Original Article

Special Color Photography Filters

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ABSTRACT

In photography, emulsions that are proportionate to the light must be used. If we use daylight, we must use emulsions that are set to a color temperature of 5500 degrees Kelvin, which is the temperature of daylight. Otherwise, incorrect translation of colors will take place. For this reason, in color photography, different emulsions are made, each of which is set to capture an image with a specific light, light with a specific color temperature. This emulsion is formulated for use with light whose color temperature is 5500 degrees Kelvin. Since the most famous light that has such a color temperature is daylight, this type of emulsion is called daylight emulsion. This type of color emulsion is produced with little difference for both photography and cinema. In color filmmaking, another non-professional scale emulsion was used in the past, known as the G-type emulsion, which could provide almost accurate color translation if used with light at temperatures between 3200 ° K and 5500 ° K. In fact, this type of emulsion was designed to cover a variety of color temperatures from 3200 to 5500 degrees Kelvin, but this type of coating and adaptation was not perfect, and the color translation seemed almost correct; therefore, there was no professional application of this type of emulsion. This type of emulsion is not very popular today.

Introduction

In various imaging systems, i.e. photography, filming, video shooting, digital photography, among the possible color temperature sets, two color temperatures are accepted as two standard color temperature bases, which are: 3200 degrees Kelvin basis and 5500-degree basis. Kelvin.

Therefore, it is tried that the lamps and projectors that are produced have a color temperature commensurate with one of these two bases and the light-sensitive surfaces that are made, i.e. color emulsions for photography and filming [1-5].

They are adjusted from these two bases, in video and digital cameras which is possible to choose both bases, thus all the tools produced,

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lamps, cameras, emulsions, related devices such as color correction filters and color [6-9].

There is a certain standard that makes them very easy to work with. If there is no color temperature match between the light used and the emulsion used, emulsion or any kind of light-sensitive surface, the resulting image with color distortion and incorrect translation of colors will be found. If the light we use has a color temperature higher than the emulsion color temperature, a layer of blue will be added to all the colors of the resulting image, and if the light used has a color temperature lower than the emulsion temperature, an orange layer will be added to all the colors of the resulting image.

These emulsions include:

A) Emulsion type A (Emulsion type A)

This emulsion is formulated for use with light with a color temperature of 3400 degrees Kelvin. This type of color film, which is used only in photography, is mostly produced for working with photographic flaps (Flood Lamp).

B) Emulsion type B (Emulsion type B)

This emulsion is formulated for use with light whose color temperature is 3200 degrees Kelvin. This type of color film is produced with a slight difference for both photography and cinema [10-12].

C) Day Light Emulsion -D

So the first step in capturing a color image correctly is to choose an emulsion that matches the color temperature of the scene with the existing light, but sometimes this is not possible and we are forced to use an emulsion that is disproportionate to the existing light or a light that is disproportionate to the existing emulsion. In these cases, color temperature filters can be used to compensate for this inconsistency. These filters fall into two families: Blue family and orange family. As for the former, these are blue filters that increase the color temperature of light. For example, if we use light with a temperature of 3200 degrees Kelvin and type D emulsion (5500 degrees Kelvin), use a blue filter on the light or on the lens. The camera can ensure the correct translation of colors. As far as orange family is concerned, these are orange filters that reduce the color temperature of light. For example, if we use light with a color temperature of 5500 degrees Kelvin and a type B emulsion (3200 degrees Kelvin), using an orange filter on the light or on the camera lens can ensure the correct translation of colors.

Of course, each of these two families includes different types of filters with different concentrations, some of which cause major changes and some minor changes in the color temperature of light sources [13].

Color - Rendering Index

It has already been mentioned that the concept of "approximate color temperature" is used to show the spectral properties and color quality of light sources that produce a discontinuous spectrum. Although this concept provides good information about the intended sources, in many cases it seems ineffective. For example, it is not possible to know to what extent the intended sources are successful in making colors look natural in the eyes of the human viewer [14-17].

It is important to note that what is meant is the effect of colors under the light of these sources in the eyes of the human observer, not the camera, that is, the visual effect of colors is not meant to be their photographic effect.

In fact, two light sources of this type may have approximately the same color temperature, but the visual effect of the colors of objects under the light of these two light sources are different. For example, see the image below. In this picture, the spectral energy of two fluorescent lamps with approximately the same color temperature (4200) is shown. As you can see, the Cool-White-Deluxe lamp produces more red light than the Cool White lamp, which allows objects to be seen under the light of this red lamp. Therefore, in order to have information about the visual appearance of objects under the light of such light sources (light sources with discontinuous spectrum), in addition to the concept of "approximate color temperature", we use another concept called "color reconstruction index" [18-20].

The color regeneration index of a light source indicates how natural the photo graphic effect of the colors under the light of this source will be. To determine the color regeneration index of a light source, compare it with a standard light source that has a high color regeneration ability [21-23].

It is important to note here that the ability to recreate color is determined by the visual effect of the colors of objects. Not based on the photographic effect of colors. For this reason, a light source may have a high color regeneration index but not achieve the desired color regeneration in the image [23-26].

The color regeneration index is denoted by the letter R and the maximum color regeneration index is 100. "Color Reconstruction Index" Several types of fluorescent lamps are presented in the table.

Special Color Photography Filters

One of the most important goals in the color photography process is to reconstruct and translate colors faithfully and correctly, and if the photographer wants the colors to have unnatural effects in the image, this unfaithful translation must be predictable and completely under the control and desire of the photographer. Special color photography filters are filters that serve these purposes. As mentioned, the process of translating and reconstructing colors depends on the topic of "color temperature" [27-29].

It is emphasized again that the correct translation of colors in a color image is achieved when the color temperature of the light used is completely consistent with the color quality of the emulsion used [30-33].

Different types of special color photography filters are actually color temperature filters that change the sum of the three colors of blue, red and green in the light or each of these three colors by different images. The types of these filters are as follows:

1-Color Conversion Filters

These filters are used when there is a very large difference between light and emulsion in terms of color temperature [34-36].

A) If the light used has a color temperature of about 3200 K and the emulsion used is daylight (balanced for color temperature 5500 K) to convert the color temperature of the light to the specific color temperature of the emulsion, blue color conversion filters of family 80 are used. This family has 4 filters, which are in order of concentration:

1-Filter A 80
2-Filter B 80
3- 80C filter
4-80D filter

B) If the light used is of daylight type with color temperature of about 5500K and the emulsion used is of artificial type (emulsion type A and B which is balanced for color temperature of 3400K or 3200K) to convert the color temperature of light to color temperature Special emulsion family 85 color conversion filters are used. This family includes 3 filters, which are in order of concentration:

1-filter 85 B
2-Filter 85
3-filter 85C

2- Color Correction Filters

These filters are used in a situation where there is not much difference between the color temperature of the light and the emulsion. Sometimes the photographer selects an emulsion close to the type of light available, for example, when working in daylight, he uses type D emulsion, and when working in tungsten light, he uses type A and B emulsions, but although the choice The emulsion is done correctly (and as a result the very large difference between the color temperature of the light and the emulsion is eliminated) there may still be a slight difference between the two (light color temperature and emulsion).

However, for full compliance of these two bases (light color temperature and suitable color temperature for emulsion), color temperature correction filters of 82 and 81 families are used [37-39].

In this case, there are two possibilities:

A) If the color temperature of the light is higher than the specific color temperature of

the emulsion, the orange family 81 is used. This family includes 6 filters, which are in order of concentration:

1-filter 81EF
2-Filter 81D
3-Filter 81C
4-Filter 81B
5-Filter 81A
6-Filter 81

B) If the color temperature of the light is lower than the specific color temperature of the emulsion, the blue family 82 is used. This family includes 8 filters, which are in order of concentration:

1-82C + 82C
2-82C + 82B
3-82C + 82A
4-82C + 82
5-82C
6-82B
7-82A
8-82

3- Color Compensation Filters

Color correction filters change the total light (total light - green, blue, and red) to orange or blue as mentioned. In fact, a change in color temperature means a simultaneous and uniform change in all three light-colors in the desired light.

For example, although in light with a color temperature of 4000K there is no perfect balance between the three lights - red, green and blue, when we put each of the types of color temperature conversion filters in front of this light, all three lights - color at the same time, it is strengthened or weakened. Sometimes we encounter light situations in which the amount of one of the three lights - primary color (red, green, blue) or three lights - secondary color (magenta, cyan, yellow) is more than usual or less. It is more than expected [40].

Therefore, color compensation filters are used to weaken or enhance each of these colors alone and without affecting other colors. Color compensation filters, abbreviated as CC, are made in 6 colors, each color has seven filters with seven different concentrations. These filters are:

A) Red Compensation Filters (CC-R) are made in seven concentrations as follows:

1-filter CC-025 R
2-filter CC-05 R
3-filter CC-10 R
4-filter CC-20R
5-filter CC-30 R
6-filter CC-40R
7-filter CC-50 R

These filters enhance red and absorb and weaken green and blue.

B) Green compensation filters (CC-G) are made in seven concentrations as follows:

1-filter CC-025 G
2-filter CC-05G
3- CC-10G filter
4-filter CC-20G
5-filter CC-30 G
6-filter CC-40G
7-filter CC-50G

These filters enhance the green color and absorb and weaken the blue and red colors.

C) Blue color compensation filters (CC-B) are made in seven concentrations as follows:

1-filter CC-025B
2-filter CC-05B
3-filter CC-10 B
4-filter CC-20B
5-filter CC-30B
6-filter CC-40 B
7-filter CC-50B

These filters enhance the blue color and absorb and weaken the red and green colors.

D) Magnetic Compensation Filters (CC-M) are made in seven concentrations as follows.

1-filter CC-025M
2-filter CC-05 M
3-filter CC-10 M
4-filter CC-20M
5-filter CC-30M
6-filter CC-40 M
7-filter CC-50 M

These filters enhance the magenta color and absorb and weaken the green color.

E) Yellow compensation filters (CC-Y) are made in seven concentrations as follows:

1-filter CC-025Y
2-filter CC-05Y
3- CC-10Y filter
4-filter CC-20Y
5-filter CC-30Y
6-filter CC-40Y
7-filter CC- 50Y

These filters enhance the yellow color and absorb and weaken the blue color.

F) Cyan-color compensation filters (CC-C) are made in seven concentrations as follows:

1-filter CC-025 Y
2-filter CC-05Y
3- CC-10Y filter
4-filter CC-20Y
5-filter CC-30Y
6-filter CC-40Y
7-filter CC- 50Y

These filters enhance the yellow color and absorb and weaken the blue color.

These 6 series of color compensation filters can also be used together in combination, which will have combined effects: Among the most important cases of application and use of these filters are as follows:

- These filters are used to correct and compensate the color during color printing in printing machines and aggregators. Light sources that are spectrally disturbed (such as fluorescents) and produce excess color on the image can be corrected by these filters, allowing colors to be translated and reconstructed when working with these light sources.
- To compensate for the color and remove undesirable colors from old emulsions, images produced on old emulsions are usually exposed to excess color or weakness in some colors, which are compensated and removed by using these filters on the camera lens.
- In some scenes, there may be a certain additional pigment, for example, in the forest, due to the reflection of green light from the chlorophyll of plants, an extra green pigment is always seen in the scene, which can be removed with these filters.

Color perception and types of color contrast

Although we all have our own unique experiences with color, we often react to color on three distinct levels.

The first level is aesthetic. The main question is what visual effects will the color combinations have on the viewer? At this level, the combination of colors is visually desirable. Our reaction at this level is shaped by our individual tastes.

The second level is emotional and refers to the effect of colors on emotion. The function of evoking our senses and creating a special mental feeling occurs when we see a color at this level. Our reaction at this level is instinctive and unconscious [41].

The third level is psychological. At this level, semiotic interactions are expressed with the expression of colors, and it deals with the question of what colors symbolize or represent.

When we see a combination of colors, our brain makes a kind of perception of visual experience by going through these three levels. In fact, the brain begins to function at these three levels of visual experience to receive a kind of mental effect. For example, when painting a morning scene, the painter is faced with the question of what color combination to paint the morning light so that the viewer, seeing it unconsciously, says: Oh! what a beautiful morning! Here the painter thinks to himself how to achieve this perception and effect. Does it make the morning yellow and orange or blue and purple?

The quality of the morning scene will be different in each case. In this example, of course, the morning light must not only look natural, but must intensify the symbolic and emotional nature of the scene. Like all painters and visual artists, photographers need to mix and match colors, colored lights in combination

with the color in the scene, to create the right background for the formation of effective images. The eye and the brain perceive color through constant comparison and contrast. We experience color through its relationship to other colors. Our eyes ten d to contrast

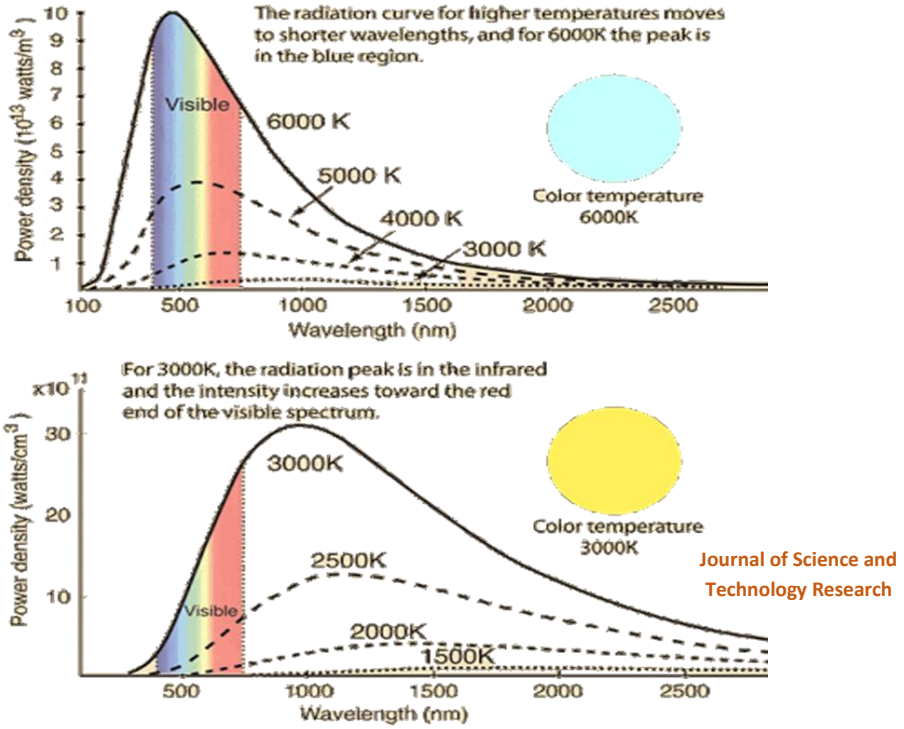

Figure 1. Color Temperature

Therefore, to create this tendency in the scene, we need contrast so that the eye can do this comparison. There are many types of color contrast. The simplest color contrast is warm to cold contrast. Consider red and blue as two extremes of hot-cold contrast [42].

We can assign a color value to the colors that indicates the amount of red or blue in the desired color. This contract represents the same relationship that exists in nature between direct sunlight (Sky Light) and sky light (Sky Light). The second form of color contrast is u Saturation Contrast.

That is, colors can be placed next to each other with varying degrees of saturation and create a contrast that the eye can focus on and accept a better and more complete effect of colors. The third figure is the contrast of the main colors, which is obtained by combining the three main colors red, green and blue. The fourth figure is the contrast of secondary colors, which is obtained by combining the colors yellow, magenta, and cyan. And the fifth type of contrast is the contrast of complementary colors. Complementary colors create the most dynamic contrasts when combined.

The theory of this type of contrast is that when colors are combined to create white light, they create contrasts in terms of hue and color temperature, that is, when combining two complementary colors and creating white light, the ratio and degree of saturation of these two colors can direct white light towards warmth or coldness, so not only does the placement of complementary colors create contrast, but the combination of these complementary colors can be done each time with different degrees of saturation. On the other hand, the combination of these complementary colors causes contrast.

The sixth color contrast is Simultaneous Contrast. The eye mentally and subconsciously perceives any complementary color by seeing any color in its vicinity, especially in dark areas of the scene. Simultaneous contrast theory states that the effect of a color changes to its complementary color. Red light always causes us to see shades of green-blue.

The Psychological Effects of Color

Colors have a place both in our inner world and in our outer world. We have both objective and subjective perceptions of them.

"Although objective vision is related to the human psyche, man feels happy to see colors through mental perception," Gerhard Ott wrote in an introduction to Goethe. Because our perceptions are in harmony with colors, by comparing the relationship between man and color, we come to the conclusion that color miraculously reflects human states, emotions, and physical condition and influences us. Colors are so closely related to all the factors and details of our lives that it must be said that colors are like steps that connect the physical and spiritual existence of human beings with other details and phenomena of the universe. This connection and effect is so great that even human beings use colors in their words and sentences to express their inner feelings and express it.

Colors have the properties of motivation, lust, happiness, structure, excitement and even have the properties of burning and winning. Each color has a unique property. One of the important properties of colors is that they can penetrate to the depths of our ed-rock power and consciousness. Color is like a word to express mood, one color at once evokes feelings of fear, happiness or excitement in us, and another color calms us. With the help of color, you can express your feelings. Experience has taught us that each color creates a different feeling in us. Here it is necessary to examine the colors one by one in terms of their psychological effects.

White

White lies at the heart of all spectrums and is integrated. White represents the emotions, genius and potential talents of the individual and is a color that enhances individual genius and abilities and is considered suitable for all color mechanisms. In the shadow of this color, the person feels psychologically purer and can save himself from pollution [15].

Black

The color black, as its negator, indicates a departure from interest, surrender, or eventual renunciation, and has a strong effect. Black represents the absolute boundary beyond which life stops and therefore represents emptiness and destruction. Black means no and the opposite point yes means white, white remains an empty scene on which the story should be written, but black is the end beyond which there is nothing. Black and white are the two limits of extremism and excess and have the verdict of beginning and end [43].

Gray

Gray is neutral, neither mental, nor objective, nor internal, nor external. It is neither anxious nor sedative.

Gray has no boundaries and territory and is only a border, a border like "nobody's land". Gray has the special attribute of not participating or not doing anything to others. It also has an obvious element of secrecy.

Freddy, who is gray in color, can be inferred that he wants to build a wall around everything and make himself uncommitted and inactive so that he can protect himself from any external influence or stimulus.

This person does not tend to participate in work and through his actions refuses to participate in work in front of someone who rejects the color gray. He has an adventurous spirit and is committed to motivating and anxious actions. This person wants to remove any obstacle in the way of his goal and is not calm and calm to reach his goal. As a result, gray has a passive effect on mood.

Blue

Blue has a calming effect on the central nervous system. It lowers blood pressure, pulse and respiration and is suffocating. Psychologically, the tendency to be sensitive and easy to get upset increases with the choice of this color. The color blue represents unity and a sense of belonging, as well as a soothing sensitivity and an expression of the depth of feeling [25].

Jung writes about blue: "In our imagination, blue means depth and height (blue sky above the earth and the blue sea and beyond). In religious paintings, virgin maidens' shirts are painted in sky blue. "The world has a feminine nature, but the concept of the depth and height of this feminine world is in blue, which has a masculine nature." Unlike blue, yellow and red do not have depth.

The use of blue along with warm colors increases the artistic-intellectual feelings of the person. Dark blue evokes memories of the past as well as dreams in humans.

Green

Green has a calming effect and is considered as a symbol of compassion, kindness and balance of soul and spirit. This color of compassion, kindness, friendliness and friendship increases in human beings. If more communities tend to this color, it will have better peace and stability.

This color also indicates the will to do the work, the work behind and endurance. Bluish green indicates determination, stability and, most importantly, resistance to change. He finds his intellectual values and he also wants to put his ideas in a chair and introduce himself as a representative of the basic and unchangeable principles. On the one hand, this factor increases a person's sense of pride and superiority over another, and on the other hand, it causes anxiety and apprehension about losing the position.

Yellow

Yellow increases blood pressure and speeds up the pulse and respiration. Yellow is opposite to green. This means that in the face of the anxious state of green, yellow indicates relief and expansion of mind.

The glow of yellow turns human emotions upside down and frees man from sorrow. Activating this force is like releasing a huge amount of latent energy inside a person. "The warming and therapeutic effect of yellow can be felt," says Goethe. The warmth that this color creates has a tremendous effect on vitality and mobility. When you look at a scene from behind a yellow glass - especially on a gray winter day - your eyes sparkle with joy and your heart rejoices. You get excited and feel the warmth inside yo u." Dealing with yellow helps us to understand the unknowns and disorders of our being. Vincent Van Gogh is one of the painters who had symptoms of schizophrenia. He subconsciously tried to heal himself by using more yellow in his paintings.

Red

Red speeds up the pulse, raises blood pressure and increases respiration. Red represents vital force, nervous activity, and means desire, and has all forms of desire. Red means the need to achieve the desired results and achieve success and indicates a strong desire for all things that have the intensity of life and perfection of experience in their cover.

Red means the stimulus, the will to win, and all forms of passion for life and power, from sexuality to revolutionary developments, are motivations for intense activity, sports, provocation, competition, and sexual desire, as well as the effect of the will. The person who chooses red wants to live a full and vibrant life through his activities, and the rejection of red may be due to suffering from a lack of passion for life. When red is rejected, sexual desire either disappears to a large extent and is severely suppressed, or sexual weakness or a cold temper prevails.

Pink

Pink is the safest and most appropriate color that can strengthen the feelings of kindness, compassion, support, monotony, openness, love, trust and faith in what is needed. Due to its special power, pink color affects the thymus gland and makes a person have a forgiving and emotional spirit. The presence of this color is also useful in associating meanings and memories. In short, pink removes turbidity, nervousness, anger and calms behavior.

Purple

Purple is a combination of red and blue. Although the color is independent and specific, the desire to preserve the properties of both colors has been mentioned. Purple maintains

both the vibrancy of red and the calm of blue, so anyone who chooses purple wants to have a magical relationship. Purple can be a sincere

Brown

The brown color is a combination of yellow and dark red. The salty nature of life is reduced by the darkness in this color. The brown color loses the vast creative motivation due to the active force of red.

Homeless and homeless people who have no place to rest and have the slightest hope of security and physical well-being in the future often choose brown. This was especially the case among the homeless and displaced in World War II. Therefore, coffee indicates the importance of home and family and social and family security. Coffee indicates an increasing need for physical comfort and sensory satisfaction in order to get rid of a situation that causes a feeling of discomfort.

This may be a form of insecurity and a real physical illness, or it may be a conflicting environment or problems that one is unable to deal with. The multiplicity of colors in nature or in its artificial form with different colors and values is so much that there is no room to study all of them at this time, and only the examples mentioned here are the colors that are most common to everyone.

Symbolic Presence of Color

"Symbol" is a medium that refers the audience to a meaning beyond itself. Now there may be an intrinsic connection between the mediator and the meaning that is associated, and it is likely that there is no pre-existing connection between the two.

The first possibility belongs to natural symbols derived from the womb of life, phenomena and relationships, and the second possibility belongs to completely conventional symbols. Blue is a natural symbol of our experience and interaction with the sky.

In front of the narrow eyes of man, there is always a sky with infinite vastness and every day of life he witnesses the unsuccessful attempt of the eyes to swallow this boundless vastness in such a way that the more you look and romantic combination or it can lead to an intuitive and sensitive perception.

the more you will find the limitedness of the eyes and the infinity of the sky. This is why blue is considered a symbol of infinity, and here there is an inherent relationship between the symbol and the relevant meaning.

The red color, when present in the traffic light, evokes the meaning of stopping. But such a symbol is merely a contract and a joint appointment made from a certain date between a group of people related to the subject, without any historical background. But for what reason is the symbol used, both of the natural type and of the conventional type?

The "symbol" in ordinary life is generally a brief reference to associate broad concepts. Ejaz is a necessity that has caused the emergence of the symbol. In most situations, there is no opportunity to explain the concepts, and therefore the mediator of all understanding is necessary to objectively cultivate a broad concept in the minds of the large audience and associate the desired meaning. The flag of any country is a symbol that most concisely represents the main ideas and general cultural and political perspectives of that country and defines a meaning instead of a brief description. But in the field of art, the symbol is provided for both concise and indirect expression.

As an old and accepted principle, it seems that the more indirect and implicit the artist expresses his words and ideas, the more artistically his work will be evaluated and the more the impact on the audience will be. The work of art is often expected to be like a whisper heard. It may or may not be like a shout that forces itself to be heard, as if to say or say something, but not so explicitly as to be an artificial reminder. As two obvious signs, "speaking briefly" and "speaking indirectly" will lead us to a thorough critique of artistic activity and to separate it from unsuccessful non-artistic endeavors.

Now the artist wants to speak in the most concise and indirect way. What better trick than using symbols to accomplish both at once.

Placing a symbol in the heart of the image means providing a mechanism and structure that will quickly, concisely and implicitly and basic graphic forms, i.e. line, form, shape, texture, pattern and color, are familiar symbols:

The vertical line is a symbol of stillness, firmness and dynamism, while the horizontal line evokes stability and calm. A broken line can be a symbol of fear or extraordinary energy. Remember that broken lightning lines indicate its special energy. The curved line is a symbol of nature, wind, water and the human body can be, and the diagonal line, although it does not have the comfort of a horizontal line or the strength of a vertical line, it induces a sense of speed and movement. In addition to the type of line, its visual weight can also be a symbol of concepts. Thick lines, which have a high visual weight, evoke more strength and power than thin lines.

- The shape of the circle symbolizes unity, inward movement and dynamism, while the square evokes strength, stability and stillness, and reminds the triangle of speed and explicit and decisive movement. Sometimes in painting between colors and basic geometric shapes, the similarity of the symbolic function is assumed, for example, the square is similar and the function is synonymous with red, the triangle is considered synonymous with yellow, and the circle is considered synonymous with blue.

- The visual texture of objects (Texture) can be an effective symbol. This is because a person is basically very sensitive to texture (whether tactile or visual). One of the first human perceptions in childhood is the perception of tissue, which is perceived by the sense of touch.

At older ages, a person's perception of tissue expands, and positive and negative feelings about tissue become commonplace in everyday language in terms of words such as soft, smooth, rough, subtle, and so on. These are the attributes that we use to describe texture, but these attributes themselves have become symbols in our everyday language, so that by applying these special attributes of texture to other phenomena, their symbolic use is used to the fullest: We have heard a gentle woman, a harsh voice, a smooth song, etc.

reconstruct the relevant meaning in the mind of the audience. In the field of ph otography, there are many symbols, for example, visual elements

In general, it can be said that in the field of literature, words related to texture are used as verbal symbols to associate some special concepts or feelings, and in the field of image by showing texture itself. As a visual symbol, certain concepts or feelings are reconstructed and referred to. If we fill our picture frame with pieces of broken glass or soap bubbles or sharp stones, we awaken the viewer's mental experience from the touch of these materials, and this visual texture can thus be a symbol and a medium for meaningful recollection.

One of the most important visual elements that can have a highly symbolic function is the "pattern". Patterns are formed when lines, shapes, forms, or textures are repeated over and over again in more or less similar sequences and occupy the entire surface of the frame.

If we look at the parking lot from the roof of a tall building, you will see a pattern of cars parked next to each other, or a pattern of more or less similar packages placed inside the shelves as you walk through a supermarket. When the viewer is confronted with a pattern, instead of seeing a symbolic element separately, he receives dozens of repetitions of the same symbol, and thus the symbolic effect of that element on a particular semantic association will become more and more emphatic, which is transmitted to the viewer by seeing an element or object with certain coordinates, and is multiplied and multiplied over and over again when that element is placed in the heart of a pattern.

Patterns reinforce the symbol embedded in their constituent elements and present it to the viewer with greater intensity and strength, making the association of meaning more profound rather than more direct. Usually one of the most important goals for composition is to create a special point or points of interest in the image, which is called the "center of interest", the point at which the whole mechanism of composition to guide the best and how fast is the audience looking at it, but if

we are trying to create a pattern, we can and are allowed to fill the whole image, without having a specific point or points of attention, all over and evenly from a recurring visual element.

Seeing the symbol, perceiving the symbol and remembering the meaning that the symbol evokes is a pleasant process for the audience. It is as if this game is an accepted contract between the artist and the audience. At the beginning of this game, the artist hides it under a not so familiar face called a symbol, in order to express the meaning he wants and the word he wants to be implicit, indirect and, of course, concise, and the audience on the other side of this game with Accuracy and concentration and use of intrinsic and acquired information and knowledge, ethnic and national, individual or international, finds the face completely or relatively familiar, puts it aside, and understands the hidden meaning behind it.

It is an attempt to position the audience against a symbolic work from a passive and neutral position, related to when the concepts are presented to the audience by the artist without any complexity and with complete explicitness and caution of any symbol and the audience to receive it does not need to activate the mind, but only the opening of the eyes is important; it becomes an active and dynamic position, and in the existence of the work of art, the audience will have as much influence, presence and role as the artist. It is pleasant for the audience to face a symbol placed in the picture frame. Imagine that he is placed in front of a pattern and you see a frame in which a symbol has been reproduced over and over again and as a result his pleasure has increased dozens of times.

But colors are more popular symbols. In the popular culture of different nations and ethnic groups, more than other visual elements, these colors have a stronger symbolic presence and their symbolic role is better known.

A very important point in this discussion is that the symbolic presence and emotional impact of colors will be different when colors are seen in combination with the shape and form of objects than when they appear abstract, for example if in the background. We have shown the portrait of an old man and in the background we have depicted a yellow car. The effect of yellow or its symbolic function can be in two ways:

A) If we see the background machine as a whole, its effect on the emotions of the audience and its symbolic function depends not only on its color but also on its shape, whether it is clean or dirty, whether it is healthy or scrapped, whether it is new or old, and so on. Its form and form coordinates are also involved in this symbolization and influence. If the car is old and dilapidated, in relation to the old man in the foreground, it may be a symbol of the past and an old body and a defective existence, while if it is a new and healthy car, it evokes a contradiction, i.e. durability and strength of technology. A machine is in conflict with the growing extinction of human existence and symbolic structures of this kind.

The examples given illustrated the symbolic effect of the shape and form of the car, while the symbolic effect of the color of the car also makes sense in combination with the shape and form, and the color of the car alone cannot affect the audience or the symbol of separation. In this example, if we see the yellow color of a new and healthy car, we will evoke a kind of not-so-perfected joy and happiness resulting from the current technology, and if we see the yellow color of the old and scrapped car, we will receive a symbol of lost youthful joy. In short, the color of the car will not be impressive or symbolic, regardless of its shape and form.

B) If we see the background machine so blurry that we do not receive any information about its shape, form and other appearance, but only see its color and instead of a machine with all visual coordinates, see only a yellow spot behind the old man. Let's say that the effect of color and its symbolic function is no longer related to the object to which it belongs, but only to the color itself. In such a case, the yellow spot behind the old man may be a symbol of the joy of spending time and being a server in old age in spite of all his troubles and regrets. Such a form of presence of colors is called an abstract

presence. Their only color is perceived as a stain or an abstract surface in the frame.

But how can the shape and form of objects and elements inside the frame be completely or partially removed and only their color be represented in the abstract? This can be done with two tricks:

1) Record parts of the image or all of it as Out of Focus
2) Blurred record the moving subjects by using slow shutter speeds, of course, there are other tricks, such as using sharpening filters such as Diffusion or Fog filter or….

Conclusion

When the photo capture process is done in such a way that we record one point for each point of the subject in the photo, the resulting image is called Focus. In the Focus image, dots and lines, which are the basic elements representing the final form and shape of the subjects, are reconstructed in the form of equivalent dots and lines, and thus the colors will be present in the form of objects and will not have an abstract function but will not be abstract. If the image of objects and subjects is not formed on the focal surface of the lens, the resulting image will be Out of focus.

In this case, for each point of the subject, another point in the image will no longer be obtained, but a circle will be created so that the more blurred and out of focus the image becomes, the larger the diameter of these circles will be. In this way, in the Out of focus image, the subject points will become circles and the subject lines will become surfaces, and these circles and surfaces will merge, expand into each other, and as a result, the exact shape of the objects in the image will not be represented. The shapes are reconstructed, and perhaps only the not-so-clear aura of their general form is visible in the image. This event causes the colors to lose their shape and form.

There will no longer be the correct shape of objects in the image so that these shapes capture colors, and as a result, in an image that is out of focus, we will have abstract colored surfaces and abstract colored spots instead of colored objects and subjects.

As a result, there will be shapes and lines without the effect of color without affecting the graphic structure. This blurring may occur throughout the image, meaning that we obtain an image throughout the Out of focus in which the colors are independently present and free from the shackles and shapes of objects, and this blurring may be only part of Include the image and the rest of the parts are still Focus. In fact, in this part of the image, the effect of colors is accompanied by the presence of shapes and forms of objects (Focus part of the photo) and in the other part, the effect of color without the presence of shapes and forms of objects and effects. The result will be obtained. The process of sharpening part of the image and blurring the rest of the image can be achieved by reducing the "depth of field" or in other words Depth of field.

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