

## **O 11. THE EFFECTS OF COLOR CHOOSING IN MATERIALS ON LANDSCAPE PROJECT DESIGNS**

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**ABSTRACT:** Colour types have psychological and visual effects on humans that cannot be ignored. In fact, it is one of the most effective elements of design. The colour element in landscape designs is a factor that should definitely be evaluated in terms of design. The phenomenon of colour, which is closer and more effective to our senses. Also, it is perceived even by people who do not react to other elements. It directs people towards the inner world thanks to the vibrations it creates spiritually. It is possible to saturate our aesthetic and harmonious desires unique to our own tastes with colours. Colours alone may not explain an element; but it is enough to express a feeling and a thought. Human beings are always in interaction with the environment and nature. In this context, the psychological, physical and biological needs of the human being must be met in the best way possible. At this point, the task falls to the designers. In this study, the place, importance of color in landscape architecture and its use in landscape designs were mentioned with examples.

**Keywords:** *Colour and landscape relationship, Inanimate Materials*

### **INTRODUCTION**

While psychologists have been investigating what effect color has on the human psyche, a phenomenon that has been emphasized by people since ancient times, it is studied as light by physicists and in terms of aesthetics it is considered by designers as a part of the architectural whole (Gulgun et al., 2014; Ankaya et al., 2018; Yazici ve Temizel, 2020). Color is the effective expression that light hits on objects and the reflected rays created in our brains. In other words, colors are a phenomenon that exists with light and human eyes. Apart from the formal roles that colors assume when defining a space, there are also roles that causes that space to be perceived differently in psychological terms. With colors, it is possible to see objects warmer or colder, heavier or lighter, farther or closer. In addition, it gives personality to objects, defines, guides and warns (Alakuş, 2009; Öztan, 1996; Yazici et al., 2018). Colors are an important design element in landscape designs. However, the color element in landscape design is not only a design element related to the plant material, but also the basic features that make up the theme in many inanimate or structural elements (water, soil, rocks, wall and floor surfaces, reinforcement elements, etc.) that complement the design. When color harmony is realized with these basic elements, correct and positive effects will be created (Altınçekiç, 2000). Functionality is also important in the use of color. The colors used should be suitable for its purpose. Only in this way the space reaches its goal, gains its character, provides its aesthetic conditions and completes its function (Özdemir, 2007).

### **THE RELATIONSHIP BETWEEN COLOR AND SPACE**

Colors make its effect felt with the texture, form and light used together of the materials used in the spaces. The concrete combination formed as a result of this turns into an aesthetic taste with psychological effects. Since colors have symbolic, formal and functional properties, they affect the visual and life comfort of the spaces. While choosing the color, it is important to know the dimensions of the space at the same time. Colors are preferred in line with the task the spaces will undertake, because colors can show the space narrow-wide, high-low.

Since colors have the feature of showing the building materials or objects in the space they are used in to be more larger-smaller, wider-narrower, lighter-heavier than they actually are, it is important that we

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use appropriate colors to create the desired effect. The preference of cold and light colors in spaces surrounded by narrow, boring and high walls creates a feeling of spaciousness on the users. The use of full-dark colors in large areas eliminates the negative effects of these spaces and creates a sense of narrowness, confidence and comfort on users. Likewise, contrast colors affect the sense of width when used horizontally in a space, and the sense of height when used vertically (Özçalık and Eskisarılı, 2019; Alper and Yılmaz, 2004).

All colors reveal the effect they have and the emotion they create depending on the colors used together, the effects of the environment and the ground. The most important situation in this relationship is harmony and contrast. The harmony of colors with each other strengthens the spatial effect by giving the individual feelings such as confidence and comfort. With the use of contrasting colors, colors increase each other's intensity and create the center of attention in the space and help draw attention to that point (Reekie, 1972).

Monochromaticity should be used in spaces that integrate with nature. The effect of this on users will be calmness, a sense of order, uniformity. Furthermore, the use of materials in their natural colors in these spaces is more harmonious and offers an aesthetic and reassuring effect on the users, (Spulmann, 1994). Colors play an important role in stimulating users in a space. On the other hand, they help in developing perspective and understanding the nature of a building. Colors such as white and gray have always been preferred by architects and designers; however, many architects acknowledge that the effects of these colors can now be gloomy and insulating. In this sense, in order to create more livable and harmonious spaces, new color selection approaches should be developed today. In the past decade, cities such as London and other European cities that are gray in general have had renewed identities with more modern and invigorating functions, with the use of bold colors in the façades and interiors. Many architects have considered this update to color as a revolution. Renzo Piano's Central Saint Giles building in London can be given as an example. However, depending on the materials used as the cultural and local values of the cities such as stone and limestone, some cities are defined by a unique natural color. In such a part of the city, the color of the material establishes the identity of the city.

### **THE PRINCIPLES OF USING COLORS IN LANDSCAPE DESIGNS**

The color element in landscape designs is not just a design element that contains plant material. Many non-living and structural elements (water, soil, floors, rocks, wall surfaces, reinforcement elements, etc.) that complete the design are also basic features. When used together with these basic elements, correct and positive color harmony will be seen. Color preference in the arrangement of a space is an important issue that needs to be addressed with knowledge and care. Otherwise, it may have negative effects on users. For this reason, it is useful to choose the color by evaluating the direction and angle of the light, cultural structure, social judgments, functionality, material selection and climate.

Because colors to be used in the spaces to be created will substantially affect the users, use of the space and its preference. Designers should take into account the fact that the color of the material and the color of light affect the visual perception together (Porter and Mikelić, 1976). The efficiency of the color present in the designs to be created increases in proportion to the appropriate color scheme. The principles of using colors in landscape design studies; it is possible to summarize it as defining the space, providing the relationship between function and form, creating a visual effect and facilitating visual perception. In the light of this general explanation, these principles can be listed as follows:

- Landscape design should not be considered as a structural activity only. The use of color should not be seen as an accessory or an extra case to be evaluated after design. While designs gain meaning with color and lighting, it should be taken into consideration that user qualifications and wishes should also be taken into account in coloring.
- Monochrome should be used in spaces that integrate with nature. The effect of this on users will be calmness, sense of order and uniformity. In addition, the use of the materials in these spaces in their natural colors is more harmonious and offers an aesthetic and reassuring effect on users.
- Using harmonious colors in natural and long-term use areas is relaxing, peaceful and reassuring on users, and it does not feel boring.
- Multi-color should be preferred in children's playgrounds and entertainment areas. The effect on users will be in the form of vitality and diversity.

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- Contrasting colors should be preferred when an interesting space is desired to be created. The effect is stimulating and exciting. Interesting features are added to the design with the correct use of contrasting colors (Spulmann, 1994).
- The preference of cold and light colors in spaces surrounded by narrow, boring and high walls creates a feeling of wideness and spaciousness on the users. The use of full-dark colors in large areas eliminates the negative effects of these spaces and creates a sense of narrowness, confidence and comfort on users.
- The use of neutral colors in spaces with transitional purposes increases the general characteristics of the space. It provides trust and harmony effect by protecting it (Alıçekiç, 2000; Çalıřkan and Kılıç, 2014).

Brookes (2009), on the other hand, has addressed the color selection as follows.

- What kind of purpose the landscape area will serve should be decided. For example, if it is designed as a vibrant garden, warm colors (yellow, red and orange tones) should be preferred. However, if a more calm and serene garden is to be designed, cold or pastel colors should be preferred.
- In garden designs color has a strong effect like sound and odor elements. While choosing the color, factors such as the location of the garden, the state of being sunny, the building materials used should be taken into consideration. In fact, choosing colors by considering the color used in the building, if any creates a sense of unity between the building and the landscape.
- Another important point in color selection is to decide how the application area is designed and the choice made accordingly. For this reason, every preferred element from flooring materials used on walls and floors to reinforcement and plants should be considered as a whole since they will be used together.
- The light effect should also be calculated in the project area. The effects of colors on the perception of the space differ with the effect of the light at different times of the day. Since light colors reflect light, they create a bright and soft effect in the morning and evening, while they look pale in the noon hours when the light is strong. On the contrary, as dark colors absorb light, they look vibrant and attractive at noon, but may not be interesting in the morning and evening hours.
- Plants should not only be evaluated as green in landscape designs. It will be possible to achieve a beautiful harmony in designs with a composition to be created using various color tones.
- Also, knowing the blooming time of the plant varieties to be selected, the harmonious plant varieties can be selected and the best visual feast can be created in the gardens all year round.

**The importance of color selection in herbal designs and materials**



a- Color selection in building material (Url 1)



b- Color selection in building material (Url 2)

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c- Building material and plant color harmony (Cool colors (Url 3))

d- Color selection in children's play element-Warm colors (Url 4)

**Figure 1.** Color effect in building materials



a-Url 5



b- Url 6



c-Url 7



d-Url 8



e-Url 9



f.Url 10

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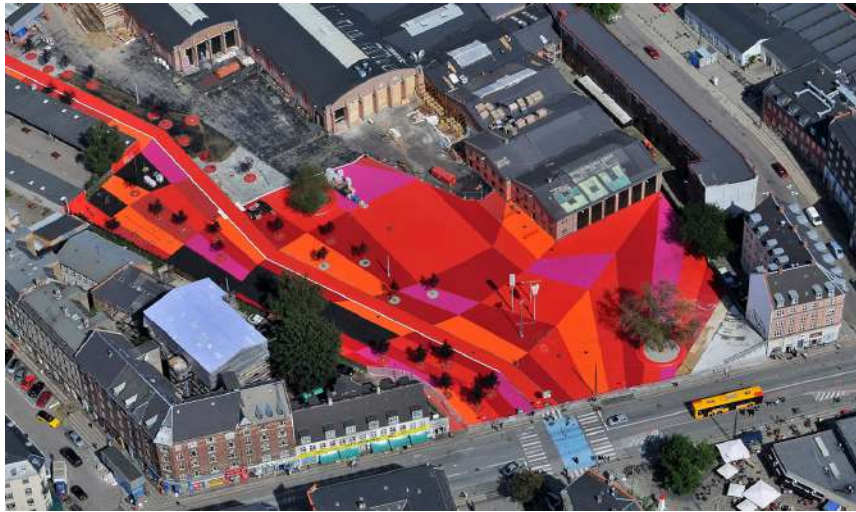


g-Url 11



h-Url 11

**Figure 2.** Examples of the relationship between landscape and color in Public Spaces



**Figure 3.** Superkilen a park design in Denmark (Url 12)



a-Url 13



b-Url 14



c-Url 15



d-Url 16

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e-Url 17



f-Url 18



a-Url 19



b-Url 20



c-Url 21



c-Url 22

**Figure 5.** Color effect on materials and color effect in plants



**Figure 6.** Expo 2016 Antalya

As seen in Figure 6, beautiful images emerge when the color of the shading element matches the planted flowers (Url 22).

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### CONCLUSION

How the use of the concept of color in landscape design in terms of functionality and aesthetics in landscape architecture affects human beings and how it affects not only human beings but also living things on nature has been mentioned. Conceptually and psychologically the dimension of the functions of color has also been referred to as well.

Landscape architects should include suitable colors for the design and function while planning the functionality in the spaces they will create. This phenomenon, whose primary role in visual perception is indisputable, should be used with knowledge and care in the design process. Because color is a design element that directly affects the use of spaces and users.

Colors are included in landscape designs as well as in every aspect of our lives. Although choosing the right color seems easy for landscape architects, it is actually quite a challenging process. The correct color selection used in the material meets the aesthetics need in human life. For this reason, while choosing the appropriate materials in landscape project design; functional and aesthetic features are important. Colors; since the traditions and customs of societies carry different meanings and messages in their cultures, it is necessary to touch people in the right places and with the right effects. The colors to be included in a space should be of the type, tone and value appropriate to the function assigned to the space, it should be evaluated with a good analysis without ignoring the message to be conveyed to the user through color or the psychological effect desired to be reflected, and the color selection should be made accordingly. Design of attributes gained through color; it adds value and meaning to the design by influencing it with its aesthetics, form and dimension.

The methods to be applied in line with these principles make the designs more effective and more striking. When all information is taken into account, the colors to be used in their designs are of great importance for landscape architects.

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