

# Education influence of artistic elements and principles on the street network

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## Abstract

*The street network as an element of urban and spatial planning of settlements forms the skeleton of the settlement and creates conditions for orientation in the general landscape. Roads should be traced not only as convenient roads but also for economical construction. In comparison to this important functional significance there is aesthetic visual quality of the roads. In the theory of park art, term composition means - arrangement of individual plants or combined with dead materials so as to form a harmonious whole subordinate to the artistic idea. The main theoretical works in park art are closely related to the principles of the general theory of composition.*

**Keywords:** Park, Design, Street, Principles, Art

## 1 Introduction

The green system is an important spatial structural and functional part of the settlement and the upland territories, which solve a number of tasks for improving the environment.

"Designing a street according to its likely use is a reasonable but unusual practice," says Plato in 1917. We strongly believe that streets, squares and public spaces are a vital element in every region and city, a component that contributes to the revival of the city. The street network as an element of urban and spatial planning of settlements forms the skeleton of the settlement and creates conditions for orientation in the general landscape. The organization of places for extra-urban recreation is unthinkable without good transport links at these places in urban areas, i.e. branched rational network of roads (Boubekri et al., 2014).

The formation of principles and the prediction of the effect of green systems planning are closely related to the definition of the nature and content of the concept of "green system". In the present work the definition of Prof. arch. Atanas Kovachev, which is formulated on the basis of the existing urban and park development theory and practice:

"The green system of the cities and other settlements is a set of functionally planned and spatially connected park - urban units (public and service green areas) within the range of the settlement and the peripheral territory, corresponding to quantitative parameters and qualitative indicators. The green system, under the specific natural and anthropogenic conditions, provides the biologically active part of the living environment of man and his society through the connection between the individual elements and the development zones of the urban organism with the natural environment and provides an ecological and aesthetic environment for the development of the different human functions."

Street landscaping is part of the green areas for wide public use (SPS) and it is an element of the town's general urban plan (Gordon, 2015; Despot et al., 2017). We defined this as a park arrangement of the streets in the settlements, which means that besides the plantations in the streets there are also green strips (areas) - middle, dividing, front gardens, which give great opportunities for a park arrangement recreation, playgrounds, architectural elements, cafes and kiosks, etc.).

## **2 Composition and skill principles**

The composition is one of the most important concepts in all arts originating from the Latin composition, which means the presence and connection of elements or parts of a work of art in a single system. The term & quot; composition & quot; means composition, bonding, association (Nedeva et al., 2013; Stoykova, 2014).

In the theory of park art, term composition means - arrangement of individual plants or combined with dead materials so as to form a harmonious whole subordinate to the artistic idea. It can be static, dynamic, closed, open and free.

The main theoretical works in park art are closely related to the principles of the general theory of composition.

The combination of vegetation in landscape design is also subject to the principles of unity, expediency, proportion, balance, and so on.

Knowledge of the elements is of great importance for the formation of the road composition (line, offset and shape, vale, paint, direction, size) from which artistic principles are established (expediency, color, scale, proportionality, equilibrium, symmetry and asymmetry, contrast, shade, equality, diversity, repetition (rhythm), categorical contrast), and they are the regulators of any project work that defines the interrelation of the elements in it.

## **3 The influence of artistic elements and principles on the street network**

The artistic principles and elements are a guide for designers in organizing elements for a visually satisfying landscape. Knowledge of design elements and principles is essential for designing an open surface (landscape) and working in the road design process.

The elements of the compilation are the visual qualities that people see and react when they look at the space in our case this is the road (Despot et al., 2014). Visual effects can forbid many different emotions and feelings and the more positive these feelings are, the more likely people are to enjoy and use space.

Perhaps the most common element in the composition is the line. The line creates all shapes and patterns and can be used in different ways in building the landscape.

The landscape line is created between the edges of two materials, the contour or the shape silhouette or a large linear function. Lines are a powerful tool of the designer because they can be used to create infinitely many shapes and to control the movement of the eye and the body. Landscape designers use lines to create patterns, create spaces, create forms, control movement, establish dominance, and create a cohesive theme in the landscape.

Line properties determine how people respond to the landscape, emotionally and physically. The right lines are structural and compelled; they create a formal character, usually associated with a symmetrical design, and direct the eye directly to the focal point. The diagonal lines make the lines in a deliberate direction. Curved lines create an informal, natural and calm character that is more intimate with nature and asymmetric balance. Curved lines slowly move the eye and add a mystery to work by creating hidden views.

The appearance is created by the contour of the enclosed space, and the shape is the three-dimensional mass of appearance. The shape of the structure, the plants and the garden elements

also determine the general theme of the space. Formal geometric shapes include circles, squares and polygons.

Form is the most durable quality of plants. Ordinary plant forms are well established and standardized, and the shape is the most conventional and recognizable plant features. The shape is very powerful because people often recognize and identify an element depicted on a contour or silhouette.

The texture refers to how rough or fines the surface of the plant feels and / or looks. The texture is used to provide variety, interest and contrast.

The greens, flowers, bark, and the whole structure of the branch have a texture. The shape and size of leaves often determine the perception of the structure of the plant. A plant can be described as rough, medium or fine texture.

Acute textures are dominant and tendencies dominate in color and shape, and the fine texture is finer for other textures and tends to unite the composition.

Paint is the most visible element in the landscape and is often the focal point of most of the Demure fans; however, it is also the most temporary of an element that often lasts only a few weeks a year in individual plants.

The use of colors is determined by the theory of colors (using a color wheel) to create color schemes. The simple description of the color wheel includes the three basic colors - red, blue and yellow; the three secondary colors (when mixing two basic colors) green, orange and violet and the six third colors (when mixing one primary in the adjacent and one secondary color) as red-orange.

The color theory explains the relationships of the colors to one another and how they should be used in the composition. The main color schemes are monochrome, analog and complementary. Color is an important element for creating interest and diversity in the landscape. Color has properties that can affect emotions, spatial perception, light quality, balance, and accent. A color property is described by the relative temperature - the colors look warm or cold and can affect emotions and feelings.

Visual weight is a concept that combines certain features that are more important in composition based on their mass and contrast. Some areas of the composition are more noticeable and more sensitive, while others are lost in the background. This does not mean that the background features are not important; they create a cohesive appearance by linking the high-visibility features and providing a place for resting the eye.

Compositions where all the features have a high visual weight often seem chaotic because the eye tends to jump between the characters. High visibility usually comes from a group of plants with one or more of the following characteristics: vertical and unusual shapes, large domains, bright colors, thick textures and diagonal lines. Low visibility is found in horizontal lines, broken or low shapes, fine texture and muted or dotted colors.

The harmonic composition can be achieved through the principles of proportions, order, repetition, and singularity. All principles are linked and their use helps to achieve another.

Physical and psychological comforts are two important principles that have been achieved through the use of these principles. People feel more psychic comfort in a landscape that has order and repetition.

- Proportions. The relative share is the size of an object relative to another object. The absolute proportion is the scale or size of an object. An important absolute percentage is the human scale (the size of the body), since the size of the other objects is considered to be relative to man. Vegetable materials, garden items and ornaments should be related to human scale. Other important relative proportions include the size of the house, the yard and the area where it is to be planted.

- The human dimension is also important for the psychological comfort of empty and open spaces. People feel safer in small open spaces, such as patios and terraces. An important conception of spacious comfort is the enclosure. Most people feel light with some overhead protection that points to the ceiling. Overloading must not be solid; in fact, an unintended breeding, such as tree branches, provides a good psychological enclosure that allows the light to pass through to the sky.

Red. The order generally refers to spatial layout and organization of design and most often works through balance. Balance is a concept of equal visual attraction and weight, usually around a real or represented center axis. The shape, color, size and texture also affect the balance. The balance can be symmetrical, asymmetrical and perspective. Order can also be achieved by massive elements or elements in different groups, located around a central point (Sandeva et al., 2015).

- Symmetric balance. Systematic equilibrium is achieved when the same objects (mirror) are placed on both sides of the axis. This kind of balance is used in formal design and one of the oldest and most used concepts of spatial organization. This is because the brain divides the space on an imaginary central axis and then requires an even distribution of objects or mass (visual weight). Many historic gardens are organized using this concept.
- Asymmetric balance. Asymmetric balance with the same visual weight of uneven forms, colors and textures on both sides of the axis. This equilibrium is informal and is usually achieved by masses of plants that seem to have the same visual weight over the total mass.

Mass can be achieved by combining plants, structures and garden ornaments. In order to create a balance, the features of large sizes, thick shapes, bright colors and coarse textures look heavy and should be used moderately, while small sizes, rare shapes, gray or protruding colors and fine textures look easier and need to be used in larger quantities.

- Prospective balance. The perspective balance is responsible for the balance of the front, middle and background. When we look at a composition, the objects in front are usually high in visual weight because they are closest to the viewer. This can be balanced if you want, with large objects, lighter colors or heavy textures in the background. In most cases, the front or background should dominate.
- Repeat. Repeat is done by reusing elements or features to create patterns or sequences in the landscape. The repetition of lines, shapes, colors and textures creates waves in the landscape. Repetition should be used with caution, too much repetition can create monotony and too little can create confusion. Simply repeating is the use of the same objects in a single line or grouping of geometric shapes such as a square in an organized branch (Sandeva et al., 2017).

Grading, which is a gradual change in some functional features, is another way to make the repetition more interesting. An example may be a square shape that gradually becomes smaller or larger.

- Unity. Unity is achieved by linking elements and features to create a limited character in the composition. Unity is sometimes called harmony, a concept of general fit. For comparison, scattered piles of plants and unrelated garden elements are opposed to unity. Unity is accomplished through domination, inner bonding, unity in three (described below), and the simplicity of outlining colors, textures and shapes. Although paper and plants can be delayed by merging similar features, some variety is important for interest creation. The easiest way to create unity is by using a design theme or design style. Design themes and styles have a well-defined set of features that have retained their popularity over time as many of them are visually satisfying.

Characteristics that are grouped in three or other groups of odd numbers as a group of five or seven feel more balanced to the eye and give a strong sense of unity. Odd numbers indicate

different variations in height, such as small, medium and large, giving more interest. Odd numbers are often viewed or perceived as a group and are not easily divisible and visually separated like steam, worms.

- Application of Design Principles and Elements. Although it is useful to know the elements and principles of design, it is sometimes difficult to understand how to apply them. Each country presents challenges and opportunities for individual projects and expressions and requires a unique implementation of elements and principles.

The research as elements and principles have been applied in an existing design that is attractive to you is a good place to start. The best way to create a good design is to get ideas from projects that are attractive to you and adapt to our specific conditions.

### Conclusion

The main concept of landscape design is to solve problems by using gardening, artistic composition and spatial organization to create attractive and functional "rooms" with different applications. Elements (visual qualities) Line, shape, texture, color and visual weight and principles (instructions) The proportion, order, repetition, and uniqueness of design are used to create space, connect and visually mesh.

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