

Research on the application of tie-dyeing technology in modern textiles

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Abstract: With the rapid development of society, people's living standards continue to improve, and the pursuit of spiritual level is also constantly improving. The country's protection and attention to intangible cultural heritage and traditional handicrafts has led to the re-development of some traditional handicrafts. Tie-dyeing technology is a unique dyeing process of China's folk tradition, which is a very ancient printing method, which not only has a long history, but also has strong national characteristics, and first appeared in the folk workshops of the Six Dynasties period. In modern clothing and its accessories, tie-dye technology is also used, and the use of tie-dye technology in textiles can not only awaken people's national memory, but also improve national self-confidence. Therefore, this is also the reason why the author studies the application of tie-dyeing technology in modern textiles, and continues to discuss the application of tie-dyeing technology in modern textiles on the basis of some process literature.

Keywords: Tie-dye; Folk crafts; Textiles; Traditional craftsmanship.

1. Introduction

Tie-dye is a very deep historical and cultural feelings of hand-dyeing technology, is an important intangible cultural heritage in our country, contains a rich cultural connotation, due to the government decades ago put forward the requirements of industrial production to increase production, the development of tie-dyeing technology is limited, cannot carry out industrial large-scale production, resulting in the development of tie-dye this handicraft has not kept up with the development of the times. Now, with the rapid development of the national economy and the government's emphasis on intangible cultural heritage, the tie-dye process has slowly returned to people's vision.

2. Traditional handmade - tie-dye

2.1. Background and development process of tie-dye process

China is an ancient civilization with a splendid history and culture. Tie-dye craftsmanship is one of the ancient Chinese handicrafts, dating back to the Qin and Han dynasties two thousand years ago. In ancient times, it was called "Zha Valerian", and the folk also called it "Stranding Valerian", which is one of the traditional Printing and Dyeing Processes in China. According to historical records, this dyeing process was mastered and used by ethnic minorities in southwest China as early as the Qin and Han dynasties. After the development of different historical periods, from the rise of the Southern and Northern Dynasties of the Wei and Jin Dynasties, the relative maturity of technology, to the popularity of the Tang Dynasty, and then to the decline of the Northern Song Dynasty, this traditional craft has been given new meaning and profound connotation. In 2006, bai tie-dye in Dali, Yunnan Province, was listed as an intangible cultural heritage, and in 2011, ugly tie-dye was listed as a provincial intangible cultural heritage in Jiangsu Province. From this, it can be seen that the country attaches great importance to the traditional craft of tie-dyeing, and innovative development and inheritance are the only way for tie-dyeing technology.

2.2. The production process of tie-dye

"Tie-dye" as the name suggests is first tie-and-dye, that is, two steps of bundling and dyeing.

Bundling, that is, after the fabric is selected, according to the requirements of the ideal pattern pattern, folding, rolling and other methods are used on the cloth to make it a certain shape, and then fixed with rope or stitched or tangled with needle and thread, it is tied tightly, so that the cloth becomes a string of "knots" to achieve the effect of anti-dyeing.

Dyeing, that is, the cloth that is tied up "knots" is first soaked in water, and then put into the dyeing vat, or soaked in cold dyeing, or heated and boiled hot dyeing, after a certain period of time, fished out to dry, and then put the cloth into the dyeing tank to be soaked, sewn part, because the dye cannot be soaked, to achieve the effect of anti-dyeing, it has become a good-looking pattern pattern, and because people have different stitches when sewing, the degree of dye immersion is different, with a certain degree of arbitrariness, the finished products are rarely exactly the same, and its works have more than a unique artistic meaning. After soaking to a certain extent, finally fish out and put in water to rinse off the excess dye, dry it and remove the valerian knot, untie the "knot", iron it flat, and get a tie-dye cloth.

3. The influence of different conditions on tie-dye art

3.1. Effect of dyes on tie-dye effect

Tie-dye, whether it is cloth or dye, is made from nature, which is also an important reason why people love it. Traditional tie-dye is generally hand-woven white cotton, or cotton linen as raw materials, cotton and linen has the characteristics of good breathability, soft and comfortable, and makes people have a warm, simple and intimate feeling. In the beginning, the ancestors used natural wild plants to make dyes, and later with the continuous development of this process, people began to grow related plants to meet the gradually expanding demand. At present, only the grass and trees in Dali, Yunnan Are dyed, and there are as many as 7 or

8 kinds of colors.

Red dyes include safflower and madder, yellow dyes are mainly gardenia, rhubarb, tea can be dyed gray-purple, comfrey can be dyed purple, black can also be extracted from a variety of plants such as pentagrams and persimmon leaves. The same principle as color grading in painting, after obtaining the dye of the three primary colors of red, yellow and blue, you can get rich colors such as green, purple, and orange through modulation.

3.2. Effect of physical conditions on tie-dye effect

Through tools such as yarn, thread, and rope, the fabric is dyed after a combination of various forms such as tie, sew, embellish, and clip. In order to achieve the anti-dyeing effect on the knotted part of the fabric, so that the tied part maintains the original color, and the place where it is not tied up is colored. In contrast, there are many ways to prevent dyeing, such as stitching, bundling, winding, pinching or with the help of other tools (stones, sticks, rubber cords, butterfly clips, etc.).

(1) Stitch method. It refers to drawing the desired pattern on the fabric to be tied-dye, and then sewing along the pattern with a thread, which is generally cotton thread. After the sewing is complete, the cotton thread is tightened and the knot is fixed. The tightly tied parts will not be stained in order to achieve anti-staining effect. The stitch method is more flexible and changeable, can be changed according to the creator's ideas, and is more suitable for use when you want to achieve a more complex effect.

(2) Bundling method. It is to bundle the fabric with a tool that can be bundled, such as thread or rope, and the tightness of the bundle is controlled according to the color shade desired. Due to the method and degree of tightness of the binding winding, different patterns can be produced, such as water ripples, marbling patterns, circle patterns, egg-shaped tortoiseshells, etc.

(3) Clamping and dyeing method. It is to clip the folded fabric with various forms of clips (butterfly clip, wooden clip, metal clip, clothes clip, etc.). The pattern finally formed by this method is generally an orderly four-sided continuous, in addition to the clip can also use wooden sticks, disposable chopsticks, ice cream sticks and other auxiliary tools.

(4) Other methods. Compared to the first three methods, it is more casual, but it also requires auxiliary tools (stones, rubber ropes, plastic bags, etc.) to bind the fabric with these auxiliary tools, which also achieves the effect of anti-dyeing. As with the previous three methods, the tightness of the bundle or tie affects the final presentation.

4. Tie-dye supplies in the artistic language of modern textiles

4.1. Pattern subject matter expression

4.1.1. Plant flowers and grass themes

Plants, flowers and plants account for a relatively large proportion of tie-dye patterns, not only because they are good-looking, but also because the meaning of this type of theme is better. There are pines, bamboo and plums that symbolize "the three friends of the cold year"; Plum, orchid, bamboo and chrysanthemum, which mean "four gentlemen"; Peony flowers that symbolize wealth; Bergamot and peach, which symbolize longevity; Pomegranates, grapes, etc., which symbolize many children and many blessings.

4.1.2. Animal themes

The patterns of animal themes include flying in the sky, running on the ground, and swimming in the sea. There are butterfly patterns that symbolize auspiciousness and the yearning and faith for beautiful love; Bats with the meaning of "Blessing"; It symbolizes the abundance of seeds, harvest and rich symbols of fish, which is also the sustenance and yearning of primitive human beings for a better life; There are dragon and phoenix patterns that symbolize rights and blessings; Crane patterns that symbolize longevity;

4.1.3. Character themes

Although the production is difficult, the wisdom of the predecessors can solve this problem, such as the performance of "Five Golden Flowers" in Yunnan Bai tie-dye, because in the 80s, some tie-dye clothes will also be exported to Japan, resulting in bai tie-dye character themes will also appear strong Japanese style geisha.

4.1.4. Traditional auspicious pattern

The use of traditional auspicious patterns is also a feature of tie-dye patterns, which not only means auspiciousness, but also inherits and develops traditional patterns.

4.1.5. Geometric pattern theme

The realization of geometric patterns is also a more expressive theme in tie-dye. Triangles, circles, rectangles, diamonds, etc. extended from points, lines, and faces. Sometimes, the patterns of various themes such as plants, flowers, animals, people, and traditional patterns are abstracted.

In general, no matter what kind of pattern and what kind of subject matter has its own reason for existence. Or the performance of the existing environment, or the inheritance and development of traditional culture, or people's pursuit and yearning for a better life.

4.2. Color language expression

4.2.1. Tie-dye dyeing process

The process of tie-dye dyeing is mainly divided into three steps: soaking the fabric with water, dyeing the fabric with dye, and rinsing the fabric with clean water.

Water immersion refers to the need to dye the fabric with water soaking before dying, so that the entire fabric is in a wet state, this state is easy to color, and the color of this dye will not have obvious water stains.

Dye dyeing refers to the soaking fabric in the already matched pigment for brewing or boiling, in this process need to be stirred to make the fabric color more uniform, which is also to avoid the paste base. Cook for about 10-20 minutes before removing.

Rinsing with water means using clean water to clean the dyed fabric, waiting for the air to dry after the fabric is removed from the dyeing pot, and cleaning the floating color on the fabric can be removed.

4.2.2. Expression of a color

A color dyeing method is also called monochrome dyeing, monochrome dyeing refers to a dyeing with a good pigment, forming the effect of white flowers or white flowers, the longer the cooking time, the darker the color, this dyeing method is relatively simple and easy to control.

4.2.3. Expression of two or more colors

This dyeing method is to dye the fabric multiple times to form a more complex effect, and this dyeing is generally expressed by different brightness or different hues. When performing multi-hue dyeing, you need to pay attention not to

stain the color dirty, and pay attention to anti-dyeing.

5. The application of tie-dye in modern textiles

5.1. Tie-dye textiles of different colors

Color is an important part of all kinds of art, and color is also one of its unique charms for tie-dye. Plant dyeing with different parts of colored plants is the main method used in traditional folk tie-dyeing. Dyes will form different pattern effects due to differences in concentration, temperature, length of dyeing time, and color absorption of the texture. Due to the difference in stitch size, thickness of the thread, tightness of the thread and the degree of dye immersion, the pattern of tie-dye works will also show the characteristics of randomness and uniqueness, and the mutual penetration of colors often shows a certain transitional gradient effect.

5.2. Texture language expression

The texture effects of tie-dye have a long history. Traditionally, tie-dye fabric language refers to the phenomenon of color halos formed by dyeing patterns with dyeing solution. In ancient times, people's consciousness mostly stayed on the artificial expression of texture, but the understanding of the unconscious texture of tie-dye was slow and backward. According to the different materials of the dyed fabric, the four materials of cotton, linen, silk and wool also give people different feelings. It can be seen that the fabric material will have an impact on the texture effect of tie-dye products, bringing people different visual and tactile feelings. These fabrics are made specifically to produce specific textures that are the visual effect of the complementarity of the craftsmanship personality and the fabric material. Tie-dye sometimes exhibits two sensations: folds and reliefs. Because of the tying, the fabric will be much smaller after wrinkles than when the fabric is wrinkled, which will form a unique artistic effect. Due to the randomness of the time of tie, the artistic effect produced is also a unique artistic effect.

5.3. Tie-dye textiles with different patterns

5.3.1. Exquisite realistic patterns

Refinement refers to the symmetrical and balanced laws that conform to the beauty of form, and realism refers to the correct, complete and faithful description. This style of tie-dye art adopts the traditional classic tie-dye method in the creation method, supplemented by exquisite patterns of points, lines and surfaces. Most of the works are also very holistic and decorative, or present a delicate and soft appearance effect. Due to the high requirements in pattern design, process design, grain tie flowering, dyeing process, etc., exquisite and realistic style is often seen in high-end fashion, high-end art fabrics, Japanese kimono, etc.

5.3.2. Modern freehand patterns

Freehand, like improvised Chinese painting, is not limited to form, concise and unrestrained. The modern freehand style is relatively simple and flexible, rich in colors, with the flexible and abstract freehand style of modern art, and its tie-dye works have two characteristics: First, the pursuit of improvisation in creation; The second is not to stick to the form, to express the beauty of freedom. The staining art of such works is traceless and flexible, with both the formal beauty of modern art and the freehand style of Chinese painting. Suitable for designers to interpret the personality of

the times and modern lifestyles, for visual innovation and exploration.

5.3.3. Pastoral rural motifs

The idyllic rural style is simple in shape, bright in color, natural, simple and casual, and the style is soft and natural. In today's society, people are more and more eager to break through the shackles of social urban development and advocate a return to natural color of life. The idyllic feeling of freedom is the expression of the return of history and the return of nature. This tie-dye art work represented by the segmented dyeing process has a distinct color block effect, reflecting the original, natural and rustic pastoral femininity, which is in line with today's values of returning to natural colors.

5.3.4. Postmodern motifs

Postmodernism differs from traditional aesthetic forms, emphasizing the diversification and individualization of art forms, advocating irrational ideologies, opposing empiricism and absolute logic. It is the product of rapid socio-economic development. His tie-dye works draw on the beauty of traditional classics and Western graffiti forms, forming a new visual texture and abstract color composition. In the production process, modern technologies such as digital inkjet printing, personalized hand-painting, embroidery, three-dimensional curling, etc., are used to form a postmodern street style and a casual artistic effect.

5.4. Analysis of textiles made using tie-dye art

In the matching of clothing, accessories play a pivotal role. With the continuous innovation of tie-dye, tie-dye's design in accessories has gradually become a trend. Mainly including: scarves, belts, bags, hats, etc.

Tie-dye's use of fashion items such as tops, vests, jeans, and shoes is also constantly innovating. When people are paired with yellow, pink and other colorful tie-dye pants, they usually choose low-key and calm colors to match, avoiding too fancy clothing styles, visually achieving a balanced effect, very fashionable. The Air Jordan 1 Tie-Dye shoe is in a blue-green tone as a whole, and the brand logo is used to contrast with the white under the logo. The blue-green tie-dye print is not fancy in combination with black and white.

The high-level collocation of wearing is the use of tie-dye elements throughout the body, not only the requirements for wearing skills are high, but also the wearers themselves must have a certain fashion temperament and aura. The Alexander McQueen brand in the matching tie-dye suit, a suit using tie-dye technology, the color is mainly black and white, pink to embellish, eye-catching, shoes with the choice of versatile white, otherwise too overall too fancy, will affect the overall style. Tie-dye suits are rich in layered gorgeous colors, so that the costume effect is in line with the abstract imagination of young people and the pursuit of artistic beauty.

Drawing inspiration from nature, combining tie-dye handicraft with modern design, simple and flexible colors and patterns make busy urban life slow down, tie-dye craftsmanship is used in bedding, using a comfortable color scheme, so that people with tie-dye bedding can feel the natural and quiet time before going to bed.

6. The social and cultural value of tie-dye art

6.1. Social Value

With the further development of society, people's thoughts and emotions also follow its changes, for the continuous destruction of the environment. People are becoming aware of the crisis and will start using or buying some green products, which is also a response to sustainable development policies. Tie-dyeing process is the use of plants in nature for coloring, just like other plant dyeing, taken from nature, will not be damaged by nature, the concept of human beings in the new era has changed, the protection of the environment has become the ideology of people's subjects, the first perception of human emotion is its pure naturalness, green environmental protection, sustainable development, as an art at the same time, injected into the protection of nature.

6.2. Cultural Values

With the current domestic call for the protection and inheritance of traditional handicrafts, more and more handicrafts representing Chinese culture are gradually emerging. Traditional Chinese handicraft culture is an important part of China's cultural ecology. It carries the evolution of history and the wisdom and spirit of people in each period, and the development of each period is different. In 2003, the state launched the "Intangible Cultural Heritage Protection Project", and the cultural status of handicrafts in China rose. General Secretary Xi Jinping also often mentions the development of traditional culture to improve cultural self-confidence and national self-confidence. This also shows that more people will notice and traditional culture will be more and more valued.

The development of tie-dye art reflects the level of social and cultural life from a certain perspective. Traditional handicraft is a kind of production and lifestyle produced in the process of social development and people's life practice. However, tie-dye art has its own unique creativity and

unlimited potential for development. It is an independently generated system that cannot be repeated and irreplaceable, and it is a culture with unique values. Society is a pluralistic society, a combination of various systems, with a sense of cultural diversity. Cultural diversity is also an important prerequisite and aspect of the development and prosperity of human civilization.

In this era, the diversity of social culture irrigates people with more knowledge, and the tie-dye craft has begun again and developed into tie-dye art, which is the development of our national culture and the embodiment of the development of social and cultural diversity.

7. Conclusion

As a folk art with a long history, tie-dye has been forgotten by the broad masses of the people in the long river of history. However, with the comprehensive development of China's politics, economy and culture, in today's material abundance, people are increasingly pursuing the feeling of returning to nature. Starting from the literature and network data, tie-dye has been fully understood and explored, and a deeper understanding of the historical inheritance and development of tie-dye has been gained.

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