water and saving energy, making water and energy efficient plans and designs, constructing green buildings and renewable energy-oriented buildings, increasing the air quality and comfort characteristics in and around the campus, preventing environmental pollution, Sustainability should be ensured through community-oriented designs such as reducing the negative effects of climate change. In this process, a successful campus development is possible with interconnected approaches (Oktay and Küçükyağcı 2015).

In a campus planning, optimum comfort conditions should be provided in the relationship between the user and the space (Yılmaz and Mimar 2016). According to Yılmaz and Mimar (2016), the basic principles in campus planning and design are as follows:

- Cultural values that the campus is included in,
- The student can spend time without getting bored for 5 years,
- University needs program (Faculties, quota, etc.),
- On-campus transportation,
- The relationship between the land structure and the environment where the campus is located,
- Relationships between units forming the campus,
- Flexibility and scalability,
- Benefiting from nature and nature activities,

- Social and cultural environment,
- It is a dynamic structure according to current needs.

Educational units in the campus should be placed by considering the average walking speed and distance criteria of pedestrians.

In our country, although the transportation between university campuses and the city is not at a level that will relieve pedestrians, more attention should be paid to creating a quality and planned campus system that will provide adequate service to disabled pedestrians. Considering the educational and awareness-raising role of university campuses, making the relationship with the city more effective and clearer is an important issue to be considered.

4. Urban Planning Principles in University Campuses

Designing a university campus is also similar to designing a small city. In other words, just as a city includes structural and physical basic living spaces such as shelter, work, rest and transportation, the same functional spaces are created in a system and order in the university campus (Kuyrukçu 2012).

The most important factor affecting the planning and design of a campus is the determination of how information and equipment the user groups will enter inside and outside, in which areas. Any change that occurs between these relationships affects the physical environment (Tetik 2013).

Since some university campuses tend to grow physically, they are educational institutions that combine various land uses. They include factors such as transportation, work, accommodation, rest and entertainment, which are the basic needs. They are places that differ from their surroundings in cities with their physical, demographic, social, economic and ecological structures. Considering this set of similar functions, the basic relationship between the city and the university campus emerges and the need to plan the relations between the city and the campus gains importance (Yıldızoğlu 2006).

For this reason, the concept of a campus that is suitable for social and cultural activities, where sustainable transportation is at the forefront, where topography is turned into an advantage, where faculty units can be connected with each other, and which interacts with the environment, expresses the basic principle in the planning approach. A university campus design should generally have a self-sufficient structure that includes all academic units and meets all the needs of users of all age groups. In this, it is necessary to consider and apply various design criteria.

4.1. Determination of University Capacity

One of the most necessary physical elements of universities, which is lacking in many universities today, is the fact that there are fewer indoor and outdoor spaces than needed, where all the staff and students in the university can come together and exchange ideas (Sıramkaya and Çınar 2012). Apart from this, in the criterion determined as the physical plan of the city, it should be possible to travel between reasonable distances in order to go to nature easily and go to work (Kuyrukçu 2012).

Pedestrian access in terms of the university city phenomenon is determined by the ability to walk from one end of the campus to one end of the campus in a reasonable time, comfortably, easily and without fatigue. The population of the campus should be determined according to the positive psychosociological factors that should exist among the individuals living in the campus (Karakaş, 1999).

4.2. Energy-saving

Each area has different climatic and natural characteristics. Energy consumption is a very important issue on environmental impact. The need for university campuses in energy efficiency is inevitable. It is necessary to implement and enforce energy conservation policies wherever possible. The selection of the university campus area and the equipment selected for the campus buildings are important issues in terms of energy saving and sustainability in the landscape. Energy savings can be achieved with landscape design applications. Landscape has an important place in the direct or indirect change of the microclimate of a place. By directing the natural elements in the campus areas, the harsh effects of the sun and wind can be minimized and thus energy savings are achieved (Tuna 2006).

With the right landscaping practices, it is possible to achieve thermal comfort with the help of plant elements in both summer and winter seasons. Changes were observed in the heating and cooling costs of the buildings in case of landscaping works with energy efficient applications. In addition to saving energy, air circulation can be increased by increasing green areas and plant material in urban areas. Therefore, with these studies, temperature control is provided around the building and the effects of the wind can be controlled. In addition, thanks to the oxygen released by plants into the air, the effects of greenhouse gases and air pollution can be reduced (Yüksek and İplikçi 2016).

4.3. Topography and land structure

During the landscape design phase, this issue should be considered first; Appropriate areas should be created for the intended uses within the campus. If the land situation is not suitable for this, changes should be made on the land.

According to Alexander (1977), lands that allow agricultural practices are the most suitable lands for construction. However, as these areas are limited, once the properties of these lands are deteriorated, it may not be possible to correct them. Structural architectures should generally be built in the worst part of the land (Açıkay 2015).

The quality of the topography of the university campus area is the most important factor affecting the units that the campus will contain and the connection of these units with each other. For example, structures should be built based on the slope of the land. The rubble piles that come out of the excavation works should be transported to the areas to be filled. Apart from the building settlements, vehicle and pedestrian roads should also be passed through suitable sloping areas (Tolon 2006).

4.4. Functional Planting

University campuses significantly affect the urban ecology in terms of the area they cover. For this reason, in an ideal university campus, the priority should be the function in planting studies. Vegetation should be done where necessary to create a noise, wind and dust curtain. For this, the existing natural data on which the campus is located should be evaluated very well. It is of great importance in terms of creating a microclimate. For this reason, on-campus planting studies should be designed. From this point of view, an important responsibility has been imposed on the afforestation and forestry works carried out in the campus. In a study of such importance, plant species that survive in natural vegetation must be selected. This makes maintenance work easier and more economical (Tolon 2006).

The selection of plant species and the use of plants should be based on climate data during the landscape design phase of the campus. While designing the landscape, plant selection should be ensured by considering the visual and aesthetic qualities created by the form, color and texture characteristics of each plant. Since the climatic conditions directly affect the habitats and life cycle of plants, the plant species to be selected may be limited in number (Açıkay 2015).

The most striking green field work in a Campus landscape is road and alle afforestation. Effective and functional afforestation studies can be designed for many years with correctly selected plant species by experts in the field.

4.5. Green university buildings and green roofs

Green roofs play an important role in creating a common language in the environmental assessment of buildings and raising social awareness by pioneering sustainable design.

The design of the buildings in universities according to green building principles and their certification with the relevant certifications is an element of choice in sustainable campus applications in terms of showing that the buildings are energy efficient, indoor air quality and comfort properties are good. Studies have shown that there is a 20% increase in student performance in environments where sunlight is used more, and that a significant amount of energy consumption is saved at the same time. In our country, the demand for the green building concept is quite limited. Universities will be able to reduce the costs and effects that will occur during the life cycle of the building and minimize energy costs, if they make arrangements according to the green building concept in the improvements in their existing buildings or especially in the buildings, they will establish new.

4.6. Water use

Consideration should be given to the existing water situation while designing the campus. If there are water surfaces such as lakes, ponds, and rivers in the area, water basins should be determined for these areas, and structures should not be built within the basin boundary in order not to be damaged by events such as floods and tides. In addition to the presence of surface water, the presence of groundwater is also important. The depth of the building foundations should be determined by taking into account the groundwater level. Since groundwater is known to affect the geological structure, this issue should also be examined in terms of soil safety (Tolon 2006).

4.7. Sustainable landscape systems

The importance and place of university campuses in terms of a sustainable environment is quite large. Landscape materials used in a campus should be designed to be durable and not be destroyed over many years. A sustainable campus landscape aims to use materials with low impact (Tuna 2006). For example, on rainy days, the use of water-permeable materials to prevent rainwater flow and take it under the soil is among the material measures for sustainable landscaping. In lighting elements, luminaires should be chosen carefully so that they do not cause light pollution. Care should be taken to select luminaires with a luminous flux below 90°. Landscaping wastes should be prevented from going to waste with erosion and sedimentation control plan and low-environmental

methods such as mulching and composting during construction. In this way, sustainability is ensured by creating a cycle within itself. In sustainable landscape design, a wide variety of materials, from furniture to lighting, from decorative elements to covering materials, accompany the plants and ensure integrity. All these elements should be considered as a whole for sustainable design

The main purpose in sustainable landscape design is; is the development of a self-sufficient, sustainable system that can be a part of the urban ecosystem. For this purpose, understandings that take nature as a model and bring systematic solutions to natural processes and the structural and ecological characteristics of the area should be adopted.

4.8. Transportation and parking

Basically, the transportation system of university campuses is evaluated in two categories as vehicle and pedestrian. In general, vehicle transportation is established for the connection of the academic region and the common use area and feeds the functions of these regions from outside. In general, pedestrian circulation within the campus should be kept as free as possible and teaching and research units should be kept away from vehicle noise. In cases where it is necessary for vehicle traffic to enter academic and communal areas, different ideas can be applied, such as lowering the vehicle roads below the ground level or constructing overpasses at certain points so that they do not intersect with pedestrian traffic (Kuyrukçu 2012).

Pedestrian transportation system in university campuses is divided into two categories as primary and secondary pedestrian connections. Primary pedestrian paths form a scheme that connects the campus areas and ensures pedestrian flow in the whole. The secondary ones are the secondary pedestrian paths that connect the units and open spaces to the primary roads. The important thing in both should be to reach the target without intersecting with the vehicle roads as much as possible (Kuyrukçu 2012).

Pedestrian priority transportation should be preferred, pedestrian and bicycle paths that will support this should be considered, and people with disabilities should also be considered in the design of these roads and in the selection of materials.

The reasons for parking problems in campus areas are various. Some of these are the result of general on-campus transportation problems, while others are due to the nature of parking (Yardım 2015).

Conclusion

Universities are not just educational and research institutions. In addition, they are also responsible for presenting examples and environments required by contemporary life to their students, employees, beneficiaries and people in their immediate surroundings. Universities should address their users by creating suitable environments and facilities for artistic, cultural, social and sports activities within the campus where they are established, and they also have to set an example for the society. For this reason, it is of great importance to plan university campus areas and adapt them to the environment. University campuses should be considered as other urban parks and should be handled within the professional discipline of landscape architecture. Because a well-planned university campus contributes to meeting the needs of the university staff, especially the students, and the people living in the city, such as resting, having fun, eating and drinking, engaging in social, cultural and sports activities, education and learning.

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Chapter 3

The Evolution of Neighborhood Concept in Planning[1]

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ABSTRACT

The neighborhood, which is a space based on human relations and experience, patterned around belonging, memory and values, is handled in a multi-faceted way in the social and physical organization of the city. In this respect, the concept of neighborhood is seen as "the basic unit of the city" and "a means of preserving the dynamics and certain values of the city". The developed infrastructure services, accessible social reinforcement areas, walkable areas, surprise places, assembly areas and other potentials offered by the neighborhood move the neighborhood to an important position that needs to be considered in the planning field. However, the dynamics of the neighborhood have been transformed by the changing city life. From this point of view, in this study [3] it is aimed to explain (1) the movements affecting the neighborhood in the historical process, new discoveries, technological developments and social relations, etc.are revealed, (2) how the values and planning principles specific to the concept of neighborhood such as functionality, equality, accessibility, privacy, harmony with nature, etc.are handled in the world and in Türkiye in the face of rapid socio-economic change in cities. In order to achieve these goals, a comprehensive literature review was conducted; the research questions are explained and discussed chronologically under the headings of "neighborhood concept, development and change of the concept of neighborhood, changing elements" with the support of figures, tables, etc. Findings shows that (1) neighborhood includes potentials such as "making the best use of the neighborhood's land use, enabling development and change, improving the image of the city, involving the public in the process, quick resolution of problems and goals in cooperation, directly reaching the local issues that are overlooked on the upper scale, and controlling the harmony between lower and upper scales" in the professional field of planning, (2) Thus, the concept of neighborhood, which contributes/adds value to the society with high quality of life, accessible services, ensuring for the residents to having a say where they live in and sense of belonging, protecting its original values, can be seen as the basic component of planning, (3) proximity, flexibility, vitality, walkability, collaborative etc.principles of neighborhood should be interpreted holistically in urban planning, (4) the neighborhood offers an alternative future for the elimination of today's urban problems and the construction of new regions.

Keywords: Development of the concept of Neighborhood in the World, Evolution of Neighborhood, Neighborhood Concept, Neighborhood Planning Practices, Türkiye.

INTRODUCTION

The neighborhood, a basic planning unit, has always been the area of special interest for planners and urban visionaries (Ünal and Erol, 2020). The concept of neighborhood has gone through different processes and gained different meanings since its emergence. In the beginning, the neighborhood is defined as a self-sufficient and closed settlement where individuals with similar characteristics lead their lives together, social relations are strong; Over time, it has gained depth with both the urbanization processes and the concept's inclusion in the field of interest of different disciplines such as social sciences, city planning and urban design. This situation made it difficult to understand the neighborhood, made it impossible to talk about a general neighborhood acceptance, and at the same time created the necessity of understanding and protecting the neighborhood (Turan and Ayataç, 2020).

Throughout history, the neighborhood that created the city has prepared an environment for the living and spreading of cultural values. In this respect, the neighborhood is a fundamental unit that is both the founder and the essence of the city. On the other hand, it is the most important layer for the order of the city. The first step of the city administration starts in the neighborhood and deals with a limited neighborhood. Within these limits, it is isolated from the city with its own customs and original values. Faroqhi (2009) explains this situation by the fact that the neighborhood is "an explanatory environment in terms of urban life and urban relations". Neighborhood is the space and living area, where individuals carry out their daily routines, live their lives, and therefore people build their lives in a certain cycle of relationships. It is also the largest urban element outside the city's administrative center and commercial areas.

Mumford (2007), on the other hand, argued the view that "when we go down to its origins, the neighborhood is the old village component of the city and is as indispensable as high cultural centers and purposeful association institutions for a balanced urban life". The fact that it provides opportunities for housing areas, reinforcement areas, etc. that provide for the fulfillment of daily works and needs, makes the neighborhood an indispensable element of the city.

According to Alver (2013), the neighborhood is built on two basic principles: space and people. The person who wants to put himself on a ground connects to the place with the neighborhood. From this point of view, it is necessary to make sense of the neighborhood as an element of identity. "Even though there is no physical boundary or form separating one neighborhood from another, it has a distinctive identity evident in the administrative and social definition of urban society." (Kuban, 1994). Neighborhood life offers people a

foundation of belonging. People who find a place of their own in the neighborhood are surrounded by this circle of belonging. It is observed that the person who deciphers the codes, codes and symbols of that life over time is equipped with a certain identity.

Living in the neighborhood is being included in an atmosphere of belonging; because the neighborhood itself offers an identity, a bond of belonging. Attachment is the representation of the state in which people live with people, neighbors, neighborhood people and the city. The sense of attachment or commitment that underlies human relationships is "a thread in the texture of all close relationships" (LaFollette, 1999; as cited Alver, 2013). Neighborhood is a state of attachment, of seeing oneself as connected to a place. Neighborhood is a state of being inevitably on a certain ground with someone. This inevitable situation connects people to people and the neighborhood to the city. Neighborhood represents the necessary, simple, and natural connection with the city as well as representing the human-to-human connection. Neighborhood is proximity, it is the realization of proximity in both spatial and human/social dimensions. As Bauman (2009) points out, the neighborhood is a living space dedicated to the "bright unity called intimacy". Aforementioned brilliant unity that is, closeness, the arrangement of the houses side by side, on top of each other, the way the streets reach the streets, the connection of the streets with the houses, shops and other space becomes reality in the obligatory coexistence of people. The sense of neighborhood and belonging is, according to Pratoli (1972; as cited Alver, 2013), "the art of creating a world around our close, interlocking bodies", and the area where this is best embodied in the concept of closeness is the neighborhood.

According to Sennett (2012), the neighborhood is one of the most effective structures that people build, maintain, transform, and recreate together. Considerations such as reciprocity, empathy and sympathy, rituals, closeness, cooperation, activity, social mask, which can be considered as the foundations of togetherness, find meaning in neighborhood life. Bulaç (2008) also supports this view; "Neighborhood is a ground of togetherness formed by mutual relations".

In an environment of difference such as a neighborhood, the relationship that people establish with others is physical in the sense of intimacy and visual in the sense of witnessing. The neighborhood provides recognition by someone else, and the basis of one's self-consciousness and self-recognition is recognition by someone else (Lynch, 1997; as cited Alver, 2013).

Alkan (2023) thinks that the neighborhood has become the basic unit of the city in a "patient" formation process of thousands of years, providing the

harmony of space/time, culture, and technology before the industrial revolution. The neighborhood, which positions its basic structure and identity according to its relationship with the city, is one of the conditions of existence of the city. The disappearance of the neighborhood also means the disappearance of the city and the loss of its identity. The disintegration of the neighborhood means the disintegration of the city. With a rational expression, the neighborhood structure of the past will never fully exist in the city of the future. However, the city will always exist with the neighborhood; the impact and contribution of the city will be measured by the neighborhood. It is obvious that a neighborhood that is left without feeling, soulless and powerless cannot achieve this (Alver, 2013).

The change of the city under the influence of many social, economic, and environmental factors in the historical process also changes the neighborhood, the neighborhood system and neighborhood relations. Haydar's (1991) definition of the city as “a representative of change” is also indirectly valid for the concept of neighborhood. The conditions of each period make the city and the neighborhood meaningful. The neighborhood, which is a part of the ever-changing and transforming world, essentially keeps its value constant. According to Huot (2000), the functions, dimensions and structures of cities have changed in five thousand years, but the general features that make urban life different from rural life have remained essentially the same. Although the physical characteristics of the neighborhood change in terms of form and relations, the neighborhood is a very strong formation, and its representative value will always be valid (Alver, 2013). A balanced, realistic, and constantly established bond between the city and the neighborhood reinforces the power of neighborhood formation. Neighborhood, as a planning scale, provides an opportunity to handle problems more easily. Thus, it increases the chance of building itself and the city on more solid foundations.

The neighborhood is seen as a good starting point and building block in the creation of a city with its own unique architectural, cultural, and economic systems. Neighborhood planning is the first step to manage the development and administration of cities in a healthy way. There is a chance to identify the points missed in the upper scales in the neighborhood, which is in a scale/position where problems and solutions that require direct contact with the residents can be reached quickly. For this reason, every neighborhood is a part of urban development and requires consideration of social dynamics alongside buildings, public spaces, transport, and infrastructure to provide its residents with a good living comfort. Therefore, neighborhoods make an important contribution to the creation of cities, communities, and social networks, and to the planning and design of better urban environments (Ergönül et al., 2023).

Despite the critical importance of the neighborhood for the development of the city, Alkan (2023) emphasizes that the neighborhood, which could not adapt to the rapid change brought by the industrial revolution, was lost both in the industrial city and in the modern city of the post-industrial period.

NEIGHBORHOOD CONCEPT

The concept of neighborhood can mean many things, depending on the topic it covers. Planners, architects and local governments consider the neighborhood as a political subdivision that facilitates the delivery of services and analyzing social or economic situations (Morley, 2016). Neighborhoods are the building blocks that shape the identity and vitality of a city. Changes in a city's population, employment levels, housing and transportation options have an impact at the neighborhood level. Collaborative neighborhood planning on issues including land use and development, rehabilitation, transport, and economic development; It also offers city governments the opportunity to set, coordinate and prioritize various targets with the participation of local people (Meyerson, 1996). Due to the influence of many factors, the definition of the concept of neighborhood has also followed a different course in the world and in Türkiye (Çılgın, 2019). Although there is no general definition of the neighborhood in the literature, the boundaries of the neighborhood can be defined both subjectively and objectively (Ünal and Erol, 2020).

Neighborhoods, with their different sociological characteristics, are the most unique part of the urban fabric (Ünal and Erol, 2020). Neighborhood residents, on the other hand, see the neighborhood primarily as the places they visit or give the most importance. Many factors such as the experiences and experiences of the individual, cultural differences and perceptions affect the definition of neighborhood. It is also a result of this situation that people living on the same street or even in the same building make different definitions for their neighborhoods. There is an expanding diversity in neighborhood typologies as a result of the unique dynamics of urbanization practices in the world and in Türkiye. It is not possible to talk about a single 'neighborhood' in the city, which is constantly changing from the past to the present and the future (Çılgın, 2019).

The Concept of Neighborhood in the World

The concept of neighborhood has been a very important research topic for historians, sociologists, and city planners since the end of the 19th century. Because the neighborhood is the most basic building block of the city. Neighborhood is the formation of ties between individuals because of ethnic,

racial, cultural, and economic factors. The concept of neighborhood gains importance at this point, as the power and capacity to operate individually provide less benefit from social activities (Smail, 1980). Although it has become an important unit for urban planning, it is still difficult to define the neighborhood exactly. Definitions differ in social terms, as well as in the context of units, spatial units and uses, network of relations. There is more than one concept in the literature that corresponds to the concept of neighborhood. Although there are minor differences in meaning, they are all used interchangeably as the concept of neighborhood. *District, community, borough, suburb, parish, ghetto, quarter, and neighborhood.* Among these concepts, the most frequently used concepts are quarter and neighborhood. (Özbek Eren, 2017).

Mumford (1954) describes the neighborhood as a community of people living in close proximity to each other by explaining the neighborhood. These neighborhoods, which are formed regardless of common religion, culture, and origin, are the most basic example of social organization as they are a good environment for communication.

Keller (1968 as cited in Smail, 1968) reveals the typical physical elements of neighborhood definitions. He defines a neighborhood as places where streets, railway lines, green spaces, historical and social traditions make an area a distinctive unit. In this direction, Keller (1968) proposes four basic theoretical concepts regarding the definition of neighborhood:

- A restricted area in a region with natural geographical conditions and certain physical characteristics.
- It is an area where there are facilities such as schools, shops, clubs that can be used by individuals other than the residents of the neighborhood, as well as infrastructural services such as houses, and transportation used by the residents of the region.
- A large community that represents certain values (cleanliness, silence, harmony, ethnicity, safety, social solidarity, aesthetics, quality, and social prestige, etc.) for the inhabitants of an area and those living outside.
- An area that is being worked on (such as an immigrant ghetto, a middle-class suburb, or a homeless Skidrow area in Los Angeles) to give a place a special atmosphere.

In a report published by the Urban Studies Institute at the University of Notre Dame, the concept of neighborhood is discussed under 6 headings (Smail, 1968):

- *Homogeneous:* It is assumed that neighborhood areas have clear physical boundaries and people with similar demographic and ethno-cultural characteristics tend to reside in these areas. The assumption also reveals that the city is a composite of these limited units, each with its own distinct population.
- *Private:* Neighborhoods are defined as geographical areas where sincere social ties are established and maintained. The concept of neighborhood, called the urban village, also argues that a rural social organization system is recreated in an urban setting. Particularly important in using this analytical approach is the establishment of religious, ethnic, and cultural partnerships and the existence of relations between neighboring individuals.
- *Political:* The inevitability of political alliance and involvement in political issues affecting the future of the neighborhood is mentioned.
- *Functional:* Neighborhood residents' education, trade, health, security services and recreation areas, etc. satisfaction level is examined.
- *Economic:* The city is considered as a composite of housing markets. Strong cultural ties such as belonging give prestige to the neighborhood in cities and create a separate sub-market.
- *Citizen perception:* Often used as a subjective analysis of neighborhood spaces based on each of the other topics.

Sawicki and Flynn describe the neighborhood as “an area smaller than the municipality but more than a few blocks.” Such a district has a population of approximately 5,000 to 10,000 with a neighborhood primary school at its center, with largely similar levels of education, income, and ethnicity (Sawicki and Flynn, 1996).

Lancaster (1966) explained the concept of neighborhood under the title of 10 spatially based attributes:

- *Structural features of residential and non-residential buildings:* type, scale, material, design, condition of repair, density, landscaping, etc.
- *Infrastructure features:* roads, sidewalks, street arrangement, utilities etc.
- *Demographic characteristics of the resident population:* age distribution, family structure, racial, ethnic, and religious types, etc.
- *Class/status characteristics of the resident population:* combination of income, occupation, and education.

- *Tax/public service characteristics:* regarding the local taxes assessed the quality of security forces, public schools, public administration, parks and recreational areas, etc.
- *Environmental features:* degree of land, air, water and noise pollution, topographic features, landscapes etc.
- *Accessibility features:* access to major employment, leisure, shopping, etc. destinations affected by both distance and transport infrastructure.
- *Political characteristics:* the extent to which local political networks are mobilized, the extent to which residents influence local issues through spatially rooted channels or elected representatives.
- *Features related to social relationships:* local networks of friends and relatives, degree of recognizability between households, type and quality of interpersonal relationships, perceived partnerships of residents, participation in locally based voluntary associations, strength of socialization and powers of social control, etc.
- *Emotional features:* residents' sense of identification with the place, historical significance of buildings or neighborhoods, etc.

Based on Lancaster's (1966) definition of neighborhood, Galster (2001) defines a neighborhood as “a bundle of spatially based attributes associated with residential clusters in relation to land uses”.

Martin (2003) defines a neighborhood, which he claims to be a type of place, as “where human activity is focused on reproduction or where there is daily household activity, social interaction, and interaction with political and economic structures”. Neighborhoods derive their meaning and importance from values that develop through daily living habits and interactions.

Zhang et al. (2018) defined a neighborhood as “a geographically localized community with distinctive values, or a separately identifiable area within a community, located in a major city or suburb, that retains a quality or character that distinguishes it from other areas”. The neighborhood is also seen as a space where its inhabitants are held together by common and beneficial interests.

The Concept of Neighborhood in Türkiye

The word “mahalle (mahalla)”, which is originally from Arabic, means “accommodation place, mansion, stop”. It is derived from the Arabic root 'hall'. Hall (halel and hulul) means 'to land, land, settle down'. It is defined as a settlement created for the purpose of permanent or temporary residence (Yel and Küçükaşçı, 2003). It also includes the meanings of settling, entering,

penetrating, entering the heart, entering the heart. Neighborhood, which is used as the equivalent of the word 'kûy' in Persian, means “karye, village, street, place of residence” (Alver, 2013).

Even though it was used as a concept after the 19th century, the oldest known use of the concept of neighborhood is in Tezkiret-ül Evliya (1341) (Url 1). It is understood from here that the neighborhood is a place where a sense of belonging is developed and a safe feeling. In the Dictionary of the Turkish Language Association and the Dictionary of Urban Sciences (1980), neighborhood is defined as “each of the parts of a city, a town, a large village into which a large village is divided and all the people living in these parts”. According to Şemseddin Sami (1995), neighborhood, which means “place, place, office”, is a place name and means “to settle, land, disembark somewhere”.

Ergenç (1984), who associates the neighborhood with human relations, defines the neighborhood as “the place where people who know each other, are responsible for each other's behavior to some extent, and are in social solidarity live, and the part of the city where the congregation, who worship in the same mosque, settles with their families”. Besides, Ergenç (1984) stated that there is a prayer area in the center of the neighborhood and that walking distance is considered important.

Tanpınar (1996) also saw the neighborhood as an “experience through human relations” and defined it with some rituals: “The neighborhood with its wooden houses, small vine or cluster pergola fountain, laundry laid out in the sun, children, cats, dogs, mosques and graveyards, with its madrasa that stands out like an impossibly ruined Rome, we've all known since childhood, we know the clocks with the voices of the salesmen, It is the place where we can determine with our eyes closed with the noise that fills the right and left”.

İnalcık (2003) defines the neighborhood as “an introverted unit in terms of economic, administrative and financial aspects” by considering the Ottoman cities. Neighborhood is also considered as the smallest unit of the organization. Although the concept of organization is understood as professional organization, the structure where ethnic-religious groups come together, etc., this homogeneity is not obligatory and emerges because of the natural relations established by people who care about the same values in the neighborhood.

Özbek Eren (2017) has searched the neighborhood through the answer to the question of what kind of meaning is attributed to the neighborhood. In this direction, the trilogy of human, space and place, social values/rituals have been given a meaning. She argued that the components constitute the whole of the concept of neighborhood (Figure 1).

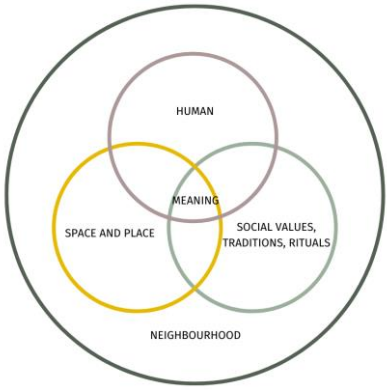

Figure 1: Mental Image of The Neighborhood
Source: Prepared using Özbek Eren, 2017

Alver (2013) evaluated the neighborhood as the "foundation and essence of the city"; He defined it as "the most important actor of the city organization". While the neighborhood presents a space, it also provides an environment for human relations. "The reflection of human relations on the cultural, legal, aesthetic and architectural plane" is defined as a neighborhood. Bulaç's (2008) definition of the neighborhood as "the ground formed by mutual relations" also reveals that human relations shape and structure the neighborhood (Alver, 2013). According to Bulaç (2008), the neighborhood has 4 functions:

- Acting as a filter in creating an urban consciousness
- Being a civil initiative
- Generating a helping and solidarity function
- Be a training ground

The smallest unit in an urban area is neighborhood groups. Neighborhood groups come together to form a neighborhood, and neighborhoods come together to form a district, and districts form the city (Figure 2). Within this spatial hierarchy, the neighborhood is the most important part of the city. It is also the smallest unit where local government is mentioned. Although it varies according to the perception levels of individuals, it has an administrative limit. Each neighborhood has socio-economic, physical, and spatial features that distinguish it from the other and give it an identity (Çelikyay and Öztaş, 2019). Neighborhoods with their unique identities are important in the development of cities with their contributions such as image creation, identity addition and branding.

Figure 2: Urban Area Hierarchy
Source: Çelikyay ve Öztaş, 2019

DEVELOPMENT OF THE CONCEPT OF THE NEIGHBORHOOD

The process of sedentary life, which started with agriculture, formed the foundations of civilization. The majority of the population migrated from rural to urban and laid the groundwork for the concept of urbanization. Rapid urbanization brought industrialization with it. In cities that exceeded their natural and physical capacities with the immigrations, there were spatial, environmental and economic problems as well as deterioration in social relations. This is the case in Huot et al. (2000)'s definition of the city; "The city is not only spatial but also a decision center where people come together, where goods and ideas are shared and exchanged". As a result of the changes in the physical, social and economic structure of the city, the perspective of the neighborhood, which is the smallest constituent unit of the city, has also changed over time.

It is important to understand the conditions and breaking points of each period at the point of interpreting how the approaches to the concept of neighborhood have evolved. In this direction, the development of the neighborhood in the world and in Türkiye has been examined separately in this study.

The Development of the Concept of Neighborhood in the World

The development of the concept of neighborhood in the world is explained by focusing on five breaking points (transition to sedentary life period, formed of cities period, resolution-transformation period, modernization period and post-modern period) (Figure 3).

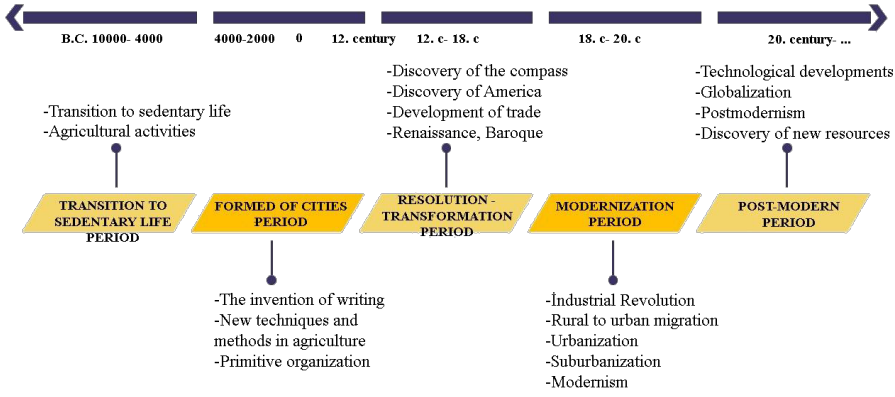

Figure 3: Neighborhood Development in The World
Kaynak: Terlemez, 2022

- ***Transition to Sedentary Life Period (10.000-4.000 BC)***

Mankind, who lives with hunting and gathering, has met a process with the agricultural revolution. The concept of seasonal settlement was terminated, and food production began, and farmer villages were formed, where the first architectural structures were built for the purpose of storing agricultural products, maintaining daily work, performing religious rituals, etc. Farmer villages have been a breaking point.

British archaeologist James Mellaart suggested Çatalhöyük in Konya, belonging to the Neolithic period, as one of the oldest settlements (Huot et al., 2000). Hodder (2006; as cited Pilloud, 2009) defines Çatalhöyük as "a very large village that takes the idea of an egalitarian village to the extreme". Çatalhöyük is one of the first examples of the transition to settled life with the articulation of neighborhoods formed by adobe buildings. This transition is also evidence of the shift from being seen as a component of a neighborhood-based community to a structure in which it serves as the main social unit. From another point of view, the concept of housing in Çatalhöyük is an important center where all activities such as housework, religious rituals, production, and economic activities are carried out. It is seen that in the early periods of Çatalhöyük, there were other residences forming the neighborhoods around a large central residence. Over time these neighborhoods have alternated with larger, ostensibly more autonomous residences with private entrances.

- ***Formed of Cities Period (4.001 BC-12th centuries)***

Agricultural communities in Mesopotamia during the Ancient Period improved themselves and increased their production by using irrigation techniques and planting methods. The areas where surplus products were stored were the temples in the city center. Another breaking point in this period was the invention of writing. With the writing, the registration of products, the emergence of trade and the formation of specialized sectors revealed a primitive organizational order. While the clergy were dealing with the products accumulated in the temples, the elite class gathered the powers in their hands. This organizational system allowed the emergence of complex cities from simple agricultural communities. The smallest unit in which the organization was seen was the neighborhood. Neighborhood formations are clearly observed when looking at the plans of Babylon, Uruk, Larsa and Ur (Figure 4) from ancient cities (Huot et al., 2000).

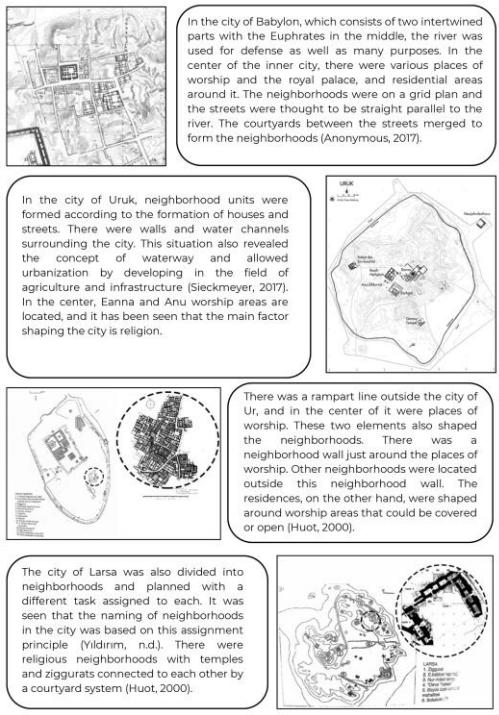

Figure 4: City plans of Babylon, Uruk, Ur and Larsa
Source: Prepared using Yıldırım, t.y.; Sieckmeyer, 2017; Huot, 2000

- ***Resolution -Transformation Period (13th c.- 18th c.)***

Developments such as the discovery of the compass, the increase in long-distance travel and the discovery of America affected the cities; It resulted in the beginning of a new era and the change of cities. In this context, the concept of social classification has emerged because of developing trade opportunities. The formation of social classes has caused neighborhoods to be separated from each other and certain groups to benefit more from urban services (Ceran Karataş, 2018).

The changing world view on rationality, the importance given to art and aesthetics resulted in the geometric form of the cities and the radial lines of the streets. It is important to have open and green areas that will allow the city to breathe in the neighborhoods that do not consist of geometric pieces between the radial roads. Squares are planned in the neighborhoods and they are associated with green areas in a hierarchical way. Neighborhoods that do not fit into the city with the increase in population have also been articulated as suburbs outside of the geometric form (Pirenne, 2019). Among the ideal city plans prepared with these principles, only Palmanova could be implemented (Figure 5).

Figure 5: Ideal City of Palmanova
Source: Url 2

- ***Modernization Period (19th c.- 20th c.)***

With the industrial revolution, cities stepped into a new era. Increasing opportunities with industrialization brought migration from rural to urban at the same rate. This rapid population growth has given birth to the concept of urbanization. Cities that could not handle population growth have sought various solutions to the problems they face. The solutions found to make the city better and more livable have been at the neighborhood scale. In this direction, many attempts have been made to develop a new neighborhood setup since the end of the 19th century. Approaches such as Camillo Sitteism, Beautiful City, Garden City, and

Neighborhood Unit which were born against Hausmannism and formalist approaches, characterized this period.

Camillo Sitteism argues that urban planning is not just a technical issue. Although the problems that arise are solved mathematically, the view that the artistic side is missing and leaves a uniform impression has been accepted (Sitte, 1889/2019).

The Beautiful City approach, started to make a name for itself with the Colombia Exhibition of Daniel Burnham, John Wellborn Root and Frederick Law Olmsted in 1893. Designs that bring cultural value to the cities and have aesthetic concerns, planning of green areas that beautify the city, and increasing and improving the quality of life in the city were brought to the agenda with this trend. At the same time, the view that the beautified city and attractive places revitalize the economy has been adopted (Şahin, 2008).

Another initiative and inspiration for the Garden City Movement was handled by Ebenezer Howard. Howard aimed to balance the population flow to the city by correctly combining the opportunities of city life with the beauty of the countryside (Howard, 1898/2019). Neighborhoods connected to each other around the main city are surrounded by green belts. Dividing the neighborhoods into six zones, Howard placed emphasis on having an identifiable physical boundary of the neighborhood. Detached houses spread over a large area and low-density neighborhoods are envisaged (Figure 6) (Sharifi, 2016).

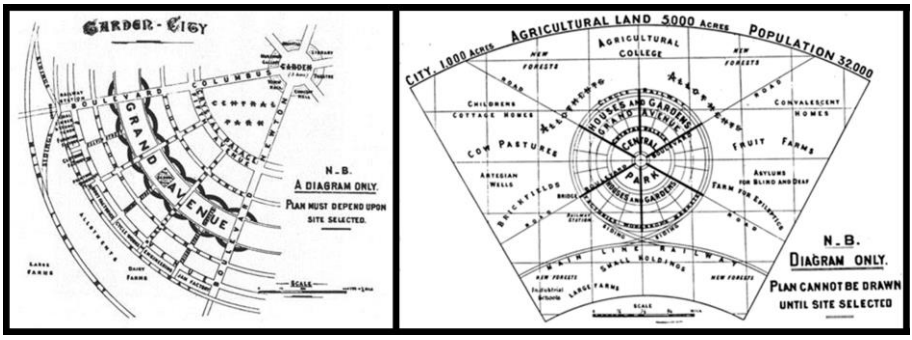

Figure 6: Garden City Model
Source: Howard, 1898

These approaches, which prepare the environment for the studies on the neighborhood, have made it possible to introduce the concept of "neighborhood unit" by referring to the social structure as well as the spatial changes. Within the scope of the theory (Figure 7.a), which was first put forward by Perry in 1929, it was aimed to regulate the social relations deteriorated by

industrialization, and thus to revive the concept of neighborhood. Perry (1929) explained the neighborhood unit theory with 6 principles: size, boundaries, open spaces, institutions, local shops, street system. Perry's (1929) neighborhood unit models have long been influential. Duany and Zyberk (1994) developed Perry's (1929) neighborhood unit model and presented a similar neighborhood plan (Figure 7.b). (Kumlu et al., 2018). Farr (2008) also introduced a new neighborhood approach on the neighborhood unit models prepared by Perry (1929), and Duany and Zyberk (1994) (Figure 7.c).

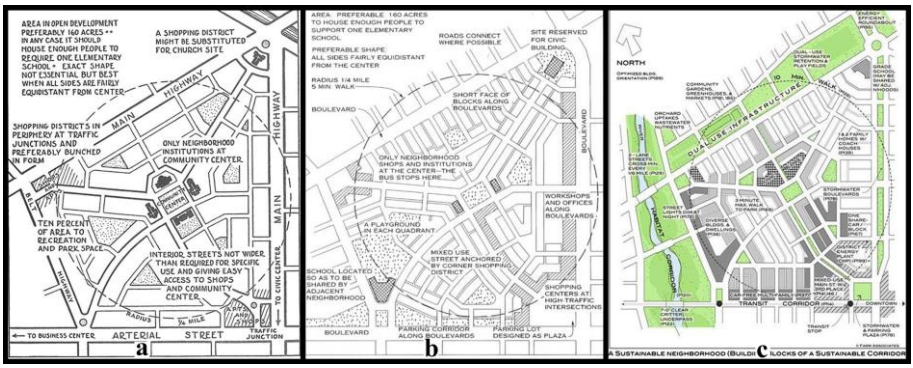

Figure 7: Neighborhood Unit
Source: Perry, 1929

The Beautiful City and Garden City approaches, which were put forward in the process with the neighborhood unit models of Perry (1929), Duany and Zyberk (1994) and Farr (2008), laid the groundwork for the "New Urbanism Movement". The New Urbanism Movement was put forward as a solution to the problems that occur in the city such as densities in the center, urban sprawl, social segregation, and environmental problems; It enabled the consideration of many concepts such as walkability, compact form, mixed use areas, human scale structures and designs, accessible public spaces in the neighborhood (CNU, 2001).

- ***Post-modern Period (21th c.- Present)***

The most important development affecting the city in the post-modern period has been in the field of transportation. The increase in the use of automobiles has resulted in the spread of cities to larger areas (Günay and Selman 1994; as cited Şahin, 2008). This situation has caused deterioration in the urban fabric, the center-periphery relationship, and the neighborhood. At the same time, there have been great changes in the social sense; The differences

between the upper- and lower-income groups have increased significantly. While the working class lives in unhealthy, dark, crowded neighborhoods without receiving the necessary services, the upper- and middle-income class live in neighborhoods with a high quality of life (Seçkin, 2003).

The acceleration of all daily works with modernization has come to the fore with the ***"Practical Urban Movement"***. In the city, there has been a tendency towards more objective, non-aesthetic goals. Another movement that was effective in this period is the ***"Bauhaus Movement"***. The aim of the movement emphasizes objectivity, rationalization, and a standardization like Practical City. ***Le Corbusier***, who supports these movements and put forward ideal city models, suggested a high-density center. It has placed skyscrapers where services such as administrative units and workplaces are located in the center and neighborhoods around it. In order to provide ample opportunities for open and green spaces, he made the buildings rise vertically and suggested a green belt around the neighborhoods (Şahin, 2008).

Due to the increase in automobile use in the 1930s, Frank Lloyd Wright introduced the ***"Broadacre City"*** model (Figure 8). In the model, which is built on a very good road transportation and automobile (Fishman, 2016), there are farms, workplaces, schools, parks and resting areas, prayer areas and different types of housing areas according to the number of households in the area called the neighborhood *"community"* and *"quarter"*.

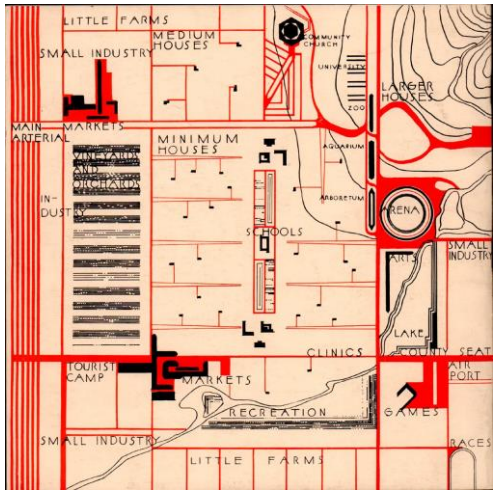

Figure 8: Broadacre City Model
Source: URL 3

Kevin Lynch has set a concrete example with his book "Image of the City". He considered the city as a basic social mechanism in which people live. He dealt with the city with the titles of edges, roads, regions, intersections, and landmarks (Şahin, 2008). Thus, concepts such as belonging, perceptibility, imaginability, and the presence of monumental or historical elements have gained importance in the neighborhood.

The strict and inflexible planning approach, which only deals with the city from a technical point of view and is concerned with its growth, has been moved away. ***Holistic Planning***, in which the city was handled with all its components, started to make a name for itself in the 1970s. The concept of human scale has developed; New searches have been made for the neighborhood where neighborhood and therefore social relations will be maintained (Şahin, 2008).

The questioning of modernism and the search for new models came to the fore in the 1980s as ***"Anti-Modernity"***. In this period, approaches such as "Community-Based Planning, Neighborhood Planning, Neighborhood Development Plans" started to be mentioned to reorganize social relations (Özbek Eren, 2017).

New approaches and opposition to modernism continued with ***"Postmodernism"*** in the 1990s. There has been an interest in traditional architecture, traditional urban fabric, and streets. However, with the technological developments and the increase in the resources used in the development, the construction has accelerated (Şahin, 2008). In this period of intense construction, green areas were ignored. Thus, the traditional city, which was tried to be protected, started to disappear on the one hand and could not stand against the developments.

In the 2000s, approaches such as "Neighborhood Forums, Neighborhood Governance, Participatory Planning" emerged. "Participatory, transparent neighborhood planning; Concepts such as "different texture, mixed use, building diversity, permeability, free movement, vitality and movement, image" have been the concepts that make the neighborhood unique (Özbek Eren, 2017).

Neighborhood Development in Türkiye

Upon the migration of Turks living as nomads from Central Asia, the process of sedentary life began. The cultural interactions experienced by the civilizations encountered during this process were reflected in the space and settlement areas began to be organized in a different way (Özcan, 2006). The Turks, who settled in Anatolia in 1071, provided the opportunity for the enrichment of the cities by reflecting their own culture to the places they settled.

Emphasis is placed on the harmony of cities with nature, their vitality, and their changing structure (Cansever, 2016).

The concept of neighborhood in Türkiye started with the settlement in Anatolia, developed with the Seljuk and Ottoman periods, and changed with the Republican period. The neighborhood experience, which is influenced by many political, cultural, economic, and social events on the same geography, emerges as a synthesis today.

- ***Seljuk Period (1077- 1298)***

The Seljuks, who settled in Anatolia, became politically stronger in a short time and dominated a wide area. The mosque and its surrounding fountain, bath, madrasah, hospital, and bazaar were the prominent structures of this period. Neighborhoods shaped around these monumental structures formed the city (Hasol, 2021). Cities are composed of three parts: "the inner castle, the main city and the outer neighborhoods" (Figure 9). The market and bazaar, where commercial activities are carried out, are concentrated in the outer neighborhoods (Ayhan, 2017). With the establishment of an environment of trust and peace, residential areas began to develop outside the castle in the face of the increasing population. This situation resulted in the loss of importance of the castle and walls in the city (Saatçi, 2020).

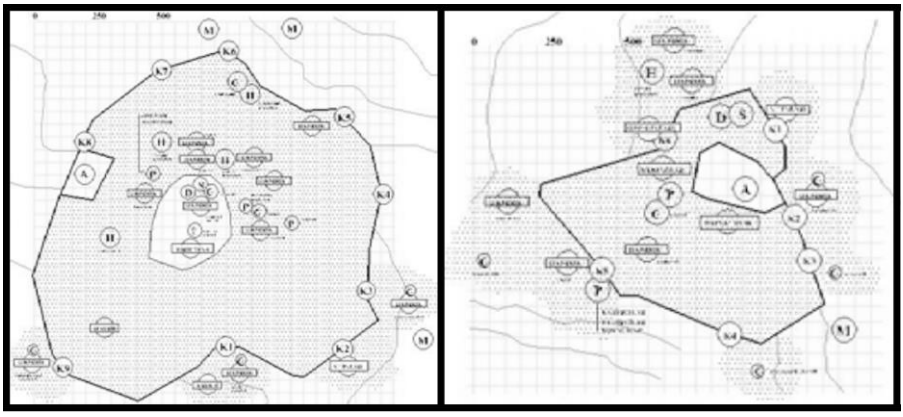

Figure 9: Neighborhood Settlements in The Seljuk Period
(from left to right Konya and Kayseri)
Source: Özcan, 2006

- ***First Ottoman Period (1299-1509)***

As the smallest administrative unit in Ottoman cities, the neighborhood, with its location, functions, and administration, constitutes an important part of the functioning of the city and this great system (Bayartan, 2005).

After its establishment, the Seljuk culture was continued in the Ottoman Empire. Religious and social structures became the most important subject of the city, and residences remained in the background. While the construction of 'monumental' structures such as the kulliye was seen as the most important activity, the residences were seen as 'temporary'. The materials found in nature and suitable for the climate have also shaped these preferences. In order to accelerate the zoning activities in the city, the foundation organization has developed considerably in this period (Hasol, 2021). In this context, the main factor enabling the development of the city has been the neighborhood, the focus of social and cultural organization.

In Ibn Battuta's Travels, it is told that in Anatolia, as in other Islamic cities, non-Muslims (Greeks and Jews etc.) lived in different neighborhoods separated from each other by large walls. In addition, it was stated that the “Friday Mosque (Grand Mosque), madrasah, bath and bazaar places constitute the city centers” and “the neighborhoods are shaped around these elements”. Therefore, in the Islamic world XIV. In the 19th century, there is an average city model represented by architectural works in similar ways in all Islamic towns (Keçiş and Öztürk, 2021). As a result of the increase in the population towards the cities and the environment of trust, the settlement areas have moved outside the walls. In Istanbul, the city developed outside the city walls, and neighborhoods were formed by following the shores of the Golden Horn and the Bosphorus. The settlement of the population outside the city walls prevented the density in the center and created a balanced distribution (Kuban, 2021a).

- ***Classical Period (1510-1704)***

The settlement policy pursued since the establishment of the Ottoman Empire led to the growth of the cities and the development of the neighborhood with its diverse structure. The neighborhood formed an example of an advanced organization in this period (Kömürcüoğlu, 2019):

- *It is a multi-dimensional social organization:* It is based on values such as neighborhood neighborly relations, cooperation and solidarity activities, and trust in each other.
- *It is an economic organization:* The residents of the neighborhood contribute to the expenses of the neighborhood such as the creation of the water infrastructure, the repair of the broken roads, and the cleaning of

the environment. At the same time, there is financial assistance in the neighborhood.

- *It is a religious organization:* Each neighborhood has a mosque and a religious leader. In this sense, the inhabitants of the neighborhood also constitute the community.
- *It is an administrative organization:* The neigborhood includes officials appointed by the state, such as *'kadı'* (muslim judge). In addition, the neighborhood is responsible for maintaining social order and complying with moral rules.
- *It is a legal organization:* The residents of the neighborhood are responsible for each other and interact with the law of the neighborhood.

In the neighborhood system, there are mosques, madrasas-schools and fountains at the nodal points. At larger nodes, *'kulliye'* (islamic-ottoman social complex) emerges. This hierarchical structure constitutes the basic structure of the city due to the neighborhood order (Kuban, 2021b). Housing areas, on the other hand, are not similar to each other as the smallest unit of this order, are not in flat plots and are generally built on slopes. In this way, rainwater could easily flow, and the houses did not block each other's sun and view (Cansever, 2016). On the other hand, privacy is provided. The residences consist of high walls, large gardens, courtyards, doors that do not show inside and hidden windows. Housing diversity is grouped under three headings: single storey (sublime), two storey (sublime) and three storey, wide (payer). Despite the diversity, it is seen that all the houses in this period favor simplicity and modesty (Kömürcüoğlu, 2019).

- ***Westernization Period (1705-1875)***

In this period, with the Tanzimat Reform Edict (1839), the administrative structure, social life and physical structure of the cities changed. The *İlmühaber* was published in 1839 dealing with the New Urban Planning Principles. Some basic decisions were taken, such as widening streets, removing narrow streets and especially dead-end streets. It has also been stated that wood can be used in new houses to be built in the neighborhoods, provided that masonry is used, and a fire wall is built. In order to set some neighborhoods in Istanbul as an example to other neighborhoods, a proposal was made *'Kavâ'id-i Hendese'* (document in Ottoman according to the rules of geometry). The reconstruction of the neighborhoods destroyed by the fire according to the plan was brought to the agenda for the first time with this document (Bilsel, 2015).

In 1855, a commission called *"İntizam-ı Şehir"* (arrangement of city) was established by people who had knowledge of foreign languages and had seen Europe (Ortaylı, 2000; as cited Kömürcüoüğlu, 2019). The Commission focused more on issues such as widening streets and building sidewalks under the heading of road regulations. In the 1860s, it is seen that the first western-style parks began to be built. In this sense, Taksim Old Catholic Cemetery in Istanbul was removed, and a park was built next to the barracks, and it was the first example. By choosing the area where there is a dense construction, it was thought that the neighborhoods here could breathe, and it was successful (Kömürcüoğlu, 2019).

- ***Neoclassical Period (1876-1922)***

In this period, importance was given to transportation and the arrangement of squares, widening of roads, construction of pavements and parks, etc. urban formations began to be mentioned. In addition to land transportation, sea transportation also formed the best infrastructure organization in this period after the construction of water facilities. However, these developments also paved the way for damaging historical structures (Kuban, 2021a).

In this period, while the service sector had a large share in the city, it caused migration. With the spread of cities because of migration, unhealthy, irregular and unbalanced neighborhoods have been created (Kömürcüoğlu, 2019). Neighborhoods have chosen places on hills and plateaus, and slopes and valleys have continued to be used for agriculture.

- ***Period of Uncertainty (1923-1946)***

Although a new page was opened from the Ottoman Empire to Türkiye with the proclamation of the Republic, the foundations of the Ottoman Empire continued in terms of urbanism. After the Second World War, as in the rest of the world, Türkiye was also affected by this situation and the newly established Republic of Türkiye became the continuation of the cities of the Ottoman Empire. However, with the proclamation of the Republic, it was accepted that the cities should be built according to a certain plan (Kuban, 2021b).

An indispensable component of cities, neighborhoods, squares, streets and avenues in Turkish cities, fountains are the most common group among water structures (Yavuzyılmaz and Karakök, 2022). Fountains in the neighborhood have been public focal points where people can meet their water needs and have friendly conversations and meetings. However, after the mains water was connected to the houses, the maintenance, and repairs of the ancestral neighborhood fountains, which lost their importance, were neglected, and

destroyed. In addition, new constructions and widening of streets and avenues caused the disappearance or displacement of these historical fountains (Yavuzyılmaz and Karakök, 2022).

In this period, many city planners and experts in their fields were brought from abroad, especially Henri Prost, for the planning of cities. Prost attached importance to the preservation of the historical texture and the preservation of the monumental structures, especially considering their effect on the sense of belonging (Figure 10). In this direction, he suggested that the transportation should be improved, and the existing roads should be expanded in accordance with the topography. With the beautification approach he adopted, Prost advocated that old, unhealthy, sun-drenched neighborhoods where air circulation could not be provided should be developed and supported with green areas. However, the construction of large squares, the removal of dead-end streets and the adoption of an uninterrupted transportation network resulted in the damage to the traditional neighborhood fabric (Akpınar, 2010). Increasing apartment building has also been another factor damaging the traditional neighborhood fabric. In this period, people with high incomes preferred to live in the most prestigious neighborhoods and built their own apartments (Kuban, 2021a).

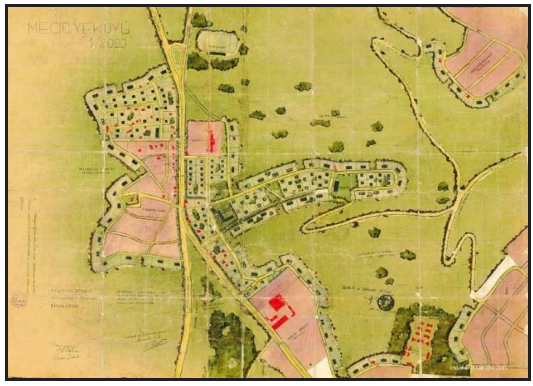

Figure 10: Henri Prost's Plan Dated 1937, Istanbul / Mecidiyeköy
Source: Bilsel, 2015

- ***Modernization Period (1947-2000)***

With the migration from village to city, social balances began to change, and new definitions of 'class' and 'identity' emerged. It is a new situation that these emerging classes and identities started to create urban spaces in line with their own possibilities and needs (Ateş, 2020). Most of the population who migrated to the city to work remained unemployed, and the cities could not carry this

population. While the need for housing increased, a successful housing policy could not be put forward. Because this period has been a period in which the population brought by urbanization, housing infrastructure problems and industrialization developments were at the same time. Industrial studies were given priority in the face of economic inadequacies, and urbanization problems were put in the background. While individuals in the low-income group, who have difficulties in finding a job, form shantytowns, individuals with high incomes have started to live in the newly built parts of the city, and spatial segregation according to income level has become popular (Tekeli, 2005). The "culture of coexistence of different ethnic and religious groups regardless of income", which was dominant in the traditional neighborhood, has been lost. A uniform individual profile, far from the richness of diversity, has begun to emerge in the neighborhoods. The situation was different in shanty towns. Although the physical characteristics of the neighborhood were evaluated as bad, it had an important place in social relations. In addition to values such as cooperation and solidarity in the slums, the traditions and lifestyles in the countryside were preserved (Karpat, 2016).

Developing automobile production and increasing automobile ownership in the 1970s led to the spread and unplanned growth of cities. Neighborhoods formed outside the city brought suburbanization. While an increase in density was observed in the central neighborhoods, this situation caused the loss of green areas and other socio-cultural reinforcement areas. Thus, the traditional tissue began to be damaged and destroyed to a great extent.

With the changing understanding of trade in the 1990s, shopping malls took the place of commercial buildings and passages in the center, and workplaces were in skyscrapers. The reflection of the changing trade understanding on the neighborhood has been with the deterioration of the traditional neighborhood order. The concept of urbanization has emerged, and the neighborhood has lost its importance. Closed sites, where entrance and exit are kept under control with various protections, have become widespread. Thus, the continuation of the neighborhood culture could not be ensured during this period, and the problem of population growth could not be solved. Although partial solutions were sought, a holistic plan could not be considered. These deficiencies have led to the deterioration of traditional tissue, the loss of green spaces and the collapse of human relations.

- ***Globalization Period (2001-Present)***

With globalization, all cities have become uniform and have lost their unique architectural and local values. Traditional neighborhood culture has

deteriorated; residences, skyscrapers and secure housing estates have become commonplace. The differences between the society living in these areas where the cost of living is high and those living in the slums have also widened. In addition, neighborhood formations have also been shaped according to immigrants (Batmaz, 2010; as cited Sağlam 2019). Especially in the city centers, the secure sites left to the immigrants due to cheap housing rentals have chosen places outside the center. The secure sites that are located far from the city center have also caused the sprawl of the cities. Thus, the traffic load and transportation costs have also increased.

The concept of neighborhood in Türkiye could not preserve its unique identity and turned into a western style under the name of modernization. However, this transformation was not a very healthy transformation, on the contrary, it was an unfiltered copying. The search for harmony with the traditional neighborhood with the conflict of modern-traditional neighborhood continues.

RESULTS AND DISCUSSION

Changing the Concept of Neighborhood

Alkan (2023) argues that a realistic point of view in the recent "neighborhood" discussions is approaches that exclude nostalgic connotations and carry its timeless qualities and principles to new residential areas instead of reviving the traditional neighborhood. These principles also contribute to the development of the existing neighborhood order. Neighborhoods that are in harmony with nature, based on people and considering harmony with space will be created. However, the constantly changing and transforming dynamic structure of the city makes it difficult to maintain this order.

The rapid circulation in the cities, the transforming physical space and the variable economy have also changed the neighborhood order and transformed the neighborhood. Since the neighborhood is a center where social relations take place, it is a living organism that is directly affected by changes in daily life or new habits (Hamamcıoğlu Çakmakçı, 2019). At this point, considering the dynamic structure of cities, it is a normal process for them to undergo change. However, how the change affects the society and cities is an important criterion for the future of the concept of neighborhood. How the basic concepts that evoke the neighborhood such as feeling of belonging, unity, trust and neighborhood are transformed also reveals the change in the neighborhood (Turan and Ayataç, 2020).

With the emergence of modern cities, the traditional neighborhood texture has deteriorated, and the neighborhood has lost its importance. The newly

created neighborhoods in the modern city were seen as a tool in line with the stereotyped modernization ideology (Bergen, 2010). Today, it is seen that with new spatial fictions such as closed housing estates and shopping centers, people have moved away from traditional lifestyles and sociality and returned to an individual-oriented life, neighborhood relations have almost disappeared, and the concept of neighborhood has been used to define a certain settlement boundary by breaking away from its old meaning (Tuğcu, 2019).

The modern city neighborhood, which is tried to be created by the combination of multi-storey buildings, is far from being a social phenomenon. The traditional neighborhood texture, which is defined as "an organism that is not homogeneous, where people from different identities come together without any discrimination" has turned into a "closed gathering space where individualism is at the forefront, othering is at a high level and class differences form an identity" (Bergen, 2010).

It is easy to define a residential area in the modern city, but a neighborhood culture is also needed to talk about the concept of neighborhood (Bergen, 2010). In this sense, it is seen that especially mass housing only creates housing stock and European style social housing is tried to be copied. It is not possible to develop and revitalize the neighborhood in these areas that do not create an urban identity (Kömürcüoğlu, 2019). There are skyscrapers, shopping malls and residences etc. rise in the heart of the neighborhood in the modern city. These buildings replace the mosque, bazaar and square in the traditional neighborhood, causing the concept of neighborhood to disappear.

Secured estates, studio apartments and residences have become neighborhood elements of the global city. The fact that these structures are closed to the outside and only accommodate people from their own classes creates a structure that is far from social and neighborly relations. Houses within a rational system, such as all activities being under control and having a programmed operation, are privatized, and separated from the neighborhood. It is also observed that secure sites are mostly isolated and remote from the city and are built for this purpose. The failure to protect the dynamics, values and social relations that keep the neighborhood alive is also reflected in the identity of the city (Hamamcıoğlu Çakmakçı, 2019). In this sense, while adapting the concept of variable and dynamic neighborhood to the process, spaces where identity and culture are preserved should be produced.

Examining how neighborhood values have evolved and transformed from past to present in the process of change (Table 1, Table 2) is important with its positive contributions to the sustainability of the concept of neighborhood and

the preservation of urban identity, the development of neighborly relations, sense of belonging and feeling safe. (Turan ve Ayataç, 2020).

Table 1: Movements Related to the Concept of Neighborhood

Movements:	**Principles:**
Camillo Sitte	Far from uniform Aesthetic concern
Beautiful City	Aesthetic concern Cultural values Giving importance to green spaces High quality of life Attractiveness
Garden City	Identifiable physical space Green belt Low density neighborhoods Accessibility
Neighborhood Unit	A particular population Specific limits Green network Accessible social amenities Local shops Transportation network Advanced public transport
New Urbanism	Walkability Compact form Mixed use areas Human scale design Accessible public spaces

Table 2: Comparison of Changes in Traditional And Modern Neighborhood

	Traditional Neighborhood	**Modern Neighborhood**
Concepts:	-The relationship between the mosque and the neighborhood -Simplicity/functionality -Imagination of heaven -Organization	-Modernization / globalization -Apartmentalization / site development - Gentrification / marginalization -Uniformization -Prestige neighborhood
Social Relations:	-Class-free settlement -Coded behavior model in society (good/beautiful/correct) -Common values -collective action -Public interest -Developed neighborly relations -Tolerance atmosphere -Help and solidarity -Awareness of mutual respect/responsibility -Learning and teaching neighborhood (awareness of living together)	-Class difference-based placement -Changing values (No single view) -Individualism -Various security measures -Closed sites as an image indicator -Social assistance platforms
Physical Space:	-Organic texture -Harmony with nature -Social border (perceptual border) -Sharing places -Street use/surprise venue -Dead end street -Walkable size	-Texture consisting of clear lines -Physical limit -Public space -Consumption places -Spreading settlements -Vehicle use
Identity/ Memory:	-Perceptibility -The place where experience and experiences are lived -A sense of belonging -Cultural values -Neighborhood culture -Monumental structures -Sycamore tree and various landscape elements	-Short-term and partial changes (breaking of perception) -Abstract space (away from experiences) -Street names -Glamourous structures such as skyscrapers and shopping malls

Source: Prepared using Cansever, 2016; Kuban, 2021b; Özbek Eren, 2017; Turan ve Ayataç, 2020

Changing Elements and Suggestions Regarding the Concept of Neighborhood

The neighborhood, which is a cultural element that has disappeared from our lives, constitutes only one dimension of a radical change in the conception of space and time with modernization (Alver, 2023).

Cities have grown and changed in line with the changing production dynamics and space requirements. However, in metropolitan cities where developments are not within the plan and cannot be controlled, cities without identity are emerged (Yavuz, 2021). Since the second half of the 20th century, industrial structures that have changed in parallel with technological developments have been a component of urban development.

Rapid social mobility can both overturn the settled order of the neighborhood and transform the neighborhood. Factors such as population growth, migrations, weakening of family ties, ease of relocation, technological developments, changes in the perception of space, changes in interpersonal relations, and the acquisition of new values in daily life directly affect neighborhood life (Alver, 2013).

There are different views on the loss of the neighborhood and its future. Alkan (2013), Bergen (2010), Genç (2008), Tuğcu (2019), Turan and Ayataç (2020), and Tanpınar (2017) claimed that “the phenomenon of neighborhood has been lost and it is an administrative unit consisting only of a name; neighborly bond, cooperation, caring for each other, belonging, privacy, aesthetics, etc. values are lost". They also mentioned some problems such as lack of assembly areas and neighborhood centers, ignoring walkability, and reduced security.

However, Huot (2000) stated that "the essence of the neighborhood remains the same even though there are functional and structural changes", Aktaş (2007) stated that "there is a neighborhood spirit that cannot be said to have completely disappeared", Mumford (2007) stated that “the neighborhood is indispensable for a balanced urban life”, Alver (2013) “the neighborhood has an important role in life, all times and people, with its flexibility, tolerance, naive pressure, reaction, sometimes rigidity, sometimes encompassing approach", Özbek Eren (2017) stated that “the neighborhood preserves its existence and as long as its traces are followed, a real ground will be encountered”, and Çılgın (2019) has of the opinion that “it will always be the main component of the city due to the opportunities offered by the neighborhood”.

In this study, which emulates the neighborhood as a sociocultural and administrative value, the issues that can contribute to the future spatial planning understanding in the neighborhood as a planning scale are emphasized.

Changing Elements Regarding the Concept of Neighborhood have been evaluated in the axis of 8 elements: “The Value of the Neighborhood, Proximity and Relationships, Center and Neighborhood Relationship, Center and Periphery Relationship, Social Segregation, Security, Harmony with Nature and New Spaces”.

- ***The Value of the Neighborhood***

Although the function, physical characteristics and many formal elements of the neighborhood have changed in the historical process, the basis of the neighborhood has remained the same (Haydar, 1991; Huot, 2000; Alver, 2013). Understanding the cognitive socio-spatial pattern of the traditional neighborhood, which has no administrative boundaries, and analyzing it within the social memory, is undoubtedly an important reference point that can be a guide for planning tools, decisions and practices for today and even for the future (Çılgın, 2019).

In many geographies, the neighborhood, which points to an important spatial and social identity with its space-oriented social area feature, is considered as an integral part of the definition of society and as an "interface" where more local solutions can be developed for urban problems. At the same time, it keeps its historical importance alive in terms of forming the basis of the constantly changing ontological needs of the city dwellers within the time-space relationship (Çılgın, 2019).

Activities in the modern neighborhood such as “participatory planning, neighborhood councils, various neighborhood activities and Neighborhood Action Plan initiative” are an indication of the aim of making the neighborhood reach the physical and social importance it once had.

- ***Proximity and Relationships***

The neighborhood is a physical, administrative, social, and sometimes political settlement, but the spirit that preserves the value of the neighborhood from past to present is its structure that collectivizes daily life rather than its physical or administrative quality. This structurality, which unites its subjects on a common and important denominator from its establishment to its development, and even allows the emergence of various unique social organizations from there, is the most important element that strengthens the neighborhood phenomenon (Çılgın, 2019).

Neighborhoods cannot exist on their own but can only become reality with those who live in them. "The neighborhood is made up of people, but it is a collectivity, a structure, a network of social relations established over space"

(Erman, 2010). In this sense, the founding and permanent element of the neighborhood is social relations. These social relations begin at the level of the relationship that the resident establishes and stays in contact with and presents various and somehow permanent networks that facilitate the inclusion of new residents who later moved to the neighborhood. Bu sebeple mahalle yalnızca fiziksel bir varlık olarak değil, toplumsal bir varlık olarak da kabul görmelidir (Çılgın, 2019). When it is remembered that the person who creates the space, the spaces belonging to the neighborhood can only be kept alive and gain meaning with the good communication level of their inhabitants.

Today, the physical and social structure of the urban environment leads to a socially disconnected and isolated life. High time spent in front of the screen, fear of crime, little contact with neighbors have revealed communities that are not connected to each other but live side by side (Erdoğanaras et al, 2020). Despite this inevitable process of change, some values of traditional neighborhoods should be included in today's neighborhoods, on the grounds that it constitutes the essence of the neighborhood.

According to Bergen (2010), neighborhood culture is a basic need for the continuity of the concept of neighborhood. Both physical intimacy and intimacy in human relations, as pointed out by LaFollette (1999), Bauman (2009) and Pratoli (1972), are accepted as important elements of the neighborhood. The views of Sennett (2012) and Bulaç (2008) also support the others, and it is emphasized that the neighborhood is formed by mutual relations such as togetherness, cooperation, etc. Closeness, unity-togetherness, commitment, belonging, cooperation, and mutual relations are indispensable components in the definition of a neighborhood. Although individualism is at the forefront in the changing new dynamics of the neighborhood, it must act as a bridge between the past and the future to keep the neighborhood alive. In the new neighborhood order, gathering places where the residents of the neighborhood will meet each other more often and require communication should be considered. These places should be supported with surprise places and individuals should be encouraged to walk. Walking individuals are more successful in communicating with their environment and increase the communication of the neighborhood. This will enable the neighborhood to become a living organism, not just nostalgia.

- ***Center and Neighborhood Relationship***

Since the birth of cities, temples, and administrative units (palaces) have formed the city center, and neighborhoods have been located around this center (Huot, 2000). Examples of this model in the world have been observed in

ancient cities such as Ur, Uruk and Babylon, and similar approaches have been observed in the neighborhood process of Türkiye. There are mosques, madrasas-schools and fountains at the nodal points in the neighborhood setup. At larger nodes, *külliye* (the complex of buildings adjacent to a mosque) emerges. This hierarchical structure constitutes the basic structure of the city due to the neighborhood order (Kuban, 2021b). İnalcık's (2003) definition of the neighborhood as "**an inward-looking unit in terms of economy, administration, and finances**" and "**the smallest unit of city organization** " also supports this setup.

However, the temples that formed the center remained in the background with the emergence of monumental elements and the use of squares during the Resolution -Transformation Period (13th-18th centuries).

In the Modernization Period, as emphasized in Perry's (1929) neighborhood unit model, the focus was on primary school. The neighborhood center was considered as a social focus and religious elements were also included. In the post-modern period, ***Le Corbusier*** proposed skyscrapers with services such as administrative units and workplaces in the center with the effect of Practical Urban Movement (Şahin, 2008).

Nowadays, at the ultimate in the concept of neighborhood, worldwide it is seen that the effects of the currents continue, and commercial units are dominant in the center. Similarly, in Türkiye, it is seen that commercial units are dominant and there is still a mosque in the center as a reflection of Islamic cities. As Ergenç (1984) points out in his definition of neighborhood, "**the place where a community of people who know each other, are responsible for each other's behavior to some extent and are in social solidarity live, the city section where the congregation who worships in the same mosque settles with their families**" partially maintains its validity. However, in some regions, it leaves its place to commercial functions. The predominance of commercial units in the center indicates the deterioration of relations and a neighborhood structure based on materiality. In this case, social focal points such as squares, mosques, fountains, and green areas should be increased, and the center of the neighborhood should be built on social relations.

- ***Center and Periphery Relationship***

In the post-modern period, with the widespread use of automobiles in the 1930s, cities spread over larger areas (Günay and Selman 1994; cited by Şahin, 2008). In this period, the ***Broadacre City*** model, built by Frank Lloyd Wright on good road transportation and automobile, is a concrete example of the expansion in cities (Fishman, 2016). In Türkiye, the increase in automobile

ownership observed in the 1970s resulted in the formation of suburban neighborhoods outside the city.

Thus, the traditional texture has deteriorated much faster, and the urban macroform has been irregularly shaped (Karpat, 2016). In today's modern neighborhood setup, gated communities/secure sites that appeal to the high-income group are located far from the city center. An isolated life is offered, independent of the city and neighborhood culture. Approaches that aim to prevent this irregular spread of the urban macroform and to eliminate these problems will also prevent sites that are disconnected from the neighborhood culture.

- ***Social Segregation***

The phenomenon of social classification and trade, which developed during the Resolution-Transformation Period, was mentioned for the first time. As a result, neighborhoods started to separate from each other and caused some masses to benefit more from urban services. In the post-modern period, the differences between the lower- and upper-income groups have increased tremendously. While the upper income group benefited more from the services and lived in healthier neighborhoods, the lower income group lived in unhealthy and crowded neighborhoods (Seçkin, 2003).

In Türkiye, social segregation started with the migration of workers to big cities during the Modernization Period (Tekeli, 2005). The working class has created shantytowns, which today's cities cannot resolve, and which appear as areas where the distribution of services is unfair. If the neighborhoods in every segment do not provide equal and fair services, a healthy functioning neighborhood cannot be mentioned. Therefore, it is important to minimize social segregation.

- ***Security***

The establishment of security in the modern neighborhood is provided by security cameras and private security guards serving 24 hours a day. In the traditional neighborhood, security has been handed over to people's sense of responsibility and the security problem has been resolved by holding one person responsible for another. While the modern neighborhood assumes functions in social life based on technology, it remains rather artificial compared to the traditional neighborhood. While the modern neighborhood develops a technical-centered system, the system developed in the traditional neighborhood is a human-centered and natural system (Karaaslan & Karaaslan, 2017).

- ***Harmony with Nature***

During the First Ottoman Period, the most abundant and easily available materials suitable for the climate shaped the neighborhood structures (Hasol, 2021). In the historical process, "observing harmony with the environment" has been adopted as a principle in the traditional neighborhood. However, this principle could not be sustained with the start of apartment building. Before the start of the apartment building, the residential areas were located on the slopes, and they were unique structures that did not resemble each other. It is aimed that the rainwater flows easily in the residential areas located on the slope, and the sun-wind direction is cared in terms of climatic comfort. The residences, which do not block each other's sun and view, have observed some values such as privacy, respecting the rights of others, and the awareness of living together in addition to their physical characteristics (Cansever, 2016). During the Uncertainty Period, with the high-income group starting to build their own apartments, both these values were lost and harmony with nature was ignored. The newly built apartments have a typology that is identical to each other, so that the neighborhoods and cities have begun to lose their originality. At this point, it is necessary to adopt a planning that differentiates according to the climate, in which natural environment data are handled in the creation of unique neighborhoods.

- ***New Spaces***

The disruption of the functions of "socialization, security, peace and solidarity" in the traditional neighborhood has led to the emergence of new spaces to undertake these functions. The modern urban spaces that emerged as buffer spaces were intended to be substituted for "neighborhood life that tried to fulfill its task in a holistic way in the past". Thus, the security and peace function that the neighborhood provided in its natural environment in the past, with the secure sites, which are among the modern urban spaces; socialization and trade functions were tried to be met with huge shopping malls, and entertainment functions with internet cafes and shopping malls. However, the structure of the neighborhood, which encompasses the whole of life and cares the interaction of every action of a person with each other, does not appear in modern urban spaces (Karaarslan and Karaarslan, 2017).

Conclusion

The neighborhood, which is important with its contributions in a broad perspective such as physical, administrative, socio-economic, and cultural etc.and explained & discussed in detail in this study, should regain its former importance and be evaluated as an effective field of action in the professional

field of planning. Therefore, there is a need for new researches and applicable analyzes that will enable the neighborhood to be articulated to the cities at the best level in the face of the changing socioeconomic structure, technological conditions, etc. As Alver (2013) emphasizes:

"The neighborhood is one of the most powerful social, cultural, political, and religious actors of the new times; it is alive and bloody, it lives, affects the city, is affected by the city, adapts to new conditions, produces politics in its own way, can show some reflexes, and can go to new interpretations as an example of a flexible structuring. It is not the right approach to bury such a place in history and to remember it only with embellishments."

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Chapter 4

Ferdinand Cheval, Frederick Kiesler, Antoni Gaudi, Salvador Dali Ideal Form in Interior Spaces

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Abstract

A The researches and designs carried out by protest philosophers and designers, who aim to replace the object of use with an object of emotion, have been inspiring and guiding for many studies. The guiding power of the space was found fascinating for these people and it was thought that it was an energy flowing from the space to the individual, from the individual to the society. It has been strongly criticized that space designs serve the authority and that individuals move away from the unconscious with a purely functionalist approach. Sharp lines frequently used in building forms, right-angled geometric forms; It is thought that it disciplines the user and takes him away from pure automatism and imagination. In this research, the works of some structures cited as examples by philosophers who want to raise the liberating aspect of the space and question designs that trigger the subject's reaching unconsciousness, and the works of designers who design directly on the subject were examined. As examples; Ferdinand Cheval, Frederick Kiesler, Antoni Gaudi and Art Nouveau structures praised by Salvador Dali were selected. The common points of these designs were tried to be determined, their liberating aspects; forms, colors, architectural images and symbols. It was desired to determine the common points about why the results achieved semantically created this effect. In the study, the views of various philosophers were reached by using the general survey model, one of the qualitative research methods. The works of the people selected as the sample were also reached with the general scanning model. After the findings were obtained, the results were obtained by evaluating with the hermeneutic method. It is thought that the study can contribute to the literature in terms of supporting and identifying alternative ideas and alternative architectural designs.

Keywords: Antoni Gaudi, Art Nouveau, Ferdinand Cheval, Frederick Kiesler, Salvador Dali

1. Introduction

Architects and philosophers have questioned the place of space many times in a protest view. Various art movements, philosophy and other disciplines have examined the space in line with their views, and they have produced designs that are sometimes on paper and sometimes put into practice. As a result of the literature review conducted in this direction, a common point found in art movements such as surrealism, dadaism or the works of Henri Lefebvre, Georges Bataille and other various philosophers on space has been determined. It has been seen that their criticism of architecture is due to its aspect that restricts the user and serves the authority, as in the examples of modern architecture that actively uses the disciplinary and regulatory power of the space. After this situation they had determined, they investigated the liberating power of the space and it was determined that they reached similar points as a result of this research. However, the profession of architecture stands at the intersection of the abstract and the concrete. Therefore, the design phase is necessary in the continuation of the intellectual process. Otherwise, there is a danger of not being put into practice. For these reasons, one of the designers who is thought to use this liberating aspect of the space knowingly or unknowingly; The space designs and approaches of Ferdinand Cheval, Frederick Kiesler, Antoni Gaudi, and Salvador Dali were seen as examples that could set an example for conceptual space and support the intellectual power of the user.

The aim of this study is to discover the commonality, formal bond, use of images and symbols in the works of artists and architects who respond to the quests of philosophers who make unusual interpretations on space and seek the liberating aspect of space, and to identify their liberating aspects It is to examine the reflection of the protest ideas developed over the space on the physical space and similar architectural elements. The aim is to examine and interpret the view that the usage patterns in interior space forms activate the intellectual process. Kevin Lynch expressed his view on the functional image in 1960 as follows:

"A workable image requires first the identification of an object, which implies its distinction from other things, its recognition as a separable entity. This is called identity, not in the sense of equality with something else, but with the meaning of individuality or oneness. Second, the image must include the spatial or pattern relation of the object to the observer and to other objects. Finally, this object must have some meaning for the observer, whether practical or emotional" (p. 8).

The fact that the formal aspects of the buildings and the way the use of images are reflected to the observer, that is, to the user of the space, are individual and unique, activates a sensual aspect. The repetitive forms and routine in the design streamline the sensory aspect of the observer rather than trigger it. It is seen that the forms encountered in the interiors of Ferdinand Cheval, Frederick Kiesler,

Antoni Gaudi, Salvador Dali are far from repetition and routine. For this reason, the designs of these artists were chosen as an example.

Although some of the selected sample artists or architects produced their designs with this quest, some did not produce their designs for this purpose. On the contrary, this was the inevitable effect created by their instinctive designs. While all the arguments of purely functionalists are accepted without question due to the relationship of architecture with reality, the space designs of these artists are shown as examples in order to meet the sensory needs. These examples are not purely surrealist spaces like those in Salvador Dali's paintings. Antoni Gaudi's Casa Batllo and Ferdinand Cheval's (Postman Cheval) Palais Ideal have been spaces that are liberating or impulsive in the intellectual process. Andre Breton says of the Palais Ideal:

"which attracted me passionately to works like theirs, flood arrogance, be able to produce themselves by staying completely outside the cultural line attributed to our age" (cited in Artun, 2014, p. 84).

The primary features expected from spaces that were supposed to create a liberating effect by releasing the emotional and intellectual process were as follows: Beauty that should be shocking, surprising and unexpected images and random, non-routine encounters. In this way, the space will cease to be reliable and disciplined, and will be able to reach the chaos and impulsive effect that the uncanny will create. The concept of the uncanny sought from the space is conveyed by Freud as follows: "the return of a familiar image, object or person who has been alienated because of being suppressed" (cited in Artun, 2014). With the shocking effect of the concept of the uncanny, the space brings a surprising intellectual process. Here fantasy and reality find their reconciliation between the poetic and the physical.

On the other hand, Henri Lefebvre (2014) explains the production of space in his book titled "The Production of Space" with the triple dialectic, which he calls the spatial triad. The space types mentioned in this triple dialectic are the perceived space, the conceived space and the lived space. Perceived space; refers to the physical, space we use in our daily life practice. This type of space is the space that houses daily production and vital needs. It must exist and supports everyday action. Conceived space; explains the architectural examples and approach that are discussed and negated in the study. They are the types of spaces that are shaped by the elements of ideology, authority, aesthetic and moral concern, and designed with the aim of directing and controlling the subject because a continuous order is desired. Lived space is; it is the type of space that takes the spaces exemplified within the framework of the protest view mentioned in the study under its umbrella. It supports the thought process, motivates memories, actions and passions. It does not seek consistency and order. On the

contrary, it liberates the subject from its limits by activating the unconscious with its fluid, surprising and uncanny architectural elements.

Georges Bataille (1929), on the other hand, expressed his attitude towards stability and routine by conveying the following about architecture in his multi-authored work called 'Dictionaire Critique':

"Meaning was associated with form, and formlessness disrupted the meaning system. When a dictionary can no longer match the meanings of the words, the tasks of the words begin. Formlessness is not just an adjective with a definite meaning, it is a term that brings into the world the necessity for everything to have its own form".

Architecture shakes the foundation of the human order; it states that she transformed the human order into an architectural order with more stable and dominant forms.

In this study, first of all, the general screening model, which is one of the qualitative research methods, was used in order to investigate the works of exemplary philosophers. The thoughts and written works of various philosophers and the designers under study were reached by this method. Moreover, by using the general scanning model, which is one of the qualitative research methods, photographs, drawings and model images of some projects were reached. Hermeneutic method was preferred to evaluate the obtained findings. By using the hermeneutic method, which means understanding and interpretation, the common architectural aspects of the designs selected as samples were determined, evaluated and concluded.

By discovering the liberating or protesting aspect of the works of the designers, who are exemplified by various movements, the study was deemed necessary in order to make inferences about the psychological and emotional aspects of the space, beyond just evaluating the functional aspect. Although limited, these examples have been promising examples in order to reconcile dream and reality, life and death. Space, as the trigger of the intellectual spark that may arise from the encounter of the image and the observer, exists with architectural examples, which are the works of the artists studied.

2. Ferdinand Cheval

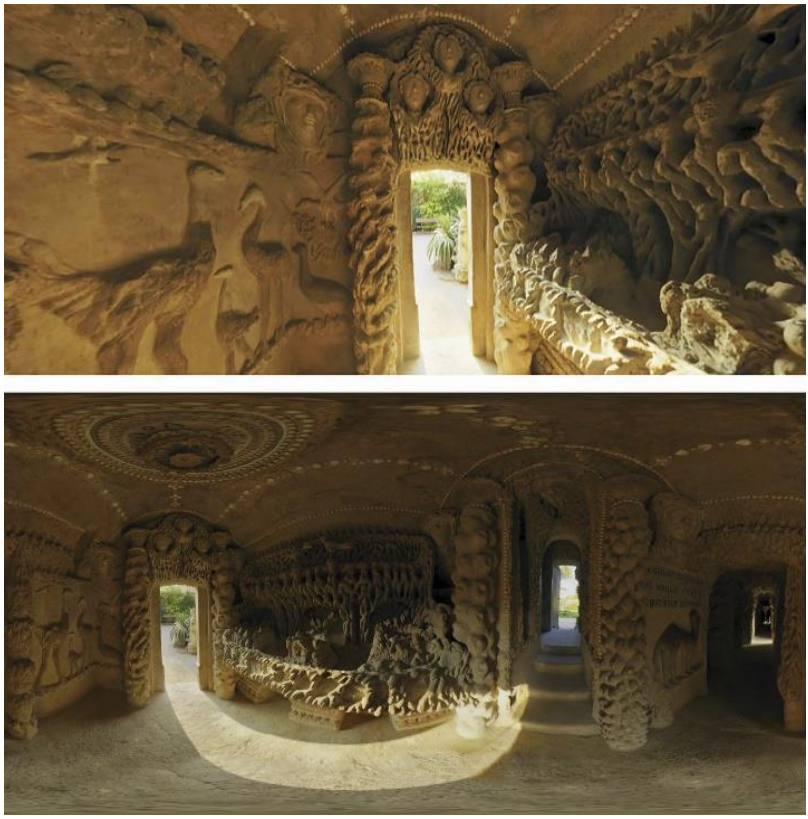
The architect of Palais Ideal, known as Ferdinand Cheval or Postman Cheval, lived between 1836 and 1924. Cheval, who worked as a postman between 1879 and 1912, had no architectural training. When he was constantly on the road due to his profession, he accidentally found pumice stone. He built Palais Ideal between works with pumice stone (Vargün, 2020). Palais Ideal, Cheval's 40-year construction, is located in the town of Hauteveris, France (Picture 1). Thanks to Palais Ideal, which was granted the status of cultural heritage in 1969, this town,

which was not very touristy in the past, started to receive more than 100,000 tourists a year (Arıbaş, 2021).

Although Palais Ideal was not built with any artistic effort, it has become a building that is given importance by philosophers, especially by surrealists, who seek the aspect of space that liberates thought and emotions. In addition, another aspect that makes this building receive praise is that Cheval is the postman, and this building shows that architecture stands in a place where anyone who wants and feels can do it (Picture 2). To emphasize this, Ferdinand Cheval engraved the following words on the walls of Palais Ideal:

"I am not a builder. All my life I have neither used a trowel nor was I a sculptor. Let alone being an architect, even a chisel was a foreign tool to me. Know that everything you have witnessed is the work of an ordinary villager who created the queen of the world inspired by his dream" (Arıbaş, 2021).

Picture 1. The construction times of the Ideal Palace, **(**https://laterreestunjardin.com/)



Picture 2. Interiors of Ideal Palace, (https://phototheque.damienlachas.com/picture.php?/16343-palais_ideal_facteur_cheval_interieur_hdr%20adresinden%20al%C4%B1nd%C4%B1).

There are many people, archaic symbols, tropical animal and plant figures on the ceilings, walls and beams of the Palais Ideal, made by Ferdinand Cheval using pumice stone. There are various inscriptions on its outer and inner walls. When these inscriptions, symbols and images are examined, it would not be wrong to say that Cheval was also a sculptor. Both the forms and the mysterious and mythical structure of the interior spaces of Palais Ideal fascinated many philosophers and architects (Picture 3). It is completely different from the didactic and function-oriented approach of modern architecture, with the expected shock effect and triggering of the intellectual process at the time of encounter of the observer and spatial images. Palais Ideal, designed by Ferdinand Cheval inspired by a dream he had seen, is the work of a designer who could not get out of his dream for years and recorded the images in his dreams. This structure establishes a completely free producer and consumer bond both in the production phase and in the meeting with the user.

"The Ideal Palace is a setting that requires witnessing, exploration, and occupation of home space, and is fundamentally separated from the idea of an object isolated from other elements in neutral space" (Suderburg, 2000, p.11).

Picture 3. Symbols found in the Ideal Palace, (https://phototheque.damienlachas.com/picture.php?/16343-palais_ideal_facteur_cheval_interieur_hdr%20adresinden%20al%C4%B1nd%C4%B1).

The architectural design of Palais Ideal and the combination of symbols were formed in Ferdinand Cheval's dreams. The observer, who is a living image, and the image as a spatial element, united in imagination, opened the doors of both intellectual and sensory processes and gave their product. Palais Ideal is completely out of the routine with its spiral staircases, underground rooms, and walls where the information that Cheval sees from postcards is engraved in his

mind (Picture 4). Palais Ideal almost defies modernity by not being designed only with a focus on function and with rhythmic movements both on its walls and in its form. The construction of only the outer walls of this building, which stands against rapid production and consumption, took twenty years.

Picture 4. Symbols found in the Ideal Palace, (http://www.dailymail.co.uk/travel/travel_news/article-3004102/Labour-love-Tenacious-postman-spends-33-years-building-impressive-PALACE-pebbles-collected-daily-route.html).

The shock effect arises due to the irregularity in the building form, the excess of archaic and mythical symbols, and the amazing effect of curved forms, thus the observer encounters the uncanny inside and outside the building. This concept, which modernity denounces, is praised by protest philosophers and architects, and ways of using the uncanny's contribution to the intellectual process

more efficiently are sought. In this quest the Palais Ideal is cited as a valuable example.

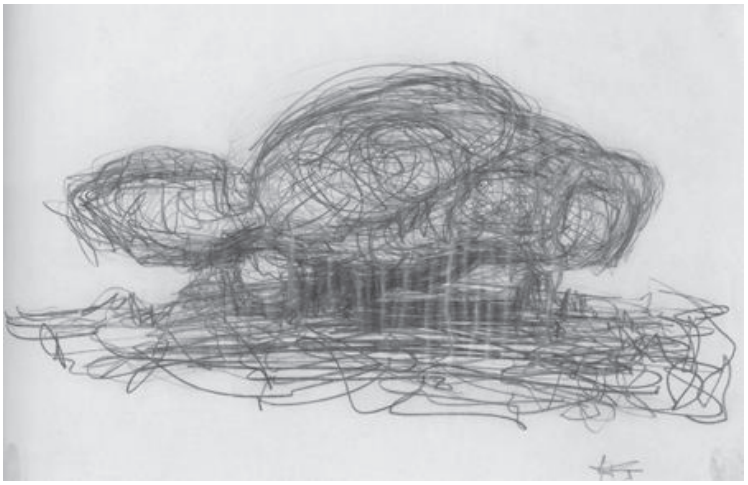
"The writings on how the surrealists theorized and represented architectural space in the period between the two world wars focused more on the open opposition of surrealism to the dominant trends in modernist architecture, and the movement's stance on both counter-modernist tendencies (especially Art Nouveau buildings and Postman Cheval's Palais Ideal) and in the 1930s,they drew attention to her calls for architectural (but largely imaginary) spaces that contained myth, unconscious meaning and the uncanny" (Artun, 2014, p. 462).

Architecture discipline; material, construction, function etc. as a branch of art that requires the establishment and calculation of the unity of the elements, it has sometimes been removed from its psychological and sensory aspects. But space is also a branch of art that plays an active role in the process of reaching the unconscious. To be purely realistic and utilitarian about space, which so affects everyday reality, memories and experiences, would be to miss an important point in the design phase. In modern architectural works, it is seen that this aspect of space is used to shape and discipline the subject and is designed in accordance with the views of some ideologies. However, for philosophers who argue that individuals should enter an independent intellectual process, space also has the power to disrupt the balance and bring it into a free intellectual process, as in Palais Ideal. Therefore, Ferdinand Cheval designed the space, which he designed unconsciously or fully aware, in a form that will contribute to the independence of the intellectual process and the proliferation of desires, in the unity of images and symbols.

3. Frederick J. Kiesler

Frederick John Kiesler was an architect and sculptor who lived from 1890 to 1965. Unlike Cheval, Kiesler was interested in surrealism in the 1940s when he was in New York and developed various architectural designs in line with this trend (Phillips, 2010). The designs he made in line with a certain art movement are the designs made by Kiesler by taking into account the psychological and sensory effects of the space. Thus, he differs from Cheval on this point.

In the process of dealing with the surrealist movement, which seeks the intellectual impulse in the space, the first design he made was "Art of This Century". Later, he designed the 'Hall of Superstitions (Salle des Superstitions)′. But it took him more than 40 years to design one of his best-known works, 'Endless House'. It is seen that the spaces designed by Kiesler use fluid and rounded lines in the forms interior as well as in the building exterior. He avoids didactic and sharp lines in the building form, and moves away from the routine in the form with the fluidity of the space (Picture 5).



Picture 5. Frederick Kiesler, Endless House Sketch, 1956, (http://www.e-skop.com/skopdergi/sunus-mimarligi-bastan-cikarmak/1930).

Although the 'Endless House' design has been worked on for years, it has remained an unapplied design. The reason for this is not the deficiencies in its construction or other reasons, on the contrary the eternity effect of the space on the user has also been reflected in the eternity of the design. (Picture 6). Kiesler (1968) describes this situation as follows:

"All endings meet in 'Infinity', just as they meet in life. The rhythm of life is cyclical. All the endings of life meet for twenty-four hours, for a week, throughout life" (p. 566). Kiesler, who wanted to design a space with an endless flow instead of a space that is consumed quickly, thought that its production should not be with the speed brought by the industrial revolution. This whole process of reconciling space and the unconscious did not cause Kiesler to forget the architectural requirements. In the structural system, he preferred the building envelope instead of the beam-column combination, thus providing the desired continuity and variability (Picture 7). With the freedom given to the interior space by the building envelope construction, it has given continuity in the interior spaces of the building to its user, and aimed to bring the subject into the free intellectual process with the law of variability, which is the ritual of life.

"Kiesler's Endless House, which he first modeled in 1924, was met with great interest by Surrealists. Tzara, Matthew and Kiesler's thoughts on residential architecture are almost complementary to each other, and all three descriptions, in their crudest form, correspond to 'everything that isn't modern housing' " (Gönül, 2014, p.107).

Picture 6. Frederick Kiesler, Endless House, 1958, (http://www.e-skop.com/skopdergi/sunus-mimarligi-bastan-cikarmak/1930).

Picture 7. Frederick Kiesler, Endless House model interior, 1960, (http://www.e-skop.com/skopdergi/sunus-mimarligi-bastan-cikarmak/1930).

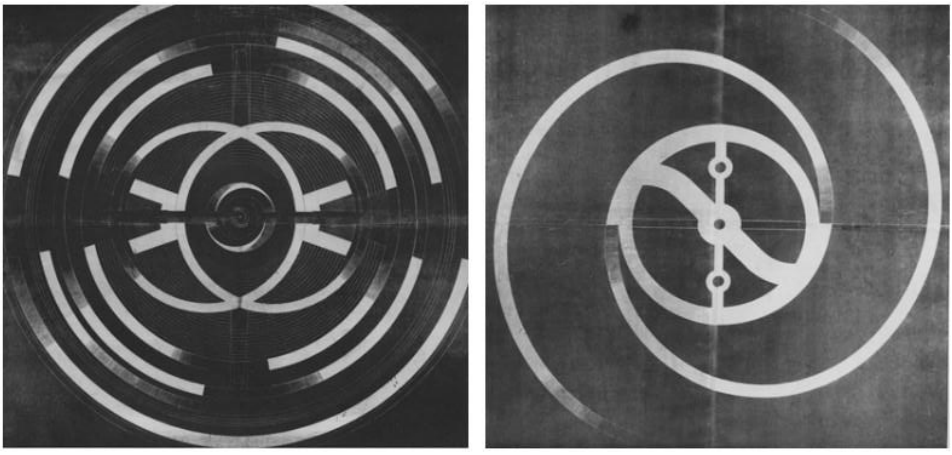
Due to its effect on the daily practice of the subject, especially the intellectual and sensory aspects of housing designs have been important for protest philosophers and designers. It is seen that the forms of modern architectural residences are negated in the process of reaching the thoughts and desires to the unconscious. These philosophers, who did not find the right angle suitable for the flow of nature, found what they were looking for in Kiesler's 'Endless House' design. Tristan Tzara (1933) expressed his views on the interior as follows:

"Interior architecture that makes use of the elements of everyday life does not represent a step back, on the contrary, it is a real step forward towards the natural liberation of our strongest desires – our innermost and eternal desires" (p. 81-84). While fixed and sharp forms lead the subject to an orderly and surprise-free life, amorphous systems allow the subject to enter into a free and natural process with their flexibility. While the fluid and changeable forms provide a liberating energy with the surprising effect they create on the subject, protest philosophers ascribe great meanings to the space with the belief that this energy will spread to the society. According to Gönül (2014):

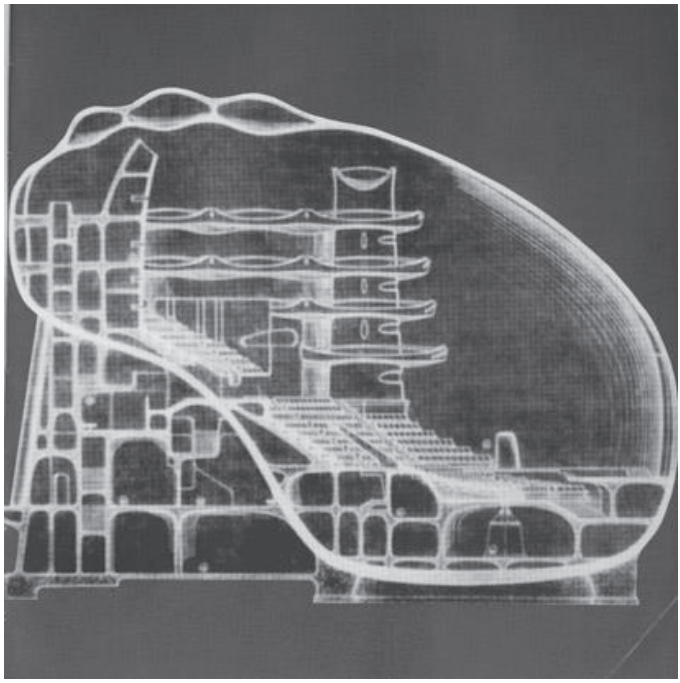
"Just as Surrealist thought reveals the imaginary in psychic experience and rational reality and thus shakes reality, the formless practices in the flow of life shake the architectural form by presenting its immanent practices and thus question the efforts of forms to organize the world" (p. 196).

Another important and promising design of Frederick Kiesler was the 'Endless Theatre' (Picture 8). In this design, Kiesler aimed to break functional and formal memorizations, and proved that architectural aspects that seem obligatory are actually debatable. As in the design of the endless house, continuity and fluid forms were prioritized in the endless theatre, and giant ramps were constructed uninterruptedly and joined each other at every stage. These space types, which are an alternative to the formalist perspective, have received great criticism as well as great praise (Picture 9-10).

"Kiesler added a new dimension to architecture. Events could not be separated from spaces, and spaces from deep unconscious processes. Kiesler chose to stubbornly continue the search that he started in Vienna and Berlin when Dada and expressionism were at their peak, instead of allocating a place for himself in the main tendencies of the architectural ideology of the time" (Artun, 2014, p. 152).



Picture 8. Frederick Kiesler, Endless Theater Plan, (http://www.e-skop.com/skopdergi/ideal-tiyatronun-izinde/1943).



Picture 9. Frederick Kiesler, Endless Theater Section, (http://www.e-skop.com/skopdergi/ideal-tiyatronun-izinde/1943).

Picture 10. Frederick Kiesler, Endless Theater Section, (http://www.e-skop.com/skopdergi/ideal-tiyatronun-izinde/1943).

Since all this flow takes the subject away from the discipline, it brings the uncanny next. The surprising aspect of the uncanny is endorsed as an element that activates the unconscious and is clearly seen in Kiesler's designs. As Lefebvre (2014) said:

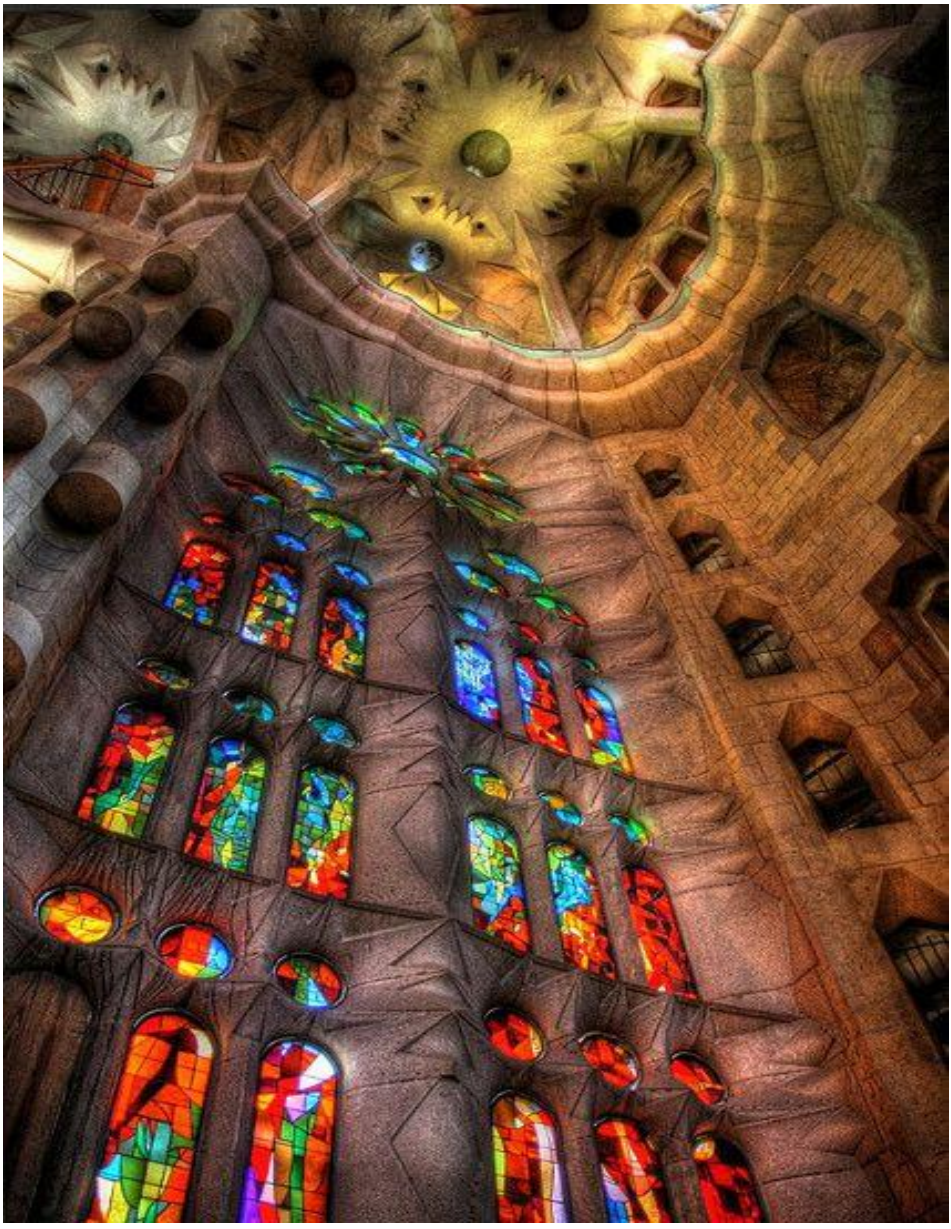
"Person does not live by words; every 'subject' settles itself in the space in which it recognizes or loses itself, thereby making use of or changing" (p. 49).

The memories and experiences accumulated in the mind are reflected in our daily behavior and thoughts. These memories and experiences always exist with a place and when the day comes, they are recalled from our minds. Therefore, the more free and natural flow our thoughts and feelings are, the more they will be reflected in the social sphere. Space is the inevitable partner of all our feelings, thoughts, dreams and desires and the source of their embodiment. The fact that spaces carry elements such as the uncanny, formlessness, unity of opposites paves the way for a mental flow. It has been the priority of architects like Kiesler to create the elements that will enable and even trigger the unconscious in this mental region. It has been seen by protest philosophers that he has this concern in his designs and has taken its place among the architectural experiments that set an example in their spatial search.

4. Antoni Gaudi

Catalan architect Antoni Gaudi, who lived between 1852 and 1926, has many works in Neo-Gothic and Art Nouveau styles. Antoni Gaudi worked as a blacksmith's apprentice in his youth and this reflection is seen in his architectural works (Erkan Yazıcı, 2016). Like Ferdinand Cheval, Antoni Gaudi's architectural approach can be said to be archaic. In his works, archaic and mythological symbols and images match the flow of nature, and straight and sharp lines are rarely encountered (Picture 11). Dalibor Vesely relates the following about the forms and symbols in Antoni Gaudi's works:

"Returning to archaic forms is identical with the search for the housing or source of architecture, which is one of the main motivations of Art Nouveau" (Gönül, 2014, p. 110). The motifs used extensively in Gaudi's works are extraordinary and striking. What is fascinating about these motifs, which can be said to call for a return to culture or a return to essence, is the absence of symmetry and didactic forms. The user is always in a discovery. There are architectural elements that are far from uniformity, push the observer to the intellectual process and sometimes surprise them. This reveals an architectural model that moves away from the order and function-oriented state that is often seen in modern architectural works.



Picture 11. Antoni Gaudi, Interior detail of Sagrada Familia, (https://tr.pinterest.com/pin/553309504193868458/).

The work of Gaudi's Casa Batllo, which was built in 1877 and purchased by Josep Batlló in 1900, fascinates its visitors with its dragon-like roof, forms that remind nature and fluidity, windows and doors, ceiling designs, lighting and woodwork (Picture 12) . Although this type of structure responds to the function,

it is a work that is not completely functional, appeals to emotions and thoughts, and opens the door to different mental states to the subject.

Picture 12. Antoni Gaudi, Interior of Casa Batllo, (https://www.casabatllo.es/en/online-tickets/visit-casa-batllo/).

Casa Mila, another important work of Gaudi; it is a building consisting of flats and offices, built between 1906 and 1910. Like Casa Batllo, Casa Mila creates a magical effect on the user or visitor. In this structure, too, sharp lines and routine were avoided and a space emerged where the subject's mental state and imagination were activated with fluid and curvilinear forms. In the cast iron balcony irons, both Gaudi's blacksmithing past is reflected and it is seen that every detail has been considered while designing the building and there is an excellent workmanship. Salvador Dali says that the facade of Casa Mila was bent because he was suffering from mental illness (cited in Gönül, 2014). As can be understood from this interpretation of Dali, there is a structure that activates our dreams, is surprising and encourages interpretation. The beauty that Dali expects in buildings, which he describes as magnificent and innovative, is present in Gaudi's works. It is reflected in the bond with structures that Gaudi, who is Catalan like himself, established with the unconscious. These structures, which are unpredictable, surprising and the product of spiritual automatism, drag the observer into unconsciousness and automatism with rhythmic surprises, fluctuations and extraordinary architectural details. The mysterious world of the observer is triggered at every stage in the discovery of structures.

Lived space, which is one of the spatial triad dialectics cited by Lefebvre in his book 'production of space', is seen in Gaudi's works. This type of building, which is far from coercion and has positive effects on mood and intellectual process, is a title where the social impact of the concept of space is positive (Lefebvre, 2014). The stimulating aspect of the space is in the lived space; it is sought in the space, which is the opposite of architectural approaches in which elements such as rationality, functionalism and formality are very dominant. As Lefebvre (2014) reports, spatial practices are experienced before they are designed, but the conceived space has a speculative priority over the lived space. In this way, it becomes unable to respond to the 'unconscious' of what is experienced, because it has eliminated practice and reflex.

Gaudi's works influenced many artists and art movements; set an example that the concept of space can find a place in these art movements. Protest movements found emotion, thought, and unpredictability in Gaudi's works. One of the most important artists influenced by Gaudi's works with this shocking and magical side was Salvador Dali.

5. Salvador Dali ve Art Nouveau

Surrealist painter Salvador Dali lived between 1904-1989. The space designs of Dali, who is interested in Art Nouveau, are compatible with the surrealist movement (Picture 13). Nur Altınyıldız Artun conveys the views of the supporters of the surrealist movement, including Dali, on Art Nouveau as follows:

"At the beginning of the 20th century, Art Nouveau architecture represented the 'desire for the ideal' with unexpected force. Salvador Dali was the first to mention this with a passionate article he wrote. For Dali, Art Nouveau buildings were 'architecture embodying concrete and wild desires' " (Artun, 2014, p. 468).

Picture 13. Salvador Dalí, Surrealist Architecture, 1932, (http://www.e-skop.com/skopdergi/sunus-mimarligi-bastan-cikarmak/1930).

Salvador Dali, like most of the surrealists, argued that there can be architectural designs that defy functionalism and logic (Picture 14). It praises the awesome and edible beauty of architecture as an object of love. Edible and awesome object of love is a childhood definition. The instinctive urge to eat the objects that people love in childhood was the element that Dali expected from architecture. In this way, he found architecture in Art Nouveau, which converges with dreams and triggers the impulsivity of the observer. Attributing various feelings to architectural symbols and images, Dali criticizes that what is expected from architecture is functionality-oriented. Gönül (2014) transfers Salvador Dali's interpretation of space in his thesis:

"Dali uses the word 'object of desire (l'objet du désir)' to describe Art Nouveau building elements and attributes to these objects a critical and liberating potential" (p. 101).

Picture 14. Jules Lavirotte Entrance Door Detail, (https://tr.pinterest.com/pin/92886811036126322/).

There are also archaic and mythical elements in Dali's search for space. Just like Gaudi and Cheval, Dali and the surrealist Andre Breton find what is thought-provoking and surprising in these symbols and images in the space. This astonishment will shake the observer and open the doors of the imaginary and emotional world. The fact that their search was met in the Art Nouveau movement brought them closer to this movement. These places, which have the potential to activate the unconscious, have kept their attention for a long time with their exotic images. However, over time, Art Nouveau's focus on the technical dimension of architecture has been criticized by some philosophers.

Dali and others have distanced themselves from technical and functionality-oriented space designs, they criticized Lefebvre's understanding of controlling architecture, which is included in the spatial triad dialectic and examined under the title of 'conceived space'.

“For Dali and the Surrealists, this discrediting issue of Art Nouveau means more than one thing, first of all, they perceive it as a suppression, so they identify it with the subconscious. As a matter of fact, he points out that this suppression, which Dali blames for the ‘functionalist ideal’ of modern architecture, is expressed hysterically in Art Nouveau” (Gönül, 2014, p. 100).

The desire of modernism to continuously increase consumption relations has caused surrealists to value what is consumed or cannot be consumed immediately. For this reason, it was attractive for Dali that Art Nouveau could not be consumed quickly due to both the past and the abundance of architectural details and the lack of routine.

They found the 'pure automatism' they were looking for in Art Nouveau architecture, which contains uncanny, exotic images and does not have monotonous forms. Instead of a right-angled morphological approach, Art Nouveau is dominated by surprise and fluid forms dominated by soft forms. It seemed possible to catch the reconciliation of dream and reality in these forms. Thanks to these forms, it is thought that it will be possible to reach the object of desire or passion that Dali hopes for. According to the Surrealists, it will be possible to reach pure automatism by realizing this point through space. Exaggerated ornaments and symbols, soft lines in harmony with nature, contrast with right angles, various colors and Art Nouveau architecture that encompasses the user contain many elements that will surprise the subject with the awesome (Picture 15). Salvador Dali (1933) says the following about Art Nouveau buildings in his article ‘Concerning the Terrifying and Edible Beauty of Art Nouveau Architecture':

“In an Art Nouveau building, Gothic elements turn into Greek or Far Eastern style, or if – thanks to an involuntary fantasy – comes to mind, the Renaissance style, and then the dynamic-asymmetrical (!) pure Art Nouveau style. All of this takes place in a frail time and space consisting of a single window, that is, an unknown and possibly dizzying time and space, which, as we mentioned above, is nothing but the time and space peculiar to dreams” (cited by Artun, 2014, p. 17).

Picture 15. Josep Maria Jujol, Torre de la Creu, Barcelona, Spain, (https://tr.pinterest.com/pin/92886811036726026/).

Gönül (2014) conveys the point of view of Dali and other surrealists as follows:

In fact, irrational forms, and especially Art Nouveau, were loved and endorsed not only by Dali, but by all Surrealists in general. In his Situation Surréaliste de l'Objet, Breton says that Art Nouveau is the first to approach Surrealism among the arts by externalizing the external world, returning to the inner world of consciousness and expressing it visually (p. 96).

Dali meets the criticisms of Art Nouveau with the expression "grimaces made with the instinct of suppression and defense" in his article ‘Concerning the Terrifying and Edible Beauty of Art Nouveau Architecture’ written in 1933. Defining Art Nouveau as the most extraordinary movement in the history of art,

Dali, as a surprising and exotic movement, states that he thinks that the critics do this in an effort to establish superiority. For Dali, Art Nouveau has the effect of raising the collective emotion with the power of directing the user's behavior and thought of the space (Picture 16).

"The blurring of the lines between the mental and the physical, the organic and the inorganic, one of the characteristic pleasures created by Art Nouveau for Surrealists, was, among others, created by Dali, it was transformed into a formulation emphasizing the fatal intersection of the biological and the structural, the building and the psyche, architecture and hysteria, to produce the ultimate object, or at least the embodiment, of architecture and hysteria" (Artun, 2014, p. 16).

Picture 16. Hotel Tassel, Belgium,
(https://tr.pinterest.com/pin/498984833725081465/).

Thus, from Dali's point of view, Art Nouveau resembles a neurotic child. This movement, which reflects the opposition of formality and rationality, seems to object to the imperialism's passion for order with its architectural elements and forms. For Dali, Art Nouveau is the embodiment of desires and passions. It creates an unplanned and chaotic effect with its irregular and fluid forms. Thanks to this disorder, the possibility of pure automatism arises. Even in the carrier system of Art Nouveau, there are many curved lines, folds and ornaments. Structural requirements are met, but these structural elements are removed from uniformity. Salvador Dali finds most of the features he expects from architecture in Gaudi buildings. According to him, the fairy-tale aspect of Gaudi structures has a concerning the terrifying and edible effect. The decorations of the carrier system, building heights, stained glass and mosaics in Gaudi architecture seem to challenge strict individuality (Picture 17). Flowing water forms, animal symbols almost keep the observer in a constant state of amazement.

Picture 17. La Sagrada Familia interior, Spain, (https://tr.pinterest.com/pin/14777505019175624/).

Dali (1933) states the following about Art Nouveau architecture in his article ‘Concerning the Terrifying and Edible Beauty of Art Nouveau Architecture':

“Thus, in my view, the most ideal Art Nouveau architecture is precisely that which embodies the highly concrete and frenzied desires of hyper-materialism. An example of this obvious paradox is found in a very common analogy: In this

very clear, albeit badly used analogy, an Art Nouveau house is likened to cakes, to decorated cakes in a 'confectioner's window" (pp. 69-72).

For Salvador Dali, Art Nouveau has spatial features that can enable the free energy of the individual to be released; apart from its purely functional purpose, it also has triggering effects on emotions and thoughts.

6. Conclusion

Conceived spaces have the potential to shape the observer. Protest philosophers were influenced by this power of space and based their discussions on space on how to turn this potential into a liberating role. They sometimes made inquiries and sometimes made designs in the hope of spreading the energy that will transfer to the observer to the society thanks to the liberating aspect of the space. Point of interest; as Lefebvre mentioned, how the space can be designed as a center of resistance has been. They are of the opinion that reaching the unconscious through space and opening the doors of the world of imagination will turn the space into a center of resistance. The repetitive, right-angled forms of modern architecture and its functionalist approach block the way of space to the unconscious. It becomes a means of disciplining the subject for ideological or ethical reasons. These types of spaces also coincide with Lefebvre's definition of conceived space. The risk of spatial codes transforming the user into machines without surprise has been the focus of criticism of protest philosophers. These philosophers have the view of deciphering and demolishing the routine codes of space. They stand behind spaces that allow imagination, desires and passions. It questions the social aspect of the space's encounter with the observer; they look for a way to naturalize the moment of encounter with architectural elements and after. By being involved in the social production of space, it will also be possible to interfere in the reproduction of social relations.

The regulation of society by authority requires regulation of urban and smaller scales. Elimination of surprises and mechanized individuals will also be able to eliminate risks. For this reason, the social power of architecture has always stood in an important place. Therefore, the forms and visual codes in this branch of art, which can shape the user's movement and intellectual direction, are more important than they appear. Since stable and right-angled forms do not create a surprising effect on individuals, they lead individuals to routine. Functionalist approaches, on the other hand, are absolutely necessary, but when taken alone, they eliminate the potential to nurture psychological and intellectual effects. In this way, the subject of discipline becomes socially predictable. If we remember that there is a chain of interaction from individual to society, even the most ordinary moments can trigger the energy of the individual. This form of design, which directs individuals to be consumers rather than producers; It is a model that focuses on the future, creates anxiety and proposes to work continuously and then

consume again. Therefore, it stays away from archaic and mythical symbols. They tend to focus on 'what will happen' rather than on culture, experiences and memories. The 'what will be' here is an ideology.

While the constancy of forms is so certain, amorphous structures are ambiguous. It presents the uncanny to the observer in interior spaces. Meeting with the observer creates a completely surprising effect, aside from leading to routine. With the triggering effect of surprise, it is possible to reach the unconscious of the observer. This ambiguity effect is seen in the Art Nouveau structures praised by Ferdinand Cheval, Frederick Kiesler, Antoni Gaudi and Salvador Dali. The works, in which mythical and archaic forms are frequently seen, always surprise the observer with such architectural symbols and images and prompt them to think. In the process of experiencing the structures, it is possible to encounter a new surprise at every moment. Both symbols and forms, with their ambiguity and surprise, open the door to reaching desires and passions. These spaces, which can be considered as psychological spaces, invite the observer to the natural flow, reminding them that they are not machines. The first reason why protest people who develop ideas or designs about the space are so uncomfortable about being disciplined is that they have to serve an ideology without the consent of the subjects. Another reason is; right angles, stasis, stability do not exist in nature. Nature is fluid and changeable. It does not contain fixed geometric forms, this forms that are difficult to define. It offers and calls for change. Everything flows, everything transforms. Based on this idea, it is not natural for both structures and subjects to remain fixed and stable. Therefore, protest artists and philosophers suggest staying with the flow. They look for feelings and thoughts formed by pure automatism, spatial forms that do not direct movements, images and symbols that have surprising and thought-provoking effects. Mythical symbols, archaic symbols and exotic symbols are seen especially in Ferdinand Cheval, Antoni Gaudi and Art Nouveau structures. Frederick Kiesler, on the other hand, studied forms rather than archaic symbols and images. As an architect, he tried to find continuous transformation and eternity in space design in the interior. While reflecting the pursuit of continuity and eternity on its forms, he also designed the carrier system, instead of the column-beam system that he thought obliges the buildings to be at right angles; proposed the shell carrier model. In this way, he wanted to destroy the idea that sharp lines are inevitable, and showed in his works that the shell carrier and cover system can free the designer in terms of continuity. He wanted to place eternity and change against the stability and monotony that he saw as a nightmare.

The concept of beauty of protest philosophers and designers who aim to replace the object of use with an object of emotion, also emerges with more intricate and great efforts. Designs that take a long time to be consumed by the observer, such as designs that strengthen the labor element in production, are

sought. Art Nouveau structures praised by Ferdinand Cheval, Frederick Kiesler, Antoni Gaudi, and Salvador Dali can be found in response to these searches, both in the presentation of their carrier systems, in their interiors and in covering building elements.

Some of these types of structures remained as draft projects, as in Frederick Kiesler's 'Endless House' design, while others were produced with different impulses from these ideas. The effect of some structures produced out of awareness on the subject was observed by protest philosophers and designers, and the expected reaction was received. Many questions have arisen about the most liberating and natural state of the space, and important research has been done for the answers to these questions. Thanks to these discussions, it was possible to search for alternatives to conventional architectural trends and to produce alternative space designs. In order to discuss the inevitable effect of spatial practices on memories and experiences of the subject; it has set an example for many philosophers and designers, and seminal design and written works have been put forward. Therefore, researchers who are in search of alternative spaces should discover the common point of these exemplary structures; a concrete understanding of the effect of use of architectural elements on the observer; it will be useful for future written works and designs.

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Chapter 5

Landscape Design Process of Mass Housing: Case of Arhavi Beşevler Mass Housing

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ABSTRACT

Mass housing should not be designed as structures where the need for shelter is met, especially in cities with high population density, but should be designed as spaces where individuals can re-establish their broken relationship with nature, strengthen broken neighbourhood relations, meet their daily needs and socialise. Landscape architecture is a design discipline that reveals functional, aesthetic, and ecological spaces in line with human needs. In this professional discipline, it is aimed to create liveable spaces in a wide range from single house gardens to regional parks. In this study, liveable landscape designs and processes produced in line with different concepts for a mass housing area in Arhavi were evaluated. The landscape design process is a process that consists of different stages (survey, bubble diagrams and design decisions, production of design alternatives and hardscape design, planting design, cross-section-views from the working area, space details, material-furniture designs, dimensioning, lighting, and irrigation projects) that must be carried out with discipline. the landscape designs of 5 students who carried out the project process in a disciplined manner discussed in this study. Some suggestion were proposed for spaces that are not repetitive, unique and of high physical quality. It is thought that explaining the landscape design processes carried out at different scales will be a guide for both landscape architecture students and designers.

Keywords: Landscape design process, Mass housing, Arhavi.

INTRODUCTION

In Maslow's hierarchy of needs theory, there is the need for shelter, which is one of the physical needs at the base of the pyramid. Housing is a social formation where the need for shelter is met.

As a product of the established life culture, housing can be perceived as an element that integrates human beings with the environment and social structure, conforms to the environment, and shapes daily life experiences from its existence to the present. Due to their characteristics, housings can also be expressed as places with protected areas, special identity, and personal value (Koçhan, 2003; Şahin, 2008, Dönmez et al. 2015: 2). Houses can be seen not only as a physical object where human needs are met, but also as a social and cultural unit in which the identity of the people living in that place takes place (Dönmez et al. 2015: 2). Historically housing is an organized model of communication, interaction, space, time, and meaning. Housing reflects the characteristics, lifestyles, behavioural codes, ecological choices, images, and time-space classifications of ethnic groups. (Gür, 2000 Yücedağ et al., 2017: 115).

According to the World Bank data, the rate of population living in urban areas in Turkey in 2020 is 76% (Ministry of Environment, Urbanization and Climate Change, 2022). In this case, the need for sheltering has increased the housings needs in cities. Nowadays there is vertical growth (mass housing or site settlements) especially in cities where the population is crowded while there was horizontal growth in the past. Thanks to this vertical growth, it is of great importance to include green infrastructures that provide many ecosystem services to cities in land use.

Mass housing are residential communities where relationship between houses is established, infrastructure problems are resolved, people can meet their daily and continuous needs, have social facilities and green areas where they can communicate, and are planned considering future developments (Orhon, 1987; Atala, 2002; Dönmez et al., 2015: 2). There are conditions that increase and decrease the value of housings. Conditions that increase housing value; recognizing the environment, the natural relationship between the house and the exterior, the actively used open space, the private environment, the active urban environment, the calm natural environment, the landscape, the regularity of the housing environment, the complete equipment, and the environment free from polluted air. The conditions that reduce the value of the house are climbing stairs, no visual contact with the ground, no emotional connection with the ground, anonymous neighbourhood, neglected garden and house, disconnection of the house-green space, sound permeability, unpleasant

environment, environment that does not allow movement, and noise and air pollution. (Giritlioglu, 1991 Özyavuz and Dönmez, 2016: 111).

Nowadays, people spend their daily routines in structures. Although these structures are modern, being closed spaces cannot reduce the stress factor, which is the pandemic of our age. At this point, landscape designs are important in mass housing that allows individuals to contact with nature. Özyavuz and Dönmez (2016: 111) stated that it is necessary to organize the environment as well as the housings for people to live comfortably, safely, and happily like their homes.

Design is a challenging process in which knowledge, skill, pleasure, and creativity are kneaded with awareness and inspiration and expressed through artistic and aesthetic presentation (Atik, 2020: 97). Landscape architecture is a design discipline that reveals functional, aesthetic, and ecological spaces in line with human needs. In this professional discipline, it is aimed to create liveable spaces in a wide range from single house gardens to regional parks. In this study, liveable landscape designs and processes produced in line with different concepts for a mass housing area in Arhavi were evaluated.

MATERIAL and METHOD

The mass housing area located in Arhavi district of Artvin province in the Eastern Black Sea Region of Turkey is the material of the study. It is very close to the city center, is located on Şehit Asteğmen Mehmet Altanlar Street, and there are schools, police headquarters, gas station and shopping areas in its immediate vicinity. There is no landscape design in the study area, only sitting units, lighting, and rubbish bin. The study area is slightly slope and located between 16-20 elevation and its total areas is an approximately 14600 m^2.

Figure 1. Study area

The landscape design process is a process that consists of different stages that must be carried out with discipline. Although it is sometimes difficult for students, the products they have obtained because of this process keep students happy and motivated. The first stage of this process is the survey. Afterwards, the process is completed with bubble diagrams and design decisions, production of design alternatives and hardscape design, planting design, cross-section-views from the working area, space details, material-furniture designs, dimensioning, lighting, and irrigation projects.

Students are taught landscape designs that produce solutions for problems in different areas from landscape designs of single housing areas where the number of users is low to the landscape designs of mass housing and campus where the number of users is high at Artvin Çoruh University Faculty of Art and Design Landscape Architecture Department. In this study, students were asked to make a landscape design for a mass housing with a high number of users in Arhavi district within the scope of Project V. First, they were asked to prepare a survey-analysis sheet by conducting field studies. Afterwards, they were asked to create bubble diagram and design sheets in line with the concepts. By creating design alternatives for the study area, they were asked to develop a hardscape design by choosing the best among the alternatives and to make a planting design. Then, students asked to took section-views of the area, prepared a sheet containing the details of the place, the materials and furniture details they used in the work area, a dimension sheet, as well as a sheet with 3D visuals that would make the spaces more understandable, and finally, prepare a presentation sheet that used lot of work in their professional life. They were also asked to prepare a presentation sheet that they would use. In this study, evaluations were made regarding these processes and the obtained products.

RESULTS

Project courses in the landscape architecture department are carried out in groups in studios. Project V course started with a group of 7 students, but within the scope of the study, the landscape designs of 5 students who carried out the project process in a disciplined manner were discussed.

Findings Related to the Survey-Analysis Phase

Survey-analysis studies form the basis of the design process. If students do not carry out this process correctly and do not process the data correctly, they cannot establish the basis of their designs correctly. The students were given a study area map and they were asked to go to the area and conduct a survey. In the survey-analysis study, they were asked to analyse location, near-far

environment, slope, climate, soil, natural-cultural-perceptual data, existing vegetation, sun-shading, and transportation. They were asked to design these analyses in a 70x100 cm layout. Each student developed his/her design by receiving critics from the lecturer and obtained original products (Figure 2).

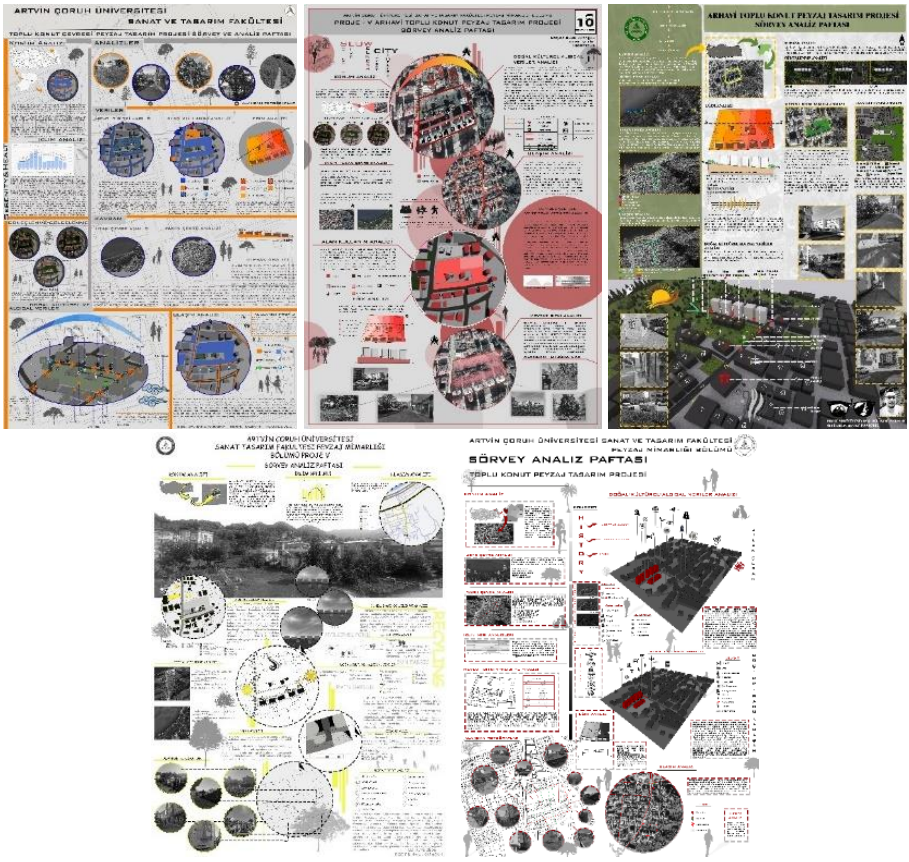

Figure 2. Survey-Analysis Sheets of the Students (Designers: Burak Nalbant, Berat Çelik, Furkan Semiz, Lütfiye Dede, Zilan Çoban)

Findings on Bubble Diagram and Design Decisions

Students were asked to identify a concept after their survey-analysis studies and were asked to prepare a list of needs-activity-space in line with this concept. They were asked to determine the circulation and the relationships between the spaces they identified in the bubble diagram and design decisions sheets. It was determined that the concepts identified by the students were Social Life, Serenity and Health, History, Recycling, and Slow City. The concepts they identified enabled students to create original activities in their designs.

Findings Related to Hardscape Design

Each student created original products in line with the concepts they determined. Their concepts are reflected in both the diversity of their activities and the forms of their spaces. The student who chose the social life concept gave more space to the users where they can come together and hold meetings, while the student who chose the serenity and health concept designed waterside sitting-walking areas and sports areas. Again, the student who chose the concept of recycling designed a biological pond and a skywalk and provided energy for the lighting of the mass housing by designing energy-generating plates on the skywalk. The student who chose the slow city concept designed static spaces instead of dynamic spaces in the study area. The student who chose the concept of history designed an amphitheatre in the area and enabled screenings to be held here. Students are freed in terms of presentation techniques.

When the design products are examined in detail, in accordance with the concept of the first student (serenity and health), it has seen that water used a lot of spaces, it has been used to separate the spaces from each other and also benefited from the sound and microclimate effect of water. In addition to private spaces in the immediate vicinity of the housing, sports areas, and walking paths that users can use for a healthy life, waterside seating rest areas, piano road, an art square and children's playground have also been designed. The second student, in line with the concept of the second student (recycling) in her design, she created the spaces in this direction, based on the importance of water and energy in our lives. She used water to separate the private and public areas of the dwelling from each other. She has designed a self-cleaning biological pond and has benefited from both the sound and visual characteristics of this water around the siting-resting areas in the vicinity of the housing. She designed a natural playground for children, sitting-resting areas, swimming pool and sunbathing area, hobby garden and assembly area. In addition, by designing a skywalk, she created a dominant point that sees the whole area, and also provided the energy for the lighting of the site by generating energy with the signs she used on this road. The third student tried to create spaces in line with the concept of history. She also designed an amphitheatre where open-air cinema screenings can be held, a barbecue-picnic area where collective events can be held, a sports area, a sitting-resting area in the immediate vicinity of the mass housing, and playgrounds with equipment such as floor chess and trampolines. The fourth student concept is social life, and the design includes more spaces for residents to spend more time together. As spatial constructions, he designed a goal field, meditation area, winter garden- assembly area, hobby garden, waterside seating areas. The fifth student created spaces with the concept of slow city. He preferred to create more static spaces in his design and designed sitting and resting areas, winter gardens, amphitheatre and dry pools around it, picnic areas, sports area, and children's playground (Figure 3).

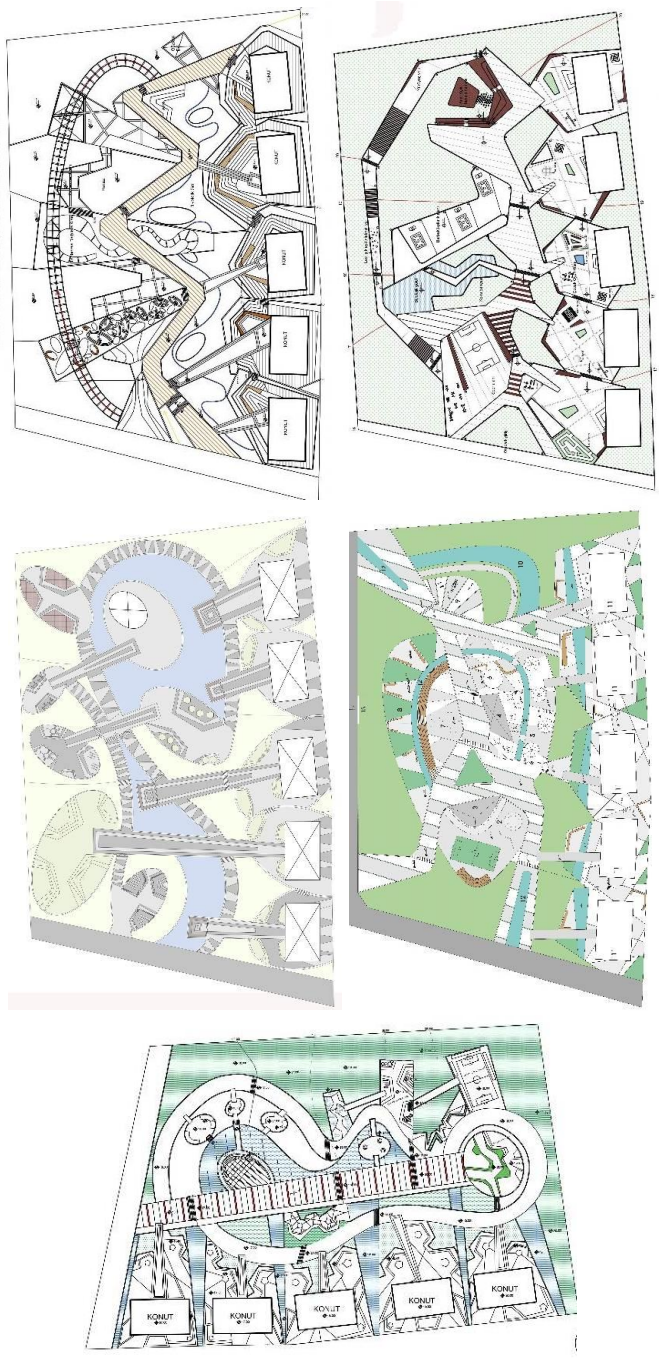

Figure 3. Students' hardscape designs (Designers: Burak Nalbant, Lütfiye Dede, Zilan Çoban, Ali Furkan Semiz, Berat Çelik)

Findings Related to Planting Design, Sectional View, Space Detail, Material-Furniture Detail, 3D Views and Dimensioning Sheets

The most basic feature that distinguishes the landscape architecture discipline from other design disciplines is that they use plants in design, which are living materials. Being an art of creating space with plants, in planting design the designer creates spaces with plants for purposes such as emphasizing and limiting as well as supporting the hardscape design. All students took care to use natural plants in their planting designs. First of all, they have done border plantings (using mostly evergreen plants) in order to provide privacy in the study area. They supported structural design within their design areas, some of them even used autumn colours in their road allusions, while others used spring colours. They have also provided the mass-void balance with plants in the design areas. In addition to using plants for functional purposes such as separating some spaces from each other and providing shade, they have also used them to create emphasis and to create aesthetic images by using the calligraphic features of plants.

After the hardscape and planting design process was completed, the students took cross-section-views, which is the 3-dimensional expression technique of the design area and gives information about the use of topography. Students also designed and prepared the details of the materials and furniture they used in the design area in a layout. In addition, the students also prepared a sheet with 3D views prepared in different programs (sketc up, 3d max, lumion) containing all the details from the study area. Finally, they prepared a dimensioning sheet to be used in the implementation phase of the project. During the preparation of all these sheets, the students produced different alternatives and their studies matured in line with the critics of the lecturer (Figure 4).

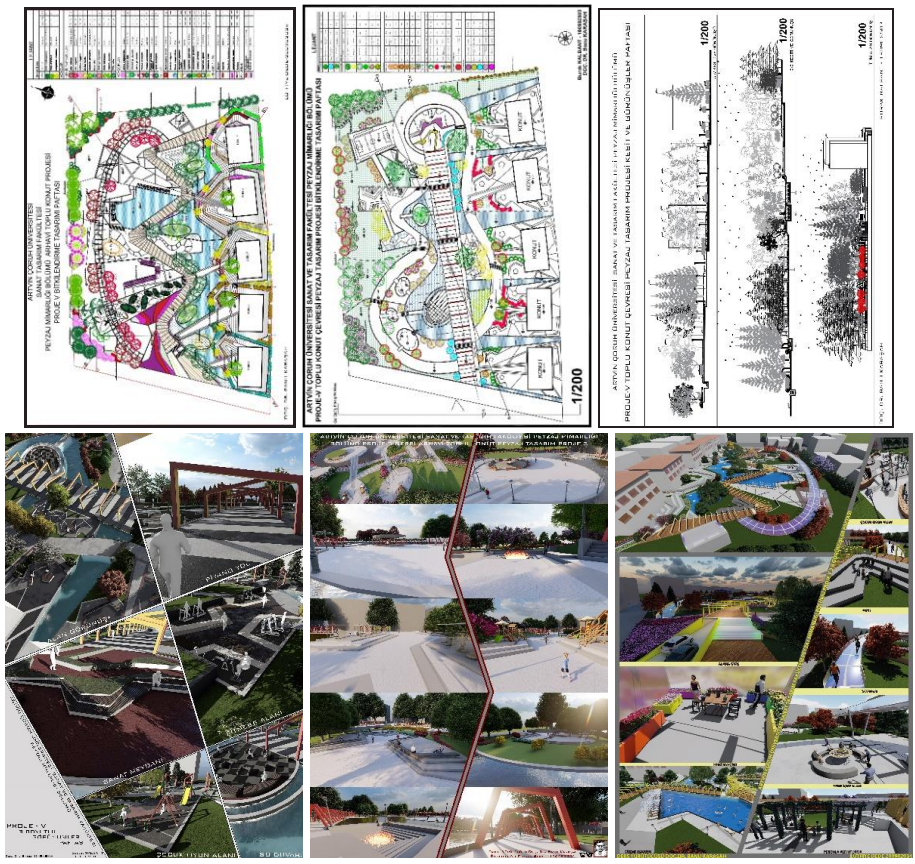

Figure 4. Planting design, sectional view, and 3D visuals sheets of the students (Designers: Lütfiye Dede, Burak Nalbant, Ali Furkan Semiz)

Findings Related to Presentation Sheets

After completing all the design processes, students are asked to prepare a presentation sheet in which they design the important details of their projects and project processes in a layout. This sheet includes 3D visuals of the project as well as introductory information (concept, keywords, plan, etc.) (Figure 5). The presentation sheet is important because it is a sheet that students will always use in their professional lives. However, students who cannot manage the project process correctly cannot prepare the presentation sheet.

Figure 5. Presentation sheets of the students (Designers: Zilan Çoban, Lütfiye Dede, Burak Nalbant, Berat Çelik, Ali Furkan Semiz)

DISCUSSION and CONCLUSION

The landscape design process, which is carried out in studio environments, is a process in which students achieve successful results when they work meticulously and regularly and produce design alternatives in line with the lecturers' critics. In this process, some students have difficulties from time to time as they must design in the process of creating the sheets. However, this is not the case for the disciplined student.

When the current studies are analysed, it is seen that the landscape design process is handled at the scales of courtyard (Karaşah, 2023), housing (Tarakci Eren, 2022a), urban part and square (Tarakci Eren, 2022b, Tarakci Eren et al., 2023, Barough and Koçan, 2023). In these studies, it is aimed to teach the approach of preparing design projects as stated by Tarakci Eren and Var (2017). In this study, in line with the same goal, the desired designs and products produced in the mass housing landscape design process were evaluated.

Since mass housing is an area with a high number of users, it is aimed to design spaces where neighbourly relations, which are broken today, can be developed, where individuals can socialise and meet their daily needs. For the same area, students determined different concepts (recycling, social life, slow city, serenity and health, history) and created spaces where different activities would be held in line with these concepts. It has been observed that these needs are met in the design products produced by the students. Mass housing are areas where common uses are intensive and dynamic and static spatial constructions are present. Nowadays, it is important for people who are disconnected from nature with these spaces to communicate again and meet their recreational needs without travelling to distant places. It has been seen that these needs are met in the design products produced by the students.

Considering today's needs and technology in mass housing, spaces that are not repetitive, unique and of high physical quality should be designed. It should not be forgotten that original designs are also produced in line with the determined concepts. For this reason, landscape architecture students should be provided to design in line with the concept and they should be encouraged to carry this into their professional life. It is thought that explaining the landscape design processes carried out at different scales will be a guide for both landscape architecture students and designers.

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Chapter 6

Design and Construction of Anka Bilim School: A Review for Process

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ABSTRACT

Preschools, primary, elementary, and high schools have an architecture that has seen significant development and modification in recent years. Like the rest of the globe, Turkey has recently seen substantial expansion and advancement in educational architecture. In the past 20 years, many private schools have been planned and built in Turkey. Scale, student capacity, educational goals, and types of schools are all different. Additionally, there are other instances around the country of the design and building process. This research intends to analyze and exhibit the aspects of the design and construction of the Anka Bilim School by conducting design reviews. Evaluations, which emphasize the contributions of design and stakeholder interaction, are shown after the finish. It is important to re-think over reviews of cases to understand practices and initiate discussions for educational spaces.

Keywords: Anka Bilim School, Design review, Educational Buildings, Involvement of Project Stakeholders,

1- INTRODUCTION

The architecture of educational buildings, preschools, primary schools, elementary schools, and high schools has visible substantial development and transformation in current years. Designing instructional facilities that meet the evolving needs of students requires incorporating architectural processes, theories, and ideas that guide powerful coaching and learning. In parallel to the world, in Turkey, the architecture of educational buildings has witnessed significant growth and improvement in recent years. The design principles and approaches, such as child-centered design, community integration, technology integration, and inclusive design, have been instrumental in creating modern, sustainable, student-centered, and functional school buildings.

There are two main types of school development and consecution in Turkey for k12 level [1]. One is public schools designed and constructed with various tendering processes by the government. For these schools, the regulations and some typical projects are used with adaptation to locations (T.C. Milli Eğitim Bakanlığı, 2020, 2022). Preschools, primary schools, elementary schools, and high schools can be designed and constructed separately or together due to the needs and investments decision of the government. On the other hand, private schools are designed and constructed by investors within the regulations and permissions. These schools should be designed according to the regulation of the government, which share the same least criteria as public schools (Özel Öğretim Kurumları Genel Müdürlüğü, 2022). The regulation document defines the classrooms, students' numbers, circulations, laboratories, cultural and social spaces, ventilation, and light issues under the articles. The buildings are designed according to this regulation and other regulations of buildings, such as energy, fire, and shelter regulations. The construction is executed by contractors which is selected by investors, and the usage starts after getting school opening permission. Thus, the design and construction process can have diverse methods and schedules for tendering or management within the limits of regulations.

Several private schools have been designed and constructed in Turkey for the last two decades. The buildings' scale, students' capacity, objectives of education, and types of school levels differ. Besides, the design and construction process present diverse examples nationwide. This study aims to investigate and present the design and construction of Anka Bilim School, which started in 2017 and was completed in 2019 in Ankara. The school consists of all levels of k12 and 1500 student capacity. The involvement of all project stakeholders was assured from the start of the design until the

[1] K12 refers to kindergarten, primary school (4 years), elementary schools (4 years), high school (4 years)

completion of construction. This makes it valuable to review the process of design and construction. In the study, the first brief survey of building design is conducted. Then, the design review of the building is presented, and the figures are attached. The design and construction process are discussed under the sub-headings of communication with project stakeholders, mediums for communication, interior design, and construction process. Evaluations are presented with the conclusion, revealing the highlight of design and stakeholder involvement contributions.

2- SCHOOL BUILDINGS and DESIGN

The problem of education and educational buildings started with the foundation of the Republic of Turkey, and it was stated and discussed in diverse scientific meetings and workshops over the years (Güzer & Özgenel, 2019). For years the developments of this situation have existed and come to a level. It is a fact that the need for more improvements stands; however, practice and research have been undertaken about educational buildings. Effects of some education systems to space forming of types of school (Erten Bilgic & Surur, 2016), investigating the social and cultural sustainability of schools (Tongu. & Özbayraktar, 2017) and ergonomics concept research over existing preschool cases (Kızılkan & Türkyılmaz, 2021) may be given some recent examples. Review studies on existing buildings are important to explore the cases and infer knowledge for further studies. Besides, they record cases that can be implemented in diverse practices.

While education structures form the infrastructure of education, they also constitute one of the fundamental inputs for shaping educated individuals, the formation of their environmental preferences, and the development of their social and cultural relationships (Güzer & Özgenel, 2019). School experiences affect students' performance and their future lives (Manca, Cerina, Tobia, Sacchi, & Fornara, 2020). Thus, it is important to consider students' behaviors and activities while designing educational buildings. Today's school environments should respond to complex demands from educational specifications, specific pedagogies, and design guidelines to accommodate desired learning and teaching activities (Kowaltowski & Deliberador, 2014). In parallel with these, buildings also have space configurations that are proper for educators since education spaces affect students' performance and teachers (Al, Ayşe, & Kahraman, 2018).

In the design process, establishing healthy, secure, and comfortable education spaces is one of the important goals (Tavşan & Yanılmaz, 2019). Assuring only spaces in dimensions or functions is not enough. Discussions on

the quality of school buildings go beyond questions of minimum design standards and maintaining facilities; school architecture should provide spatial qualities and positive experiences for its users, including aspects of environmental comfort (Pereira, Kowaltowski, & Deliberador, 2018). School-built environment, the physical environment in the classroom, functionality, and accessibility of multi-usage hall, products, and services should be thought out in detail, and designs should be done and completed accordingly (Higgins, Hall, Wall, Woolner, & McCaughey, 2005).

3- DESIGN of ANKA BİLİM SCHOOL

The project is located in the İncek neighborhood, which is part of Ankara's Gölbaşı district (Figure 1). The project's location provides advantages with its distances to other nearby areas. It is situated 25 km away from Kızılay, 13 km away from the Oran neighborhood, and 8 km away from the center of Ümitköy neighborhood. The area where the land is situated offers a view of Lake Mogan, which adds aesthetic value to the project. Among its location advantages, the project benefits from many residential properties and investments in the region. The surrounding residential areas mostly consist of planned residential complexes. The project is positioned away from the density of the city center. Additionally, there are higher education institutions nearby, which provide accessibility to the student population. Easy access to main transportation arteries is also one of the location advantages of the project.

Figure 1: Location of School (‘Google Earth’, 2023)

The college, planned to be opened within the 2019-2020 academic year, is placed inside the developing residential and educational funding vicinity of İncek in Ankara. The investment firm is sporting an assignment within the equal location, which incorporates a total of seven hundred housing devices and covers a place of 50.000 m2, together with the academic investment. The venture additionally consists of all social centers and service gadgets. Since the start of the mission, the construction funding enterprise (Fidanlar Co.), the investors of Anka Science School, the school managers, and the Project Authors have worked together. The school will operate independently from the housing challenge on a 6.500 m2 part of this land, presenting schooling for approximately 1,500 preschool, primary school, elementary school, and high school students.

Design Review

In the preliminary design of the school, essential factors inclusive of the site shape, the pattern among age agencies and levels, accessibility, the effect of areas on student improvement, and the importance of indoor and outside spaces other than classrooms, in addition to operational and usability convenience were thoroughly tested. The important concepts have been advanced based totally on the following selections due to these concerns: (1) The layout have to make use of the approximately 10-meter slope of the site to create each enclosed area and set up spatial relationships through setting unique areas at various elevations, taking into account outdoor get right of entry to, (2) Education classrooms and other spaces for exceptional age organizations and grade degrees need to be located in keeping with their usage and allow the school administration to use the areas primarily based on their academic planning flexibly, (3) within the bounds of land and architectural program, the maximum quantity of extremely good and purposeful open and enclosed communal regions must be created, (4) the layout must provide accessibility and operational options for each school period and vacation sports, in addition to summertime school activities. The 3d image of the building from the design stage is shown in Figure 2.

Figure 2: 3d Render (Project Author)

The plan layout on site and site section are shown in Figure 3 and Figure 4. Inside the building, there are 16 preschool classrooms, 16 primary school classrooms, 17 elementary school classrooms, 17 high school classrooms, 12 specialized laboratories for various purposes, multipurpose halls, a 370-person conference hall, an indoor sports hall, indoor swimming pools, a library, dining halls for different age groups, an exhibition and ceremony hall, administrative and educational offices, counseling and support offices, and related service units. The site is organized into seven levels based on the terrain and consists of five interconnected blocks.

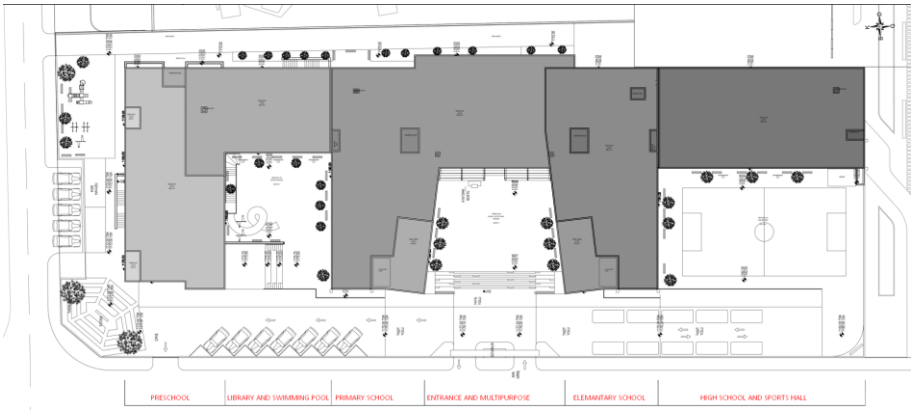

Figure 3: Site Plan and Function Layout (Project Author)

Figure 4: Section (Project Author)

The preschool block is located in the lowest part of the site. It consists of four floors, with the ground floor being the lowest level of the entire school (Figure 5). Additionally, the block contains the basement floor, which includes shelter and technical service units below the pool-library block. The ground floor of the preschool block features entrance and reception areas, parent communication offices, classrooms, and a dining hall. The dining hall and kitchen are connected to the building through a service corridor, providing direct access to the swimming pool for the preschool students. The first and second floors continue to accommodate classrooms, service units, and teacher rooms. Separate entrances for parents and students from the ground floor lead to the preschool garden, while access to the primary school garden is provided from the first floor, and the second floor leads to the library. Between the preschool and primary school blocks, a connecting block includes two lower floors with an indoor swimming pool and two top floors serving as a library. The underground part has lockers and service units, while the above-floor part serves as the preschool-primary school garden and an amphitheater. Access to the indoor swimming pool and library is independently furnished from the main entrance block inside the primary school and preschool units.

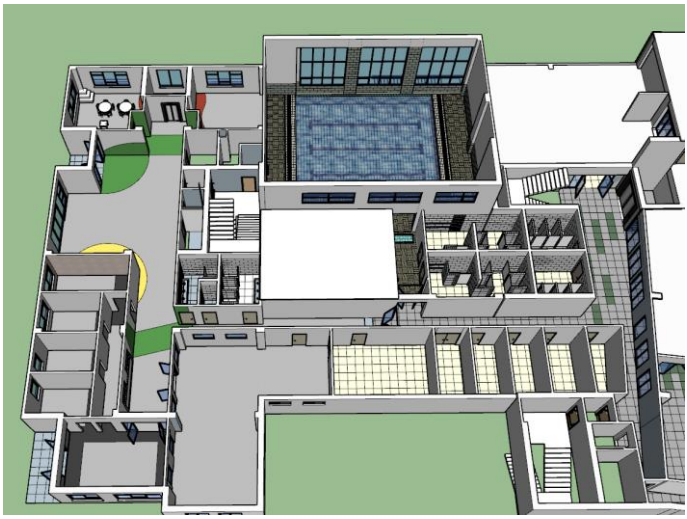

Figure 5: Interior Perspective View 1 (Project Author)

The primary school and elementary school blocks are symmetrically positioned in an angled manner (Figure 6 and Figure 7). The central open area defined by this block serves as the main entrance square and ceremonial space, culminating with the main entrance block behind it. Behind the open ceremonial area and the two-story transparent facade is an exhibition and entrance hall that also functions as a covered ceremonial space. It is designed in a suitable size and layout to accommodate various activities such as free time activities, ceremonies, and registrations. The angular placement of the primary and elementary schools determines the geometry of the conference hall located beneath the square, enhancing the functionality of the hall both visually and acoustically.

Additionally, the sections of these blocks at the ground level of the conference hall create a foyer that wraps around the hall in a "U" shape. The foyer establishes a physical connection with a 500 m2 dining hall that opens directly to the rear garden, forming a relationship between the two spaces. By aligning the conference hall, foyer, dining hall, and garden on the same plane, the design enables the planning and execution of various activities. The layout of the primary school and elementary school blocks is similar, with the only difference being the lower floor layouts and the number of floors due to the elevation. The corridors in the plan gradually widen, allowing for increased circulation towards the center of the building and providing spaces for leisure activities. The lower floors house laboratories, while the upper floors contain classrooms. Teacher and administrative offices are located in the main entrance

block where the blocks are connected. Each school block has its own vertical circulation and wet areas.

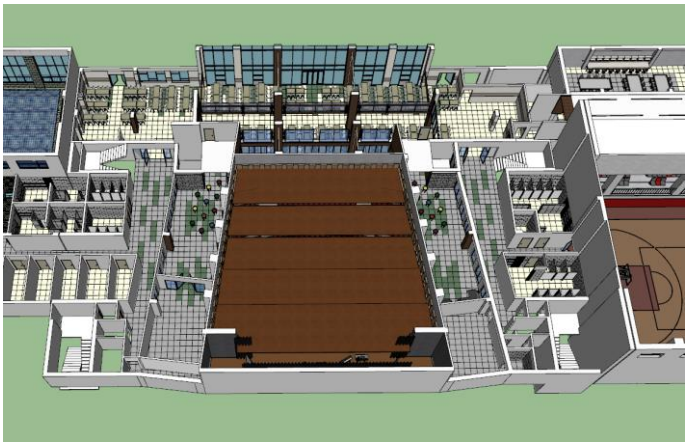

Figure 6: Interior Perspective View 2-Basement 3 Level (Project Author)

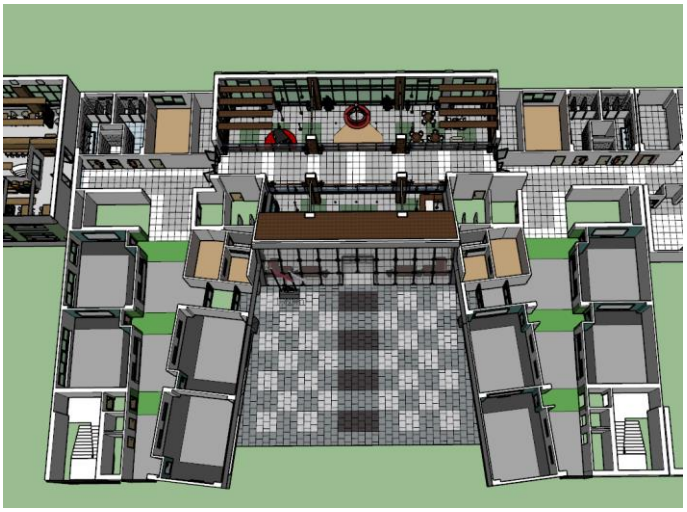

Figure 7: Interior Perspective View 3-Ground Level (Project Author)

The high school block is positioned perpendicular to the other blocks. This arrangement creates a spacious area in front of it, where an underground sports hall is located, and above it, the high school garden and open sports field are situated (Figure 8). The lower floors of the high school contain laboratory areas, while the upper floors contain classrooms. Between the blocks, four open spaces are on the front facade at different elevations and one on the rear façade. From north to south, these open spaces are the preschool garden, preschool-

primary school garden, primary school-middle school garden (ceremonial area), and middle school-high school garden (open sports area). These gardens have direct access from the respective educational levels, providing the school administration different alternatives. The rear garden is accessible to all groups and can be reached directly from the dining hall area.

The multi-level structure of the school, the different positioning of spaces, and the multiple access points to the outside and within the premises bring functional richness. A color-coding pattern has been created within the interior design to strengthen circulation and facilitate access. First, People see the space and try to relate it to themselves (Türk & Sarı, 2020). Thus, the color pattern embedded in space functions makes students perceive the functions and spaces better. Accordingly, students will focus on which colored floor they are on rather than the specific floor number. For example, an elementary school student may go to the red floor to access the multipurpose hall or the green floor to reach their own classroom, based on the common material and color used on the floor, walls, and ceiling. This pattern has been designed from the early childhood education section to the middle school education section, extending from the entrance doors of the spaces to the floor corridors.

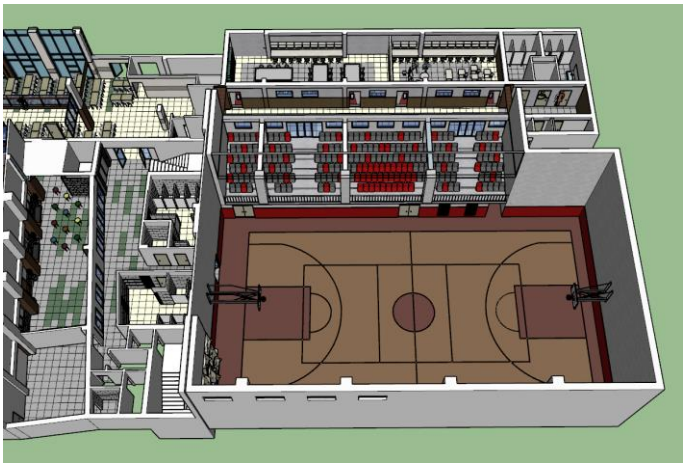

Figure 8: Interior Perspective View 4- Basement 3 Level (Project Author)

State of Completion

In this section, the visuals from the buildings are given. Figures 9, 10, and 11 are from outside, and 12, 13, 14, and 15 are from inner spaces.

Figure 9: Photo 1 (Construction Company)

Figure 10: Preschool Garden (School Management)

Figure 11: High School Courtyard (School Management)

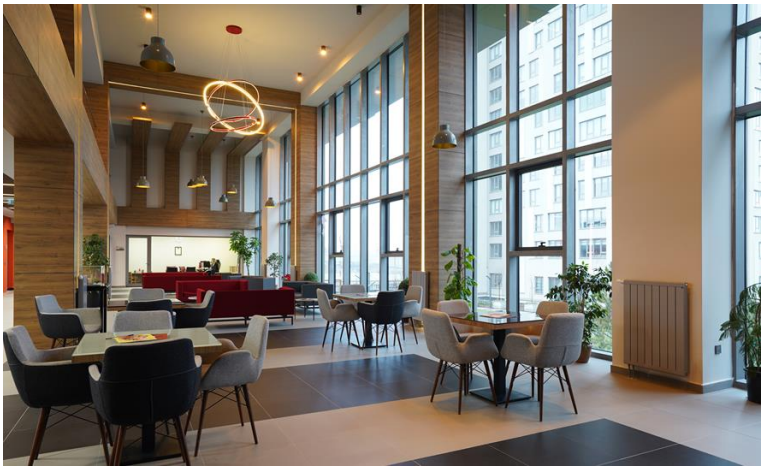

Figure 12: Main Lobby (School Management)

Figure 13: Conference Hall (Project Author)

Figure 14: Dining Hall (School Management)

Figure 15: Primary School Hall (School Management)

4- DESIGN and CONSTRUCTION PROCESS

Communication with Project Stakeholders

In construction projects, communication between project stakeholders is important for the success and proper execution of the construction works according to the projects' objectives. The briefing is used to understand the organization's needs and resources and match these to its objectives (Blyth & Worthigton, 2010). One of the important issues of briefing and communication is the experience and knowledge level of clients and end users (Barrett & Stanley, 1999; Blyth & Worthigton, 2010; Pegoraroa & Carísio, 2017). It has an immediate impact on interpersonal interactions and information sharing. Project participants must be able to decipher the message and provide feedback. (Norouzi, Shabak, Embi, & Khan, 2015). Some of the obstacles and essential concerns for good requirement management in a construction process are listed as lacking open and effective communication, lacking clarity of objectives, lacking thorough frameworks and formalization, and not being able to assure the engagement of end users (Pegoraroa & Carísio, 2017). Additionally, keeping the client's engagement at a precise level and recording their understanding of space consumption is challenging. Architects play a significant part in outlining the project's needs. People should be clear about their goals for increasing the effectiveness of the requirement elicitation process, and they should take advantage of the chance to get feedback for the development of briefs (Bogers, Van Meel, & Van Der Voordt, 2008).

The knowledge of space requirements must be developed, processed, and used with verification and validation, just like any other type of information. Some knowledge capture strategies are used in the domain, such as brainstorming, storytelling, lesson-learned tools, post-project reviews,

workshops, design proposals, or interviews, taking requirement elicitation in the briefing process into consideration (Al-Ghassani, 2003; John M Kamara, Anumba, & Carrillo, 2003; Pourzolfaghar, Ibrahim, Abdullah, & Adam, 2014; Tan et al., 2010). To implement these strategies, project stakeholders must be included. Additionally, technologies like Building Information Modeling (BIM), 3D visualization techniques, and site monitoring bring briefing strategies like integration, interactivity, and simulations with feedback. Architects or project executors benefit from this domain due to their knowledge and experience. For the construction business to function effectively, relationships between various players must be strong and able to cooperate. Many factors contribute to a healthy relationship, but only effective communication can support it. Higher quality of information will lead to better communication between stakeholders (Tessema, 2008).

The following can be listed as general limitations: insufficient time allocated for briefing, inadequate consideration of the client's perspectives, insufficient communication between those involved in briefing, and insufficient management of changes to requirements (J M Kamara, Anumba, & Hobbs, 1999). Focusing on customers, it can be said that they typically do not present a thorough list of their project needs, they do not completely comprehend their own duties in the construction process, and the briefing is started too soon before the client has had a chance to consider alternatives (Olatokun & Pathirage, 2015). For this project investor maintained a working environment in which every project stakeholder can and must participate in relevant stages of the project, from feasibility studies until the completion and handover of construction. Figure 16 shows the communication paths resulting from contractual relations and project execution methods. With this framework, the involvement of all project stakeholders is sustained, and knowledge is transferred and validated during the design and construction process. It is also important to define the educational philosophy and model envision teaching for implementing architectural design accordingly (Gislason, 2010). Thus, the participation of the school administration as project stakeholders in the project process from the beginning brought the possibility of relating the school's objectives to the design.

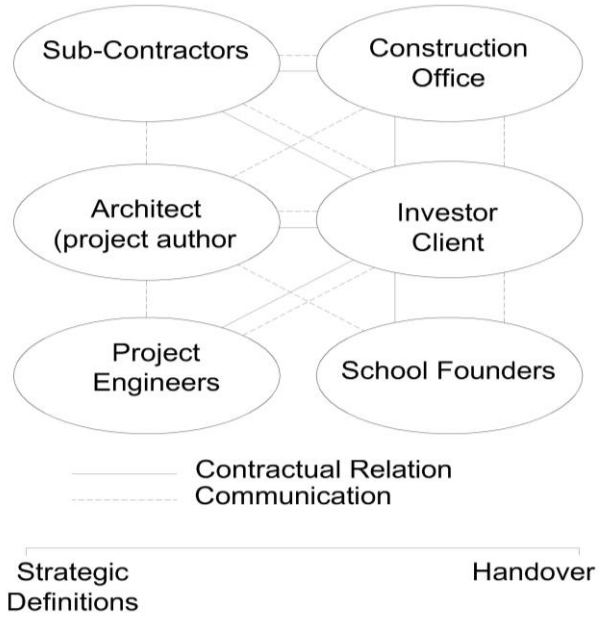

Figure 16: Communication Paths (Author)

Mediums for Communication

The stakeholders should process knowledge to evaluate upcoming issues and have a decision consensus. Generally, in the literature, a cycle is defined for knowledge processes; capturing, archiving, reusing, and creating (Carrillo, Robinson, Al-Ghassani, & Anumba, 2004; Chimay J. Anumba, Charles O. Egbu, 2005; Tan et al., 2010). The techniques and technologies are implemented into the process, including post-project reviews, brainstorming, communities of practice, training, recruitment, face-to-face interviews, mentoring, text and data mining, knowledge bases, reassignment of people, groupware, case-based reasoning, project extranets, lesson learned tools, observation, repertory grid, consensus decision making, concept map, and cognitive map (Al-Ghassani, 2003; John M Kamara et al., 2003; Pourzolfaghar et al., 2014; Tan et al., 2010).

In the design and construction process of Anka Bilim College, five mediums (techniques and technologies) were used. The first briefing sessions were executed during the project process with the involvement of stakeholders, the record was taken, and feedback and monitoring were done. Secondly, for every needed stage, third parties were invited to sessions for their knowledge. Thirdly, consensus decision-making within the boundary of contractual relations was done. Fourthly, knowledge from the project stakeholders from their background

(lesson learned) was taken into the informal record. Moreover, finally, make-up in virtual and physical environments was often used.

Interior Design Process

Interior design was the responsibility of the project author. The communication paths and mediums for design stages were used during the process. Besides, the site trip to furnishing companies and evaluation of the budget and procurement schedule were done and considered. Instead of using high-quality and resolution 3d images, an average level of 3d visuals and plan layout were prepared to develop many alternatives for diverse scenarios. At the end of the decision, also the finalized renderings were prepared. Figures 17, 18, 19, 20, and 21 show some images from the design process.

Figure 17: Entrance View (Project Author)

Figure 18:Library View (Project Author)

Figure 19:Dining Hall View (Project Author)

Figure 20: Entrance Render (Project Author)

Figure 21: Dining Hall Render (Project Author)

Construction Process

Construction Company, the property owner and investor, has 25 years of construction experience, specializing in big housing projects. At the same time as the construction of the school building, the company continued 700 housing

projects on adjacent land. Thus, the management capacity, budget issues, technical staff, and sub-contractors were established and used for school construction and housing projects. It is thought that it brought many advantages to the execution of school construction since the resources, including labor, material, and project management were high due to the scale of 15.000 m2 of school construction. The construction industry is project-based (Fellows, David, Newcombe, & Sydney, 2002), which defines all organizations. A comparatively bigger project (housing project) made the utilization of resources possible. The time period of construction was combatively short, illustrated in Figure 22.

2018 February

2018 August

2018 November

2019 February

2019 April

2019 June

Figure 22: Construction Time Sequence (Construction Company)

CONCLUSION and EVALUATIONS

Special attention has been given to creating spaces where students can spend their free time and engage in social and cultural activities within their respective blocks and at points of common access according to the levels of preschool, primary school, middle school, and high school. The corridors providing access to all classrooms have been wide enough to allow students to spend their breaks outside class. The preschool block functions with classrooms designed for play areas, a library, and workshops. It provides easy access to the main library, indoor swimming pool, and indoor sports hall, allowing interactions with larger age groups. The primary, elementary, and high school blocks have multipurpose areas and music and art studios within their own spaces. Access to conference halls, exhibition halls, and library areas is provided from each school block, with easy access to swimming pools and sports halls for sports activities. The layout of the outdoor areas and access to these areas have been designed according to the school groups. Emphasis has been placed on utilizing both indoor and outdoor spaces throughout the day.

In the project, the arrangement, architectural design, and technical design of the spaces have been considered regarding the educational model, maximum benefit, flexible use, site utilization, orientation, and daylight. The classrooms, laboratories, and common areas have been designed according to age groups, and emphasis has been placed on the accessibility patterns to these areas. All classrooms have been positioned to receive beneficial natural light from the left side, aligned with the sun's direction. The facades facing the corridors of the classrooms have been designed with glass panels above 150 cm, providing transparency and visual connection between the corridors and classrooms while preventing students from being distracted by the outside view during class. Necessary electromechanical installations have been planned for all spaces to maximize their functionality. Attention has also been given to the location of the building, and the selection of the external facade ratio and insulation for energy efficiency has been made based on the usage of the spaces.

The level of communication between project stakeholders makes solve problems and defines the important actions for the projects. This is one of the crucial lessons learned from the entire project review. The involvement of the project stakeholders with shared objectives increases the success of the design and construction project. However, this can be assured by defining boundaries and activities of contractual relations and properly assigning roles and responsibilities to parties. For this project, the investor took a governing role and established organizational relations to utilize the knowledge and experiences of project stakeholders. Besides, assigning the architect responsible

for all the processes from start to handover contributes to the project from different aspects. First, architects can manage knowledge from different disciplines since design practice also needs enough level of building installations and construction practices. Secondly, the architect is neutral in avoiding conflict of interest between investor and user. Thirdly, the facility of completing the construction makes the architect track and validate the design output. This initiative and feedback mechanism produces details, makes decisions, and offers solutions.

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Chapter 7

A Studio Experience in Landscape Architecture Basic Design Education

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ABSTRACT

INTRODUCTION

Design is the basis of many professional disciplines (fine arts, landscape architecture, interior architecture, architecture, city and regional planning, graphic design, industrial design, etc.). Önal (2011) stated that design is a problem-solving process according to many researchers, while it is a decision-making process according to some researchers, and a trial-and-error process according to others. The philosophy of design education is based on the transformation of creative thinking into critical thinking of an intellectual atmosphere created in the design studio by emphasizing the importance of both the discovery and transfer of knowledge with a holistic approach to design issues (Aydınlı and Akpınar, 2003; Yıldırım, 2021). Design education (art education) is a visual thinking system that gain function to creativity. Design education is an organization method (Gökaydın, 2002, Kahraman, 2020).

The basic design course is the first step of design education and the backbone of landscape architecture education. The basic design course is one of the courses in which students are prejudiced and slog on, since a system based on rote has been passed to a system in which heuristic methods are used. Günay (2007) stated that this course is an intangible world consisting of lines, surfaces, volumes, colours, and textures, which will look unfamiliar to students who are accustomed to working with written texts and formulas (Düzenli et al. 2017). Although basic design education is carried out under different names such as visual design, basic design, applied design in the world, it is a process based on understanding the integrity between art and design with its theoretical and application-based programs that embark on the Bauhaus (Çelenk and Sağocak, 2014; Başçı and Koca, 2022). Basic design education is the joint and beginning education process of design disciplines, which reveals the individual's ability to visualize sense, dream, intuition and thought, and enables the formation of creative personalities who can use and develop this ability with an aesthetic order (Gökaydın, 2010; Yıldırım, 2021). Basic Design course gives students intangible and conceptual thinking, which is the most basic tool of problem-solving practice. Analysing the reality and the given problem, breaking it into parts conceptually, coming from tangible to intangible, generating ideas and then returning to the tangible is possible with Basic Design (Sarıoğlu Erdoğdu, 2016). The nature of design education tends to learn by doing and gain knowledge by experience (Başçı and Koca, 2022). Basic design is learned by doing and experimentally. The hands-on learning method (Özkar & Steino, 2012) is essential for Basic Design, although not in other design studios (Sarıoğlu Erdoğdu, 2016).

In this study, it is aimed to evaluate students' products related to a given problem within the scope of Basic Design-I course, which is aimed to gain basic skills related to design.

MATERIAL AND METHOD

The material of the study consists of the students' end-of-term products in the Basic Design-I course carried out in the 1st semester of Artvin Coruh University, Department of Landscape Architecture.

The Basic Design course is given in two terms called Basic Design-I (2+2) and Basic Design-II (2+2) that conducted in design studios at Artvin Coruh University, Faculty of Art and Design, Department of Landscape Architecture. The Basic Design-I course starts with the basic design elements of line, continues with the elements of size, form, texture and colour, and the term ends with the basic design principles of dominance-unity-balance. Within the scope of the lesson, the lecturers first explain the concepts and show examples to the students and give the students a problem and ask them to produce a design product for the solution of it.

The design products discussed within the scope of the study consist of the end-of-term products of the course. The lecturers gave a problem to the students. The problem is defined as organize 2 and 3 dimensional forms in your 35x50 cm workspace providing the principles of DOMINANCE-UNITY-BALANCE. First, students were asked to find an inspiration source while creating their design products and to interpret this inspiration source in line with a concept and turn it into a product. Their designs were matured by giving one-to-one critiques in the studios. The course was conducted with 34 students, but 10 more successful examples were evaluated within the scope of the study.

RESULTS

It was seen that each of the students determined different inspiration sources and concepts in line with the given problem. As seen in the 10 examples, it was determined that some students were inspired by an architectural element or structures, and some of them were inspired by a natural element. The students developed their inspiration sources in line with the critics of the lecturers and then created the final product (Table 1-10).

Table 1. Design of Gülsenem Paşalıoğlu

INSPIRATION SOURCE	**DESIGN PRODUCT**
	
CONCEPT: GOODNESS	
The student was inspired by the lotus flower which is the symbol of purity and the cleanest flower in the world in her study. She tried to express human life with these flowers in her design, considering how clean and pure people were when they were first born, and then they lost these values over the years. In her design, she used plastic spoons by painting them in pink color and tones. She preferred small forms and light color tones as a symbol of purity. She symbolized that goodness and evil have reached a balance with greatest and darkest forms and this balance dominate in life. It has reached unity in design through harmony. She revealed the expression of form and ground with color and form contrasts.	
	
Designer: Gülsenem PAŞALIOĞLU	

Table 2. Design of Hilal Dinç

INSPIRATION SOURCE	**DESIGN PRODUCT**
	
CONCEPT: CONSCIOUSNESS	
The student was inspired by an iceberg which consist of when a giant piece of ice broke off from a glacier and fell into the sea in her study. The iceberg has a visible side and an invisible side, just like the conscious and subconscious. The ideas that make up our thoughts as the focus of our attention, that is, the consciousness being on the surface, the student has built her forms in this direction in the work area. In her design, she embodied icebergs with corrugated cardboard and water with acetate as material. Dominancy has ensured with the highest form, and she has placed the icebergs in a balanced way within the study area. It has reached unity in design through harmony.	
	
Designer: Hilal DİNÇ	

Table 3. Design of İrem Yeni

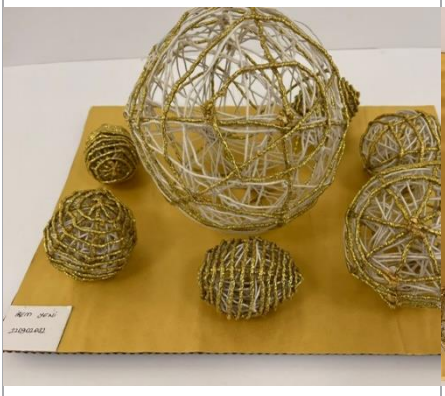
INSPIRATION SOURCE	**DESIGN PRODUCT**
	
CONCEPT: SPARKLING LIFE	
Student was inspired by Cybertecture architectural structure in Mumbai in her study. Starting from the fact that the shape of the egg expresses the beginning of life, she expressed with the forms and materials used that everything seemed bright in the first stages of life, and the realities were realized when grew up. She used wire as a material in her design and silvery rope to support her concept. It has reached unity in design through harmony. The silvers she used to support her concept decreased as the form grew. She also used a silvery background cardboard on the ground. She has revealed the dominance with the greatest form and has placed other forms in a balanced way within the study area.	
	 
Designer: İrem YENİ	

Table 4. Design of Muhammet Furkan Gönül

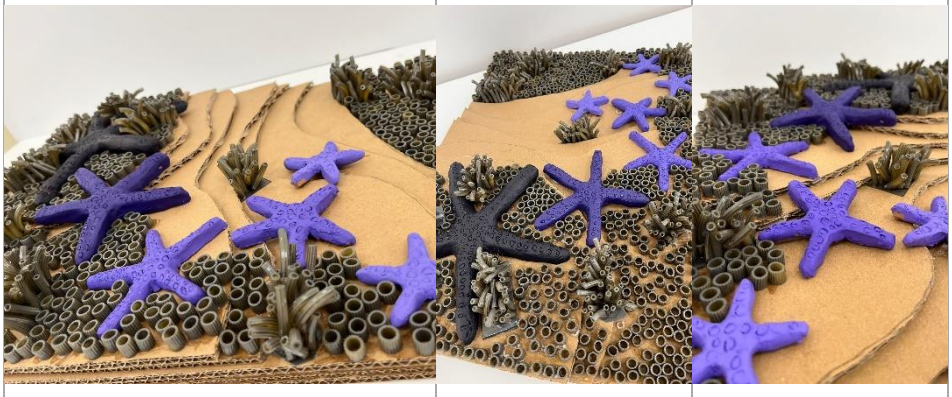
INSPIRATION SOURCE	**DESIGN PRODUCT**
	
CONCEPT: EXTINCTION	
The student was inspired by the starfish, a wide spectrum of life from the deepest to the shallowest in water, which is vital for life that covers most of the Earth. In his work, he designed a sloping underwater topography and wanted to draw attention to the extinction population of living things day by day with the hierarchical shrinking and color of starfish. With the gray reefs, he wanted to reveal the gloom and doom caused by water pollution. It has reached unity in design through harmony. He placed the darkest and largest form dominant on its topography and provided the mass-space balance. He used clay and pasta by painting as materials.	
	
Designer: Muhammet Furkan GÖNÜL	

Table 5. Design of Zeynep Akkaya

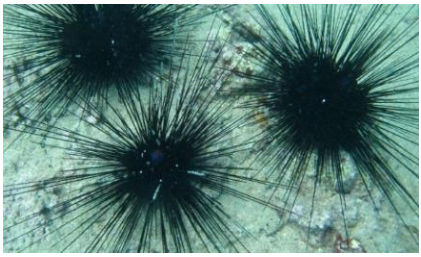
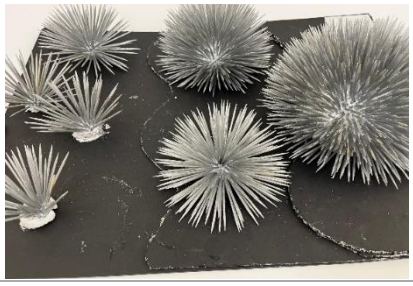
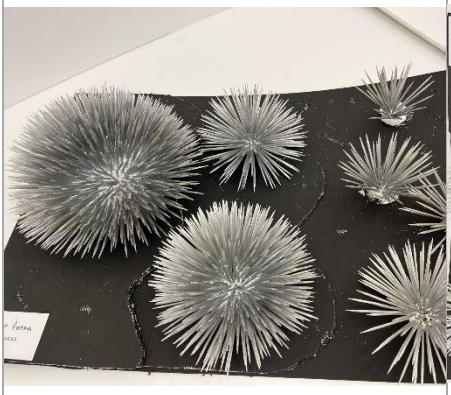
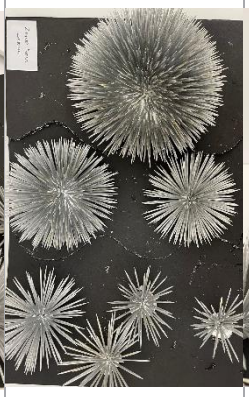
INSPIRATION SOURCE	**DESIGN PRODUCT**
	
CONCEPT: PAIN	
The student was inspired by the sea urchin, the only vital sign of thorns, which creates both visual and tactile pain in her design. In her design, she used toothpicks to support her concept and styrofoam to capture the form of the sea urchin. Since there is no description of pain, she used black background cardboard on the ground and painted toothpicks grey to increase perceptibility. She gained dynamism to her design with topography and placed dominance both in form and size at the top. It has reached unity in design through harmony. She provided the mass-space balance in the study area.	
  	
Designer: Zeynep AKKAYA	

Table 6. Design of Yeşim Tokis

INSPIRATION SOURCE	**DESIGN PRODUCT**
	
CONCEPT: DIRECTION	
The mosses on the trees show a direction. The moss on the surfaces of trees and rocks is used to find direction in a forested area or an open area. The mossy area always points to the north, while the southern parts do not become mossy cause of see the sun. The student used moss as a source of inspiration in her work. This feature of the moss which helps to find direction and the colourful appearance of it like is the basic design offered by the nature. The unity and balance between the colours in the inspired source, as well as the dominance of orange colours, and these three principals were considered when organizing both the sizes, gaps, and colours of the forms. The student used coloured background cardboards and matchsticks in her work.	
  	
Designer: Yeşim TOKİS	

Table 7. Design of Ayşenur Kumral

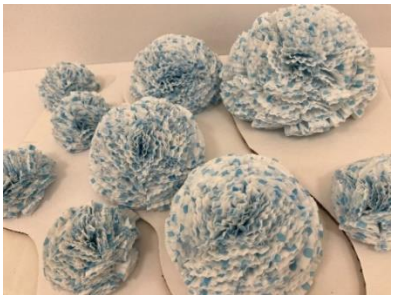
INSPIRATION SOURCE	**DESIGN PRODUCT**
	
CONCEPT: TRANQUILITY AND PEACE	
Hydrangea shrub, whose Latin name is *Hydrangea macrophylla*, changes colour according to the pH of the soil. Of the hydrangeas with pink, white and blue colours, it is said that the blue colour represent peace and tranquillity. Inspired by the forms of hydrangeas while designing the shapes in the basic design study, the student expressed the principle of unity using the form of flowers and tried to achieve dominance with the differences in the sizes of the forms. She used the principle of balance to express the height of each flower from the ground by organizing large forms, medium and smaller forms on a field. In the student's work, model cardboard, cake mold papers and cardboard were used as materials.	
	
Designer: Ayşenur KUMRAL	

Table 8. Design of Nevra Elmalı

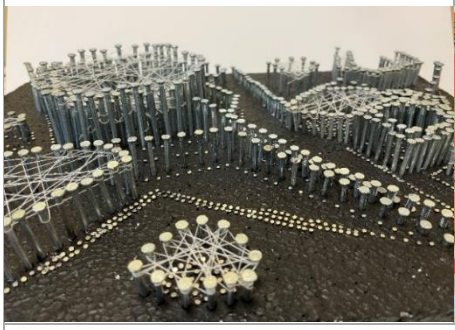
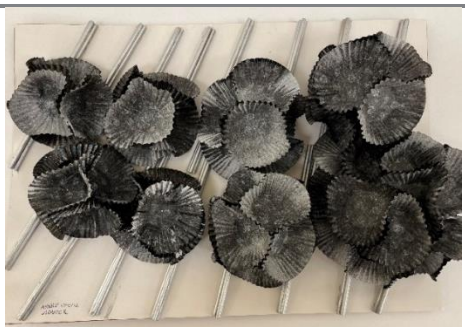
INSPIRATION SOURCE	**DESIGN PRODUCT**
	
CONCEPT: CONNECTION	
In the study student was inspired by neurons, large, medium, and small nails were dipped in styrofoam to form neurons and their ends. The inner sides of the neuron-shaped forms are also surrounded by ropes. Neurons provide paracellular connections. While the ropes and trapezoidal geometric shapes used were placed in this study to ensure the principle of dominance, the principle of balance was tried to be ensured by the compatibility of large, small, and medium-sized forms with each other in the whole study area. In this way, the principle of unity is also ensured.	
	
Designer: Nevra ELMALI	

Table 9. Design of Beyza Buse Babur

INSPIRATION SOURCE	**DESIGN PRODUCT**
	
CONCEPT: FLEXIBILITY	
The student was inspired by spider webs. The pyramid covered with red tulle dominates, the white pyramids are designed and organized to provide depth and disorder, thus ensuring unity and balance. Many spiders weave webs to collect their food, referring to this situation, and in fact, this balance regarding the spiders' lives has been tried to be achieved by the organization of forms and their interconnections in the study. Spider silk, which forms the spider web, is said to be a unique material due to its properties such as durability and flexibility.	
  	
Designer: Beyza Buse BABUR	

Table 10. Design of Aybüke Korkmaz

INSPIRATION SOURCE	**DESIGN PRODUCT**
	
CONCEPT: MYSTERY	
Roses are the symbol of many emotions with all their colours. Among the roses, the black Halfeti rose has a special importance. Growing all over the world only in the Halfeti district of Şanlıurfa, this rose is also called to by several different local names such as Arab bride, Arab beauty, Mesopotamian hyacinth. Halfeti black rose is a fragrant and multi-layered rose variety. With a medium-sized bush, this rose reveals all its beauty in spring. Black roses in the form of buds can be found in different parts of the world. However, Halfeti black rose is unique because of having a deep black colour in both bud and rose. The beautiful flower of Halfeti shows its beautiful colour only in this region. The reason is an explainable situation for those dealing with botanic science, but it is a mysterious situation for those who do not have enough knowledge on this subject. For this reason, the concept of this study was chosen as mystery. The reason for this situation is that there is a microclimate area in this region and therefore its colour is black. If you take the seed and sapling of this beautiful rose and take it to another region, the colour of the rose that blooms will turn into dark red, just like the black roses in France. To reflect the layered structure of roses, tiny cake molds were often placed side by side and turned into a rose. While organizing them within the working area, they were placed by adhering to the principles of unity, dominance, and balance.	
	
Designer: Aybüke KORKMAZ	

DISCUSSION and CONCLUSION

Many researchers (Düzenli et al, 2018; Ter and Derman 2018; Regular et al, 2017; Çubukçu and Gökçen Dündar, 2007; Cross, 1999; Denel, 1998; Hejduk, 1989) stated that most of the students had problems during the basic design process. This course is an intangible world consisting of materials, elements, principles, lines, volumes, surfaces, textures, and colours that will be foreign to students who are accustomed to working with written texts and formulas (Günay, 2007). Artvin Coruh University Landscape Architecture Department is a department entered with a central exam. Students enter the department without being subjected to a professional aptitude test. Therefore, a different process from the previous education processes forces students. Especially in the basic design course, students create a tangible product by revealing to the design elements and principles they learn in each course. An intangible product that is thought in the mind by working the brain-eye-hand coordinately is transformed into a tangible product with eye and hand skills and abilities. Therefore, at this point all students have not the same level of visual perception and transforming these thoughts into tangible products. However, the aim of this course is to gain this to all students. Design is a complex, often contradictory, non-linear process. Being the basic feature of design, this situation is valid for experienced architects as well as for beginners. Personal experience, experience, perception, and previous learnings are determinant in the idea creating process. With each study, the student's ability to use design tools will increase and their sense of direction will develop. Materials used while working as pen, ruler, computer, cardboard, models are only tools on the way to the goal. However, it brings improvement and development at the intellectual level with continuous practice (Bielefeld and Khoulı, 2021).

The aim of the Basic Design-I course in the Department of Landscape Architecture at Artvin Coruh University is to teach students how the principles and elements of basic design are used in the design process and to how solve the conceptual design process with the applications and practices. The gains of teaching on students are that they can use certain design principles and elements in line with a certain concept. It has been observed that the Basic Design-I course held in the 2022-2023 Fall Semester especially contributes to students' intangible thinking skills in the process of learning basic design and developing their design skills. The success of the design products of the students was evaluated in terms of whether the planned achievements of the lesson, which were not carried out on a mathematical point scale, were realized or not. In this context, the final products of the course (tangible product) and conceptual design (intangible ideas) are explained in detail. As can be understood from the 10 students' studies examined here, it is thought that the educational process was successful.

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Chapter 8

Re-Reading the Art of Giovanni Battista Piranesi and his Representation of *Fantasy*…

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ABSTRACT

Giovanni Battista Piranesi, originally an eighteenth-century Italian architect and engraver, etched over two thousand engravings where he rendered his fantasies, created imaginary structures, played with the strict rules of perspective, and gathered unusual fragments and multi-information on one sheet. His practice, based on fragmented projections of the future in connection with the past, instigated several transformations in the eighteenth century's theory and practice of arts and architecture. By referring to the studies of several academicians and theoreticians, this study reviews Piranesi's ground-breaking etchings to uncover his legacy, teaching to dissolve the *ordo* on several levels such as architectural imagination and representation, film theory, perspectivism, formal coherence, and collective memory codes of representation and two-dimensional spatiality. For revealing the power of image in transforming long-lasting ideologies, this study demonstrates the context that the wicked use of visuals triggered so many modern projects in arts and architecture at those times and today.

Keywords: architectural fantasy, imagination, multi-perpectivism, multi-informational images, *Carceri*, fragmentation

INTRODUCTION

An eighteenth-century draughtsman and an etcher, Giovanni Battista Piranesi (Venice, 1720-Rome, 1778), originally an Italian architect, showed his architectural genius in more than two thousand engravings by creating imaginary structures "full of detail, vigor, and brilliancy." He learned drawing from his uncle Lucchesi, a maritime engineer who studied architecture in Rome in 1738 under Valeriani and became a connoisseur on particularly the city's built underground works. During his apprenticeship under Giuseppe Vasi (1710-1782), a famous architect best known for his vedute, Piranesi learned the art of etching and its techniques and continued to improve his technique as a draughtsman until his work with Marco Foscarini in 1740, who was an ambassador to Pope Benedict XIV then and by 1742, he started to work independently. As Penny claimed, archaeologists' discoveries in the eighteenth century sparked the imagination of educated Europeans, including architects; thus, archeologists' work served as a creative outlet for architects' restless creativity, as Piranesi did in his imaginary reconstructions as the scenography of architectural elements from ancient Roman archeological ruins. By 1743, Piranesi published the *Prima Parte di Architetture e Prospettive* collection, composed of twelve etchings, a majority offering splendid scenography, rendering imaginary temples, palaces, and ruins; the remaining recreating or reconstructing the ruins of ancient Roman structures or were projects inspired by them. Piranesi's imaginary designs in those etchings, for Tafuri, while highly referring to the structures of historical precedents, contrasted with the "constant allusion to the austerity and organicity of Etruscan and Roman architecture." In plate X of the series, for instance, Piranesi rendered a splendid perspective composition yet, disintegrated the coherence of the elliptic courtyard by placing a part of it as a spiral into the continuum of columns, as clearly understood from the plan, inserted in the 1750 edition of the *Opere varie di architettura*. However, when looking at Piranesi's perspective rendering, one perceives the courtyard as the "focus of the organism," which, for Tafuri, was just a pretense of "centrality" that had never been achieved (Penny, 1978:7; Tafuri, 1987:27). **[Fig. 1-2]** According to Penny, Piranesi's oblique perspective of two courtyards utilized the compositional techniques in the Galli-Bibiena tradition to create "an illusion of depth" by placing the architectural components at an angle with the picture plane.[1] The sense of depth was thus established by the interpenetration of spaces, crossing of diagonals, and competing eye temptations (Penny, 1978:6).

[1] Ferdinando Galli-Bibiena, transformed the art of stage-painting at the end of the seventeenth century. He is credited with creating, perfecting, and widely adopting "*scene vedette in anglo*," or oblique perspective views, in his sets. For creating "an illusion of depth" in the small theaters, Bibiena cleared the center and utilized the "stage" architecture at an angle as if a perspectival look (Penny,1978:6).

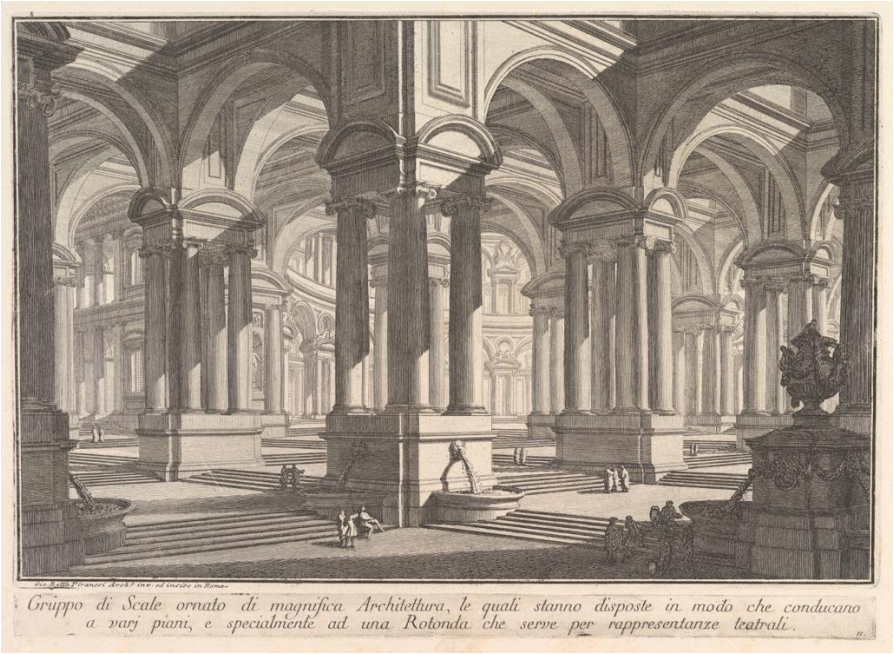

Figure 1: Giovanni Battista Piranesi, *Gruppo di scale ornato di magnifica architettura* (Group of stairs, embellished by magnificant architecture), plate X, etching in G. Piranesi, Prima parte di architetture e prospettive, Rome, 1743

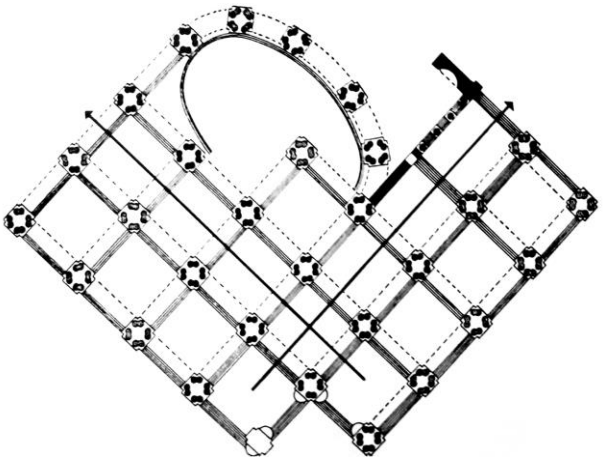

Figure 2: Ground plan of the perspective rendering of *Gruppo di scale ornato di magnifica architettura* by Piranesi (Tafuri, 1980:92)

The etching, *Carcere Oscura*, first printed as the second plate of the *Prima Parte* series but later revised in *Opere varie* of 1750, was a perspective drawing of a dungeon, following Bibiena tradition of stage designs, but had a different theme from others in the *Prima parte* series. In the 1750 version of the etching, Piranesi inscribed a text at the plate's base, writing "an antenna for torture"—a motif frequently appearing in his next *Carceri* series (Penny,1978:26; Wendort, 2001:163). The significance of this etching not only comes from its gothic interior or its prison theme anticipating *Carceri* but also from the Russian film director and architect Sergei Eisenstein's selection of *Carcere Oscura* "as a whole…with all its elements" to apply his methodology of montage, composed of "shots" (Eisenstein, 1987:67). Eisenstein "exploded" what seems to be readable in *Carcere Oscura* into its fragments and drew a diagram in which he enumerated the essential elements of the etching "step by step, element by element—explode them one after another" (Ibid.:67). **[Fig. 3]** By this explosion of formal tension within the elements of *Carcere O*scura, for Tafuri, Eisenstein put the etching "into motion" and made its essential elements react dynamically. Identifying the etching's elements as dissolved forms in potential movement, even though artificially frozen, Tafuri (1987:56-57) regarded Eisenstein's "ecstatic transfiguration" as a montage technique that activated and freed those elements and forced them "to lose their natural autonomy, to come out of their isolation, to become a part of an ideal series: to become in other words simple frames in a cinematic phrase." Eisenstein dissolved not only the individual forms of the etching but also their "objectuality" and as "physical elements of representation": the dissolution was "not of forms, but only of the system of the expressive means," referring to what Piranesi achieved (Eisenstein, 1987:67). In "The Wicked Architect," Tafuri focused on Piranesi's series *Carceri d'invenzione,* published in 1750, reflecting the creative process of exploring "the phenomenon of imagination." Out of two thousand etchings, Piranesi gained considerable notoriety from his *Carceri* series—comprised of two editions, with numerous plates showing Piranesi's alternate jails. Only a handful set of those etchings are known to survive today. Therefore, researchers claimed that distinguishing this series' first and second editions and splitting an etching into two distinct groups is challenging and complex; yet, according to Sekler (1962), Arthur M. Hind's 1922 publication "Giovanni Battista Piranesi" included the most convincing proof of *Carceri's* authenticity: Hind included fourteen unnumbered plates, titled "*Invenzione/ Capric di Carceri forte/ all'acqua/ datte in luce/ da Giovani/ Buzard in/ Roma Merchante/ al Corso*" to initial edition, released sometime about 1745 by Giovanni Bouchard in Rome when Piranesi was in his early twenties. The second edition, from which more etchings remained, contained the revised

versions of fourteen plates from the first and two new plates, plates II and V, and was issued sometime around 1760/1761.

Figure 3 On the top left, the original etching Giovanni Battista Piranesi, c.1743. ***Carcere Oscura*** (Dark Prison), 36x24 cm. (Penny, N., 1978:27), below Eisenstein's schematic sketch and his enumeration of architectural elements, his transformation of Piranesi's elements for producing an **"ecstatic effect"** (Tafuri, 1987:141), on the right Eisenstein's transformation of Fragments in *Carcere Oscura.*(Ibid.).

"The extraordinary dash and vitality of touch seen in Piranesi's best drawings give him every title to be called the Rembrandt of architecture," stated Hind (Hind, 1911:91). The preserved preparatory drawings of prison etchings proved that the aggression and violence Piranesi rendered for the theme of prisons created an apparent spontaneity. In the second version, *Carceri d'invenzione*, although he darkened the render of plates more intimidatingly for considerably bold and more vigorous compositions and made the chiaroscuro more forceful for tightening the dramatic pattern of interlocked stone and timber structures, he did not fix this spontaneity and errors in perspective as if those were the main aspects strengthening the striking impact of the etchings (Penny, 1978:11-53; Rosenfeld, 2006:90). He occasionally burnished entire regions with entirely new images. At other times, he duplicated the existing pictorial space to conjure endless vistas by altering structures and space (Marchesano, 2010:154).

May Sekler (1962:335) claimed that *Carceri* frequently left the viewer feeling frustrated because, instead of using allusions, Piranesi preferred to replace the expected composition components with their diabolical simulations through the dispersion of structural logic and fragmentation of details. For her, closer examination revealed the breakdown of what appeared to be coherent at first, leaving the mind perpetually striving to rationalize the irrational; as a result, Piranesi's fragmentism in *Carceri* required the perception of the specific limits that led the observer to seek an order that did not exist rather than the perception of the whole (Sekler, 1962:335 in Tafuri, 1987:311). For Ulya Vogt-Göknil (1958:34-35), Piranesi's definitive break with the laws of central perspective shifted his perspective presentations to a state adopting several vantage points, which caused the Euclidian space to collapse.[2] In plate XIV, due to the perspectival illusions Piranesi utilized, one realizes that the width of the open staircase to the left - ascends and bends toward the right at a right angle to form a bridge that finishes upon the central pier- filling the space between the central and left piers, as parts of two parallel arcades at the base, diminished when looked upward at the arch. **[Fig. 4]** When the observers realize the flight of the stairs and the parallel piers at the bottom becoming two piers placed side by side on the same axis at the arch level above, they experience dizziness to rationalize irrationality in the setting (Vogt-Göknil,1958: 34-35 in Tafuri, 1987, p. 310).[3]

[2] For a geometrical analysis of multiple viewpoint perspectives, Rapp analyzed selected etchings by Piranesi employing "geometric restitution of perspective," providing a historical context for the concept. See Joanna Barbara Rapp (2008) A geometrical analysis of multiple viewpoint perspective in the work of Giovanni Battista Piranesi: an application of geometric restitution of perspective, *The Journal of Architecture*, 13:6, 701–736, DOI: 10.1080/13602360802573868

[3] In the footnotes of "The Wicked Architect", Tafuri provides an extensive literature in both English and Italian on Piranesi and his artwork, covering a period between 1950s and 1970s. Some English references in addition to Patricia May Sekler and Ulya Vogt-Göknil include J. Adhemar and Huxley's "Prisons with the Carceri

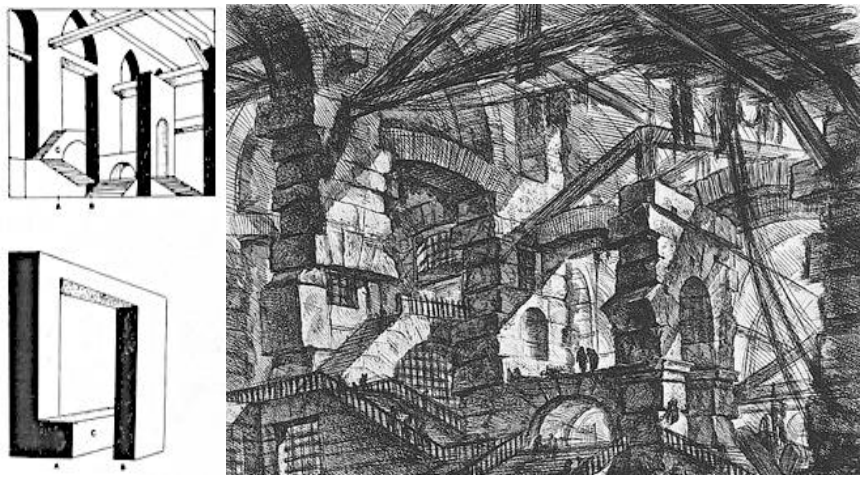

Figure 4: On the left, the Schematic perspectives showing Piranesi's play with architectural elements (Ernst, 1984), and on the right, the original etching Giovanni Battista Piranesi, plate XIV: The Gothic Arch, *Carceri d'invenzione*, 1761.

While Wilton interpreted the plates in *Carceri* as representations of "an experimental field of composition as reflected in their barely resolved forms and loosely suggested structures," Tafuri had clinched Wilton's argument one step further and regarded the series as Piranesi's experimentative search for exploring an alternative language for architecture by violating orthodoxy of architectural composition, which for Tafuri was the accurate outcome of the destructive process, lying at the origin of Piranesi's "critical act" (Tafuri,1987:272; Wilton, 1988:81). The destructive nature of Piranesi's attempt, detaching the elements of architecture, then attaching them in an unorthodox manner, regularized the autonomy of fragments in Roman architecture as if "doubling" Roman history from an architectural perspective.[4] For Tafuri, Piranesi's reconstructed 'history,' dissolving the coherency of architectural ordo through the decomposition of the predetermined patterns, was the outcome of Piranesi's search for "a new language of architectural composition," a practical exercise of alternative recompositions. Piranesi's "critical act," in Tafuri's terms, or his destructive operation on the visual, in Dixon's terms, unveils a critical methodology for proceeding with

etchings, (1949), Philip Dennis Kate's essay "Piranesi's imperial vision of Rome" (1973), John Harris' essay "Le Geay, Piranesi and International Neoclassism in Rome (1740-1750)" in *Essays in the History of Architecture presented to Rudolf Wittkower* (1967), Emil Kaufman's *Architecture in the Age of Reason* (1955), Hylton Thomas, *The Drawings of G.B.Piranesi* (1954), Rudolf Wittkower's "Piranesi's Parere su l'architettura," in *Journal of Warbung Institute*, (1938-1939) and "Piranesi as architect" in *Piranesi* (1961).

[4] Doubling is a term of Tafuri when he used for defining the critical analysis applied on a research subject. In his words, "the criticism begins" via an act at the origin of which lies "a process of destroying, of dissolving, of disintegrating a given structure" (Tafuri, M., 1987. The Sphere and the Labyrinth, p. 272). For doubling, see Mutlu Tunca, G. (2014) Doubling …

alternative reinterpretations of an architectural object visually concerning Piranesi's case where 'history' is the unique research object.

Unquestionably, carrying out such a destructive technique on the coherence of Roman ruins was for a critical appreciation of both history and architecture. Even though this was not what Piranesi aimed for, Dixon's interpretation of his works when she saw the ground-free elements of Roman architecture and their various representations on one sheet, Eisenstein's reworking of his fragmentation when he parallelized Piranesi's grouping of autonomous elements in a single configuration with the shots in his theory of montage, or Tafuri's theorizing his critical act when he realized the destructive process lying at the origin of Piranesi's artworks, were all unique "mental reconstructions" attempting to "bring together the residues and the fragments freed by [Piranesi's] imaginary explosion" and, in a way participating in Piranesi's critical process as if "the criticism[s] of the work thus become operation[s] on the work" (Tafuri, 1987:58).

Research on Piranesi's writings has proven that between the first and second *Carceri* editions, Piranesi had made a name for himself as one of the most renowned Roman archaeologists and antiquarians (Penny, 1978:11). Piranesi's fascination with history and the "primordial structurality" of Roman archeology, which began in the mid-1740s with *Varie Vedute di Roma antica e moderna* (1745), progressed in time and took an academic format in *Antichita Romane* (1756), a publication of four volumes, with various multi-informational images, gathering "iconographic plans and sections of the monument, ornamental and construction details, *vedute, capricci* and all types of combinations" (Dixon, 1988:187). Thereof, Piranesi issued seven more archeological publications—*Le Rovine del Castello Dell'Aqua Guilia (1761), Il Campo Marzio, Lapides Capitolini (1761), Descrizione e Disegno dell'Emissiaro del Lago Albano (1762), Di due spelonche ornate degli antichi, Antichità di Albano e di Castel Gandolfo (1764) and Antichità di Cora (1764)*—with wide-ranging archeological *capriccio*,[5] relaying historical information that reflected Piranesi's critical cross-evaluation of literary sources and extensive research on eighteenth-century historiography (Ibid.). According to Dixon, research on these seven books unveiled Piranesi's discovery of the visual material's role "in the recovery or discovery of historical knowledge," classifying his acquirements from history on both polemical and aesthetical levels: Polemically, he set a great deal by the autonomy and superiority of ancient Roman achievements compared to that of Greeks and other non-Roman cultures. Aesthetically, the criteria of a good design are concealed within the historical structures' aesthetics (Dixon, 1999:187). For

[5] *Capriccio* means an architectural fantasy, combining structures, archaeological remains, and other architectural components in fictitious and often surreal configurations. (Wikipedia, 2007. Access date: 2023)

Dixon, Piranesi's purpose was to discover, then recover, the wholistic episteme of the Roman past. Yet, he developed a "visual" history, an alternative history reading of Roman art and culture. The visual historiography of Piranesi, with an overall epistemological intention of discovering the past, and his *capriccio* rejected "the notion of a finite design discipline, whether according to the principles of Vitruvius or Palladio, Laugier or Lodoli" (Wilton, 1988:91). **[Fig. 5]** As understood from his writings, Piranesi reinterpreted and reassembled the architectural forms of "history" in his architectural fantasies, which were "far too rich to be restricted by narrow doctrines or immutable canons of taste" (Ibid.:90-91). Regarded as alternative constructions of aesthetic preferences in the mid-eighteenth and nineteenth-century European art and architecture, Piranesi's prints, representing monuments and Rome ruins in "various types and scales of representation on one sheet," for Dixon (1999:469), created a disorienting juxtaposition of "unlike imagery," such as harsh geometric portion next to a tangible vista, or an immense detail—possibly sketchily drawn—next to a bird's eye perspective, which can be distinguished by "being set against a white void or, more commonly, within a *trompe-l'oeil* framing device." **[Fig. 6]** Dixon (1999:184) interpreted Piranesi's dizzying juxtapositions of superimposed layers "one upon another, sometimes obscuring one image in favor of another," randomly arranged on a sheet, as "multi-informational image" which "portrayed … the ruins, representing more than exterior facades, but also their plans, their interiors distinguishing their parts in section and profile and indicating their materials and the manner of their construction." The multi-information Dixon referred to, such as pieces in diverse scales, unusual frames, different viewports of orthographic projection, perspective expressions, and even details, were of Piranesi's derivations from his "course of many years of exact observation, excavation, and research" (Dixon, 2002:469).[6] Each plate created by Piranesi can be interpreted as his *Mnemosyne Atlas*, reorganizing and reconstructing architectural fantasies through "subjective assemblage or arrangement of objects" he arbitrarily selected among the artifacts of Rome, be it a statue, a bas-relief, or an architectural detail (Dixon, 1999: 188; 2002: 475). **[Fig. 7]**

[6] Here, we refer to the etchings in Piranesi, G. (1756) *Antichita Romane,* Vol. 1, Rome, Angelo Rotili, quoted in the article of Dixon (2002:469-487) "The Sources and Fortunes of Piranesi's Archeological Illustrations," published in *Art History* periodical.

Figure 5 *Capriccio,* Giovanni Battista Piranesi, *Antichità romane* (Roman Antiquities), vol. I, 1756**,** The Arthur Ross Collection, Yale University Art Gallery

Figure 6 Map of Rome*,* Giovanni Battista Piranesi, *Antichità romane* (Roman Antiquities), vol. I, 1756**,** The Arthur Ross Collection, Yale University Art Gallery

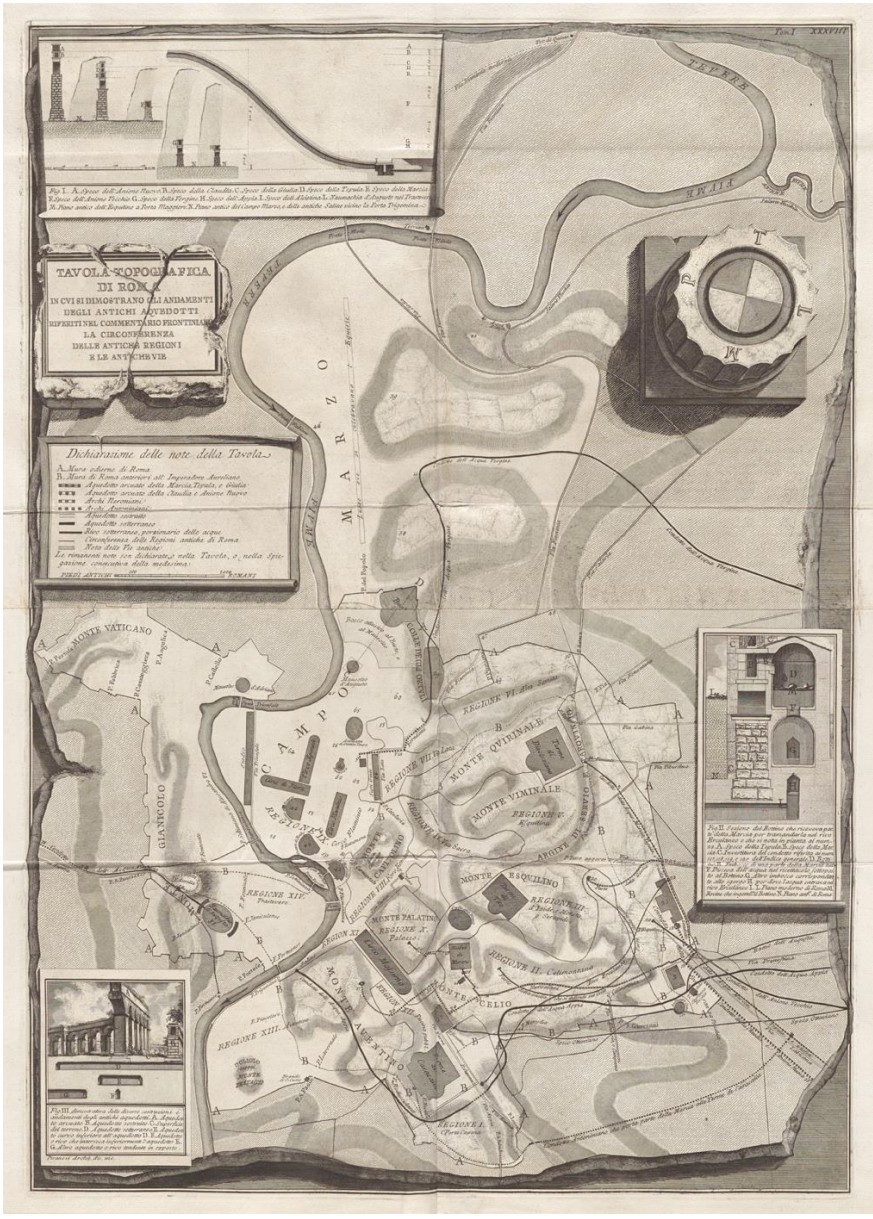

Figure 7 A map of Rome, Giovanni Battista Piranesi, *Antichità romane* (Roman Antiquities), vol. I, 1756, The Arthur Ross Collection, Yale University Art Gallery

As artifacts, if interpreted correctly in context, can disclose features of a culture's rites and customs, as well as its technology and commerce, Dixon (1999:188) claimed that Piranesi's multi-informational *capriccio* "underscores the creative aspect of history-making, the role of the imagination in the pursuit of historical knowledge." As an illustration, *Campo Marzio* was one of the most

remarkable publications by Piranesi, as he was deeply involved with the Graeco-Roman debate.[7] Based on extensive, in-depth archeological research, Piranesi's folio displayed the "Roman genius for design" (Wilton-Ely, 2006:223). The archaeological ambition, the graphics inventiveness, and Piranesi's architectural imagination while reconstructing the map of Rome's *Campus Martius* in *Campo Marzio* were achieved through a richly complex representation, graphically juxtaposing irrelevant fragments and illustrations in various scales using visual illusions. **[Fig. 8]** Claiming "the triumph of the fragment" in *Campo Marzio* was due to Piranesi's magnetic field pinned with unrelated objects, including well-defined typological structures like triadic, polycentric, multilinear, or curvilinear arrangements, which nevertheless emerged with "architectural banquet of nausea," a semantic blank brought on by visual cacophony (Tafuri, 1987:35). For Tafuri (1987:35), Piranesi provided a virtual database of typological samples in his *Campo Marzio*, such as that of Hadrian's tomb, the Pantheon, or the Theatre of Marcellus, yet reduced those major monumental works to minor scales and inserted into a "continuum of fragments" that restrained their autonomy and the status of being "monument" as exceptions that lacked any rule or hierarchical organization. As a result, this exaltation of fragments enabled Piranesi to demonstrate how broad the scope of these exceptions can be once an experiment based on unrestricted geometrical deformations had seized a general classical reference. However, this same exaltation of the fragment also enabled him to show, in contrast, the futility of this frantic search for "exceptional" structures. In Tafuri's words, Piranesi's map of Rome in *Campo Marzio* "is no longer a question of a *criticism*; it is a question of the representation of an active decomposition." For Tafuri, the dissolved ordo, represented by Piranesi, was his invasion of "the totality of form" (Ibid.:37). For Stan Allen (1989:71), on the other hand, Piranesi's *Campo Marzio* was an experimental design that destroyed the "naturalness" of the language of classical architecture and its forms by contamination and fragmentation entirely at odds with historically developed ideas of the wholeness of language. Focusing on the "negative utopia" Piranesi created for the *Campo M*arzio in Rome, Allen uncovered Piranesi's improvised, surreal, and innovative relationship with his own (archaeological) sources (Ibid.:72).

The impact of Piranesi's fantasies, recreating Rome's archeological sources, reached such a level that Goethe confessed his disappointment in measuring up

[7] For discussions on the context of the work, of Piranesi's intellectual and artistic response to the Graeco-Roman controversy, see John Wilton-Ely, "Vision and Design: Piranesi's 'Fantasia' and Graeco-Roman Controversy," *Piranèse et les Français,* pp. 529-552; John Wilton-Ely, "Utopia or Megalopolis? The 'Iconographia' of Piranesi's 'Campus Maritus' Reconsidered," in *Piranesi: Tra Venezia e l'Europa*, ed. Alessandro Bettagno (Florence 1983) 293-304.

his first sight of Rome's ruins to Piranesi's views; Horace Walpole invited his contemporaries to study the "sublime dreams of Piranesi" (Walpole,1786:398; Goethe, 1989:363, in Wendort, 2001:162). Rendering mountains of buildings in various scales with palaces on top of bridges and temples atop castles, Piranesi's "dark brain," as phrased by Marguerite Yourcenar (1984:94), dreamt of a "strange linear universe" in which "all eighteenth-century angles of incidence and reflection intersect." Kirk (2006:268) introduced Piranesi as a "guide to the palimpsest of postmodernism," reminding us how excluded Piranesi was from the academic community until Vincenzo Fasolo, the founder of Sapienza University, Rome's first school of architecture, introduced him as "the maker of imagined forms" and uncovered his crucial role in the transitional period Italy had been passing through with his unique, but unusual, "even generic stylistic" interpretation of antiquity. Fasolo, the first academician who included Piranesi and his imaginary work in his history of art and architecture courses curriculum, wrote his first *Campo Marzio* essay in 1956, in which he examined "Piranesi's systems of urban juxtapositions: the combinations of volumes full of movement, axial shifts, and geometric complexity" (Kirk, 2006:268). As schematically sketched by Fasolo, Piranesi's "fantasy of composition," providing a "rich vocabulary offered by the vast repertory," was Piranesi's "most characteristic expression—an 'inventive excitement' [in Fasolo's words]—full of anxious personal idiosyncrasies, a map of Piranesi's brain" (Ibid.:268).

Archaeology, as the logical examination of historical artifacts, for Tafuri, asserted historical knowledge by proceeding back to a documentary or evocative sphere with coded and indirect messages, and so did Piranesi's archeology. By "freeing language from the authority of history," Piranesi established the reconstructive examination of ancient findings as "an in-progress criticism of language itself" (Tafuri, 1987:37). Referring to *Della Forza della Fantasia umana* of eighteenth-century philosopher Ludovico Muratori (Venice, 1745), Dixon categorized Piranesi's fantasy or imagination, reactivating sensations somewhere in-between the creations of "intellect" and "mind" since the former operates the immaterial and spiritual memory codes of future, and the latter utilizes the material and sensible codes of past. Identifying Piranesi's eclecticism as "an operation" on sense impressions, which "was not a process of sole accumulation, but also of selection," Dixon deciphered the fragments of Piranesi's multi-informational fantasies, "expressed ... not as a wealth of images, but as a single image or a 'compendium' in the mind's eye" as the catalysts that "combine, divide, abstract … and judge the impressions it received" (Dixon, 2002:475).

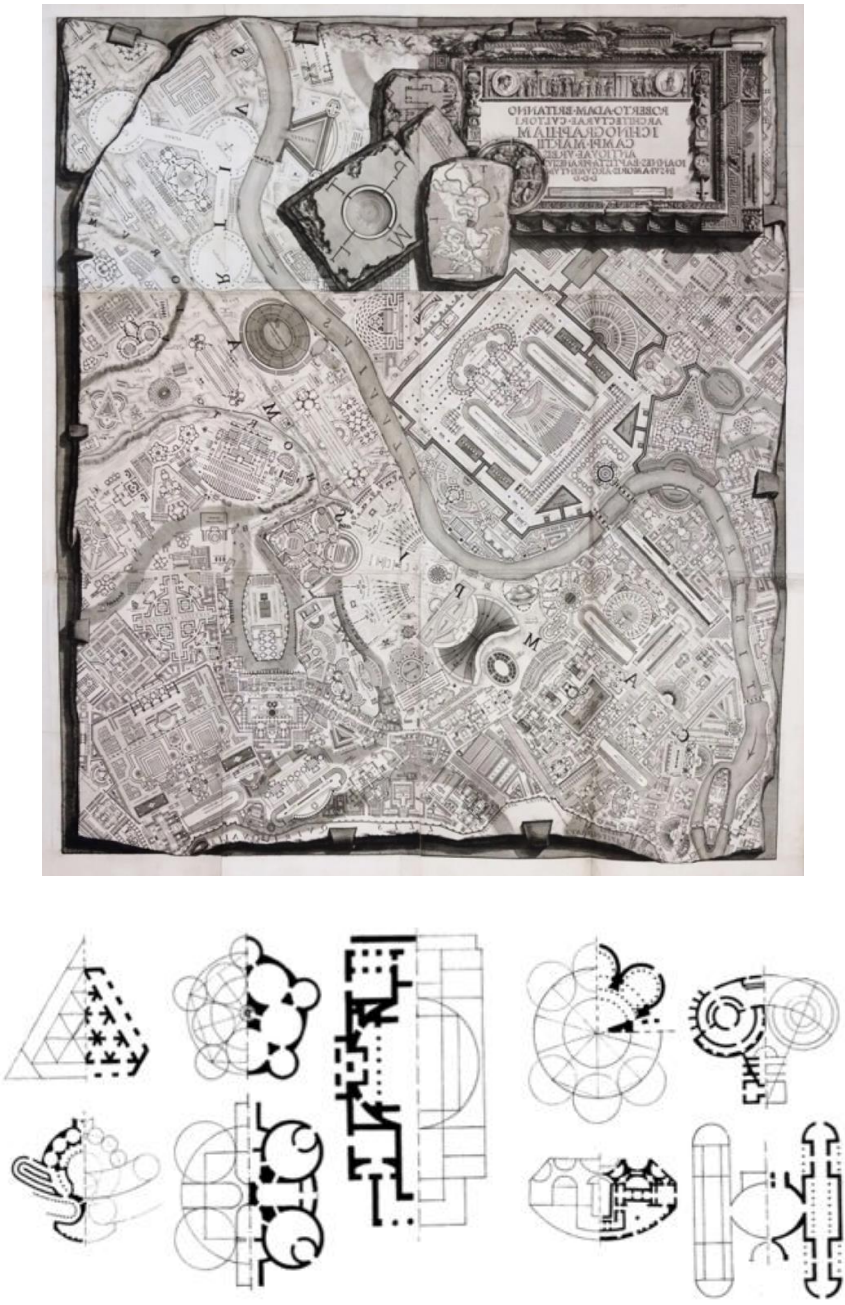

Figure 8 On top, map of Rome's *Campus Martius* in *Il Campo Marzio by* Giovanni Battista Piranesi*;* below*,* Piranesian compositional schemes, sketched by Vincenzo Fasolo, "Il Campo Marzio di G.B. Piranesi," *Quaderni dell'Instituto di Storia dell'Architettura,* Roma *15 (1956)* (Kirk, 2006:269)

The larger purpose of reexamining Piranesi and his imaginary constructions construed from multi-informational images is to understand the role of his fantasies towards the elaboration of architectural historiography that Manfredo Tafuri –prominent architectural historian and theorist of the 1970s– had mentioned in his seminal essay, *The Wicked Architect,* published in the 1980 book, *The Sphere and Labyrinth*. Tafuri was not the first or last to conceive Piranesi and his layering of historical change within a single image. Neither Sergei Eisenstein was the first who utilized Piranesi's destructive use of visuals in multi-informational images to epitomize his cinematographic method, montage, pragmatically. Nevertheless, Tafuri was the one who shifted both Piranesi's work and Sergei Eisenstein's pragmatic approach to interpreting Piranesi's unique creations, significantly his attribution of montage on *Carcere Oscura* to a more theoretical platform debating on the historicity of the avant-garde, even though Piranesi ignored to prioritize montage or the fragment in the same manner that Eisenstein did, nor did Eisenstein care about Piranesi's "constructive utopian ideal of multiperspectivalism and spatial fluidity" (Huyssen, 2006:19). Claiming that Piranesi's *Carceri* had already alluded to fundamental concepts elaborated by the cubists, constructivists, and surrealists by rejecting the "temporal and spatial perspectivalism of the Renaissance," Tafuri (1987:47) figured out that "the violence wrought upon the laws of perspective, the institution of the possibilities offered by an indefinite 'opening up of form'—the constant metamorphosis of the spaces in *Carceri*, the gemmation, which theoretically could be continued *ad infinitium*, of the geometrical bodies in the *Campo Marzio*—mark, without any doubt, the end of Alberti's theoretical precepts of *concinnitas* and of *finitio.*"

CONCLUSION

Balancing a preeminent tradition with an innovative future projection or connecting the present with the past had always been the motive behind some achievements of Italian architecture; therefore, for Francesco Dal Co (2000:582), Piranesi was a Janus with two faces, one staring down the Vitruvian tradition to destroy the canonical significance and values of old-fashioned classicism and the other looking boldly toward an uncertain future with new aesthetic canons (Kirk, 2006:274). For Andreas Huyssen (2006:9), Piranesi's work was critically reclaiming a past to construct alternative futures. For Terry Kirk (2006:274), Piranesi's poetic license to intense experimentation uniquely stipulated this effort by inviting the Italian architects to an "all-inclusive historicism." For Louis Marchesano (2010:159), Piranesi's emancipation from the limits of conventional image-making was a splendid inspiration for young artists interested in the

tradition of architectural representation. Piranesi's one-off representational exploitation by light effects, scale disparities, the fragmentation in his innovative technique of architectural presentation, perspectival illusions, *capricci*, and *vedute* of the monuments and ruins of Rome were innovative tools of his legacy, facilitating to conquer a colossal, complex, and mysterious perception in exploring the "new" imaginary architecture (Kirk, 2006:239-240). As also mentioned by Kirk, Piranesi's engravings, the *Vedute*, and the *Carceri*, published in English, French, and German, undoubtedly influenced other European designers—studies on designers such as Adam, Soane, Boullee, Ledoux, Gilly, and Schinkel would support this argument—and the trails of his impact as being the catalyst of architectural experimentation throughout Europe can be mapped along various axes: Firstly, Romantic-era personalities legitimized his ancestry due to the catalogs of meticulously observed archeological data and recommended alternative compositional techniques his books provided; thus contemporary researchers identified him as the founder of historicism in architecture. Secondly, the eighteenth-century architectural society appreciated his architectural fantasies as the "bold alternative, revivifying factor against academic boredom," and this positive reception resulted in the inclusion of his innovative ideas rejecting tradition into the academic curriculum. Lastly, Piranesi, with his detached and visceral influence in visual terms, invited other architects to experiment with images to generate various ideas, linguistic freedom, and crossbreeding for creating architectural poetry that explores the "complex, the contradictory, the paradoxical" (Ibid.:274). Piranesi's fragmentation instigated to dissolve, disintegrate, destruct any canon in architectural terms; in other words, it was the first instance of an emancipation project, a historical project that would be indicated as the basis of the Modern project soon.

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Chapter 9

The Importance of Green Infrastructure Practices in Urban Areas in the Context of Global Climate Change

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ABSTRACT

Climate change is affecting the whole world. Polar ice caps are melting, and sea levels are rising. Extreme weather events and rainfall are becoming more common in some regions, while others are experiencing extreme heat waves and droughts. These impacts are expected to intensify in the coming years. The development of green infrastructure systems in cities is among the measures that need to be taken to reduce the negative effects of climate events caused by global climate change, the impact of which is felt more and more every day. Climate change adaptation efforts in cities are closely linked to green infrastructure, which is among the effective tools in combating and mitigating the negative effects of climate change with the ecosystem services it provides, such as the mitigation of urban heat island effect.

Keywords: Green infrastructure, global warming, climate change, city.

1. INTRODUCTION

While the climate system has been changing due to natural factors since the existence of the planet, it has accelerated after the Industrial Revolution with human-specific activities such as the widespread use of fossil fuels, increased industrial activities, deforestation, and changes in land cover/use. These unnatural activities have caused an increase in the accumulation of greenhouse gases in the atmosphere and disrupted the natural balance of the climate system, leading to large-scale and long-term changes in the average temperature of the planet and weather events. This situation appears as climate change based on global warming.

Global climate change refers to long-term changes on earth. These changes include temperature increases and changes in precipitation regimes, as well as the consequences of warming of the Earth's surface, such as rising sea levels, shrinking mountain glaciers, and faster-than-normal melting of ice in Greenland, Antarctica, and the Arctic. The Earth's climate was constantly changing even before the human factor came into play. However, unusual changes have been observed in recent decades. For example, the Earth's average temperature has risen much faster than expected over the last 150 years. Many people, including scientists, are concerned about this warming.

The Global Monitoring Laboratory reports that over the past 800,000 years, atmospheric carbon dioxide accumulation has ranged between 180 ppm and 280 ppm during the cold and warm ice ages (Figure 1). (NOAA-Global Monitoring Laboratory, 2021).

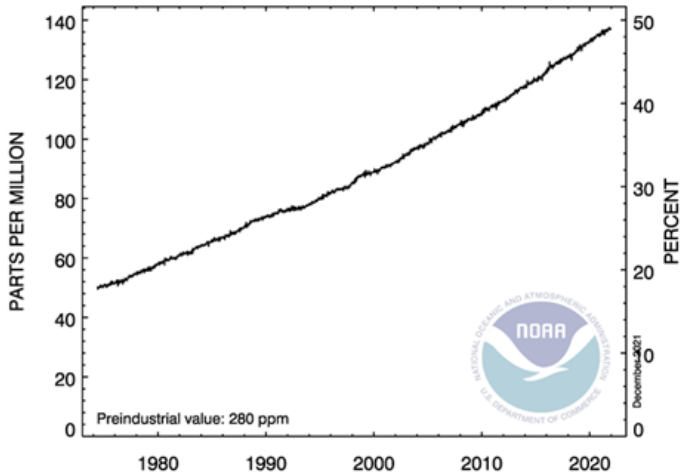

Figure 1. Graph of CO_2 atmospheric increase observed at Mauna Loa Observatory (Hawaii) (Anonymous, 2021a).

Changes in sea levels because of global warming are continuously measured and assessed by satellite technologies and in-situ surveys in different parts of the world, including the poles. The Intergovernmental Panel on Climate Change (IPCC) was established by the World Meteorological Organization (WMO) and the United Nations Environment Organization (UNEP) in 1988 to assess the risks of climate change caused by anthropogenic activities.

Developments in climate change are monitored through IPCC reports. The 6th Assessment Report, the latest report of the IPCC, revealed that the temperature has increased much faster than predicted. It is stated that warming caused by human activities increased by more than 1ºC between 2010-2019 compared to the period 1850-1900. Greenhouse gas emissions are pointed out as the main source of the increase. The report includes four different scenarios shaped according to different temperature increases and evaluates the possible situations that may arise if the temperature increases by 1.5 ºC, 2 ºC, 3 ºC and 4 ºC (Daşcıoğlu, 2021:1).

Average surface temperatures show a significant tendency to increase due to the fact that CO_2 and other greenhouse gases (methane-CH_4, nitrous oxide-N_2O and fluorochlorocarbons-CFCs, etc.), which have started to accumulate in the atmosphere, trap the long-wave rays emitted from the ground. These gases mostly originate from fossil fuel use, industry, transportation, energy production and agricultural activities (Figure 2) (Öztürk, 2002:51).

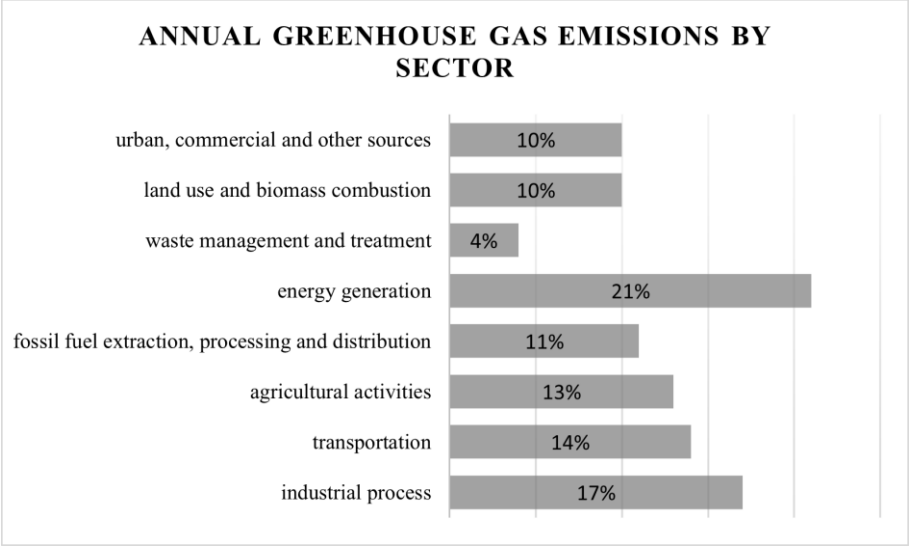

Figure 2. Percentages of annual greenhouse gas emissions by sector (Anonymous, 2021b).

Studies show that the amount of carbon dioxide released into the atmosphere annually at the end of the last century was 355 ppm on average, and that this amount could double in the current century (Figure 3) (Öztürk, 2002:51). Climate scenarios reveal that this rapid increase in the amount of carbon dioxide will cause an average temperature increase of 1.5 ºC to 4.5 ºC in global temperature in 2050 (NOAA-Global Monitoring Laboratory, 2021).

The importance of CO_2 is better understood, especially when the magnitude of its accumulation in the atmosphere, its rate of increase and its life span ranging between 50-200 years are considered. According to 1958 Mauna Loa measurements, CO_2 accumulation in the atmosphere has been increasing very rapidly (Figure 4).

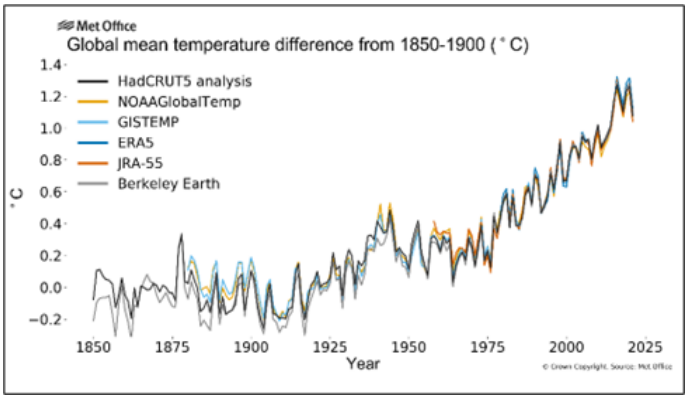

Figure 3. A plot of global annual mean temperature difference from pre-industrial conditions to the present for six global temperature datasets (Anonymous, 2021c).

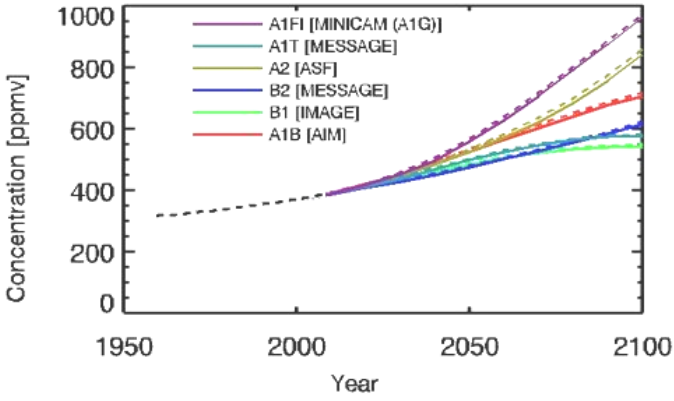

Figure 4. Atmospheric CO_2 concentration observed at Mauna Loa (IPCC, 2001).

The current level of CO_2 accumulation in the atmosphere far exceeds the natural variations in CO_2 accumulation (ranging from about 180-300 ppm) over the past 420,000 years of record (Figure 5). These increases in greenhouse gas accumulations weaken the Earth's ability to cool through long-wave radiation, creating a positive radiative forcing that tends to warm it more. Therefore, the "positive contribution to the energy balance of the Earth/atmosphere joint system" is called the strengthening greenhouse effect (Türkeş, 2013:15). This means the strengthening of the natural greenhouse effect that has been in operation for hundreds of millions of years with the help of natural greenhouse gases (water vapor, CO_2, CH_4, N_2O and O_3) in the Earth's atmosphere (Türkeş, 2008:31).

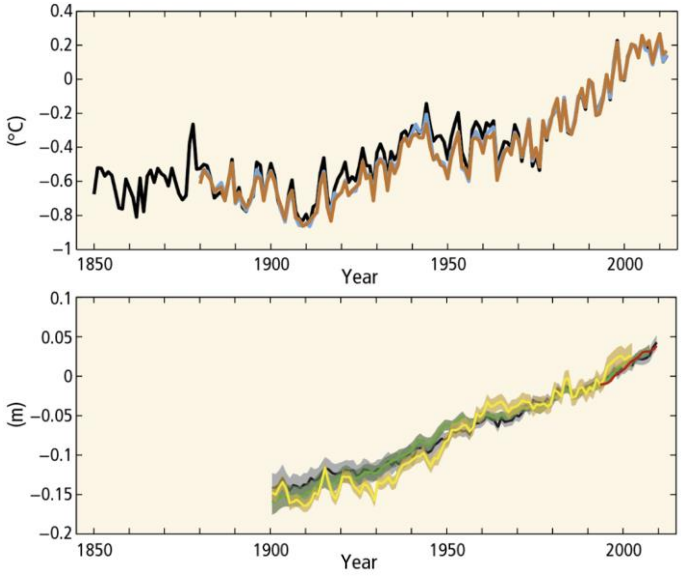

Figure 5. Global average surface and ocean surface temperature anomaly (top) and global average sea level rise (bottom) (IPCC, 2013).

2. CAUSES OF CLIMATE CHANGE

Humans are increasingly affecting the climate and the earth's temperature by burning fossil fuels, cutting down forests and other activities. This is adding enormous amounts of greenhouse gases to the naturally occurring ones in the atmosphere, increasing the greenhouse effect and global warming.

The greenhouse effect is the main driver of climate change. Certain gases in the Earth's atmosphere act like glass in a greenhouse, trapping the sun's heat and preventing it from returning to space, thus causing global warming. Most of these greenhouse gases are naturally occurring, but human activities are increasing their concentrations in the atmosphere, especially carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), fluorinated gases (CFC_5).

CO_2 produced by human activities is the gas with the largest share in global warming. By 2020, its concentration in the atmosphere had increased to 48% (Anonymous, 2021d). Other greenhouse gases are emitted in smaller amounts by human activities. Methane is a more potent greenhouse gas than CO_2 but has a shorter atmospheric lifetime. Nitrous oxide, like CO_2, is a long-lived greenhouse gas that can accumulate in the atmosphere for centuries.

Greenhouse gases in the atmosphere are increasing for several reasons. Burning coal, oil and gas produces carbon dioxide and nitrous oxide. Deforestation is another cause. Trees help regulate the climate by absorbing CO_2 from the atmosphere. When they are cut down or destroyed, this beneficial effect is lost and the carbon stored in the trees is released into the atmosphere, adding to the greenhouse effect. Chemical fertilizers also play a role in pollution. Fertilizers containing nitrogen produce nitrous oxide emissions. Fluorinated gases are emitted from vehicles and equipment that use these gases. Such emissions have a heating effect up to 23,000 times greater than CO_2 (Anonymous, 2021d).

3. IMPACTS OF CLIMATE CHANGE

Climate change is affecting all regions of the world. Polar ice caps are melting, and sea levels are rising. Extreme weather events and rainfall are becoming more common in some regions, while others are experiencing extreme heat waves and droughts. These impacts are expected to intensify in the coming decades.

Climate change is affecting various parts of the world in unusual ways. Southern and Central Europe is experiencing more frequent heat waves, forest fires and droughts. The Mediterranean region is becoming increasingly arid, making it even more vulnerable to forest fires. In Northern Europe, rainfall is increasing significantly, and winter floods are becoming common.

Water expands when it warms. With global warming, polar ice sheets and glaciers are also melting. The combination of these changes is causing sea levels to rise, putting coastal areas and low-lying land at risk of flooding and erosion.

With global climate change, heavy rain and other extreme weather events are becoming more frequent. This leads to floods and reduced water quality. In some regions, it reduces the availability of water resources. This effect is a result of increased rainfall intensity, which reduces the rate at which rainwater infiltrates into the soil.

Climate change also affects our health. In some regions, there is an increase in the number of deaths due to hot weather. There are changes in the distribution of some water-borne diseases and disease vectors.

Climate change also affects flora and fauna. Many plant and animal species cannot adapt to rapid changes. Many terrestrial, freshwater, and marine species have already moved to new places. If global average temperatures continue to rise, the risk of extinction of some plant and animal species will increase.

Research on the impacts of climate change shows that different sectors and environments are being impacted. Sectors that rely strongly on specific temperatures and precipitation levels, such as agriculture, forestry, energy, and tourism, are the leading ones. In addition, it is predicted that countries will be affected in different extents due to their level of development and geographical location (Kılıç, 2009:26). Poor developing countries are among the most affected. People living in these countries are dependent on the natural environment and have limited resources to cope with the changing climate.

The impacts of climate change and damage to property, infrastructure and human health impose heavy costs on societies and economies. Between 1980 and 2011, floods affected more than 5.5 million people and caused direct economic losses of more than €90 billion in Europe (Anonymous, 2021d).

Climate change has a significant impact on ecosystem functioning and human well-being. Climatic stress leads to a reduction in the distribution of typical native species, with an increase in heat waves, droughts, and flood events, affecting society in terms of health and socio-economic aspects.

In addition to climate change, rapid urbanization affects ecosystems through a series of interconnected pressures. These pressures include the loss and degradation of natural areas, soil impermeability and the concentration of settlements that pose significant challenges to ecosystem functionality, and the failure to provide ecosystem services, negatively affecting human welfare in cities around the world. Some of these impacts are as follows (Kılıç, 2009:26; Ortaçeşme, 2017):

Environmental Impacts

- Ozone depletion
- Reduced availability of water: Climate change is affecting precipitation patterns. Climate scenarios show that under warmer climate conditions, evaporation will increase, leading to an increase in global average precipitation and the frequency of heavy precipitation events. At high latitudes, precipitation is likely to increase, while it is projected to decrease in large parts of the subtropics. Monsoon precipitation is expected to vary by region (Türkeş, 2008:35; IPCC, 2001)
- Sea level rise: The increase in sea water temperatures due to global warming indicates that ice masses will continue to melt, and accordingly, there may be an increase in sea water level changes. If this rises in sea water level moves towards settlements, it will cause natural disasters (Ateş, 2008:17)
- Increased flooding and inundation: Climate change is altering the natural water cycle. This is bringing more intense rainfall and associated flooding and more intense droughts in many regions.
- Reduced water quality
- Flooding in coastal areas: The change in the water level in the seas will cause the formation of swampy areas in coastal ecosystems close to the seas, and if the rise in the seas progresses towards the settlements, natural disasters will occur (Zeğerek et al., 2018:276)
- Increased coastal erosion.
- Extinction of species
- Air pollution increase
- Increase in storms.

- Increases in deforestation and consequent desertification.
- Lengthening of warm seasons-shortening of cold seasons

Socio-Economic Impacts

- Health
- Food
- Energy supply
- Poverty
- Migration
- Sustainable development

Sectoral Impacts

In addition to negative impacts on natural environments, climate change also affects many climate-based sectors. At the top of these are two sectors that are very important for the world economy.

Agriculture: Climate is the primary factor that enables agricultural production. Therefore, changes in temperature, precipitation, and the amount of CO_2 in the atmosphere, the frequency and severity of unexpected natural events, and rises in sea water level adversely affect the agricultural sector. Temperature, precipitation, severe weather events and CO_2 accumulations reduce the efficiency in agricultural production. Rises in sea level can reduce productivity, especially in coastal agricultural areas, by exposing them to flooding and salt water, and loss of arable land due to erosion. High temperatures and droughts cause irrigation problems and crop and land losses in agricultural areas. With an increase in temperature, the balance between heat production and heat utilization in animals can be disrupted. This may have some effects on mortality rate, feed consumption rate, live weight gain and milk production (Başoğlu, 2014:179).

Tourism: The tourism sector is also highly vulnerable to climate change. On the other hand, it is a sector that contributes to the emission of greenhouse gases. Accelerating climate action in tourism is therefore crucial for the sector's resilience. Climate action is understood as efforts to measure and reduce greenhouse gas emissions and strengthen capacity to adapt to climate-related impacts. According to the UNWTO (United Nations World Tourism Organization) / ITF (International Transport Forum) research published in December 2019 at the United Nations Framework Convention on Climate Change, CO_2 emissions from tourism are expected to increase by 25% by 2030 compared to 2016 levels under the current target scenario. Tourism is under

significant threat from the impacts of climate change, particularly extreme weather events that could lead to increased insurance costs and safety concerns, as well as water scarcity, biodiversity loss and damage to assets and attractions in destinations. Ongoing climate-induced disruption and degradation of cultural and natural heritage will also negatively affect the tourism sector, damaging the attractiveness of destinations and reducing economic opportunities for local communities (UNWTO, 2019:11).

4. GREEN INFRASTRUCTURE

Infrastructure is the simple physical and organizational structures such as roads, sewerage, water, electricity, etc. necessary for a settlement, community activities or a building (Parlak and Atik, 2020:88). Green infrastructure is a planning and design concept based on an interconnected green space system that benefits people by preserving the value and function of the natural ecosystem.

Wentworth (2017) states that the European Union defines green infrastructure as "a strategically planned network of natural and semi-natural areas with other environmental features designed and managed to provide a wide range of ecosystem services" (Tülek and Mirici Ersoy, 2019:3).

According to Benedict and McMahon (2006), greenways that provide recreational and health values for people, historical and cultural sites that are a social resource, farms, orchards, and forests that provide economic gain are important parts of the green infrastructure system (Aydınlı and Erdem Kaya, 2020:37).

The concept of green infrastructure has been defined by the US Department of Agriculture as "a whole that includes waterway networks, wetlands, forests, wildlife habitats, greenways, parks, cultivated lands, farms and forests, and all other natural areas that harbor wild and native species, sustain natural ecological processes, and provide water and air resources to ensure a healthy and quality life for society" (Demiroğlu et al., 2019:13).

In recent years, there have been many definitions of green infrastructure, both nationally and regionally, based on the benefits it provides. This range can be divided into three categories: Landscape-based green infrastructure, biodiversity-based green infrastructure, nature-based alternatives to gray infrastructure. In landscape-based green infrastructure, the main objective is to preserve ecosystem value and function and contribute to the human population. Natural elements (natural landscapes, woodland, wetlands, rivers, grasslands) make up the system. However, green infrastructure can also include work areas, trails, and other recreational facilities, as well as cultural and historical sites.

Biodiversity-based green infrastructure is more about protecting and supporting biodiversity. The system builds on existing green infrastructure (protected area properties, state parks and designated natural areas), as well as opportunities for expansion, restoration, and connectivity. Nature-based alternatives to gray infrastructure can use green infrastructure systems and products and technologies that use natural systems and mimic natural processes to improve overall environmental quality and provide services. Systems include green roofs, permeable pavements, rain gardens, planted rain ditches (Demiroğlu et al., 2019:13).

4.1 Historical Development of Green Infrastructure Concept

Shakouri (2016) states that the foundation of green infrastructure systems is based on the projects of landscape architects in North America. Especially in the mid-1800s, Frederick Law Olmsted designed interconnected urban parks in North America that provided recreational services. Charles Little, in his book Greenways for America, emphasized that the concept of green infrastructure was born 130 years ago, based on Olmsted's projects. Moreover, in the 1970s, when the loss of open spaces in the United States began to become evident on a national scale, the concept of greenways gained importance through conservation planning efforts. This situation enabled the creation of a system by easily linking open green spaces of different qualities. In 1987, the Open-Air Commission recommended that greenways be expanded as a national system. Thus, the foundation of the green infrastructure systems approach was laid and "greenway, green belt, green corridor concepts" formed the basic parts of the green infrastructure system (Demiroğlu et al., 2019:13).

Firehock (2010) stated that the concept of green infrastructure was first used by Florida local administrators in 1994. In the process of developing land conservation strategies, managers used the term green infrastructure to emphasize that natural and ecological systems are as important as urban infrastructure such as roads, sewage systems, storm water drains, known as gray infrastructure (Aydınlı and Erdem Kaya, 2020:36).

4.2. Green Infrastructure Practices in Cities

Rapid urbanization and the rapid growth of cities over large areas bring many environmental problems. Topographical features are changing with the construction brought about by urbanization and thus the destruction of natural drainage systems has brought green infrastructure systems to the agenda. Green infrastructure makes some vital services known as ecosystem services - such as

clean air, drinking water and food - available to the public (Aslan Gülgün and Yazıcı, 2016:31).

In cities, urban infrastructure such as roads, sewerage systems, storm water channels (manholes) are known as "gray infrastructure". This type of traditional infrastructure uses engineering solutions designed for a single function. On the other hand, "green infrastructure" includes parks, playgrounds, private gardens, planting areas, green roofs, green walls, street trees and cemeteries. The term green infrastructure refers to an ecological process, so it also includes sustainable urban drainage systems, ponds, wetlands, rivers, and canals, known as blue infrastructure. Green infrastructure includes 'gray' and 'green' systems that need to be considered together as interdependent to maintain the functions necessary for the city (Aydınlı and Erdem Kaya, 2020:36; Tülek and Mirici Ersoy, 2019:5).

Ahern (2007) categorized the components of the urban green infrastructure system under three headings, "urban spots, urban corridors and urban matrices". Urban spots are parks, sport fields, wetlands, urban agricultural areas, cemeteries, campuses, other open and green spaces. Urban corridors are rivers, canals, drainage ways, waterways, roads, power transmission lines. Urban matrices are urban settlements, industrial zones, landfills, commercial areas, mixed-use areas. Semiz (2016) states that the components that make up the green infrastructure system include not only green areas but also open areas where the hydrological system (such as rivers and lakes) is connected. He emphasizes that even if these areas are not green areas, they provide connectivity between areas by providing the functions of corridors, one of the components of green infrastructure (Demiroğlu et al., 2019:14). However, the gaps within this system are defined as lands that cause the corridors to break, divide or damage the internal habitat of the region (Parlak and Atik, 2020:93) (Figure 6).

Figure 6. Gaps in the ecological system (Anonymus, 2018).

Green infrastructure is a strategically planned and managed system of natural habitats, parks, greenways, and conservation areas. This concept is recognized as a "network of interconnected green spaces" and green infrastructure systems are planned and managed for their natural resource values and the benefits they provide to society. Concepts such as green infrastructure and ecosystem services, whose main purpose is to increase green areas in cities, to strengthen the connection of these areas with each other and with rural green areas, and to spread nature into the city by making wildlife a part of the city, are gaining importance day by day (Tülek and Mirici Ersoy, 2019:2).

Green infrastructure systems consist of various components. Benedict and McMahon (2006), Weber et al. (2006), Çetinkaya and Uzun (2014) defined four components, "core zones, green corridors, connections and connection points" (Demiroğlu et al., 2019:14) (Figure 7).

Cores are the core of the green infrastructure system. They are distinct from their surroundings, relatively homogeneous, non-linear areas and can vary in size and shape. In this context, core zones include large natural areas and their resources (forests, wetlands, and water resources). The main functions of these areas are to protect natural resources, perform ecological functions, support passive recreation (such as hiking and nature watching) and sustainable economic activities (such as sustainable forestry activities). Hubs are landscapes that encompass one or more cores, bounded by land uses such as roads or other

human activities. Green corridors are linear areas (river corridors, floodplains, and vegetation linearly along streams) that connect these areas between cores, between cores and hubs, and between cores and hubs, providing for the mobility of living organisms. In general, green corridors provide opportunities for water quality protection, river erosion prevention and stabilization, habitat and migration for aquatic and terrestrial species, recreation, and education. Connections include small, linear, natural, and man-made elements (river corridors, trails). They are like connectivity points in terms of their benefits. Connectors include natural resources (small parks, woodlands, wetlands) in each area. Connectivity points are valuable for water and air quality regulation, flood control, wildlife habitat and recreation (Baylan and Demir, 2020:50, Demiroğlu et al., 2019:14).

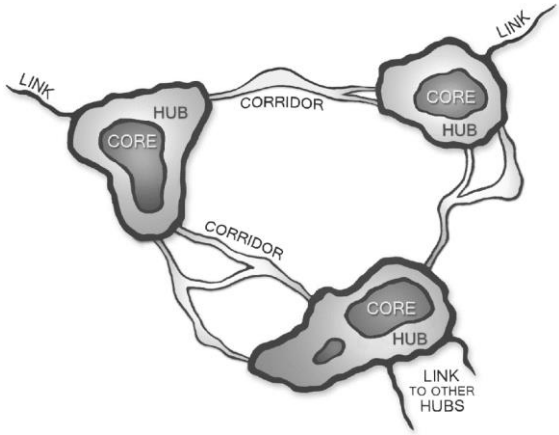

Figure 7. Green infrastructure components (Messer and Allen, 2018)

The concept of green infrastructure forms a basis for eco-city design goals in countries where the planning tradition is established; it addresses protected areas (wetlands, water channels, wildlife corridors, etc.), areas worthy of protection (forests, absolute agricultural areas, etc.) and other open green spaces (parks, green roads, green corridors, etc.) within a certain systematic framework. Ecosystem services in cities are provided by green infrastructure, which is partly co-produced by nature and humans (Tülek and Mirici Ersoy, 2019:3).

In recent years, the term green infrastructure has been used for all ecology-based approaches, from green roofs to eco-friendly stormwater management systems. Within this diversity, all these approaches emphasize the interconnectedness of the built environment and the ecological environment (Aslan Gülgün and Yazıcı, 2016:32). At the broadest scale, it is the protection and restoration of natural landscape elements such as forests, flood plains and

wetlands, which are important components of stormwater infrastructure. By protecting these ecologically sensitive landscapes, it is possible to create wildlife habitat, improve water quality and enable recreational activities (Aslan Gülgün and Yazıcı, 2016:32; EPA, 2021). Green infrastructure is an approach that should be taken into consideration as it provides many contributions such as clean air, clean water, soil conservation, erosion prevention, proper use of rainwater, flood prevention, reducing carbon emissions, preventing heat island formation in cities, supporting biodiversity, creating ecological corridors, providing habitat, protecting public health, providing recreational opportunities to the community and supporting the regional economy (Tülek and Mirici Ersoy, 2019:3).

4.3 Green Infrastructure Planning

The priorities of green infrastructure planning are to provide a healthy and quality life for individuals in urban development, to create cities that are resistant and compatible with climate change, to protect biodiversity, to ensure social integrity and inclusiveness, to support all cultural, economic, technological, social and ecological features that affect the quality of the plans and the planning process with green elements, to create sustainable cities where resources are used efficiently and to support economic development (Parlak and Atik, 2020:89).

Green infrastructure plans are produced for many different purposes and provide many contributions. In this regard, the European Environment Agency (EEA) has stated that green infrastructure works aim to ensure the integration between the networks formed by natural areas based on landscape ecology. Thus, it emphasized that the protection and development of the green space network in the city at the urban scale and the protection and development of the connection between large and ecologically valuable habitats in the landscape at the landscape scale will be ensured (Demiroğlu et al., 2019:14).

As a concept that enables public administrations to act beyond administrative and political boundaries, green infrastructure can be applied at different scales, such as regional or provincial, district and parcel. At the provincial or regional scale, it provides a sound rationale for the protection and management of green spaces, including protecting large landscape linkages connecting forests, plateaus, and other natural areas, and creating habitats for animals. On the district scale, it means creating greenways connecting existing parks. On the parcel scale, it refers to the design of green spaces around residential and business centers. On a smaller scale, it should be designed and managed as a multifunctional resource to provide a range of environmental

benefits for residents. For example, green infrastructure can be designed as a network of high-quality green spaces, including pocket parks, open spaces, playgrounds, urban small gardens (hobby gardens) and home gardens.

As a cost-effective, sustainable, and environmentally friendly approach, green infrastructure management approaches and technologies rely on infiltration, retention, and reuse of rainwater to maintain natural water systems. On a smaller scale, green infrastructure practices include rain gardens, permeable pavements, roof gardens and rainwater harvesting (Aslan Gülgün and Yazıcı, 2016:32; EPA, 2021).

Since national and local planning habits and requirements vary, it is not possible to address green infrastructure planning with a unilateral approach. Green infrastructure planning principles are summarized in Table 1.

Table 1. Green infrastructure planning principles (Aslan Gülgün and Yazıcı, 2016:33).

Principles	Objectives
Multi-functionality	• Cover a wide range of ecosystem services. • Should be cultural in nature. • Bring together different functions. • Prioritize functions and uses and set clear targets through comprehensive analysis and stakeholder engagement. • Raise public awareness of the multifaceted functions of green infrastructure
Connectivity	• Establish physical and functional linkages between green spaces at various scales and from different perspectives in terms of recreation, biodiversity, urban climate, stormwater management and physical and functional connections. • Should be based on an analysis of the resources and functions of urban green spaces.
Integration (blue-green-gray unity)	• Ensure that urban infrastructure is considered in the context of physical and functional relationships with other infrastructure. • Establish relationships based on negotiation and communication between different professional groups, administrative units, and other stakeholders.
Communication and Social process	• The needs of all stakeholders should be met. • Collaboration should be ensured between different professionals in both the public and private sectors, and stakeholders should be included in decision-making processes.
Long-term strategy	• It should be considered within the framework of the concept of sustainable development. Long-term interests should be pursued instead of short-term economic gains. • Exchange of ideas and mutual learning processes among stakeholders should be enabled.

Shakouri (2016) stated that green infrastructure plans are classified based on the network they use. In this context, Richard Le Brasseur divided green infrastructure plans into three classes: natural green infrastructure network (uses ecological and hydrological network), social green infrastructure network (uses agricultural and recreational network) and social green infrastructure network (uses social network). Mell (2010) classified green infrastructure plans in terms of scale as neighborhood, region, and country (Demiroğlu et al., 2019:13).

In urban green infrastructure planning, the study area includes not only green areas and water assets, but also the entire urban area, including impervious surfaces. This approach creates an interface with the existing green networks in the city, while all areas that have the potential to support existing green networks at various spatial scales should be included in green infrastructure (Parlak and Atik, 2020:89).

In green infrastructure planning, land ownership should not be considered when identifying suitable lands; a holistic approach should be adopted. Key elements can range from open and green spaces, water bodies and individual elements such as a single tree within the site. In addition, gray infrastructure elements that support these elements and provide potential for green infrastructure should also be included in the green infrastructure system. In principle, a strategic and sustainable green infrastructure planning proposal should improve quality in the city, create green and blue networks, propose multiple uses and functions, ensure that green and gray infrastructure develop together, and encourage cooperation between institutions (Parlak and Atik, 2020:89).

Green infrastructure planning makes it possible for cities to realize many challenging goals such as biodiversity conservation, adaptation to climate change, social integrity, and environmental protection (European Commission, 2013; Parlak and Atik, 2020:89).

For the environment, green infrastructure planning contributes to urban environmental quality by providing clean water, purifying air and water from pollutants, improving pollination for biodiversity, reducing erosion risk, and retaining rainwater. In addition, green infrastructure planning has many positive societal impacts, such as improving human health and well-being, providing new jobs for individuals, diversifying the local and regional economy, achieving more attractive and greener cities with higher aesthetic value, increasing property values, planning transportation and energy solutions in a more integrated way, and improving tourism and recreation opportunities. In addition, green infrastructure planning is also important for biodiversity by improving wildlife habitats, creating ecological corridors, and ensuring landscape permeability (Parlak and Atik, 2020:90).

4.4 Green Infrastructure Practices in the World

Singapore is one of the exemplary cities in the world where green infrastructure and ecological urban planning are practiced. Singapore is one of the exemplary countries that has succeeded in reorganizing the globalized urban order in an ecological context based on the "garden city" understanding since the 1960s. To maintain healthy environmental conditions and prevent water-related risks during economic growth, it has implemented efficient land use decisions, including effective blue-green infrastructure planning in urban development (Andreucci, 2019:22).

The Park Connector Network (PCN) project is one of the projects implemented by the Singapore National Parks Board within the scope of the "greening and recreation strategy" to support the desire of city residents to have more livable environments. With the implementation of the PCN, social and recreational activities in the area have increased, and the areas that serve biodiversity have also contributed to the ecological protection and environmental sustainability of the city (Andreucci, 2019:23).

First proposed in 1992 to provide recreational opportunities for the people of the region, the PCN consists primarily of water structures connecting national, regional, and local parks. The PCN, which was easily implemented in the area due to the suitability of the land, later became areas that allow many recreational activities as well as ecological benefits to be included in a wider network to utilize the binding feature of the coasts (Figure 8).

Figure 8. Singapore Park Connectivity Network Plan (Anonymous, 2021e)

The case of Singapore is a good example of a planning approach that focuses on improving the quality of life of users through the accessibility of urban green infrastructure. Singapore's "Green Plan", implemented since 1992, has been identified by the World Bank as a best practice for integrating environmental concerns into economic growth through green infrastructure (Andreucci, 2019:23; Parlak and Atik, 2020:92).

The European Center for Nature Conservation (ECNC) in Tilburg, the Netherlands, is an example of green infrastructure practices that include plantings and biological parks made with plant species that are found in natural vegetation and consume much less water than lawns, instead of lawns covering large areas. The green area surrounding a large commercial center building was planted in a near-natural way with native species, making it a habitat for bees and insect species. The increasing insect population in the park has allowed different birds to settle in this area. With this work, biodiversity was increased by strengthening the food chain (Tülek and Mirici Ersoy, 2019:6).

The Bosco Vertikale in Milan (Italy) and the Caixa Forum in Madrid (Spain) are examples of green buildings, green roofs, and vertical gardens (Figure 9 and Figure 10). The Bosco Vertikale buildings in Milan are called the first vertical forests in the world. With heights of 80 and 112 meters, the two buildings have a total of 900 trees and shrubs on their balconies, walls, and roofs, which can be spread over an area of 1 hectare (Tülek and Mirici Ersoy, 2019:7).

Figure 9. Bosco Vertikale in Milan (Anonymous 2021f).

Figure 10. Caixa Forum in Madrid (Anonymous, 2021g)

5. GREEN INFRASTRUCTURE SOLUTIONS TO ENHANCE URBAN RESILIENCE TO CLIMATE CHANGE

60% of the world's population lives in cities and it is predicted that this rate will gradually increase in today's conditions. The development of green infrastructure systems in cities is among the measures to be taken to reduce the negative effects of unexpected climate events caused by global climate change, the impact of which is felt more and more every day.

According to the European Commission's Green Infrastructure Communication, green infrastructure is defined to provide ecological, economic, and social benefits through nature-based solutions, to help understand the benefits that nature offers to people, and to mobilize investments that sustain and enhance these benefits. In other words, green infrastructure is the interconnection and network of all high quality natural, semi-natural and other urban green spaces that provide ecosystem services.

Green infrastructure includes green spaces (or blue in the case of aquatic ecosystems) and other physical features in terrestrial (including coastal) and marine areas (European Commission, 2013). This network of patches and corridors includes natural areas such as forests, shrublands, meadows, wetlands, river corridors, and semi-natural and cultural components such as parks, sports fields, school gardens, campuses, individual and institutional gardens, rooftop

gardens, vertical gardens, zoos, botanical gardens, farmland, cemeteries, and planted roads (Hepcan Coşkun, 2019:4).

The European Commission Green Infrastructure Strategy supports the development of green infrastructure by providing economic, social, and ecological benefits and contributing to sustainable growth. A key feature of the Green Infrastructure Strategy is the integration of policies related to different ecosystem services. It focuses on ecosystem-based adaptation to climate change policies; nature-based solutions to research and innovation policies; natural water retention measures based on water policies; and delivering multiple ecosystem services and their underlying drivers (a rich biodiversity) to nature policies. The Natura 2000 network in particular plays an important role in protecting many of the core areas with healthy ecosystems.

Climate change adaptation actions are closely linked to green infrastructure. This is because green infrastructure provides ecosystem services such as floodplain restoration, mitigation of the urban heat island effect, and is an effective tool to combat the impacts of climate change and help people adapt to or mitigate the negative impacts of climate change. The EU Climate Change Adaptation Strategy and the European Investment Bank (EIB) therefore aim to strengthen countries' resilience to the impacts of climate change through ecosystem services (Figure 11) (European Commission, 2021).

Figure 11. Ecosystem services (Anonymous, 2020).

Cities are the areas most affected by the global dimension of climate change, consuming 78% of the world's energy and producing more than 60% of all carbon dioxide, despite covering less than 2% of the world's surface (Alpaslan and Ortaçeşme, 2019:32). It is inevitable that global climate change will create more effective problems on unplanned urbanization and that the longing for a "resilient city" in this direction will be more desirable for the people of the world and especially in our country in the coming years. To overcome these problems, it is important to adopt and apply nature-based approaches in urban areas in terms of ecological balance and sustainability (Acar and Acar, 2020:34).

Creating cities that are resilient to the negative effects of climate change can be supported by planning the green infrastructure elements in urban areas within a system by considering the balance of protection and utilization to protect the natural balance in the city at the highest level and to ensure sustainability (Parlak and Atik, 2020:87).

One of the main concerns in today's cities is the importance of green infrastructure in adapting to climate change and mitigating the impact of climate change on cities. Green infrastructure planned for cities contributes to flood mitigation, resilient ecosystems, carbon sequestration and storage, reduction of urban heat island effect and prevention of natural disasters. Open and green spaces and water features within the city are important to reduce the urban heat island effect, improve air quality, regulate climate, protect biodiversity, provide habitat, and create sustainable and quality cities (European Commission, 2013; Parlak and Atik, 2020:88). The fact that green areas and streams in the city centre and trees on wide transportation axes reduce air and surface temperatures by at least 3 ºC despite the intense heating factors in the city centre reveals the need for green areas and green axes in cities to be considered within the scope of urban infrastructure and realized within a certain system (Alpaslan and Ortaçeşme, 2019:36).

In cities where the density of qualified green areas is high, the built-up area/green area ratio is low, and green infrastructure components are regularly distributed, the heat island effect is low. A low heat island effect means that road and building surfaces heat up less in summer and cool down less in winter. This reduces energy consumption for heating and cooling systems in buildings and vehicles (Hepcan Coşkun, 2019:11).

In the context of mitigating the impacts of climate change, it is important that cities are woven with green networks, in other words, that the components of green infrastructure are in physical connection with each other. The ecosystem services provided by the green infrastructure system, which includes green areas with high ecological qualities, designed to form functional connections with each other, will mitigate the effects of climate change (Hepcan Coşkun, 2019:8).

6. DISCUSSION AND CONCLUSION

Although cities cover a very small portion of the earth's surface, they are the areas most affected by the global dimension of climate change, despite their dependence on energy and their accelerating effect on climate change by producing more carbon dioxide than they consume. In cities, meteorological parameters change due to the decrease in green areas and evaporation surfaces and the increase in concrete and asphalt-covered surfaces and structural areas, causing climate change at local and regional scales.

One of the most important and permanent measures to be taken in cities to reduce the urban heat island effect in the process of combating climate change and global warming is green infrastructure practices. The fact that green areas and streams in the city center and trees on wide transportation axes reduce air and surface temperatures by at least 3 ºC despite the intense heating factors in the city center reveals the need for green areas and green axes in cities to be considered within the scope of urban infrastructure and realized within a certain system.

Concepts such as green infrastructure, whose main purpose is to increase green areas in cities, to strengthen the connection of these areas with each other and with rural green areas, and to spread nature into the city by making wildlife a part of the city, are gaining importance day by day. Green infrastructure to be planned for cities will contribute greatly to reducing flooding, creating resilient ecosystems, sequestering, and storing carbon, reducing the urban heat island effect and preventing natural disasters. As a matter of fact, green infrastructure practices are becoming widespread in many important metropolises of the world and green infrastructure strategies are published by important international organizations.

Green infrastructure can take different forms. These include landscape corridors connecting forests and other natural areas at the regional scale; greenways connecting existing open and green areas at the urban scale; green facades and roof gardens at the residential scale. The widespread adoption of these practices in our cities will bring many other contributions, notably mitigating the impacts of climate change.

The effects of climate change on a global scale are felt more and more every day. With the concentration of the population in cities and the increase in hard floors in parallel, the quality of urban life in the context of climatic comfort is decreasing. For more livable cities in the future, green infrastructure practices need to be expanded. In this context, all segments, especially local governments, should make efforts.

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