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The Restitution and Design Principles of Beylerbeyi Palace Gardens, Istanbul

Parisa Göker¹, Elmas Erdoğan²

ABSTRACT

Palaces are immovable cultural assets reflecting not only the cultural characteristics of the periods they belong to but also the lifestyles of the people who use them and the artistic understanding and techniques of the period. Beylerbeyi Palace, our research subject, is a field where western influences are clearly observed from the design of the gardens, the design features and ornaments of the buildings and spaces that form the palace. The gardens within the perimeter walls of Beylerbeyi Palace and the structures with different functions were not able to protect the original character of their design era. The purpose of this research was to scrutinize the changes that Beylerbeyi Palace gardens went through during the historical process, and to determine the changes that the location of the New Beylerbeyi Palace, the mansions in the palace complex, and the palace gardens went through during different periods in terms of their plant design characteristics, to carry out the restitution work to determine the original status by putting forward the change in the design principles, location organization, structural components and the used plant material. In conclusion, the usage characteristics of the plant and structural components of Beylerbeyi Palace gardens and the changes that they sustained during the process were determined; and the restitution work was carried out by evaluating the structural and plant components of the gardens during the period when the gardens were designed.

Keywords: Beylerbeyi Palace, Beylerbeyi Palace gardens, Turkish gardens, Restitution, Plant restitution, Historical gardens.

¹ Dr. Öğr. Üy., Bilecik şeyh Edebalı Üniversitesi, Güzel Sanatlar ve Tasarım fakültesi, İç Mimarlık ve Çevre Tasarımı Bölümü.

² Prof. Dr., Ankara Üniversitesi, Ziraat Fakültesi, Peyzaj Mimarlığı Bölümü.

INTRODUCTION

The district known as Beylerbeyi today in the Anatolian side of the Bosphorus was known as Istavroz in the Byzantine Period. It is related that the district was named after the gilt crucifix on the church that was built with the order of Byzantine emperor Constantine II. After the conquest of Istanbul, the area where Fatih was said to have been allocated to one of the sanjak orders became one of the private gardens of the sultans in the process. According to the information acquired from archive documents, the oldest Ottoman structure in this region is the palace erected for Sultan II. Selim 's (1524-1574) daughter Gevher Sultan. It is said that the area was started to be called Beylerbeyi after the mansion constructed by Mehmed Pasha, a Rumeli Beylerbeyi, at the edge of the Bosphorus during the time of Murad III (1574-1595).

This zone was one of the popular recreational areas especially at the beginning of the 17th century. Sultan Murad I built Ferahfeza mansion for his mother Saliha Sultan in the Istavroz gardens that was used for horse riding during the reign of Sultan Ahmed IV, Murad IV and Mehmed II (Dündar 2008). The old Beylerbeyi Palace, built as two stories with the order of Mahmud was completed during 1826-1832 in six years. After this date, this building was named Beylerbeyi Palace; and the whole district was called with this name. The main structure of the old Beylerbeyi Palace consists of Mabeyn-i Humayun, Zulvecheyn and Harem-i Hümayun sections. Bendegan building, baths, kitchens, stables are the other complementary structures of the palace (Batur 1994), besides the marches like Mermer mansion (Serdab), Sari mansion, Şevkabad, Kucuk Yali and Buyuk Yali. During the reign of Sultan Abdulmecid, a fire broke out in Beylerbeyi Palace in 1851, but the fire was quickly extinguished; and the building was repaired after a while. During the reign of Sultan Abdulaziz, the old Beylerbeyi Palace was demolished due to the danger of fire and today's royal palace was built in its place. It is reported that the construction of Beylerbeyi Palace was carried out during 1863 and 1865 due to the preparation of the first ijmal books during the construction of the palace in July 1863. Considering the data of the first construction books dated July 1863, it is determined that Beylerbeyi Palace was built during 1863 and 1865. The official opening ceremony of the palace was held after Sultan Abdulaziz moved to the new palace following Friday prayer on 25 Zirkade, 1281 (April 25, 1865) (Dündar 2008).

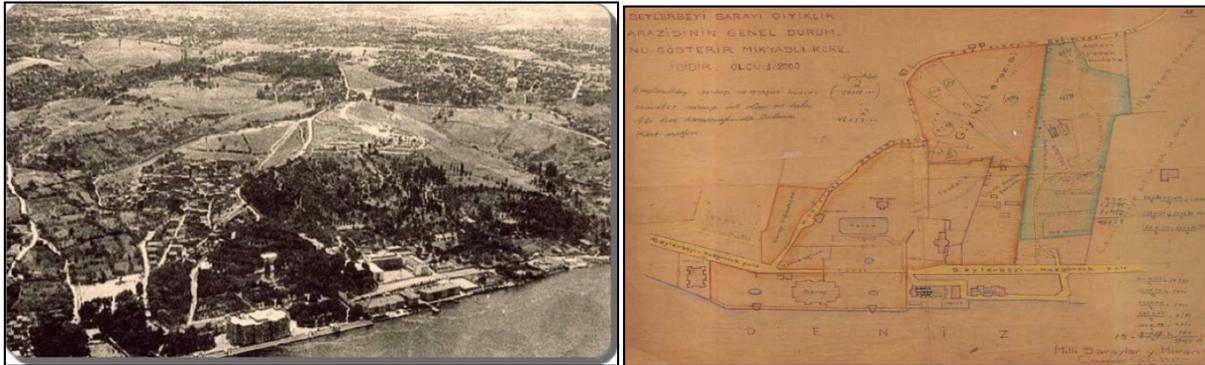


Figure 1. New Beylerbeyi Palace Gardens (Aliasghari Khabbazi, 2016)

Figure 2. Settlement plan of the new Beylerbeyi Palace Gardens (Atalay Seçen, 2011)

MATERIALS AND METHOD

The main material of the study was Beylerbeyi Palace, a summer palace located at the right side of the coastline towards the Bosphorus in Çengelköy District of Uskudar County of the Anatolian side of Istanbul, and the immediate vicinity of this Palace, and its gardens extending to the mountain slopes in the form of sets. The following path was followed in the research in five steps;

- Literature and data collection
- Survey-analysis work on Beylerbeyi Palace Gardens and their vicinity
- Assessment
- Carrying out the restitution work
- Preparation of proposals on the protection and development / sustainability of the site.

Within the scope of field survey-analysis study, primarily the field analysis studies were carried out at different periods on the basis of the survey of Beylerbeyi Palace gardens, and the changing of the gardens was determined. Based on the findings obtained during the assessment phase of the area, a confidence assessment table that will form the basis for the restitution work of the area was prepared to determine the original design of the structural and plant components situated within the borders of Beylerbeyi Palace Gardens and to reveal the changes that occurred over time. To determine the confidence levels, the scoring was based on findings about structural and plant materials within the boundaries of the area. The developed "Confidence Level Scoring Table" is included in Table 1.

| Confidence Level Scoring Table | |
|---|--------------|
| Findings on Structural and Plant Status | Score |
| Traces reaching today from the structure and garden | 10 |
| Written Sources and Documents | 8 |
| Visual Sources / Photographs, Plan-Map | 6 |
| Comparison with Palace Gardens in the Same Period | 4 |
| Oral Resources (information obtained from experts and local people) | 2 |

Table 1. Findings related to Structural and Plant Components

The restitution work of Beylerbeyi Palace Gardens was evaluated separately for three sections (selamlik, harem and terrace gardens). Structural components and plant materials in selamlik, harem and terrace gardens were examined based on the scoring table. The highest score was set as 30 (100%) and the lowest score was set as 12 (33%) according to the findings obtained from the evaluation and analysis studies. Percentiles were based on the scores obtained. According to this; the structural components and the plant material in the 100% -84% section were set as level 1; structural components and plant materials in the 83% -64% section were set as level 3 and structural components and plant materials in the 63% -31% section were set as level 3; and in the 30% and lower regions, structural components and plant materials were set to be reliable at 4th level (Table 2). 4 different confidence levels were set with the results acquired from the evaluation table to be the basis for the restitution work. The 1st level is the highest confidence value. In addition to the restitution work carried out for Beylerbeyi Palace Gardens with different functions (Mabeyn-i Humayun, Harem-i Humayun, terrace gardens), the confidence levels are expressed with different colors on the chart. Colors that express the confidence level are also shown on the restitution chart.

Table 2. Table Indicating Confidence Levels and Specified with Colors

| Confidence Level | Percentiles /Colors of confidence |
|------------------|-----------------------------------|
| Level | %100-%84 |
| Level | %83-%64 |
| Level | %63-%31 |
| Level | %30 and lower section |

In this research conducted to reveal the original design of Beylerbeyi Palace Gardens which partially lost their original character, evaluation tables for selamlik garden, harem garden, first, second, third and fourth terrace gardens located within the borders of Beylerbeyi Palace Gardens were created. For the evaluation of the structural components contained in these gardens, a confidence table of border components, doors, pools, sculptures, lighting elements, floor coverings and plant materials were prepared. In the last phase of the study, a single table showing the confidence levels in the research field was generated.

Result and Discussion

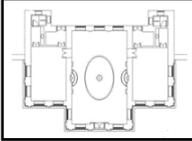
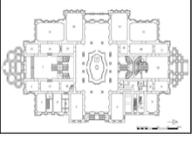
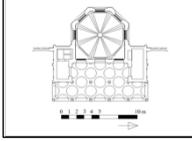
22.016 m2 of the area where the main building of Beylerbeyi Palace gardens is located at Uskudar district, 122 plot, 1333 block, 14 parcel and the terrace gardens of 40.869 m2 including Mermer, Sari and Ahir mansions are located in 1333 block, 47 parcels as registered in the name of Treasury of Finance. All structures of Beylerbeyi Palace Gardens are positioned independently and in an unsymmetrical manner in the land. The main structure of the palace is located on the shore while the other buildings are built in terraces gardens according to their functions. Beylerbeyi Palace gardens have a different set up in terms of their general design features in comparison to other palace gardens in terms of their coastal mansions and gardens or terrace gardens. The gardens between the palace mass (main building) and the sea are designed in a more formal way and having more general use; the terraces gardens located on the upper level are designed for more special uses. Some of the terrace gardens have geometric partitions; while the terraces on the higher side are more informal (Aliasghari Khabbazi, 2016). The main building of the Beylerbeyi Palace Gardens, built as a summer palace, was used for management, living, hosting and representation of foreign guests; Sari mansion, Serdab mansion and Deniz mansions were used for resting purposes; and Ahir mansion was built for palace horses and caretakers. I. Abdulhamid Primary School, I. Abdulhamid Imaret Kitchen, Barracks, and Wreaths, Kalfalar Building and Kizlaragasi buildings do not exist today.

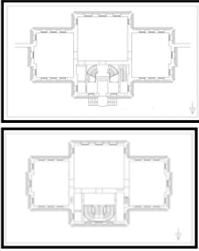
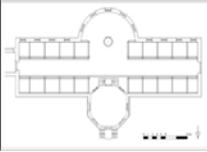


Figure 3. Beylerbeyi Palace Land "Uskudar, 1133 islands, 14 parcels-red border; 1333 island, 47 parcel-Blue border " (Kuzucuoğlu, 2011)

Structures situated in New Beylerbeyi Palace Gardens: The building that reached today from the old Beylerbeyi Palace is "Mermer mansion"; the important sections of the Sultan Mahmut II period are the tunnels connecting the terrace gardens to each other and two marble fountains. One of these fountains is located on the hill leading to Sari mansion, and the other is located inside the historical tunnel. The door that opened from the palace harem section to the tunnel was closed later. The old Beylerbeyi Palace was demolished after the fire in 1851. Sultan Abdulaziz built the present-day Beylerbeyi Palace during 1861-1864. According to the information obtained from the archive documents, the New Beylerbeyi Palace was designed and built by Sarkis Balyan, who was the head of Mabeyn-i Humayun and later became the Architect of the Country in the Ottoman era, and his brother the architect Agop Balyan. Beylerbeyi Palace today is a palace complex consisting of a shore palace and the connected structures and mansions. All units of the palace were positioned in the land as independent from each other. The main structure of the palace is positioned at the shore and the other sections, on the other hand, are positioned at the terrace gardens. Sarı Mansion and Mermer Mansion are positioned at the terrace and around the large pool and Ahir Mansion is positioned behind the area (Aliasghari Khabbazi, 2016).

Table 3. Structures in New Beylerbeyi Palace Gardens and their features (Plans: Dündar2008 – Photos: Original 2015)

| Name of Structure | Construction Date | Design properties | Plan scheme | Visual |
|---|-------------------|---|--|--|
| Mermer Mansion | 1829-1832 | <ul style="list-style-type: none"> - Neo-classic features - Symmetrical plan diagram - Single story - Brick, marble and wood are used for building construction. |  |  |
| Mabeyn-i Humayun Harem-i Humayun | 1861-1864 | <ul style="list-style-type: none"> - Built as two floors on a high basement - brick, marble and wood were used in construction <p>The southern part of this main building, which has a symmetrical structure, is arranged as Mabeyn-i Humayun and its northern section is arranged as Harem-i Humayun, and Zlvechyin location in the middle section is arranged as the Hunkar area.</p> |   |   |
| Deniz mansions | 1861-1864 | It has a polygonal hall extending towards the sea on the pier and a semi-open passage with a deep portico covered by small |  |  |

| | | | | |
|---------------------|---|--|--|---|
| | | service spaces and a dome at the side of the garden. | | |
| Sari Mansion | Despite it is thought that it belongs to the old palace, there is no clear information about the construction date. | <ul style="list-style-type: none"> - The middle section, consisting of the mansion entrance and the hall, has two rooms in the north-south direction on both sides symmetrically. - The building has two floors and both floors have the same plan scheme. - Cut stone, wood and brick was used for the mansion construction. |  |  |
| Ahir mansion | There is no clear information about the construction date of this mansion. However, it is thought that it was erected during the construction process of the New Beylerbeyi Palace due to features similar to Deniz mansions. | <ul style="list-style-type: none"> - Main entrance is situated in the middle section; barn section is located at the side wings, - The entrance section is marked by a pentagonal mass extending forward. - Stone, marble and brick were used as building material; the walls are plastered |  |  |

Restitution of Beylerbeyi Palace Gardens and Their Vicinity: The structure located in the southern part of the Harem garden in Beylerbeyi Palace land and remaining outside of the Harem wall is called Kızagalar section. This structure was built during the erection period of New Beylerbeyi Palace Gardens. Today, this building functions as Beylerbeyi Sabancı Advanced Technical School for Girls. In 1906, repair works were carried out in the vicinity of Beylerbeyi Palace. In this study, “Kapi Aglari” section, “Mesaib Aglari” section and “Haznedar Aga” section situated in the Harem building were renovated. Moreover, the water reservoir and water channels of the palace and the pathway going from “Kızagalar” section to “Bostancibasi Abdullahaga Mosque” were renovated. In 1922, the road leading to “Bostancibasi Abdullahaga Mosque” from the “public bath” building, which does not exist today, in Harem garden was renewed. The Bosphorus Bridge, built in 1973, is located in Beylerbeyi Palace gardens on the Anatolian side. The feet of the bridge are positioned in the fourth terrace garden. The fact that the bridge passes over the palace land gives damages both to the palace and the gardens visually and physically. “I Abdulhamid Sibyan Mektebi” and “Batltacilar and Hamamcilar” building, which were situated at the rear side of Selamlık garden wall of Beylerbeyi Palace and constructed in 1863 during the construction period of the New Beylerbeyi Palace Gardens and belonging to the palace complex, were demolished for the bridge construction. Only the Boat Port survived until today among the original structures in this area (BOA., HH.EBA. 21/39).

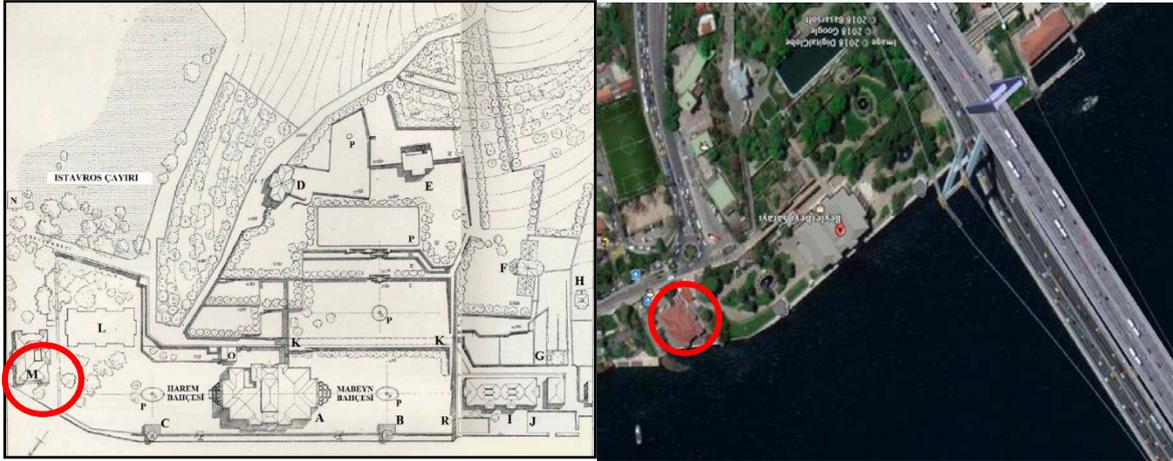


Figure 4. Kızağalar Bulding (M) was located in the southern part of the Harem garden in Beylerbeyi Palace land, (Aliasghari Khabbazi, 2016)

Figure 5. It is showing that structure was left out of the harem garden (Earth Pro, 2018)

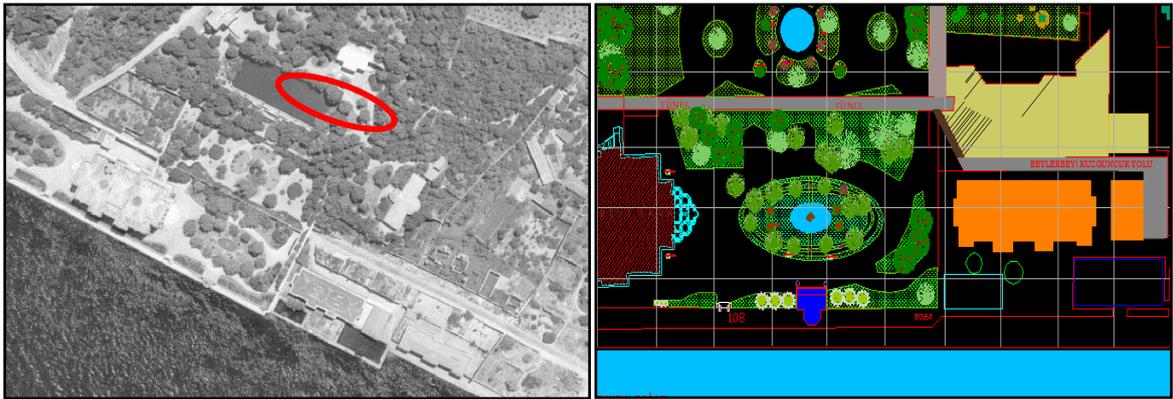


Figure 6. Buildings destroyed during the construction of the Bosporus Bridge (Original 2016)

Figure 7. Beylerbeyi Palace's aerial photograph taken in 1960 (Aliasghari Khabbazi 2016)

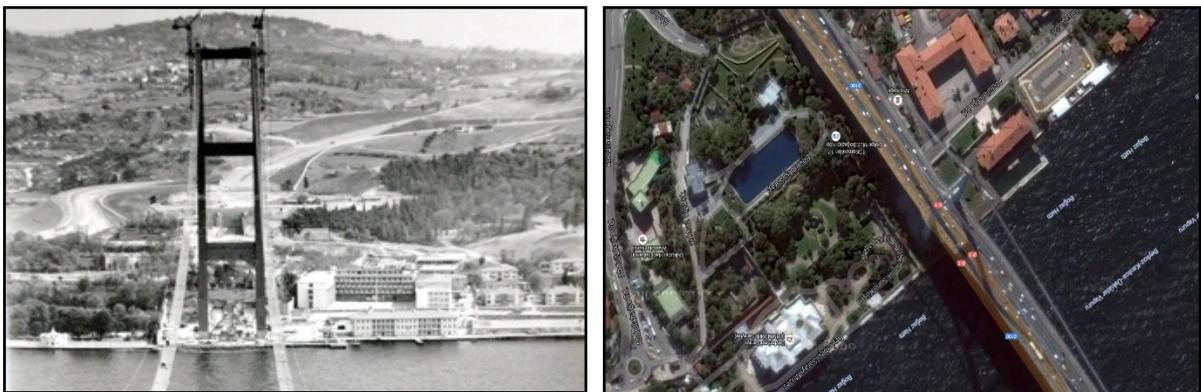


Figure 8. Construction of Bosporus Bridge, Istanbul, Anatolian Side (Topçu, 2006)

Figure 9. The Boat Port that reached today from the construction period of Beylerbeyi Palace (Aliasghari Khabbazi, 2016)

The southern side of the fourth terrace garden of Beylerbeyi Palace grounds faces Sahbaz Yigit Street, the roadway gate. The area between Abdullahaga Avenue and Sahbaz Street where Beylerbeyi Palace is located is stated as a green area according to maps and photographs taken in 1900's. Today, Turkey Soccer Federation Administrative Building, Turkey Soccer Federation guesthouse, a parking lot and Beylerbeyisi Haci Sabanci High School are located in this area. Based on the data obtained from photographs and maps of 1900s of Beylerbeyi Palace gardens, the green area opposite the Harem garden wall is Istavroz Meadow. Today, this area is divided into two sections with Beybostan Street. There is Beybostan villas in the eastern part, and Beylerbeyi Palace Boutique, a parking lot, Rumeli Bakery and Beylerbeyi Elementary School are situated in the western part. Bostancibasi Abdullahaga Mosque still exists today since its original construction date.

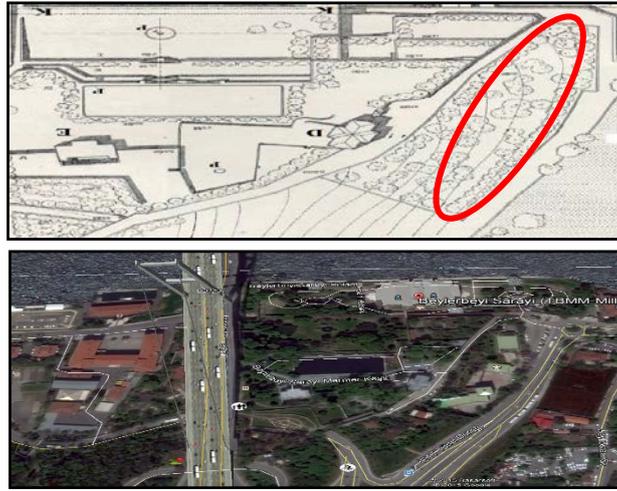


Figure 10. The green area situated between Abdullahaga Avenue and Sahbaz Street in 1900s (Eldem, 1976)

Figure 11. Current status of the green area between Abdullahaga Avenue and Sahbaz Street (Aliasghari Khabbazi 2016).

Within the scope of Selamlik Garden restitution work; it was determined that the boundary components (walls) defined as confidence level 1 belong to the first construction period of the Beylerbeyi Palace Gardens and they were the original garden walls. In this direction; it is necessary to carry out the necessary repair and improvement works in order to protect the existing conditions of the border components in the restoration work. The doors, illumination components and sculptures that were defined as Confidence Level 1 are accepted to belong to the construction period of Beylerbeyi Palace Gardens and are the original garden walls. In this sense, it is suggested that these structural components are to be protected as original in the restoration works and only the cleaning and maintenance works should be carried out.

The degree of confidence of the flooring materials was determined to be 2 as a result of comparative studies with visual data of the construction period and similar gardens that were built in the same period. In some parts of the flooring materials in the Selamlik garden, it was determined that concrete was used as different from the materials used during the building period of Beylerbeyi Palace Gardens. Therefore, it was determined that garden materials are not original in some parts of the garden and they were renewed and changed in the process. In this direction; it is proposed to remove the unoriginal floor covering in the restoration work and to replace it with sand-gravel mixture flooring.

The confidence level of plant parterres that were evaluated based on visual sources and similar gardens that were built in the same period were also determined as 2. Moreover, it is also accepted as a result of the restoration works carried out by the National Palaces in 1980 that the parterres have lost their original character in this garden due to the change of the plant parterres located in the center of Selamlik garden. In this scope; it is suggested to repair the plant parterre by using new material in accordance with the original material and the original dimensions of the plant parterre. Since there is no written data about the plant material determined as confidence level 3 and the living material is rapidly transformed in the process, the entire plant material was not able to be detected completely. In this direction; no intervention is suggested because of the low degree of applicability in the restoration work. First, rejuvenation, pruning, etc. studies for the improvement and sustainability of the plants are carried out in the studies to be conducted for restoration of the current plant material located in Selamlik garden.

The stylistic features and arrangements of the plant parterres located in Selamlik garden were determined by historical photographs, maps and aerial photographs. However, they were evaluated on the basis of historical photographs taken between 1880 and 1890 because the list of plant materials kept for the garden was not included in the archive documents (Aliasghari Khabbazi, 2016). Furthermore, information was obtained from Seyfettin Alptekin, who has been working as a gardener in Beylerbeyi Palace Gardens for 30 years. In this direction, it was determined that the plant parterre that was located in the center of Selamlik Garden during the construction period of New Beylerbeyi Palace Gardens was in oval form and there was a grotto pool in the middle. In the oval-shaped parterre, it was determined that there were *Magnolia grandiflora*, *Taxus baccata* trees and *Rosa sp.* as the plant materials. Today, this part of Selamlik Garden contains *Magnolia grandiflora*, *Taxus baccata*, *Ulmus glabra pendula* and seasonal flowers. It was determined that there was a grass parterre at both sides of Deniz Mansion situated in Selamlik Garden during the construction period of the garden and there were *Ligustrum vulgare* and *Cedrus deodora* within this parterre and there was *Agave americana* in both vases situated at the entrance of Deniz Mansion. Today, there are 13 (thirteen) *Magnolia grandiflora* and 2 (two) *Taxus baccata* in the plant parterres arranged in a quadrangular form consisting of seven parts around the oval grotto pool; and there are 2 (two) *Buxus sempervirens* trees which are designed symmetrically on both sides of the grotto pool. There are flower parterres around *Buxus sempervirens* trees. Selamlik garden consists of *Ulmus glabra pendula*, *Taxus baccata*, *Cedrus deodora*, *Buxus sempervirens* and seasonal flowers. It was determined that there were *Magnolia grandiflora*, *Cedrus deodora* and *Tilia argentea* in the parterre at the side of the black wall in the garden when Beylerbeyi Palace Gardens were built. Today, this area consists of *Aesculus hippocastanum*, *Buxus sempervirens*, *Magnolia grandiflora*, *Taxus baccata*, *Phyllostachys bambusoides*, *Chamaerops excels*, *Celtis australis*, *Aesculus glabra*, *Hydrandea marcophylla*, and lots of bamboo trees. Beylerbeyi Palace Gardens has a single tree which is registered as a monumental tree. The 106-year-old *Aesculus neglecta*, located in Selamlik garden, is 24 meter tall and has 88 cm of diameter (Aliasghari Khabbazi, 2016).

Table 4. Evaluation Table as the Basis for restitution of Selamlik Garden

| SELAMLIQ GARDEN | Traces from Garden/ Structure | Written resources and documents | Visual resources | Verbal resource | BBK | Score | Confidence Level |
|---------------------|-------------------------------|---------------------------------|-------------------|-----------------|-----|-------|------------------|
| | | | Photo/ Plan / Map | | | | |
| Boundary Components | 10 | 8 | 6 | - | 4 | 28 | 1.Level |
| Doors | 10 | 8 | 6 | - | 4 | 28 | 1.Level |
| Lighting Elements | 10 | 8 | 6 | - | 4 | 28 | 1.Level |
| Sculptures | 10 | 8 | 6 | - | 4 | 28 | 1.Level |
| Floor coverings | 10 | - | 6 | - | 4 | 20 | 2.Level |
| Pool | 10 | 8 | 6 | - | 4 | 28 | 1.Level |
| Vase | 10 | 8 | 6 | - | 4 | 28 | 1.Level |
| Plant Parterres | 10 | | 6 | | 4 | 20 | 2.Level |
| Tree and Shrub | 10 | - | 6 | 2 | - | 18 | 3.Level |

Within the scope of Harem garden restitution work; Border components (walls), which are determined as confidence level 1, are considered to have belonged to the construction period of Beylerbeyi Palace Gardens and have the original features. In this direction; it is necessary to carry out repair and improvement studies structurally in order to protect the existing conditions of the border elements in the restoration work. However, the gate of the Harem garden facing Abdullahaga Street was rebuilt in 1954 due to road work. In this context, it is proposed that it is restructured to its original position according to the existing data.

The doors, illumination elements and sculptures defined as Confidence Level 1 are determined to belong to the construction period of Beylerbeyi Palace Gardens and had the original features. In this sense, it is suggested that these structural components are protected in the restoration work by conducting the required repair and improvement works. However, the door of Harem garden facing Abdullaga Avenue was rebuilt in 1954 due to the road work. In this context, it is suggested that it is restructured in its original position based on the current data.

It was accepted that the doors, lightning components and sculptures that were determined to have confidence level 1 belonged to the construction period of Beylerbeyi Palace Gardens and they had the original features. In this direction, it is suggested that these structural components are protected as they are with their current forms however cleaning and maintenance works are carried out in the restoration work.

As a result of the comparative studies with visual sources and similar gardens that were built in the same period, confidence level was determined as 2. In some parts of the flooring materials in the harem garden, it was determined that Beylerbeyi Palace Gardens were constructed as concrete as different from the materials used during their construction period. Therefore, it was determined that in some parts of the garden, the flooring materials are not the original today and are different from the period they were built.

In this scope; it is proposed that the unoriginal floor covering is removed and sand-gravel mixture is used as a floor covering instead of it in the restoration work.

The confidence level of the plant parterres that were evaluated based on visual sources and similar gardens built in the same period was also determined as 2. Moreover, as a result of the restoration works carried out by the Grand National Assembly of Turkey, the National Palaces in 1980, it is accepted that the plant parterre situated in the middle of Harem garden lost their original character because its formative features were changed. In this scope; it is suggested to repair the plant parterres by using new material in accordance with the original material and the original dimensions in the restoration work. Since there is no written data about the plant material that was determined to have Confidence level 3, the entire plant material situated in the garden was not able to be determined. In this context, it is accepted that the applicability level is low in the restoration work. The required rejuvenation, pruning, etc. works must be carried out to improve the plants primarily in the studies that are to be carried out for the rehabilitation of the existing plant materials situated in Harem garden.

When the aerial photograph of 1960 obtained from the General Command of Mapping is evaluated, it is determined that there are the tall wall in front of the Harem garden on the land side has a dense green texture and there are tall trees. It is understood that the trees in this area are *Tilia agrentea* and *Quercus robur*. Today, there is a cafeteria and gift shop in this area. The size of this area is about 1,500 m² consisting of grass parterres. Within these parterres, pedestrian pathways were created with the aim of providing access to the cafes and gift shop. Concrete was used as flooring material in these roads. In these parterres, there are *Robinia pseudoacacia*, *Nerium oleander*, *Fraxinus angustifolia*, *Hibiscus syriacus*, *Buxus*, *Taxus baccata*, *Phoenix dactylifera*, *Cedrus deodora* and *Araucaria araucana*. In the photo taken in 1900s, the pool and the circular shaped plant parterres around it are remarkable. Symmetry was applied in the plantation arrangement and the general design of the parterres. The roundness of the lines of the parterres softens the lines of the garden. *Tilia sp.* and *Cedrus* were used as plant materials. There are circular-shaped parterres at the corners of the parterres that are arranged in four parts, and there are *Rosa sp.* situated in the middle of these parterres.

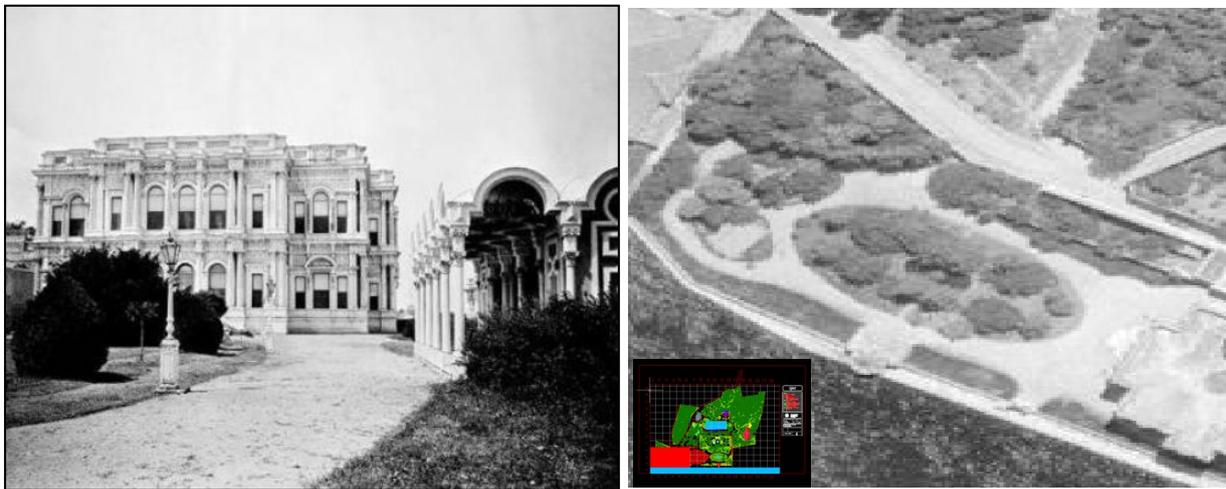


Figure 12. Photo taken by Basille Kargopoulo in 1900 (Atalay Seçen, 2011)

Figure 13. Photo taken by Basille Kargopoulo in 1900 (Aliasghari Khabbazi, 2016)

Table 5. Evaluation Table as the Basis for the restitution of Harem Garden

| HAREM GARDEN | Traces from Garden/ Structure | Written resources and documents | Visual resources | Verbal resource | BBK | Score | Confidence Level |
|-------------------|-------------------------------|---------------------------------|------------------|-----------------|-----|-------|------------------|
| | | | Photo/ Plan/Map | | | | |
| Boundary Elements | 10 | 8 | 6 | - | 4 | 28 | 1.Level |
| Doors | 10 | 8 | 6 | - | 4 | 28 | 1.Level |
| Lighting Elements | 10 | 8 | 6 | - | 4 | 28 | 1.Level |
| Floor coverings | 10 | - | 6 | - | 4 | 20 | 2.Level |
| Pool | 10 | 8 | 6 | - | 4 | 28 | 1.Level |
| Vase | 10 | 8 | 6 | - | 4 | 28 | 1.Level |
| Plant Parterres | 10 | - | 6 | - | 4 | 20 | 2.Level |
| Tree and Shrub | 10 | - | 6 | 2 | - | 18 | 3.Level |

Within the scope of first terrace garden restitution work; Border elements (walls), which are determined as confidence level 1, are considered to have belonged to the construction period of Beylerbeyi Palace Gardens and have the original characteristics. In this direction; it is necessary to carry out repair and improvement works to protect the existing conditions of the border elements in the restoration work.

The doors, illumination elements, stairs, pool and sculptures defined as Confidence level 1 are determined to belong to the building period of Beylerbeyi Palace Gardens and are the original structures. In this sense, it is suggested that these structural components are to be protected in the restoration works by conducting the repair and improvement works.

As a result of the comparative studies with visual sources and similar gardens that were built in the same period, confidence level was determined as 2. It was determined that concrete was used in some sections of the floor covering materials in the first terrace garden as different from the material used during the construction period of Beylerbeyi Palace Gardens. Therefore, it was determined that in some parts of the garden, the flooring materials are not the original today and are different from the period they were built. In this scope; it is proposed that the unoriginal floor covering is removed and sand-gravel mixture is used as a floor covering instead of it in the restoration work.

The confidence level of the plant parterres that were evaluated based on visual sources and similar gardens built in the same period was also determined as 2. Moreover, as a result of the restoration works carried out by the Grand National Assembly of Turkey, the National Palaces in 1980, it is accepted that the plant parterre situated in the middle of Harem garden lost their original character because its formative features were changed. In this scope; it is suggested to repair the plant parterres by using new material in accordance with the original material and the original dimensions in the restoration work. Since there is no written data about the plant material that was determined to have Confidence level 3, the entire plant material situated in the garden was not able to be determined. In this context, it is accepted that the applicability level is low

in the restoration work. The required rejuvenation, pruning, etc. works must be carried out to improve the plants primarily in the studies that are to be carried out for the rehabilitation of the existing plant materials situated in Selamlik garden. Today, the circular form parterres of the first terrace garden with nearly 10000 m² dimension were changed to the cornered form and there are *Ulmus glabra var.*, *Pendula*, *Chamaerops excelsa* and pruned *Taxus baccata* in place of *Tilia sp.* and *Cedrus sp.* *Rosa sp.* and seasonal flower parterres do not exist today. It was determined that the area borders were the same as the ones in their construction period.

Table 6. Evaluation Table as the Basis for restitution of First Set Garden

| I. SET GARDEN | Traces from Garden/ Structure | Written resources and documents | Visual resources | Verbal resource | BBK | Score | Confidence Level |
|-------------------|-------------------------------|---------------------------------|------------------|-----------------|-----|-------|------------------|
| | | | Photo/ Plan/ Map | | | | |
| Boundary Elements | 10 | 8 | 6 | - | 4 | 28 | 1.Level |
| Doors | 10 | 8 | 6 | - | 4 | 28 | 1.Level |
| Lighting Elements | 10 | 8 | 6 | - | 4 | 28 | 1.Level |
| Stairs | 10 | 8 | 6 | - | 4 | 28 | 1.Level |
| Floor coverings | 10 | - | 6 | - | 4 | 20 | 2.Level |
| Pool | 10 | 8 | 6 | - | 4 | 28 | 1.Level |
| Plant Parterres | 10 | | 6 | | 4 | 20 | 2.Level |
| Tree and Shrub | 10 | - | 6 | 2 | - | 18 | 3.Level |

Within the scope of second and third set garden restitution works; Border elements (walls) and stairs, which are determined as confidence degree 1, are considered to have belonged to the construction period of Beylerbeyi Palace Gardens and have the original characteristics. In this direction; it is necessary to carry out the required repair and improvement studies to protect the existing conditions of the Border elements in the restoration work.

Since there is no written and visual sources, as a result of the comparative surveying, the confidence level of the flooring material used in other parts of the garden and the gardens built in the same period was determined as 3. In these areas, concrete is used in some parts as different from the first design. In this direction; it is recommended that the flooring material is changed to a sand-gravel mixture in the restoration work.

The plant parterres' confidence level, which was estimated by comparing with visual sources and similar gardens built in the same period, was set as 4. In addition, as a result of the restoration work carried out by the National Palaces Department of the Turkish Grand National Assembly in 1980, the second and third terrace gardens have lost their original status due to the change of the shape and arrangement of the plant parterres.

Since there is no written data on the plant material identified as Confidence level 4, the original state of the plant material could not be determined completely. In this direction; it is accepted that the level of applicability in the restoration work is low.

The second set garden covering approximately 1100 m² and the third set garden with 900 m² size are designed in a narrower dimension than the first and fourth sets as similar to today's size. However, the form of the plant parterres is not understood clearly because the second and third sets of trees at that time consist of tall trees. Since there is no written document or visual source about the plant species in this area, it was determined that only rough-textured plants are included.

Table 7. Evaluation Table as the Basis for restitution of Second and Third Set Garden

| II. – III. SET BAHÇELERİ | Traces from Garden/ Structure | Written resources and document s | Visual resources | | Verbal resour ce | BBK | Score | Confidenc e Level |
|-----------------------------|-------------------------------------|--|------------------|------------|------------------------|-----|-------|----------------------|
| | | | Photo/ Map | Plan/ s | | | | |
| Border elements | 10 | 8 | 6 | | - | 4 | 28 | 1.Level |
| Floor coverings | 10 | - | - | | - | 4 | 14 | 3.Level |
| Stairs | 10 | 8 | 6 | | - | 4 | 28 | 1.Level |
| Plant parterres | - | - | 6 | | - | 4 | 10 | 4.Level |
| Tree and shrub | - | - | 6 | | - | 4 | 10 | 4.Level |

Within the scope of fourth garden restitution works; it was determined that the border elements (walls) in the direction of Sahbaz Yigit Street and Abdullahaga Avenue which are determined to have confidence level 1, are considered to have belonged to the construction period of Beylerbeyi Palace Gardens and have the original characteristics. In this direction; it is necessary to carry out the required repair and improvement works to protect the existing conditions of the border elements in the restoration work.

The vases which are determined as confidence level 1, are considered to have belonged to the construction period of Beylerbeyi Palace Gardens and have the original characteristics. In this sense, it is proposed that these vases currently situated in Dolmabahçe Palace are brought to Beylerbeyi Palace Gardens and placed at their original positions.

Since there is no written and visual sources, as a result of the comparative surveying work, the confidence level of the flooring material used in other parts of the garden and the gardens built in the same period was determined as 4. In these areas, concrete is used in the majority of the parts in the fourth set garden which is used by the Prime Ministry. In this direction; it is recommended that the flooring material is changed to a sand-gravel mixture, which is the original flooring material, in the restoration work.

The confidence level of plant parterres that were assessed based on visual sources and similar gardens built during the same period was set as 3. In this direction; it is accepted that the degree of applicability in the restoration work is low.

Since there is no written data on the plant material that is determined to have Confidence level 4, the original state of the plant material could not be determined. In this scope; it is accepted that the degree of applicability in the restoration work is low.

Today, because of the form of the plant parterres in the garden of the fourth set, which is about 28860 m², and the lack of written source about the vegetal material in these parterres, it is evaluated on the basis of visual sources. From the photographs taken during 1880-1890, it is seen that there were *Tilia sp.*, *Ligustrum vulgare* on both ends of the large pool and there was pruned *Ligustrum vulgare* bushes at both sides of the grotto. Today, there are plant materials in this field including *Chamaerpos excelsa*, *Celtis australis*, *Lagerstroemia indica*, *Tilia argentea*, *Robinia pseudoacacia*, *Platanus orientalis* and there are *Chamaerpos excelsa* and *Aesculus hippocastanum* around the pool. Photos taken in 1880 by Basile Kargopoulo show that there were *Platanus sp.* and *Tilia sp.* trees as plant material in front of Sarı Mansion situated at the north east of Beylerbeyi Palace land. Today, there are *Cedrus deodora*, *Chamaerops excels*, *Laurus nobilis*, *Quercus robus*, *Carpinus betulus* and *Tilia argentea* in front of the land. In the photograph taken by Sebah & Joaillier in 1880, *Tilia argentea* planted in a row opposite Mermer Mansion situated in the fourth set and the archway of the ramped path ensuring access of Sarı Mansion to the pool are seen. It was determined that the flower situated in the parterres that were arranged in circular form was. *Tropaeolum majus* and the plant material that was used as a fence around the wall situated in front of the ramp leading to Sarı Mansion was *Ligustrum vulgare*. Today, *Chamaerops excels* that were planted at certain intervals around the pool have a different feature and arrangement from the original construction date of the palace.

Table 8. Evaluation Table as the Basis for restitution of Fourth Set Garden

| 4. SET GARDEN | Traces from Garden/ Structure | Written resources and documents | Visual resources | Verbal resource | BBK | Score | Confidence Level |
|-----------------|-------------------------------|---------------------------------|------------------|-----------------|-----|-------|------------------|
| | | | Photo/ Plan/ Map | | | | |
| Border elements | 10 | 8 | 6 | - | 4 | 28 | 1.Level |
| Vases | 10 | 8 | 6 | - | 4 | 28 | 1.Level |
| Floor coverings | - | - | 6 | - | 4 | 10 | 4.Level |
| Pool | 10 | 8 | 6 | - | 4 | 28 | 1.Level |
| Sculptures | 10 | 8 | 6 | - | 4 | 28 | 1.Level |
| Plant parterres | 10 | - | 6 | - | 4 | 20 | 3.Level |
| Tree and shrub | - | - | 6 | 2 | - | 10 | 4.Level |

CONCLUSION

In the assessment of the present state map sheets of Beylerbeyi Palace Gardens, the interim period sheets (1960), and the restitution sheet of its construction period (restitution sheet), it was determined that the area undergone significant changes in general sense in terms of its size and green area ratio (Table 9). In

this context, the palace and the garden and open areas in its immediate vicinity got smaller considerably; this phenomenon has also led to changes in the overall set up and design of the area.

Table 9. Alteration and usage of Beylerbeyi Palace Gardens and the surrounding area in historical process

| | | |
|------------------------------|----------------------|----------------------|
| Construction period | 91449 m ² | 50409 m ² |
| Interim period (1960) | 65340 m ² | 38772 m ² |
| Current Situation | 63000 m ² | 16386 m ² |



Figure 7. Beylerbeyi Palace Gardens, 1960 dimensioning sheet (Original 2016)

Figure 8. Beylerbeyi Palace Gardens, the dimensioning sheet of the construction period (original 2016)

Figure 9. Beylerbeyi Palace, current settlement plan and dimensioning sheet (Original 2016)

Despite palaces reflect cultural characteristics of their period they are also formations reflecting lifestyles of people who use these spaces and the artistic characteristics and construction techniques of the period (Aliasghari and Erdoğan 2015). Beylerbeyi Palace gardens, which are the subject of the research, are the areas where the design features of the structure and locations that make up the palace, the decorations of the palace and the western influences are clearly observed. In this study, the development of the Beylerbeyi Palace gardens in the historical process was examined and the location of New Beylerbeyi Palace was evaluated in terms of the plant design features of the mansions and palace gardens situated in the palace complex.

The assessment of the structural elements of Beylerbeyi Palace Gardens shows that materials including stones, pebbles, and marbles were used as sustainable building tools. Baroque period influences are observed in the stairs, handrails, balusters and accessories. The large-scale swimming pool, positioned in the terrace gardens, is not seen in other palace gardens and it is a structure only seen in Beylerbeyi Palace and is unique. On the other hand, Selamlıq and Harem gardens have similar characteristics when compared to other palace gardens. The sea mansions located on the seashore are the structures that are unique and only seen in Beylerbeyi Palace complex.

From the time Selamlık Garden of Beylerbeyi Palace was designed to the present day, plant and structural elements have changed. In Selamlık Garden, which was designed in almost the same dimensions as the present day, the larger grass areas were used initially and the plant material has a symmetrical arrangement and short trees were preferred. The plant parterres were designed as oval layers around an oval-shaped pool positioned in the center of the garden. However, in 1980, with the application of the restoration project prepared by the National Palace Department of the Turkish Grand National Assembly, it was transformed into a rectangular form. Today, the plant species in Selamlık Garden differ from the period it was built.

Harem garden in Beylerbeyi Palace went through changes since the day it was designed until today in terms of plant and structural components. Harem garden, originally designed in a larger size compared to its current state, was originally arranged including dwarf trees symmetrically on a large grass area. The low wall of the garden at the sea side continues along the waterfront. This arrangement was also seen in the photographs taken in 1890, when the New Beylerbeyi Palace gardens were designed and built. The boundaries and structural components of Harem garden were determined from the written documents and visual sources, and the use of plant material was determined from historical photographs. The plant parterres are designed as oval layers around an oval-shaped pool positioned in the middle of the garden. However, as in Selamlık Garden, it was transformed into a rectangular form in 1980 with the application of the restoration project prepared by the National Palaces Department of the Turkish Grand National Assembly. Today, plant species in Harem garden differ from the period when they were built.

In the first, second and third set gardens, a formal and symmetrical pattern was applied as it was in the gardens of harem and selamlık. Symmetrical plant parterres were formed around the oval grotto pool in the middle of the garden. The garden boundaries are the same as the ones in the original construction date. It was determined that the boundaries of the second and third set gardens were also the same as the ones in the original construction date. However, the form of the plant parterre was changed in the restoration application study conducted by the National Palace Department of the Turkish Grand National Assembly in 1980 and today the plant species are different from the period when it was built. Borders of the fourth set garden were changed due to road works. Information about the area situated in front of Mermer Mansion on the fourth set was obtained from visual sources. In this area, oval shaped parterres were arranged and seasonal plants were used in order to create a color effect in the parterres. *Tilia argentea* (common linden) trees were planted by the pool side opposite Mermer Mansion. Today, there are *Chamaerpos excels* (wooly palm) trees by the pool side in place of the linden trees. There are two circular shaped parterres in a symmetrical position in the area in front of the mansion and there are *Phoenix canariensis* (date tree) in these parterres.

Since Beylerbeyi Palace gardens that were examined in the scope of the research are a cultural heritage, they are of great importance for both the present and future generations. Furthermore, the fact that the historical palace gardens function for cultural, recreational and tourism purposes in their current use, such formations become more important because of the quality and quantity of their plant materials and their structuring in different periods and due to being under the influence of different artistic trends.

As a result of the interventions made to the plant and structural components of Beylerbeyi Palace Gardens during the Republican Period, some of the original plan features and some of the buildings in the palace garden, and the boatshed, barracks, and some structures belonging to public bath runners and axmen and many structures have not survived until today. In addition, as a result of the restoration work that was carried out by the National Palaces Department of the Turkish Grand National Assembly in 1980, the original characteristics of the plant parterres went through changes due to the changing of their shape.

As a result of the restitution work related with the border components of Beylerbeyi Palace Gardens; it was determined that the surrounding walls were usually built during the construction period and had the original characteristics. In this direction; within the scope of the restoration works that were necessary for the preservation of the existing conditions of the border elements in the restoration work; due to chemical and physical problems, it is suggested to carry out the work of repairing the joints that are eroded due to impacts, rain, water and various chemicals, and remodeling and improving works for the renewal of the fell off plasters are suggested to be carried out.

As a result of the restitution work of Beylerbeyi Palace Gardens; it is accepted that the pools located in Selamlık, Harem, the first and fourth set gardens belong to the period of construction and that they have the original character. In this direction; it is suggested that these pools should be protected as they are in the restoration work but the cleaning and maintenance works should be carried out.

Considering risk analyses conducted on the structures in Beylerbeyi Palace Gardens; the western façade of the main structure was found to be damaged by moisture. For this reason, widening of the grass area connecting Selamlık and Harem gardens to each other and extending along the waterfront or not including the plant parterre in this area will prevent the structure from being damaged.

As a result of the restitution work of Beylerbeyi Palace Gardens; during the palace construction period (1864), 20 bronze and marble sculptures were ordered for decorative purposes in the gardens. Today, however, only 14 sculptures are found in these gardens. Today, "Freedom Horse ramped for the Shah/ 2" is situated in the garden of Sabancı Atli Mansion, the "fighting bull" is situated at Kadıköy Square, "Hamle" is situated in Yıldız Park, "The doe which is drinking water and her baby" is situated in Emirgan Grove and "The lion jumping on cactus" is situated on Istanbul Metropolitan Municipality Sehzadebasi Avenue, and "the lion on crocodile" is situated in Dolmabahçe Palace. In order to preserve the integrity of the original character of Beylerbeyi Palace gardens, it is suggested that these sculptures are returned to Beylerbeyi Palace and placed in their original locations.

Since the plant materials situated in the gardens are alive and in need of constant maintenance, and in case they are damaged, the same species must be planted again in the same position. Within the scope of the repair and maintenance studies that are required for the plant materials; irrigation, fertilization and pruning of the weak and dry branches should be carried out periodically by experts. Furthermore, necessary precautions must be taken by monitoring the risks of cavities, diseases, insects and fungi that may occur in trees.

Historical palace gardens reflect the socio-cultural characteristics of the periods they existed, at the same time, they carry out the features of the used construction tools, construction technique and structural and plant design to the present day. In the scope of the conservation and restoration works, gardens and their environs consisting of cultural assets should be preserved in the neighborhood scale and improvement and repair processes should be carried out. The gardens surrounding the historical palace gardens reflect the open space conception of the period, plant design features, thoughts and lifestyle. However, it is known that restoration works on the structures are generally performed on a single structure scale that is used as the protection method. Conservation and restoration works should be carried out as a whole with the garden and necessary restoration work should be carried out by preserving the original boundaries and design features of the historical site. In the work scope; the importance of garden-building relationship was emphasized and suggestions were developed by aiming the strengthening of the original character and identity of the historical palace gardens.

In conclusion, as the historical gardens are cultural heritages, they are essential for current users and next generations. Therefore, states of the historical gardens should be protected and maintenance and repair works should be conducted by protecting their original features. In addition, Beylerbeyi Palace Gardens are one of the essential cultural heritages and historical and cultural landscape areas that need to be transferred to the next generations as reflections of the open area usage and design approach of the Ottoman period.

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