# ANALYSIS OF THE REFLECTION OF LANDSCAPE PATTERN LANGUAGE PRINCIPLES ON URBAN GREEN AREAS

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**Abstract:** The present study aims to develop a systematic mode of assessment for landscape and park designs in particular and to demonstrate the formation of a common design and pattern language by performing factual analyses on the planning of distinguished parks that are pioneers in their field with their trend and design fiction, or ones that became urban, national or global symbols in time with the implementation of their principles.

In the present study, the parks around the world that are pioneers in terms of design, trends, concepts or values were regarded as material and general analysis frameworks based on the values formed by various thinkers and landscape architects were created. In this context, the method of analysis was classified and evaluated in macro and micro dimensions. These analyses were performed with two phases. In the first phase, the large-scale principles were analyzed as macro phenomena based on Christopher Alexander's pattern language criteria. In the second phase, the small-scale criteria were evaluated on the parks as micro principles by referring to the basic planning styles of Simon Bell. Based on the data obtained from the analyses, the formation of design criteria and the development of a common pattern language in park designs were considered as important factors and the macro-micro basic planning principles were classified. It was shown that within the general framework, these principles revealed holistic concepts and fiction in park design practices. Accordingly, the findings were applied to the family gardens Aziziye and 100.Yıl by forming a common design language.

Based on the findings determined as a result of the study, the formation of a pattern language was regarded as a determinant in planning practices. It is observed that the phenomena are influential in the revelation of a holistic design and the formation of concepts and fiction in parks. In the design of  Aziziye and 100.Yil Aile parks in Erzurum, the phenomena were implemented as part of a planning method that is defined and reflective of style. Additionally, this can also be classified as a method that criticizes and analyzes the legibility and comprehensibility of the parks and leads to the formation of a style in this direction.

**Keywords:** landscape architecture, pattern language, design principles, urban parks, phenomenon.

# 1. Introduction

Today, urban parks, which are an important and powerful part of the aesthetic and architectural form of cities, are the most effective areas in increasing the quality of life of people. While meeting the physical needs of people, they also reflect mental and psychological expectations. For this reason, the design and sustainability of urban parks are of great importance, as they are areas where residents renew themselves spiritually and physically (Loughran, K., 2020). In general, urban parks have revealed various and different design styles in cities as an architectural value, and as it is known in the literature, architecture is an important part of culture with its form in the historical process and all the phases it has lived up to today (Opdam et al., 2001; Gazvoda, 2002).

From ancient times to the present, architecture and landscape architecture have given importance to cultural approaches as well as applied functions in buildings and areas. Therefore, socio-cultural and traditional values have been an important factor in the design of architectural spaces as in other areas. Landscape architecture, as in every branch of science, consists of clear principles and these facts generally ensured that the disciplines are within a defined and understandable framework. Parks have been developed in this context and have created a distinctive pattern language for themselves in different periods over time (Barabanov, 2002; Jongman, 2005).

In doing so, landscape architecture has existed throughout history to meet various physical, semantic and cultural needs (Wang, Y et al., 2024). Landscapes, which have developed in various styles, methods and forms in different cultures and societies from ancient times, when the art of gardening emerged, have experienced many changes and transformations in landscape architecture, as in other branches of art and architecture (Khudoykulov, R. and Toshboyeva, H., 2024). Therefore, due to its social, cultural, climatic, geographical, economic and ecological characteristics in different civilizations, it has led to the formation of different and diverse styles, movements and phenomena in landscape architecture designs. This variability and the emergence of different design languages are more clearly observed in urban parks (Su, C et al., 2025; Sitmitch and Wark, 2014).

Following to landscape architecture, the pattern language has emerged from the transformation of some meaningful and understandable styles and phenomena into the concept of design in this style of architecture. The term pattern language has had a very comprehensive value and has been evaluated from various aspects. These phenomena are shown to be used with various methods in different and diverse fields of anthropology, geography, geology, ecology, history, art, literature, linguistics and design (Antrop, M., 2018; Bruce et al., 2014).

Christopher Alexander (1964), showed in urban planning that the concept of design is a whole and that all elements are directly related and connected to the immediate environment. In general, facts are compared with their immediate surroundings, whether in harmony or contrast, and decisions, fictions and thoughts are made based on this.

Christopher Alexander (1977), defined form and form construction as a holistic phenomenon. All the factors that make up a structure give rise to the formation of forms in general. Alexander stated that functional approaches, cultural values, general design principles, climatic and ecological conditions, local criteria and close environmental relations, the development of forms and the formation of a holistic pattern language are the determining factors, but forms are not only a visual but also a semantic design element, especially this demonstrated the approach in architectural forms. Christopher Alexander (1979), defined the phenomenon of accessibility with two different concepts and put it forward

in both architecture and urban planning. According to him, accessibility ensures the usability of a design to a great extent, and regarding the accessibility of the park, there are issues such as ensuring easy access and also a good perception of the area.

Simon Bell is a landscape architect, thinker, critic and writer who works especially on forest areas. In fact, he has been described as one of the important researchers who created concepts on the design phenomena of rural open green areas and forests. Introducing the phenomena, Simon Bell classified the design principles and, according to him, prioritized some criteria as pattern language phenomena that exist everywhere. Providing a holistic language by bringing these facts together has a great role in the design and improvement of rural green areas. Bell defined phenomena as a sequence of processes and also evaluated this process as a phenomenon (Alon Mozes, 2012).

According to Simon Bell (2005), general form appears in two types in landscape designs: formal (geometric) and informal (organic). Although formal and geometric forms are common in the modern period, informal and organic lines are more common in landscape architecture because they are more compatible and connected with nature. Simon Bell explained the perception of balance in forest areas under the title of visual balance. Due to the size of the areas, distribution and diversity have a significant impact on balance. Elements such as direction, size, density, occupancy and space, and color ensure visual balance in areas, and this balance is proportionally defined by elements such as roads and transportation network (Bell, 2008).

He used axes to emphasize the linear understanding and orientation concept in park areas. Axes define the understanding of form, parcellation, circulation and circulation in parks and reveal the linear concept of spaces. In landscape designs, especially in large open green areas, axes are generally one of the most important principles that guide, limit, define space and provide integrity (Bell, 2001).

Regardless of how and with what values the phenomena occur, they contain versatile and variable parameters, and at the same time, various methods have emerged on this subject by different thinkers and designers. Different analysis methods and principles were classified on the formation of phenomena and the development of design language in different fields of landscape architecture by Christopher Alexander and Simon Bell. In the overview, Christopher Alexander dealt with the phenomena in a larger framework with a more holistic understanding of the concept, while Simon Bell classified the design principles on open green spaces and in woodland landscapes.

This study aims to express a general pattern language and phenomena in order to analyze landscape areas and parks and to create a design platform in new parks, based on the common principles in the successful landscape examples examined. The sample parks selected for analysis are defined in their own fields, pioneering with their design styles, symbol parks with styles or movements. In other words, we aim to classify the pattern language and phenomena used in the analyzed sample parks, to find the criteria that make them successful in terms of function and aesthetics, and to classify these criteria in various categories to form a term and conceptual framework in landscape designs.

In order to test the usability of the said criteria in new park designs, it is aimed to classify the cases in a general framework and to make a sample park design at the same time. In addition, in this study, suggestions were made to make park designs more functional and aesthetic based on design facts and pattern languages in Turkiye, where urban transformation projects are being carried out intensively. Therefore, the formation and development of general

phenomena were evaluated in the design of a qualified green space understanding and these values were reflected in the plans in the applied parks. Finally, by forming the framework of the general planning pattern language for park designs, the facts required for the designed park analysis were classified and it was aimed to use these principles in park applications.

## 2. Materials And Methods

Principle facts and principles based on the concepts of Christopher Alexander and Simon Bell are stated as material in the study study. In addition, analyzes were made in Hyde Park and Erem gardens (Table 1), which were adjusted with the period, style and trends, and evaluation tables were created in line with these findings. In addition, for the design proposal, Aziziye and 100. Yıl parks in the city of Erzurum were chosen as a sample area for the formation of principles.

### 2.1. Selection criteria for the study area

It is seen that local and traditional culture, history and social life gain importance, and in this direction, environmental awareness and ecological values come to the fore. Hyde Park, which has assumed different functions in different periods, has hosted various events, therefore the park has created important macro and micro criteria and phenomena around the world and has developed a style and design language as a design concept. The Erem four gardens of Iran, which represent the eastern culture, the design logic and style, have been analyzed from ancient times.

**Table 1.** General information of the two parks (Source: Author)

| Park Name | Location | Construction year | Period | Plan |
|---|---|---|---|---|
| Hyde Park | London | 1842 | Modern Industry | |
| Erem Garden | Shiraz | 16-17 centuries | Seljuk (Four gardens) | |

### 2.2. Introduction of sample areas

Within the scope of the parks constituting the language of design, the Aziziye and 100.Yil Aile parks from Erzurum (Table 2), as well as the examples in the world, were determined and examined as material. During these examinations, the historical developments, parcels and proportions, design principles, and innovations of the pioneering examples in the study were examined and predictions were made about the future of Aziziye and 100.Yil Aile parks, which were redesigned in the light of these data. Also, the location of these parks is depicted in Figure 1.

**Table 2.** General information of proposed Parks (Source: Author)

| Park Name | Location | Period | Plan |
|---|---|---|---|
| Aziziye | Erzurum | Republic |  |
| 100. Yil park | Erzurum | Republic |  |



**Figure 1.** Aziziye Park (Left), Location of Aziziye and 100.Yil Aile parks (Right) (google map)

In a nutshell, the undertaken stages are classified as follows:

▪ Evaluation of criteria related to Alexander pattern language in parks

▪ Evaluation of principles based on Bell ideas in parks

## 3. Research Findings And Discussion

Within the scope of this study Hyde Park, the iconic green area of London, and the old-fashioned park, Erem garden from the city of Shiraz, which deals with the four garden logics, were examined for analysis and a park design proposal project containing a conceptual design language and criteria of Aziziye and 100.Yil Aile Parks was prepared in line with the criteria obtained as a result of the evaluations and the principles forming the pattern language. In this context, together with the selected parks, the current situation in Aziziye and 100.Yil Aile parks have been examined depending on the determined facts.

## 3.1. General features of Hyde Park

Hyde Park, which is the symbol of the city of London, has been unique in the world due to its landscape planning, existence and establishment story, and the activities and actions it has undertaken, and its features, design criteria and pattern language all of which have made Hyde Park one of the leading parks in landscape architecture (Simonic, 2003). Originally as a royal hunting ground, this park was later transformed into a public green space during the industrial era. It is defined as an ecological value of London with its large-scale green areas, artificial pond and dense trees. Also, Hyde Park, which has witnessed many entertainment, events, actions and protests over the years, is a place at the forefront with its socio-cultural values as well as design criteria (Corry and Nassauer, 2005). Due to the general design criteria in the park, there are many spaces with semantics, artificial pond, monumental entrances, serpentine water element, monumental areas, address corner, sitting, and meeting areas are considered important elements of Hyde Park.

### 3.1.1. Evaluation of Hyde Park according to Alexander pattern language cases

Hyde Park has a very close relationship with its surroundings due to its size and location in the city center. Based on the macro facts of Christopher Alexander, Hyde Park has been designed in harmony with its immediate surroundings. The park, which has a linearity close to the urban texture with its geometric form, is composed of a regular complex, triangular and quadrangular shapes, and these sharp lines have determined the general design setup of the park. The artificial pond, which forms a prominent axis in the park and divides the park into two parcels, is actually designed as the most prominent water element (Table 3) (Whiting and De Jong, 2007).

**Table 3.** Analysis of Hyde Park by general criteria

| Macro Phenomena | Schematic Plan | Explanation |
|---|---|---|
| Close Circle Relationship |  | ▪ The forms used in the park and the proportions and forms between the near and far environment have provided harmony with the entire environment in terms of general geometry and size. |
| Form |  | ▪ The general forms of the park were designed using artificial geometry.<br>▪ The roads are straight, random and generally triangular and quadrangular forms formed by their intersections have emerged. |

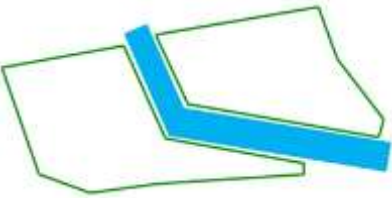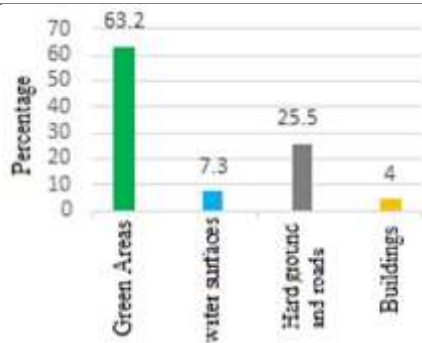| | | |
|---|---|---|
| Accessibility and Circulation |  | ▪ It has a structure that can be accessed from all directions due to its various entrances and size.<br>▪ The lines formed by the roads act as guides, causing fluidity rather than stasis in the park.<br>▪ Lines direct people to distinct emphasis and focus points. |

### 3.1.2. Evaluation of Hyde Park according to Bell basic design principles

The holistic design logic and uniform geometry of the park have a very characteristic form. While the informal artificial pond formed the main axis against the texture and setup of the park, it provided the balance with its holistic form and at the same time the two plots that emerged (Law and Zube, 2007). With its unity with nature, its regular geometry, harmony with the environment, informal axis and balanced design, it has revealed different design characters and principles in the micro dimension.

Hyde Park, landscape project was examined with Simon Bell criteria and classified with the theories set forth in the book "Landscape: pattern, perception and process" and evaluated in two aspects (Bell, 2012). Different and various artificial and symbolic elements were designed in different periods in the park, which is more environmentally friendly with its natural and forest texture. The park, which was a hunting ground, later turned into the largest open green area in the city. The facts and principles used in the park have been developed over time and a holistic pattern language has emerged in the analyses (Table 4).

**Table 4.** Landscape design principles analysis of Hyde Park

| Micro Phenomena | Schematic Plan | Explanation | | |
|---|---|---|---|---|
| Direction and Line |  | ▪ The shapes in the park consist of random and irregular lines and are designed with geometric logic.<br>▪ Roads are generally considered as guiding and intersection points, emphasis, meeting and gathering areas. | | |
| Balance (visual perception) |  | ▪ The artificial pond, which divides the park into two with an informal form, generally creates a vista and a clear axis, and provides visual balance between the park parcels. | | |
| Color and Contrast (natural and artificial elements) |  | **Natural and Artificial Elements** | **Explanation** | **Percentage (%)** |
| | | Natural elements | water+tree+grass+soil | 70 |
| | | Artificial elements | buildings + floor | 30 |
| Intensity and Ratio | | **Space Proportions** | **Area (m2)** | **Percentage (%)** |
| | | Green areas | 1,598,960 | 63.2 |

| | | |
|---|---|---|
| water surfaces | 184,690 | 7.3 |
| Hard ground and roads | 645,150 | 25.5 |
| Buildings | 101,200 | 4.0 |
| Total | 2,530,000 | 100 |



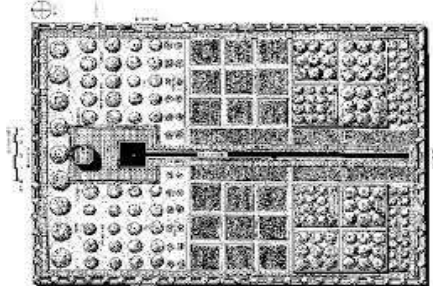## 3.2. General features of Erem Garden

Erem garden assumed various functions in different periods as a green area, government mansion and palace recreation area in the city of Shiraz. The area designed with the logic of four gardens in Iran has acted in accordance with the concept of design in the process of change and development. This landscape area, located in the north of the city of Shiraz, was planned for the palace garden within the green area of the city. The government mansion building consists of a guest house and four garden landscape areas (Felameki, 2011). Erem garden is one of the best examples of Persian garden art. The park consists of the intersection of two perpendicular axes, separating each area with a separate garden in the form of a quadrangle, and the waterways dividing it into four squares intersect in the middle, at this point the pool is designed as a water element. There are mansion buildings at the intersection of the axes or at the end of the road.

### 3.2.1. Evaluation of Erem Garden according to Alexander pattern language facts

The setup of the Erem garden was designed with the classical logic of four gardens, and when it was considered within the scope of macro phenomena, the concept of four gardens was evaluated first. For this reason, the schematic form of the garden consists of two distinct perpendicular axes and four green zones connected to it, and the intersection points are planned as a water element or a pavilion building with the idea of an action and activity space. Parks designed with this phenomenon are generally designed in harmony with their immediate surroundings due to their regular geometry. The park access is provided by roads consisting of strong axes and the entrances are arranged in connection with them. The four garden styles, which are in line with the phenomena of Christopher Alexander pattern language, have transformed into a regional green space understanding and a trend that represents a period (Table 5).
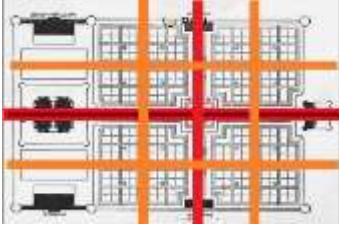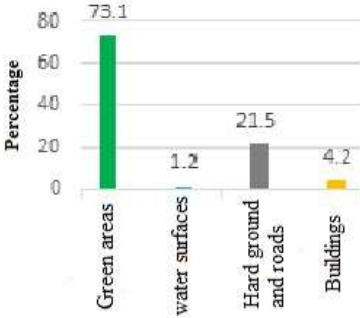
**Table 5.** Analysis of Erem Garden by general criteria

| Macro Phenomena | Schematic Plan | Explanation |
|---|---|---|
| Close Circle Relationship |  | ▪ The forms used in the park and the proportions and forms between the near and far environment have provided harmony with the entire environment in terms of general geometry and size. |
| Form |  | ▪ Perfectly regular geometry has a form.<br>▪ Its general form consists of rectangles and squares.<br>▪ Trees are arranged in a neat and orderly manner<br>▪ Floor coverings have created a shape that is proportional to its character.<br>▪ All green areas are pieces based on four and the proportions of four. |
| Accessibility and Circulation |  | ▪ The axial and full geometry structure, water channels and regular cypress trees on the roadsides have caused a holistic circulation and transportation. |

### 3.2.2. Evaluation of Erem garden according to Bell basic design principles

Since the Erem garden was designed with the classical four garden logic, the micro phenomena of the park were formed within the framework of a certain principle; four main roads and the mansion building in the center. While the full symmetry and regular geometry of the park bring the concept of perfection to the fore, it was planned as a symbol of the gardens of paradise connected to traditional beliefs and local culture on earth. The symmetrical fragmentation of the park has generally resulted in a holistic balance, while trees have been planted regularly and in rows at the level of the water's edge and have a clustered and scattered pattern in other green parts. Due to the strong axes, the entrances and the transportation in the park appear to be very defined, distinct and legible. The park is set with the proportional diameters and numbers of the four figures (Table 6).

**Table 6.** Erem garden's landscape design principles analysis

| Macro Phenomena | Schematic Plan | Explanation |
|---|---|---|
| Direction and Line |  | ▪ Two main axes perpendicular to each other and side axes parallel to them caused the formation of quadruple parcels.<br>▪ Full symmetry shapes and regions are visible.<br>▪ These axes led to the formation of four garden forms. |
| Balance (visual perception) |  | ▪ According to the two main axes and due to their regular geometry, the parcels and sections provide a visual balance. |

| Color and Contrast (natural and artificial elements) |  | Natural and Artificial Elements | Explanation | Percentage (%) |
|---|---|---|---|---|
| | | Natural elements | water+tree+grass +soil | 95.85 |
| | | Artificial elements | buildings + floor | 4.15 |

| Yoğunluk ve Oran |  | Space Proportions | Area (m2) | Percentage (%) |
|---|---|---|---|---|
| | | Green areas | 80,688 | 73.1 |
| | | water surfaces | 1,324 | 1.2 |
| | | Hard ground and roads | 23,732 | 21.5 |
| | | Buildings | 4,636 | 4.2 |
| | | Total | 110,380 | 100. |

## 3.3. Aziziye Park in Erzurum

In line with the pattern language and phenomena that were made on the parks determined in accordance with the macro and micro criteria and divided into two headings, the current status of the selected park areas in Erzurum was evaluated, their positive and negative aspects were determined, and an analysis was made in a holistic framework.

### 3.3.1 General features of Aziziye Park

Aziziye Park is located at the western entrance of Erzurum city and also has a symbolic value. This Park, where various and different symbolic statues, monuments and objects are placed, is located on an area of approximately 27000 square meters, has more than one hundred adult trees and 11000 ornamental plants. In the area symbolizing the Ottoman-Russian war, the statues of the Caucasian Front hero Gazi Ahmet Muhtar Pasha, Nene Hatun, the symbol of honor of the Turkish woman, and Turkish elders are placed symbolically, and approximately 21500 square meters of the 27000 square meter area is covered with special ornamental plants and hard floors. Bicycle and walking paths, sitting areas, playground, chess area and mini ornamental pool are also available in the application of the park.

### 3.3.2. Evaluation of Aziziye Park according to Alexander pattern language cases

Aziziye Park is located at the western entrance of Erzurum city and it has been determined that it is not in a holistic connection with its immediate surroundings, and a general conceptual form and a specific phenomenon of the park have not been determined. Transportation and access are provided by Cemal Gürsel Street and Erzurum-Agrı highway. Aziziye Park, which has linear and axial entrances, is arranged in a different way with its internal circulation network

### 3.3.3. Evaluation of Aziziye Park according to Bell basic design principles

There is no factual and logical principle, fiction or a general design criterion in the holistic perspective of the area in the park, which was created with complex and irregular forms, and a balanced distribution was not made in this direction. In the park, which gives importance to symbolic monuments and sculptures, the elements and ornamental gardens that support them are included. In addition, natural elements and materials are included in this park, and the elements in the banquette, sitting area and children's playground are generally arranged in this way.

### 3.4. 100.Yil Aile Park in Erzurum

100. Yil Aile Park is defined as the western entrance of Erzurum city, in the opposite district of Aziziye Park. This park, which has an important value with its location and size, is also considered as the showcase of the city together with the Aziziye and University junction.

### 3.4.1. General features of the 100.Yil Aile Park

The park has an area of 36000 square meters, with 233 adult trees and around 4500 ornamental plants. In the central part of the park, the space, which functions as a tea garden, is the focal point. In addition to the tea garden, an open amphitheater was created by taking advantage of the natural slope of the land, as well as sitting areas, basketball court, children's playground, and other spaces of the park. The fact that there are more green areas compared to Aziziye Park is considered to be one of the advantages of this park.

### 3.4.2. Evaluation of the 100.Yil Aile Park according to the Alexander pattern language cases

In line with the facts of Christopher Alexander, the current situation of the 100.Yil Aile Park on a macro scale has been discussed and evaluated. Because of the analysis, a strong relationship between the park and the immediate environment has not been determined, both formally and linearly. Linear forms and flat geometry were used in the general form approach of the 100.Yil Aile Park, which does not have a clear concept.

### 3.4.2. Evaluation of the 100.Yil Aile Park according to Bell basic design principles

In line with the criteria of Simon Bell the general design concepts of the park were evaluated and the current state of the 100.Yil Aile Park was analyzed in this respect. Due to the natural topography and location of the park, an unbalanced and disproportionate design logic has emerged. The entrance and the main road formed an axis and the surrounding of the main building was completed with regular geometry. For this reason, various design phenomena

and logic prevailed in different sections and parcels of the park, and no holistic phenomenon, concept and pattern language were encountered. Density of green areas and protection of old trees are considered as one of the advantageous points of this park. In addition, the open amphitheater and various playgrounds have contributed to the richness of space in the design of the new park.

## 4. Conclusions And Recommendations

According to Alexander, from the theoretical point of view, the use of the same concepts and phenomena for a long time by some forms and objects has led to the formation of a pattern language and general style. Therefore, a recurring phenomenon shows that objects and parameters can transform into general pattern language. It has been evaluated in the analysis that these principles are the most important and decisive factors in all periods, especially in garden and park designs. Phenomenal and pattern languages create a design concept from the past to the present, and these principles, as local, general and universal styles, provide a common pattern language in park designs, As a result of the evaluation, the cases were classified into two general groups.

Macro phenomena have been formulated largely to form a sequence in landscape architecture in line with the concepts introduced by Christopher Alexander. These phenomena have been examined in the following (Table 7) as factors that explain the concept of holistic design, include cultural values, take the city and the immediate surroundings of the park as a basis, consider climatic and ecological conditions, and care about accessibility and circulation.

**Table 7.** Results and evaluations obtained from macro Cases (Source: Author)

| Park | General form | Neighborhood Relationship | Visual Balance | Accessibility and Circulation |
|------|--------------|---------------------------|----------------|-------------------------------|
| **Hyde Park** | The combination of informal and spiral artificial pond, regular and linear geometry of the park formed the general form of Hyde Park. | The holistic approach and linear roads are directly compatible and related to the linear form of the city. | An asymmetrical balance has been achieved due to the size of the area and the fact that it has various functional distributions. | Depending on the area size of the park, various entrances were designed and internal circulation was provided with geometrical roads. |
| **Erem** | Due to the logic of the four gardens, it has a regular and complete symmetry form. | Its regular geometry and the fact that the city was designed on the same axes and plots as the streets ensured that it was fully related to its immediate surroundings | The holistic design, symmetrical and orderly form and the separation of four equal gardens have revealed a fully balanced planning. | Axes perpendicular to each other created an understandable and legible sense of space and accessible areas. |

The formation of a model and design language has given a methodological content as a determining, semantic and conceptual principle in all parks, especially in the postmodern period. The analyzed and stylistic cases were applied considering the proposed parks. While the four main titles obtained from macro phenomena ensure that the city and the park are in a holistic framework with its immediate surroundings, formal approaches are shaped based on certain

principles, trends and concepts. The macro phenomenon analysis of Aziziye and 100.Yil Aile Park designed in the light of this direction and pattern languages are classified in Table 8.

**Table 8.** Evaluation of Macro Cases in the Designed Park Areas (Source: Author)

| Park | General form | Neighborhood Relationship | Visual Balance | Accessibility and Circulation |
|---|---|---|---|---|
| **Aziziye** | In addition to circular and fractal geometry, the soft lines of folding have been preferred, providing people with not only form but also rich space quality and vista points. | Although it has a holistic design language with its interior design and the 100.Yil Aile Park opposite, it contrasts with the texture of the city because it is symbolic and more emphatic. | A visual balance has been created with the holistic design concept and strong ecological bridge connection. | Due to the informal and folded geometry and structure, the roads were designed guiding, making the access to the places more legible, and the access to all areas was well designed. |
| **100. Yil** | Circular geometry and organic forms shaped the general setup of the park, and inspired by the Xavier Park, circular shapes and roads of different diameters took on different functions, creating a holistic concept. | Having the same design language as Aziziye Park, 100.Yil Aile Park, in its interior design, contrasts with the general linear approach of the city in harmony with its natural slope. | While the main axis and curvilinear forms created a holistic design logic in the park, visual balance and harmonic form emerged. | The transportation of the park was obtained from the main axis and the secondary roads connected to it, and the circular geometry roads in the park caused legibility and enjoyable circulation and access. |

Micro phenomena, forest areas by Simon Bell in open green areas, revealed principles on a small scale and based on basic design principles. These phenomena have created a holistic and meaningful design based on the landscape areas themselves. Therefore, these are considered as micro phenomena. Since the park designs are part of the landscape areas, it is inevitable that they are subject to the same conditions, and in general, the trend, cultural values and traditional conditions have been the determining factors in the park planning. These concepts were classified and general micro-pattern languages were formed and applied in sample parks. Form and shape, density and proportion, balance, direction and line, as well as ecological values and today's common phenomena have been evaluated and indicated (Table 9).

**Table 9.** Results and evaluations obtained from micro cases (Source: Author)

| Park | Direction and Line | Balance | Color and Contrast | Density and Ratio |
|---|---|---|---|---|
| **Hyde Park** | Due to the size of the park, the roads are designed as directional and linear lines consisting of general geometry appear. | Rather than symmetrical balance, asymmetric and informal balance was used in the park. | Due to the predominance of natural areas, green appears to be the dominant color, but created a balanced contrast with the effect of artificial elements and the large pond. | With the artificial pond in the middle of the park, proportional density and distribution has occurred. |
| **Erem Garden** | Straight lines are formed due to the logic of the four gardens, and the axes and water channels are guided. | A symmetrical and completely balanced design has emerged with its perfectly regular geometry. | Since the old periods gave importance to nature, green colors seem to be more intense. | The regular geometry and grid system revealed the fully proportional and holistic garden logic. |

Because of the evaluation of the results from the micro phenomena, the transformation of the principles and basic design criteria into a holistic pattern language and general common facts in park design was obtained. While these four titles constitute the main conceptual framework in park designs, they are classified in Aziziye and 100.Yıl Park (Table 10).

**Table 10.** Evaluation of micro phenomena in designed park areas (Source: Author)

| Park | Direction and Line | Balance | Color and Contrast | Density and Ratio |
|------|-------------------|---------|--------------------|--------------------| 
| **Aziziye** | Informal and circular lines revealed the general circulation and orientation in the park. | The circular forms and holistic design logic in the park provided the balance. | Due to the ecological design logic, natural elements were given importance and green areas were used more in the design. | The proportion geometry logic was designed in the design, the density was given to the green areas and the functional distribution was made proportionally |
| **100.Yil Aile** | Integrating with the fold bridge form, this park has given importance to the natural topography and the line and general forms have been designed in this context. | The axial road starting from the entrance and extending to the other part of the park provided the balance of the park, on the other hand, circular forms were distributed in a balanced way. | It is emphasized that natural colors are more dominant in the park, therefore green areas and natural materials are designed as a part of the design concept. | The distribution of form and function and, on the other hand, the holistic design approach have led to proportional park planning. |

As a result of the data and analyzes in above tables, the general design principles and design languages in the parks are given below in a holistic framework.

- In park designs, phenomena are classified as macro and micro within the framework of large and small size criteria.
- In park planning, it is necessary to pay attention to parameters such as climate, topography, culture and social-life in cities.
- In addition to the holistic design in the parks, values such as movement, period and history were given importance.
- Parks, as symbolic elements of cities, just like other structures and buildings, make the city in which they exist defined, have an identity and readable.
- The basic principles used in the parks make the spaces readable, accessible and defined, at the same time it gives the park an identity and can make it a pioneer in the world as a trend.
- While macro phenomena dealt with park designs throughout the city, micro phenomena generally determined the interior design concepts and rules of the park.
- Since parks, as important green areas of cities, increase the thermal comfort and quality of life of cities, they should be designed with an ecological framework and understanding.

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