

EFFECT OF INTERIOR DESIGN ON HUMAN HEALTH

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Abstract: *It is known that each body in nature is an oscillator and it can reflect (reject) sound, light and waves. Hence, depending on the: shape, material, color and position everything can be reflected on people's health and mood in that environment. The old nations have known about those influences and paid attention to the shapes of the interior and the places of living. It was not by accident that they chose colors for mourning, celebrations and similar, where through the color they gave the information of the condition of the soul.*

Introduction

It is known that the shapes and the colors have certain effects on our mood and health. Our home is the only place in the world which is only ours, a place where we can get rid of all restraints and relax. It is a safe and intimate place where we can freely express and behave ourselves. Therefore, the thing that we will choose to surround us in our sacred and intimate place is one of the key elements and factors for our overall emotional well-being. The color and the shape are the two basic elements which are incorporated in the interior's design create balance and harmony. The colored objects which are focused on the shape serve as an important (focal) point in the monochromatic and colorful design. Knowing some of the fundamental principles of design, you can help yourself to create a nice space. When one space is well-designed you will feel comfortable when you enter it. It can be felt that everything is in cohesion and everything is at its own place. One of the ways to achieve such feeling is by applying balance. The word *balance* itself represents peace and stability. That is what true balance can bring to a well-designed space. Balance is created not only through shape but also through color and texture. When the room is not in balance then people will feel unbalanced when entering or staying in it. Despite the fact that the shape is oscillating and is redirecting energy in space, it is also quite important in terms of practical application in space. Hence, the main branches of the construction technique are architecture and building. The architecture is an activity which is engaged in projection and artistic shaping, creating building capacities and spaces. The architects project buildings, bridges, neighborhoods and cities, interior design of flats (interior), business buildings, etc. Building is an activity, which with the help of technical means, it deals with building the thing that the architects have envisioned and projected. The architecture and building make up a whole. In the past people were mostly thinking how to come across a good tool for work, weapon for hunting and fishing and of course to find a better shelter from the enemies and weather disasters. The first shelters were caves, but later people started making shelters as dugouts, stilt houses etc. The struggle to survive and the pursuit for a better life made people improve the living conditions. Therefore, building is one of the most important and the oldest human activities.

Material and methods

Besides the color and the shape, surveys also cover the architecture of the buildings by epochs, which individually speak about the old nations' deeper knowledge of the impact of the shapes and the colors.

Architecture

Styles of building, The building style is a way of shaping the buildings' characteristic for one epoch. The most famous building styles are Egyptian, Mesopotamian, ancient, roman, baroque, renaissance, gothic, byzantine, modern and etc.

The shape of all old styles such as the Egyptian, Mesopotamian and ancient is that all constructed buildings had been dedicated to their gods because they believed in the afterlife.

Old Egypt

Egyptian and Mesopotamian architecture are considered as the center of architecture (basis). The stone had been the basic building material. The things that were mostly built were temples and tombs in the shape of pyramids.

Mesopotamia is an area between Tigris and Euphrates (today Iraq) and is considered to be the cradle of human civilization. The main contribution in Mesopotamian architecture is the findings of building arcs, vaults and domes. The only building material that has been used is the earth from which they made bricks. This is the way the big cities of Ur and Babylon have been created.

Ancient architecture

The architecture of the ancient people in which the dominating were the Macedonian dynasties and the Macedonians is considered to have been created by the old cultures (from Minor Asia and the Mycenaean culture) and was developing from VII until V century BC. The temple had been the main carrier of the architectural style, which was built to honor a certain god. The most important part of the temple is the pillar. There are differences in the looks of the pillar in the ancient architecture out of which later on different styles emerged: Doric, Ionian and Corinthian style of building. The building material had been the stone, mortar, brick and wood. In the freemasonry, those styles are still fostered in their lodges, picture 1.



Picture 1. Freemasonry lodge with the three pillars of different styles

The Roman style during the reign of the Roman Empire, the Roman style of building features large arches, pillars, vaults and decorations. Thermae (baths), temples, theaters, triumphal gates, Roman basilicas, bridges, aqueducts, viaducts, castles streets are Important works of Roman architecture. As far as the architecture of Roman art is concerned, there is a different understanding of space and structure. From ancient times during the reign of the Macedonian dynasties and later from the II century BC, Roman architects also used concrete. The concrete could also meddle with stone and it is easier to shape. This is the way many buildings have been built and the elements of arch and dome became characteristic for Roman architecture. The walls are constructive elements, while the pillars are in the walls in the form of a pilaster. Under the strong influence of ancient architecture elements from their pillars have been used, which had been inserted into the wall construction. The buildings were built of bricks and mortar and on the surface stone was used. Romans enjoyed the pomp and splendor that is reflected in the arrangement of the interior which was inherited by the Macedonian dynasties.

Gothic style

It has been developed in the first half on the XII and lasted until XVI century in Northern Europe. What is characteristic is the skeletal construction, the forms' slenderness, broken arch - which was used at the window openings (bioforma or triforma), the portals and arches. The Gothic style was used to build sacred architectural buildings, cathedrals, palaces, bridges and more.

Renaissance architecture

Renaissance architecture emerges between the XV and XVII century. It leaves different impact in different parts of Europe. It features the revival of architectural elements by the ancient Greek and Roman architecture and emerges for the first time in Florence. The elements of Renaissance

architecture are pillars, pilasters, beams, semicircular arcs, domes in the shape of a hemisphere, aedicule and etc.

Baroque

The baroque architecture is highly dynamic, rich with pillars and vaults. The most recognizable element is the oval (ellipsis), concaveness and convexity, playful wall elements. The characteristics of the baroque are the decorated facades, ample indoor and outdoor decoration.

Byzantine architecture

Created in the areas of the Eastern Roman Empire (Byzantium) and associated with Constantinople (Istanbul), it is considered to have been created in the beginning of the 5th century. The early Christian and Byzantine architecture of the Byzantine churches in general have the form of a cross that has spokes with the same length. The space in the middle of the cross as well as all four side spaces are covered by a dome. The grouping of the half-domes around the central dome is a particular characteristic to this architecture.

Modern architecture

It features simple shapes without decorations and creating beautiful shapes on the constructional elements. The contemporary architecture begins in the 20th century and is characterized by the use of new materials such as metal, concrete, reinforced concrete, insulating materials, coating materials and so forth.

Color

The color is a form of nonverbal communication. It is not a static energy and its importance can not be changed daily for each individual. The science of colors is sometimes called "chromatics" (chromatic), "colorimetry" (colorimetry) or simply science of the colors. It includes the theory of colors' perception by the human eye and brain, the theory of color origin in the materials, the theory for colors in the art and physics of the electromagnetic radiation in the visual range (that is what we usually call light). The color is a perceptive characteristic of the light (it can be described) and it has its own name. In fact, the color is light and light is composed of many colors - the ones that we can see are the colors of the visual spectrum: red, orange, yellow, green, blue and purple. The objects absorb the light waves and reflect them on us. We perceive these light waves as colors. The color can be described in three ways: by its name, according to how clean or unsaturated it is and by the value or volume. Although pink, crimson red (blood red) and brick red (brick red) are all varieties of the color red, each shade varies according to its "chroma", saturation, intensity and value.

We need light in order to see a color. When the light falls onto an object some of the colors reflect from the object and others are absorbed into it. Our eyes only see the colors which are rejected or reflected. The sunlight contains all the colors of the rainbow mixed together. This mixture is known as white light. When the white light falls on a white crayon we see the color as white because it has not absorbed any of the colors but reflected them equally. The black crayon absorbs all the colors equally, but it does not reflect them. That is why we see it as black. While black is considered as color in art, in science black is not considered as color because the black represents absence of all colors (none of the colors are consisted in the black).

All the light rays contain color. The light consists of electromagnetic waves. These waves can diffract from any source of light such as the Sun. The light waves travel at a speed of about (300.000 Km \ s). Different colors have different wavelengths due to the distance between the correspondents (relevant parts) of two of the waves. The longest light waves which humans can see is red, and the shortest is violet.

The color is powerful visual element which serves as Code that has a deeper meaning to those who can interpret the signs. The colors enable us to interpret the image of the visual Code correctly. (Zette 1999).

For centuries people all over the world have used the colors to symbolize certain beliefs or developments, from the period of the prehistoric science Feng Shui up to the liturgical masses (services) of the Christian church. The associations that people might have for some colors are not equal everywhere. Depending on the culture or the part of the world where they live, the symbolism of the color varies in accordance with their habits, traditions and beliefs. In one culture the colors can also symbolize different things in different context which changes throughout the years. The old nations used the colors as a sign for social respect or ineligibility. Those in support of Pythagoras have shown aversion towards colors while the supporters of Empedocle (490-430 BC) believed that the color is "the soul of life and root to all existence", indicating the key natural elements: earth, air, fire and water, to be represented with the colors: yellow, black, red and white.

In order to understand the symbolism related to the colors, we have to realize in what way the meaning which is related to a certain color, had evolved throughout the history. Ever since ancient times many famous scientists, philosophers and theoreticians have tried to explore the development of

the colorful symbolism. Others, such as Isaac Newton (1643-1727), later Johannes (1888-1967) had also taken over extensive studies and surveys, but they had been oriented towards the physics of the colors and not the emotional or psychological significance.

Galileo Galilei (1564-1642) was occupied with the science of colors. The colors, as well as taste and smell, depend on who perceives them, and he explains them as a secondary phenomenon of the scientific interest in view of the objective perception of the form, the movement and the numbers. Later in his work "Treatise of Painting" (1651) Leonardo De Vinci, classifies the basic colors according to the importance, considering them as representatives of the natural elements including the light and darkness:

White – the basic (the most simple) represents the light;

Yellow – earth; green – water; blue – air.

Later J.W. Gete (1810) with his work "Fabenlehre" outlined his theory of colors (Tofcolors) that consists of the earliest and the most precise observations of the colors, the way they are perceived and the effect that they have over emotions. Even today, this theory is widely accepted as one of the basic works for the theory of colors.

Despite the fact that there are a number of studies that have dealt with all the aspects of the colors, including nature of colors and their symbolic values, scientists have never succeeded to agree and to accept a "color code". That is not even possible because the colors cannot be unified for all countries, cultures and religions. Colors cannot and should not be organized into a fixed symbol system. As a result of its subjective nature, what the color represents is a subject to variation and depends on the fact from which part of the world we come from.

Color is a fundamental visual element of the designed surrounding, which physically, psychologically and socially has an effect on the human being. Ever since prehistoric times, people have used color in the interior surrounding for different purposes and in different contexts. The interior color has esthetic and functional characteristics and often has a symbolic meaning. This colorful symbolism is the same in one homogeneous culture although there are individual differences. Even though today's multicultural society uses different global colorful meanings, the individuals from different cultures use different meanings of the color in their own surrounding.

Historically, the color is related to the health of different domains (areas): medicine, hospital design and color therapy – but the positive and the negative connection between color and health vary within one cultural context.

Shapes and their meaning

The meaning of the shape can vary depending on the type of the shape, its context and the culture which analyzes that shape.

There are many different shapes and combinations of shapes, out of which each has its own meaning and its own message. Often the meaning of the shape is hidden behind the culture, especially when there is a combination of shapes.

The rounded shapes often offer rhythm and movement, happiness, pleasure and gratitude. They are considered to be more feminine than the sharp shapes which offer energy, violence and anger. Sharp shapes are: alive, youthful and are considered as masculine.

The circle, has neither beginning nor ending. It represents (eternal) whole and in each culture is an archetypal shape which represents the Sun, the Earth, the Moon, the Universe and other celestial objects. The circles suggest to us some closer objects, such as: wheels, balls and many types of fruit. They suggest roundness and completeness.

The circles have free movement, they can roll. The circles are gracious and their curve line makes them for us to feel like female. They are warming, comforting and give a sense of sensuality and love. Their movement suggests energy and power. Their completeness suggests infiniteness, unity and harmony. The circles represent protection and restriction. They keep what is inside from that on the outside. They offer security and connectivity. Circles suggest unity, integrity and perfection.

The square and the rectangle are stable and by means of shape they are very close and suggest honesty. They have right angles and represent order, rationality and formality. They suggest peace, solidarity, security and equality. Their closeness and stability together with their unity may seem worrying and may indicate an abrupt reversal.

Among the Buddhists the symbol: square (earthbound) in circles (eternal whole) represents the ratio between man and deity.

Triangles can be stable when they are placed on their base or unstable when placed on their peak. They represent dynamic tension, action and aggression. The triangles have energy and power and their stable/unstable dynamics could suggest either conflict or constant force. They are balanced and can be a symbol of law, science and religion. The triangles can direct the movement and can show the direction of the movement. They show similarity with the pyramids, arrows and cups. Spiritually they

represent a religious trinity. They suggest self-recognition, revelation. The power of the triangle indicates masculinity.

The spirals are reflection creativity. Often, they can be seen in nature in many organisms and indicate a process of authority and evolution. The spirals are a symbol of fertility, birth, death, expansion and transformation. They are circles of time, life, seasons and represent shapes accepted in religious and mythical symbolism. The spirals can move in two directions and represent return to the same point of the life journey, with new level of understanding. They represent faith during the change, release of energy and maintaining flexibility throughout the transformation.

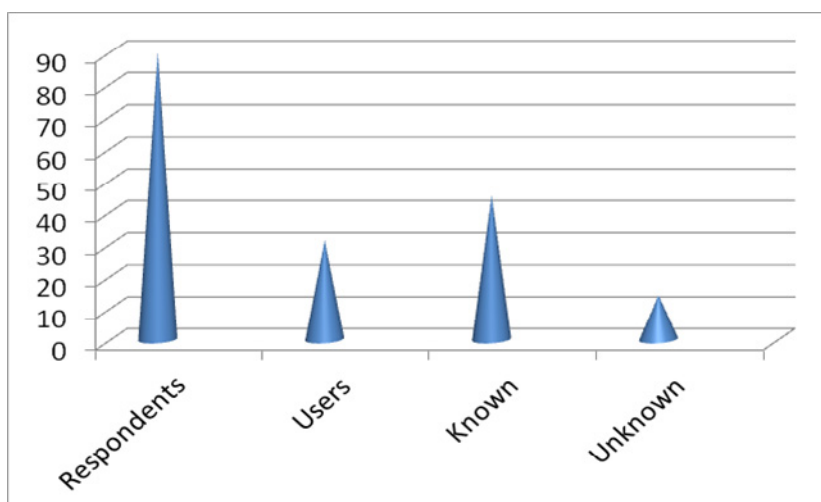
The cross symbolizes spirituality and healing. It is considered as a place where divine energies encounter. The four points of the cross represent: being, nature, wisdom and sublime strength (sublimity). The crosses represent transition, balance, faith, unity, restraint and life. They represent the ratio and synthesis and the need to connect with something, no matter whether that something is a group, individual or being.

Purpose

The purpose of this research primarily is to show whether and how much it is known about the role of the interior in combination with the colors and the shapes, their practical and energetic role in preserving the health of the people and the degree of awareness.

Results

In the process of the research we have surveyed citizens about their knowledge, education and acceptance of the significance of the internal and external design. 90 random respondents have been surveyed who gave the following results:



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