

EFFECT OF WATER ELEMENT IN HISTORICAL PARKS AND GARDENS IN BUCHAREST

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Abstract

The present study aims to present the investigation results on the importance of water in the landscape and to present a brief history of the use of the water element. The study took into consideration calm waters, falling waters, running waters, water for fountains. There have been included also a landscaping analysis - composition for the seven parks listed in the historical objectives in Bucharest, namely Cişmigi Garden, Kiseleff Park, Carol I Park, Herastrau Park, Botanical Garden, Ioanid Square, and Agronomy Garden - UASMV. A questionnaire was used to track the importance of water in public spaces, whether visitors are aware of the water element in parks, gardens, and identifying what every visitor feels when he/she is next to the water element (lake, pond, waterfall, well, etc.). Also, the frequencies of visitors to historic parks and gardens in Bucharest was tracked, the questions identified if they knew historical parks and gardens or not, and also the visitor's awareness of the importance of water in Bucharest's historic parks and gardens have also been pursued.

Key words: Cismigiu Garden, Kiseleff Park, Carol I Park, Herastrau Park, USAMV Park.

INTRODUCTION

Water has been present in every era and culture in the history of the landscape, from the Egyptian, and Mesopotamian (Babylonian) gardens that used ingenious irrigation mechanisms and systems to the Persian, Indian, Chinese and pre-Islamic ones (Mahmoudi et al., 2016) (Figures 1 and 2).

In the modern time, water pump was introduced so the water gardens became more available, but before that, the gardens designed with water elements were accessible only to the sovereigns of the time (Babnic, 2020).



Figure 2. Islamic garden
(Source: <http://www.keywordsuggest.org>)



Figure 1. Babylon Hanging Gardens
(Source: <http://www.mixdecultura.ro>)

Water can be defined as a culture and a way of life (Harris and Dines, 1988; Bayakan-Levent et al., 2002; Iliescu, 2003; Hasanagas, 2010) in addition to its functional qualifications, such as its contribution to the development of agriculture, its use in transport, water has

symbolic values for many communities, representing the reflection of the sky, fertility, and abundance in the world, which symbolizes the continuity of life (Booth, 1989; Erdoğan, 2006; Koskina & Hasanagas, 2008). Water is perceived in various context, agricultural (Kherouf & Maoui, 2021), quality (Stavrescu-Bedivan et al., 2021), footprint (Sandu & Virsta, 2021)

The water element was used as an aesthetic factor in landscape design. In addition to its symbolic value, water is a very unique element, providing a different perception of the size and shape of space as it is perceived in reality (Rees & May, 2002). Water has an elemental quality that gives it a great symbolic significance when used as a decorative element. Water together with trees and the vault of the sky reminds us of the wildness of nature (Moughtin & Tiesdell, 1995) and can affect the relationship between the environment and man. The repetitive, flexible and deep nature of water can create different effects on users (Pye, 1995; Machlis & Forney 1996; Erdal, 2003). The waters are suitable in all situations, representing the most interesting objects of a landscape, fixing the attention. From a landscape point of view, the waters flow, stand, fall or gush, adding sounds and certain patterns to the perceived space, by spraying and the specific sounds produced. The repetitive, flexible, and deep nature of water can create different effects on users, depending on the variability of environmental factors (Pye, 1995). In all the districts of Bucharest, green areas have been arranged in order to offer to the inhabitants of the city and to the tourists the possibility of recreation and leisure in the middle of nature, but also on the shores of the lakes that are part of the hydrographic network of Bucharest (Giurescu, 2009).

The present study aims to present the investigation results on the importance of water in the landscape. In the same time, to answer to the necessity to consider the role of the element "water" in the historical arrangements of Bucharest.

MATERIALS AND METHODS

To achieve the aim of the study, three parks (Herastrau, Kiseleff, and Carol I Park) were chosen, three gardens (Cismigiu Garden,

Botanical Garden, Agronomy Garden) and one square (Ioanid Square) to determine the weight of the water element and the percentage of water in the researched historical parks and gardens.

The methods used were observation (landscape visual analysis) and recording of existing data in the field. A questionnaire was also used to investigate the following:

- The importance of water in public spaces and parks;
- The sensations that water determines on the visitors from the parks in Bucharest;
- What are the most frequented parks in Bucharest (the frequency of visitors);
- Awareness of visitors on the importance of water.

RESULTS AND DISCUSSIONS

As a result of the research carried out, all the historical parks and gardens in Bucharest in this study use the water element in various forms, namely: static (rivers, lakes, ponds, basins), dynamic (artesian fountains, cascade). The styles of the studied parks and gardens are different: the mixed style (Cismigiu Garden, Carol I Park, Agronomy Garden), mixed, geometric, and English (Herastrau Park), English and French (Botanical Garden), English and French (Ioanid Square).

The classification by size differentiates the following formations of public green spaces, in increasing order of importance: the square, the garden, and the park, the forest park:

- Square - up to a maximum of 3 ha;
- Garden - between 3-20 ha;
- Park - between 20-100 ha;
- Park forests - over 100 ha (Filofteia, 1977).

In Cismigiu Park, the water element is given by the 3 ha Lake, which occupies about 1.5% of the total area of the park. The lake has an aesthetic, and recreational aspect. Other elements representing the water present in Cismigiu Park are the fountain located in the middle of the lake and the waterfall located in the cave. The water element is also encountered in the form of a small pond (Figure 3) (Dimitriu, 2010).



Figure 3. Footbridge in Cismigiu Garden

Kiseleff Park (Figure 4) presents the water element in the following forms: static - a small pond (basin rather) but also dynamic - numerous artesian fountains designed to create aesthetics. There is no lake or river in this park.

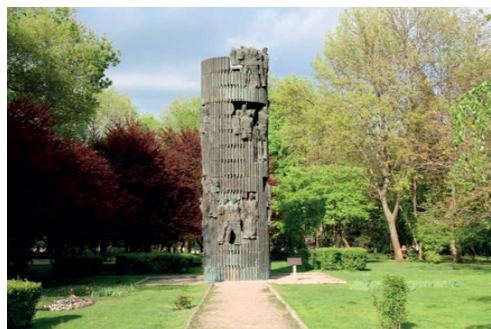


Figure 4. Infantry Monument in Kiseleff Park

In Carol I Park the water element is a basic element being presented in both static and dynamic forms. The lake within the park has a total area of 2 hectares and is intended for recreation. The waters within the Carol I Park account for 2.1% of the total area. In addition to the large lake, inside the park, we also find a small lake and, in its centre, a small island. Also, the water element is represented by the artesian fountains, the most important being the Zodiac fountain. Another fountain appreciated by the constant visitors of Carol Park is George Grigorie Cantacuzino Fountain (Cantacuzino Fountain). Inside the park, we also find a small pond. Various cubicles in the park give people in the park water when they get thirsty. Carol I Park also has a small pond and it is surrounded by rocks giving a soothing picture. Over this pond passes a small paddle which makes accessible the passage from one shore to the

other. The small lake on the Carol I Park has a small island. From here visitors can quietly look at the mirror of the water, which gives them a state of quiet (Figure 5).



Figure 5. Footbridge in Carol I Park

Herastru Park is currently the largest park in Bucharest. Its surface is very large, and water is a central element. The water is represented both in static form (very large lake) and also in dynamic form (artesian fountains). Lake Herăstrău is very large, it is an anthropic lake, which is arranged on the Colentina River. Lake Herastru is located between Lake Baneasa (upstream) and Lake Floreasca (downstream). Herăstrău Lake is considered to be the largest in Bucharest (Stănescu, 2011) with a total length of the shores of 7,400 m. The surface of the islands on Lake Herastru is 1,600 m. Initially, the place where Lake Herastru is located today was a marshy area. Lake Herăstrău, besides its aesthetic value, also has an entertainment function. The visitors can walk on the lake by boat, hydrofoil, and boat (Figure 6). A lock (1933-1936) was built on the left bank of Lake Herastru, making it possible to ride by boat both on Lake Herastru, and Lake Floreasca. At the same time, the locker has the role of carrying out the additional drainage of Lake Herastru in Lake Floreasca due to the risk of high-water level (it can flood the shores of the lake). The artesian fountains are quite numerous in Herastru Park. Around them, we find benches that visitors can sit on and watch the landscape, the water spilling from these fountains, or read books. The fountains in Herastru Park have different sizes and shapes (round, rectangular, etc.). The Herastru Park is also equipped with many cubicles where visitors can get water for

drinking. The lake is crossed by backyards. The island of roses is connected by two bridges which make it possible for visitors to visit this island of rare beauty (Iliescu, 2003).



Figure 6. Canoes in lake of Herastrau Park

The Botanical Garden is the oldest historical garden in Bucharest. Here we meet over 10,000 species of plants unique in our country. The water element is also encountered in the Botanical Garden being under two forms: static (lake) and dynamic (waterfall, and artesian fountains). There is an island on the lake and the access to the island is made by bridges connecting the shores of the island lake. The lake and the waterfall gives you a sense of tranquillity when you are near it. The artesian fountains through the splashing water give you the feeling of joy, relaxation, soul fulfilment. The mirror of the lake also creates a relaxing state (Figure 7).

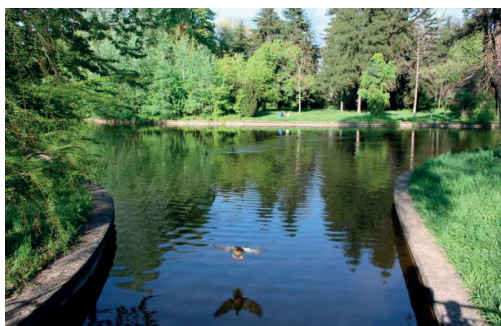


Figure 7. Lake in The Botanical Garden

The Agronomy Garden within USAMV of Bucharest also has a very well-defined water

element, both in its static form (lake, pond, and basin within the botanical garden), as well as the numerous artesian fountains (the Faculty of Agriculture and the Faculty of Land Reclamation buildings). The water element is not very extensive in the Agronomy Garden, but it gives you a relaxing state when you are around artesian fountains. The pools in the Botanical Garden are of a round shape and the water is very poorly represented. Initially, one of the pools was designed to grow fish species to delight visitor views. The pond does not have a very large size but its shape and its surrounding by many dendrological species give you the impression of relaxation. If you are near the pond, it is impossible not to stop for even a few seconds to contemplate the water mirror, the picturesque scenery, and the tranquillity that surrounds this wonderful place (Figure 8).



Figure 8. Small pond in the Agronomy Garden

Ioanid Square is the smallest historical park in the present research. The water from Ioanid Square is represented by the static form (a small lake) but also the dynamic form (a small waterfall). The lake and the waterfall are surrounded by both rocks giving the impression of a soothing place. The lake is crossed by a very small decorative wooden bridge, which attracts a lot from the visual point of view. The waterfall overflowing gives the visitor a quiet, well-being, looking-and-seeing continuously as the water runs through the rocks. Relaxation is the word that can best be used in this case (Figure 9).

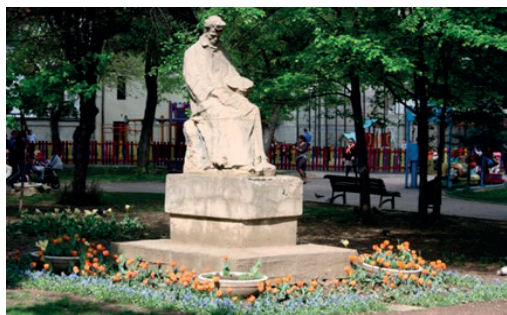


Figure 9. Statues in the Ioanid Square

In all the parks and gardens studied in the present research, besides the element of water that is encountered in static and dynamic forms, we find a lot of vegetation and greenery (trees, shrubs, lianas, annual flowers, biennials and perennials, etc.) The visitor may be protected from summer heat but also from dust pollution and noise from the city.

Also, in the parks of the present research we found various decorative objects.

The parks under study in the present research are very old and are included in the national patrimony of historical monuments: Cismigiu Garden (1830), Kiseleff Park (1832), Carol I Park (1900 designed, 1906 inaugurated), Herastrau Park (1930-1935 inauguration of marshland and inaugurated in 1939), Botanical Garden (1870), Garden of Agronomy (1870), Ioanid square (1870).

Analysis of questionnaire results

According to the data for the water element questionnaire in the parks, it was found that of the 20 respondents, 64% were female and 36% male (Figure 10).

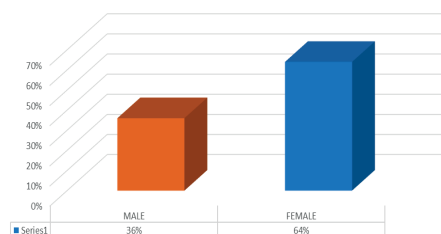


Figure 10. Distribution of gender in the target group

The respondents were aged 74% between 25-50 years, 16% over 50 years, and 10% under 25 years of age (Figure 11).

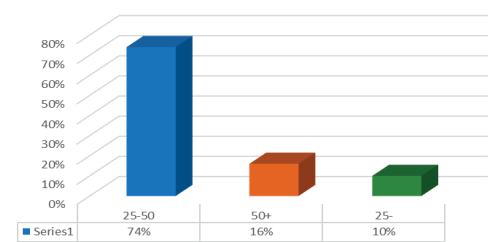


Figure 11. Age of respondents

The level of formal education for those who completed the questionnaire were from secondary schools (high school), 69%, respectively, to higher education, 31%. The data presented in the questionnaire show that most respondents (69%) have average education.

1. To Question 1, "What is the reason why water should be used in parks?", the respondents gave the following answers: they create relaxation, leisure, irrigation, and consumption, vegetation maintenance, and beautification of the park, because it is useful to nature, for recreation, water is considered as an aesthetic element in parks, but also to positively influence the human psyche. Water is also used for irrigation, watering, relaxation, and aesthetics according to other respondents. Water can be used for recreation (water sports). Respondents also mentioned that water can be used to water (irrigate) green areas as a necessity for both humans and plants, but also as a basic compositional factor (Figure 12).

What is the reason why water should be used in parks?

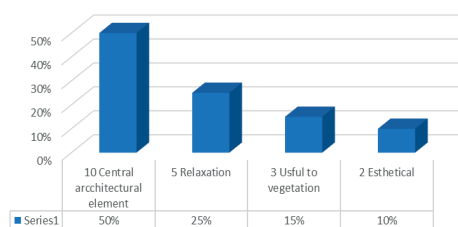


Figure 12. Possible aims for water used in parks

2. On question 2, "Do you think water is an aesthetic centerpiece in parks?", respondents answered as follows: 100% said yes, and 0% said they did not.

Also, 10% of respondents mentioned that water reduces atmospheric drought, 15% has an aesthetic role, 20% creates relaxation, 25%

looks good and 30% responds that it enriches the landscape.

3. For question 3, "Do you think water should only be used for parks irrigation systems?", 95% of respondents mentioned that not, and 5% said yes.

As arguments the answers to this question have been varied as follows: the water gives a relaxing state, it is used for dendro-floral watering, the water maintains the life of the plants, the water induces a cool state during the hot days, ensures the watering of the fauna in the park, etc.

4. At question number 4, "Do you know a historic park in Bucharest that uses water in any form of it? (irrigation, rivers, streams, lakes, waterfalls, artesian fountains, water games). What are these parks?", the respondents answered as follows: 45% mentioned Herastrau and Cismigiu, 30% Cismigiu, 20% Herastrau, 5% do not know.

As the arguments of the question, the interviewees replied as follows:

- Herastrau Park, because it's very nice to bring your girlfriend to a boat that you only find, being forced to have full confidence in your forces.

- The Cismigiu Garden, because the bridge has its purpose in the water, we cross the bridge from one shore to the other, exercising the tiny triumphs of life, which heal our souls, and the sails here pray mirrored in their own depth.

5. In question 5, "Do you think that the recreation / relaxation function of lakes or ponds in parks is important?", respondents answered as follows: 100% - yes and 0% - no.

The answers were argued as follows: boat rides, relaxation, fun, sport fishing if they are also populated with fish, etc. (Figure 13).

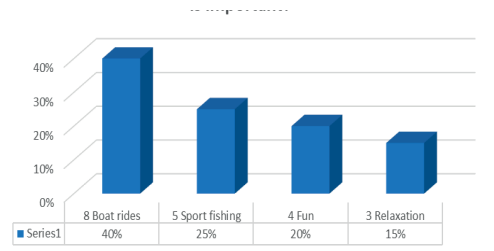


Figure 13. Possible functions of the lakes

6. In question 6, "Do you know parks in Bucharest that have artesian fountains?", respondents answered: yes - 85% and 5% - no, and 10% did not answer.

To the question "Specify which?", 25% of respondents mentioned Herastrau Park, and 75% specified other parks such as I.O.R., Cismigiu, Tineretului, etc.

7. In question 7, "Do you know parks in Bucharest that have lakes or ponds?", the respondents mentioned the following: 75% - yes, 15% no, and 10% no answer.

In the question "Specify which?" The respondents gave the following answers: Herastrau Park - 15%, Cismigiu Park - 10%, the remaining 60% - Herastrau, Cismigiu and 5% - I.O.R.

8. To question 8, "What feelings are you induced when looking at a lake or a pond, basin, etc?" Were the following answers: 20% - quiet, 20% - quiet and relaxation, 20% - relaxation, 10 % joy, and 30% other responses like revival, harmony, calm, introspection, meditations, etc

The respondents' arguments to this question were the following:

"When you look at the water of a lake, at that moment you feel more relaxed, more quietly think of different beautiful things, you feel freer. You also feel a revival, a harmony, and a propensity for meditation. Looking in the water of a lake, you actually look deep into your soul, you become gentle better and more reconciled with yourself. Water inspires quiet, a new beginning."

9. In question 9, "What are states of mind are you induced by the strands and/or fountains in the parks?", the respondents mentioned that: the waterfalls and waterfalls in the parks give them a state of relaxation, well-being, quietness, of joy, of joy and happiness, of good mood and creativity, of energy, of coolness, of sleeping, etc. It is noted that most respondents mentioned that they are relaxing when they are near the waterfalls or artesian fountains in the parks (Figure 14).

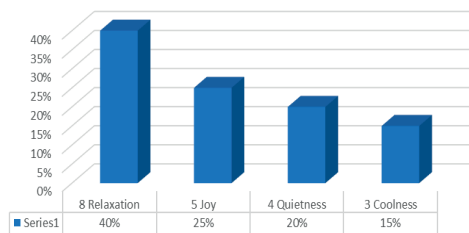


Figure 14. Effects of the fountains in the parks

CONCLUSIONS

The results showed that all the parks, historical gardens and squares studied contain the element of water. And the degree of response between females and males was there is an attraction to water (lakes, ponds, pools, and artesian wells). Water is perceived by the visitors in all designed form.

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