Zen gardens; It is a garden concept that was born and developed in the Far East as a result of the “zen” culture and has taken its place in the western geography today. These gardens contain sand, rocks, grass, etc. They are known as dry gardens created with the use of natural materials. It is often said that zen gardens represent nature and the earth. It has been learned that Zen gardens have healing effects thanks to their peaceful and relaxing effects. In this study, the design features of zen gardens were compiled as a result of literature reviews and the zen garden types in the western geography were examined and interpreted through visuals.

1. Introduction

The term “Zen” was first used as “Ch’an” in Chinese and was transferred to Western languages as “zen”. It is not possible to give a precise definition of the word “Zen”. Zen is based on a personal connection with one's own mind, regardless of religious or written record. The term “being Zen” actually means that individuals are at peace with their own thoughts and are aware of their position in the universe. Zen means both everything and nothing. It is also a symbol of zen, enlightenment and serenity. (“URL-1”, 2020). According to the thought that Japanese people give meaning to Zen culture, naturalness, simplicity and "symbolism" that comes with Zen belief dominate (Bingöl and Gök, 2020).

Figure 1. A view from the Zen Garden of Ryoan-ji (“URL-2”, 2020))

Zen gardens (Kare Sansui) are known as “dry landscape gardens” (Çınar, 2016). These gardens are peaceful places with their remarkable simplicity, symbolic expressions and integrity with nature. These gardens, which were formed by the union of the mystical spirit of the east with the eternal existence of nature, also carry the remains of a great philosophy. When Zen gardens are observed, it is seen that each material has a meaning and all elements are placed according to a certain composition and order (Bingöl and Gök, 2020).

Figure 2. An example of a Zen garden (“URL-16”, 2021))

The most important element in Zen gardens is the depiction of water without the use of water. In these gardens, a water effect is created by using materials such as sand, gravel, and rocks (Çınar, 2016). At the same time, the main purpose of these gardens with limited plant material is to create a large space effect in small areas. The reason why these gardens are historically considered unique is that they provide maximum effect using less material. (Bingöl and Gök, 2020).

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In this study, zen gardens, one of the Japanese garden arts, are discussed. As a result of the examined examples, literature reviews and compilations, it has been tried to clarify the design features of zen garden art and its modern western integrations.

2. Symbolism in zen gardens
2.1. Key elements

Every material used in Zen gardens has a meaning. The main reason for this is associated with Buddhism. This symbolist thought emerged as a result of the monks' likening the materials in nature to other materials. Usually sand or small pebbles represent water. This depiction emerged as a result of a monk raking the sand surface and comparing the shapes formed by the waves in the ocean. At the same time, as a result of Buddhist belief, there should be a stone or rock representing the center of the world in zen gardens. While this stone represents worship and Buddha, other small stones and materials around it represent children, animals or deceivers. A zen garden represents the universe, existence and nature with all its other natural elements. Generally, zen gardens symbolize the place where man and spirit come together (“URL-4”, 2020).

In today's Zen gardens, large stones symbolize mountains and hills, create decorative accents and are used as building material for paths. Smaller stones, gravel and sands represent ponds, streams, seas, waterfalls (“URL-5”, 2020).

Building and maintaining a garden plays an important role in Zen Buddhism as it promotes meditation. It is believed that while raking the sand, certain thoughts emerge and help to integrate thoughts. Zen gardens promote relaxation, focus, and peace. Rocks represent an eternal element of nature in a zen garden, and five different elements are symbolized (“URL-4”, 2020).
Kikyaku; represents the earth and the earth. It is in the form of a lying stone standing close to the foreground (Figure 5).

Shintai; it symbolizes the water element. It is a horizontal or flat stone and is often used as a foundation stone (Figure 6).

Shigyo; symbolizes fire. It is used with arches and other shaped stones (Figure 7).

Reisho; symbolizes the metal element. It is vertical and low in structure, representing the solid structure of metal (Fig. 8).

Taido; symbolizes wood and wood. It is a vertical tall stone depicting trees and is often used behind a design to avoid obscuring the view (Figure 9) (“URL-4”, 2020).

2.2. Feng shui belief

Feng Shui, It is another factor affecting the formation and development of traditional zen gardens. The concept of ‘Feng Shui’ was first used in China, then it was transferred to Japanese. Feng Shui, meaning “wind and water”, is one of the basic elements in the formation of zen gardens (Lee, 2005).

2.3. Design principles of zen gardens

Japanese stone gardens are known for their minimal design, deep, calm and sophisticated atmosphere. According to a study, it has been revealed that successful garden compositions are made by considering the design principles of the designer (Van Tonder & Lyons, 2005).

Below are the principles and techniques that today’s Japanese garden designers consider (Van Tonder and Lyons, 2005):

- Rocks form the backbone of zen gardens.
- The rocks used in the composition are placed with horizontal, diagonal and vertical lines and they represent the earth, human and divine power respectively.
- Mostly, asymmetrical rocks in triangular form should be preferred (Figure 11).
- The rock clusters should be odd numbered and have an asymmetrical arrangement.
The largest rock is positioned first and the other smaller rocks and stones are placed to match the composition of the larger rock.

Compositions can be equipped with a variety of rock addition techniques. For example, foundation stones are typically placed at the bottom of the dominant rock in a pile and can be used to widen its base and make it appear more triangular.

Using coarse, light and dark mottled gravel to create a background effect for most of the garden reduces the contrast between the rocks and the ground. Rocks and moss have a similar mottled appearance, which is effective for keeping the contrast low. The reason why fine or white sand is not used instead of these is due to the high contrast with the rocks (Van Tonder and Lyons, 2005).

4. Design features of zen gardens

4.1. Textural effects

Japanese gardeners generally prefer minimalist materials with a homogeneous texture. They avoid saturated and high-contrast colors and textures. This is because objects with high contrast tend to be distracting. The textures used are composed of natural objects, and therefore the visual perception is plain and clear (Van Tonder and Lyons, 2005).

Objects with a smooth and uniform surface provide limited contours. In visual composition, materials are reduced at each sub-step. In this way, a simple composition is created (Van Tonder and Lyons, 2005).
When looking at a garden with spherical symmetry, it is understood that the various visual effects between rock clusters remain more artificial than an asymmetrical garden, which is more original, more natural and balanced. This situation explains why asymmetrical structures and objects are preferred in the understanding of the zen garden (Van Tonder and Lyons, 2005).

5. Modern zen gardens and western integrations

Traditional zen gardens create a meaning integrity with the materials they use. Every rock and stone, every pebble and plant has different meanings and are placed in an order. On the contrary, when we look at the literature reviews and visual analyzes, it is seen that modern zen gardens, which are generally located in the western geography, are far from this unity of meaning and only appeal to visual and spiritual perception. The main reason for this is the lack of dominance of Buddhism in western geography.

Although there are inspirations from traditional gardens in modern zen gardens, great differences can be seen in some gardens. Zen garden breezes can affect not only gardens but also flooring designs (Figure 16). In addition, in modern zen gardens, object and material placements that do not comply with traditional garden design principles can be encountered. The use of natural materials, informal use of stones and rocks, which we can call indispensable in traditional zen gardens, can be very different in modern zen gardens. For example, while stones and rocks that can create a triangular, flat mountain silhouette are preferred in a traditional garden, rocks or artificial objects in formal, spherical or prismatic shapes can be used in a west integrated zen garden (Figure 17).
The effect of Zen gardens can be seen not only in its current variations, but also in other modern garden designs. Although it does not carry the name “Zen”, techniques used in zen gardens or similar can be applied. Modern gardens that do not have stones and rocks, which are indispensable materials of Zen gardens, or that have only visual resemblance, carry and remind the traces of zen gardens, even if they are not a zen garden (Figure 18, Figure 19).

6. Mental effects of zen gardens

Zen gardens have been used since ancient times to help spiritual development such as meditating, relaxing and finding peace (Bingöl and Gök, 2020). A zen garden with correct uses can have a positive psychological effect on the audience and can heal many mental illnesses such as depression (Fard & Saflarian, 2017). This feature of Zen gardens shows that it is a healing garden suitable for various health institutions.

7. Discussion and conclusion

As a result of the literature review and visual analysis, the design principles and features of zen gardens were revealed, modern western integrations were examined and interpreted. It is clearly understood that “Kare-sansui”, i.e. zen gardens, which emerged in line with the various beliefs of the Japanese people and survived to the present day, have a semantic integrity. Today, this garden concept, which is also called “dry landscape garden” and where water is not used, stands out with its use of simple materials. It has been seen that this garden concept creates a wide environment effect in small and narrow spaces. It has been understood that the zen gardens, which are created with homogeneous textured, symbolic meanings and an asymmetrical arrangement, have effects on human psychology as well as the mystical atmosphere.

Zen gardens have gained popularity not only in far eastern countries but also in western geography, and similar modern garden integrations have emerged. While some of these gardens are understandably a derivative of zen gardens, some have been found to be only partially similar to zen gardens.

It has been suggested that zen gardens and their derivatives, which have been observed to have positive psychological effects, also function as a mental healing garden. In this context, zen gardens and their modern derivatives can be preferred in landscape architecture applications with their relaxing, peaceful, healing properties and simple designs. In addition, it can be a functional garden concept in terms of evaluating small and narrow spaces.

Zen gardens, also known as dry landscapes, are gardens where the harmony created with sand and stones comes to the fore. The two essential elements of Zen gardens are stones, which evoke mountains and islands, and sand, which evokes running water. Islands, another important element, symbolize health and longevity according to Zen beliefs. Bridges, on the other hand, are considered as a means of both crossing the “sea” and connecting one island to another. These gardens, built by the people of Far East origin, who yearn for nature and water, in a miniature garden or a small area within the framework of their own beliefs and life philosophies, appear as a reflection of the calm, still, stagnant lifestyle.

In a Zen Garden designed on a large rectangular table, everything should be very well planned, very simple, plain and real. All materials used in the garden, which is planned with great care, should be chosen in terms of form and color, both in itself and in harmony with other materials.

In short, a Zen Garden is a variation of a Japanese Garden that includes sand, gravel, rocks, and sometimes grass or other natural elements. In Zen gardens, bamboo, cactus and similar succulent (with fleshy leaves) should be chosen from plants that can grow in sand, durable and with distinct forms. In addition, water channels and zen sculptures can be preferred in these gardens in accordance with the design concept.

Declaration of Conflict of Interests

The author(s) declare(s) that there is no conflict of interest. They have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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