

# The "gentle and elegant" color system and aesthetic connotation of traditional Chinese plant dyeing

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**Abstract:** This study takes the traditional Chinese plant dyeing "warm and elegant" color system as the research object, and analyzes its characteristics, historical development and aesthetic connotation in depth. Through the combing of a large number of historical documents and field research, it is found that the "warm and elegant" color system is a unique aesthetic expression in traditional Chinese culture, which emphasizes the harmony and mediocrity of the color, and embodies the mediocrity of Confucianism by being not overly ornate, but not losing elegance. The formation and development of this color system is deeply influenced by ancient philosophical thinking, especially in the application of clothing, cultural and creative design and other fields, showing the Chinese people's respect for natural beauty and the pursuit of a harmonious life. The relationship between plant dyeing technology and "warm and elegant" color expression is further explored. The traditional Chinese plant dyeing technique, with its environmentally friendly and sustainable characteristics and unique color expression, has become an important means of realizing the concept of "warm and elegant" colors. The selection and matching of different plant dyes not only determine the color tones and levels, but also profoundly affect the interpretation and expression of colors in different cultural contexts. In addition, this study reveals the interaction between the "warm and elegant" color system and various art forms, such as painting, ceramics, and embroidery, and how these art forms work together to shape traditional Chinese aesthetic styles. Through an in-depth analysis of the philosophical thinking behind the "gentle and elegant" color system, we find that the Confucian, Taoist, and Buddhist concepts of nature and harmony have a profound influence on the selection and matching of colors, which further enriches the cultural connotations and aesthetic value of the color system.

**Keywords:** Chinese traditional plant dyeing; warm and elegant color scheme; aesthetic connotation; plant dyeing process; traditional culture

## 1. Introduction

Chinese traditional plant dyeing technique has a long history, which carries rich Chinese cultural connotation and aesthetic concept. Among the many colors, plant dyeing together form a "gentle and elegant" individual color system, which is also a full reflection of the Chinese people's deep cultural heritage and high aesthetic pursuit. This color system is gentle and elegant, focusing on the harmony and balance of colors, giving people a sense of serenity and solemnity. Exploring the characteristics and aesthetic connotations of this color system is of great significance to our deeper understanding of traditional Chinese dyeing techniques as well as traditional culture.

Plant dyeing techniques have a long history in China, dating back to the Zhou Dynasty. Has been recorded in the "Zhou Li - Tianguan Tsukazai the first", the original text is this "dyeing people, in charge of dyeing silk and silk. Where dyeing, spring storm practice, summer crimson Xuan, autumn dyeing summer, winter dedication work." Although there is no direct reference to plant dyeing, it reflects that during the Zhou Dynasty, there was already an official in charge of dyeing and a more systematic dyeing workflow, indirectly indicating that the plant dyeing technique was already more mature, and over the long years, this technique has been continuously developed and improved, gradually forming a unique "gentle and elegant" color system. The colors presented by this system are neither as bright and eye-catching as western colors, nor as plain as other oriental colors. What it pursues is the harmony and unity of colors, as well as the elegance revealed in moderation. The formation of this color system is inextricably linked to the Chinese aesthetic philosophy of pursuing harmony and balance [1].

In contemporary society, with the progress of science and technology and changes in people's lifestyles, traditional plant dyeing techniques are gradually declining. The color system of "gentle and

"elegant" still has important aesthetic value and cultural significance. It is not only the treasure of Chinese traditional dyeing techniques, but also the concentrated manifestation of the aesthetic pursuit of the Chinese nation. Therefore, in-depth discussion of the characteristics and aesthetic connotation of this color system is of great significance for us to inherit and carry forward the traditional culture, and to promote the innovation and development of dyeing techniques [2].

The purpose of this paper is to analyze the "gentle and elegant" color system of traditional Chinese plant dyeing techniques, and to reveal its unique aesthetic connotation and cultural value. At the same time, it is also hoped that this study will provide useful reference and inspiration for the innovation and development of contemporary dyeing techniques.

## 2. The composition of the "gentle and elegant" color system

### 2.1. Formation and development of the color system

The formation of the "gentle and elegant" color system of traditional Chinese plant dyeing is deeply rooted in the natural environment and cultural traditions of ancient China. The development of this system not only reflects the unique aesthetics of Chinese people on color, but also reflects the deep heritage of Chinese traditional culture.

In ancient times, people began to use the natural resources around them for dyeing. These natural resources, such as indigo, cress and safflower, were important raw materials for dyeing in ancient times (Figure 1). Over time, people gradually mastered more dyeing techniques, resulting in a rich variety of colors. These colors were widely used in clothing, household items, etc., and gradually formed a color aesthetic with Chinese characteristics [3].

| Plant        | Dye Color       | Dye Source                                                                                      |
|--------------|-----------------|-------------------------------------------------------------------------------------------------|
| Purple Grass | Red             | Purple grass is obtained from natural materials, commonly used for dyeing red or purple colors. |
| Safflower    | Yellow          | Yellow dye is derived from safflower petals, providing a bright yellow hue.                     |
| Indigo Plant | Blue            | The indigo plant is processed to extract blue dye, widely used for various dyeing purposes.     |
| Cabbage      | Yellowish Green | Cabbage can be used to produce a yellowish-green dye.                                           |
| Red Grass    | Red             | Red grass is used for dyeing, producing a warm reddish color.                                   |
| Walnut       | Deep Brown      | Deep brown dye is obtained from walnut shells, which can also yield a rich brown hue.           |
| Wood Flower  | Pinkish Purple  | Wood flower is used for dyeing, capable of producing a pinkish-purple dye.                      |
| Indigo       | Blue            | Indigo is extracted from the indigo plant, providing a blue dye.                                |
| Madder       | Yellowish Red   | Madder root can be processed to extract yellowish-red dye for dyeing.                           |

*Figure. 1 Classification of traditional plant coloring*

The "gentle and elegant" color system emphasizes the harmony and balance of colors. In traditional Chinese culture, color is not only a visual experience, but also a cultural symbol. Different colors represent different meanings, such as red for good luck, green for life. The giving of such symbolism makes color have a deeper connotation in Chinese culture [4].

With the passage of history, the "gentle and elegant" color system has gradually become the mainstream of traditional Chinese dyeing. The formation of this system is not only influenced by traditional Chinese culture, but also closely related to the lifestyle and aesthetic concepts of ancient people. In the ancient society, people paid attention to etiquette and respected tradition, and this cultural atmosphere provided the soil for the formation of the "gentle and elegant" color system [5].

Ancient Chinese philosophical thinking has also had a profound impact on the formation of the "gentle and elegant" color system. Confucianism emphasizes the middle way and advocates the aesthetic

concept of harmony and balance. This concept is reflected in the color, is the pursuit of color moderation and coordination. Taoist thought, on the other hand, focuses on nature and conformity to nature, which also made people in ancient times more inclined to choose those colors that are similar to nature and soft [5][6].

The formation and development of the "gentle and elegant" color system is the result of the combined effects of traditional Chinese culture, the natural environment, and the lifestyles and aesthetic concepts of ancient people. This system not only reflects the Chinese people's unique understanding and use of color, but also demonstrates the profoundness of traditional Chinese culture.

## **2.2. Cultural connotation of the color system**

The "Gentle and Elegant" color system is not only a reflection of traditional Chinese dyeing techniques, but also profoundly embodies traditional Chinese culture and aesthetic concepts. The cultural connotation behind this color system can be interpreted from multiple dimensions.

In traditional Chinese culture, the choice and use of colors are often closely linked to the philosophical concepts of the five elements, directions and seasons. For example, the five elements of gold, wood, water, fire and earth correspond to the five colors of white, green, black, red and yellow, which are reflected in the "gentle and elegant" color system, reflecting the ancient people's deep understanding and reverence for the universe and nature [7]. In addition, the "gentle and elegant" color system also embodies the idea of "neutralization" in traditional Chinese aesthetics. This idea emphasizes harmony, balance and moderation, which is manifested in the pursuit of lightness and naturalness in color selection, avoiding overly harsh or flashy color combinations. This aesthetic tendency echoes the "middle way" of Confucianism, which emphasizes the need to achieve a proper balance in the use of color [8].

The "gentle and elegant" color system also carries rich social and cultural connotations. In ancient Chinese society, the use of color is often closely related to status and position. For example, yellow, as a royal color, symbolizes the supreme power of the emperor; red is often used in festive occasions, signifying good fortune and prosperity. The symbolism of these colors is fully reflected in the "gentle and elegant" color system, which reflects the hierarchy and values of ancient society [9].

From the perspective of artistic expression, the "gentle and elegant" color system also embodies the spiritual core of traditional Chinese art. In painting, clothing and other fields, the use of this color system makes the works present a kind of introverted and elegant aesthetics, which is in sharp contrast with the flamboyance and passion of the Western color system. This sense of beauty comes from the pursuit of "subtlety" and "mood" in traditional Chinese culture, which is manifested in the use of color as a fine control of the sense of hierarchy and the creation of atmosphere [10][11].

The traditional Chinese culture and aesthetic concepts embedded in the "gentle and elegant" color system are multi-layered and multi-dimensional. It not only reflects the ancient people's deep understanding of the universe and nature, but also carries a rich social and cultural significance and artistic spirit. These cultural connotations make this color system in modern design still has a high reference value and artistic charm [12]. By deeply exploring and understanding the cultural connotations of the "gentle and elegant" color system, we can better inherit and carry forward the essence of traditional Chinese culture, and at the same time, we can also inject new inspiration and vitality into the field of modern design.

## **3. Plant Dyeing Techniques and Color Representation**

### **3.1. Overview of plant coloring techniques**

Plant dyeing, as an ancient and natural dyeing method, relies on pigments extracted from natural plants to color textiles. This technique not only has the advantages of environmental protection and sustainability, but also is loved by people for its soft and natural colors. In traditional Chinese culture, plant dyeing carries rich historical and cultural connotations.

The basic principle of plant dyeing is the reaction of pigmented components of the plant with the binding of fibers. These pigments are usually found in the roots, stems, leaves, flowers or fruits of plants and can be obtained by specific extraction methods. These pigments then chemically react or physically adsorb to the fibers of the fabric during the dyeing process, finally giving the fibers a specific color. In plant dyeing, three techniques are often used: direct dyeing method, mordant dyeing method and

reduction dyeing method. Direct dyeing law is to use the extracted plant pigments directly for dyeing, which is simple to operate, but the color fastness may be relatively low. The mordant dyeing law is by adding mordant alum, iron salt, etc. (Fig. 2 ), to enhance the binding force of pigment and fiber, and improve the color fastness. Reduction dyeing law is mainly used for reducing dyes such as indigo (Figure 1 ), through the reducing agent will be reduced to a soluble colorless body, and then dyed into fibers and finally through the oxidation of the recovery of insoluble dyes fixed on the fiber.



Figure 2 Indigo dyes

| Mordant Name (Alternative Name) | Chemical Composition       | Suitable Fibers       | pH Range |
|---------------------------------|----------------------------|-----------------------|----------|
| Alum (White Alum)               | $KAl(SO_4)_2 \cdot 12H_2O$ | Silk, Cotton, Linen   | 4.5-6.5  |
| Green Vitriol (Soap Alum)       | $FeSO_4 \cdot 7H_2O$       | Cotton, Linen         | 3.0-5.0  |
| Blue Vitriol (Gall Alum)        | $CuSO_4 \cdot 5H_2O$       | Silk, Wool            | 2.5-4.0  |
| Tin Salt (Sodium Stannate)      | $Na_2SnO_3 \cdot 3H_2O$    | Silk, Synthetic Fiber | 8.0-10.0 |
| Wood Ash (Potassium Carbonate)  | $K_2CO_3$ (Mainly)         | Cotton, Linen         | 9.0-11.0 |
| Vinegar (Acetic Acid)           | $CH_3COOH$                 | Silk, Wool            | 2.5-4.0  |
| Brazilwood Extract              | Brasilin                   | Silk, Cotton          | 5.0-7.0  |
| Persimmon Tannin                | Kaki-tannin                | Cotton, Linen         | 3.5-5.5  |

Figure 3 Mordant classification

Different plant dyes have different properties and coloring effects. For example, indigo dye produces a deep blue color, while safflower dyes a bright red color (Fig. 3 ). The color effect of these dyes not only depends on the nature of the dyes themselves, but is also closely related to factors such as dyeing technique, fiber type, and mordant selection. Therefore, in the dyeing process of plants, it is necessary to select appropriate dyes and dyeing techniques according to the needs and conditions. Plant dyeing not only has practical value, but also carries deep cultural connotation. In traditional Chinese culture, colors are endowed with rich symbolic meanings. For example, red represents auspiciousness and festivity, while blue symbolizes calmness and depth. These color concepts are fully reflected in plant dyeing, which makes plant dyeing not only a skill, but also a cultural heritage and expression.

In general, plant dyeing technology, with its unique charm and profound cultural connotation, occupies an important position in Chinese traditional dyeing technology. Through in-depth understanding and research of plant dyeing technology, we can not only better inherit and carry forward this ancient technique, but also provide new inspiration and ideas for the modern textile dyeing industry.

### 3.2. Color expression and application

With its unique color expression, Chinese traditional plant dyeing shows deep cultural heritage and aesthetic value in the fields of clothing and home. This color expression not only reflects the harmony and unity of nature and humanity, but also inherits the long history of dyeing techniques of the Chinese nation.

In terms of color expression, plant dyeing is known for its natural and rustic characteristics. Compared with chemical dyeing, the color of plant dyeing is softer and more natural, revealing a warm and friendly atmosphere. This kind of color is not only easy to be accepted and loved by people, but also can arouse people's awe and gratitude to nature. At the same time, plant dyeing is rich in color variations, the same plant dye can show a variety of colors under different conditions, and such variations provide more possibilities and inspirations for dyeing creations.

In the field of clothing, the use of plant coloring has a long history and still has a strong vitality. In ancient China, people have mastered the art of plant dyeing and used it in a wide range of clothing production. From gorgeous court dresses to simple folk clothes, plant dyeing has added a unique style to them. In modern clothing design, plant dyeing is favored by more and more designers for its unique color charm and environmental protection concept. They combine plant dyeing with fashion elements to create clothing works that meet modern aesthetics and reflect traditional culture. For example, the scarves created by Shen's Tea Dyeing are popular among consumers, bringing different warmth and flavor in the cold winter (Figure 4). These products are not only competitive in the market, but also can inject new vitality into the inheritance and development of traditional culture. If we say that plant dyeing is only

used in products, it is underestimating it, and its use in life is what we advocate and appreciate, for example, the fine teaching of plant dyeing in the Jiangxi Provincial Museum of Art, so that more people and those who don't know much about the intangible cultural heritage can integrate into the art, practice and innovate, and promote the people's understanding of the traditional Chinese culture and harvest (as shown in Fig. 5).

The color expression and application of traditional Chinese plant dyeing show unique charm and value in many fields. Through in-depth study of plant dyeing technology and cultural connotation in these fields we can better inherit and develop this valuable cultural heritage to bring more color and beauty to the modern society, and at the same time, with the increasing attention to the concept of environmental protection and health, plant dyeing, as a kind of green and healthy dyeing method, will usher in a broader market prospect and application space in the future development.



*Fig. 4 Indigo dyed scarf*



*Fig. 5 Teaching plant dyeing at the Jiangxi Art Museum*

#### **4. Exploration and Interpretation of Aesthetic Connotations**

##### **4.1. Interaction between aesthetics and art**

In traditional Chinese culture, the intermingling of arts and crafts often produces profound interactions between various art forms. Traditional plant dyeing, as a unique art form, its color expression and dyeing techniques not only have deep cultural connotations of their own, but also produce rich exchanges and collisions with other art forms.

Painting is a treasure of ancient Chinese art, and the interaction between traditional plant dyeing and painting can be described as a colorful artistic dialogue. The colors produced by plant dyes often have a natural, soft character, which coincides with the mood sought by ancient Chinese landscape painting. In

landscape paintings, the mountains are stacked up, the water is flowing, and the use of color is just right, which is both realistic and poetic. The color of plant dyeing can be integrated into this mood, making the picture more harmonious and unified. At the same time, the use of color in painting also has an impact on plant dyeing. Painters for the subtle use of color, inspired the dyeing craftsmen in the dyeing process pay more attention to the sense of color levels and coordination, thus enriching the artistic expression of plant dyeing. For example, Zhou Wusheng's painting "Good Things for Many Years" (Figure 6), which uses the "bone-less method", does not emphasize outlining but directly paints in color, a technique that requires high demands on pigments, which need to have good covering ability and haloing, and plant dyes are very suitable for painting here.

The art of ceramics, another representative of traditional Chinese craftsmanship, has also developed a deep connection with plant dyeing. The glaze and painting of ceramics often draw on the color schemes and techniques of plant dyeing. The colors dyed by plant dyes, through the clever use of ceramic artists, make ceramic works present a more colorful appearance. At the same time, the glazing and painting of ceramics in turn influenced innovations in plant dyeing. Craftsmen drew inspiration from the color of ceramics, constantly trying new color combinations and dyeing techniques, thus promoting the development of plant dyeing techniques. For example, in celadon grass glaze (Figure 7), the verdant glaze color is due to the use of plant ash. The ash from burning plants is rich in minerals, such as potassium, magnesium, and calcium, which are sufficient coloring agents and fluxes for the glaze.

Embroidery, as a traditional Chinese women's art, is even more closely related to plant dyeing. The use of color in embroidery is directly influenced by plant dyeing. Artisans use silk thread dyed with plant dyes, and through skillful needlework, they produce an exquisite piece of embroidery. These works are not only brightly colored and layered, but also rich in three-dimensionality and dynamic beauty. At the same time, the patterns and color combinations of embroidery also provide new ideas and inspiration for plant dyeing. For example, the cotton thread dyeing of Miao embroidery (Figure 8) traditionally uses local plant dyes that can be picked at hand, such as yellow ginger, comfrey, blue grass, etc. These plant dyes add a strong ethnic character to the Miao embroidery works, and express the unique colorfulness.



*Fig. 6 Zhou Wusheng, "Good Things for Many Years"*



*Fig. 7 Western Zhou Primitive Celadon Beans*



*Fig. 8 Miao Embroidery*



In the interaction of these art forms, traditional plant dyeing not only presents a unique aesthetic style, but also gradually incorporates more cultural connotations and aesthetic concepts. These interactions not only enrich the artistic expression of traditional plant dyeing, but also inject new vitality and innovation into it. Through these interactions, we can see the profoundness and infinite charm of Chinese traditional art.

Further, this kind of aesthetic exchange and integration is actually a reflection of the idea of "harmony and difference" in traditional Chinese culture. Various art forms, while maintaining their uniqueness, can learn from each other and inspire each other, together constituting a magnificent picture of traditional Chinese culture. In this process, traditional plant coloring has not only been inherited and developed, but also made an important contribution to the prosperity of traditional Chinese culture. Combined with the above, the interaction of "aesthetics and art" not only enriches our visual experience, but also makes us feel more deeply the profound heritage and infinite charm of Chinese traditional culture.

#### ***4.2. The connection between color and traditional Chinese philosophy***

The traditional Chinese philosophies of nature, harmony and doing nothing have been deeply reflected in the "gentle and elegant" color system. These philosophical ideas not only influenced the ancient people's choice of color, but also left a unique mark on the matching and use of color.

Confucianism emphasizes harmony and order, and this concept is reflected in the color selection as a preference for gentle, elegant hues. Confucianism pursues harmonious coexistence between people, which is reflected in the color of the soft, harmonious hues. In the "gentle and elegant" color system, we can see a large number of earthy yellow, ochre red, diaper green and other colors, which are common colors in nature, giving people a sense of serenity and harmony. The choice of these colors is also influenced by the Confucian idea of harmony.

Taoist philosophy, on the other hand, advocates nature and inaction, which is reflected in the choice of colors by the love of natural tones and the avoidance of strong colors. Taoism pursues a harmonious coexistence with nature, which is reflected in the respect and imitation of natural colors. In the "Gentle and Elegant" color system, we clearly find many colors imitating natural landscapes, such as landscape green and sky blue, etc. These colors not only give people a sense of tranquility and far-reaching, but also reflect the concept of nature in Taoist philosophy.

The concept of color in Buddhism is also reflected in the "gentle and elegant" color system. Buddhism emphasizes inner peace and transcendence, which is manifested in the color preference for light and fresh tones. In Buddhist art, we can often see a variety of light and elegant tones, which give people a sense of tranquility and solemnity, which coincides with the choice of tones in the "gentle and elegant" color system.

Combined with the above explanation, the "gentle and elegant" color system is not only the crystallization of traditional Chinese dyeing technology, but also the carrier of traditional Chinese culture and philosophical thinking. Through an in-depth study of this color system, we can better understand the profound heritage and unique charm of traditional Chinese culture. This color system also provides a valuable source of inspiration for modern design, making the perfect combination of tradition and modernity in the use of color. Therefore, when we appreciate and use this color system, we should keep an open mind and a spirit of innovation, in order to give it a richer meaning and significance in the context of the new era.

### **5. Conclusion**

After exploring the "gentle and elegant" color system of traditional Chinese plant dyeing and its profound aesthetic connotation, we can clearly understand the unique value and far-reaching significance of this traditional craft. Through the formation and development of the color system, the excavation of the cultural connotation, and the detailed analysis of the plant dyeing technique and color performance, this paper reveals the rich cultural and artistic elements contained in this ancient technique. From Confucianism's middle way, to Taoism's natural inaction, to Buddhism's peaceful state of mind, these philosophical ideas are all reflected in the color choices and combinations of traditional plant dyeing.

The "gentle and elegant" color system and aesthetic connotation of traditional Chinese plant dyeing not only carries a profound historical and cultural heritage, but also demonstrates the exquisite skills and unique aesthetic connotation of traditional Chinese craftsmanship. The protection and inheritance of this

traditional craft is of great value and significance to the understanding and promotion of Chinese culture. It is hoped that the research in this paper can contribute to the inheritance and development of this traditional craft.

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