

How the Color Theory is used in Artwork to Portray Emotions

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Abstract

Colors are the main vehicle that artists have at their disposal to portray emotions in their artwork. To utilize colors to their full potential, it is essential to understand what colors are, how they interact and the symbolism colors hold. Colors are described using the color wheel. The color wheel allows an artist to view the properties of each color visualizing the relationship between the colors. The color theory allows an artist to adapt the basic qualities of colors and manipulate them to create deeper meaning within the color. To allow the color to become more than a definition, but an emotion on a canvas, symbolic meaning must be incorporated. Once an artist understands the psychological reactions that people are prone to when introduced to a color, the artwork will become more meaningful. The idea and concept will become clearer to viewers and the emotion will successfully be portrayed.

Artists have been experimenting with this complex element of art for centuries. Studying interpretations of how colors should be used greatly increases the understanding of artwork as a whole. It allows the viewer to delve deeper into a piece, past the subject, into the true meaning that the artist was trying to convey. After this understanding is accomplished on the part of the viewer it is reflected in the viewer's artwork. With the new knowledge, present colors are chosen more carefully, and the artist is constantly conscious of the emotions that are being portrayed in their artwork. After the research was completed, a deeper analysis of the piece "The Bride of the Wind" by Kokoshka was apparent, increasing the appreciation of the artwork and its meaning. Color is possibly the most versatile and important element of art that an artist has available to depict emotions on a blank canvas.

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Color theory is a very prevalent, and yet partially indefinable, aspect of all artwork. Color theory actually has several different interpretations, a scientific method concerning the wavelengths of light, the colors resulting and a more emotional based reaction. Psychology contributes to the color theory as well through the human reactions and emotions displayed as a result of interaction with colors. While these interpretations of the color theory seem to be opposite poles, they blend together to provide artists with a wide variety of applications in which to successfully utilize color to its full impact. Throughout this study, color will be defined through the different interpretations and then analyzed in artwork to show how color can be utilized to convey emotions.

Color is defined scientifically as wavelengths of light that are perceptible to the human eye. Sir Issac Newton first applied this terminology to the definition of color in 1666 when he sat in a dark room with a prism and one ray of white light aimed at the prism. He discovered that when the ray of light passed through the prism it split into the individual colors of the rainbow and projected them onto a wall in an oblong manner (<http://encarta.msn.com/encnet/refpages/RefAuxArt.aspx?refid=781540156>). The colors that were projected from the prism were later determined to be the wavelengths that are viewable to the human eye. Light is actually an electromagnetic wave measured in the scientific unit of nanometers (one nanometer equals one billionth of a meter). Each color has a unique wavelength varying from red at 700 nanometers (the longest) to violet at 400 nanometers (the shortest). The majority of electromagnetic waves that permeate the environment are invisible to the human eye and are located on either side of the wavelengths of color that humans can observe (<http://www.chakrastudio.com/color.htm>).

While color is actually light in varying wavelengths, the color of an object is determined by its reflective qualities. All matter reflects light, absorbs it or does both to give the object its specific color. The light wavelength that is reflected by the matter is the color that the object is perceived to be. The object, so as not to project other colors, absorbs the remainder of the light. A blue shirt for example, absorbs all wavelengths excluding blue causing the blue wavelength to project the color blue to the human eye. If an object appears black to the human eye, it absorbs all wavelengths of light. Likewise, if an object appears to be white, it reflects all wavelengths of light (<http://www.chakrastudio.com/color.htm>). The color reflected is also affected by the intensity of light. If the light is dim and hazy then the color reflected will not be as brilliant as that of an object illuminated by a bright, clear light (<http://www.jrmacks.com/color5.html>).

Once color is defined and achieved, it is subcategorized to complete the description. The most basic of the categories are those of primary, secondary and tertiary colors. Primary colors are those that are considered natural and are unable to be created from other colors. Primary colors can theoretically create any color when combined with each other. The primary colors utilized for painting (other medias of art, such as computer graphics and web design, offer slight variations of the color categories to better assist their media) are red, yellow and blue. When two primary colors are combined, a group referred to as secondary colors is created. Secondary colors include green, orange and purple. When secondary colors are mixed with primary colors, tertiary colors result. This final category consists of yellow-orange, red-orange, red-purple, blue-purple, blue-green and yellow-green. The processes of mixing colors with one another can continue

indefinitely and will produce an endless amount of color categories. Primary, secondary and tertiary color groups are the three most common and useful categories used to describe color (<http://www.colormatters.com/colortheory.html>) (<http://www.worqx.com/color/index.htm>).

The categories of colors can be organized into a diagram referred to as the color wheel to easily display the colors and their interactions with each other. The color wheel is basically the sequence of wavelengths of red to violet manipulated into a circle with red connecting to violet. The color wheel allows an artist to see at a glance, which colors combine to make a certain color and which colors are complementary or analogous in addition to other varying relationships between colors. Complementary colors are those which are directly opposite one another on the color wheel. Complementary colors, when placed next to each other in a composition, provide the maximum contrast and allow each color to become bolder and more forceful in the piece. Analogous colors are those which are next to each other on the color wheel. These colors complement each other subtly rather than causing them to stand out as much as the complementary colors (<http://www.worqx.com/color/index.htm>) (Mills 46) (<http://www.colormatters.com/colortheory.html>). Another color division that the color wheel displays is that of warm colors and cool colors. Warm colors appear on one side of the color wheel with reds, yellows and oranges. Cool colors appear opposite them with blues, greens and violets. Warm and cool colors are used to complement each other, warm colors advance in a composition and cool colors recede and add depth to a piece of artwork (<http://www.worqx.com/color/index.htm>).

Colors have more descriptive qualities than their placement on the color wheel. Values and hues, as well as other qualities characterize colors. A value of a color, also known as intensity, is a measure of the color's lightness and darkness or tint and shade. The hue of a color refers to the saturation of a specific color. Other categories include the chroma of a color or the pureness of a hue when compared to a gray. Saturation measures the purity of a color. Luminance can be used to describe the amount and degree of light reflected off an object (<http://www.worqx.com/color/index.htm>). Color can also be depicted as "plastic" meaning it is able to be manipulated and changed from its original form to create a specific effect or feeling (Barnes 82-89). Many of these terms overlap in meaning and can be used interchangeably in most contexts. All of these aspects of color are designed to complement each other (when used in variations) in a piece of artwork and can add depth, unity and form to a composition. When colors are used successfully together they create harmony in the piece (<http://www.nitaleland.com/articles/harmonyofcontrasts.htm>) (Birren 95-133) (<http://www.colormatters.com/colortheory.html>).

Yet another division of a color is whether it is additive or subtractive. When colors are additive they are dealing with light rather than tangible paints. When all of the colors of the light spectrum are combined white light is produced. Likewise, if white light is shuttled through a prism it is separated into the individual colors of the spectrum. The opposite of additive color is subtractive color. Subtractive colors include the tangible form of paint and other medias that artists are familiar with. Instead of producing white when colors are combined, darker and darker colors are produced. In

this process, as each color is added light is being subtracted yielding subtractive colors (Parramón 10-17).

The color wheel is not the only method used in the color theory to organize colors and their relationships to each other. Another interpretation of that is a color triangle. The first triangle is referred to as the painter's color triangle. This triangle is very similar to the color wheel with the primary colors of red, blue and yellow but it is arranged into a triangle shape rather than a circle. Another triangle version is that of a printer's triangle. It is the same concept of the painter's color triangle except it uses the printer's primary colors of magenta, cyan and yellow. These colors are used in printing to create a multitude of colors. The third triangle is the nine-part harmonic triangle. This color triangle branches off of the theories of Johann Wolgnang von Goethe. The triangle contains magenta, cyan and yellow as the primary colors and red, yellow and blue as the secondary colors. The tertiary values for this color triangle are dark neutral grays (<http://www.worqx.com/color/index.htm>). The Birren color triangle is yet another version of the color wheel. This triangle has seven different forms of color. The three main forms are the pure color, white and black. When the pure color and white are combined they form an intermediate tint. White and black mix to create gray. The black and pure colors are connected by a shade and all of the primaries mix to form a tone in the center of the triangle. This triangle is different from the others because it does not include multiple colors other than black and white in the triangle at one time. This triangle can be utilized to show the manipulation of a color to get different values, rather than to achieve different colors, as in the other interpretations (Birren 110).

Color has been shown repeatedly to evoke emotions from individuals. This reaction to color is a great tool for artists to attempt to fully show the emotion they are striving to reveal in their artwork. Mental and psychological response, symbolism and culture can control an individual's reaction to color. Different cultures can perceive a color in a very distinct manner. In many countries the color red evokes emotions of danger while in the United States the same color can provoke feelings of love and passion. Culture is an important consideration of the artist when choosing a color scheme. The color needs to have universal meaning so the correct mood of the piece is projected to all viewers of the piece, regardless of their culture (<http://www.jrmacks.com/color5.html>). While each color generally represents an emotion, groups of colors can also signal moods and feelings. Warm colors usually imply a positive and active mood and are referred to as "hard" while cool colors are negative, passive and "soft" (Birren 95-133). Warm colors seem to advance in the composition and project nearness and the cool colors recede into the background signaling distance (Parramón 10-17). The value of a color can also alter the perception of the piece. Bright colors, devoid of shadows allow the colors to be rich, and tend to cause the composition to feel artificial or as if the emotions were feigned (Barnes 82-89).

It is believed that primary colors tend to relate to the primary emotions of humans (Cirlot 52-59). Red is the most powerful of the primary colors and is a powerful symbol in many societies. Red is a hot color that can mean vitality and courage as well as passion and love (<http://www.impressionsoflight.com/color.htm>). This color can also be used to refer to death and a wound as red is the color of blood (Cirlot 52-59). Studies have shown that red increases the rate at which a person works because it is an active

color, however, it also showed an increase in mistakes also resulted from their haste (<http://www.webwhirlers.com/colors/red.asp>). Yellow being a warm color, is active and promotes euphoria and internal energy (<http://www.imipressionsoflight.com/color.htm>). Yellow is associated with wisdom as it is connected with the sun which sheds light and illuminates the earth. In a religious context, yellow can symbolize gods and the intuition that they encompass (Cirlot 52-59). Blue, the last primary color and the sole cool color, projects a much different attitude than red and yellow. Blue is often used to represent water and, depending on the value of blue, it can symbolize calmness, storminess or depression. Blue can represent clear thinking and wisdom. Religiously, the color blue denotes innocence and devotion to a religion and its beliefs (Cirlot 52-59) (<http://www.impressionsoflight.com/color.htm>).

Secondary colors, though they are just as important as primary colors, tend to represent less dominant feelings of the human race. The first of the secondary colors is orange, the only warm color. Being a warm color but less vibrant than red, it signifies warmth and "joy of expression" (<http://www.impressionsoflight.com/color.htm>). Orange can be associated with the warmth of a fire as it is less powerful than red, which can relate to the anger of a fire. Orange can represent the pride and ambition that accompanies being involved in a religious group. Green is the color most often associated with the earth, nature and growth. The growth represented by green can either be a mental maturation or simply growth in nature. While representing growth, green can also signify death as an intermediate between life and afterlife (<http://www.impressionsoflight.com/color.htm>) (Cirlot 52-59). Purple is usually related with religion or royalty. It can, however, can also project creativity and imagination

(<http://www.impressionsoflight.com/color.htm>). Purple can signify power and, depending on the value, can show depth and depression (Cirlot 52-59).

Black and white, while technically not colors but rather tones, lend very important meanings in artwork as a whole. Together black and white represents the idea of dualism or two-sidedness. Black is usually regarded as a dark, deadly color. It often represents a negative object. However, when there is black there is often white to offset it and to contradict its meaning. White usually is associated with life, innocence and purity. White is regarded as a positive influence rather than the negative connotation associated with black. White is often grouped with the meanings of yellow as they are both similar to the sun. While white can also symbolize the moon and death, this is a less common association. The most common use of black and white together in dualism is the Chinese Ying-yang. Black and white can also be used together in artwork to signify a never-ending cycle of good and bad (<http://www.impressionsoflight.com/color.htm>) (Cirlot 52-59).

After exploring the definitions of color, the interpretations of their relationships and what they actually represent colors can more accurately be analyzed in artwork. The variety of color expression throughout art can be summarized with an examination of six classic styles of artists. The first style investigated is that of Leonardo Da Vinci. Da Vinci was a revolutionary artist of his time period. Prior to his revolutionary style, artists had been creating shadows and highlights in their paintings by adding black and white to the pure colors. Adding black and white to pure color creates different values of the color, it does not lend to the production of depth in a painting. Da Vinci realized that by adding blues and purples to a pure color a richer shadow is produced. Da Vinci's method

allows the highlights of an object to be the pure color without white. This new method of creating depth was extremely successful and allowed the colors to be more vibrant and bold rather than muted by black and white (Birren 95-133).

El Greco utilized some of the same methods of Da Vinci with a few modifications to achieve a completely different mood and feel for the painting. Like Da Vinci, El Greco created rich shadows by adding blues, however, the highlights were produced through mixing white in with the pure color. There is a strong contrast between the deep shadows and the chalky tints throughout his artwork. While his pieces are a bit surreal and untrue to nature, his consistency in the production of shadows and highlights allows the pieces to have an overall sense of unity and harmony (Birren 95-133). Rembrandt is another artist whose style reflects that of Da Vinci's, but incorporates his own versions of highlights to obtain a different effect. Rembrandt created his artwork very quickly, allowing less detail than is present in Da Vinci's artwork. The majority of Rembrandt's pieces utilize the Law of Field Size in which a great deal of the color is warm and muted, pushing the small areas of light detail into the foreground of the piece. Rembrandt did not use pure tone to achieve highlights. Instead, he would simply use white or flesh tones to produce a greater contrast against the dark background. Rembrandt rarely utilized gray values in his artwork as they would detract from the contrasts (Birren 95-133).

J.M.W. Turner had a completely different style than any of the previously mentioned artists. Turner's main emphasis and concern in his artwork revolved around in his color usage. In the artwork produced by Turner there is an absence of rich shadows. Turner instead utilized a variety of light tints (pastels) and gray values to obtain the effect he intended. With Turner's color selection, the tints became the pure values of the piece

leaving the soft gray values counterbalanced. The overall feeling of Turner's pieces is much softer and delicate in comparison to the harsh details of DaVinci (Birren 95-133).

The following trends in color usage are that of two artistic movements rather than two specific artists involved in the movements. In these movements all of the artists involved used basically the same methods to obtain similar emotional results. The first movement the Impressionists preferred the usage of pure colors. This did not prevent them from utilizing black. Black was used to accentuate a large dark area and the black was not mixed into any of the pure colors to create shades. This method creates a strong contrast while maintaining the original intensity of the pure colors without muting them. During the impressionistic movement the use of black was acceptable only in these circumstances. The neo-impressionists following them, strongly rejected any usage of black (Birren 95-133). Along with the evolution of the modern painter came better paints and materials made for the painting media. A wide array of colors became available in good acrylic paints. The modern painters took full advantage of the new invention and opened up the regulations of painting to all colors. Many of the resulting paintings became abstract with a variety of vibrant, bold and rich colors encompassing the canvas. This use of color signaled a boost of energy in the artistic world (Birren 95-133).

To fully show how colors and the color theory are used and manipulated in artwork to portray emotion it is necessary to analyze a specific piece of artwork. "The Bride of the Wind", by Oscar Kokoshka (Illustration A), is a great piece of artwork that uses a variety of colors to create emotional effects. In "The Bride of the Wind", the background is mainly cool colors making it recede into the background. The two bodies in the foreground of the painting are made with warm colors. This allows the bodies to

stand out against the contrasting background and become the focus and emphasis of the piece of artwork. The bodies themselves have a multitude of colors to show a multitude of emotions. The warm colors help portray the warmth of the two bodies. Where the two bodies are touching there is a certain lack of shadows. Rather, there are sprays of red, orange and yellow. These colors emphasize the immense amount of emotion that is perceivable between the two subjects. It is evident that there is a spark of love, or even lust between the two subjects. The colors allow these emotions to be seen in the bodies of the two subjects.

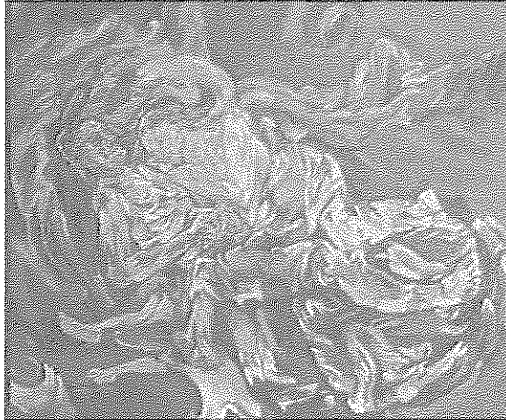
The background of Kokoshka's piece presents more colors to further describe the emotion that is being presented in this piece. The main color in the background is blue. However, there are several values of blue in the painting. These variations in the value portrays the escalation of emotions and the changes felt in a moment of lust or love. The blue can represent calmness, storminess, clear thinking and wisdom, which are all emotions that can be felt in this situation (Cirlot 52-59)

(<http://www.impressionsoflight.com/color.htm>). Also in the background the tone white appears. White is used in this piece to show purity of emotion felt between the two subjects. Green is used by Kokoshka to symbolize the renewal of the soul that the subjects are feeling from the connection between them. Yellow is also used to portray the uplift in energy and euphoria that accompanies love or lust (Cirlot 52-59)

(<http://www.impressionsoflight.com/color.htm>). Color is the main element of art that Kokoshka employed to represent the complicated emotions of love and lust that occur between two people.

Colors have been constantly utilized throughout history to represent emotions of people. Through the examination of what color truly is and the different interpretations, it is evident that colors can be used and manipulated to portray a deeper meaning or emotion. After delving through the immense amount of color symbolism, the appreciation for the amount of thought process required to achieve the perfect portrayal of emotions is greatly increased. The knowledge of what the color theory has to offer artists is greatly beneficial to the production, as well as the appreciation of artwork. The future of meaningful art can be contributed to the trials and tribulations of prior artists who have fulfilled the most prosperous use of colors to achieve the correct portrayal of emotions. With this understanding of colors, artists can take a blank canvas and fill it with a variety of colors to portray an emotion so powerful that it cannot be conveyed through verbal or written language, but only by the colors seen.

Illustration A



Kokoshka, Oscar. "The Bride of the Wind", 1914.

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