The Color Map of Death in the Scene of the Bridge Connecting the Land of the Living and the Land of the Dead in Coco Film

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Abstract. Death is something that cannot be avoided. Every culture in this world has a celebration or ceremony to honor people who have passed away. Dia de Los Muertos is one of the most famous Days of the Dead celebrations. The celebration was made magnificently and filled with very colorful decorations like a festival. The colors on the occasion play a very important role in death ceremonies in Mexico. The festival became a culture that was later adapted into an animated film Coco. It is necessary to study how the color of death is constructed in the animation, as well as how the color palette is generated. The application of this color plays a role in representing death in Coco's animation, this animation has various colors of death. The method for determining the color map of death in the animated film scene uses a qualitative research method using a color approach. The results of the colors are in the form of a color map, namely orange, yellow, dark blue, and pink. The research results can be used as a reference in an animation's visual depiction of the color of death.

Keywords: *color map; death; the land of the dead.*

1 Introduction

The many cultures in this world make various aspects of a celebration become many kinds. Celebrations certainly exist in every culture, one of which is the celebration of death. Celebrations of death in the form of ceremonies always involve many people and communities, these rituals generally have characteristics such as praying, eating, or gathering with family Aufa in [2]. As in a celebration, especially in the celebration of death in Mexico which is usually called The Day of The Dead. The Day of the Dead or called Dia de Los Muertos is a ceremony held by the people of Mexico where at the event people spend time in cemeteries, making shrines for people who have died, and displaying various decorations that decorating all places artistically by using colored skulls or called Calacas, flowers, as well as other ornaments. This celebration is believed to be a big family reunion between the two worlds, life, and death. Dia de Los Muertos

is not a moment of mourning, but of remembering family members and those who have passed away, keeping them close to our hearts Sadewa, 2018 [13].

In this celebration, many are decorated with various colors. The color commonly used to symbolize this celebration is the orange color of a *marigold flower*. The color is commonly depicted in funeral symbols in Mexico and as the color of mourning Amelinda & Franzia in [1]. Not just an aspect of color itself, color can have a visual perception. According to Darmaprawira [7], the general thing is that colors can affect the human soul and also affect emotions, and colors can also describe moods. Not only that but color perception can also be motivated by culture and beliefs. Color has a symbolic meaning that cannot be separated from mystical interpretation, where it appears at the peak of humanity (humanism) which can be specific and varies from social situation to another social situation. Colors can be classified based on their symbolic meaning, such as red which is often associated with the sun, blood, fire, or evil with both positive and negative connotations.

Coco animated film is an animation that elevates Mexican culture in celebrating the day of the dead. The film tells the story of a boy named Miguel who was born into a family that has a bad experience with music. Because music is the cursed thing in his family, Miguel's desire to become a musician like his idol Ernesto de la Cruz seems to be hindered. Until one day Miguel had to go through his journey into *The Land of the Dead* to seek help so he could return home with Hector's help and return to his family to start a new story with his family.

Color is an important visual element in an animated film Wang [14]. The role of color in animated films varies, not only to reflect the character but also to accompany the audience in the story in it. Brown (2013) [4] in Berens (2014) [4] argue that color is a spectacle that is as important as narration, where everything has an important role in every frame. The colors presented in the animation are many and varied. According to Blazer in [5] Color has extraordinary storytelling power, so that color can express emotions, clarify motivations, and even be able to dictate all meaning in a story, especially in animated films. The use of color in animation can present visual enjoyment which can enhance the visuals and aesthetics of a visual in an animated film Wang, 2017 [14].

In this research, the color of the Coco animation film is analyzed. Analysis was carried out to find out and understand how color is applied to each scene. As well as how the color of death appears as a color in Coco's animated depiction. Apart from the coloring that may be inspired by the culture in Mexico. This research aimed to understand in depth how this color works and how the coloring results of this film can be used as a reference for other animated films in conveying stories and visualizations with the theme of the world of death or the like. To

further investigate this film, an understanding of color theory, color related to culture, and the psychology of color is needed to provide an overview of the meaning or significance of color.

2   Study Literature

Color is one of the most important elements in making visual works or works of art. Where a color can stimulate the brain and eyes with what we see which can make the soul sway and cause emotions and can make an object look light and heavy, near or far, expensive and cheap where all of this depends on how the color is applied Bleicher in [6]. Everything arises from an influence on what we see which then influences our psychology so that we can conclude something.

2.1   Color in Design and Animation

The application of color in a visual form is very broad, one of the highlights of applying color in a visual form is from an animation. Animation is a film that is formed from a series of images that are processed in such a way as to be able to display moving images and tell stories, Gunawan in [11]. Not only that, the animated film is a medium that combines audio and visuals with stories that are packaged into animation, Fathurohman et al., [9]. It can be said that animation is a very complex medium because of the combination of stories, moving visuals, and also audio. Not only that, the colors in animation can form a mood and atmosphere in a visual. Mood and atmosphere are formed in a clear sequence, and in depictions such as describing fear, romance, sadness, emotion, or joy, it is done using a color so that it can appear in an image, Fowler [10].

All forms of application of color in animation can occur in various ways, whether building an atmosphere, impression, or perception. The most fundamental thing about applying this color is not far from the color system itself. Color is said to have the power to convey extraordinary stories, so that it can clarify a character's motivation in animation, express emotions, and even dictate all messages and meanings in the entire work, Blazer [5]. Three important things build a color system, including Hue, Saturation, and Value. Hue is a name for a color that makes it easier to identify it. by knowing the name of the color we can distinguish red, yellow, green, blue, and so on. Saturation or saturation is the intensity of color; how many colors contain gray in one color, Eiseman [8]. And Value is a level or color derivative from light to dark which will distinguish the quality of the color brightness level from color with a mixture of white to black, Darmaprawira WA [7].

2.2   Color in Culture

For centuries, color has been an important part of human life. Certain cultural, historical, and traditional aspects of color are capable of forming a perception that is then passed down from generation to generation, Eiseman [8]. For example, in Chinese culture, the application of Feng Shui considers red to be a symbol of prosperity. The Greeks and many others considered blue to be a protective color. Many cultures in the world understand and play the role of color, but one culture that tends to be strong in terms of color, especially in its application in animation, is Western culture.

Color is very important in human life. Culture is one that greatly influences every understanding of color symbolism. Colors can evoke various emotions and beliefs, as well as positive and negative connotations in culture, especially western culture. Here are some colors and symbolism in western or western culture.

1. Red is a very bright color like caffeine in visuals. This color is symbolized as an aggressive, anxious, and compulsive color. Red can be symbolized by speed like a fast car, and others, Bellantoni [3]

2. Yellow is the color of opposites, one of the reasons why it is a color of caution is because it is a visually aggressive color. Dr. Harry Hepner, Professor of Advertising Psychology at Syracuse University, claims, "Yellow is the color that is both the longest remembered and the most hated", Bellantoni [3].

3. Blue is a positive color and is considered the world's safest color choice. Blue represents authority, security, and trust in Europe and North America. Blue is arguably the most popular color worldwide, and some brands the world use blue in their logos/branding, Eiseman [8].

4. Orange is categorized as an arousing color, which stimulates conversation as well as appetite. Its physical nature encourages spontaneity and some degree of impulsivity. And this color is considered to be the hottest of all the colors because orange is never described as cool or cool. This color relationship is usually sunset, heat, or considered a color with high optimism, enthusiasm, cheerfulness, and energy, Eiseman [8].

5. Green. In history, the color green is associated with the meaning of the environment and life. The green color is also interpreted as a dichotomous color, where there are colors of fresh vegetables and rotting

meat, life, and danger, Bellantoni [3]. In addition, green is often used to depict strange creatures originating from legends or folklore, one of which is fairies, sprites, pixies, dragons, etc. Eiseman [8].

6. Purple is the color of nobility, spirituality, faith, piety, wealth and royalty are some of the terms associated with purple. In the past, purple dye was very rare and hard to come by because it was extracted from a certain species of sea slug, namely banded dye-murex. It was expensive to produce purple cloth, and it became a symbol of monarchy. The US military awards the Purple Heart award to military personnel who suffer injuries or are killed while on active duty (medium.com). In use in settings, purple is capable of establishing an air of majesty, but in church symbolism, it has a high position in representations of healing, contrition, and humility, and in the Middle Ages it was considered mystical, incomprehensible, and mysterious, Eiseman [8].

3   Method

This research uses quantitative research methods. By getting deep data in looking for a color map in an animation. This method is taken by researchers through color dissection to find a color map in a study conducted by Kahdar et al. 2018 [12], in search of Color Mapping of Natural Dyes in Coastal Batik of Batang Batik from Batang Regency. In this study, researchers only applied quantitative research as a research method because in this study they only collected colors from a series of images in animation and searched for color maps using a web-based application. This research focuses on the visuals obtained from the animated film Coco as a research object. The object research was carried out by taking samples from scenes in the Coco animation film. Sampling is based on keywords that have previously been made. These keywords make it easier to find scenes from the entire duration of the film that has appropriate visual elements, colors, and other elements that support these keywords.
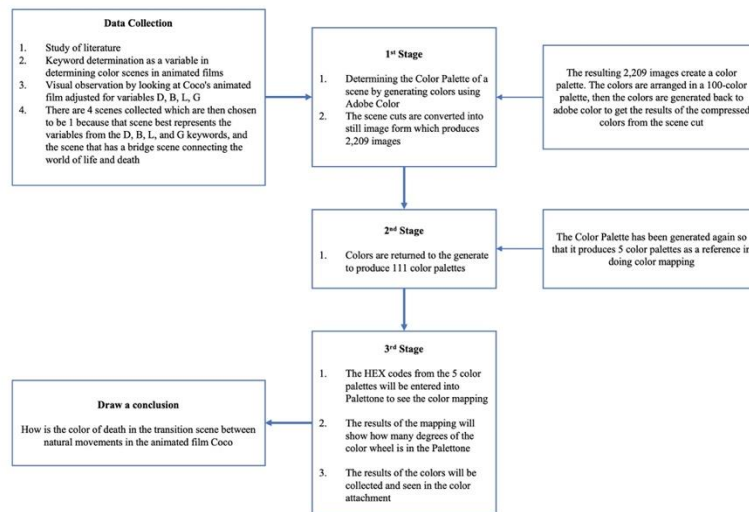
Figure 1 The Research Stage

The purpose of this study is to identify the colors in the animation scene so that a *color palette appears* which is then searched for color mapping so that it can be a reference in forming visuals with color mapping, especially the color of death in an animation. The steps taken by the author in conducting research can be seen in Figure 1.

1. From this series of processes, data collection was carried out by taking a series of shots from the Coco animated film. The initial stage in taking this shot is done by first determining the appropriate keywords from the Coco film. From several times seen, reviewed, and watched repeatedly, this Coco film has at least 25 important scenes in the series of films. Of the 25 scenes, they are purified based on keywords that correspond to the Coco film. These keywords are *The Land of the Dead* (D), Flowers (B), Ancestors (L), and *Gloomy* (G). The sample is then determined from these keywords which can visually represent the film.

2. The results of the scene are cut according to the scene. The cutting of the film is done using the *Adobe Premiere Pro application*. The use of this application facilitates the process of cutting shots according to the desired duration and timeline

3. Furthermore, the results of the scene will be analyzed by looking for the *color palette* first with various stages until it is formed into 5 *color palettes*. Then this *color palette* will later be used to find a color map

using a *palette,* how are the colors related, as well as the derivatives and proximity between each *color palette*.

4   Result and Discussion

Creating a color palette from the selected scene using Adobe Color. Adobe Color is a web-based application that is used to generate colors from images into a color palette. The results of the researcher's color palette will fully leave it to the system Adobe Color in generating colors from each converted image from the video that has been made.
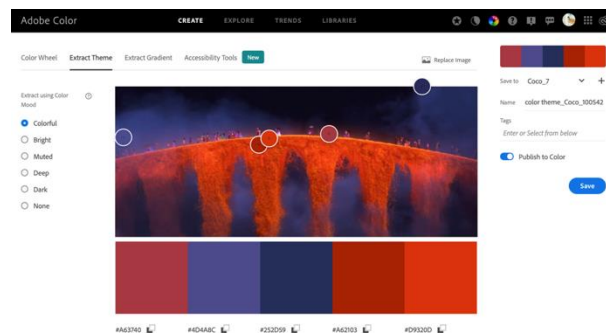

Figure 2   The process of generating color in Adobe Color

After the color generation process is carried out by extracting the image in Adobe Color, the color palette results are then collected and put together to carry out the 2nd color generation process. The results of this first color palette have a very large number, the second color generation process is carried out to simplify the colors of each scene. This process is carried out by collecting a color palette of 100 color palettes in one complete image which will be color generated again.

The results of this color generator are then generated back to the 3rd process to simplify again and extract the colors into one color palette in each scene. The result of each scene has 5 color palettes from each of each scene. The color palette is considered to be able to represent the colors of the scenes in each scene with different durations. The final color palette results from the scene can be seen in Figure 3.

Figure 3 The final Color Pallet of Coco's animated movie scene in Adobe Color

Results The color palette is then searched for its association with other colors using the Palettone. Use this web-based application to see the mapping on the color wheel. This color mapping is done by entering the HEX color code that has been obtained in one of the scenes. Then the code will change the color wheel and show a series of mappings for each color which will then be screen captured to see if any of the colors intersect and are related. The results of the color wheel can be seen in Figure 4 below.

Figure 4 Color Mapping

In the color wheel in Figure 4, there are colors that overlap in the value section of the color wheel, the areas where these intersecting colors are searched are then related to each other and become derivatives of the colors on the outermost circle called Hue. Determining intersecting parts is done by shifting the circle parts by paying attention to the circles in the area and lines to reference the location of the next circle that intersects. The color wheel in that scene has slices and color degrees. In detail, the slices and color degrees can be seen in Table 1.

Tabel 1   Scene color slices of the Bridge Connecting the Land of the Living and the Land of the Dead

HEX Code (Hue)	Position	Slice	Sliced Result
#1D2043	252°	#1D2043 (252°) x 3F51A7 (247°) = (249.5°)	#3D4FA4
#3F51A7	247°	#3F51A7 (247°) x D63764 (346°)	#3F47A7
#D63765	346°		#D93D69
#EFD644	95°	#EFD644 (95') x 3F51A7 (247°)	#F1D843
#F05F28	14°		#F17243
		#EFD644 (95°) x D63764 (346°)	#F2D947
			#4249A8
		#F05E28 (14°) x D63764 (346°)	#3F51A5
			#DA406C
			#F27547
			#D93D69
			#3F47A7
			#3D4FA4
			#F1D843
			#F17243
			#EF6634
			#363EA5
			#3347A3
			#D72F5F
			#EFD334

The color of the sliced results will be seen by the HEX code, which then at every degree of the Hue will be changed to see the color on each slice will produce a color with what code. The color of the slices can be seen in Figure 6 below.

Figure 5 Color results from the Palettone color wheel and its derivatives

The mapping results have been completed by entering the HEX code results for each result from the color wheel. Then the results are arranged into a form as shown in Figure 5. The making of the color palette is to make it easier to see the colors and the derivatives of the resulting colors from the previous color generator. The final color generated result is *Space Cadet color* with code HEX #1D2043, *Violet Blue color with code HEX #3F51A7, Cherry* color with code HEX #D63765, *Sandstorm Yellow color* with code HEX #EFD644, *Neon Orange color* with code HEX # F05F28.

When viewed from a visual with a duration of 1:32 with the color results from the *color generator*. The overall visuals of the scene can produce the final *color palette* that can represent the color series from start to finish in the film cut. In achieving the final color, the animation sequence is converted into a still image with the fps that corresponds to the animation at 24fps. The resulting color results have a different tendency from each series of images to images, from dark to bright colors. However, after all these colors have been collected, you can then look at the next *color palette* by doing the *color generation* again, the resulting colors are only 5 colors. If you look at the final color with this visual, at least there is a connection where in this scene the color of the *Space Cadet* with code HEX #1D2043 represents the color of the sky, the color *Violet Blue* with code HEX #3F51A7 represents some of the colors of the sky which has a lighter

saturation, and the nuances of mist when entering the world death, *Cherry color* with code HEX #D63765 representing the clothes worn by Tia Rosita, as well as some colors representing the spirit of Alebrijes, and color reflections on the city environment in the world of death, *Sandstorm Yellow color* with code HEX #EFD644 representing candlelight, and the light coming out of the marigold petals that Miguel is stepping on and holding, the color *Neon Orange* with code HEX #F05F28 represents the color of the marigold flowers with various saturations, as well as the overall color of the bridge made of flowers, which in this scene is part of the bridge visually appealing enough.

5   Conclusion

Color palette search through various stages in finding out the color map, especially in the natural movement scene in the Coco animation film, the author can conclude that the final color of this study shows quite appropriate results, where the final color represents each of the keywords that have been determined in a variable in determining the color of death in determining the scene before generating the color. Each color generated represents a part of the visual elements contained in each scene, including flowers, candlelight, the blue color that appears in the night sky, as well as other colors that represent other lights in the sky during the celebration of the day of the dead in the film scene.

In these cut scenes, the story in the scene represents how important visuals and colors are presented, especially in the transition of nature from the world to death. The colors that are presented are no different from the colors in the world, the colors that are present are characterized by other parts of the character having an orange outer glow that makes it look like they are in another part of the real world, as well as the transition of light that comes out with orange from flowers showing the transition and sign as the main character begins to enter the world of death. The results of this study are expected to be a reference in building visuals, especially in depicting the color of death in an animation. Although the colors applied will differ depending on the culture of a place in celebrating or commemorating the day of the dead. For this reason, this finding can be tried to be applied in the visual depiction of animation in Indonesia to enrich the colors in animation, especially in presenting horror things with more colorful coloring.

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