

Landscape Design Principles of Yıldız Palace Gardens, Istanbul

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ABSTRACT: Yıldız Palace is the last palace area of Ottoman Empire, covering an area of 500.000 m², in Beşiktaş over a hill above Bosphorus, between Beşiktaş and Ortaköy. It's a palace complex, comprising of mansions, governance structures and parks, which covers the whole hillside starting from the beach between Beşiktaş and Ortaköy, and going up to Beşiktaş Hill. In this study, a literature research and field-survey were carried out as oriented at detecting the historical, natural and cultural values owned by Yıldız Palace Gardens. Within this scope, historical photos, maps, aerial photos, gravures, including the data obtained from written documents that are related to the research object, were evaluated via an analysis on the structural elements and plantation material in the palace gardens. In line with the obtained findings, the western influences on Turkish garden culture were set forth based on an evaluation over the structural and plantation material usage, garden landscape approach and design principles for Yıldız Palace Gardens.

KEY WORDS: Yıldız Palace Gardens, Ottoman Era, 19. Century Palace Gardens, Turkish Garden culture

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I. INTRODUCTION

Historical palace gardens, in addition to being formations reflecting cultural characteristics of the communities they belong to, they also reflect life styles of the people who used these locations and perception of the era and construction techniques. Garden culture, shaped according to human-nature relationships, has changed and developed due to geographic, historical, socio-economical, cultural and living conditions of each era. Palaces, functioned as a living location of state administration and sultans, have turned out to be monuments reflecting the art and architectural understanding of a civilization with distinctive structures. Specifically, Ottoman palaces formed of various buildings were influenced both from areas where western influences were observed prominently environmental changes effects of time.

History of Yıldız Palace Gardens: It is known that the history of the area, where Yıldız Palace Gardens are located, goes back to the Byzantine Period, and that it was a wide forestry area during this period. Preserving its forestry characteristic in the Ottoman Period, Yıldız area was used as the recreation area for sultans, starting with Sulyman The Magnificent (1520-1566). The area preserved this characteristic for a long time after the Conquest of İstanbul, and known under the name of Kazancıoğlu Garden during this era (AliasghariKhabbazi, 2016).

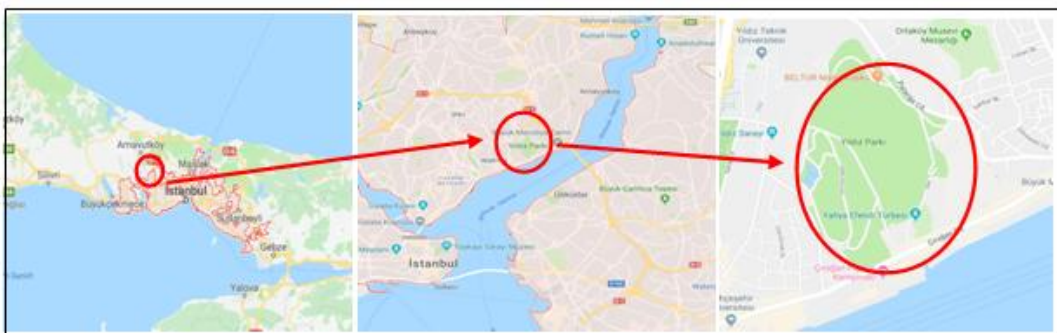


Fig. 1. Location of Yıldız Palace Gardens

It turned out to be one of the private gardens of the sultan in the period of Ahmed I (Niğdeli, 2005). Named also as Beşiktaş Hill, a small mansion was built by Sultan Ahmed I in this area for his daughter Princess Kaya. The most important structure from that period to date is the fountain as commemorative to Mustafa III by Selim III (AliasghariKhabbazi, 2016). It was preserved as a forested land with its natural natural vegetation without being modified in any manner, as the backyard coppice forest of Çırağan Palace until the early 19th century. At the beginning of 19th century, the mansion, which was built by Selim III (1789-1807) for his mother MihrişahValide Sultan and which does not exist today, is one of the earliest structures known to us. In addition to this, the fountain, built by Selim III for himself, is one the oldest structure, which has survived to date, due to being located in the courtyard (Kaşif, 2010).

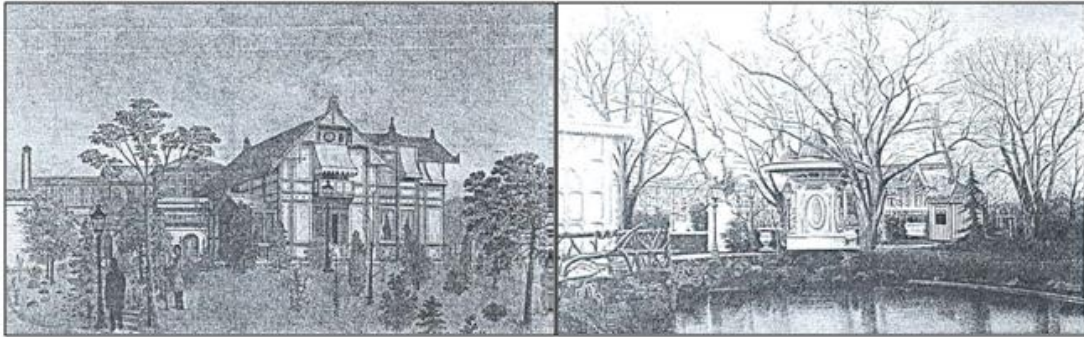


Fig. 2. Mansion and fountain built by Sultan Selim III (Niğdeli, 2005)

Mahmut II named the mansion as Yıldız, which was built between 1808 – 1839, leading the palace and whole area to be named as Yıldız. Under the kingdom of Sultan Abdulmecid (1839-1861), Yıldız Palace has started to take its current form. Actual development process for the palace has started with Abdulhamid II (1876-1909). The settlement and landscape of this period has been preserved to date with almost no modifications. The diversity in the designs of structures that are located in Yıldız Palace show us that they were built by different architectures during different periods (Batur, 1994). In addition to the parts of palace, which were being used as place of residence in the period of Abdulhamid II, various structures were dispersedly located in the garden for being used as official departments, theater, museum, library and workplace. Yıldız Palace, surrounded by tall walls, were developed around three courtyards. In the first courtyard, BüyükMabeyn, ÇitKasrı, Yaveran Department and Armoury are located, while Harem structure, GedikliCariyeler section and theater are on the second courtyard, and Merasim&Şale Mansions are on the third. In the area that is out of the palace walls, Hamidiye Mosque, Kiler-iHümayun and Clock Tower are located. Malta and Çadır mansions are placed within the Yıldız coppice forest (AliasghariKhabbazi, 2016). The landscaping history of parks and gardens goes back to 1850s. Experts from Germany were brought for this process. The first one is Stefel, who arrived in 1850. On the project, which was drawn up by Stefel, Schlerf worked in 1960, while Vienhild worked on the same project in after 1862. Schlerf and Vienhild had major influences particularly with regards to plantation design; however, these landscaping processes were limited to BüyükMabeyn and Çadır Mansion. Additionally, the first landscaping and vegetation works in the coppice forest (currently known as Yıldız Park or Yıldız Coppice Forest) is known to be have done during the period of Abdulaziz (1870-1876) (Batur, 1994). The courtyard landscape design of the palace, including the park section, was carried out in the period of Abdulhamid II. The garden landscape design was carried out with collaborative work by foreign experts, who were invited in this period are Koch Brothers, their father Heinrich Koch, Deroin from France, as well as Ottoman gardeners who were assigned to work with these foreign experts “Adil Ağa, Tatar ZeynelAğa, NecibAğa”, The sultan’s garden was reserved as “The Private Garden of the Sultan”, while desining the other parts as outer garden (Altner 2008). The most dynamic period of Yıldız Palace was in the period of Abdulhamid II between 1876 – 1909. Sultan Abdulhamid II moved to Yıldız Palace on 7th April 1877, on the grounds that Dolmabahçe Palace is open to attack both via road and sea, as well as not having a strong structure, thus not being satisfactorily safe (Batur 1993). Yıldız Palace, as the headquarters of Ottoman Empire, was expanded for 32 years, during the sultanateofAbdulhamid II, slowly turning into large groups of structures like Topkapı Palace (Batur ,1994b).

It is known to us that Abdulhamid II started to create the garden and pool, before his private apartment was built. The main element of the sultan’s private garden is the Hamid Pool, which looks like a river of 300 meters. The surface area of this pool is about 5400 square meters, while its depth is equal to 120 square meters. Designed in the shape of a river, the Hamid pool runs across the garden. In this way, an island was built, surrounded by a pool in the South part of the gardne (Evyapan, 1972). The connection with this island was

ensured with collapsible iron-construction bridge and smooth wooden bridge. Made of steel, this bridge enabled the animals, living within cages at the island, to walk around freely, by being opened and closed like a lever, where required. Yıldız Palace is surrounded with thick and tall walls, closing the gaps between the structures without any space, excluding the protection-oriented structures and quarters. In this area, the structures for the Sultan and harem, including the private garden of the sultan, were surrounded with a second wall. The design, suggesting the entire Dolmabahçe Palace to be open to the sea, while closing solely the private apartment and harem section, was replaced with traditional and closed palace concept in Yıldız (Kuban, 2007). Actual development of Yıldız Palace was within the second half of 19th century and the beginning of 20th century. In the period of Sultan Abdulaziz (1861-1876), In addition to the structures being subjected to restoration, new mansions and pavilions were built, as well. Yıldız gardens were connected to Çırağan Palace and Bosphorus coasts with an arched bridge over Beşiktaş – Ortaköy Street. BüyükMabeyn (1866), Malta and Çadır mansions, including Çit Pavilion from this period, were built by Sarkis Balyan. Murat IV, acceding to the throne after Sultan Abdulaziz, spent a part of his sultane, which lasted for only three months, in Yıldız Palace (Niğdeli 2005). Yıldız Palace comprises of three adjacent courtyards, which are Birun (Official Section), Enderun (Private Section) and Gardens (Private garden of the Sultan and the Outer Garden) The first courtyard, comprising of a large section of apartments & service structures constitutes the Birun part of the palace, while the second and third courtyards constitute the Enderun part. KüçükMabeyn, Valide Sultan Mansion, Private Apartment, Harem Structures and Theater building are located in the Second Courtyard, while the private apartments of Princes, Sultans and their sons-in-law are located in the Third Courtyard.

The structures, located in the gardens of Yıldız Palace, are mostly seen on the North-western section of the land. Rest of the areas were left as valley and parks, which are located particularly behind Çırağan Palace. A settlement and design characteristic can be seen in Yıldız Palace, which can be recognized as the extension plan of Topkapı Palace. However, it took fifty years for the Yıldız Palace to take its form, which took three hundred years for Topkapı Palace, even in the wealthiest period of the Empire (Kuban, 2007). Unlike the large-scale structures of Dolmabahçe and Çırağan Palaces, Yıldız Palace comprises of small-scale structures like mansions and pavilions. The structures, gathered in the North-western section of the land, display a settlement order as axial to the North-South direction, one after the other and close to each other, following the pitch lines of the land. No geometrical order and axiality can be conferred within the scope of these structures' relations with each other (Batur 1994). Since the structures that are located in Yıldız Palace complex were designed by different architectures, they differentiate from each other in terms of style and shape. After Srkis and AgopBalyan, Vallauray and RamiondoD'aronco created works in different forms both in structures and gardens. Buildings by Balyansa re BüyükMabeyn, Çit Pavilion, Çadır Mansion and Malta Mansion. Moreover, the first part of Şale Mansion was built by them, as well. The ones that were built by D'aronco, on the other hand, are winter gardens and green houses, Yaveran Mansion, Harem Mansion, additional parts at the northern side and the restoration process, including the Barns (Batur, 1994b).Yıldız Palace gardens bear different characteristics compared to other palaces and gardens, in terms of structural and locational attributes. Additionally, it has a sectional order, where the western influences are more apparent due to being built in the late Ottoman Empire period. While the garden structures and mansions possess the characteristics of Turkish Gardens in terms of vegetation design approaches and courtyard usage, open-green area settlement reflects the western influences within the scope of spatial usage and accessories, while being recognized as an Anatolian synthesis in terms of life culture, on the other hand (Erdoğan and Aliasghari, 2015).

II. MATERIALS AND METHODS

In this study, the historical process, design principles, characteristics, structural and plantation elements used in the palace gardens were analyzed and examined. The main material of the research is Yıldız Palace Gardens, including building surveys drawn up by the TBMM (Grand National Assembly of Turkey) Department of National Palaces, archive documents fort he palace, written and visual materials that are related to the respective subject. In line with the aforementioned data, the available resources were analyzed, thus setting forth the development in the historical process and current status of Yıldız Palace gardens. Within this context, landscape design principles of Yıldız Palace gardens were detected.

III. RESULT AND DISCUSSION

Structural and Plantation Materials in Yıldız Palace Gardens; Built as the group of structures, Yıldız Palace Gardens comprise of following sections: Birun (the first courtyard), Enderun (the second courtyard) and Private garden of the Sultan. The structures within the gardens, on the other hand, were designed as independent from each other. River shaped pool in the private garden of the sultan, grotto pools, islands, bridges that connect the roads to each other, as well as the vegetation design with an informal landscaping style bear the tracks of a naturalistic garden concept. Mansions, pergolas, fountains, fountain pools, water dispensers and birdhouses, as

the most essential elements of the garden concept in Ottoman Period, are integrated in our lives within the unique Turkish garden structures at Yıldız Palace Gardens (AliasghariKhabbazi, 2016).

The first courtyard (Birun); The first courtyard starts from BüyükMabeyn, bordered with Çit Pavilion at the northern section, Yaveran Apartment at the eastern section, and Harem Gate at the North-eastern section. Yıldız Palace was designed and built by various architectures in different periods. The garden landscaping in the first courtyard was applied around BüyükMabeyn, Çit Pavilion, Harem Gate and Yaveran Apartment. BüyükMabeyn (1865-1866) and Çit Pavilion was built in the period of Abdulaziz, while Yaveran Apartment and Harem Gate was built in the period of Abdulhamid II. There are no clear data on the construction date of the structures, apart from BüyükMabeyn (Batur, 1994b). The area, where BüyükMabeyn and Çit Pavilion are located, as built in the period of Sultan Abdulaziz, were designed in the form of a rectangle. Entering through the Sultanate Gate, BüyükMabeyn Mansion can be seen, located on the North-western section. At the northern section of BüyükMabeyn Mansion is located Çit Pavilion, as one of the essential structures of the palace. In the area, where BüyükMabeyn and Çit Pavilion are located, groups of trees and shading areas were constituted; while restoring the roads ensuring the circulation in the garden, and the flower parterras brought movement and a new life into the garden.

- **BüyükMabeyn;** It was built by Agop and Serkis Balyan, as requested by Sultan Abdulaziz between 1865-1866. After Sultan Abdulhamid moved into Yıldız Palace in 1877, it was temporarily used as a place of residence, assigning the rooms of BüyükMabeyn to chief-palace man, palace workers, headclerk of Mabeyn and other clerks, while assigning the rooms in the ground floors to Gazi Osman Pasga, as the director of Mabeyn, after KüçükMabeyn building was built and Sultan Abdulhamid II moved into there; the rooms of Sultan Abdulhamid II were located in the upstairs. Two-storey masonry, built by Agop and Serkis Balyan between 1865-1866, is at a dominant position, despite being too large with its size (30x45 meters). The plan chart of the building was designed in the form of central sofa and iwan. Cornices and roof parapet, displaying a horizontal effect, including arched windows with vertical planes, pilaster surrounding these windows, as well as the column view as separated from the wall, ensured a visual balance over the facades (AliasghariKhabbazi, 2016).
- **ÇitPavilion;** Çit Pavilion was built by Sarkis Balyan as requested by Sultan Abdulaziz. There are three separate Gates for this structure, which was designed as a single-storey masonry, with dimensions of 10x60 meters, having a thin and long rectangle mass. Used as a multiple-purpose structure, Çit Pavilion was not only the section for Sultan Abdulhamid II to welcome his foreign visitors, diplomatic staff and ambassador in İstanbul, it was also a dinner hall for fast-breaking meals during the month of Ramadan. Today, the building is used as the Library of Islam, History, Art and Culture Research Center (IRCICA).
- **Armoury;** Entering into the palace through Valide Sultan Gate, a group of adjacent, single-storey structures can be seen on the right. These are the building, which were used as Sultan's Kitchen, Armoury Mansion and Drivers' Ward. Built as a dining hall for palace servants, upon being requested by Sultan Abdulhamid II, the building was once used as a museum of weapons (Batur 1994b). The building, which was constructed as a masonry and in the form of a long and thin direction, is recognized as a single-storey structure, yet having the second storey on the southern section depending on the land slope. Quadruplet groups, comprising of high korentiyenCorinthian column pairs in the facade, energize the long section of the building via rhythmical segmentation (Batur, 1994b).



Fig. 3. Buildings located in the first courtyard (Original, 2015)

One of the most important water structures in the garden, is the fountain, located in the South-western section of Çit Pavilion, and designed by Raimondo D'Aronco. All the fountains from the Ottoman Period were oriented at being functional, yet then started to create aesthetic concerns. However, the fountain, designed by RaimondaD'Aronco, was built for visual satisfaction. There are two more fountains in the first courtyard, in addition to the fountain designed by D'Aronco. Despite not having certain information concerning these two fountains, the fountain, located in the entrance of BüyükMabeyn building, is dated as 1843, thus coming from the period of Abdulaziz. Hamidiye Fountain, leaning against the Yaveran Apartment wall is dated as 1903 (AliasghariKhabbazi, 2016).

Use of Plantation Materials in the First Courtyard; In the first courtyard, tall trees and bush types were used. What is more is that the colour effect was constituted thanks to the seasonal flowers by establishing parterres. This courtyard comprises of the following tree and bush species: *Acer negundo*, *Aesculus hippocastanum*, *Celtis australis*, *Diospyros virginiana*, *Eriobotrya japonica*, *Ficus carica*, *Lagerstroemia indica*, *Malus floribunda*, *Prunus persica*, *Berberis juliana*, *Chaenomeles japonica*, *Forsythia viridissima*, *Ligustrum indicum*, *Syringa vulgaris*, *Viburnum tinus*, *Wisteria sinensis*, *Cedrus deodora*, *Chamaecyparis lawsoniana*, *Cupressus arizonica*, *Picea abies*, *Picea pungens*, *Taxus baccata*, *Chamaerops excelsa*, etc.

- **The second courtyard (Enderun);** Named as the second courtyard at the northern section of Yıldız Palace, it is the private section “Enderun”, where the private structures of sultan and his family are located. In here, the structures, which were built when deemed required, were located as closely spaced and irregularly. Since the garden area is limited in this courtyard, the garden was enclosed by building flower-green houses around the wall, as well as eliminating the boring appearance of tall walls. In the garden, where formal and informal landscaping were applied together, center line system was applied for water and road landscaping. A natural appearance was targeted with bridges, cascades and rocks (Atalay Seçen, 2011). Entering into the palace garden through Harem Gate, the area between Glass-House Mansion and Küçük Mabeyn is the second courtyard. Glass-house building is located at the North-western section of this courtyard, while Küçük Mabeyn building is at the North-eastern section. According to the archived documents, it is known that Küçük Mabeyn and glass-house structures were designed by the architect Raimonda D’Aronco between 1895-1896 (Altın, 2008).

Second Courtyard; Küçük Mabeyn, glass-house, Pavyon Mansion, theater, Sultan’s Apartment and Çukur Palace structures are located in the second courtyard.

- **Küçük Mabeyn;** Built upon being requested by Sultan Abdulhamid II as a two-storey structure in 1900, Küçük Mabeyn reflects a period, where the traditional plan schemes were not used. There is simple plan scheme located on a rectangle plan, comprising of rooms and saloons. A late rococo decoration, of which saloons were ornamented with gilds, was decorated with landscape pictures on and foots of ceiling.
- **Greenhouse;** Greenhouse is located in a position, facing the Küçük Mabeyn building. This structure was designed by Raimonda D’Aronco in 1895. The top cover of “L” planned structure, constituted over a double-row sweep rocky basis, is semi-barrel vault, while the corner space is a lobed-dome. Its carrier system is a carcass built with cast-iron, while its structural surfaces and roof are made of glass. As adjacent to the glass-house, Pavyon Mansion is located, which was built as a resting area for the Sultan. Pavyon is the single single-room small structure, connected to Çit masion.
- **Theater;** Built in 1889, the theater building is located as adjacent to the Sultan’s Apartment. Yıldız theater have been used for many plays for years. In this building, a number of well-known operas were played like “La Traviata”, “Troubadour”, “Barbier de Seville”. It also hosted the low comedy and dramas from Turkish Theater, as well.
- **Sultan’s Apartment, Valide Sultan Mansion;** Entering into the second courtyard through the Harem gate, Sultan’s Apartment is located near Pavyon Mansion, on the left section. Built in the period of Sultan Abdulmecid, this structure is one of the oldest buildings in the palace. Certain modifications have been made on this structure, and Sultan Abdulhamid II moved in here with his harem on 7th April 1877. The main entrance of Sultan’s Apartment is its facade, which faces to the second courtyard. The outpocketing entrance section of the structure, including the rooms sloping towards the sides, were symmetrically designed. However, the structure is not currently symmetric anymore due to restorations made in various periods (Batur 1994b). Sultan’s Apartment, as one of the oldest structures of the Palace, was assigned to Istanbul Technical School (currently known as Yıldız Technical University, upon the approval of President İsmet İnönü’s visit, after War Collages were moved to Ankara in 1945. Having a substantially devastated condition, this structure was subjected to two major restorations; reinforced-concrete carcass system sections were added for the collapsed parts in 1940, taking its current form with the outbuilding integrated in 1985 (currently used as Registrar’s Office of the University). Sultan’s Apartment is currently being used as the Rectorate Building of Yıldız Technical University, and the entrance gate is on the university side.
- **Çukur Palace;** Built in the period of Sultan Abdulhamid II, which is still known as Çukur Palace, the building is the largest structure of the palace after Şale Mansion. There are no clear information concerning architect of this palace, which was built as a place of residence for sultans, nor the construction date. Following the restoration works in 1937, it was used as a dormitory of Yıldız Technical School. Today, it is used as the Faculty of Art and Design, Social and Science Institutes, as well as Alumni Association of Yıldız Technical University.



Fig. 4. Buildings located in second courtyard(AliasghariKhabbazi, 2016)

Use of Plant Materials in the Second Courtyard; Tall trees were generally preferred for the plantation design of the second courtyard. The following three and bush species can be seen in the courtyard:*Acer pseudoplatanus*, *Magnolia grandifolia*, *Malus communis*, *Rhamnusalaternus*, *Ligustrumovalifolium ‘Aureum’*, *Rosa*, *Cupressusarizonica*, *Cryptomeria japonica*, *Taxus baccata*, *Chamaeropsexcelsa*.

• **The Third Courtyard “Private Garden of the Sultan”**

Surrounded with tall walls, “Private Garden of the Sultan” was built to be used by sultans and their relatives in the period of Sultan Abdulhamid II. Private garden of the Sultan, recognized as the courtyard of the palace, reflects the design characteristics of British “natural” garden style. The private garden of the sultan, as the extension of both first and second courtyards, are surrounded by tall-walls. There is an elevation difference of 12 – 13 meters between the northern and southern sections of the lans where the private garden of sultan is located (Kaşif, 2010). The most significant element in the main structure of the garden is “Hamidiye” pool, as a pond of 300 meters long, which was built for touring around in it (Niğdeli, 2005). The artificial island with natural appearance in the pond, Ada Mansion over this island, the bridges on the contracting sections of the pool, grottos and cascades used in the connection areas of bridges with the land, including the waterfalls designed for energizing the dead water of the pool, were the elements and structures used for creating a natural appearance. One of the structures, located in Private garden of the Sultan, is the Cihannüma Mansion. This mansion was located over a point, with a dominating view to Bosphorus near the mansion pool. Wood was the building material for the construction of this mansion, which was built as a two-storey structure. Since there is no heating system in this mansion, made of wood, it was used only in spring and summer months. Şale Mansion is another structure, which was build as a rest area for Sultan and his family to be used while touring around the garden. Since there is a stove-heating system inside this mansion, it is a well-equipped structure, which was used in autumn and winter months.



Fig. 4. Buildings located inHasbahçe (Original, 2015)

Use of Plant Materials in the Third Courtyard “Private Garden of the Sultan”; Private garden of the Sultan is rich in terms of vegetation diversity. Having a number of plant species, brought by Abdulhamid II from Europe, the private garden of the sultan is one of the gardens with the richest plant species of the era. The plant species in this garden are as follows: *Acer pseudoplatanus*, *Aesculus x carnea*, *Aesculushippocastanum*, *Ailanthus altissima*, *Celtisaustralis*, *Cercissiliquastrum*, *Eriobotrya japonica*, *Fraxinus angustifolia*,*Magnoliagrandifolia*, *Malus communis*, *Malus floribunda*, *Morus alba*, *Morusnigra*, *Platanus x*

acerifolia, Populus nigra, Prunus persica, Quercus macrocarpa, Quercus robur, Robinia pseudoacacia, Tilia argentea, Euonymus japonicus, Fatsia japonica, Hibiscus syriacus, Laurus nobilis, Ligustrum indicum, Rosa sp., Abies bornmulleriana, Calocedrus decurrens, Cedrus atlantica, Cedrus deodora, Chamaecyparis lawsoniana, Cryptomeria japonica, Cupressus arizonica, Cupressus sempervirens, Picea abies, Picea pungens, Pinus nigra, Pinus pinea, Pinus sylvestris, Taxus baccata, Thuja japonica, Chamaerops excelsa.

Landscape Design Principles of Yıldız Palace Gardens; Yıldız Palace gardens are surrounded by tall walls. Yıldız Palace complex is recognized as an example for unique palace complex based on its settlement form, as well as its characteristics pertaining to the differences between structures in terms of style and form, diversity and multiplicity of functions, buildings specific to each function, a mansion or pavilion specific to almost every person or group.

The First Courtyard (Birun) and The Second Courtyard (Enderun); This section, where the official departments and service structures are located, are accessed from out of the Palace through Sultanate Gate and Valid Sultan Gate. Most of the structures are located in the area, which is named as the first courtyard. The private section is accessed through the Internal Gate of Harem, located on the North-eastern section of the courtyard. The formal section is the area, having the most formal settlement and garden landscape of the palace. Büyük Mabeyn is the main building of this section, and there are two large grass islands, in a rectangular form, separated by firm ground kerb in the formal garden of a rectangular form, located in front of the Büyük Mabeyn, and bordered by Çit Pavilion on the North, and Yaveran Apartment on the east.

Due to the settlement of multiple-purpose structures in the first courtyard, the number of roads that ensure the circulation are too high, thus not having many green areas. The green areas were separated from these roads with curled kerbs. Shady trees were preferred to be used in the first courtyard. In the beginning, the green areas, centering around the Büyük Mabeyn Mansion, were designed in an informal manner. The entrance of the structure was thrust to the forefront with the plantation fence, placed on both sides. Despite the dynamism of cedar planted in the right side of the entrance, the salix trees injected looseness into the garden atmosphere.

In the Harem section, owned & used by the Sultan and his family, the structures of the period were closely spaced, yet irregularly placed (Kuban, 2007). Curled ponds, “S” shaped roads, guard rail patterns of a branch, flower bed in the form of a wood block, bridges, group forestations were designed in a manner reflecting the nature concept of British Naturalistic gardens within the Yıldız Palace gardens. Additionally, use of structural materials like glass-house, grotto and cascade reflects the structures as peculiar to Renaissance period and Baroque style. Mansions, pergolas, fountains, fountain pools, water dispensers and birdhouses are placed in Yıldız gardens, as the essential elements of traditional Ottoman Garden.

Design Principles on the Use of Plantation Materials in the First Courtyard (Birun) and the Second Courtyard (Enderun)

- Grass in geometrical parterre were used in the central section of the first courtyard, as the groundcover. The other parts of the garden were designed in a manner creating informal parterres.
- Deciduous plant species were preferred to be used in the parterres.
- A design was presented in a manner constituting groups within the scope of plantation material use.
- Leafy and evergreen species were used together in a manner, creating a composition.

Form and Style Characteristics: The form of plantation design reflects the 3-D stylistic characteristics of the plants. The stem, leaf and branches constitute the form of plants. Despite presenting a more effective appearance while having a leafy form, they also create a calligraphical affect when the leaves drop. Therefore, form in plantation material is one of the design elements, which needs to be considered for all seasons.

Size characteristics: Tall trees were mainly used in grass parterres, located in the first courtyard. A soft transition was presented thanks to the usage of bush-shaped trees and tall trees across the garden, thus ensuring a certain hierarchy.

Texture characteristics: The material, used for plantation design of the first courtyard, varies in terms of texture characteristics. While coarse and open textured plants were used, the plantation material was preferred to have a tight and dense texture, which was used for shielding before the boundary elements.

Colour characteristics: Since the trees were preferred in general as the plantation material used in the first courtyard, a harmony was created in the garden with various shades of green.

Hasbahçe; Located between the tall walls and buildings, the private garden of the sultan 390 m long, with a width of 60-110 m, covering an area of 2.88 ha. Designed in line with the British Naturalistic landscape design principles, the private garden of the sultan was designed in a manner ensuring an instand fall of the waterfall, due to the elevation difference of 12-13 meters between the northern and southern sections of the land.

Design Principles on the Use of Plant Materials in Hasbahçe

- The plantation design of the private garden of sultan was in informal-style, thus ensuring a natural view.

- Leafy and evergreen species were used together in a manner, creating a composition
- Vegetation and hiking trails of the garden were designed in line with the land slope and topographical characteristics.
- An alley system was applied without the formation of parterre across the garden, in a manner specifying the hiking trail in the area, within the scope of plantation material use.

Colour characteristic: Shades of green (dull colours) were preferred in the private garden of sultan, in general. The number of flowering plants was relatively low. With the use of dull colours, the coolness and airiness were felt more densely.

Form and style characteristics: The plantation design applied in the private garden of sultan varies in terms of form and style characteristics. Round, pyramidal and dispersed-form plants were used all together. In this context, any distracting effect was avoided, which means that the forms are mutually complementary.

Size: There are few trimmed or short plants in the private garden of sultan. In general, tall and gemmiferous plants were used.

Texture characteristics: A diversity can be clearly seen in terms of texture characteristics within the private garden of sultan. Having an informal order, fine & course-textured and heavy & loose-textured plants were used all together in these gardens.

IV. CONCLUSION

Yıldız Palace Gardens comprises of palaces, mansions, administrative and preservation structures & parks, located within a garden and courtyard, with a size more than approximately 500.000 square meters, covering an area starting from the beach between Beşiktaş and Ortaköy up to the ridge lines of the Beşiktaş Hill in the district of Beşiktaş. Yıldız Palace is the last time-wise example of Turkish-Ottoman Palace structures & gardens.

Yıldız Palace gardens bears difference characteristics from other palaces and gardens in terms of structural and locational aspects. Additionally, it is in a sectional order, where the western influences can be felt more densely due to being built in the late Ottoman Period. While the garden structures and mansions possess the characteristics of Turkish Gardens in terms of vegetation design approaches and courtyard usage, open-green area settlement reflects the western influences within the scope of spatial usage and accessories, while being recognized as an Anatolian synthesis in terms of life culture, on the other hand.

As in all the palace gardens, bearing an historical characteristic, Yıldız Palace Gardens is one of the areas, having spaces that reflect the outdoor-museum structure under the most characteristic manner possible, thanks to the plantation and structural elements, aesthetical value, including the cultural characteristics and unique position it has, as well. As the time passes, the historical gardens require a restoration against damages and contamination due to losing the architectural characteristics, aging and renewal of plantations, disorganised settlement of urban development and construction, effects of overcrowding.

Examining the Yıldız Palace Gardens in terms of original design principles;

- Having various mansions and buildings, the structures of Yıldız Palace Gardens are located on various parts of the land that are independent from each other.
- The fountains, for which the functionality was set as a priority, are located in various locations within the garden.
- Plantation parterres are generally located in the center of the garden, while the plants that are not within a parterre are placed in an order, ensuring the natural view in various parts of the area.
- Naturalistic style is highlighted in general, ignoring the symmetrical order for the plantation designs and the formation of grass parterres.

Yıldız Palace gardens are differentiated from other palace gardens, by being recognized as the outdoor environments that were influenced the most by West due to the characteristics of the era. Certain differences can be clearly seen in terms of structural and also outer space designs. The gardens are the reflection of Turkish Culture for the structures it has, as well as its usage manners, while, on the other hand, being separated from the traditional Turkish Garden culture due to large area landscaping, elements of the garden, including the usage of pond-like water surfaces, which have never been seen in the traditional Turkish Garden structure, including the landscaping for bridges, recreation areas, etc.

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