

## Application of the Traditional Chinese Five-Color View to the Color Patterns in Ming Dynasty Temple Murals

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### Abstract

The traditional Chinese concept of five colors is an integral part of China's cultural and artistic heritage. Rooted in ancient philosophical reflections on the laws of nature and the operation of the universe, the five-color concept embodies the ancients' profound understanding of the world and their construction of a cultural system.

This study examines the link between the five traditional Chinese colors and the five directions, a relationship that has long guided the use of color in Chinese mural art. Focusing on Ming Dynasty temple murals, the research explores how this philosophical system is reflected in color choices, revealing themes of harmony, balance, and order. Qualitative methods—including literature reviews, comparative studies, and case analyses—were used to explore the connection among the five elements, directions, and colors, as well as their artistic application. Quantitative methods, such as experiments and data analysis, further assessed how five-color schemes influence visual perception, emotional impact, and cultural symbolism. The findings show that Ming murals developed a complex color framework rooted in philosophical and cosmological ideas, which enhanced both spiritual meaning and aesthetic expression. These murals not only convey religious content but also mirror cultural ideals and visual standards of the time. This research highlights the importance of traditional color theory in mural art, examining its philosophical basis, artistic techniques, and broader cultural meaning. It also considers how these traditional principles still motivate and inform contemporary artistic practices.

**Keywords:** Traditional color concepts, Five color concepts, Ming dynasty temple murals, Color system

### How to Cite

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## Introduction

The traditional Chinese concept of color is an important part of Chinese culture, in which the “five-color view” is the core of traditional color theory. The concept of five colors originated from the ancient philosophical discussions regarding the laws of nature and the operation of the universe, reflecting the ancient people's profound knowledge of the world and the construction of their cultural system. It is stated in the “Zhou Li - Kao Gong Ji”: “Aerating is done with five colors: the east is called green, the south is called red, the west is called white, the north is called black, the sky is called xuan, and the earth is called yellow.” This classic expression clarifies the correspondence between the five colors and the five directions and has become the theoretical basis for the practice of color in Chinese painting. As an important carrier of traditional Chinese painting, Ming Dynasty temple murals not only inherited the philosophical basis of the five-color view but also showed its rich cultural connotation in technique and artistic practice. This paper takes the Ming Dynasty temple murals as the research object and explores the specific practice and artistic expression of the five-color concept in them.

## Research objectives

Study the color patterns of Ming Dynasty temple murals and design a set of color cards to be applied to modern design works.

## Research methodology

The purpose of this chapter is to outline the research methodology employed in this study. Recommend using a combination of quantitative and qualitative methods during the research process.

1. Literature analysis method: combing through the historical origins of the five-color concepts and their philosophical ideas and understanding their theoretical origins through ancient literature, such as the Zhou Li and the Huainanzi. This method lays a theoretical basis for further exploring how these concepts were applied in Ming Dynasty art practice (especially temple mural design).

2. Case study method: This method focuses on the mural paintings in Ming Dynasty temples, specifically looking at notable works from Fahai Temple and Zhihua Temple in Beijing to deeply analyze how the five-color concept is shown in their use of color and cultural meaning. The case study provides vivid examples for revealing the specific practice of the

five-color concept and provides a reference for modern art design to draw on traditional color concepts.

3. Comparative analysis method: By comparing the traditional use of color and the color expression in modern art design and analyzing the similarities and differences in cultural concepts, visual expression and technical methods, we explore the significance of the inheritance and inspiration of the traditional Chinese concept of five colors to modern art.

4. Data Analysis: Using SPSS or other data analysis tools, the questionnaire scores and eye movement data will be statistically analyzed to verify the significant difference between different combinations of visual appeal.

### Research tools

1. Digital imaging tools: use high-definition photographic equipment to record the colors of the murals, and carry out color restoration and analysis through Photoshop and other image processing software.

2. Color analysis software: use professional software to quantitatively study the color composition, brightness and saturation of the murals.

3. Literature management tools: organize and manage the ancient literature and modern research materials involved in the study for easy citation and analysis.

4. Field research equipment: including portable microscopes, color cards, spectrometers and recording tools for on-site observation of pigment properties and recording of mural information.

### Research results

1. The concept of five colors is the philosophical foundation at the core of traditional Chinese color theory, revealing the correspondence between the five colors and the five elements and the five directions as well as their cultural connotations.

As an important part of traditional Chinese colour philosophy, the five-colour concept not only carries the ancient people's knowledge of nature and society but also incorporates deep cultural emotions. As an important embodiment of religious art, Ming Dynasty temple murals present deep artistic charm and cultural connotation with the philosophical thinking and emotional transmission of the five-colour concept in the colour configuration.

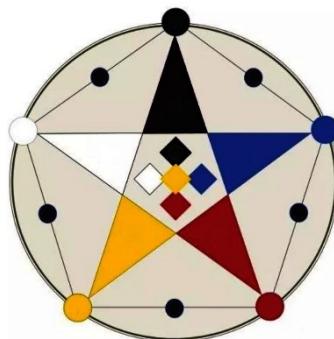
According to Zhouli - Kaogongji, Painting colors, mixed five colors: the east is called green, the south is called red, the west is called white and the north is called black. The sky is called Xuan, and the earth is called yellow". Green is adjacent to white, red is adjacent to

black, and xuan is adjacent to yellow (Zhang, 2005; Zengjian & Herrmann, 2019). According to Huainanzi (139 BCE) (ChinaKnowledge, 2010), “the number of color but five, and the five colors of change can not be obtained and seen.” Therefore, the sound, the Palace away from the five sound form carry on; taste, Gan away from the five taste, Ting carries on; color, white away from the five colors into carry on. Qing Dynasty Shen Zongqian's “Mustard Seed Ship Painting Biography” said: five colors from the five elements, known as the right color (Ch'iu, 1951; Liu, 2009; Bennett, 2011). And the five elements mixed and become, so-called between the color, are the natural things of heaven and earth. The five colors - green, red, yellow, white and black - correspond to the five elements of the five elements: wood, fire, earth, gold and water; the five directions: east, south, central, west and north; and the five elements of Buddhism: earth, water, fire, wind and air (Chun, 2023).

**Table 1** The Five Elements and Other "Five" Concepts

Five Elements	Wood	Fire	Earth	Metal	Water
Five Seasons	Spring	Summer	Late Summer	Autumn	Winter
Five Colors	Green	Red	Yellow	White	Black
Five Tastes	Sour	Bitter	Sweet	Spicy	Salty
Five Sounds	Jiao	Zhi	Gong	Shang	Yu
Five Directions	East	South	(Center)	West	North

The relationship among the five elements involves both their generative interactions and their opposing characteristics. Both the auspicious and the vicious are present. Therefore, in the five elements of color matching, there are often the five elements of color matching; in the five elements of grams, grams of color often become taboo, but the grams of color conversion also become a way of color matching. First, the five elements are born together. The five elements that water is born of wood, wood and fire, fire and earth, earth and gold, gold and water, the so-called “raw” that is, generate, help grow, and the raw auspicious. The five elements are born in terms of color, that is, black and green, green and red, red and yellow, yellow and white, white and black, the former for the mother and the latter for the child, the former to set off the latter.



**Figure 1** multi-colored

In the traditional color image, the above five two-color combinations are more common, based on the principle of the five elements. The five elements are in line with the natural way of heaven and earth, and the color combination formed is the embodiment of the “five picks in harmony”. Five-color symbiosis includes both two-color matching, including multi-color matching, five-color ready is five-color symbiosis of five-color matching form, it refers to the black and green, green and red, red and yellow, yellow and white, white and black coexisting in the form of symbiosis. The five colors are the highest form of auspicious colors, and the five colors are all ready to form the highest form of auspicious colors. Five-color auspicious clouds represent another method of combining the five colors together. Five-color cloud collocation, often with a color as the base, the other four colors of small cloud shape surround each other into a large block of clouds.



**Figure 2** Picture of Buddhas Going to the Meeting on the East Wall of the Daxiongao Hall of Fahai Temple

Today it looks like, the yellow at the bottom and the cloud color have four: black, green, orange-red and dark red, because of the age, the color faded, plus mixed with the bottom color, so there is reason to suspect today's green was originally cyan, today's orange was originally white, today's dark red was originally vermillion. The original color should be five-color auspicious clouds, on top of the yellow background, showing green, red, white and black clouds.



**Figure 3** Colour Analysis of the Auspicious Clouds of Fahai Temple's 'The Buddha Goes to the meeting'

Second, the five colors are secondary.

The five elements are mutually exclusive, as far as color is concerned, that is, green grams yellow, yellow grams black, black grams red, red grams white, white grams green, grams of the two colors, the former is the main, the latter is second. The five elements are mutually exclusive is fierce; in general, become the taboo of color.

Zhou Li - Kaogong Ji: "Green and white are secondary to each other, red and black are secondary to each other, and xuan and yellow are secondary to each other." According to this, the color combination recorded in the Kaogongji is: green and white are primary and secondary, red and black are primary and secondary, and xuan and yellow are primary and secondary, with the former as the primary and the latter as the secondary. The record of "Kao Gong Ji", and the five elements of the primary and secondary relationship (white grams of green, black grams of red, yellow grams of black) is exactly the opposite, reflecting the five elements of the idea of birth, grams and systemization. The five elements can be transformed, found in the Western Han Dynasty literature. The huainanzi - topography training " : wood over earth, earth over water, water over fire, fire over gold, gold over wood" (Huainanzi, 139 BCE) (ChinaKnowledge, 2010) wood strong water old fire born gold imprisoned earth death, fire strong wood old earth born water imprisoned gold death, earth strong fire old gold born wood imprisoned water death, gold strong earth old water born fire imprisoned wood death, water strong gold old wood born fire imprisoned fire death" (Major & Meyer, 2010; Li, 2012). The color scheme of the five colors in the Zhouli-Kaogongji is also a common traditional color scheme (Chen, 2021).



greenish white followed by reddish black basal yellowish yellow

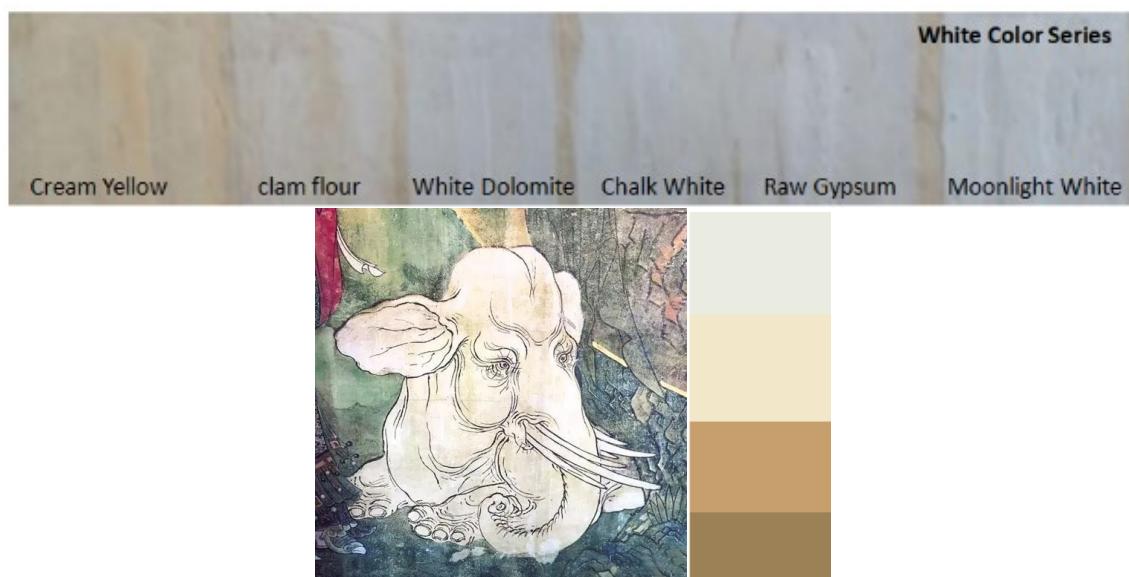
**Figure 4** The color scheme of the five colors in the Zhouli-Kaogongji

2. It systematically summarizes the practice of applying the five-color concept in Ming Dynasty murals, including the selection of colors, blending techniques and their dual function of religious and secular expression.

Chinese traditional use of color, the big classification of natural mineral color and plant color two categories, plant color belongs to the transparent color, also called water color, mineral color itself has a certain coverage, also called stone color, opaque to translucent, and in the mineral color, in the expression of color, which has a preference for the earthy and crystalline minerals, so different nature of the color embodied in the color of the color endowment are not the same. The pigments described in the Song Dynasty's "Building Methods" are: white clay, powder (lead white), tianshi, ochre, earth vermilion, earth yellow, vine yellow, purple minerals, red, yellow dan, spiro-green, purple powder, blue precipitate, blue precipitate, orchid precipitate, acacia huahua, cochineal, raw green, laminated green, green, green, vermilion, ink, mineral juice, qingdai, and ink coal. Powder can be combined with any other color to change the brightness and purity of the original color. Powder can be combined with earthy yellow label, earthy vermilion label, powder, earthy yellow label, vermilion label, earthy vermilion, green stone three, earthy yellow, stone green, ink, purple mineral, The colors mentioned include green stone three, powder, vermilion, purple powder, acanthus, and combinations of these colors. The combinations include orange-yellow, blue starch, acacia, spiro-green, powder, and stone-green three. From the composition of the above colors, the intensity of the colors used determines the color mixing but also determines the essential characteristics of the color presentation.

The white color used more is chalk, talc mainly composed of white, high purity chalk is composed of calcite. Correspondence of the five elements, five colors, five flavors, sweet that is, sweet, five elements of earth, yellow, color image contains red. The so-called sweet white, i.e. slightly orange-flavored white, is soft in color and has a warm, jade-like feel. The common symbolism of the color white indicates the West, autumn, spiciness, woman, killing, righteousness and so on (Peng, 2021). As a temple mural, white is equally indispensable in the mural paintings of Fahai Temple, where it is skillfully integrated into the elements of the

picture such as white veil, white elephants, and lotus seats. The famous poem “White Colt” in the Classic of Poetry uses “bright white colt” (a pony with white fur) as a metaphor for a virtuous person, and the image is widely used by later generations to refer to people with high aspirations and noble deeds. Ancient architecture frequently utilized white jade to create a pure and sacred atmosphere, and people regarded white animals as auspicious and beneficial omens.



**Figure 5** White elephant with six tusks in the mural painting of Fahai Temple

The extensive use of malachite green and atacamite green pigments in Ming Dynasty murals highlights the artistic and technical sophistication of the period. Both pigments, derived from copper ores, undergo processing to produce a gradient of shades ranging from deep to light green. This gradient also corresponds to variations in the granularity of the pigments, from coarse to fine. These green pigments, which were heavily utilized in mural paintings, required an underpainting to enhance their brilliance. For instance, malachite green was typically applied over a base layer primarily composed of pagoda tree yellow, along with blue starch and lead white. Another common green pigment was applied over a base of ochre. In practice, ochre, a yellowish-brown pigment, was historically categorized as part of the red spectrum in ancient Chinese color theory. Artists added a certain amount of vermillion to ochre when using it as an underpainting for green tones in murals. On surfaces with a yellowish earthen base layer, an additional coating of white pigment—composed of calcite and talc—was applied. This white layer was carefully painted over with a mixture of vermillion and ochre after it had dried. After a brief pause to allow partial drying, the prepared glue-bound green pigment, with a specific level of saturation, was applied while the underlayer

was still slightly wet. This technique ensured the green pigment achieved a rich, vibrant, and dynamic effect. Only one or two layers of green were typically applied, as additional layers risked making the color appear dull and lifeless. In the murals of Fahai Temple, this technique contributed to the creation of tranquil and ethereal shades of cyan, prominently seen in the depictions of landscapes, figures, and mural backgrounds. Cyan was symbolically associated with spring, growth, sourness, and benevolence, embodying its emblematic meanings in the context of the murals. These thoughtful applications of color not only enhanced the aesthetic quality of the artwork but also deepened its cultural and symbolic resonance.

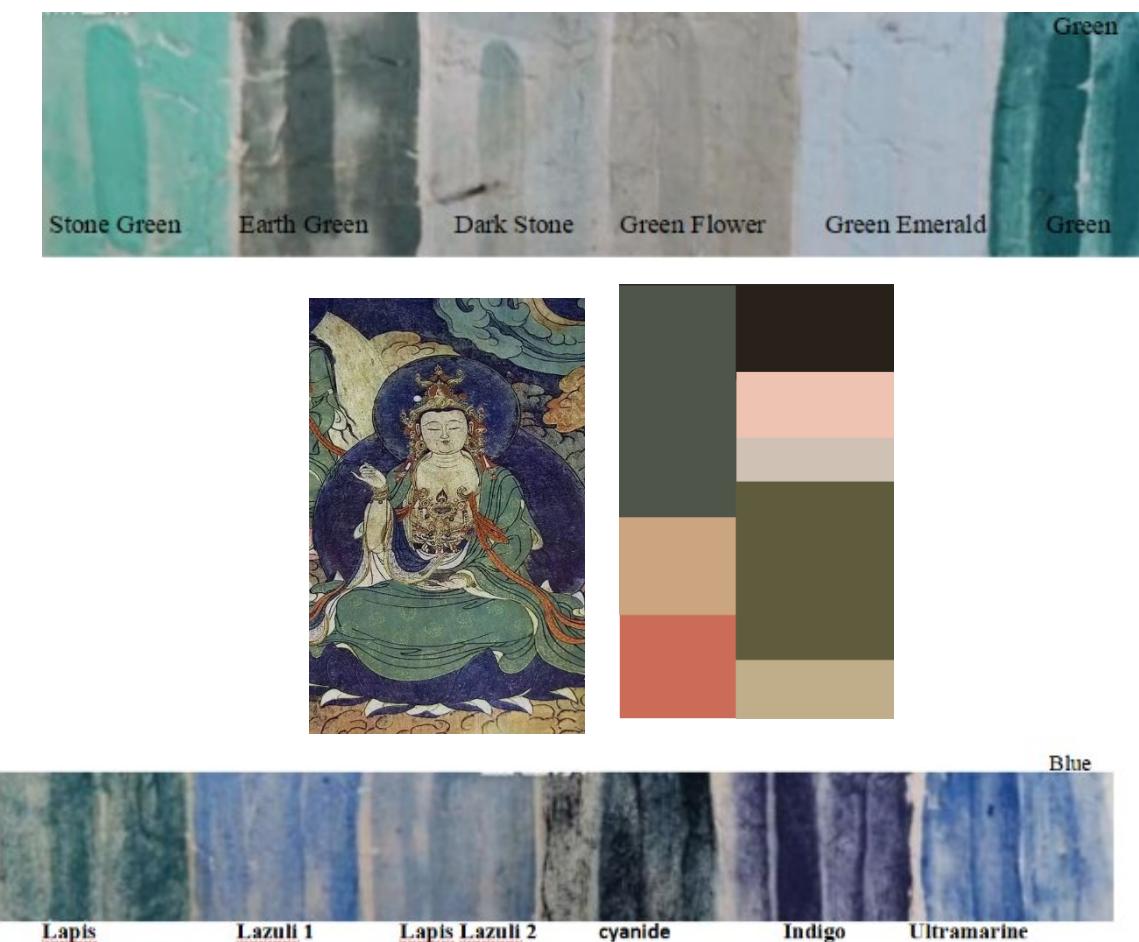
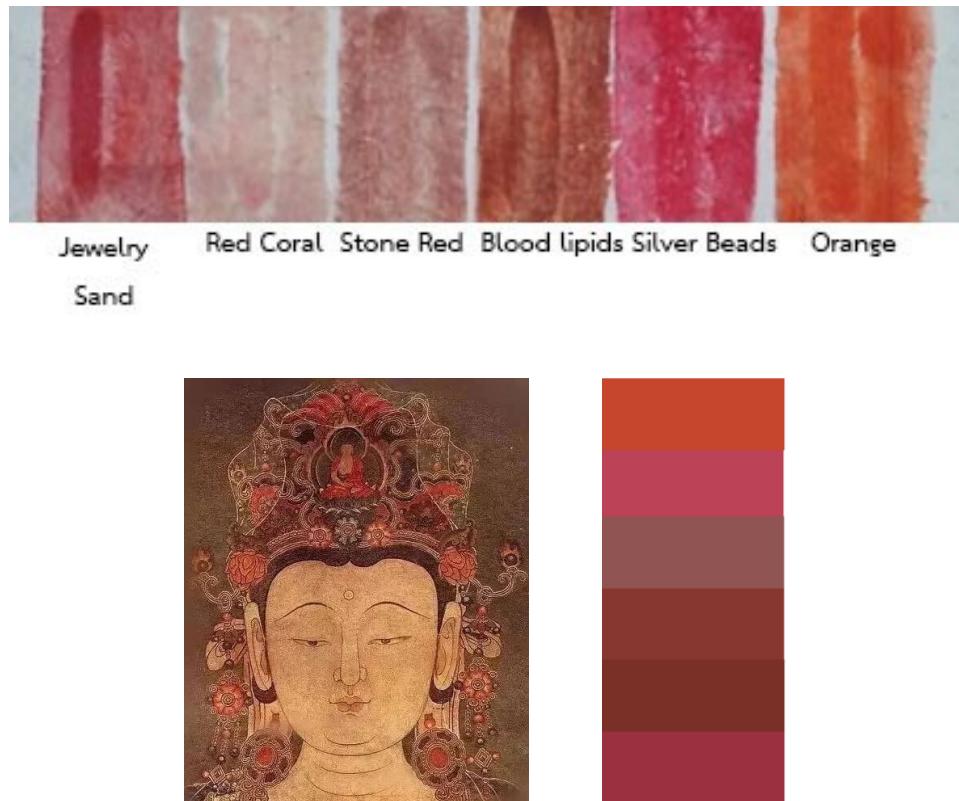


Figure 6 One of the Four Great Bodhisattvas of Fahai Temple

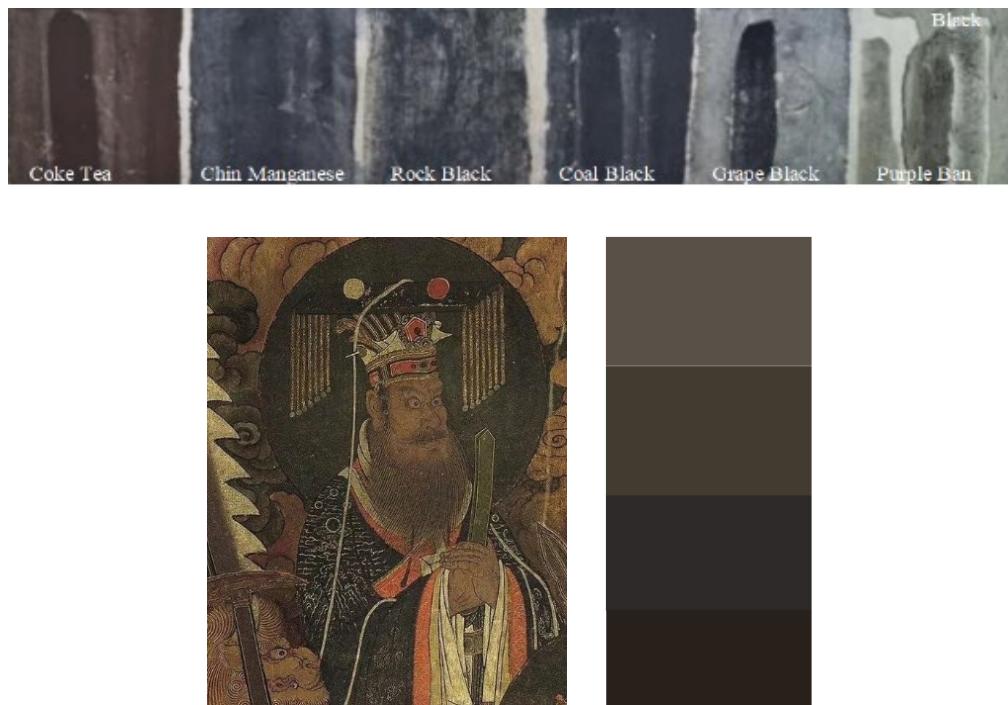
The main part of the red pigment is cinnabar, from the north and south of the two walls, the red color painted with cinnabar is with a kind of self and age given by the “powder gas”, and the Fahai Temple east wall of the two pieces of red above the doorway is in a clear contrast. The answer is in the solution to the dyeing of the link, faded by prolonged exposure to light on the surface of the cinnabar used to embellish the color of plants. At that time, the pigment used for carmine should have been carmine red. The rouge used at that time, if it is processed with purple ore, is relatively more durable, but if it is made of safflower, the rouge should not be a long time in the light will fade, and I saw two of the

most beautiful red color is also because of a long time in the dark environment, The cinnabar still retains the colour of carmine, so we can see the red colour close to completing the original painting.



**Figure 7** Water and Moon Goddess of Mercy in Fahai Temple Mural Painting

According to the Zhouyi (The Book of Changes), “the sky is dark and the earth is yellow”, and the ancient working people believed that the sky was dark and the earth was yellow when it was not yet bright (Zhou, 2002). (Under the guidance of the traditional idea of “resembling heaven and law of the earth”, people integrated the natural order into their production and life, and formulated the etiquette code of “upper garment and lower garment”. The upper garment resembles the sky, so it is the color of darkness; the lower garment resembles the earth, so it is the color of yellow. In order to comply with the traditional social order of “heaven is superior to earth, and the king is superior to his subjects”, the ancients used the correct color for the clothes and the intermediate color for the garments, and replaced the color of the lower garment with the crimson, which is the intermediate color mixed with red and yellow. Clothes for the dark color, shoulder picking the sun and moon, the body has twelve chapters pattern, is the ancient emperor only wore the solemn and noble “gun clothing”. Fahai Temple murals in black, north wall murals of the westernmost figure wearing a “black robe” - strictly speaking, it is the “dark color”.



**Figure 8** Statue of the Heavenly King in the mural painting of Fahai Temple

### 3. Selection and Comparison of Color Samples of Murals

3.1 Sample Type and Feibility Analysis The selection of benchmark samples is very important for the color selection of the murals in the Fa Hai Temple and the Zhi Hua Temple, which the accuracy, representativeness, and typical characteristics of the later data. At present, there are several ways to obtain mural samples: The first is high-definition digital acquisition. For the murals of the Fa Hai Temple, it is very important to carry out high-precision actual image acquisition. This method is the most authentic way to record and reflect the original shape and appearance of the murals. In 2007, during the process of making the collotype, the Fa Hai Temple digital photos were taken with a full-frame camera. The pictures were taken in a grid, one at a time, using the lighting method. The second is three-dimensional matrix scanning. In 2016, the Fa Hai Temple murals utilized this method to perform a 360-degree panoramic acquisition of the Mahavira Hall's interior, which included collecting three-dimensional spatial information about the murals, spatial layout, and architectural patterns. The limitation of this acquisition method is that it only reflects the most authentic physical state of the original murals (including dust, damage, fading, and discoloration), and it is not the best data for the colors of the murals. The third is a colorimeter. The accurate judgment of the colorimeter on the color to rely on a certain amount of mural color particle samples. For the current preservation of the murals in the Fa Hai Temple, it can only be used for nonive information acquisition, so this method is not applicable. The fourth is surface-enhanced Raman spectroscopy. For important mural

samples that can no longer be identified and color and pigment properties cannot be determined by conventional means, it is more scientific to use the Raman spectroscopy method, which can be used as an auxiliary method for above several methods. For instance, the murals blur the color of the Buddha's halo, rendering identification impossible. Its initial color and mixed pigment are determined by referring to the research results of the color and pigment discoloration analysis of the Dunhuang murals and the Western Regions murals, and by combining the expert appraisal and inference, the Raman spectroscopy method is used for targeted testing, and the results are used to construct and implement the trial scheme for color restoration. For the art of murals, the color is not only reflected in the original material color of the pigment but also in the color difference caused by the content of, the influence of other trace mixtures, and the different sizes of pigment particles, the place of origin, the time, and the geographical environment. These need to be measured and compared with the Raman spectrum after the pigment that cannot be determined is determined, and then the color card sample with different quantities and proportions of the pigment is by the traditional mixing method, and the color spectrum series is formed.

**3.2 Selection of Color Samples** The overall color comparison of the ten murals was carried out, and the colors of the lower part of "Going to the East" and "Going to the West" where there used to be a covering were taken as the samples for digital sampling. The researchers established color sample classes based on the degree of color retention and the range of usage to facilitate later comparison and priority use. The colors in the lower part of "Going to the East" with relatively bright colors in the auspicious clouds were selected as the first-level color samples; the colors in the east and west sides of the picture of the Emperor of Heaven and the Brahma in the north wall, close to the corners of the wall, were selected as the second-level color samples; other local bright colors in the murals of the Emperor of Heaven and the Brahma were selected as the third-level color samples; and the colors of the collotype.

#### **4. The use of five-color concepts in the expression of emotions in the Ming Dynasty mural painting colors**

As an important part of traditional Chinese color philosophy, the five-color concept not only carries the ancient people's knowledge of nature and society but also incorporates deep cultural emotions. As an important embodiment of religious art, Ming Dynasty temple murals, with their philosophical thinking and emotional transmission of the five-color concept in their color configuration, present a profound artistic charm and cultural connotation.

Selection and Comparison of Colour Sample Acquisition for Mural Paintings. The use of high-definition digital image acquisition is a crucial means of high-precision field image acquisition for the mural paintings of the Fahai Temple. This technique is the most realistic way to record and reflect the original shape and appearance of the murals (Xu, 2019). The use of chromaticity instruments and the accurate determination of colour needs to rely on a certain amount of mural colour particles samples, the mural colour location and the colour of the type of objects classified and defined, which has a high reference value. The colour of Ming Dynasty temple murals is not only decorative but also carries rich religious symbolism. The colours of Buddhist temple murals were deeply influenced by Buddhist thought and were used as a means to strengthen the teachings of the doctrine. From the doctrine of 'salvation', Buddhism to white and gold as the main colour of the colour symbols. In addition, Buddhism also revered yellow and regarded red as noble and green as revered by the Buddhist colours, which is by the traditional Chinese doctrine of yin and yang and the five elements and the five-colour system of influence (Wang, 2007).

In the five-color view of color symbolic emotional expression of cyan: corresponding to the east and wood, symbolizing vitality and hope. It is often used in frescoes to express the theme of spring or new life. Red: corresponds to the south and fire, symbolizing passion and holiness, and is often used to express the solemnity and power of religion. White: corresponds to the west and gold, symbolizing purity and solemnity, and is used to portray the sanctity of deities or statues of Buddha. Black: corresponds to the north and water, symbolizing depth and stability, and is often used to express deep backgrounds or cosmic themes. Yellow: Corresponding to the center and earth, it symbolizes dignity and authority, and is widely used in religious and royal frescoes, reflecting the concept of order at the center of heaven and earth.

Vegetable and mineral colors combine to form rich color layers in the mural paintings. For example, the layering of red color between the background and the main body not only enhances the visual impact of the picture but also gives the religious theme a deep spiritual appeal. Contrast and Harmony of Color Philosophy. The frescoes illustrate the philosophical concept of complementary yin and yang, exemplified by the contrast of warm and cold colors, as well as the reconciliation of light and dark. For example, the complementary contrast of red and green not only highlights the emotional tension but also reflects the beauty of visual harmony.

Researchers have developed a diverse range of cultural and creative products based on the color elements of Ming Dynasty murals. These products not only possess the beauty of the original murals but also provide a new perspective for the study and appreciation of traditional Chinese art.

convey profound cultural values: transforming artworks into cultural and creative products, including scarves, bags and accessories, etc.

Design Philosophy: Taking the harmonious color matching in murals as the core, combined modern design concepts, to enhance the visual appeal of products. The design philosophy emphasizes the inheritance of cultural elements and incorporates the symbolic meaning of Ming Dynasty mural colors into the product design process.



**Figure 9** Creation of mural colour application

### Conclusions and Discussion

1. Integration of color philosophy Mural color shows the philosophical ideas of the five elements, yin and yang, the color system is logical and rigorous and rich in cultural connotations. This philosophical thinking is carried through the overall layout and details of the murals, such as through the contrast and fusion of warm and cold tones, creating visual balance and harmony. Color is not only the expression of form, but also a symbol of thought and spirit.

2. The innovation of techniques and materials in Ming Dynasty temple murals in the production process; the mineral and vegetable colors were cleverly combined, not only to enhance the visual impact of the picture, but also to enrich the sense of color hierarchy. For example, mineral colors such as cinnabar and stone green serve as the main colors due to their bright and stable characteristics, while plant colors provide delicate transparency for touch-ups and reconciliation, creating an artistic effect of interlacing shades and textures. Additionally, innovations have been made in the treatment of the mural's bottom layer, including the "ground battle" production process, which enhances pigment adhesion and color effects.

3. The unity of art and culture The use of colors not only serves the religious expression but also carries the aesthetic interest and cultural value of the Ming society. The concept of five colors in religious murals not only has symbolic significance, such as symbolizing the balance and unity of heaven, earth, man and five directions, but also reflects

people's understanding of nature and the universe at that time. This combination of art and culture gives the murals a profound significance that transcends time and becomes an important carrier of cultural memory.

4. The use of the five-color concept in Ming Dynasty temple murals not only reflects the deep heritage of traditional Chinese culture but also provides a rich source of inspiration for modern artistic creation. Through the inheritance and innovation of traditional color philosophy and techniques, artists are able to reinterpret the core values of traditional culture in the contemporary context and promote the inheritance and development of art.

### Recommendations

The core idea of the five-color view emphasizes the dynamic balance and interrelationship between colors, providing a systematic logic for the use of color in modern art. Artists can draw on the Five Color Concept to convey emotions, thoughts and values through the contrast and harmony of colors, and promote the combination and innovation of tradition and modernity. For example, applying the concept of yin and yang reconciliation to the construction of warm and cool colors makes the works more inner tension and philosophical depth.

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### References

Bennett, S. (2011). *The Mustard Seed Garden Manual of Painting: a reevaluation of the first edition*. Retrieved from <http://hdl.handle.net/1773/16591>

Chen, Y. (2021). *The study of five-color concept in ancient Chinese murals*. Beijing University Press.

ChinaKnowledge. (2010). *Huainanzi* . An Encyclopaedia on Chinese History and Literature. Retrieved from <https://www-chinaknowledge-de.translate.goog/Literature/Daoists/>

huainanzi.html?\_x\_tr\_sch=http&\_x\_tr\_sl=en&\_x\_tr\_tl=th&\_x\_tr\_hl=th&\_x\_tr\_pto=tc

Ch'iu, K. (1951). The Chieh Tzu Yüan Hua Chuan (Mustard Seed Garden Painting Manual): Early Editions in American Collections. *Archives of the Chinese Art Society of America*, 5, 55-69.

Chun, C. (2023). Traditional colors in Chinese aesthetics and their artistic representation. *Journal of Asian Arts*, 15(2), 100-120.

Li, A. (2012). *The Essential Huainanzi*. Columbia University Press.

Liu, X. (2009). *Chinese classical painting Series: Mustard Seed Garden Painting Biography character*.King Spectrum (Chinese Edition).

Major, J. S., & Meyer, A. S. (2010). *The Huainanzi: A Guide to the Theory and Practice of Government in Early Han China, by Liu An, King of Huainan (Translations from the Asian Classics)*. New York: Columbia University Press.

Peng, L. (2021). The symbolism of color in Chinese temple murals. *Asian Art Review*, 29(4), 45-60.

Wang, T. (2007). The evolution of Buddhist mural colors and symbolism. *Chinese Art History Journal*, 18(3), 75-89.

Xu, Y. L. (2019). Application of chromatic analysis in mural restoration. *Heritage Science*, 7(1), 88-101.

Zengjian, G., & Herrmann, K. (2019). *Kao Gong Ji: the world's oldest encyclopaedia of technologies*. Shanghai Jiao Tong University Press.

Zhang, H. (2005). A Preliminary Study of the Kaogong Ji (The Book of Artificers). In *Masters Theses*. Retrieved from [https://scholarworks.wmich.edu/masters\\_theses/4193](https://scholarworks.wmich.edu/masters_theses/4193)

Zhou, L. (2002). *The book of changes (Zhouyi): a Bronze Age document*. Psychology Press.