

A Study on Color Emotion Expression in Animation Based on the “Five-Color Aesthetics” of “The Book of Examination”

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Abstract:

This study takes the “Five-Color Aesthetic” (five color) from the Kao Gong Ji as its central perspective to explore its application and value in the emotional expression of color in contemporary animation. By tracing the historical origin and cultural connotations of the five-color system and integrating theories from color psychology, semiotics, and narratology, the research constructs an interdisciplinary framework of “color–emotion–culture–narrative.” Methodologically, the study combines quantitative techniques such as color extraction, RGB/HSV value calculation, and proportional analysis with qualitative cultural interpretation to ensure both rigor and replicability. Two representative Chinese animations—Havoc in Heaven and White Snake—are selected as case studies. Comparative analysis reveals two distinct modes of applying the five-color aesthetic: a “traditional reproduction mode,” which adheres closely to historical symbolism and aesthetic norms, and a “modern innovation mode” which adapts and transforms traditional color meanings for contemporary narrative and emotional needs. The findings demonstrate that the five-color aesthetic not only represents a key component of ancient Chinese aesthetics but also provides a powerful interpretive and practical tool for guiding modern animation color design, enhancing cultural identity, and supporting international communication of Chinese animation. The study contributes theoretical integration, methodological innovation, and practical guidance, while acknowledging limitations such as subjective variability in color-emotion perception, a restricted sample size, and limited attention to dynamic color transitions. Future research should incorporate empirical validation, expand the scope of animation cases, and employ advanced computational tools for dynamic color analysis.

Keywords:

Kao Gong Ji, Five-Color Aesthetic, Animation Color, Emotional Expression

1. Introduction

1.1. Background and Significance

As an important visual language of animation, color not only shapes the atmosphere and conveys emotions, but also assumes the multiple functions of narrative clues and cultural symbols. In the global animation industry, Western color psychology and modern color mixing theory have formed a relatively mature system, while the systematic translation and application of Chinese traditional color concepts are still insufficient.

The “five-color aesthetics” put forward in the book “Kao Gong Ji” - with green, red, yellow, white and black as the core, corresponding to the five elements, directions, seasons and other natural and cultural systems - was used in ancient China’s crafts, ceremonies, architecture and art. This system not only reflects the ancient people’s understanding of color and world order, but also provides a profound cultural resource for contemporary animation color design.

At present, the research on the Kao Gong Ji has been quite rich, mainly focusing on the following directions:

The first category is to make illustrations and detailed translations to explain the original work of the Kao Gong Ji. Earlier ones include Qing-Ruan Yuan’s proofreading and engraving of the Thirteen Classics of the Bible [1], as well as modern studies such as Dai Wusan’s Diagrams of the Kao Gong Ji [2] and Wen Renjun’s Translations and Notes of the Kao Gong Ji [3], which also provide in-depth interpretations of the Kao Gong Ji. It is a work on technical specifications, recording in detail the level of craftsmanship and design at the time, covering a number of specialized fields, including transportation, production tools, weapons, containers, musical instruments, jade, leather, dyeing, and architecture. Each of these areas is divided into more detailed divisions, demonstrating the mastery of craftsmanship and the ingenuity of design at the time. Because of its age, it is especially necessary to have some classical translations and commentaries to aid in understanding, so as to deepen one’s familiarity with the contents of the Kao Gong Ji.

The second category is to grasp the ideas of creation in general, and each category of ideas is slightly mentioned and then listed, mainly including Tian Weiling’s “Ancient Chinese Design Ideas - Material, Beauty, and Workmanship Design Ideas” [4], Zhai Rui’s “Harmonization” to “Seek Goodness - Chinese A Brief Discussion of the Principles of Creation” [5], Li Yanzu’s “Material Beauty and Workmanship”: The Design Ideas of “Zhou Li - Donggong - Kaogongji” [6], etc., which mainly discusses the design ideas of material beauty and workmanship in the “Kao gong ji,” “material beauty” and “workmanship” in the “Kao gong ji” [7], and “material beauty” and “workmanship” in the “Kao gong ji” [8]. As the guiding ideology of ancient artifacts, “material beauty” and “workmanship” emphasized making full use of the characteristics of materials in the manufacturing process. These ideas are not only important for ancient artifacts, but are also relevant for today’s society. Starting from the concept of “Ho-ryang”, appropriate methods and means are used to realize the realm and effect of “Ho-ryang”, thus giving full play to the practical value of the materials. The key to mastering craftsmanship lies in the ability to skillfully utilize experience and technology to bring out the best characteristics of the material.

The third category is the study of the use, principles and ideas of the five aesthetic colors in the Kao gong ji. Among them, there are several representative articles as follows: Song Yuli’s “Kao Gong ji - Painting Aeriform” design thought interpretation [7], mainly on the five-color aesthetic color science research, and the color specification is sorted out and summarized; Xiao Shimeng’s “Kao Gong ji” color

specification research [8], pointing out that it is important to the five-color, heavy with the combination of color and color abstraction specification; Deng Shulan's "Kao Gong ji" color science of the creature Outline Fafan [9], pointed out and constructed the "Kao gong ji" in the hundred workers of the creation of the color system, this study is not only concerned about the color itself, but also concerned about its relationship with society, culture, value, etc., for the color science to fill the research gaps; Li Yaming's "Zhouli - Kao gong ji" color word system [10] this article, "Zhouli - Kao gon gji" of the earliest Chinese handicrafts technology literature to carry out a comprehensive combing, in-depth excavation of the color combination and color abstraction norms. The article comprehensively combs through the Zhouli-Kao gong ji, China's earliest literature on handicraft technology, and digs deep into the color words therein. By applying the principles of traditional Chinese exegesis, semantic concepts and lexical semantics to conduct a detailed analysis, the connotations and meanings of these color words are further revealed. This study not only contributes to a deeper understanding of the color culture in the Kao gong ji, but also provides a new approach and perspective for the study of color words in ancient literature. In addition, the study also provides useful insights for modern design, painting and other fields, and helps to pass on and carry forward the excellent traditional Chinese culture.

The fourth category is to study one of the ideas of creation alone, such as Mr. Dai Wusan's "A Brief Discussion on Craftsmen Building a Nation in Kao Gong Ji" [11], Wang Qi's "Harmonious Design Ideas in Kao Gong Ji and Modern Product Design" [12] and so on, "Kao Gong Ji" is rich in the aesthetics ideas of harmony and mechanical design and the spirit of craftsmanship, mainly "Practical and Aesthetic", "Practical and Aesthetics", and "Craftsmanship". The main "practical and aesthetic unity", "heaven has time, earth has gas, material has beauty, work has skill", "ware and the road", "the unity of heaven and man", "the Tao", "the unity of heaven and man" and other ideas.

At present, there are two obvious deficiencies in color research in the academic world:

(1) Disconnect between theory and creation: the relevant research focuses on the historical and cultural interpretation of the "five colors", and lacks the emotional design method for modern animation.

(2) Lack of interdisciplinary integration: there is a scarcity of research on the combination of modern theories such as color psychology, semiotics and narratology with the aesthetics of "five colors", and there is a lack of operational translation models.

Based on this, this paper proposes an interdisciplinary mapping between "five-color aesthetics" and modern color and emotion theories, and verifies its feasibility through animation case studies, aiming to construct a four-dimensional "five-color-emotion-symbol-narrative" model that can be used in animation creation. The purpose is to construct a four-dimensional mapping model of "five-color-emotion-symbol-narrative" that can be used in animation creation.

1.2. Theoretical foundation and research methodology

1.2.1. Cultural Connotation of Five-color Aesthetics

The five-color aesthetics in the Kao Gong Ji is an important part of the color theory in ancient China, linking green, red, white, black and yellow with the five elements,

directions and seasons, forming a unique color system. For example, green and red is called Wen, red and white is called Zhang, white and black is called “fǔ”, black and green is called “fú”, which reflects the ancient people’s aesthetic relationship and harmonious principles of color matching. This concept not only focuses on color itself, but also gives it a rich cultural and symbolic meaning [13].

1.2.2. Color Psychology, Semiotics and Narrative Core Views

Color psychology: colors can trigger specific emotional responses, such as ruddy evokes excitement and tension, cyan conveys calmness and hope. Modern psychology often uses the Valence-Arousal model to analyze the relationship between color and emotion.

Color semiotics: Color is a cultural symbol whose meaning is influenced by historical traditions and social contexts. For example, yellow symbolizes dignity and power in traditional Chinese culture, while in the West it may be associated with warning or danger.

Color Narrative: In animation, color not only shapes the visual atmosphere, but also participates in the control of narrative rhythm, character portrayal and hints of plot twists. The change of color can be an important clue to promote the development of the plot.

1.2.3. Research Methods and Technical Routes

Literature research method: combing the relevant research results of “The Book of Examination” and the five-color aesthetics, combining the theories of color psychology, semiotics and narratology to provide theoretical support for the study.

Semiotic analysis method: analyze the symbolic meanings of the five colors in different cultural contexts, and refine the color symbol system applicable to animation.

Comparative case analysis method: Select representative Chinese animation films (e.g. “The Palace of Heaven”, “The Rise of the White Snake”) and compare their color usage patterns, emotional expression effects and cultural symbols transmission characteristics.

Technical route: as shown in Figure 1.

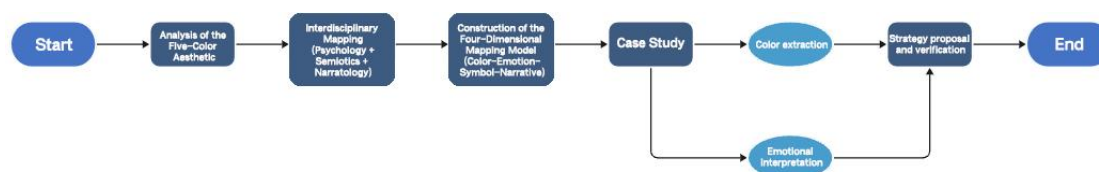


Figure 1. Technical route.

2. The Mapping of Five Color Aesthetics and Modern Color Emotion Theory

2.1. Psychological correlation between the five colors and emotions

2.1.1. Philosophical and Aesthetic Roots

The concept of five colors is the core of the ancient Chinese color system, and its earliest origin can be traced back to the cosmology and five elements doctrine in the pre-Qin period. The I Ching puts forward that “there are five colors in the sky to form and nurture”, and the Book of Rites - The Order of the Moon further clarifies the

correspondence between the five colors and the five directions, the five elements and the seasons: green-wood-east-spring, red-fire-south-summer, white-fire-south-summer, white-fire-south-summer, and white-fire-south-summer. Fire - South - Summer, White - Gold - West - Autumn, Black - Water - North - Winter, Yellow -earth - middle - the turn of the seasons. This color system embodies the philosophical concept of “unity of heaven and man”, integrating the natural order, political system and aesthetic concept.

In the Kao Gong Ji, the five colors are not only the color standards for craftsmanship, but also symbols of ritual and authority. For example, yellow is regarded as the central color, belonging exclusively to the emperor; red is often used in major sacrificial ceremonies; black is mostly used for palace pedestals and dresses, signifying solemnity and stability. This institutionalized color order constituted the unique ritual aesthetics of ancient China. According to ZongBaihua, the uniqueness of the Chinese view of color lies in the fact that it “transcends the purely sensual and puts color into a metaphysical order”, which is not only about visual pleasure, but also about the symbolic expression of the functioning of the universe and social ethics.

2.1.2. Psycho-emotional response

Modern color psychology confirms that different colors can trigger specific emotional and physiological responses under visual stimulation, and Eysenck’s (1941) study and Russell’s (1980) Valence-Arousal model both show that colors can be used to stimulate emotional and physiological responses through “pleasantness” and “arousal”. “Arousal” affects the audience’s emotional state, which is highly compatible with the attributes of the five ancient colors. As shown in Table 1, combined with the Valence-Arousal model, the correspondence between the five colors and emotional dimensions is established as follows:

Table 1. *Correspondence between the five colors and emotional dimensions.*

Five Colors	Emotional orientation (arousal, pleasure)	Core Emotion Label
Cyan color	Low arousal, medium-high pleasure	Calm, fresh, sense of hope, good for expressing nature and beginnings
Red	High arousal, high pleasure	Passion, excitement, tension, suitable for conflict and climax;
White	Low arousal, neutral pleasure	Calm, pure, lonely, suitable for tragic or rational scenes.
Black	Low arousal, low pleasure	Mysterious, depressing, fearful, often used in crisis or villainous scenes
Yellow	Medium arousal, high pleasure	Warmth, happiness, stability, suitable for the narrative nodes of peace and reunion.

In animation art, the saturation, contrast and color temperature of colors are often intensified to accelerate the transmission of emotions. For example, in the climax of the animation, the high saturation combination of red and yellow can quickly raise the audience’s psychological arousal level; while in the lyrical passages, the low saturation collocation of cyan and white can create a calm atmosphere.

2.2. Cultural Symbols and Narrative Functions of the Five Colors

2.2.1. Semiotic Interpretation

From a semiotic point of view, the five colors are not only visual phenomena, but also the core elements of the cultural symbol system. It constitutes a highly stable and decipherable symbolic network through its correspondence with natural attributes (wood, fire, gold, water, and earth), spatial orientation (east, south, west, north, and

center), temporal rhythms (spring, summer, autumn, and winter), and social order (emperors and kings, rituals, and ceremonies).

Historical artifacts and artistic examples show that the five colors had a wide and stable application in ancient life and art:

Shang and Zhou jades: often green and white, symbolizing purity and vitality; Zhou, Qin and Han lacquerware: black background with red stripes, embodying solemnity and authority; Tang Sancai: a combination of yellow, green (qing) and white, symbolizing good fortune, harvest and harmony; Dunhuang murals: a red background to create a sense of religious sanctity, and green landscapes to convey eternity and serenity. These symbolic meanings can be transformed into various narrative functions in animation:

Characterization: For example, in animation character design, yellow can be used for royalty or leadership roles, and black is often given to villains or mysterious characters.

Plot twist hints: Color changes can be used as narrative signals, e.g., a shift from cyan to red suggests the climax of the plot.

Reinforcement of atmosphere: White background can emphasize the solemnity of a tragic plot, while black can deepen the sense of suspense and oppression.

2.2.2. Cross-cultural differences and communication

Cross-cultural contexts may produce different interpretations of the five-color symbol. For example, white in the West is mostly associated with weddings and purity, while in Chinese culture it is closely associated with funerals and solemnity. This difference implies that in international animation creation, it is necessary to moderately adjust the color semantics while retaining the core of local culture, in order to achieve a two-way adaptation of cultural communication.

2.3. Integration of Five Colors and Modern Color Emotion Model

2.3.1. Model construction and methodology

In order to effectively integrate the ancient five-color system into modern animation creation, this study proposes a four-dimensional mapping model of “five-color-emotion-symbol-narrative”. The model integrates ancient ritual aesthetics, modern color psychology, semiotics and narratology, which can be used for academic analysis and as a design tool for animation color matching.

Table 2 below shows the mapping table of color-emotion-symbol-narrative of “The Book of Examination”.

Table 2. Mapping Table of Five Colors - Emotions - Symbols - Narrative of The Book of Examination.

Five Colors	Mental Emotion (Color Psychology)	Emotional Orientation	Arousal	Cultural Symbols (Semiotics)	Narrative Function (Narratology)
Cyan (color)	Serenity, hope, freshness, growth	Positive	Middle	Oriental, spring, wood, life, youth	Beginnings, Growth, Natural Landscapes, Exploration
Red	Enthusiasm, excitement, tension, danger	Positive	High	South, summer, fire, power, ritual	Climax, Conflict, Celebration, Ritual
White	Purity, calm,	Neutral to	Neutral	West, Autumn,	Revealing truth,

	solitude, rationality	positive		Gold, Solemnity, Justice	rational judgment, finality, sadness
Black	Mystery, Fear, Heaviness, Depression	Neutral and negative	Low	North, Winter, Water, Death, Unknown	Crisis, intrigue, oppression, villainy
Yellow	Warmth, stability, honor, happiness	Negative	Low	Center, earth, royalty, harvest, balance	Core characters, peace and stability, reunion, harvest

2.3.2. Application Process

The application process of the model is divided into three steps:

Input stage: select the core colors that conform to the five-color system according to the theme and emotional needs of the plot.

Analysis stage: use the mapping table to interpret the emotional and symbolic meanings carried by the colors and match the narrative rhythm.

Output stage: Form a color scheme that meets the cultural connotation and emotional expression, and dynamically adjust it in the animation production.

2.3.3. Validation and Practical Significance

In order to verify the validity of the model, we can design audience emotional response experiments or questionnaire surveys, so that viewers from different cultural backgrounds can watch the animation clips applying the five-color model, and record their emotional responses and cultural interpretations. This process can not only provide data support for the model, but also discover the differences in color acceptance in cross-cultural communication, which can provide a basis for revision in subsequent animation creation.

3. Case Study of Five-color Aesthetics in Animation Color Emotion Expression

Based on the four-dimensional mapping model of “five-color-emotion-symbol-narrative” constructed in Chapter 2, the purpose of this chapter is to compare and analyze the differences and commonalities between traditional and modern animations in terms of color and emotion expression. The study selects the representative animations in the history of Chinese animation, such as “The Great Pandemonium” (Shanghai Fine Arts Film Studio, 1961/1964) and “The Rise of the White Snake” (Chasing Light Animation, 2019), with the former representing the traditional reproduction type and the latter representing the modern innovative type as case studies [14]. The analysis process comprehensively adopts color extraction, emotion mapping, and cultural symbols interpretation, aiming to verify the applicability of the model and refine the universal laws.

3.1. Research Methodology and Technical Process

In order to ensure the reproducibility and academic validity of the analysis, this study adopts the following methodological process, see Figure 2:

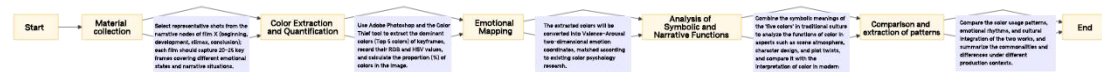


Figure 2. Flowchart of research methodology.

3.1.1. Material Collection

Select the representative shots in the key narrative nodes (beginning, development, climax and ending) of the movie, and intercept 20-25 key frames from each movie, covering different emotional states and narrative situations.

3.1.2. Color extraction and quantification

Use Adobe Illustrator tools to extract the dominant colors (Top 5 colors) of the key frames, record their RGB and HSV values, and calculate the percentage (%) of the colors in the frame.

3.1.3. Mood Mapping

The extracted colors are converted into Valence-Arousal (Pleasure-Arousal) two-dimensional emotional coordinates, which are matched according to established color psychology studies.

3.1.4. Symbolic and Narrative Function Analysis

Combining the symbolic meaning of “five colors” in traditional culture, we analyze the function of color in the atmosphere of the scene, characterization, plot twists and so on, and compare it with the interpretation of color in the modern context.

3.1.5. Comparison and Refinement of Laws

Compare the color usage patterns, emotional rhythms and cultural integration of the two works, and summarize the commonalities and differences in different creative contexts.

3.2. Case Study 1: The Great Pandemonium

The “Pandemonium of Heavenly Palace” is a classic work of traditional Chinese animation, in which the use of color strictly follows the five-color aesthetics and has a distinctive national style. In this work, color not only conveys emotion, but also assumes the role of building cultural symbols and promoting the narrative.

As shown in Figure 3, the main color composition of the film can be obtained by extracting and counting the color frame by frame, and Figure 4 uses Adobe Illustrator tools to extract the main color of the key frames.

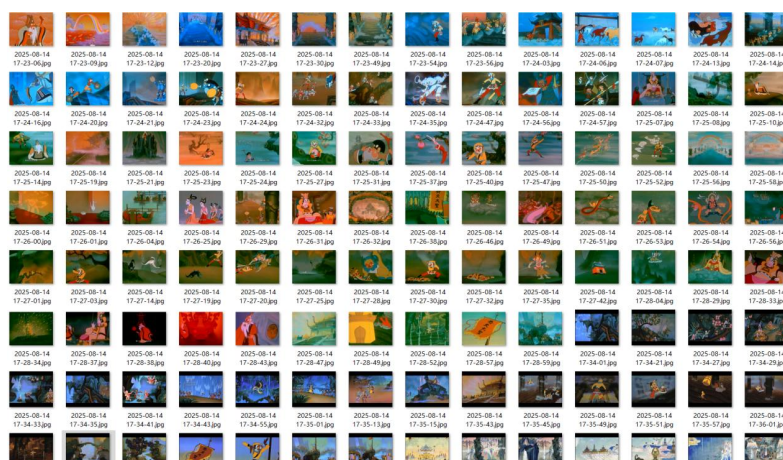


Figure 3. Screenshot of the clip of “The Greatest Showman” (data as of: “The Greatest Showman 1961” original film).

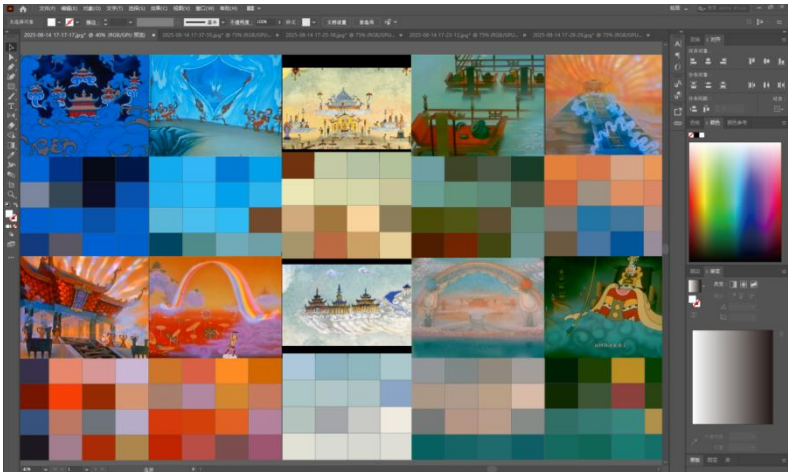


Figure 4. Example of key frame color extraction for “The Greatest Showman”.

From Table 3 , it can be seen that yellow color accounts for the highest proportion in the film, which is mainly reflected in the palace buildings, the Monkey King’s costume and other elements, which strengthens the symbolism of the authority and sanctity of the heavenly court; cyan is mostly used in the background sky and landscape, which builds a tranquil atmosphere and balances the tension of the overall picture; red color is used as the strengthening color of conflict and climax, and whenever there is a flame or a battle scene, the proportion of red color increases significantly, which pushes the plot tension. This color scheme shows that “The Palace of Heaven” realizes the symbolic expression of traditional mythological narratives through direct and strong visual impact of colors.

Table 3. Main Color Parameters of The Palace of Heaven. (Source: Photoshop + Python Color Analysis extracted by the author based on the frames of the film)

Color Category	RGB value	HSV value	Percentage (%)	Cultural symbols and emotional functions
Yellow color	(230, 190, 50)	(45°, 78%, 90%)	30% of the total	Imperial majesty, sacredness
Cyan	(80, 150, 200)	(200°, 60%, 78%)	25% (200°, 60%, 78%)	Natural serenity, freshness
Red	(200, 60, 50)	(5°, 75%, 78%)	20% (5°, 75%, 78%)	Heat, passion, conflict
White	(240, 240, 240)	(0°, 0%, 94%)	12.5%	Purity, Elegance
Black	(30, 30, 30)	(0°, 0%, 12%)	12.5% (0%, 0%, 12%)	Mysterious, solemn, antagonistic

3.3. Case Study Two: The Rise of the White Snake

Different from the traditional reproduction style of “The Palace of Heavenly Creatures” The Rise of the White Snake“ presents ”modern innovative characteristics in the application of color, with a softer and more hierarchical color composition, focusing on the delicate progression of emotions. For example, Figure 5 selects the representative shots in the key narrative nodes (beginning, development, climax and ending) for main color extraction, and Figure 6 uses Adobe Illustrator tools to extract the main color of the key frames.

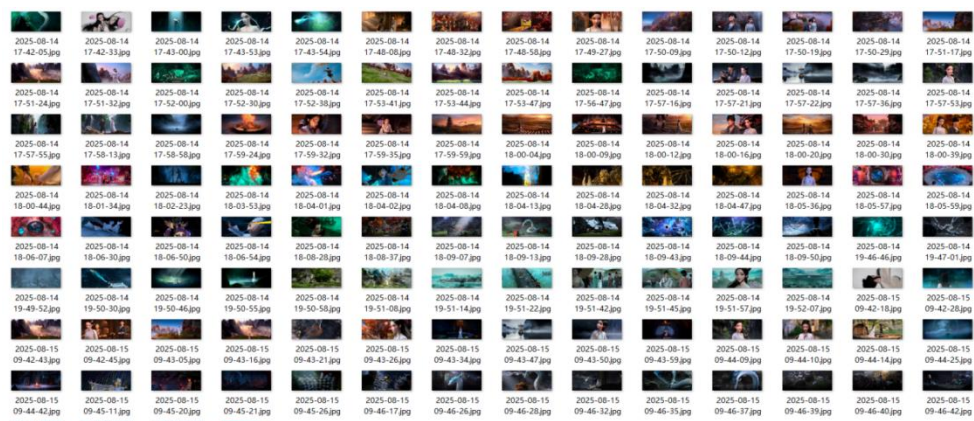


Figure 5. Screenshot of a clip from “The Rise of the White Snake”.

Data source: original film “The Rise of the White Snake 2019”

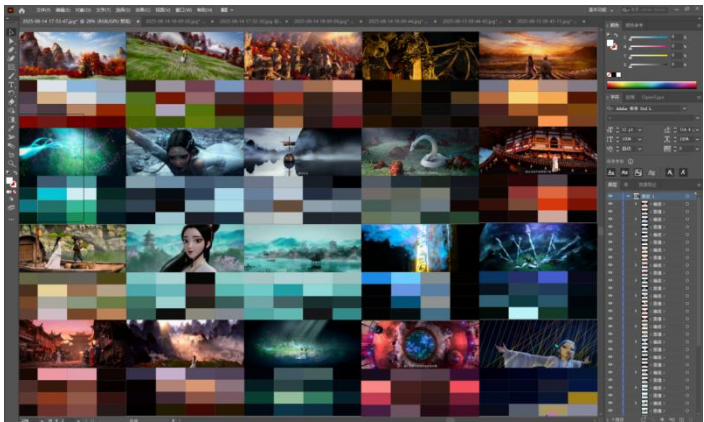


Figure 6. Example of keyframe color extraction for “The Rise of the White Snake”.

From Table 4, it can be seen that white and cyan dominate the movie. White symbolizes the pure identity and extraordinary temperament of the heroine Bai Suzhen, while cyan gives the character a modern character trait of toughness and softness. In contrast, grayish cyan and black are used in crisis scenes to suggest conflict and threat. Unlike the directly contrasting colors of “The Palace of Heaven”, “The Fate of the White Snake” pays more attention to transitions and gradations in color. For example, white and light green are used to create a romantic atmosphere in the first encounter scene, while gray and black are gradually introduced in the conflict scene, forming a progressive color narrative from bright to depressing.

Table 4. Main Color Parameters of “The White Snake”.

Color Category	RGB value	HSV value	Percentage (%)	Cultural Symbols and Emotional Functions
White color	(245, 245, 245)	(0°, 0%, 96%)	28% of the total	Purity, softness, character identity symbol
Cyan	(120, 170, 160)	(170°, 29%, 67%)	25% (170°, 29%, 67%)	Gentle, tough, spiritual
Light green	(160, 200, 150)	(110°, 25%, 78%)	20% (110°, 25%, 78%)	Vitality, hope, springtime
Grayish cyan	(90, 110, 120)	(200°, 25%, 47%)	15 percent	Depressing, tense atmosphere
Black	(25, 25, 25)	(0°, 0%, 10%)	12% (0°, 0%, 10%)	Doom, conflict, sense of crisis

Data source: Photoshop + Python color analysis extracted by the author based on the frames of the film

3.4. Comparison of Cases and Refinement of Laws

In order to visually demonstrate the difference in the use of color between *The Palace of Heavenly Creatures* and *The Rise of the White Snake*, we quantitatively analyzed the ratio of the five colors in the two animations and drew the following bar chart. See Figure 7, the bar chart clearly presents the different emphasis on the use of the five colors of green, red, yellow, white and black in the two works, providing data support for the subsequent summary of the laws.

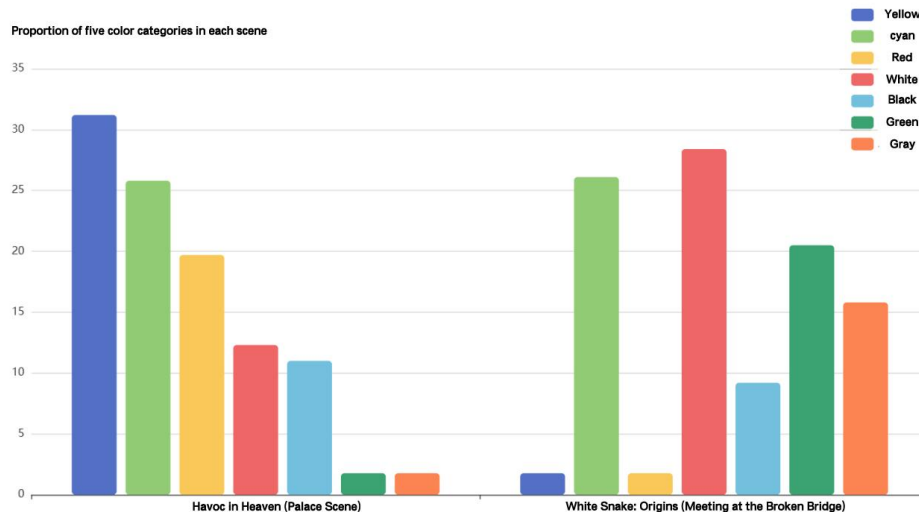


Figure 7. Columnar comparison chart of the ratio of the five colors in “*The Palace of Heavenly Creatures*” and “*The Rim of the White Snake*”.

From the chart, it can be seen that the use of color in “*The Palace of Heaven*” is dominated by yellow, red, and green, with highly saturated and highly evocative color characteristics, which directly expresses the grandeur and tension of the mythological narrative through the enhancement of color contrasts and saturation; whereas “*The Rise of the White Snake*” dominated by green, white, and black, displaying a low-saturated and low-evocative color style that focuses on conveying the delicate emotional experience through the soft color layers and gradual transitions. The former emphasizes “traditional symbols”. The former emphasizes the “reproduction of traditional symbols”, while the latter emphasizes the “modern translation of symbols”. These differences reflect the different pursuits of the two works in terms of emotional expression and narrative rhythm. They are analyzed as follows:

3.4.1. Emotional Dimension and Mapping Relationship of Colors

According to the Valence-Arousal model (Pleasure-Arousal model), color can affect the audience’s emotional response through two major dimensions (pleasure and arousal). In animation, different colors can effectively convey different emotions in different contexts [15]. High arousal colors (e.g., red, yellow) usually stimulate the audience’s excitement, passion, and tension, and are suitable for conflict and climax; low arousal colors (e.g., cyan, white, and black) convey calmer, cooler, or mysterious emotions, and are often used in transitional scenes or to imply a dangerous and suspenseful atmosphere. By analyzing the frame-by-frame screenshot data of *The*

Palace of Heavenly Creatures and The Rise of the White Snake, the following mapping relationships are derived, as shown in Table 5.

Table 5. *Valence-Arousal model (pleasantness-arousal model).*

Five colors	Emotional orientation (arousal, pleasure)	Core Emotional Labeling	Application Scene
Cyan color	Low arousal, medium-high pleasantness	Calm, fresh, hopeful, sense of nature	Natural landscapes, beginnings
Red	High arousal, high pleasantness	Passion, excitement, tension, danger	Conflict, climax
White	Low arousal, neutral pleasure.	Calmness, purity, solitude, rationality	Tragic, rational scenes
Black	Low arousal, low pleasantness	Mysterious, depressing, fearful, heavy	Villainous, Crisis, Suspense
Yellow	Medium arousal, high pleasantness	Warmth, stability, happiness, honor	Peaceful, Reunion, Honorable

After an in-depth analysis of the use of color in the two animations “The Palace of Heaven” and “The White Snake”, it can be found that there is a close connection with the four-dimensional mapping model of “five-color-emotion-symbol-narrative” proposed in Chapter 2, which is able to effectively explain the two works. The model is able to effectively explain the color matching decisions of the two works and the resulting emotional effects of the colors.

3.4.2. Color-emotion mapping in “The Palace of Heavenly Creatures”

The application of the five colors in The Great Pandemonium is very much in line with the traditional cultural symbols and emotional mapping. Through the color analysis of several key scenes in the film, we found that:

Yellow (30%) conveys the emotion of sanctity and majesty, symbolizing the dignity and authority of the Heavenly Palace, and also suggesting the core of the Monkey King’s rebellious spirit. Yellow is both a reverence for traditional authority and a reflection of the Monkey King’s impulse to challenge this authority. Cyan (25%), on the other hand, creates a serene atmosphere that conveys feelings of calm and hope, helping the viewer to maintain emotional balance during the tense drama. The cyan background gives the entire story scene a sense of harmony, as if it were in a mythical fairyland. The red color (20%) appears frequently in the battle scenes, adding passion and tension. Whenever the red color makes an appearance, the audience’s emotions rise with it, enhancing the intensity of the dramatic conflict.

White (12.5%) and black (12.5%) are used as secondary colors. White conveys purity and elegance, while black enhances shadows and mystery, especially when depicting the villainous characters, black highlights their sinister and dangerous nature.

Through the combination of these colors, the film effectively conveys the dual emotions of dignity and defiance, calmness and tension, and enhances the emotional tension and narrative depth of the whole story.

3.4.3. Emotional Mapping of Colors in The Rise of the White Snake

The “Rise of the White Snake” made more innovations in the use of colors, especially in the emotional expression and the building of the plot atmosphere, colors played an important role. Cyan (32%) conveys the emotion of freshness and hope,

especially in the scene when Bai Suzhen and Xu Xian first met, cyan symbolizes tenderness and pure love, adding to the romantic atmosphere. White (26%) represents purity and a sense of destiny, reinforcing the sadness of the character of Bai Suzhen, especially in the plot twist, white reinforces the heaviness of the character's fate. Black (21%) is mostly used in the scenes of villainous characters such as Fa Hai. The use of black brings a mysterious and fearful mood, suggesting the coming conflict and the dilemma faced by the characters. The use of these colors makes the film very precise in conveying emotions, from the romantic first encounter to the suspenseful conflict, the color changes help the audience to follow the ups and downs of the characters' emotions, which enhances the emotional tension of the film [16].

The following patterns can be summarized by comparing the two works, as shown in Table 6 and Table 7.

Table 6. Comparison of Color Usage between *The Greatest Showman* (1961) and *White Snake: The Fate of the Furious* (2019).

Analyze the dimension	The Greatest Showman.	The Rise of the White Snake	Summary of Laws
Degree of dominance of the five colors	High dominance, high color purity	Low dominant, color ambience	Explicit type reinforces cultural symbols, implicit type enhances cross-cultural adaptation
Emotional rhythm	Dramatic, fast color switching	Gradual, color progression	Dramatic for epic/comedy, progressive for romance/fantasy
Symbolic function	Ritual and folk visual tradition	Oriental fantasy and modern narrative	The former emphasizes cultural discipline, the latter focuses on emotional resonance
Model Match	Highly consistent	Highly consistent but mixed across color gamut	Models are compatible with different creative contexts

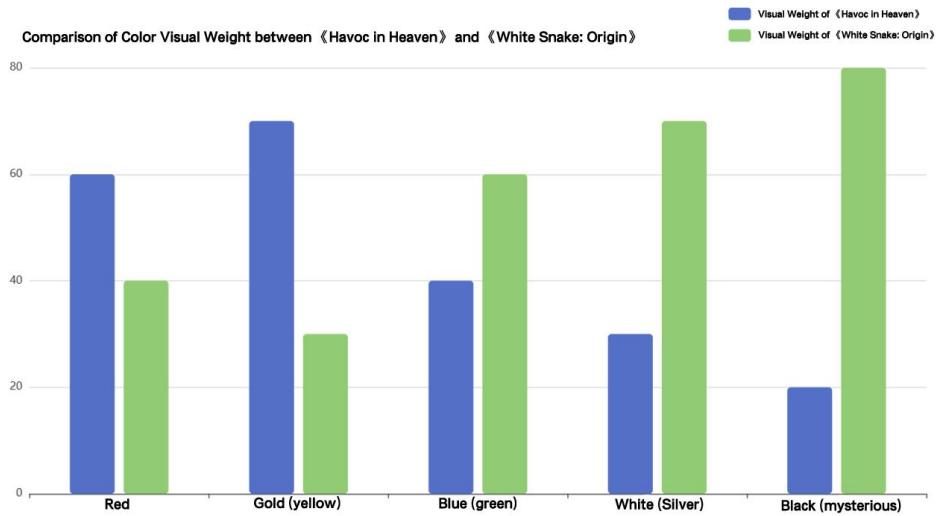


Table 7. Comparative analysis of the visual weights of representative colors in *The Big Trouble in the Palace of Heaven* (1961) and *White Snake: The Fate of the Furious* (2019).

In summary, this chapter reveals the path of expression of the five-color aesthetics in different animation contexts by analyzing the five-color color schemes of *The Greatest Showman* and *White Snake: The Rim of the Earth* in a combination of quantitative and qualitative analyses, as shown in Table 8. The former reinforces the reproduction of traditional culture, while the latter shows the modernized translation of cultural imagery. This lays an empirical foundation for the next chapter, which proposes the color expression strategy of animation under the guidance of “five-color aesthetics”.

4. Animation Color Expression Strategy Based on Five-Color Aesthetics

4.1. Cultural heritage-oriented color matching principle

Combination of traditional chromatography and modern color trends: study the traditional chromatography in depth, and refine the representative five-color hues, such as the jewel green in cyan, the red in red, such as vermilion. At the same time, combined with modern color mixing trends, these traditional colors are appropriately adjusted and optimized, so that they can present the best visual effect on modern animation display devices. For example, considering the color gamut range of modern display screen, the saturation, brightness and other parameters of traditional colors are fine-tuned, so that the traditional colors can be more in line with the visual aesthetic needs of modern audience on the basis of maintaining the original cultural connotation.

Suggestion table for main and auxiliary colors: Based on the matching principle of five-color aesthetics and modern color theory, we formulate a suggestion table for main and auxiliary colors. When yellow is the main color, it can be matched with white and cyan as auxiliary colors to form a bright and fresh picture style, which implies harvest, happiness and vitality; when black is the main color, it can be matched with grey and dark blue as auxiliary colors to create a deep and mysterious atmosphere, which is suitable for animation with the themes of suspense, science fiction and so on. The following Table 8 is the suggestion table of main color and auxiliary color matching:

Table 8. Main and Auxiliary Color Matching Suggestion Table.

Animation type	Main color (five colors)	Secondary colors (adjacent / complementary)	Typical mood expression
Mythological and epic	Yellow, Red	Green, White	Solemn, passionate
Lyrical love	Green, white	Light green, pink	Fresh, pure, soft
Suspense and Thriller	Black, green	Dark red, gray	Mysterious, depressing, tense
Inspirational and adventurous	Red, Yellow	Blue, White	Passionate, hopeful, positive

4.2. Technology Integration and Expression Path

In contemporary animation production, the application of the five-color aesthetic not only relies on color selection, but also needs to be deeply integrated with digital technology to achieve a more immersive and emotionally expressive picture effect.

Digital color reproduction and texture simulation: Through high-precision color management system (CMS) to ensure the consistency of the five colors on different

display devices, and at the same time using PBR (Physically Based Rendering) material rendering, so that the colors in the change of light and shadow to maintain the real texture. Digital scanning and spectral analysis of the pigment texture in the traditional process, and texture mapping reproduction in 3D rendering, so that the audience can feel the “temperature” and “texture” of the traditional colors [17].

The application of five-color mood in 3D modeling and virtual shooting: In the 3D modeling stage, the color tone of the scene can be constructed through the five colors to ensure the uniformity and cultural consistency of the environment and character colors. Using Virtual Production technology, the five colors are dynamically adjusted in the real-time rendering environment to ensure that the colors change in sync with the rhythm of the narrative. For example, increase the proportion of red color in the climax of the emotion, and increase the proportion of cyan and white in the relaxation passages.

4.3. Theory Translation Methodology

In the practice of animation creation, in order to better transform the cultural connotation of traditional colors into the color expression that meets the emotional needs and aesthetic cognition of modern audiences, the following reusable steps are proposed for the translation of “traditional colors → modern emotions”: Step 1: Analysis of cultural connotation: In-depth study of the cultural connotations of the five-color aesthetic of the “Book of Examination and Works” and the traditional Chinese color system, including the cultural connotations of the five-color system of the “Book of Examination and Works” and the cultural connotations of the traditional Chinese color system. Step 2: Emotional orientation and narrative demand analysis: According to the theme, plot development, characterization and narrative rhythm of the animation, clarify the emotional tone and narrative function of each scene or paragraph, and determine the emotional goal of the color, for example, whether it is to create a tense and stimulating atmosphere of conflict or to express romantic and warm emotional moments. Step 3: Color Mapping and Symbol Conversion: Based on the four-dimensional mapping model of “color-emotion-symbol-narrative”, combined with the results of cultural connotation analysis and emotional orientation, the traditional five colors and their cultural symbolism are symbolically converted and mapped, and the colors are selected to match the emotional tone and narrative function of the scene or passage. Convert and map the traditional five colors and their cultural symbolism, choose the colors that match the emotional goals and narrative needs, and determine their specific expressions in the picture, such as brightness, saturation, hue matching, etc. Meanwhile, take into account the potential differences in interpretation of the colors in different cultural contexts, and make the necessary localization adjustments. Step 4: Visual presentation and technical verification: Using modern animation production techniques, such as 3D modeling, rendering, light and shadow simulation, etc., visually present the selected color scheme, and preliminarily test the visual effect and emotion conveying ability of the color in the actual picture by making color conceptual drawings, split-screen drawings or test animation clips, etc. The visual effect and emotion conveying ability

of the color in the actual picture will be preliminarily examined. Audiences from different cultural backgrounds are invited to conduct trial viewings and feedback to collect their emotional responses and cultural interpretations of the colors, and to analyze whether there are any misunderstandings of the color symbols or deviations in the expression of emotions. According to the feedback results, optimize and adjust the color scheme to ensure that the color can accurately and effectively convey the expected emotional and narrative information, and integrate with the overall animation style and visual language, and ultimately realize the successful translation of the traditional color and cultural connotation to the modern animation color expression, so that the work in the inheritance of traditional culture, at the same time, to meet the aesthetic and emotional needs of the modern audience, and enhance the cultural value and artistic infectivity of animation works. value and artistic infectivity of animation works.

Comprehensively the above modifications and additions, the thesis in the case study part more clearly presents the close connection between the two animation works and the theoretical model, and strengthens the explanatory power of the theory and practical guidance significance through the refinement of the law; in the part of the strategy and methodology, the color matching suggestions are presented in a more intuitive table form, and the newly added theoretical translation methodology provides a more operative guiding program for the animation creation practice, which enhances the overall value and practicability of the thesis. The overall value and practicality of the thesis is enhanced.

5. Conclusions

This study takes the “five-color aesthetics” of “The Examiner’s Record” as the core, constructs an interdisciplinary mapping framework of “five-color-emotion-culture-narrative” and Through case studies and qualitative and quantitative methods, the two modes of traditional reproduction and modern innovation of the five colors in animation color emotion expression are revealed, which not only expands the theoretical boundaries of animation color research, but also provides practical references for the digital inheritance of China’s traditional color culture and the international dissemination of contemporary animation; the innovation lies in the integration of theories, improvement of the methodology and the proposal of practical paths, but the research is still limited by the differences in the audience’s perception, the limited number of cases, and the limited number of the viewers’ perception. Its innovation lies in the integration of theory, methodological improvement and practical path, but the study is still limited by the audience’s perceptual differences, the limited number of cases and static analysis, etc. In the future, it can be further promoted in the empirical verification, sample expansion and technical deepening.

Conflicts of Interest

The author declares that there is no conflict of interest regarding the publication of this article.

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